

Votes Count but the Number of Seats Decides

A comparative historical case study of 20th century
Danish, Swedish and Norwegian road policy

by
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Votes Count but the Number of Seats Decides - A comparative historical case study of 20th century Danish, Swedish and Norwegian road policy

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Abstract

This dissertation about Danish, Swedish and Norwegian 20th century road policy is an attempt of elucidating some puzzles: Why did Norwegian authorities pursue a road policy contrary to most other West European industrialized countries? Why were highly noticeable congestion, accident and environmental problems within and near Norway's major population clusters overlooked or ignored for decades? Denmark and Sweden had almost completed their investments in national trunk road and motorway systems in 2006, while Norway still lacks modern trunk roads and a national motorway system. Denmark, Sweden and Norway were all among the exclusive group of countries that enjoyed modern economic growth from the second half of the 19th century. Norway was one of the world's wealthiest countries in 2006 measured in GDP per capita. Lack of economic leverage could thus not explain Norway's current lack of modern trunk roads and motorways.

This is a historical comparative case study based on a most similar systems design. The annual variations in the Norwegian tax financed road investments between 1960 and 2000 and their geographical allocation were also subject to a statistical study. The case study's analytical model was not formal but a heuristic device with one dependent variable, three intervening variables and a number of background variables. The intervening variables or intermediate institutions are denoted as the road polity. The road polity consists usually of legislature, executive and road administration. The dependent variable is the outcome of the policy processes or the road policy, which is materialized in the high-level road system; i.e. trunk roads and motorways. There are plenty of opportunities for variations in the road polities and background variables during time and across countries, which led to development of different national political economies. Different political economies may in turn explain some of the variations in the dependent variable, Denmark, Sweden and Norway's road policies. The Danish, Swedish and Norwegian cases were examined during four time periods, prior to 1945, 1945-1959, 1960-1981 and from 1981 until approximately 2005.

The theoretical and analytical framework is based on historical institutionalism supplemented with theories about collective goods, distributions of burdens and benefits and institutional change and development. The theoretical discussions led to development of four working hypotheses:

The main hypothesis or benchmark was roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good.

The second hypothesis was roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles.

The third hypothesis was roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry.

The final hypothesis was road policy and road construction governed by path dependence.

A number of implications were derived from each hypothesis, and tested empirically against the evidence in the Danish, Swedish and Norwegian cases. What did the testing of the four hypotheses reveal?

The findings concerning the main hypothesis or benchmark, roads perceived as national collective goods, were partly ambiguous in Denmark prior to 1945 and clearly ambiguous in Sweden and Norway prior to 1945. The findings in Denmark and Sweden post 1945 significantly strengthened this hypothesis. The findings in the Norwegian were clearly ambiguous until the 1980s when a fundamental road policy shift took place, after the Labor Party accepted mass motoring. Examination of the Norwegian case revealed both significantly delayed and less construction of roads with national collective good characteristics compared to the Denmark and Sweden. Road policy and road construction were closely integrated with Danish and Swedish post World War Two trade and industry policies, but deliberately decoupled from Norwegian trade and industry policy by the Labor Party executive that came to power in 1945, even if the pre World War Two Labor Party executive had emphasized road policy and road construction prior to the German invasion in 1940.

The Danish and Norwegian cases strengthened the second hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles. The Danish case strengthened this hypothesis until the 1953 constitutional reform replaced the bicameral system with a unicameral system and an election system based on one person – one vote. However, Denmark's 1970 county and constituency structure reform gradually paved the way for new resource struggles between the constituencies. The Norwegian case significantly strengthened this hypothesis until the mid 1980s when road policy and road construction became far less contested, and the most acute resource allocation conflicts were mitigated through introduction of common turnpike financing rather than reallocation of the tax financed road investments. The 1989 election system reform improved also somewhat the most populated Norwegian constituencies' political representation. Detailed examination of the Swedish case weakened this second hypothesis in all four time periods studied, because the bicameral system which governed Swedish policy for better or worse from 1867 until the 1970 election instituted a tradition for transcending parochialism and local egoism when allocating publicly financed infrastructure investments.

The Danish case significantly strengthened the third hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry, particularly after introduction of the unicameral system in 1953. The Swedish case weakened this hypothesis until the second half of the 1960s and the 1970s, when the political parties started to use road policy and road construction to differentiate themselves from competing political parties. The Norwegian case strengthened this hypothesis prior to 1945 and between 1960 and 1980. The findings in the Norwegian case were somewhat ambiguous between 1945 and 1959, but this third hypothesis was clearly weakened by the Norwegian case after 1981 when road policy and road construction became far less contested after most political parties recognized mass motoring.

The final hypothesis about road policy and road construction governed by path dependence was clearly strengthened by all three cases, despite significant institutional differences and variations in Denmark, Sweden and Norway during time. The Danish case revealed that leading civil servants established a tradition for major publicly financed road investments beneficial for the business community and Denmark Inc. already from the second half of the 18th century. The Swedish case

revealed similarly a tradition for publicly financed road investments governed by an autonomous State bureaucracy permeated by norms about State reason and efficient resource allocation since the interwar years. Chancellor Axel Oxenstierna had instituted this autonomous State bureaucracy and norms about State reason and efficient resource allocation already in the 17th century. The Norwegian case revealed a tradition for minuscule but often partly locally governed publicly financed road investments, where most of the investments were allocated in peripheral and rural constituencies. This development path was established in the 19th century by farmer legislators opposing the 1814-1884 civil servants' regime, and instituted by the Liberal Party after introduction of parliamentary rule in 1884. The 1814 Constitution, legislator rule, national election systems not based on the principle one person – one vote and an exceptionally strong Ministry of Finance maintained this development path. The Norwegian Ministry of Finance's economists has largely since 1945 overlooked roads and other transport and communication infrastructures' importance for future economic growth, and considered usually roads and other transport and communication infrastructures as expenses rather than investments. The Danish and Swedish authorities prioritized investments in national collective goods such as trunk roads and motorways during the 1980s and 1990s' State economic problems. The Norwegian authorities that never struggled with similar State economic problems, because of the oil revenues, prioritized publicly financed private goods rather than investments in national collective goods such as trunk roads and motorways.

So what? What are the practical and theoretical implications from this study? Both a minister ruled road policy such as in Denmark and an expert ruled road policy such as in Sweden from 1944 until the early 1980s and an executive and industrialist ruled road policy such as in Sweden since the early 1980s safeguarded construction of modern and functional trunk road and motorway systems all across the countries. The Danish road policy underwent a fundamental reorientation after introduction of the unicameral system and an election system based on one person – one vote in 1953. The Norwegian case indicate that legislator rule together with election systems never based on the principle one person – one vote, a partly locally governed road administration and tight budget constraints for road investments paved the way for a road policy governed by a political rather than an economic and technocratic logic. The result was often pork barrel politics, rent seeking and construction of narrow-gauge local roads rather than a modern and functional trunk road and motorway system all across Norway. These three cases illustrate thus clearly how the constitution and election system affect the national political economy, because the constitution determines the rules of the game, while the election system largely determines the executive and legislators' geographical allocation of publicly financed national and local collective goods such as roads. Votes count – but the number of seats decides.

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Chapter 1 – Why has Norwegian authorities pursued a road policy contrary to those in most other western industrialized countries?

Norway was in 2002 the third wealthiest country in the world, according to OECD, with a GDP of 35.482 current PPP US dollars (USD) per capita. Luxembourg, the wealthiest, GDP per capita was 49.150 PPP USD. The second wealthiest country, USA, had 36.121 PPP USD per capita in GDP. The OECD average in 2002 was 25.810 PPP USD per capita.¹ But Norway lagged in 2005 between 30 and 60 years after most other industrialized countries with regard to construction of modern trunk roads and motorways between the regions and to the export markets. Denmark's national motorway system was almost completed in 2000. Sweden has similarly Scandinavia's most comprehensive motorway system measured in kilometers. The Danish and Swedish executives and legislators pursued a traditional road policy. They built roads from the crowded central and urban areas towards the sparsely populated peripheral and rural areas, and allocated the road investments according to an economic and industrial logic. The Norwegian executives and legislators on the other hand pursued a contrary road policy, and built roads from the desolate peripheral and rural areas towards the crowded central and urban areas, and allocated most road investments according to a political logic. Highly noticeable congestion, accident and environmental problems within and near Norway's major cities were deliberately overlooked or ignored, even if the major population clusters' inhabitants paid far more in vehicle and fuel taxes than they received in State road appropriations. How to explain these puzzle that may indicate both governance and policy failures?

How to explain the remarkably different road policies and road systems in Denmark, Sweden and Norway? The aim of this comparative, historical case study about Danish, Swedish and Norwegian road policy during the 20th century is first to provide an overview of the development during time, and second to explain the different outcomes concerning road policy in three otherwise quite similar countries. This study emphasizes the Norwegian case. The Danish and Swedish cases are used as yardsticks or benchmarks, to overcome taken-for-grantedness, to contrast the Norwegian case and to identify the critical differences that may explain the different road policies.

This introductory chapter starts with a discussion of why studies of road policy and road construction have common interest, and continues with some empirical observations and puzzles. The third section examines some common sense or popular explanations or conventional wisdom about the particular Norwegian road policy after World War Two. The fourth section presents the study's analytical, theoretical and methodical framework, hereunder the four working hypotheses. The fifth section is a map for further reading. The final section summarizes this chapter's discussions.

¹ *OECD Factbook 2005: Macroeconomic trends - gross domestic product (GDP) - size of GDP* [Online January 9th 2006] –URL: <http://puck.sourceoecd.org/vl=49239/cl=40/nw=1/rpsv/factbook/02-01-01-t02.xls>.

Why have studies of road policy and road construction common interest?

Infrastructure policy is an interesting study object, because roads, railroads, harbors, canals, airports, telephone systems, oil and gas pipelines, water and sewage systems and electrical power grids and other infrastructures have long-term consequences for the economic development, and for a society as such. A time horizon of 50 to 100 years is often necessary to understand the consequences of roads taken or not taken, because infrastructures create literally path dependencies concerning urban and rural development, economic growth and decline. Infrastructures affect also a society's distribution of benefits and burdens. Construction of particular infrastructures facilitates some paths of development and rule out others. Many decisions about building or not building infrastructures have almost irreversible consequences.

Infrastructure investments is often synonymous with distributional conflicts

Major infrastructure initiatives often entail political and distributional conflicts, due to resource constraints, the investments' magnitude and long-term consequences, and because major infrastructure investments may crowd out minor investments. The economist Paul Krugman claims a government desiring increased national wealth level through increased productivity instead of or in addition to harvesting raw materials or natural resources can manipulate three parameters, namely the quantity of available capital for business enterprises, the society's *social overhead capital* and the work force's education.² Krugman's claims are based on so-called endogenous growth theory.³ Roads and other infrastructures are central components in a society's social overhead capital, and provide spillovers or externalities to private sector enterprises.⁴ The social overhead capital together with other institutional changes was critical for the transformation from traditional, agricultural to modern industrial societies.⁵ Roads and other infrastructures are thus of great importance for a society's long-term economic growth and prosperity.

Road policy and road construction is usually considered as *low-politics* and thus subject to tough resource struggles between different political parties, geographical areas and constituencies. Low politics is usually clearly distinguished from *high-politics*, which often is characterized by national consensus, because it concerns the nation state's existence.

Most democratic and industrialized countries have relied on full or partial tax financing of roads, because the high-level road system has many *collective goods* characteristics. Collective goods differ from *private goods* because exclusion from consumption is neither possible nor desirable. Market failures lead usually to undersupply of collective goods. The marginal costs for providing collective goods for another individual are low. There is also costly to exclude users from consuming

² Krugman (1994:125).

³ Aghion and Howitt (1998); Kennedy (1997:98).

⁴ Samuelson and Nordhaus (2001:224).

⁵ Cf. Rostow (1990:24-29).

collective goods.⁶ National defense and lighthouses are two common textbook examples of pure collective goods. Private goods, where exclusion is easy and with high marginal costs for providing the good to another individual, can be supplied in a market, but private goods can also be supplied through public production.⁷ Examples of private goods supplied through public production in many countries are higher education and health services.

The so-called *New Public Management* (NPM), which emerged after the neo-liberal shift at the turn of the 1970s and 80s, has led to increased reliance in many countries on market mechanisms even for supply and allocation of collective goods.⁸ But there are also countries where planning, construction and operations of high-level roads have been outsourced to private or semi-public enterprises decades before NPM became fashionable, such as in Italy, France and Austria, which have relied on turnpike financing of their motorway systems. On the other hand, there are also examples of countries where market solutions enjoy very prominent positions in most aspects of life, such as USA, but where road construction has been one of the public sector's most prominent tasks in addition to national defense, law enforcement, basic education and research. Finally, there are examples of countries where the market forces have been partly suspended or heavily constrained, such as in Norway after World War Two. The Norwegian politicians emphasized public production and supply of private goods, rather than investments in social overhead capital and collective goods such as roads and other transport and communication infrastructures.

⁶ See for instance Downs (1957:164-174); Olson (1965/71:13-15); Stiglitz (1986:119-127); Varian (1999:617-618) for discussions about collective goods, and Gustafsson (1987) about roads perceived as collective goods.

⁷ See for instance Stiglitz (1986:124-131) for discussions about private goods and public production of private goods.

⁸ See for instance Savas (1987); Walsh (1995) and Flynn (1997) for further discussions about New Public Management.

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Figure 1: Denmark, Sweden and Norway's location in northern Europe.



Source: U.S. Central Intelligence Agency, *The World Factbook*, [Online January 24th 2006] – URL: <http://www.cia.gov>

Different categories of roads serve different purposes

The roads' main purpose is to facilitate communication and swift movements of persons and goods. Well-functioning transports are a “precondition for economic development”, according to the Swedish National Road and Transport Research

Institute.⁹ But the road policy is inherently complex, because of conflicts between effectiveness, road safety, regional policy, fairness and equity, due to budget constraints and usually limited resources. Roads connected into a road system provide also network externalities; i.e. the users' utility from the road investments is dependent of how many others who consume the good, analogous to for instance telephones, fax machines and Internet. Network externalities are often collective goods.¹⁰

The *public road system* is here defined as physical roads; included bridges, tunnels and ferries open for all motorists. The public road system or road infrastructure can be understood as a hierarchy or tree-structure, or as the body's blood system.¹¹ The roads are usually divided into different classes or categories, according to the roads' function, and according to the organizing of the responsibility for management, planning, financing, construction, maintenance and operations, etc.¹² This is the case in most countries, even in Denmark, Sweden and Norway.

Trunk roads connect different regions within a country and neighboring countries, integrate major population centers, industrial, raw material and natural resource areas and domestic and foreign markets. Modern trunk roads have usually hard paving, level free crossings, high speed limits and high permitted payloads to ensure safe and efficient transportation of large volumes of passengers and goods, which reduces the trade and industry's transaction costs and improve the society's flexibility. Most modern trunk roads are designed and built according to the so-called traffic engineering's principles for traffic separation and traffic differentiation; i.e. with physical separation of hard and soft road users, and dedicated roads for remote and local traffic, for fast and slow-moving vehicle, etc. Most western industrialized countries' trunk roads are built as four or six lane motorways in crowded areas, with physical separation between the directions of traffic and level free crossings. Less crowded trunk roads are often built as two lane expressways, without physical separation between the directions of traffic but with level free crossings or traffic circles. The trunk roads' benefits are thus usually not restricted to a particular geographical area, because they improve the road safety and promote the trade and industry's effectiveness through reduced transaction costs, which usually is beneficial for the entire society. Modern trunk roads are therefore perceived as national collective goods in most countries. Even modern trunk roads' spillovers or positive externalities, such as improved road safety and environmental standards or improved competitiveness for the trade and industry can be understood as collective goods. The negative externalities from modern trunk roads such as increased traffic in case of economic growth and increased activity level, and thereby often entailing increases in air and noise pollution unless such problems are

⁹ Hultcrantz and Nilsson (2004:10-11).

¹⁰ See for instance Varian (1999:606, 617-618); Samuelson and Nordhaus (2001:225) about network externalities.

¹¹ See for instance Eckhoff (1969:66 ff.).

¹² See for instance Arne Østgård, *Utforming av vegsystemer*, lecture for Den Norske Ingeniørforening, Kommunal og arbeidsdepartementet, Norsk institutt for by- og regionsforskning and Transportøkonomisk institutt, Kongsberg March 17-19th 1970, Institutt for veg- og jernbanebygging, Norges tekniske høyskole, Trondheim 1970, VDA.

reduced by improved technology, can similarly be understood as collective evils or burdens.

Highways connect different areas or places across the county borders similarly as the trunk roads. Some countries, such as Norway, define the most crowded or economically most important highways as trunk roads, and consider trunk roads as a subset of the highways. Other countries, such as Denmark and Sweden, define trunk roads as a particular class of roads. Highways, particularly those not defined as trunk roads, have often somewhat simpler technical standard, even if they might be crowded. Highways permit usually high payloads, but the crossings are usually level. The speed limits are similarly often below those on the trunk roads. Many highways pass through city hubs or residential areas. Highways are usually somewhere in between national and local collective goods, and are often considered as local collective goods, because of more geographically concentrated benefits compared to trunk roads.

Local roads, such as secondary highways, county roads, municipal roads, parish roads or city streets are usually internal connections within the counties or municipals, often to peripheral and rural areas. Local roads are usually less crowded than trunk roads and highways, and have usually considerably simpler technical standards for payloads, speed limits and road safety. Local roads vary from local collective to private goods, depending on how concentrated the benefits are. Local roads that serve a county or municipal is usually considered as local collective goods, while local roads that serve individual properties are usually considered as private goods.

There can also be drawn a distinction between roads as collective or private goods depending on the available road capacity. Sufficient road capacity can be understood as a collective good, because of no rivalry about the consumption and zero or almost zero marginal cost for providing road capacity for another user. A crowded or congested road on the other hand can be understood as a private good, because the marginal cost for providing road capacity for another user can be very high, particularly in urban areas. The available road capacity is hence also decisive for what kind of goods we are talking about. The roads' characteristic may thus change during the day or week, from private goods characteristics during peak hours to almost pure collective goods characteristics during nights and weekends. The roads' changing characteristics have been utilized among others in Singapore, London, Stockholm and Trondheim in Norway, where economic mechanisms, such as congestion fees or road pricing, are used to constrain the traffic in the city hubs. Congestion fees or road pricing is often introduced because further investments in new roads have not been considered possible or desirable of economic, environmental, political and/or ideological reasons.

The road policy and road construction is usually determined by the political economy

The trunk roads and highways' externalities' collective goods characteristics have made management and financing of trunk roads and highways to public tasks in most countries. Road policy and road construction is therefore usually a result of collective action in the legislature, unless the road policy and road construction is left entirely to the market, to autonomous professionals and/or local politicians or

administrators. Local roads are similarly managed and financed locally in most countries, due to their usually geographically concentrated benefits.

A country's road policy and road construction is usually determined by the *political economy*. Political economy is the study of questions about how institutional and economic arrangements serves the interests of different groups, and how institutional arrangements evolve over time, in response to the incentives, strategies and choices of different groups and individuals.¹³ The political economy's bottom line is distribution of benefits and burdens within a society. Peter A. Hall distinguished between interest-based, institution-oriented and idea-based studies of political economy, but these three approaches are only mutually exclusive in their most cultivated versions.¹⁴ This study is based on an institutional approach, but it includes also elements from the interests and idea-based approaches, and takes what Hall describes as an "electoral approach" from the interest-based perspective.¹⁵ Because this study recognizes the politics' primacy and the politicians' desire for reelection, even if many politicians engage in politics because they care about the well being of their community and fellow citizens. Furthermore, this study recognizes the existence of possible political business cycles, and recognizes also the premise from the idea-based approach that ideas may have causal effects on formation of the actors' preferences and thereby on development of institutions and policy outcomes.

Empirical observations and puzzles – is there a Norwegian “Sonderweg” even with regard to road policy and road construction?

The executives and legislators have so far not been able or willing to catch up Norway's lag with regard to modern trunk roads and motorways compared to most other West European countries and soon also most East European countries.

About 27 percent of the Norwegian highways in 2000 were defined as trunk roads and carried out 47 percent of the traffic work. 36,1 percent of Norway's road accidents 1993-2000 took place on these trunk roads. Head on collisions have been a common cause of sudden and violent death or disablement on Norway's three most crowded trunk roads, E6 from the Swedish border at Svinesund to the capital Oslo, E18 from the Swedish border at Ørje to Oslo and E18 from Oslo to Kristiansand.¹⁶ The risk for head on collisions on crowded roads without physical separations between the directions of traffic, for instance through construction of a center strip, increases more than the traffic, theoretically exponentially with the number of vehicles passing each other head on.¹⁷ These facts have not been reflected in Norwegian trunk road policy or road construction until recently. Figure 2 provides an overview of fatalities on Norwegian trunk roads 2002-2005. Notice there are hardly any fatalities on the motorways southwest and southeast of Oslo. Many

¹³ See for instance Alt and Alesina (1998:645); Hall (1997:174-175).

¹⁴ Hall (1997:189).

¹⁵ Hall (1997:178).

¹⁶ See for instance Ragnøy and Elvik (2003:8-9, 11, 16); St. meld. nr. 24 (2003-2004) *Nasjonal transportplan 2006-2015*:78-80, 107, 130-131, 134-135, 142; Liv Ekeberg, "Norges ti verste veier", *Nettavisen*, August 12th 2004 [Online June 19th 2005] – URL: <http://pub.tv2.no/dyn-nettavisen>.

¹⁷ Schistad (2006 [Telephone interview]).

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Norwegian cities and urban areas are still missing dedicated networks of bicycle lanes and footpaths, even if Norwegian politicians since the early 1970s have advocated use of public transports and bicycles rather than cars in central and densely populated areas.¹⁸ Sweden had 31.000 kilometers dedicated bicycle lanes and footpaths in 2003, more than the entire Norwegian highway and trunk road system.¹⁹ The Norwegian road policy has been consequential. About 60 percent of Norwegian transport and logistic enterprises and about 50 percent of the production and retail enterprises reported in 2003 they were harmed by congestion within and near the major cities. The rural areas' poor road sections harmed similarly 50 and respectively 40 percent of these enterprises.²⁰ Norwegian trade and industry dependent of road transport have therefore far higher transport costs than their competitors.

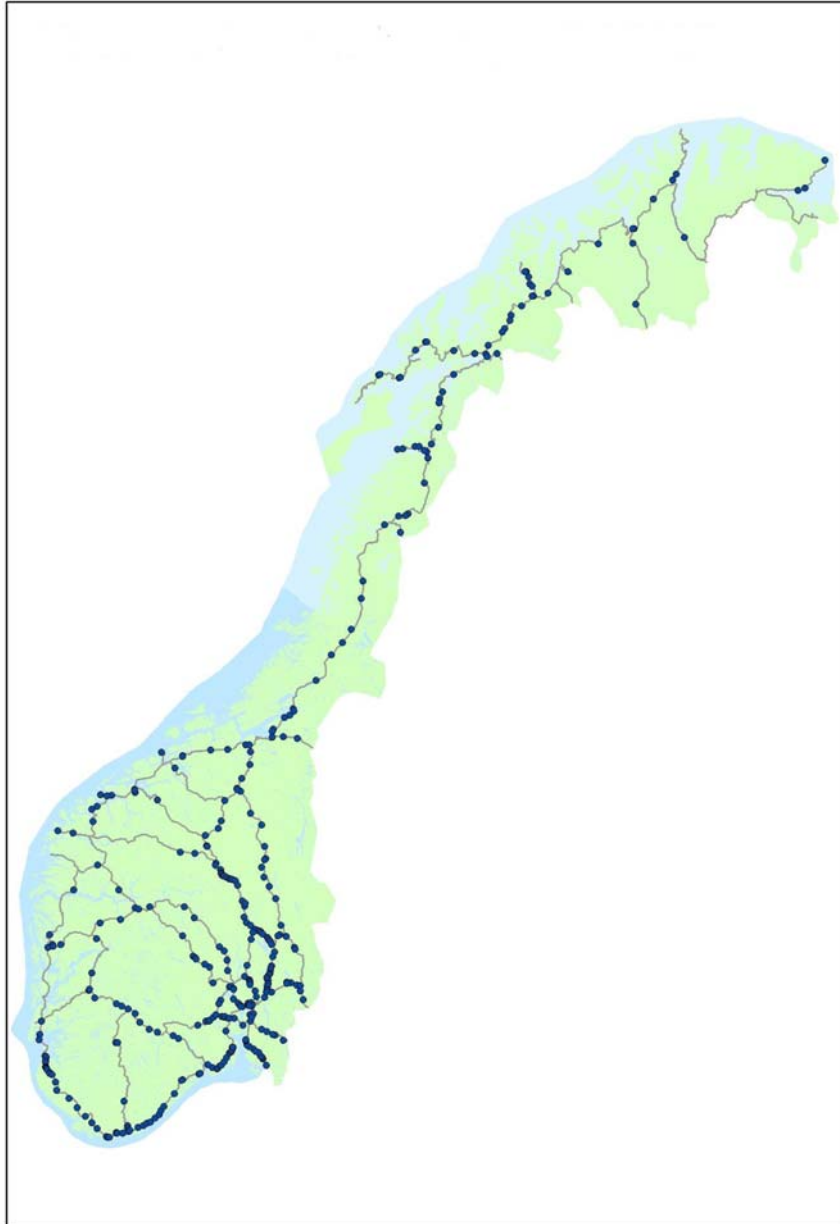
¹⁸ See for instance St. meld. nr. 9 (1978-79) *Om trafikk og bymiljø – Norsk vegplan for byer og tettsteder*:10-14, 18-21, 23-24; St. meld. nr. 24 (2003-2004) *Nasjonal transportplan 2006-2015*:97-98, 107.

¹⁹ *Fakta om Vägverket, vägar och trafikk*. Publikation 2003:48:6 [Online November 11th 2003] – URL: http://www.vv.se/publ_blank/bokhylla/arsrapport/fakta/Fickfakta.pdf.

²⁰ Dybedal and Ludvigsen (2003).

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Figure 2: Fatalities on Norwegian trunk roads 2002-2005.



Source: Directorate of Public Roads, National Road Data Base.

The paradoxical situation is that Norway is more dependent of cars and road transports than almost any other West European country, because of dispersed settlement, poorly developed public transports, a long and narrow country and localization in Europe's northwestern periphery. But the road policy and road construction have hardly reflected these facts, despite assumed rational and intelligent politicians. This is a puzzle, given a trade and industry facing initially European and later also global competition, and recently also global competition concerning the trade and industry's location. Those trade and industries located in Norway's peripheral areas struggle with significant time and distance handicaps compared to their competitors located in EU. The direct line from Oslo to Kirkenes, Norway's northeastern town at the Russian border equals approximately the direct line from Oslo to Dublin, Beograd or almost to Rome.

Road transport of passengers and goods increased dramatically in Norway from October 1960, when the Labor Party executive liquidated its postwar car rationing. The number of cars of all categories increased from about 338.000 in 1960 to 2,3 millions in 2000.²¹ Passenger cars carried out about 79 percent of the person transport in 2002, compared to 41 percent in 1960, 23 percent in 1950, 12 percent in 1945 and 40 percent in 1939.²² The Labor Party executive's postwar road and motoring policy after completing the initial reconstruction about 1948/49 delayed further the shift from railroad to road transports that gained momentum in the second half of the 1930s, which was aborted by the German occupation 1940-45. Road transport is currently the dominant mode of land transport of goods. The goods volumes transported on Norwegian roads increased nine times 1960-2000.²³ There seems to have been significant discrepancies between the realities and the Norwegian road policy and road construction during most of the postwar period.

Passenger cars carried out about 70 percent of the Swedish and Danish person transports in 2000, but the trend has been falling since 1970, instead of increasing as in Norway.²⁴ Road transports are similarly the most important mode of land transport of goods in Denmark and Sweden, such as in Norway, even if railroads carry more goods in Sweden than in Norway and Denmark. The road transport's relative share of land based goods transports are strongly increasing in Norway, slowly growing in Sweden and has been reduced in Denmark since 1970, after a peak in 1990.²⁵ The actual Norwegian development has thus been contrary to the executives' publicly stated goals since the 1970s, namely more goods transports on railroads and ships rather than on roads, and more public transports of passengers instead of use of passenger cars. The actual development with regard to transports of goods and passengers in Norway may indicate a policy failure, significant doses of symbol policy, or combinations thereof.

²¹ *Bil- og veistatistikk 2002*, Opplysningsrådet for Veitrafikken, Oslo 2002:Tabell 1-10, OVA.

²² Cf. DB-DBA-PTW 1926-2002.

²³ St. meld. nr. 24 (2003-2004) *Nasjonal transportplan 2006-2015*:32 Table 3.2.

²⁴ *European Union Energy & Transport in Figures 2003*, European Commission Directorate-General for Energy and Transport, in co-operation with Eurostat, Brussels: The calculations are based on data from table 3.5.4, 3.5.6, 3.5.7, 3.5.8, 3.5.9 and 3.5.11.

²⁵ *European Union Energy & Transport in Figures 2003*: The calculations are based on data from table 3.4.5, 3.4.7, 3.4.9, 3.4.22, 3.4.23 and 3.4.25.

Modern roads facilitated economic growth and development after the depression and World War Two

Development of national transport and communication infrastructure plans, hereunder road plans, was an international trend in the 1930s as well in the 1950s. Modern trunk roads and motorways were then considered important to safeguard development of future wealth, prosperity and competitiveness after the 1930's depression and after World War Two. National road plans and road construction programs were completed in among others Austria, Denmark, Finland, France, Germany, Holland, Great Britain, Italy, Spain, Sweden, Switzerland and USA.²⁶ These countries' executives and legislatures emphasized first and foremost development of national trunk road system, hereunder construction of motorways in the most crowded areas. Most new trunk roads were built outwards, from the major population and industrial areas towards the more sparsely populated peripheral and rural areas.

Europe and USA's modern trunk road and motorway systems reduced the trade and industry's transportation costs, due to increased permitted payloads and speed compared to the old highways, and improved also the labor markets' flexibility because of increased commuting ranges given constant time consumption. The road safety was similarly radically improved compared to the old highways, because most new trunk roads and motorways were built according to the traffic engineering's principles for traffic separation and traffic differentiation. Some countries built also dedicated road systems for pedestrians and bicyclists and solved also their urban areas' congestion, accident and environmental problems, because the new trunk roads and motorways diverted or drained through traffic from the city hubs and residential areas.²⁷ However, the flip side of the unconstrained mass motoring have in some instances been urban sprawl and collapsing city hubs, such as described in Owen D. Gutfreund's study of some US cities.²⁸

A Norwegian "Sonderweg" even for the 20th century's road policy?

The economic historian Francis Sejersted explained development of Norway's industrial capitalism during the 19th and 20th century as result of a Norwegian "Sonderweg", due to Norway's lack of major industrialists and bankers, a highly decentralized society and a State that partly compensated the lack of capitalists.²⁹

²⁶ See for instance Christiani & Nielsen, Højgaard & Schultz A/S, Kampmann, Kierulf & Saxild A/S, *Motorveje med broer over Storebælt og Øresund*:14-15; Christiani & Nielsen, Højgaard & Schultz A/S, Kampmann, Kierulf & Saxild A/S, *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:13-16; SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:21-27; Betænkning nr. 294, *Indplaceringen af de store trafikinvesteringer. Storkøbenhavns nærtrafik, Storebæltsbro, Øresundsbro i et samlet 20 års program for de offentlige trafikinvesteringer*; Rallis (1992:112); Jørgensen (2001:290-295); Rae (1971:187-194); Rognan (1995); Cowan (1997:236-239); Altshuler and Luberoff (2003:77-88); Antila and Nenonen (2000:58 ff.); Gutfreund (2004:7-59); Mom (2005:762-770).

²⁷ See for instance Eckhoff (1969:27-87) about how traffic planning gradually became an integrated part of urban planning in most industrialized during the interwar years. There were also attempts of introducing these ideas in Norway during the 1960s, but they triggered soon resistance, among others from interest groups opposing centralization, urbanization and mass motoring.

²⁸ Gutfreund (2004).

²⁹ Sejersted (1991a).

Norway's road system built during the 1970s and early 80s had many similarities with Norway's 19th century's narrow gauge railroads, and even with the Norwegian telephone system developed from the turn of the 19th and 20th century until about 1920. Because the early 20th century Norwegian telephone system was a particular mixture of State owned and operated trunk lines and privately owned and operated cooperative local lines, which gradually were overtaken by the State Telephone and Telegraph Board.³⁰ Many of Norway's narrow gauge railroads were rebuilt to normal gauge early in the 20th century, when they became obsolete and had great difficulties competing with the early trucks and passenger cars' flexibility and cost effectiveness.³¹ Norway's "narrow gauge road system" built during the 1970s and early 80s was more a social welfare good than a transport infrastructure, because it was acceptable for passenger cars on sparsely trafficked road links, but constrained the possibilities for use of heavy trailer trucks.³² Norwegian executives and legislators prioritized also construction of local roads to trunk roads between the regions and cities, and roads from the peripheral and rural areas to the central and urban areas, rather than the opposite, even if most cars were located in the central and urban areas. The Norwegian road policy and road construction after World War Two differed thus fundamentally from most other western industrialized countries'.

Table 1 provides a historical overview of the tax financed road investments per capita in Denmark, Sweden and Norway 1950-2000 measured in 1990 PPP US dollar (USD). Table 1 does not include Danish or Norwegian turnpike financed road investments such as the Great Belt and Øresund Connections, which each were mega-projects in the order of magnitude of approximately a decade of tax financed road investments, or Norway's numerous urban packages or mainland connections.

Table 1: Danish, Swedish and Norwegian tax financed road investments per capita 1950-2000 (1990 PPP USD).

	Denmark	Sweden	Norway
1950	22	28	14
1960	44	97	45
1970	116	135	106
1980	98	95	120
1990	32	73	82
2000	66	58	73

Sources:³³

³⁰ Cf. Bergh (2004a:220-225, 243-285; 2004b); Rinde (2004:238-281; 2005:280 ff., 438-439).

³¹ For a more detailed discussion about the Norwegian narrow gauge railroads see for instance Bergh (2004a:165-285; 2004b); see also Bjørnland (1989:117-147) concerning these railroads' lack of competitiveness.

³² Bøge (2004).

³³ This table is based on investment data from Jørgensen (2001:433 Tabel V,3); Larsson (1993:242 Tabell 6); *Vägverkets årsredovisning 2000*:29; *Statistisk bilag til Årsrapport for 1950 fra Opplysningsrådet for Biltrafikken pr. 10/4-51* (Ajourført pr. 10/5-1951):6, OVA; *Melding om vegvesenets virksomhet* (1960); *Vegvesenets virksomhet 1970*; *Vegvesenets årsberetning 1980*; *Statens vegvesen Årsberetning 1990*; *Nøkkeltall 2000*, VDA. The number of inhabitants stems from *Statistisk årbog 1951*, Det Statistiske Departement, Copenhagen 1951:6-7 Tabel 7; *Statistisk årbog 1961*, Det Statistiske Departement, Copenhagen 1961:1 Tabel 1; *Statistisk årbog 1971*, Danmarks statistik, Copenhagen 1971:1 Tabel 1; *Statistisk årbog 1981*, Danmarks statistik, Copenhagen 1981:1 Tabel 1; *Statistisk årbog 1991*, Danmarks statistik, Copenhagen 1991:19 Tabel 1; *Statistisk årbog 2000*, Danmarks statistik, Copenhagen 2000:17

Sweden made clearly the largest road investments per capita in 1950, 1960 and 1970 according to Table 1. Denmark made the second largest road investments per capita in 1950 and 1970, and made almost equal investments per capita as Norway in 1960. Norway made the largest tax financed road investments per capita in 1980, 1990 and 2000 when Norway had become a wealthy oil producer. The Norwegian road investments were thus significantly delayed compared to those in Denmark and Sweden. The Norwegian road investments per capita were particularly small in the early 1950s.

Denmark invested heavily in the road infrastructure already during the interwar years. Most of Denmark's highways and local roads were completed already prior to World War Two, and were paved with asphalt within 1960. Sweden invested similarly heavily in the 1960s to catch up its lag concerning modern trunk roads, motorways, highways and economically significant local roads. The Norwegian road investments per capita after 1980 was above those in Denmark and Sweden, but minuscule compared to Norway's financial leverage and the trunk road system's actual need for modernizing with regard to capacity, road safety and environmental standards.

Figure 3 provides an overview of construction of motorways in Denmark, Sweden and Norway between 1958 and 2005, and indicates clearly that Norway lagged behind Denmark and Sweden. However, Norway's lag with regard to modern trunk roads and motorways may not be a coincidence, because only 131 kilometers or 3,26 percent of the 4.021 kilometers Norwegian railroad in 1999 had double tracks, the rest was single tracks.³⁴ 44 percent of the Danish and 17 percent of the Swedish railroad systems had double or more than double tracks in 2001.³⁵ Norway's only modern high-speed railroad is the 66 kilometers long Gardermobanen completed in 1999 between Etterstad north of Oslo's Central Station and the new airport at Gardermoen.³⁶ Sweden had 330 kilometers modern high-speed railroads under construction in 2002, and an operational high-speed railroad between Stockholm's Central Station and the airport at Arlanda. The 15 EU member countries had 2.853 kilometers operational high-speed railroads in 2002. High-speed railroads are according to EU defined as railroads specially built or upgraded for at least 250 kilometers per hour.³⁷ Construction of modern land based

Tabel 1; Folkmängd efter region och tid [Online April 14th 2005] – URL: <http://www.ssd.scb.se/databaser/makro/temp/tmp20054141005228BE0101E1.xls>; *Statistisk årbok 1993*, Statistisk sentralbyrå, Oslo and Kongsvinger, 1993:38 Tabell 15; *Statistisk årbok 2000*, Statistisk sentralbyrå, Oslo and Kongsvinger, 2000:69 Tabell 59.

³⁴ *Statistisk årbok 2000*, Statistisk sentralbyrå, Oslo and Kongsvinger, 2000:417 Tabell 535.

³⁵ *European Union Energy & Transport in Figures 2003*, European Commission Directorate-General for Energy and Transport, in co-operation with Eurostat, Brussels:Table 3.2.1.

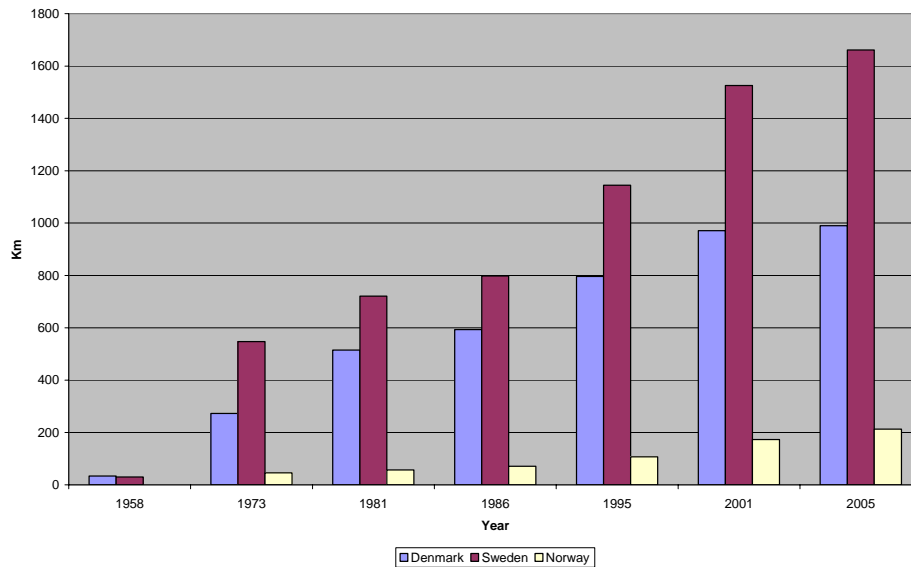
³⁶ Historikk [Online January 20th 2006] – URL:

<http://www.flytoget.no/Templates/Informasjon.aspx?id=130>. See for instance Boge (2000) about the political process leading to construction of the new airport at Gardermoen, and how Gardermobanen was used politically to facilitate construction of the new airport.

³⁷ *European Union Energy & Transport in Figures 2003*, European Commission Directorate-General for Energy and Transport, in co-operation with Eurostat, Brussels:Table 3.2.2, Table 3.2.4.

transport and communication infrastructures have obviously not been Norwegian executives and legislators' priority number one after World War Two or after Norway became a wealthy oil producer.

Figure 3: Motorways in Denmark, Sweden and Norway, 1958-2005.



Sources:³⁸

The Danish and Swedish authorities' construction of motorways have been comparable to that in most other EEC/EC/EU countries. The first 6 EEC member countries had 3.239 kilometers of motorways in 1958. The 15 EU member countries in 2002 had 53.267 kilometers of motorways.³⁹ The Danish and Swedish motorway investments were somewhat reduced between 1973 and 1986 because of recession and State economic problems caused by the first oil price shock, OPEC 1, 1973-74, and the entailing stagflation, and the second oil price shock, OPEC 2, 1979-80, and the entailing deflationary policies. But the Danish and Swedish authorities prioritized investments in the trunk road and motorway systems from the second half of the 1980s, to safeguard the trade and industry's future competitiveness and opportunities. The Norwegian authorities cancelled in practice further construction of motorways in 1973. The Norwegian tax financed road investments have so far not

³⁸ 50 years of figures on Europe. Data 1952-2001. 2003 edition. Office for Official Publications of the European Communities, Luxembourg, 2003:113; *Bil- og veistatistikk 1975*. Opplysningsrådet for Biltrafikken, Oslo May 1975:146, OVA; "Nordic Statistics 1999", CD-ROM enclosed *Nordic Statistical Yearbook 1999*. Nordic Council of Ministers, Copenhagen 1999:Table trsp04 (* = 1980, ** = 1985); *Årsmelding 1995 Statens vegvesen Vegdirektoratet*. Vegdirektoratet, Oslo 1996, VDA: *Årsmelding 2001*:Tabell 6 Motorveglengder [Online June 28th 2004] – URL: <http://www.vegvesen.no/aarsmelding/2001/index.html>.

³⁹ 50 years of figures on Europe. Data 1952-2001. 2003 edition. Office for Official Publications of the European Communities, Luxembourg, 2003:113; *Europe in Figures. Eurostat yearbook 2005*, 2005 edition. Office for Official Publications of the European Communities, Luxembourg, 2005:246.

regained the 1978 level, and the accumulated needs for catch-up both concerning trunk road and motorway investments and maintenance of the public road system is substantial, even if Norway became one of Europe's wealthiest countries from the 1980s because of the fast growing oil and gas revenues. Very few of these are invested in modern land based transport and communication transport infrastructures to safeguard Norwegian trade and industry's future opportunities.

Table 2 provides an overview of the Danish, Swedish and Norwegian public road systems approximately 2005. The public road systems are here divided into trunk roads, hereunder motorways, highways and local roads. The table provides both an overview of the road systems and the different categories' length measured in kilometers, and the different categories' relative share of the respective public road systems.

Table 2: The Danish, Swedish and Norwegian public road systems' structure approximately 2005 (km / % of total public road system).

	Denmark (km / %)	Sweden (km / %)	Norway (km / %)
Public roads	72.247 / 100%	138.288 / 100%	91.919 / 100%
Trunk roads	1.619 / 2,2%	4.893 / 3,5%	8.600 / 9,4%
Hereunder motorways	990 / 1,4%	1.661 / 1,2%	213 / 0,2%
Highways	9.702 / 13,4%	10.461 / 7,6%	18.532 / 20,2% ⁴⁰
Local roads	60.894 / 84,3%	122.934 / 88,9%	64.787 / 70,5%

Sources:⁴¹

Sweden has Scandinavia's largest and Denmark the smallest public road system according to Table 2. This reflects partly the three countries' areas, but only partly, because Denmark has only about 1/7th of Norway's area, and only about 1/9th of Sweden's area.⁴² Norway has most kilometers trunk roads, and the Norwegian share of trunk roads is far above that in Denmark and Sweden. This reflects largely Norway's dispersed settlement and the fact that Norway is a long and narrow country. However, Norway differs fundamentally from Denmark and Sweden concerning motorways, because Norway has only about 1/7th of motorways compared to Denmark and 1/6th of motorways compared to Sweden, given the public road systems' total length, even if none of the countries have more need for modern trunk roads and motorways than Norway, because of the time and distance handicaps. Norway has most highways, given the total road system's length, even if trunk roads are accounted for separately in Table 2. Sweden has the smallest relative

⁴⁰ Exclusive trunk roads, because trunk roads are defined as a subset of highways.

⁴¹ Vejlelængder fordelt på vejbestyrelser [Online May 11th 2005] – URL: http://webapp.vd.dk/interstat/isPrint.asp?PAGE_ID=757&THEME_ID=1&subjectFilter1=&viewID1=&displayAs1=Table; Statistiska centralbyrån, *Statistisk årsbok för Sverige 2004*, Stockholm 2003:212 Tabell 227 [Online May 11th] – URL: http://www.scb.se/statistik/AA/OV0904/2004A01/OV0904_2004A01_BR_SV_A01SA0401.pdf (municipal roads); Information om "Vägteori" på det statliga vägnätet. Aktuellt per 050331 [Online May 11th 2005] – URL: <http://www20.vv.se/vdb/webb-sidor/vagkategori.htm>; ⁴¹ *Nøkkeltall. Årsmelding for 2003*:15 [Online May 11th 2005] – URL: <http://www.vegvesen.no/SVVvedlegg/Nokkeltallbrosjyre2003.0.pdf>; Statens vegvesen, *Forslag til handlingsprogram for investeringer på stamvegnettet 2006-2015*, Februry 2005:5 [Online May 11th 2005] – URL: http://www.vegvesen.no/hprog/hp_stamv/1-16.pdf.

⁴² See the Data Appendix's Table 2.1-2.4, 3.1-3.4 and 4.1-4.4 for an overview of the three countries' settlement structure and area.

share of highways. Sweden has largest share of local roads, Norway the smallest, even if most public roads are local collective or even private goods. The road system's different structure and organizing reflect clearly different settlement, trade and industry structures, but reflect also different political priorities or national policy styles.

It is clearly evident from Figure 2 and 3 and Table 1 and 2 that Norwegian executives and legislators have reasoned and prioritized fundamentally different compared to Danish and Swedish executives and legislators, and even to the executives and legislators in most other EU member countries concerning modern trunk roads and motorways. First, Norwegian road investments after World War Two were delayed at least 10 to 15 years compared to most other West European countries. Second, most Norwegian road investments until about 1985 were allocated to secondary highways in peripheral and rural areas, not to trunk roads between the regions and within and near the major urban areas where most cars were located. Finally, construction of modern trunk roads and motorways came first on the Norwegian road policy agenda in the 1990s, almost 30 to 60 years later than in most other Western industrialized countries, after a brief attempt of building a modern road system between 1960 and 1965. How to explain these puzzles?

The Norwegian *Directorate of Public Roads* (Vegdirektoratet), which is responsible for management of trunk roads and highways, estimated in January 2003 the need for future trunk road investments to about 200 billions NOK, approximately 15,62 billions 1990 PPP USD. These investments were necessary to remedy the existing trunk roads' lack of compliance with the approved *Road Design Manuals'* (Vegnormaler) requirements for road capacity and environmental and safety standards.⁴³ Norwegian taxpayers and motorists have to prepare themselves mentally for significant future disbursements. Denmark, Sweden and most other Western industrialized countries had more or less completed their investments in the road infrastructures in 2003. Norway's lack of functional trunk roads may be one of the factors explaining the accelerating deindustrialization after the neo-liberal shift.

Some common sense or popular explanations about road policy and road construction

Some of the most widely circulated common sense, popular explanations or conventional wisdoms about the particular Norwegian postwar road policy and road construction are wealth level and economic leverage, geography, terrain conditions, settlement structure, high construction costs, lack of a national automotive industry and social democratic rule. However, few of these explanations stands the test of closer scrutiny, even if some of them are discussed further later in the study.

The first popular explanation – wealth level and economic leverage

The governing Labor Party did not emphasize road construction or motoring from 1945 until the early 1960s, but prioritized instead forced industrialization through politically governed investments in the export enclaves' smokestack industries, to

⁴³ Henriette Erken Busterud, "Sneglefart for stamvegutbedring", *Vegen og vi*, Vol. 2, No. 1, 2003:9.

utilize the cheap hydro electric power.⁴⁴ This policy delayed the mass motoring's reemergence at least 15 years compared to Denmark and Sweden. One of the most common explanations of why this is the case, is Norway's alleged poverty, because Norway had to be rebuilt after the German occupation between 1940 and 1945. Denmark was de facto occupied, but the Danish government collaborated with the Germans. Danish agriculture, trade and industry made plenty of business during World War Two. Sweden was similarly neutral. Even Swedish trade and industry made plenty of business during World War Two. Denmark and Sweden's need for postwar reconstruction was therefore limited.

However, the Norwegian reconstruction was completed already in 1948/49. The 1939 GDP level were passed in 1946.⁴⁵ The GDP per capita passed the 1938 level in 1946 and the industry as such reached its 1939 production level in 1947.⁴⁶ But the road construction was minuscule until the late 1950s and early 60s, because the car rationing was first abolished October 1st 1960. The economic historian Angus Maddison's calculations shows that Norway, Denmark and Sweden were among Europe's rich countries in 1950, measured as GDP per capita, which is the most correct measure of a country's wealth level, because it's not obfuscated by the population's size or growth. Norway's 1950 GDP per capita measured in 1990 international Geary-Khamis dollars, was 5.463 dollars, Denmark's 6.743 and Sweden's 6.739 dollars. The average GDP per capita in 1950 for the 12 West European countries was 5.018 dollars.⁴⁷ Norway's GDP per capita was well above the West-European average in 1950. Norway was definitely not one of Europe's poor cousins, despite the popular belief.

The economist Simon Kuznets distinguished between "modern economic growth" and growth through learning through trial and error. The modern economic growth's distinguishing features are "the combination of high rates of increase in population with high rates of increase in per capita product – with the obvious implication of enormous increases in total product."⁴⁸ Modern economic growth began in Great Britain in the early 18th century, in USA during the late eighteenth century and in France after the Napoleonic period, according to the economic historian Robert William Fogel. It diffused further to Australia, Belgium, Canada, Denmark, Germany, Holland, Norway, Sweden and Switzerland within the mid 19th century, and reached Argentina, Russia and Japan at the turn of the 19th and 20th century. Italy and the remaining other West European countries did not experience modern economic growth until the first part of the 20th century.⁴⁹ But Argentina and Russia demonstrate clearly that early modern economic growth is no guarantee for future wealth and prosperity.

⁴⁴ See for instance Mjøset (1986:113 ff.); Knutsen (1995).

⁴⁵ *Historisk statistikk 1994*, Statistisk sentralbyrå, Oslo and Kongsvinger 1995:532 Tabell 22.1; Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:51 Table 1b.

⁴⁶ Bergh (1981:59); Grønlie (1981:108-108).

⁴⁷ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-65 Table 1c.

⁴⁸ Kuznets (1966:15, 63). See also Kuznets (1966:64-65 Table 2.5, 490-502) for further discussions about the concept modern economic growth.

⁴⁹ Fogel (2004:50): See also Kuznets (1966:64-65 Table 2.5, 106-107 Table 3.2, 139 Table 3.7, 147-148 Table 3.8, 208-211 Table 4.5, 236-239 Table 5.3, 248-250 Table 5.5, 252-256 Table 5.6, 306-309 Table 6.3, 312-314 Table 6.4, 352-353 Table 6.6, 360-363 Table 7.1, 396-397 Table 7.5) and Rostow (1990:xviii Chart 1, 4-12, 17-18) even if Rostow's stage model's foundations, explaining economic growth, is clearly ideologically biased.

The economic historian Sverre Knutsen claims Norway's alleged poverty in 1950 is a staunch myth, brought forward by those who defended the particular Norwegian postwar economic policy. Norway was namely one of those 15-16 countries in the world that experienced modern economic growth prior to the outbreak of World War One. Most of these countries are still among the wealthiest in the world.⁵⁰ So, yes, it is true that Norway's GDP per capita in 1950 was below those in Denmark and Sweden, but these were small differences among three wealthy countries. These small differences in GDP per capita cannot explain the different road policies and road systems in Norway, Sweden and Denmark, despite the popular belief that Norway was significantly poorer than Sweden and Denmark in the 1950s. Norway's GDP per capita passed Sweden's in 1980 and Denmark's in 1990, because of the oil and gas revenues. Norway was West-Europe's wealthiest country measured as GDP per capita in 2000, according to Angus Maddison's calculations. The US outside the country intelligence service CIA described in February 2005 Norway as a "prosperous bastion of welfare capitalism" and "[o]nly Saudi Arabia and Russia export more oil than Norway".⁵¹ Lack of financial leverage can hence not explain the particular Norwegian road policy and road construction, at least not after the 1980s, or why Norway did not catch-up Denmark and Sweden with regard to construction of motorways in the most crowded areas.

Finland is one example that a country's wealth level or economic leverage is not sufficient to explain the road policy and road construction, because Finland had 549 kilometers motorways in 2000.⁵² Finland was one of West Europe's poorest countries until the 1980s, measured as GDP per capita.⁵³ Finnish road construction in the 1950s was first and foremost relief works, and part of the postwar reconstruction. But Finnish executives and legislators emphasized development of a national motorway system from the 1960s, among others financed through three loans from the World Bank in 1964, 1967 and 1971. Finland more than doubled its kilometers of motorways from the 1980s when Finland caught up economically.⁵⁴ Finnish executives and legislators pursued hence a textbook road policy. First relief works during the reconstruction, thereafter construction of motorways to further the trade and industry's competitiveness and increase Finland's economic leverage, and finally completion of the motorway system because of Finland's increased economic leverage, which in turn facilitated further economic growth after Finland in 1995 joined EU. The Finnish road policy was clearly in line with endogenous growth theory, public investments in the social overhead capital that provided spillovers to private sector enterprises.

Other examples of West European countries which have performed less well economically than Norway during the postwar period, measured as GDP per capita, but have built modern motorways and trunk roads are among others Germany, Italy, Spain, Portugal and Greece. More recent examples are Lithuania, which in 2000 had 417 kilometers of motorways. Slovakia had 296 kilometers of motorways, and

⁵⁰ Sverre Knutsen, "Hvorfor ble Norge rikt?", *Aftenposten*, morning edition, June 28th 2004.

⁵¹ Central Intelligence Agency, *The World Factbook 2004*, revised February 10th 2005: Norway, Economy - overview [Online April 4th 2005] – URL: <http://www.odci.gov/cia/publications/factbook/print/no.html>.

⁵² *European Union Energy & Transport in Figures 2003*, European Commission Directorate-General for Energy and Transport, in co-operation with Eurostat, Brussels: Table 3.2.7.

⁵³ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:63-65 Table 1c.

⁵⁴ Antila and Nenonen (2000:58-61, 64-66).

Slovenia had similarly 435 kilometers in 2000.⁵⁵ These three small, East European former communist countries have all prioritized investments in national collective goods such as trunk roads and motorways, after the end of the cold war, despite their economic backwardness compared to the Scandinavian and other Western European countries. Lithuania's GDP per capita in 2000 was about the same as Norway's in 1955/56.⁵⁶

Wealth level or economic leverage alone cannot explain road policy and development of the road infrastructure, particularly not construction of motorways and other trunk roads, which are of great importance for future economic development. But lack of resources and need for development may explain why other countries have emphasized construction of modern trunk roads and motorways. The Norwegian economy was fairly comparable to most other West European countries' until the early 1980s, except for the dominant export enclaves engaged in production of commodities and bulk products for the international markets. But Norway's economy transformed gradually to an oil economy from the late 1970s. The Norwegian executives and legislators did not emphasize construction of modern trunk roads and motorways to facilitate further development of alternative trade and industries neither during the export enclave's heydays between 1950 and 1977 nor after the transition to an oil economy after the neo-liberal shift. But abundance of resources, particularly from the 1990s, may explain why Norwegian executives and legislators have not prioritized investments in modern trunk roads and motorways. The oil and gas export revenues have made it possible for the Norwegian executives and legislators to offer the voters generous private social welfare goods, cash transfers and redistribution instead of common investments in social overhead capital and collective goods that would have improved Norway Inc.'s long-term competitiveness. It is tempting to compare Norway's oil revenues with Spain's silver from the Latin-American colonies, because the oil and gas revenues seem to have crowded out investments in social overhead capital and collective goods, such as roads, from the 1980s. However, the oil and gas revenues can hardly explain the lack of road investments prior to the 1980s, and particularly not the road investments' actual allocation.

Geography, terrain conditions and settlement – the second popular explanation

Another popular explanation of the particular Norwegian postwar road policy and road system is geography, terrain conditions and settlement structure, because Denmark, Sweden and Norway differ concerning these variables. Denmark consists of a peninsula on top of the European mainland, Jutland, and a number of islands located between Jutland and Sweden. Sweden and Norway make up the Scandinavian Peninsula located northwest and northeast of Denmark, separated from Denmark by Øresund, Kattegat and Skagerak's seas. Denmark has the smallest area, approximately 43.000 square kilometers, and the second largest population, about 5,3 millions in 1997. Sweden has the largest area, approximately 450.000 square kilometers, and the largest population, about 8,8 millions in 1997. Norway's area is

⁵⁵ *European Union Energy & Transport in Figures 2003*, European Commission Directorate-General for Energy and Transport, in co-operation with Eurostat, Brussels: Table 3.2.7.

⁵⁶ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003: 65 Table 1c, 105 Table 3c, 110-111 Table 3c.

second largest, approximately 324.000 square kilometers, and the smallest population, about 4,4 millions in 1997. Denmark is most densely populated, with an average of 123 inhabitants per square kilometer, while Sweden and Norway are most sparsely populated, with respectively 15 and 14 inhabitants per square kilometer.⁵⁷

The terrain conditions in Denmark, Sweden and Norway differ. Denmark is level, with small hills, but with many islands, fjords and streams, and hardly any rocks. The Swedish terrain is somewhere between the Norwegian and Danish extremes, with large level areas, particularly in the south, many forested areas, and several major lakes. But there are also mountainous and forested areas and major rivers, particularly in the sparsely populated northeastern Sweden. Norway has numerous mountains, particularly in the inland, large forested areas, many deep fjords, particularly in west and north, and a large number of inhabited islands scattered along the western and northern coast.

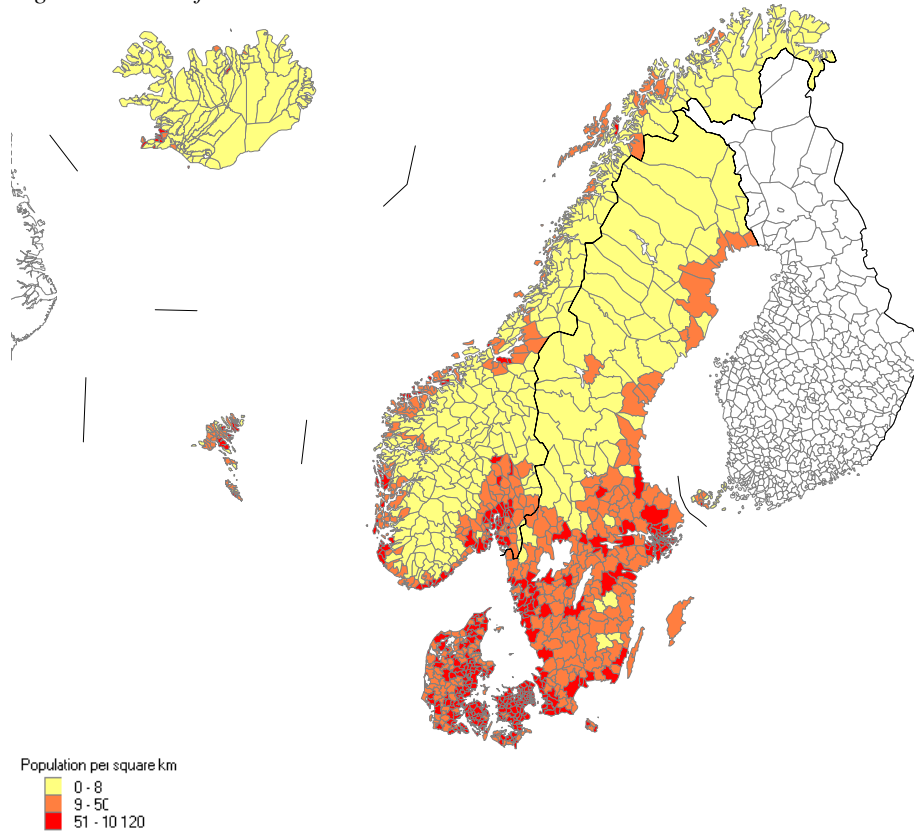
But terrain conditions per se are not a critical difference concerning road policy or road construction. First, the majority of Danes and Swedes live in areas where road construction is relatively straightforward. But the same is partly true in Norway, particularly in the densely populated Oslofjord-area in Norway's southeastern corner, near Kristiansand and Stavanger along the southern and southwestern coastline, and in Trøndelag.⁵⁸ Second, European countries with similar or even worse terrain conditions than Norway, such as Switzerland, Italy, Austria and Spain, have all well-developed trunk road and motorway systems. Switzerland had 1.669 kilometers, Italy had 6.621 kilometers, and Austria 1.633 kilometers, and Spain had 9.049 kilometers of motorways in 2000.⁵⁹ Third, if terrain conditions were a critical difference concerning road policy or road construction, then it would be reasonable to assume the road construction would have been concentrated to densely populated areas with easy terrain conditions. But that has definitely not been the case in Norway, but has largely been the case in Denmark and Sweden. Finally, engineers have developed numerous technical fixes to overcome difficult terrain conditions, such as bridges, tunnels, sub sea road tunnels or ferries.

⁵⁷ *Statistisk årbok 2000*. Statistisk sentralbyrå, Oslo and Kongsvinger, 2000:512.

⁵⁸ See the Data Appendix' Table 2.1-2.4, 3.1-3.4 and 4.1-4.4.

⁵⁹ *European Union Energy & Transport in Figures 2003*, European Commission Directorate-General for Energy and Transport, in co-operation with Eurostat, Brussels: Table 3.2.7.

Figure 4: Some of the Nordic countries' settlement.



Source: Statens kartverk and Statistisk sentralbyrå.

The Danish population live scattered all across the country, even if most Danes live within and near the major cities Copenhagen in east on Sjælland, Odense in south on Fyn, Århus at mid Jutland's eastern coast and Aalborg north on Jutland. Most Swedes live south of Uppsala within a kidney shaped belt across Sweden delimited by Stockholm and Uppsala in northeast, Gothenburg in west and Malmö in southwest. Most of Norway is inhabited, similarly as Denmark, except for the most mountainous inland areas in Southern and Northern Norway. About 50 percent of the Norwegians live in the southeastern Oslofjord area up to Lake Mjøsa's northern part, which includes the capital Oslo. Most other Norwegians live along the coastline from the Oslofjord up to Trøndelag in Norway's lower middle, which includes the other three major cities Bergen, Trondheim and Stavanger. Only 10,5 percent of the Norwegians lived north of Trøndelag in 2000, but the three northernmost counties contain about 35 percent of Norway's area.⁶⁰ The terrain conditions where most Norwegians lives are relatively level, particularly in the Oslofjord, Stavanger and Trøndelag areas. But some of the middle and peripheral

⁶⁰ See the Data Appendix' Table 2.1-2.4, 3.1-3.4 and 4.1-4.4.

areas have very difficult terrain conditions, particularly in the western and northern regions.

But the population's settlement is not a critical difference concerning road policy, because roads are needed for domestic transports of passengers and goods, no matter the physical localization of the country or the population's settlement, unless there are well-developed alternative means of transport, such as for instance ships. But concentrated settlement reduces the need for roads, particularly the number of road links and kilometers of roads, and vice versa. Settlement is thus not a critical difference for the road policy, even if the settlement structure largely explains the road systems' physical structure and layout.

Sea transport is an important alternative to roads in Norway, particularly for the coastal areas' traditional smokestack exports industries producing commodities or other bulk products, because the railroads serve only a fraction of the country and is also partly obsolete. Sea transport is also an alternative to road transport in Denmark and Sweden's coastal areas, but Sweden and partly even Denmark have relatively modern and well-developed railroad systems compared to Norway. Air transport covers similarly some of the passenger transport, particularly the long-distance transports between Norway's northern and southern regions, but cannot compete with cars and buses on short and medium distances where most travels take place.

Construction costs, automotive industry and social democratic rule – the ultimate popular explanations

The Norwegian roads' construction costs per meter are usually far higher than in Denmark, because of plenty solid rocks in Norway and hardly any rocks at all in Denmark. Hard frozen soil is similarly a problem in Norway, but seldom an issue in Denmark. The Swedish roads' construction costs vary between those in Denmark and Norway, depending on where in Sweden the road construction takes place. The terrains usually represent more obstacles and challenges in Norway than in Denmark, even if there are exceptions, such as Denmark's need for bridges. Denmark has two of the world's large bridges, namely the suspension bridge across Great Belt's Østränden, and the cable stayed bridge across Øresund.

Norway has a large number of road tunnels, because of the mountainous terrain, among others world's longest road tunnel, Lærdalstunnelen, which measures 24.505 meters. But modern construction technology has reduced the costs for tunnels almost to the same level as ordinary roads in rocky terrain. Sub sea road tunnels are often more cost effective than bridges, because of significantly lower construction cost per meter. On the other hand, sub sea road tunnels are often significantly longer than bridges, to avoid unnecessary steep slopes. What is most cost efficient or technically feasible is usually determined by the terrain and sub sea conditions. Denmark, Sweden and Norway all have sub sea road or railroad tunnels, even if Norway has far more of these than Denmark and particularly Sweden. Norway has also a large number of bridges, because of numerous inhabited islands, but Norway has no bridges near the Great Belt or Øresund Connections' order of magnitude.

Construction costs alone can hence not explain the different road policies, even if high construction costs are one of the popular explanations of the particular

Norwegian road policy and road system. Norwegian executives and legislators have emphasized road construction in peripheral and rural areas during most of the postwar period. Many of these roads have been built in difficult terrains, usually with tunnels, bridges and/or sub sea road tunnels, often at high costs, with few potential users and poor cost/benefit ratios. Norwegian executives and legislators delayed in addition deliberately mechanization of the road construction and maintenance until the 1960s and 70s. The result was far higher construction and maintenance costs than necessary, compared to Denmark and Sweden that mechanized their road construction and maintenance far earlier. Construction costs and cost/benefit ratios can thus not be of significant concern in Norway. If that had been the case, then the road construction would have been concentrated in level areas with little or no rocky terrain, with low construction costs per meter and many potential users such as in Denmark and Sweden. But this has definitely not been the case in Norway.

Denmark's giant bridges, Switzerland, Italy, Austria or Spain's motorways in mountainous areas and many of Norway's so-called mainland connections and sub sea road tunnels demonstrate clearly that construction costs seldom are decisive for whether roads are built or not. Politicians are usually able to mobilize the necessary financial resources if they fancy particular projects. Construction costs alone are hence not sufficient to explain the different road policies or road systems in Denmark, Sweden and Norway, even if the construction costs are decisive for the road construction's progress, given the budget constraints.

Some claims the Swedish automotive industry explains why Sweden has a functional and why Norway has a dysfunctional trunk road system, because Norway has never had any significant automotive industry. Neither have Norwegian executives and legislators emphasized construction of safe and efficient modern trunk roads and motorways such as Swedish executives and legislators. But how to explain that executives and legislators in countries like Denmark, Finland, Switzerland, Austria and others without major automotive industries have emphasized construction of safe and efficient trunk roads and motorways? Lack of a major national automotive industry does hence not rule out the possibility of safe and efficient trunk roads and motorways, and is thus not sufficient to explain the particular Norwegian postwar road policy or road construction.

Finally, some have claimed that social democracy explains the particular Norwegian road policy and road construction, because the social democratic Labor Party governed Norway most of the postwar period. But the prewar Labor Party executive prioritized modernizing the 19th century trunk roads 1935-40, even if the postwar Labor Party executives deliberately delayed mass motoring and road construction until 1960. However, the Danish and Swedish postwar Social Democratic Party executives championed construction of modern trunk roads and motorways when their Norwegian sister party argued against motoring and road construction per se. But the Danish and Swedish Social Democratic Parties seemed to be far more concerned with development of efficient, flexible and safe transports of passengers and goods than preserving particular means of transport, compared to the Norwegian Labor Party. Social democracy per se can hence not explain Norway's particular postwar road policy and road construction.

Most popular explanations and conventional wisdom are weakened or refuted

This section has weakened or refuted some of the most popular explanations or conventional wisdoms about the particular Norwegian postwar road policy and road construction. Wealth level, financial leverage, geographical localization, population, terrain conditions, construction costs, lack of an automotive industry or social democracy are not sufficient to explain why the Norwegian road policy and road construction have differed fundamentally from Danish and Swedish road policies and road construction.

Norway's dispersed settlement and trade and industry structure dictates in practice construction of a high number of road links and a lengthy road system, given the all-party desire for maintenance of dispersed settlement. But Norway's dispersed settlement does not explain the lack of modern trunk roads and motorways, rather the opposite. The puzzle is why haven't Norwegian executives and legislators invested in modern, safe and efficient trunk roads and motorways such as in Denmark and Sweden to reduce the time and distances handicaps for those trade and industries dependent of road transports of passengers and goods? One tentative explanation may be the election systems that have given the inhabitants in Norway's peripheral and rural areas strategic control of the political system. But this explanation sounds counterintuitive. Because why have many legislators representing the peripheral and rural areas pursued a road policy that in practice has prevented or constrained development of viable and competitive trade and industries dependent of road transports in their own constituencies?

Analytical, theoretical and methodical framework

The weakening or refutation of many common sense or popular explanations or conventional wisdoms about of Norway's particular road policy and road construction in the previous section means that Norway's road policy and road construction have to be explained otherwise, but how? This section examines first some former studies about Norwegian road policy and road construction. The second part presents the study's analytical model, hereunder some fundamental concepts and assumptions about cause-effect relations. The next four parts are theory discussions linked with the study's four working hypotheses, which are attempts of explaining the puzzles. The final part is about methodical questions and considerations.

Some former studies about Norwegian road policy and road construction

There are written numerous books about Norwegian road administration and road construction.⁶¹ Most of these have been initiated by the various local road administrations, and written by former road administrators, engineers or journalists, usually with a local or county perspective. The political and economic context is often overlooked or taken for granted. None of these books have an explicit comparative perspective. But this literature has been very useful as introductory reading and secondary sources.

⁶¹ See for instance Johnsen (1992); Olsen (1995); Schmedling (1997); Archer (1998); Hegdalstrand (2000); Rødland (2000); Grut (2001); Vik and Ytreland (2002).

The economist Axel Dammann was very critical to the Norwegian executive's postwar transport and communication policy already in 1955. Dammann questioned the "railroad cult" that reemerged after World War Two, and claimed the transport and communication policy was more governed by regional, military, social or other concerns than promoting economic growth and development.⁶² Bjørn Larsen, one of the Ministry of Finance's economists during the 1950s and 60s, described Axel Dammann as a "square plug in a round hole".⁶³ Axel Dammann was namely a monetarist during the so-called Oslo School of Economics' heydays, and largely out of tune with those days' professional discourse. Dammann engaged therefore later in banking and finance rather than in further transport economic studies.⁶⁴ However, Axel Dammann's 1955 study found several indications of governance and policy failures within the transport and communication sector if the aim was effectiveness, competitiveness and economic growth. Axel Damman had first hand knowledge about road policy and road construction, because he was one of the first economists employed by the Directorate of Public Roads.

The transport economist and transport and communication historian Dag Bjørnland and others at the Institute of Transport Economics made several studies about the Norwegian transport and communications development during the 1970s and 80s.⁶⁵ Dag Bjørnland claimed Norwegian transport and communication policy; hereunder the road policy and road construction was governed by "ideology". Because ideology governed the capital accumulation, and technology and capital accumulation governed in turn the development of transport and communication infrastructures. The politicians' concern for "geographical equalization of terms of life and production" had a privileged position, and lead to particular emphasis on investments in sparsely populated areas. This policy was founded on a "stable power base", according to Bjørnland, who explained the Norwegian road policy as one example of regional policy. The absence of an urban policy led similarly to "transportation impasse" in the major cities.⁶⁶ Dag Bjørnland's findings in the 1970s and 80s supported largely Axel Dammann's findings in the 1950s, even if their views about economy and economic policy were highly divergent, particularly during the 1950s and 60s. Dag Bjørnland graduated as a follower of the Oslo School of Economics, but revised later some of his views on transport economy and road investments. But Dag Bjørnland's claims about ideology governing the road policy and road construction were not supported by detailed empirical studies. The ideology was more an exogenous given variable.

The technology historian Per Østby studied the mass motoring's reemergence in Norway after World War Two. Østby considered cars as known technology in the 1950s, even if the delayed reintroduction of cars after World War Two led to import of international conceptions and ideas about how to organize and adapt the society to mass motoring. Østby gave professionals and technocrats such as road engineers and transport economists a prominent position in his story about this import and translation process.⁶⁷ However, Per Østby overlooked partly the institutional

⁶² Dammann (1955: 4 ff.).

⁶³ Larsen (2005 [Interview]).

⁶⁴ Dammann (2003 [Interview]).

⁶⁵ See for instance Bjørnland (1977) and Bjørnland et al. (1981).

⁶⁶ Bjørnland (1989:319-322).

⁶⁷ Østby (1995:54-75, 494-495).

framework that defined the rules of the game for these import and translation processes, such as emphasized by Dag Bjørnland and partly also by Axel Dammann. Per Østby claimed initially the Norwegian road and car lobby was weak and fragmented, but claimed later that Karl Olsen was appointed as Road Director 1962, because of the technocrats and scientists' claims that "rational knowledge [...] could replace politics". Per Østby portrayed Karl Olsen as the executive's savior from the "squeeze" between the legislators' numerous horse trades, even if the peripheral areas resisted the technocrats' "reinterpretation" through scientific models, and claimed also the political struggles changed arena from Stortinget to the experts' settlement forecasts.⁶⁸ Per Østby overlooked seemingly the fact that Norwegian politicians most likely utilized these experts as pieces in their resource struggle games in Stortinget and in the County Councils. Per Østby overlooked also the fact that Norwegian road engineers' attempts of importing and implementing technologies facilitating mass motoring, road safety and transport economy was a failure compared to Denmark and Sweden where such technology was taken for granted already in the second half of the 1950s and early 1960s. Many Norwegian politicians do still not consider traffic engineering 'house-trained' or politically correct.

Per Østby's study became very consequential, because it propped up the myth about a very powerful Norwegian road administration with an abundance of resources. Per Østby's study inspired among others the historian of ideas Rune Slagstad, who in 1998 designated Road Director Karl Olsen and the Directorate of Public Road's head of planning Arne J. Grotterød as so-called "national strategists". Slagstad, with his prominent position in the academic and public discourses, claimed also the road administrators developed a "system with a long time horizon and economic generosity any other sector, except the armed forces, could envy".⁶⁹ But this chapter's initial discussions as well as Axel Dammann and Dag Bjørnland's earlier findings have listed plenty of reasons to question Slagstad's claims about Karl Olsen and Arne J. Grotterød as national strategists and the road sector's claimed generous resources. Slagstad's claims were clearly not based on empirical research.

The sociologist Andreas Hompland and others published in 2001 a study about Norwegian road policy and area planning in urban areas. Chartered engineer Gustav Nielsen concluded the "delayed" reintroduction of mass motoring in Norway after World War Two gave a mismatch between urban and area planning, urban growth and development of transport systems compared to for instance Sweden. The Norwegian road policy developed during the 1960s gave also delayed urbanization compared to Sweden.⁷⁰ It was hence clearly evident the governing Labor Party's road and motoring policy during the 1950s had long-term consequences. This formative period that delayed the mass motoring's reemergence in Norway is discussed further in detail in chapter 4.

The economist Victor D. Norman from Norwegian School of Economics and Business Administration (Norges Handelshøyskole) in Bergen, who served as minister of labor and government administration 2001-04 and who tried to

⁶⁸ Østby (1995:69, 495, 497, 498-499).

⁶⁹ Slagstad (1998:305-307).

⁷⁰ Nielsen (2001a:80).

streamline the public sector, used Norwegian road policy to illustrate several political paradoxes and public sector problems. Norway's particular road policy was according to Norman a result of among others political populism, geographical distribution of political representation, the political parties' gravitation towards the median and the "small issues tyranny". Victor D. Norman mentioned also ministerial rule disguised as parliamentary rule, the Ministry of Finance's obsession with short-term budget balance combined with perverse incentives, and the ministries' many Sir Humphreys.⁷¹ However, Victor D. Norman's list was not based on systematic examination of empirical evidence, but rather a list of anecdotes. Claims like the small issues' tyranny are strictly speaking not an explanation, but rather lack of such.

The economic historian Sverre Knutsen and the political scientist Knut Boge claimed in 2005 Norwegian road policy and road construction after World War Two had been "piecemeal and partitioned". Some of their findings supported Norman's anecdotes, because Knutsen and Boge's main explanations were first the Labor Party's economic policy between 1945 and 1960, second, an aggressive "distributional coalition" in Stortinget that funneled resources from the central and urban to the peripheral and rural areas, and finally, the Ministry of Finance that considered roads as costs, not investments, and constrained the road investments.⁷² The question is how is Norwegian road policy compared to Danish and Swedish road policy through time, and how to explain possible differences or national policy styles?

Analytical model

This study's analytical model is not formal but a heuristic device with one dependent variable, three intervening variables and a number of background variables. The idea is that *background variables* determine the context for the political processes that take place within the intervening variables, or intermediate institutions, which mitigates the relations between the background variables and the dependent variable, the outcome of the policy processes or the road policy, the high-level road system. Settlement, trade and industry structure, hereunder the population and the trade and industry's dependence of road transports are some of the most important background variables. Other important background variables are GDP per capita, economic growth rates, the road investments' order of magnitude, and last but not least the business cycles' crises, booms and busts. The business cycles affect the State's revenue and budget balance, and thereby often the road policy and road construction. Historical institutionalists such as Sven Steinmo and Kathleen Thelen claim that study of intermediate institutions provides increased analytical leverage, because intermediate institutions mediate the macro structures.⁷³ The intermediate institutions are thus decisive for the political economy.

The intervening variables or intermediate institutions are here denoted as the *road polity*. The road polity consists usually of legislature, executive and road administration. The *legislature* is here understood as the parliament or national

⁷¹ Norman (2004:15-18, 145-154, 179-196, 214-224, 225 ff.).

⁷² Knutsen and Boge (2005:56-70, 390-393).

⁷³ Thelen and Steinmo (1992:11).

assembly, including possible committees responsible for road policy in particular and transport and communication policies in general. The legislature is usually a democratic society's top-level institution for collective action, where two or more persons and/or interest groups have to cooperate to safeguard the common interests.⁷⁴ The legislature's election system, chamber and committee structure is of particular interest. Because the committee system is crucial for development of vote trades or so-called logrolls, due to the legislators' different preference intensities.⁷⁵ Ellen M. Immergut's comparative study of the Swedish, French and Swiss and health care systems unveiled how different decisive moments or "veto points" in the political processes, where different interest groups could block or alter budgets or legislation, gave three very different health care systems.⁷⁶ The legislature and particularly the committees may also represent important veto points in the road political decision processes. Veto points lead typically to swift institutional changes at relatively high costs. Investments lead similarly to delayed institutional changes at relatively low costs. Coordination may result in institutional change processes somewhere in between veto points and investments, according to Paul Pierson.⁷⁷ The road polity's institutional design and mechanisms affect hence the policy processes as well as the policy outcomes and consequences for the polity.

The legislature's ability to amend the executive's proposals has varied during time and across countries and polities, and is therefore one of the keys for understanding the political economy, which in turn governs the road policy and road construction. The legislature determines usually the supply, allocation and financing of collective goods such as roads. Fundamental questions concerning road financing are among others *tax financing* or *turnpike financing* or combinations thereof, fiscal fuel and vehicle taxes or fuel and vehicle taxes dedicated to a *Road Fund* with long-term balance between road appropriations and the motorists' payments of vehicle and fuel taxes. Discount rates, time horizon, geographical allocation, and whether time savings and accident costs have been included in considerations about choice between competing road projects are similarly of interest for understanding the road policy.

The *executive* consists of the cabinet with ministries. The legislature usually delegates some of its prerogatives to the executive in case of parliamentary rule. This study emphasizes particularly those ministries responsible for road policy and road construction. The Ministry of Finance, or its equivalent, is also of interest, because the Ministry of Finance monitors usually the executive's total spending, budget balance and allocation of resources between different sectors and ministries. The Norwegian Ministry of Finance has in many instances been a super ministry, supervising and overruling the sector ministries. The organization, power and influence of the executive have varied significantly over time and across countries and polities. Important questions concerning road policy and road construction are among others: First, who have had strategic control of the political system? Second, have the road projects been initiated from above, as part of nation building,

⁷⁴ For further discussions about collective action and how to study collective action problems see for instance Olson (1965/71); Korsnes et. al. (1997:151) and Geddes(2003:192-205).

⁷⁵ See for instance Riker and Brahm (1973:1235); Weingast and Marshall (1988:138).

⁷⁶ Immergut (1992a:63-66; 1992b:31-32, 228). See also Pierson (2004:144-153)

⁷⁷ Pierson (2004:144-153, Fig 5.1).

modernization and efficiency improvement efforts or for facilitating development of a particular trade and industry structure, or from below to serve local rather than national needs?

The *road administration* is here defined as public administration(s) responsible for supervising, planning, construction, operation and maintenance of the public road system. The road administrations' organizing has varied across countries and over time, but has usually been most related to the responsible ministry. However, the road administrations may also be subject to influence from for instance the Ministry of Finance, local and regional politicians and other external interest groups, such as motorists, trade and industry, finance institutions, construction companies, consulting companies and trade unions. Important questions concerning the road administration are organization and structure, hereunder distribution of tasks and responsibilities between the road administration and other government agencies or private consulting and construction companies. Another interesting question is the road administration's degree of professional autonomy. Has the road engineers and transport economists' professional standards, laws and codified Road Design Manuals governed the management of the road system, or has it been micro-managed by the politicians?

The road polity can be understood and analyzed as a chain of principal-agent relations. The most important principal-agent relation is between voters and politicians; i.e. between voters and legislature and between voters and executive. The second principal-agent relation is between politicians and bureaucrats, and determines the relations within the executive, particularly between the ministers and the ministries' bureaucrats, and the relations between the ministries and the road administrations' bureaucrats. There is also a third principal-agent relation in case of parliamentary rule, namely that between the legislature and executive. Delegation of authority from voters to politicians, from politicians to bureaucrats and from legislature to executive is rather similar to separation of ownership and control within private enterprises.⁷⁸ Delegation from voters to politicians in a democracy usually takes place through candidate selection and elections. The delegation from politicians to bureaucrats similarly takes place through appointment of high-ranking civil servants and employment of lower ranking public sector employees.⁷⁹ Democracy makes it possible for the voters to elect new politicians. A basic assumption is that most politicians desire reelection. Another assumption is that the politicians' chance for reelection is determined by a combination of political party and voters. The politicians first have to please their party bosses to be nominated, and thereafter to please their constituents to be reelected.⁸⁰ The voters discipline thereby the politicians and safeguard their interests through reelection of established or election of new politicians. The politicians similarly discipline the bureaucrats through appointments, hiring, firing and promotions. The party bosses in turn discipline their subordinated politicians through nominations.

Most political systems are "skewed" in the sense they favor particular interest groups, social classes and/or geographical areas. Because political systems, and particularly the election systems, are usually results of historical tugs of war and

⁷⁸ cf. Moe (1984:752-753, 758 ff.).

⁷⁹ cf. Shugart (2003 [Lecture]), Norman (2004:198-208).

⁸⁰ Cox and McCubbins (1993:109 ff.); Norman (2004:207).

bargaining processes during constitutional and formative periods, and may result in *malapportionment* of particular interest groups, social classes or geographical areas in the legislature.⁸¹ The degree of malapportionment indicates how far the election system deviates from the principle one person – one vote. Malapportionment do, all other things equal, increase the malapportioned areas, interest groups or social classes' political bargaining power, and can explain the inclination to rent seeking, pork barrel politics, and partly also explain the road investments' geographical allocation.

These discussions about this study's analytical model have indicated plenty opportunities for variations in the road polities and background variables during time and across countries. Such variations may in turn create different national political economies. Different political economies may in turn explain some of the variations in the dependent variable, the development of Denmark, Sweden and Norway's high-level road systems. Because these are all results of the road policy and road construction governed by the political economies and the entailing national policy styles.

Primary working hypothesis – roads perceived as national collective goods with road policy and road construction governed by legislators who pursue the common good

As mentioned initially, trunk roads and partly even highways can be considered as national collective goods, because they facilitate flexible, safe and efficient transports of passengers and goods between the regions, between raw material and industrial areas and integrate also domestic and foreign markets. A well-developed high-level road system is of utmost importance for a society's economic growth and development, according to endogenous growth theory, and benefits most inhabitants, even if many trunk roads and even highways may acquire private goods characteristics during the peak hours, particularly in densely populated areas. There are reasons to assume broad legislature majorities approve national collective goods, because national collective goods benefit most voters, no matter their constituencies. A logical implication of roads perceived as national collective goods is allocation of roads investments in projects that either contributes most to economic growth, and/or reduces the transaction costs, environmental problems or accident risk, no matter these investments' geographical location.

However, there are reasons to question whether the executive and legislators actually consider trunk roads and partly highways as national collective goods. So-called *pork barrel politics* can be understood as national collective goods' diametrical opposite, because the benefits from pork barrel projects are concentrated to a defined geographical area, while the costs are distributed among all taxpayers.⁸² Rational political actors will usually try to minimize the tax price for collective goods, with marginal utility equal to the marginal costs. A constituency that pays less than 1/N of the total tax revenues faces low marginal tax costs for tax financed goods, and demand more goods, while a constituency that pays more than 1/N of the

⁸¹ Cf. Shugart (2003 [Lecture]).

⁸² cf. Shepsle and Weingast (1981:100 ff.); Weingast et. al. (1981:644); Moe (1984:765 ff.).

total tax revenues usually demand less goods because of high marginal tax costs.⁸³ The constituencies' tax price may hence explain the demand even for national collective goods. Constituencies with low tax price will usually demand more collective goods than constituencies with high tax price, all other things equal. The result is often common pool problems, even for national collective goods, particularly in those instances where the political system's incentive structure rewards parochialism and punishes national concerns.

But some empirical studies indicate that legislators actually take national concerns and common good into consideration, even within typical pork barrel policy areas despite the common pool problems. John A. Hird's empirical study of 133 U.S. Army Corps of Engineers' pork barrel projects in the U.S. Congress found that legislators took "public interest" into consideration through concerns for equity and efficiency, because cost/benefit ratios were important for rank ordering and choice of projects.⁸⁴ The cost/benefit calculus weeded out the most inefficient projects. Hird's findings indicate clearly that legislators may consider some projects as national collective goods. David Soherr-Hadwiger established similarly, based on R. Douglas Arnold's idea about some projects' "general benefits"; a continuum from distributive projects with few general benefits to projects with many general benefits and few distributive benefits.⁸⁵ Soherr-Hadwiger's study of U.S. domestic military construction programs found programs with projects that gave many constituencies nothing, but they still received universal support because of their general benefits.⁸⁶ The notion about general benefits may explain Soherr-Hadwiger's findings that legislators vote against inefficient political pork barrel deals in their own constituencies and support political pork barrel deals in other constituencies.⁸⁷ Even Soherr-Hadwiger's findings indicate that legislators may take general benefits or common goods into consideration. Roads perceived as national collective goods can thus not be ruled out.

This brings us to the primary working hypothesis, namely roads perceived as national collective goods with road policy and road construction governed by legislators who pursue the common good, independent of their constituencies, political parties and political cleavages. This hypothesis makes it possible to derive four empirically testable implications:

1. Modern trunk roads all across the country, even in areas where these investments are most costly and most needed because of congestion, accidents and environmental problems, to safeguard efficient, flexible, safe and environmental friendly transport of passengers and goods.
2. There may be discussions about budget constraints and financing, but legislators who take general benefits, public interests, common good and requirements for equity and effectiveness into consideration exclude road projects with unreasonable cost/benefit ratios, unless there are other

⁸³ See for instance Downs (1957:164-204) or Stiglitz (1986:147-171) for further discussions about supply and allocation of collective goods.

⁸⁴ Hird (1991:432, 434-435, 449).

⁸⁵ Soherr-Hadwiger (1998:57-58); Arnold (1990:26, 139) in Soherr-Hadwiger (1998:58, 64).

⁸⁶ Soherr-Hadwiger (1998:63-64).

⁸⁷ Soherr-Hadwiger (1998:73-75).

- significant reasons such as national security, industrial development or social justice.
3. The legislators perceive road policy and road construction in variable sum terms.
 4. Stable and reasonably predictable road policy and road construction governed by cost/benefit ratios or other professional standards independently of the legislature's political balance and/or the government's political affiliation.

The empirical evidence presented in this chapter's first sections indicate clearly the notion of trunk roads as national collective goods have been more prevalent in Denmark and Sweden than in Norway. An interesting puzzle, given David Soherr-Hadwiger's findings about general benefits, is why seems the norm about general benefits to be stronger in Denmark and Sweden than in Norway?⁸⁸ Given similar human nature in different countries, how to explain these differences? Are there critical institutional differences within the road polities? This question is discussed further in chapter 5.

Second working hypothesis – roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles

Most roads are local collective or private goods rather than national collective goods, because of geographically concentrated benefits and costs that can be collectivized. Such concentrated benefits make roads excellent bargaining chips in the legislatures. Such bargains are usually a result of pork barrel deals established through vote trades or logrolls, which in turn often are governed by geographical cleavages between the center and periphery and/or the urban-rural cleavages, which Stein Rokkan denoted the *territorial dimension*.⁸⁹ The territorial dimension was particularly prevalent prior to establishment of formal political parties in the 19th century, but may still govern the legislatures' resource allocation in case of weak political parties, poor party discipline or in matters of major significance for particular geographical areas or constituencies.

Mancur Olson claims individual politicians; political parties or other interest groups may establish so-called *distributional coalitions*. A distributional coalition is a kind of collusion or cartels to increase their own or their constituencies' share of a society's goods.⁹⁰ Distributional coalitions may be organized according to political, industrial, professional, social or geographical principles, or combinations thereof. Distributional coalitions may be found in the elected political system as well in the corporative negotiation system. Distributional coalitions can be very stable and durable. Collective goods such as roads can be understood as positive inducement for the distributional coalitions' members.⁹¹ Distributional coalitions can be found both in a legislature's plenary as well in the committees. The legislatures may thus

⁸⁸ Cf. Soherr-Hadwiger (1998).

⁸⁹ Rokkan (1967; 1970:292-298; 1975a:217-218, 223-224). See also Valen et al. (1998:61-64) which furthered Rokkan's ideas.

⁹⁰ Olson (1982:44).

⁹¹ cf. Olson (1965/71:51).

contain virtual or meta parties in addition to or instead of the formal political parties that govern the vote trades, for instance if roads are perceived as local collective or private goods and used as pork barrel projects. This is often the case if the legislatures have weak or non-existent political parties.

The legislators' vote trades may lead to establishment of what William H. Riker denoted *minimum winning coalitions* (MWCs), which can be understood as efforts to maximize the spoils or pay-off from coalitions or vote trades pursuing pork barrel projects.⁹² MWCs provide usually largest pay-offs to the initiators, because majority rules concentrate the benefits and collectivize the costs.⁹³ Those constituencies not part of the MWCs receive nothing of the goods but have to share the costs.⁹⁴ The paradox with vote trading and MWCs is that everybody included the vote traders are worse off in the long run.⁹⁵ Riker's theory about MWCs is grounded in empirical and game theoretical evidence. The ideal MWC is half plus one if the decision rule is majority, and similarly the supermajority plus one in case of requirements for supermajorities. MWCs are the extreme version of legislature distributional coalitions, based on a majoritarian logic where the winners take all.

The MWCs' majoritarian winner-takes-all logic brings us to the other extreme in case of weak or non-existent political parties in the legislatures, namely so-called *universalism* or *political pork barrel*. Universalism is broad political compromises or oversize majority coalitions supporting publicly financed collective goods such as roads, harbors, dams and bridges to many constituencies. Universalism or political pork barrel is well known from the U.S. Congress and many other legislatures.⁹⁶ However, universalism or political pork barrel must not be confused with roads or other goods perceived as national collective goods, because universalism or political pork barrel deals may rule out one or more constituencies from the deals. Universalism guarantees neither fair distribution nor distribution according to the need for those goods in question, such as in those instances where roads are perceived as national collective goods.

But why should legislators engage in universalism or political pork barrel rather than MWCs such as postulated by Riker, if universalism reduces the initiators' benefits or pay-off?⁹⁷ Barry R. Weingast formal model published in 1979 postulated that risk averse legislators seeking reelection and desiring particular goods for their constituencies prefer universal coalitions to MWCs, because universalism reduce the legislators' transaction costs and uncertainty. The legislators are in the long run often better off with safe universalism instead of uncertain MWCs, because they can't be sure about being part of the MWCs. Whether universalism or MWCs prevail is determined by the legislature's institutional arrangements and procedural rules, according to Weingast.⁹⁸ Universalism can thus be understood as risk averse legislators' countermeasure against risky MWCs.

William H. Riker's postulates about MWCs and Barry R. Weingast's postulates about universalism were supplemented by David P. Baron and John A.

⁹² Riker (1962:32-33, 54-76).

⁹³ Baron (1991:59, 62).

⁹⁴ Riker and Brahm (1973:1236); Weingast (1979:247).

⁹⁵ Riker and Brahm (1973:1236).

⁹⁶ See for instance Wilson (1986); Collie (1988).

⁹⁷ See for instance Morrow (1994:149-158) about negotiations in legislatures.

⁹⁸ Weingast (1979:249-250, 252-254).

Ferejohn's game theoretical studies bargaining processes in legislatures. Baron and Ferejohn argued that a legislature deciding according to closed rules, which not permitted amendments of the proposals on the floor, encouraged establishment of MWCs, because MWCs concentrate the benefits to the coalition members. Baron and Ferejohn argued similarly that legislatures deciding according to open rules encourage universalism. They claimed also that impatient legislators pave the way for universalism, while patience pave the way for MWCs, because patience facilitates strategic considerations. However, weak political parties or other coordinating bodies for the legislators' actions encourage impatience and thereby universalism, the same does linking of issues.⁹⁹ Open rules, impatient legislators and/or weak coordinating bodies in the legislatures encourage hence universalism, according to David P. Baron and John A. Ferejohn.

Even Clifford J. Carruba and Craig Volden's game theoretical studies challenged William H. Riker and Barry R. Weingast's predictions about MWCs and universalism. Carruba and Volden postulated establishment of so-called *minimum necessary coalitions* (MNCs), which are oversized compared to MWCs, because that makes it easier to sustain the cooperation, but smaller than universalism, because that reduces the coalition costs.¹⁰⁰ Even Carruba and Volden's game theoretical reasoning indicated hence drift towards universalism rather than MWCs, with MNCs as a very likely outcome.

To summarize the discussion about coalition building: Universalism seems to be more likely than MWCs in the legislatures, particularly in case of weak or non-existent political parties or otherwise weak coordinating bodies or mechanisms. Melissa P. Collie's empirical study of the U.S. House of Representatives 1921-80 revealed a pattern where universalism or political pork barrel deals could be a result of unstable political coalitions. Collie claimed that universalism or political pork barrel flourished when there were no stable MWCs, such as in periods with reduced political polarization or few interparty conflicts.¹⁰¹ Collie's findings supported Weingast's initial universalism hypothesis. But Collie's findings supported also partly Baron and Ferejohn's postulates about universalism in case of weak coordinating bodies, because political polarization and interparty conflicts serve as coordination mechanisms for the legislators' voting.

Henry Valen, Hanne Marthe Narud and Olafur Hardarson's study of geography and political representation in Denmark, Iceland, Norway and Sweden, inspired by Stein Rokkan's research, inspired even this study's division of Denmark, Sweden and Norway into center, middle and periphery.¹⁰² Valen et al. assumed the territorial issues were most prominent in the peripheral areas, and expected similarly the territorial dimension to be more prominent in young nation states such as Norway and Finland, than in old nation states such as Denmark and Sweden.¹⁰³

⁹⁹ Baron and Ferejohn (1989:1188, 1193, 1195, 1198, 1199-1201).

¹⁰⁰ Carruba and Volden (2000:274).

¹⁰¹ Collie (1988:873-875).

¹⁰² Valen et al. (1998:65 Figure 2).

¹⁰³ Valen et al. (1998:62-63).

Table 3: Territorial partition of Denmark, Sweden and Norway in center, middle and periphery.

Country/Partition	Center	Middle	Periphery
Denmark	Greater Copenhagen.	The islands, except Greater Copenhagen.	Jutland
Sweden	Svealand, except Värmland and Dalarna Counties.	Götaland, except Kalmar, Gotland and Blekinge, plus Dalarna County in Svealand.	Norrland, plus Värmland Gotland, Kalmar and Blekinge Counties.
Norway	The Oslofjord counties.	Those counties not included the center or periphery.	Nord-Trøndelag, Nordland, Troms, Finnmark, Hedmark, Oppland and Sogn and Fjordane Counties.

Classification of the constituencies as center, middle and periphery respectively, such as proposed by Valen et al. simplifies the examination of possible legislature geographical alliances concerning road policy and road construction. The *center* is here defined as the capital area and other constituencies closely related to the capital area. The *periphery* is similarly defined as those constituencies located far away from the capital area, sparsely populated and/or backward economically. The *middle* is those constituencies not defined as center or periphery. Categorizing the constituencies into center, middle and periphery such as in Table 3 facilitates four possible and mutually excluding geographical coalition patterns in the legislatures, namely center – middle, middle – periphery, center – periphery, or center – middle - periphery, given none of the three geographical areas control the legislature’s majority. The alliance patterns center – middle, middle – periphery or center – periphery will most likely be MWCs or MNCs. The alliance pattern center – middle – periphery will most likely be a kind of universalism.

This brings us to the study’s second working hypothesis, namely roads perceived as local collective or private goods with road policy and road construction governed by the constituencies’ resource struggles or by legislators who pursue their constituencies’ interests on the community’s expense through geographical alliances. This second hypothesis makes it possible to derive five empirically testable implications:

1. Excellent roads in constituencies participating in the distributional coalitions and congestion, accidents and environmental problems, and/or turnpikes in those constituencies omitted from the distributional coalitions.
2. Significant variations in the constituencies’ tax prices for roads because the coalition partners share the spoils and shift the costs to those constituencies omitted from the coalitions.
3. More pronounced geographical distributional conflicts in Norway than in Denmark and Sweden.
4. The legislators perceive the road investments’ budget constraints and geographical allocation in zero-sum terms.
5. Tight budget constraints for road investments because the coalition members have few if any incentives to increase the budget constraints for roads when their constituencies have harvested the spoils.

Mancur Olson claimed distributional coalitions are mainly negative, because they lead to rigidity and prevent policy and institutional adjustments.¹⁰⁴ Was Olson right, or is it possible to nuance Olson's perspective on distributional coalitions? This question will be discussed further in chapter 5. This study faces also another theoretical puzzle, because Alessandro Lizzeri and Nicola Persico claims proportional election systems split the spoils among the legislators according to their share of the votes, while winner-take-all systems concentrate the spoils of office to the winners.¹⁰⁵ Norway, Denmark and Sweden have all proportional election systems, but the empirical evidence outlined initially in this chapter indicates many similarities with a winner-take-all system in Norway, compared to Denmark and Sweden. Are there institutional differences that explain this anomaly? Even this puzzle is discussed further in chapter 5.

Third working hypothesis – roads perceived as local collective or private goods and road policy with road construction governed by the political parties' rivalry

Political parties coordinate the policies across the constituencies in most parliamentary democracies. The party discipline is usually enforced through various sanctions against those legislators not working according to the party manifesto or that otherwise violates party discipline or the party line. Roads perceived as local collective or private goods and with concentrated benefits make road policy and road construction excellent means for the political parties' tactical dispositions, because rational political parties try to maximize their political power and influence. The road to maximum political power and influence is usually not maximum number of votes, but maximum number of seats in the legislature in case of parliamentary rule. This is where road policy and road construction comes in, particularly through creative political utilization of roads perceived as local collective or private goods. Donald Wittman, who belongs to the so-called Chicago-school, claimed that "democratic political markets are organized to promote wealth-maximizing outcomes", because politicians have to maintain their reputation. Wittman claims also "self-interest will lead to efficient results".¹⁰⁶ Does Wittman's hypothesis hold with regard to road policy and road construction?

Political parties are usually governed by *ideology*, which according to Anthony Downs serves as a compass, both for the voters and for the legislators in case of issues not specified by the parties' political platforms.¹⁰⁷ Anthony Downs furthered Harold Hotelling and Arthur Smithies' spatial market models to an economic model for democracy, where political parties in a two party system gradually would lose their ideological profile and converge towards the center and the median voter, given economically rational voters with single peaked preferences. Downs postulated the parties would maintain their ideological positions in case of multiparty systems, even if the middle parties would converge towards the center and the median voter.¹⁰⁸ But there is seldom possible to reduce politics to a one-

¹⁰⁴ Olson (1982:75 ff., 117).

¹⁰⁵ Lizzeri and Persico (2001:226 ff.).

¹⁰⁶ Wittman (1989:1395-1396, 1397, 1421).

¹⁰⁷ Downs (1957:96 ff.).

¹⁰⁸ Downs (1957:114-141); Hotelling (1929) and Smithies (1941) in Downs (1957:115 ff.).

dimensional activity on a left-right continuum without losing important distinctions and nuances, because politics is usually simultaneous games in multiple dimensions, particularly in multiparty systems. There are similarly few voters with single-peaked preferences.

Most political parties are organized according to the left-right cleavage or what Stein Rokkan denoted the *functional dimension*.¹⁰⁹ Rokkan's functional dimension was based on the cleavages between employer and employee interests, and producer and consumer interests. There is often possible to identify a median position on the functional or left-right continuum both within the legislature's committees and plenary and within the executive. There is also the *environmental dimension* or so-called old politics versus new politics; i.e. economic growth or materialism versus environmentalism or post-materialism, that emerged in many industrialized countries from the turn of the 1960s and 1970s.¹¹⁰ The result was often establishment of new populist and/or environmentalist political parties and/or changes within the established political parties that responded to the voters' changing moods.

The median position is very often pivotal, such as postulated by Anthony Downs's economic democracy model. Kaare Strøm and Jørn Y. Leipart's study of Norwegian governments between 1945 and 1990 found convergence or gravitation towards the political median. This explains why Norway's numerous minority executives since 1961 have been surprisingly stable contrary to conventional wisdom about minority executives.¹¹¹ Strøm and Leipart's study, which examined the left-right or functional dimension, found also the Labor Party executives' policies often were closer to the so-called middle parties' ideal positions than the Labor Party's own ideal positions compared to the parties' manifestos.¹¹² Strøm and Leipart's findings indicate gravitation towards the median position between 1961 and 1990, but even 1945 and 1961 when the Labor Party held the majority, because the Labor Party was the median party during its majority terms. There are reasons to expect similar patterns even in Denmark and Sweden.

One implication of Kaare Strøm and Jørn Y. Leipart's findings is that interests represented by the political party in the pivotal median position come close to what Thomas Schelling denote "focal points" or clues that coordinate negotiations or policies.¹¹³ Policy outcomes are usually resultants of the institutional arrangements and procedures, power relations and the actors' preferences and interests. The median political party or median group's preferences are similarly highly dependent of domestic settlement and trade and industry structure, and will often reflect the interests concerning settlement, trade and industry structure. Political parties may also represent particular geographical areas or constituencies; this is particularly the case in multi party systems. Such parties in the legislature and executive's median position are highly consequential for the net road policy, all other things equal.

¹⁰⁹ Rokkan (1967; 1970:292-298; 1975a:217-218, 223-224). See also Valen et al. (1998:61-64) which furthered Rokkan's ideas.

¹¹⁰ See for instance Inglehart (1971; 1977); Inglehart and Rabier (1986); Inglehart and Flanagan (1987); Abramson and Inglehart (1992); Knutsen (1988; 1993), Togeby (1989).

¹¹¹ Strøm and Leipart (1993:871).

¹¹² Strøm and Leipart (1993:880-881).

¹¹³ Schelling (1960/80:57 ff.).

The relevant legislature committees' members' positions and actions are similarly of great importance for the policy outcomes, because of the committees' agenda power and the information asymmetry between the committee members and the plenary.¹¹⁴ Do the committee members utilize their specialization and knowledge? Are members of the relevant committees sector-enthusiasts, local egoists, or loyal followers of their parties? Joel A. Thompson's empirical study of pork barrel politics in North Carolina's State legislature found the bacon was used to safeguard the committee-leaders' position and to maintain party discipline. North Carolina's State legislature is of general interest because it is a mixture of single seat and multi member constituencies. Thompson found that pork barrel deals first and foremost were the committee-leaders' turf. Urban areas were these deals' losers, and the Republicans, who then were in minority, redefined these pork barrel deals from distributive to redistributive policy.¹¹⁵ The losers can hence perceive the dominant political party's distributive universalism as redistributive and highly controversial.

Many of the legislatures' distributional coalitions are often organized according to an economic logic, even if the political parties coordinate the road policy across the constituencies. Frances E. Lee's study of the US Senate's road and transport political decisions during the 1990s found that senators representing states with few inhabitants can sell their votes cheaper measured in need for road appropriations than senators representing more populous states. Because Senators representing populous states need larger appropriations to provide their voters and constituencies with equal amounts of collective goods, all other things equal compared to senators representing sparsely populated states.¹¹⁶ A similar logic can be introduced even for political parties, because road investments are usually far more costly in urban, densely populated and crowded areas than in rural and sparsely populated areas. Economic fundamentals exclude thereby some legislators as coalition partners, even if they very much would like to be a part of the coalition and harvest their share of the spoils. Frances E. Lee found that senators representing some of the more populous states, but not the most populous, could create packages or deals in the Senate through support from the least populous states that excluded the most populous states, and made them to financiers of the deals.¹¹⁷ This finding explains why some states or constituencies end up financing the others' local collective goods such as roads, with few or any road investments in return for their payments of vehicle and fuel taxes.

Frances E. Lee's findings that some constituencies are more 'coalitionfähig' than others, makes it possible to rephrase Stein Rokkan's well known adage somewhat; *votes count but the number of seats decides*.¹¹⁸ Because rational political parties do not maximize the number of votes but the number of seats in the legislature, and the election system determines the constituencies' number of seats. The election system's rules of the game have thus profound political implications, particularly for the total resource allocation. Because an election system not based on the principle one person – one vote leads to malapportionment. The extreme case

¹¹⁴ Cf. Krehbiel (2004:117-123); Weingast and Marshall (1988:132, 136-137, 144-158).

¹¹⁵ Thompson (1986:94-95, 101-102, 106).

¹¹⁶ Lee (2000:64, 70).

¹¹⁷ Lee (2000:63-64, 66-69).

¹¹⁸ Rokkan's (1975a:216) article claimed "*Votes Count, Resources Decide*".

with regard to malapportionment is the US Senate, where each state has two seats, no matter the number of inhabitants. Malapportionment means that seats can be 'bought' cheaper in some constituencies than in others. Money spent in constituencies with few inhabitants or voters per seat buy more seats given the money spent all other things equal. This was demonstrated clearly by Frances E. Lee's study of the US Senate's road and transport political decisions during the 1990s. An election system based on one person – one vote means similarly the price per seat is almost equal in all constituencies. Money spent in the most populated constituencies improves the likelihood of buying more seats, all other things equal, in those instances with one person – one vote.

The election system's seat allocation principle is thus decisive for how rational political parties allocate public spending such as road investments. Constituencies without any pronounced preferences for particular political parties may be easier to swing through increased road investments than constituencies where most voters have firm party preferences, all other things equal. The same is largely the case if some constituencies prefer road investments to other kinds of public spending. Because increased road investments may, all other things equal swing the voters in the direction of a particular political party. There are thus reasons to assume the political parties allocate the road investments in the different constituencies according to their party tactical considerations, for instance where roads perceived as local collective or private goods buys most seats.

This study's third working hypothesis is roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry. This third hypothesis makes it possible to derive four empirically testable implications:

1. The median party or median group's preferences is highly dependent of domestic settlement and trade and industry structure. The road policy and road construction is biased towards those interests represented by the legislature's pivotal party in the relevant committees, plenary and within the executive.
2. The committee leaders use pork barrel deals to strengthen their own position and to maintain party cohesion and discipline.
3. The political parties' allocation of the road investments is contingent the election system. The political parties prioritize road investments in constituencies with few inhabitants and voters per seat if the election system is not based on one person – one vote, and prioritize similarly road investments in constituencies with many seats if the election system is based on one person – one vote.
4. The political parties allocate the road investments strategically. The political parties prioritize road investments in constituencies with strong preferences for roads rather than other local collective or private goods, and prioritize similarly road investments in 'swing-constituencies' with weak party identification rather than in 'safe' constituencies with strong party identification.

Final working hypothesis – road policy and road construction governed by path dependence

The road policy and road construction is usually fairly stable during time, among others because of more or less irreversible physical, economical and institutional factors, which constrain possible future policy outcomes. The infrastructure investments' order of magnitude creates also facts on the ground. The bottom line here is the assumption about *path dependence*, that pre-existing institutional structures or former decisions influence later or contemporary policy outcomes.¹¹⁹ Path dependence and lock in arguments are according to Arthur L. Stinchcombe variations of the historians' "sunk-costs historicist causal structure".¹²⁰ Many choices or decisions become almost irreversible, because high change costs and vested interests rule out other and in some cases more attractive or efficient institutions or policy alternatives.¹²¹ The executive and legislators' feasible set of institutions or policies are in other words often constrained by former decisions, because path dependence rules out many attractive options. All policy outcomes are thus not equally likely.

The idea of path dependence challenges clearly Donald Wittman's claim about political markets promoting efficient institutions and policies.¹²² First, because there are many examples of road policies and road construction based on suboptimal resource allocation disregarding cost/benefit ratios or other economic fundamentals. Such allocations lead to collective welfare losses compared to a textbook road policy. Second, if Wittman was right, all polities, regulating regimes and policies should be the same all over the world. But the idea about similar polities, regulating regimes and road policies is clearly challenged by this chapter's initial discussion. This idea will be further challenged in the three forthcoming empirical chapters. Finally, different institutional arrangements lead to different transaction costs and economic incentive structures, which in turn influence road policy and road construction. The ideals about wealth-maximizing and efficient outcomes have thus slim chances. Path dependence is one explanation of why seemingly inefficient or dysfunctional institutions and/or policies persist, despite more efficient alternatives.

But how to study the possibility of road policy and road construction governed by path dependence, without falling into determinism and thereby ruling out the possibilities for historical and political contingencies? One answer is historical institutionalism, because historical institutionalists consider politics "a process that unfolds over time", with the political implications "embedded" in the institutions, and where "timing, sequence and critical junctures" are of particular interest.¹²³ Historical institutionalists assume political conflict and policy outcomes are structured by pre-existing institutional structures, and support thereby the idea about path dependence.¹²⁴ The time dimension distinguishes similarly historical

¹¹⁹ David (1985:332); Arthur (1989); North (1990:94); Pierson (2004:44 ff.).

¹²⁰ Stinchcombe (1968:124).

¹²¹ Levi (1997:28).

¹²² Cf. Wittman (1989:1395-1396, 1397, 1421).

¹²³ Pierson (2000:264-265; 2004:44-48, 54 ff.).

¹²⁴ Cf. Thelen and Steinmo (1992:1-3); Hall (2003:385-387).

institutionalism from other static and ahistoric new institutional theories.¹²⁵ The time dimension is essential for understanding development of institutions and policies, hereunder roads taken or not taken. The time dimension is similarly crucial for development of causal explanations.

Are there other explanations of path dependence than change costs, vested interests and physical and institutional infrastructures that funnel the development in particular directions and the development's inertia? The increasing returns mechanism is the idea about path dependence's micro fundament, and explains why early, small events determine the development path later on.¹²⁶ Douglass C. North claim the "increasing returns mechanisms [...] reinforce the direction once on a given path".¹²⁷ If a particular institution, policy or equilibrium doesn't provide increasing returns for one or more interest groups, geographical areas, political parties or business sectors; then it's not possible to explain its persistence as result of path dependence.

But how is it possible to explain institutional change in case of increasing returns and path dependence? Path dependence, sunk costs and increasing returns explain usually institutional stability and why seemingly inefficient trajectories of development prevail and persist.¹²⁸ The politicians' limited time horizons and the institutions' status quo bias are usually serious obstacles preventing institutional and policy changes.¹²⁹ But shifts from decreasing to increasing returns, for instance through learning, political, technical or social innovations, combined with the interplay between technical, economical, organizational and institutional conditions may explain institutional change and emergence of new development paths.¹³⁰ Path dependence does hence not rule out the possibility of institutional changes, but there are often significant obstacles.

Another explanation of institutional change in case of path dependence is Stephen D. Krasner's so-called "punctuated equilibrium"; an idea borrowed from the biologists Niles Eldredge and Stephen Jay Gould.¹³¹ Krasner distinguishes between formative periods of "institutional creation" and periods of "institutional stasis" or stability, and explains institutional change as a result of crisis that punctuate the equilibrium and thereafter development of new equilibriums that later face new crises, and so on. Exogenous shocks, for instance because of a major economic crisis, revolution, war or other kinds of system breakdown may thus explain development of new institutions and equilibriums.

A third explanation of institutional change in case of path dependence is increasing mismatch between the institutions and policies governed by path dependence and the environment that develops in a different direction. Significant mismatch between institutions, policies and environment may result in crises,

¹²⁵ See for instance Peters (1999:63-77); Scott (2001:83-89); Pierson (2004:167-178); Immergut (forthcoming:286-291) for discussions about historical institutionalism compared to other so-called new institutional theories.

¹²⁶ Arthur (1989:119, 122); see also Arthur et. al. (1987:40-47); Arthur (1990; 1994:xi-xx).

¹²⁷ North (1990:112). See also North (1990:94) and Pierson (1993:606; 2004:20-31, 65 ff.).

¹²⁸ See for instance Thelen (2003:220-221) about why seemingly poor institutions persist.

¹²⁹ Pierson (2004:40-44).

¹³⁰ North (1990:94-97).

¹³¹ Krasner (1984:240 ff.); cf. Eldredge and Gould (1972); Gould and Eldredge (1977).

institutional breakdown and/or policy revisions, which in turn improve the match between institutions, policies and environment and establishes a new equilibrium.

But established institutions or structures do not necessarily vanish in case of institutional changes. They may persist and develop further through new challenges, new environments and new institutions and structures, and so on.¹³² There are also examples of “cumulative effects of ongoing but often subtle changes in institutional arrangements that persists over long stretches of time”.¹³³ Such subtle and incremental changes do in many instances not change the institutions or policies fundamentally until passing thresholds that topple the established equilibrium.¹³⁴ Institutional changes may result in what Kathleen Thelen described as *Institutional Layering*. Institutional layering is a result of interplay between lock-in and institutional innovations, where combinations of old and new institutional elements coexist, typically in long lived institutions such as constitutions and pension systems, which often have strong institutional biases against change.¹³⁵ Paul Pierson postulates institutional layering in those instances where strong status quo bias and high conversion costs back up institutions. Situations with weak status quo bias and high conversion cost results similarly in institutional isomorphism.¹³⁶ The institutional environment is thus decisive for the institutional change processes and their outcomes. Path dependence may create its own dynamic that reproduces the political power relations and resource allocation, until sudden changes because of breakdown in the established equilibria, either because of external shocks or implosion from within because of mismatch. The result is either development of entirely new institutions or institutional layering.

This study’s final working hypothesis is that the road policy and road construction is governed by path dependence. This hypothesis makes it possible to derive five empirically testable implications:

1. The constitution’s status quo bias hereunder the election system, reproduce or maintain the road polity’s power relations, hereunder the legislature’s established equilibrium for resource allocation.
2. Institutional conditions within the road polity such as the legislature’s chamber and committee structure, the executive’s internal power relations and the road administration’s organization and degree of autonomy reproduces the road polity’s power relations, road policy and road construction.
3. A feedback loop via settlement and industry structure reproduces the road polity’s power relations and resource allocation.
4. The physical road infrastructure equals facts on the ground or non-renegotiable agreements, and reproduces the settlement and industry structure that maintains the road polity’s power relations and resource allocation.

¹³² Krasner (1984:240).

¹³³ Thelen (2003:210).

¹³⁴ Pierson (2004:83-95, fig. 3.1-3.3).

¹³⁵ Thelen (2003:226-228); see also Pierson (2004:133-139).

¹³⁶ Pierson (2004:156 Fig. 5.2).

5. The road polity, road policy and established resource allocation is maintained until sudden breakdown and establishment of new equilibriums in the road polity and concerning road policy and resource allocation.

An interesting theoretical question is whether inefficient institutions, policies or equilibriums' persistence is a result of political fundamentals, path dependence or combinations thereof? Is path dependence a result of prior variables that create spurious effects that determines whether roads are considered as national collective, local collective or private goods? Is path dependence similarly a result of whether the road policy is governed by politicians pursuing the common good, the constituencies' resource struggles or the political parties' rivalry?¹³⁷ Another interesting question is why have roads often been used as bargaining chips in Norwegian distributional politics, but seemingly not so often in Denmark and Sweden? It would have been far more efficient to build the necessary roads in Norway's central and urban areas, and to compensate the peripheral and rural areas with cash transfers instead of building many poorly utilized roads. These questions are further discussed in chapter 5.

Methodical considerations

This study is carried out as a *historical, comparative case study*.¹³⁸ Case studies are based on an experimental instead of a statistical logic. The researcher can seldom control the stimulus in case studies such as in actual experiments, but experiments and case studies can answer "how and why" questions.¹³⁹ Case studies facilitate studies of explanatory mechanisms and contexts in detail, and are therefore excellent for development of plausible explanations and insights about complex phenomena, such as the institutional and political processes through time leading to the different Danish, Swedish and Norwegian road policies and road systems. But spurious effects because of prior variables as mentioned recently may represent a methodical challenge.

Humanities and social sciences are definitely not deductive, axiomatic systems such as logic and mathematics even if some neo-classical economists and rational choice theorists follow this path. Case studies are better suited for a pragmatic middle position, switching between inductive and deductive research strategies. Karl Popper advocates falsification instead of verification, because of the logical asymmetry between verification and falsification.¹⁴⁰ Deductive inferences from (a priori) theoretical concepts, which are tested against empirical evidence and corroborated, for instance through a hypothetical-deductive strategy, is in other words a kind of generalization.¹⁴¹ This study's aim is development of simple and

¹³⁷ For further discussions about spurious effects see for instance Hellevik (1988:9-11, 19, 42-47, 55 ff.; 1993:52-53, 64-65, 244-245, 360-373). See also Geddes (2003:139-142) about path dependence arguments.

¹³⁸ The research design is based on recommendations in among others Andersen (1997); Ragin and Becker (1992); Yin (1994).

¹³⁹ Yin (1994:6): See also Smelser (1973:51) concerning comparative case studies and experiments.

¹⁴⁰ Popper (1989:53 ff.).

¹⁴¹ Popper (1989:53, 58).

robust explanations of Norway, Denmark and Sweden's different road policies and road construction during time.

This study's analytical model consists of background, intermediate and dependent variables as previously mentioned. The background variables' effects are mitigated by the intermediate institutions or road polity, which in turn affects the dependent variable, the high-level road system that is a result of the road policy and road construction. This study is carried out according to a *most similar systems design*, to identify the critical factors or differences that explain Norway, Denmark and Sweden's radically different road policies and road construction, despite seemingly similar political systems.¹⁴² This study is also based on "analytic generalization" according to so-called "Level Two Inference".¹⁴³ Level Two Inferences, which is common in case studies mean confronting the findings with rival theories and policy implications. The sampling strategy has therefore emphasized the need for sufficient variation in the critical variables, to test the hypotheses. Multiple data sources and methods, or triangulation have similarly been used as far as possible to improve the study's validity. The research has similarly been carried out as systematically and tidily as possible to ensure reliability.¹⁴⁴ One problem with path dependence arguments according to Barbara Geddes is that each node or critical juncture may be instances of different phenomenon. Other problems with path dependence arguments are whether the proposed explanations are correct, whether the observed outcome was result of choices at the critical junctures or branching points, and finally how to identify the critical junctures or branching points in series of choices?¹⁴⁵ Path dependence hypothesis may hence represent a number of methodical challenges.

This study's most important analytical methods are pattern matching, chronologies, and process tracing and causal narratives.¹⁴⁶ *Pattern matching* is used for comparing the three cases' different dimensions or variables with each other during time that makes it possible to eliminate explanatory factors and develop more parsimonious explanations.¹⁴⁷ The events' temporal order or chronology is necessary to distinguish causes from effects, because causes with logical necessity have to take place prior to effects. *Chronologies* facilitate thereby development of causal explanations. But development of causal explanations through case studies is not a straightforward matter, because of the asymmetry between causes and correlation. All causes are correlation, but correlation is not necessarily causes, because a statistical relation does not logically imply a causal relation.¹⁴⁸ There is also the problem with prior variables and spurious effects as mentioned earlier.

Another challenge concerning development of causal explanations of institutional development and policy processes is that policy outcomes often are results of interactions between different institutions and/or policies. There is also the problem with multiple causation and even examples of strategic interaction.¹⁴⁹ Case

¹⁴² Cf. Tranøy (1993:24-25).

¹⁴³ Yin (1994:30-31).

¹⁴⁴ Cf. Yin (1994:33, 92-93).

¹⁴⁵ Geddes (2003:139-142).

¹⁴⁶ Yin (1994:106 ff.); Mahoney (2003:361-367).

¹⁴⁷ Mahoney (2003:362).

¹⁴⁸ Gujarati (1995:21).

¹⁴⁹ Hall (2003:381-387).

studies are not able to distinguish between necessary and sufficient conditions. There is thus not possible to make correct inferences through inductive logic because of the control problem. Only analytical control – through empirical and theoretical grounding – can protect against fallacies when case studies are used for development of causal explanations.¹⁵⁰ *Process tracing* makes it possible to distinguish between spurious effects and causal correlation. *Causal narratives* make it possible to compare events and sequences across cases and during time for identification of causal patterns.¹⁵¹ The chosen comparative design and applied analytical methods answers thereby many of the methodical challenges.

The Norwegian case is first and foremost based on archive studies of written primary sources, such as letters, documents, reports, government bills and legislature negotiations. But even written secondary sources and literature have been used for research economic reasons, particularly concerning context and background variables. Oral primary sources have also been important for the study of the Norwegian case, first and foremost as comments to and supplementary interpretations of findings in the written primary and secondary sources. But oral sources are in some cases the only sources. Information about matters not covered by written primary or secondary sources have as far as possible been sought verified by different independent oral sources. The oral sources have also provided clues about which ideas have been taken for granted in the different periods.

The Danish and Swedish cases are primarily based on studies of written secondary sources and literature, which have been supplemented with examination of some primary sources, particularly concerning the decisive branching points where choice between fundamentally different alternatives have been on the agenda. Official statistics and accountings have also been used as primary sources for the three cases, even if one has to be aware of their composition and limitations. Web sites have also been used as sources for the last decade, because the legislatures, executives and road administrations have published many documents and reports on their web sites since the second half of the 1990s. Even some old primary sources and literature have been published electronically on websites.

The written primary sources have been examined and analyzed according to historical methods, so-called *critical examination*.¹⁵² Critical examination has also been used for secondary sources and literature. Primary sources insure the study's quality, but use of primary sources is rather time and resource consuming. Use of high quality secondary sources saves time, but the selection and examination of these are critical for the study's trustworthiness and similarly for the risk of transfer of biases.

Contemporary history represents a particular challenge for parts of this study, because many actors are still alive, and have strong interests concerning their posthumous reputation and the history writing. Most oral materials have been collected through semi-structured, qualitative interviews and discussions with informants that have been directly involved in the political and administrative

¹⁵⁰ Andersen (2001 [Lecture]).

¹⁵¹ Mahoney (2003:363-367).

¹⁵² See for instance Dahl (1967), Langholm (1967); Tosh (1991) and Kjeldstadli (1999) for further discussions about critical examination of sources.

processes concerning road policy and road construction.¹⁵³ Almost every interview has been taped. Each interview has also been documented through field notes made during the interview. Some interviews of informants living far from Oslo have been carried out by telephone, but even these interviews have been taped if permitted by the informants. The interviews have been analyzed through critical examination, similarly as the written sources, to identify the informants' possible motives for telling or not telling what and why they did, and to uncover possible 'monument building'.

This study is not based on detailed examination of the Danish, Swedish and Norwegian legislators' voting and committee behavior 1945-2005 concerning road policies and road construction of research economic reasons. Detailed examination and formal analyses of the legislators' voting and committee behavior concerning road policy and road construction during 60 years is a study by itself and a possible follow-up of this study's findings. This study has only examined the Norwegian legislators' voting and committee behavior concerning some of the most central policy documents 1945-2005, because the road policy outcomes in Denmark, Sweden and Norway are all clearly documented by facts on the ground through roads built or not built.

Most monetary terms in this study have been converted to 1990 PPP USD to make plans and actual investments comparable between Denmark, Sweden and Norway, and across time, because PPP USDs are corrected for purchase power in the different countries.¹⁵⁴ Angus Maddison's GDP figures are used as is, because they are in 1990 international Geary-Khamis dollars.

A map for further reading

Chapter 2, 3 and 4 contains the empirical studies of the Danish, Swedish and Norwegian cases. Denmark is discussed first in chapter 2, because the study revealed soon that Denmark came close to the road policy textbook case. Sweden is similarly studied in chapter 3, because it has been a commonly held belief in Norway that development of Sweden's modern road system was a straightforward matter and a smooth, rational and streamlined process. However, this study revealed soon that was far from the case. Sweden is therefore denoted as the catch-up case because Sweden's starting point was rather similar to Norway. The comparison with Denmark and Sweden revealed finally that Norway, which is discussed in chapter 4, differed fundamentally. Norway is therefore denoted the deviant case.

Chapter 5 summarizes and discusses the empirical findings about the road politics, political economies and entailing road policies and road construction during

¹⁵³ The interviews have been carried out according to directions in Rubin and Rubin (1995) and Kvale (1990; 1997).

¹⁵⁴ The conversions are based on Danmark's statistik's consumer price index 1900-2005 [Online January 24th 2006] – URL: <http://www.statistikbanken.dk/statbank5a/default.asp?w=1280>; Statistiska centralbyråns inflation data for Sweden 1830-2005 [Online January 24th 2006] – URL: http://www.scb.se/Statistik/PR/PR0101/2005M12/PR0101_2005M12_DI_06-07_SV.xls; Statistisk sentralbyrå's historical price index 1835-2004 [Online January 23rd 2006] – URL: http://www.norges-bank.no/stat/historiske_data/no/historisk_kp/kpi.xls (Initially published in "Historisk rentestatistikk", *Penger og Kreditt* no 4, December 2000:269-277, 275 and later supplemented). All conversion to 1990 PPP USD were made according to OECD's conversion factors "PPPs for GDP - Historical series" [Online June 4th 2005] – URL: <http://www.oecd.org/dataoecd/61/56/1876133.xls>.

time in Denmark, Sweden and Norway and compares the empirical findings concerning the four hypotheses. This final chapter discusses also possible critical differences that can elucidate and explain why Denmark, Sweden and Norway settled for fundamentally different road policies and road construction despite seemingly similar political systems, together with the findings' theoretical implications. The study includes also a comprehensive Data Appendix.

Summary and preliminary conclusions

Why have studies of road policy and road construction common interest? Roads and other infrastructures are often considered part of a society' social overhead capital, and such collective goods have far reaching consequences for a society's economic development, the trade and industry's competitiveness and the society's distribution of benefits and burdens. Major infrastructure initiatives are often synonymous with political and distributional conflicts. A society's supply and allocation of collective goods is usually determined through collective actions in the political system's institutions or polity. Whether infrastructure projects are carried out, and how and where they are carried out and financed is usually determined by the national political economy.

Most western industrialized countries developed national road plans and built national trunk road and motorway systems during the 1950s, 1960s and 1970s to safeguard the reconstruction, promote economic growth and solve the problems entailing the mass motoring. Danish and Swedish executives and legislators emphasized investments in profitable or industrially necessary trunk roads and motorways in the most crowded areas, and built usually roads from the crowded central and urban areas to the desolate peripheral and rural areas. The Danish and Swedish road policies were also integrated parts of the national trade and industry policies, largely in accordance with endogenous growth theory.

Norwegian road policy and road construction on the other hand seems to have been decoupled from the trade and industry policy, because Norwegian executives and legislators prioritized opposite compared with many other Western industrialized countries. Norwegian executives and legislators preferred construction of unprofitable substandard roads in desolate areas until the 1980s, despite congestion, accident and environmental problems in those areas where most Norwegians lived and traveled. Norwegian executives and legislators built usually roads from the desolate peripheral and rural areas towards the crowded central and urban areas instead of opposite, even if most cars were located in the central and urban areas.

Denmark and Sweden completed most of their trunk road and motorway systems during the 1980s and 1990s. Norwegian taxpayers and motorists have to prepare for significant future road investments, because the trunk road and motorway system has significant imperfections with regard to capacity, road safety and environmental standards. The puzzle is that few other European countries are more dependent of road transports of passengers and goods than Norway, because of dispersed settlement, poorly developed public transports and localization in Europe's northwestern periphery. But these realities were hardly reflected in the road policy and road construction until about 1995, which may indicate possible governance and policy failures.

Chapter 1- Why has Norwegian authorities pursued a road policy contrary to those in most other western industrialized countries?

Common sense, popular explanations or conventional wisdoms such as wealth level, financial leverage, geographical localization, population, terrain conditions, and construction costs, lack of an automotive industry or social democracy are not sufficient to explain the particular Norwegian road policy and road construction. There must be other explanations. This study's analytical framework is based on historical institutionalism, which treats institutions as independent variables, and is carried out as a historical, comparative case study based on a most similar systems design.

The study's main hypothesis or benchmark is roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good. The second working hypothesis is roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles. The third working hypothesis is roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry. The final working hypothesis is road policy and road construction governed by path dependence.

Chapter 2 – Denmark – the textbook case

Denmark is here denoted as the textbook case, because Danish road policy and road construction has largely been according to the road engineers and transport economists' scientific and professional recommendations, even if the ministers of public works or minister of traffic and the county mayors usually have been in the driver's seat. The road political lodestar has been what is beneficial for Danish trade and industry in the long run. Responsible politicians have usually considered modern roads as national collective goods and acted accordingly. But why and how were Danish politicians able and willing to pursue this rational development path, rather than more opportunistic trajectories? This chapter presents first background and context prior to 1945. The second, third and fourth sections are about Danish road policy and road construction 1945-59, 1960-80 and 1981 until about 2005. These sections' structure is first a presentation of the political system and the economic development, thereafter the road policy and road construction, and finally a conclusion. The final section is a summary with discussions of the empirical findings concerning the four working hypotheses and some preliminary conclusions concerning the Danish case.

Background and context

Denmark had a centralized, French-inspired military road administration 1764-1867, when the Danish State built the first national trunk road system to facilitate further economic development. This road administration and road system was largely results of minister of foreign affairs Johan Hartvig Ernst Bernstorff's initiative in 1761 that led to a Royal Decree signed by King Frederik V about construction of a national trunk road system. Bernstorff had been ambassador to France in the 1740s, and noticed how the *chaussées*' connected the country. Count Christian Ditlev Reventlov, with a position fairly similar to later ministers of public works, wrote in 1791 a study that outlined the future road policy and paved the way for a new Road Act. Denmark's 1793 Road Act introduced a three-tier road administration, where the State was responsible for the trunk roads, the counties (*amtene*) responsible for highways and the municipals responsible for city streets and local roads. The 1867 Road Act downgraded the trunk roads to highways when Denmark's first national trunk road system was completed and made road policy and road construction the counties and municipals' responsibility.¹⁵⁵ The architect behind this policy shift was Jacob Brønnum Scavenius Estrup, a very conservative landowner from Jutland who was minister of interior 1865-69 and headed the King's executive (*konsejls*president) 1875-1894. The reason for Estrup's policy shift was that railroads and steamships took over the long distance traffic and heavy transports.

¹⁵⁵ Jørgensen (2001:33-138); Milner (Forthcoming:1.2).

Estrup prioritized therefore construction of railroads and harbors rather than roads.¹⁵⁶ Roads remained thereafter largely local transport infrastructures until cars began to substitute railroads and horses after World War One.

Denmark's elites opposed democratization and established a very strong executive based on minister rule and local autonomy

The Danish State solved many of its financial crises by selling off properties. The leading civil servants were closely related to the urban elites, particularly Copenhagen's merchants and those involved in agricultural exports. The conservatives were initially civil servants and nobility loyal to the King. Denmark's liberals opposed the autocracy.¹⁵⁷ The radical June 5th 1849 *Constitution* replaced the autocracy with an executive appointed by the King, organized similarly as Germany or France' minister rule rather than the former autocracy's collegium rule, and a legislature, *Rigsdagen*, with two equal chambers, the popularly elected *Folketinget* equal to the House of Commons and *Landstinget*, equivalent to the House of Lords or the Senate. *Rigsdagen* was initially a blueprint of the Belgian legislature. However, the 1866 *Constitution*, introduced after Denmark lost the 1864 war against Germany, when the small farmers' cooperated with the landowners against the urban national liberals, maintained most of the 1849 Constitution but gave *Landstinget* veto power and some members appointed by the King.¹⁵⁸ This institutional change had profound and long lasting political implications, and was decisive for Denmark's political economy.

Jacob Brønnum Scavenius Estrup became well known as head of the landowner's executive, due to his staunch opposition against the Liberals' demand for parliamentary rule originating from *Folketinget*, because the 1866 Constitution made Estrup's executive almost dictatorial. *Folketinget* responded with the so-called "withering policy" during the 1880s and 'buried' the executive's proposals, and refused approving the annual budgets (*Finansloven*). Estrup's response was governing through provisory finance laws sanctioned by *Landstinget*. *Landstinget* approved the first provisory law 1877. Estrup's executive governed thereafter through provisory laws from 1885 until 1894, when the provisory rule ended after a major political compromise between moderates in the *Conservative* (*Højre*) and *Liberal* (*Venstre*) *Parties*. Estrup resigned a few months later.¹⁵⁹ The 1894 compromise convinced the Conservative Party to abstain from further governing through provisory laws. The voters' message to the Conservative Party in the 1901 *Folketing* election led to the King's appointment of the first Liberal executive, and thereby de facto introduction of parliamentary rule in Denmark, originating from *Folketinget*, exactly as required by the Liberal Party.¹⁶⁰ Denmark had thus well-established political parties prior to introduction of parliamentary rule, but the tradition with minister rather than collegiate rule persisted, despite introduction of parliamentary rule, and was an example of path dependence.

¹⁵⁶ Heide-Jørgensen (1999: 1865-1901 Fra Estrup til Bramsen).

¹⁵⁷ Mjøset (1986:33, 35).

¹⁵⁸ Worre (1978:11-12, 65); Stjernquist (1996:18); Petersen (2002:245-254, 257-263, 286-292).

¹⁵⁹ Petersen (2002:292-294); Grundloven. Historie og statstanker [Online April 21st 2003] – URL:

<http://www.ft.dk/?/samling/20021/MENU/00000004.htm>; Østergaard (1998:3-4).

¹⁶⁰ Petersen (2002:295).

Figure 5: Danish counties 1999, an overview.



Source: U.S. Central Intelligence Agency, from Perry-Castañeda Library Map Collection, University of Texas [Online January 24th 2006] – URL: http://www.lib.utexas.edu/maps/europe/denmark_pol99.jpg.

The 1894 compromise between the Conservative and Liberal Parties and introduction of parliamentary rule in 1901 weakened the Ministry of Finance’s dominant position since 1848, because the sector ministries were from then permitted to visit Folketinget’s Finance Committee and get approval of expenses in addition to those included in the State’s annual budget. Folketinget’s Finance Committee became almost superior to Rigsdagen 1917-18 when the supplementary appropriations were about twice as large as the State’s annual ordinary budget. Folketinget’s Finance Committee became soon known as the “fifteen good Samaritans”.¹⁶¹ Lobbyists could in many instances bypass the minister of finance via Folketinget’s finance committee, which in turn weakened the economic discipline.

About 75 percent of the Danish population lived in rural areas in 1875, but the urbanization process accelerated. More than 50 percent of the Danes lived in urban areas in 1916.¹⁶² The Liberal Party’s core was a traditional liberal economic policy, and the core voters were farmers engaged in export agriculture. The *Radical Party*

¹⁶¹ Østergaard (1998:4-5).

¹⁶² Petersen (2002:268).

(Radikale Venstre), a social liberal party with support from rural cotters and later mostly urban intellectuals, splintered from the Liberal Party in 1905, because of disagreement about defense matters. The Conservative Party reorganized itself in 1915 to a modern Conservative Party, and shifted its attention from the nobility and landowners to the urban areas' new middle class of manager owners and white-collar workers. The *Social Democratic Party's* (Socialdemokraterne) core voters were first and foremost the urban areas' many blue-collar employees.¹⁶³ Denmark's Social Democratic Party was founded already in 1871.¹⁶⁴ Denmark's modern party system with its new alliance patterns was hence largely established under and immediately after World War One.

Denmark's new party system was largely a result of the *1915 Constitution*, a compromise between the Social Democratic, Radical, Liberal and Conservative Parties, that introduced universal suffrage and a democratic elected Landsting with eight years terms. Folketinget's 93 single seat districts were supplemented with 24 extra proportionally elected seats in Copenhagen and 23 supplementary seats, plus one seat from the Faeroes. Folketinget's former seat allocation had favored the rural areas and thereby the Liberal Party. The 1915 Constitution's conservative guarantees were referendums in case of Constitutional Amendments. At least 45 percent of those with the right to vote had to approve the proposed Constitutional Amendments. However, Landstinget maintained its veto power.¹⁶⁵ Only about 14 percent of the Danes were permitted to vote before the 1915 Constitution came into power in 1918, and only half of those entitled to vote used their right.¹⁶⁶ The 1915 Constitution changed thereby gradually the Danish political system's character, and paved the way for mass politics, but upheld the bicameral system. The result was partly a new political economy, because the political parties could not afford to overlook large voter groups such as urban workers.

King Christian X fired the Prime Minister without appointing an acting Prime Minister during the Easter 1920, because parliamentary rule was not written into the 1915 Constitution. But the Social Democratic and Radical Parties considered the King's move a coup d'état. Imminent labor market conflicts and nationalists who did their best to regain Slesvig or to make Slesvig an area under international administration caused the King's intervention. The King reconsidered his move and appointed a new executive a few days later, and abstained thereafter from further direct political actions. Denmark underwent three elections to Folketinget in 1920, and introduced proportional elections to Folketinget (PR) with seat allocation according to d'Hondt's method after a Constitutional Amendment because of the

¹⁶³ Petersen (2002:296); Poulsen (2002:309-310):

¹⁶⁴ Lidt historie [Online January 19th 2006] – URL:

<http://socialdemokraterne.dk/default.aspx?func=article.view&id=54783>.

¹⁶⁵ Worre (1978:11-12, 43, 65); Stjernquist (1996:18); Heidar and Berntzen (1995:74); Folketinget (2003:3); Det danske valgsystem:1. [Online April 15th 2003] – URL:

<http://www.ft.dk/BAGGRUND/00000033/00232599.htm>); Skou (1999:1915 Endelig flertal for en ny Grundlov – kvinder og tyende får valgret, 1920 Politisk påskekrise: Kongen begår statskup – generalstrejke truer).

¹⁶⁶ Grundloven. Historie og statstanker [Online April 21st 2003] – URL:

<http://www.ft.dk/?samling/20021/MENU/00000004.htm>.

reunion between Denmark and northern Slesvig prior to the third Folketing's election in September 1920.¹⁶⁷

The Social Democratic Party overtook the Liberal Party's position as Denmark's leading party from 1924, and emphasized a responsible economic policy, governed by minister of finance C.V. Bramsnæs.¹⁶⁸ The Social Democratic Party's responsible course was partly a result of Folketinget's Finance Committee's overruling of the executive and the Ministry of Finance. The Social Democratic and Radical Parties established in 1929 their second coalition headed by Thorvald Stauning that governed until the German assault in 1940. The executive was then expanded to a national coalition. Stauning was Denmark's strong man from 1929 until his death, and knew how to maneuver through the interwar years' politically foul waters, when the democracy came under question and for instance the Conservative Party's Youths marched with black boots, shirts and armlets and saluted like others south of the border.¹⁶⁹ However, the Liberal and Conservative Parties upheld their control of Landstinget until 1936, when Landstinget lost most of its political relevance.¹⁷⁰ The Conservative Party proposed thereafter a Constitutional Amendment that abolished Landstinget and established a unicameral system. Even the Social Democratic and Radical Parties endorsed this amendment but a minority within the Liberal Party opposed it. This Constitutional Amendment was rejected in the 1939 referendum with the smallest possible margin because only 44,45 percent of those with the right to vote supported it.¹⁷¹ Denmark was then 11.762 votes from a new Constitution and a unicameral system. Prime Minister Thorvald Stauning and the Conservative Party's Christmas Møller lost face and considerable amounts of political capital.¹⁷² The Liberal Party represented first and foremost the rural areas that dominated Landstinget, and a unicameral system could shift Denmark's geographical political balance permanently, and thus weaken the Liberal Party.

Denmark became industrialized already from the middle of the 19th century when many craftsmen introduced industrial methods and means of production. This development accelerated from about 1870 and Denmark had soon urban national industries that supplied consumer goods; tools, machines and production equipment that came in addition to the export-based agro-industrial complex that developed in parallel with the new domestic trade and industries. Denmark's new trade and industries grew about 50 percent per decade from 1914. Denmark was largely industrially self sufficient about World War One, even if the agricultural exports still dominated, but the emerging industries grew faster and engaged also in exports. Most of Denmark's emerging trade and industries were small and medium

¹⁶⁷ Poulsen (2002:308-309, 312-313); Skou (1999: 1920 Politisk påskekrise: Kongen begår statskup – generalstrejke truer); Worre (1978:43); Folketinget (2003:3); Det danske valgsystem: I. [Online April 15th 2003] – URL: <http://www.ft.dk/BAGGRUND/00000033/00232599.htm>; Ellemose (2005:49-50).

¹⁶⁸ Busck and Poulsen (2002:439); Østergaard (1998:6-7).

¹⁶⁹ Mørch (2004:147-171, 412); Lidegaard (2005:102-110).

¹⁷⁰ 56 out of Landstinget's 76 members were elected indirectly in 7 constituencies with eight years terms. Half of these were elected every 4th year. Landstinget elected 19 national members, who represented the parties (*Statistisk aarbog 1931*, Det Statistiske Departement, Copenhagen 1931:4 Tabel 4, 150-153 Tabel 160).

¹⁷¹ Worre (1978:12); Skou (1999:1939 Grundlovsændringen forkastet); Poulsen (2002:311-312).

¹⁷² Mørch (2004:267-268).

enterprises (SME), but there were also major enterprises such as the concrete producer and concrete production equipment producer F. L. Smidth & Co.¹⁷³

Denmark reintroduced the gold standard in 1924, which had been suspended in 1914. Gold parity was restored in 1926 at a price of 21-22 percent unemployment in 1926 and 27. The 1920s' deflationary crisis was largely self-inflicted through the executive's economic policy and Denmark Nationalbank's currency policy, similarly as in Norway, because many other countries went on full blast until the Wall Street crack in 1929 that triggered the depression.¹⁷⁴ Great Britain's abolition of the gold exchange standard through devaluation of the British pound September 21st 1931 was a fourth severe economic blow for Denmark, after the 1920s crisis and deflationary policy and the Wall Street crack, because about 2/3s of Denmark's exports went to Great Britain. Denmark's National Bank gave up the gold exchange standard September 29th.¹⁷⁵ Abolition of the gold exchange standard meant also abolition of the liberal trade regime. Most countries had given up the gold exchange standard in 1936. The Nazi regime that came to power in Germany in 1933 established an almost closed economy based on regulated trade.¹⁷⁶ Denmark struggled thus economically during the 1920s and 30s, and these struggles had, as we soon will see, significant road political implications.

The Danish executive left its traditional liberal economic policy in 1932 when the depression peaked or bottomed, and established the so-called *Clearing Center* (Valutasentralen), which regulated the imports, because Denmark lacked foreign currency due to reduced agricultural exports which were Denmark's primary foreign currency source. The business organizations administered the import quotas among their members via the corporative system. The import regulations were initially proposed by the Liberal Party as an alternative to tariff barriers, but Landstinget's non-socialist parties refused approving the Clearing Center, among others because the Conservative Party claimed the regulations favored already established enterprises. The Social Democratic and Radical executive's response was a call for election to Folketinget, and the governing parties won the voters' approval. The Conservative Party accepted thereafter the regulations, among others because the *Industry Council* (Industrirådet) supported the import regulations, which protected Denmark's infant industries. A labor-agrarian social compromise, or rather horse trade, in January 1933 between the Social Democratic, Radical and Liberal Parties, the so-called "Kanslergade agreement", named after Stauning's private address, removed many of the social tensions, and furthered the 1920's class compromise after introduction of common suffrage and collective bargaining, and established thereby a new social contract. The executive's payback to the farmers was 24 percent depreciation of the Danish kroner (DKK), which gradually improved the agricultural exports, through reduced relative prices for the Danish agricultural

¹⁷³ See for instance Larsen and Thomsen (1985); Westergård-Nielsen (2002:378-379 Tabel 13.2); Ellemose (2005).

¹⁷⁴ Mjøset (1986:50-51, 54), 1924 Reintroduction of the gold standard [Online May 25th 2005] – URL:

<http://www.nationalbanken.dk/dnuk/hist.nsf>; Mørch (2004:158-159); see also Eichengreen (1998:57-60).

¹⁷⁵ Skou (1999:1931 Wall Street-panikken breder sig, og vrede landmænd truer med aktion); Final break with the gold standard [Online May 25^h 2005] – URL: <http://www.nationalbanken.dk/dnuk/hist.nsf>; Mjøset (1986:46 Tabell 2.5, 61). See also Dillard (1987:450-456).

¹⁷⁶ Mjøset (1986:51); Eichengreen (1998:80-88); Dillard (1986:456-469).

products.¹⁷⁷ The 1936 Denmark National Bank Act transformed Denmark's National Bank from a limited liability company to an independent institution overseen by a board of directors with 25 members, hereunder 2 appointed by the executive, 8 by Rigsdagen and the rest by the board of directors.¹⁷⁸ The 1930s' economic crises established thus regulated trade, corporative arrangements, a broad class compromise and a highly autonomous central bank. Many of these institutional changes had profound long-term policy implications.

How was Denmark's economic position during the interwar period? Angus Maddison's calculations show that Denmark's GDP per capita measured in 1990 international Geary-Khamis dollars was 3.992 dollars in 1920, 5.341 in 1930 and 5.116 in 1940. The averages for the 12 West European countries were 3.305 dollars in 1920, 4.289 in 1930 and 4.984 in 1940.¹⁷⁹ Denmark was in other words well above the West European average in 1920, 1930 and 1940. The State's annual budget increased from 325 millions DKK or 775,54 millions 1990 PPP USD in 1929 to 550 millions DKK or 1.260,35 millions 1990 PPP USD in 1939, despite only 10 percent inflation during these years.¹⁸⁰ The State budget's growth measured in real terms was in other words significant, and indicates clearly that Thorvald Stauning's executive carried out a counter cyclic and Keynesian policy during the 1930s. Maddison's calculations indicate similarly that Denmark did very well during the 1920s, despite the deflationary crisis but could most likely have performed better. But Denmark was hit severely by the depression and particularly Great Britain's abandonment of the gold standard, because Denmark's 1940 GDP per capita was less than in 1930. Denmark was West Europe's fourth wealthiest country measured in GDP per capita in 1920, 1930 and 1940. The Danish economy recovered during the Second World War and the second half of the 1940s.

Danish road policy and road construction prior to World War Two – decentralized control and swift transition from railroad to road transports

Each Danish county employed a *County Road Inspector* (Amtsvejinspektør), which overlooked the road construction when the 1867 Road Act made trunk roads to highways and closed down the centralized military State road administration. The State's *Chief Road Inspector* (Overvejinspektør), which belonged to the armed forces, could only watch but not interfere with the counties' road policy and road construction.¹⁸¹ The very conservative Jacob Brønnum Scavenius Estrup strengthened thereby the municipal autonomy and made road policy and road construction the counties and municipals' matters when the first national trunk road system was completed, but Estrup was no reactionary anti-modernist, at least not

¹⁷⁷ Poulsen (2002:321 ff.); Skou (1999:1932 Den økonomiske krise forværrer: Valutacentral skal styre importen); 1931 Final break with the gold standard [Online May 25th 2005] – URL:

<http://www.nationalbanken.dk/dnuk/hist.nsf>; The Currency Clearing Centre [Online May 25th 2005] – URL: <http://www.nationalbanken.dk/dnuk/hist.nsf>; Mørch (2004:164-165); Therkildsen (1997:1 ff.); Lidegaard (2005:28-34).

¹⁷⁸ 1936 Danmarks Nationalbank Act [Online May 25th 2005] – URL:

<http://www.nationalbanken.dk/dnuk/hist.nsf>.

¹⁷⁹ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-63 Table 1c.

¹⁸⁰ Østergaard (1998:7).

¹⁸¹ Christiani & Nielsen, Højgaard & Schultz A/S, Kampmann, Kierulf & Saxild A/S, *Motorveje med broer over Storebælt og Øresund*, Copenhagen, March 9th 1936:13; Jørgensen (2001:500).

concerning transport and communications, because he shifted the State's emphasis from roads to construction of railroads and harbors, which was a rational move when railroads and steamships gradually replaced horse and cart for heavy hauls and long distance transports.

The Danish counties and municipals emphasized road construction and road maintenance between 1910 and 1939, but the counties and municipals lacked sufficient financial muscles to carry out the necessary road investments when cars and road transports began to substitute railroad transports of passengers and goods. Rigsdagen approved therefore in 1910 the first reimbursement arrangements from the State to the counties and municipals through a *Road Fund* (vejfond), financed by the vehicle taxes, and Copenhagen abolished its turnpikes in 1915.¹⁸² The Danish legislators established hence indirectly user financing of road construction and maintenance in the motoring's childhood through introduction of partly dedicated taxes and fees. This reform abolished Copenhagen's direct user financing of road construction and maintenance through turnpikes.

The *Ministry of Public Works* (Ministeriet for Offentlige Arbejder), which was spun out from the *Ministry of Interior* (Indenrigsministeriet) in 1894, redistributed initially half the State's vehicle tax revenues to the counties and municipals, but increased the redistribution to 85 percent from 1913. The vehicle tax revenues became dedicated to road purposes from 1924.¹⁸³ The Road Fund was dedicated to construction of highways from 1927. The allocation key was 60 percent to the counties, 25 percent to the rural municipals and the remaining to the major cities and provincial towns. The number of cars determined 2/3s of the provincial towns' allocations from the Road Fund; the rest was determined by the city streets' relative share of the highway system.¹⁸⁴ The Road Fund reimbursements' allocation reflected clearly Rigsdagen's rural bias, because almost 5/6 of the reimbursements went to rural areas even if most cars were located within and near the major cities.

The 1920s became a transition period, because buses and passenger cars took over more of the passenger transports due to its flexibility and improved cost effectiveness compared to railroads, particularly in sparsely populated areas. Trucks took similarly over the short distance goods transports, even if railroads and ships still dominated the long and heavy hauls. Passenger cars transported more passengers than railroads measured in passenger kilometers from the late 1930s. Construction of new railroads was therefore gradually replaced by closing down obsolete railroads.¹⁸⁵ This shift from railroads to roads was also reflected through increased road investments and investments in new bridges that facilitated the transition from railroad to road transports. Denmark invested about 715 millions DKK, or approximately 1.804,5 millions 1990 PPP USD in new roads from the fiscal year 1924/25 to the fiscal year 1934/35. In addition came about 100 millions DKK, or approximately 252,4 millions 1990 PPP USD to major bridges during the same period. Approximately 551,5 millions DKK or 1.391,85 millions 1990 PPP USD were allocated to rural areas, while 163,5 millions DKK or 412,63 millions 1990 PPP USD were allocated to cities and urban areas. The counties received about

¹⁸² Jørgensen (2001:212-214, 318 ff.); Toft et al. (2000:15).

¹⁸³ Toft et al. (2000:14-15); Jørgensen (2001:228-229, 501).

¹⁸⁴ Toft et al. (2000:20).

¹⁸⁵ Poulsen (2002:330); Toft et al. (2000:16-23).

372 millions DKK or 938,84 millions 1990 PPP USD in reimbursement from the Road Fund.¹⁸⁶ Denmark invested thus about 800 millions DKK or approximately 2.019 millions 1990 PPP USD in new roads and bridges from mid 1920s until the mid 1930s. Rigsdagen's establishment of the Road Fund had two important effects; first road policy and road construction was decoupled from the legislature's deliberations. Second, the road investments were linked directly to the motorists' payments of vehicle and fuel taxes. This linking safeguarded almost proportional increase in the road investments given the number of cars, and safeguarded also swift construction of a modern road system. However, the Danish counties and municipals' road construction during the interwar years was initially more social than trade and industry policy, because of the 1920s and 30s' economic crisis.

The counties' uncoordinated allocation of road investments became an increasing problem, because the Road Fund's reimbursements went not necessarily to those roads with most urgent need for updates, but to those roads fancied by the county mayors and the local politicians.¹⁸⁷ The Ministry of Public Works permitted therefore in 1931 individual applications for reimbursement from the Road Fund.¹⁸⁸ The State Railroad's Bridge Office was usually responsible for construction of major bridges, and the Road Fund usually financed them.¹⁸⁹ The 1931 reimbursement reform was obviously one of the Stauning executive's first attempts of safeguarding construction of industrially necessary roads and bridges, without challenging the counties and municipals' autonomy, which the Liberal Party's members of Landstinget governed eagerly. Individual reimbursements increased also the employment, which was of utmost importance for Stauning's executive. The Ministry of Public Works' governing of the reimbursement safeguarded construction of a highway system with reasonable uniform technical standard, despite the decentralized road administrations, because the counties and municipals were only eligible for reimbursements if the highways were built according to the approved technical standards and requirements. The counties and municipals were for instance required to build dedicated bicycle lanes and footpaths or sidewalks from 1939.¹⁹⁰ Common technical standards and road design manuals substituted thus partly a centralized road administration as coordination mechanism prior to World War Two, and can be understood as one institutional measure for bypassing the 1867 Road Act.

The executive's second move for safeguarding a more rational and coordinated road policy came in 1933, through appointment of a commission for development of a new Road Act, but the Road Act issue was not settled until 1957.¹⁹¹ The fact that it took 24 years before the Road Act issue was settled, is clearly evidence that road administrations and road financing were incendiary matters, because a new Road Act and establishment of a State road administration

¹⁸⁶ Christiani & Nielsen, Højgaard & Schultz A/S, Kampmann, Kierulf & Saxild A/S, *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*, Copenhagen, June 17th 1937:13, Skema over Udgifter til Vejarbejder i Aarene 1924/25 til 1934/35; *Motorveje med broer over Storebælt og Øresund*:23. All conversions to 1990 PPP USD are here based on 1935 DKK.

¹⁸⁷ *Motorveje med broer over Storebælt og Øresund*, Copenhagen:13.

¹⁸⁸ Jørgensen (2001:318-319); Toft et al. (2000:22).

¹⁸⁹ Jørgensen (2001:319).

¹⁹⁰ Toft et al. (2000:23).

¹⁹¹ Jørgensen (2001:337-338).

could reduce the local autonomy established through the 1867 Road Act. A new Road Act would also most likely undermine Rigsdagen's regional distributional coalitions. The 1867 Road Act and the local autonomy were clearly reproduced through path dependence upheld by Landstinget's veto power, the rural areas' malapportionment and other principles established by the 1866 Constitution.

Political pork barrel deals or logrolls were common in Rigsdagen in the 1920s and 30s, because most of Denmark's major bridges had their accompanying projects in either eastern or western Denmark. The Small Belt, Storstrøm and Limfjord Bridges were of greatest significance for the road traffic. Folketinget approved the Small Belt Bridge, from Fyn to Jutland, in 1924. Rigsdagen's two chambers enlarged the project in 1927 because of increased road traffic. The Small Belt Bridge was built 1929-35. Folketinget approved similarly in 1931 construction of the Storstrøm Bridge from Sjælland to Lolland and Falster, towards Rødbyhavn. The Storstrøm Bridge was then Europe's longest bridge. Construction of the Storstrøm Bridge was linked to construction of a bridge across Oddeund in Limfjorden northwest on Jutland. The Storstrøm Bridge was built 1933-37. Aalborg city north on Jutland received also new bridges across Limfjorden for road and railroads respectively in 1930 and 1935. These bridges were local projects, but with favorable State funding, because they were relief works. The Alssund and Oddeund Bridges completed in 1925 and 1935 were combined road and railroads bridges. The Guldborgsund Bridge was completed in 1934. The bridges across Aggersund and to Møn, in Limfjorden, were completed in 1942 and 1943.¹⁹² The engineer Tom Rallis, who studied Danish transport and communications' historical development, concluded that political linkages of different road and bridge projects was usually the rule in Rigsdagen.¹⁹³ Danish bridge policy in the 1920s and 30s were thus governed by the legislators' vote trades or log rolls, which strengthen the hypothesis about roads and bridges considered as local collective or private goods, and road policy and road construction governed by the constituencies' resource struggles. The economic historian Steen Andersen claimed similarly the interwar years' relief works created very favorable conditions for the Danish engineering and construction companies, and established also close ties between Danish and German engineering and construction companies.¹⁹⁴

The Storstrøm Bridge demonstrates clearly the Danes were far more hucksters than their Swedish and Norwegian neighbors, because the Storstrøm Bridge was not only a result of pork barrel deals or logrolls in Rigsdagen, but also a bilateral horse trade between Denmark and Great Britain. Great Britain was Denmark's most important export market, and Great Britain's liquidation of the gold standard September 21st 1931 was a severe blow for Danish agricultural exports. Rudolf Christiani, head of the engineering and construction company Christiani & Nielsen, which lost the competitive bidding about construction of the Small Belt Bridge, and who was member of Rigsdagen 1932-35 and 1939-43 for the Liberal Party and who also was Denmark's representative in the League of Nations 1934-38, started his own private diplomacy for forced construction of the Storstrøm Bridge prior to Rigsdagen's approval in April 1932. Christiani was later one of those who made the

¹⁹² Rallis (1992:111-112); Jørgensen (2001:275-277, 281, 283-287).

¹⁹³ Rallis (1992:159).

¹⁹⁴ Andersen (2005:60-62).

Danes aware of John Maynard Keynes' *The General theory of Employment Interest and Money*. Christiani established a consortium with the British steel construction company Dorman, Long & Co, and arranged a one million British pound (GBP) loan to the Danish State. Bank of England restricted foreign loans after liquidating the gold standard, and approved only 3 millions GBP in foreign loans between 1932 and 36, but one of these went to Denmark due to Rudolf Christiani's initiative. The final deal about the Storstrøm Bridge was struck in 1933 by minister of finance C. V. Bramsnæs, and linked Danish purchase of British steel with Danish agricultural exports to Great Britain, and gave also Christiani & Nielsen the contract for the bridge pillars and embankments.¹⁹⁵ Construction of the Storstrøm Bridge was not only results of national but also international pork barrel deals and log rolls, and Rudolf Christiani orchestrated the most important deal. We will later hear more about Rudolf Christiani and his engineering and construction company Christiani & Nielsen.

Denmark's public road system in 1910 measured 44.800 kilometers. About 6.800 kilometers were defined as highways and managed by the counties. About 2.200 kilometers of these were former trunk roads built prior to the 1867 Road Act. The cities and rural municipals managed 38.000 kilometers local roads and city streets. About 30 percent of these were gravel roads in 1910. Denmark had approximately 52.600 kilometers public roads in 1930. About 7.600 kilometers of these were highways. The remaining 45.000 kilometers were defined as city streets and local roads. Only 10 percent of these were gravel roads in 1930.¹⁹⁶ Denmark had about 7.730 kilometers highways in 1936. Approximately 75 percent of these were paved. 16 percent had asphalt or concrete seals, or paving stones. Only 9 percent of Denmark's highways were gravel roads in 1936.¹⁹⁷ Denmark's public road system was thus far more developed and had far better standard than for instance Sweden and Norway's contemporary public road systems. The 1934 car density was 200 cars per 1000 inhabitants in USA, 47 in France, 42 in England, 34 in Denmark, 24 in Sweden, 21 in Norway, and 12 in Germany.¹⁹⁸ The number of cars per 1000 inhabitants in 1935 increased to 204 in USA, 52 in France, 53 in England and 42 in Denmark.¹⁹⁹ Denmark's density of cars during the interwar years was also above that in Sweden and Norway, and Denmark's car density increased quickly when the economy recovered after the depression, and reflected clearly Denmark's prewar wealth compared to Sweden and Norway. The historian Bo Lidegaard claim that Denmark's civilian investments during the interwar years in among others transport and communication infrastructures, instead of military armament against Germany, was a deliberate policy "to provide employment, connect the country, and pave the way for new and better times".²⁰⁰

¹⁹⁵ Andersen (2005:64-66, 73-77).

¹⁹⁶ Rallis (1992:68).

¹⁹⁷ *Motorveje med broer over Storebælt og Øresund, Copenhagen*:13.

¹⁹⁸ *Förslag till bro över Öresund mellan Malmö och Köpenhamn*, AB Armerad Betong, Byggnads AB Contractor, AB Skånska Cementgjuteriet in cooperation with Christiani & Nielsen, Højgaard & Schultz A/S and Kampmann Kierulf & Saxild A/S, Stockholm and Malmø March 9th 1936:7.

¹⁹⁹ *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:17-18.

²⁰⁰ Lidegaard (2005:80).

Danish engineering and construction companies championed construction of a national motorway system and bridges across Great Belt and Øresund prior to World War Two

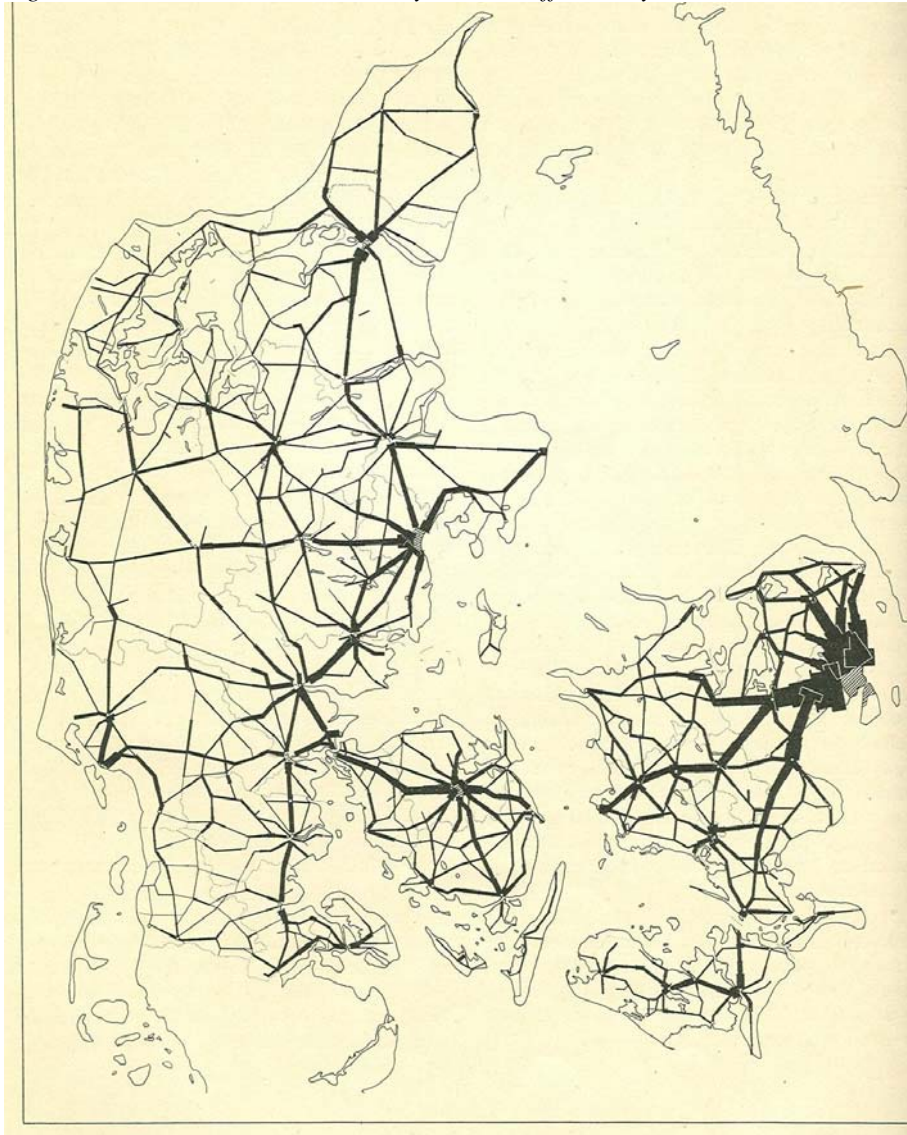
The Danish *Road Laboratory's* (Vejlaboratoriet) 1934 traffic survey revealed that about 93 percent of the road traffic was motor vehicles. Horse vehicles carried out only 7 percent of the road traffic work. About 850 kilometers of the Danish highways carried out 1/6 of the traffic work. Denmark had about 14.000 road accidents in 1935. 294 persons were killed, 3.751 were seriously and 3.483 lightly injured. The bulk of accidents took place on the most crowded highways, which often were former trunk roads.²⁰¹ The Road Laboratory had been established in 1928 after an initiative from the county road engineers.²⁰² The main reasons for Denmark's fast rising number of road accidents were mixed pedestrian, bicyclist, horse and car traffic, and level crossings between roads and railroads. Denmark's most crowded highways went also through city hubs and urban areas, usually with housing and nearby settlement. There were finally the highways' passing accidents, head on collisions between fast moving vehicles.²⁰³ The interwar years' congestion, accident and environmental problems triggered a search process among motorist organizations, road engineers, engineering and construction companies, road administrators and politicians, not only in Denmark but in most other industrialized countries that experienced the mass motoring's flip side. The aim was safe and efficient roads that made it possible to utilize the road transports advantages, and to avoid congestion, accidents and environmental problems. The executives, legislators and road administrations in many countries, hereunder in Denmark, accepted thus the mass motoring's emergence as a matter of fact, and did their best to utilize the mass motoring's advantages and mitigate the entailing problems.

²⁰¹ *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:16, 21-22.

²⁰² Milner (Forthcoming:8).

²⁰³ *Motorveje med broer over Storebælt og Øresund*:14.

Figure 6: The Danish Road Laboratory's 1934 traffic survey.



Source: Christiani & Nielsen, Højgaard & Schultz A/S, Kampmann, Kierulf & Saxild A/S, *Motorveje med broer over Storebælt og Øresund*, Copenhagen, March 9th 1936:16 Figur 10.

The first parkways, roads closed for slow moving trucks or lorries, were built in USA in 1916. The first autostrada, from Milan to Varese in Italy, was completed in September 1924 after an initiative in 1922 from the building contractor Piero Puricelli from Milan that convinced Italy's strong man Benito Mussolini about the necessity of construction of a network of roads dedicated for cars from Milan to the lakes in northern Italy. This first autostrada was not a real motorway but an expressway, because it was only 10 meters wide, lacked a center strip and had only

one lane in each direction. But it had no level crossings or any buildings or housing in the vicinity. This first autostrada inspired the Germans that in 1926 established the consortium HAFRABA, for construction of a north-south motorway from the Hansa cities south of Denmark, via Frankfurt am Main to Basel in Switzerland. Construction of the section from Bonn to Cologne began in 1929. Konrad Adenauer opened the expressway from Bonn to Cologne in 1932. The Americans built similarly expressways in New York and Chicago during the 1930s, often on pillars or columns, above street level, similarly as the urban railroads. Holland approved a national trunk road plan in 1932, for construction of a network of motorways. Some of these were completed in 1937. Albert Thomas in the League of Nations who also was the first head of the League of Nation's International Labor Organization proposed similarly construction of 14.000 kilometers of European motorways as relief works financed through the Bank of International Settlements as a European New Deal. The same did Piero Puricelli who then was senator and proposed construction of about 31.000 kilometers European motorways. The Nazi regime that came to power in Germany in 1933 dissolved HAFRABA and established instead Gesellschaft zur Vorbereitung der Reichsautobahnen, GEZUVOR, headed by engineer and Road Inspector General Fritz Todt. The Nazi regime approved also the Reichsautobahnen Act June 28th 1933, for construction of 7.000 kilometers motorways within 6-7 years. Adolf Hitler opened the first Reichsautobahn in 1935 between Frankfurt and Darmstadt, with four lanes and center strip. The International Chamber of Commerce's congress in Paris in 1935 encouraged similarly construction of a European network of motorways and trunk roads, regulated through international conventions, because modern roads were assumed to promote economic growth and the common good. France's first motorway was completed in the mid 1930s, and a new motorway from Paris to Calais was in the pipeline prior to World War Two. The Spanish executive planned similarly a motorway from Madrid to Valencia. Even the Czech and Belgian executives planned motorways in the 1930s. USA's first real motorway, Pasadena Freeway in California, was ready for traffic in 1938. The Germans built 3.860 kilometers Reichsautobahn 1933-45.²⁰⁴

Road engineers and transport economists in many industrialized countries came hence to rather similar conclusions about how to utilize the mass motoring's advantages and how to mitigate its problems. Motorways separated hard and soft road users and fast and slow moving vehicles, and drained through traffic from urban areas. Motorways meant also level free crossings between roads and railroads, no direct entrances from properties and physical separation between the directions of traffic, and prevented thereby head on collisions between fast moving vehicles. This became clearly evident in the German 1937 road statistics, because the new motorways had only 1/6th of the accident rates compared to the former highways, and hence considerable less risk for fatalities. The new motorways improved also the old parallel trunk roads or highways' road safety, because the motorways drained through traffic from the highways and urban areas.²⁰⁵ It was thus evident

²⁰⁴ *Motorveje med broer over Storebælt og Øresund*:14-15; *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:14, 15; Rallis (1992:112); Jørgensen (2001:290-295); Mom (2005:755-757, 761-763); Andersen (2005:78).

²⁰⁵ *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:22-24.

already prior to World War Two that motorways made it possible to combine mass motoring with safe and efficient transports of passengers and goods. Motorways gave also significant fuel and time savings because of higher and more constant traveling speeds compared to the old trunk roads and highways, and improved all other things equal the environmental conditions because of reduced fuel consumption and thereby less emissions from the vehicles.

The motorways and expressways' emergence was also consequential for the public road administrations' organizing. Italy and Germany established centralized State road administrations during the interwar years. The same did Great Britain, because the 1936 Trunk Road Act defined about 4.500 miles of Britain's most crowded highways as trunk roads managed by the Ministry of Traffic.²⁰⁶ Great Britain had until 1936 a strong tradition for local road administrations, similarly as for instance Denmark and Sweden. But the motorway investments' order of magnitude and need for coordination to utilize these investments fully increased the pressure on those days' usually decentralized and local road administrations.

Denmark came close to being one of those European countries that built motorways prior to World War Two, because the motorist organization *FDM*, the Ministry of Public Works and many engineering and construction companies were all strongly influenced by the development south of the border, concerning how to solve the 1920s and 30's sharply rising road traffic with entailing road safety and environmental problems. Denmark's Royal Automobile Club started lobbying for construction of the *Beeline* (Fuglefluktslinjen) in 1934 when Chairman E. J. Ipsen contacted Road Inspector General Fritz Todt, who expressed interest for linking the Danish road system with the German Autobahns. Rudolf Christiani, the engineering and construction company Christiani & Nielsen's managing director furthered DRAC and Ipsen's initiative in 1935.²⁰⁷

Three of Denmark's leading international engineering companies Christiani & Nielsen, Højgaard & Schultz A/S and Kampmann, Kierulff & Saxild A/S (Kampsax) proposed March 9th 1936 construction of a national network of motorways all across Denmark. The Swedish engineering and construction companies A-B Armerad Betong, Byggnads AB Contractor and A-B Skånska Cementgjuteriet were co-sponsors of this initiative, because the plans included also a combined motorway and single-track railroad bridge across Øresund. The engineering companies' motorway and bridge plan was also coordinated with the Swedish and Norwegian executives.²⁰⁸ Private initiatives for major publicly financed infrastructure investments were not uncommon in Denmark, because private interests had initiated several of those railroads built since the middle of the 19th century.²⁰⁹ But as we soon will see, the 1936 motorway initiative created considerable political turmoil. Chartered engineer Knud Højgaard, Højgaard & Schultz A/S' merchant and financial officer, who was clearly inspired by the German and Italian infrastructure projects, and who admired Portugal's dictator Salazar, launched the motorway plan publicly in the *Engineers' Association*

²⁰⁶ *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:13-16.

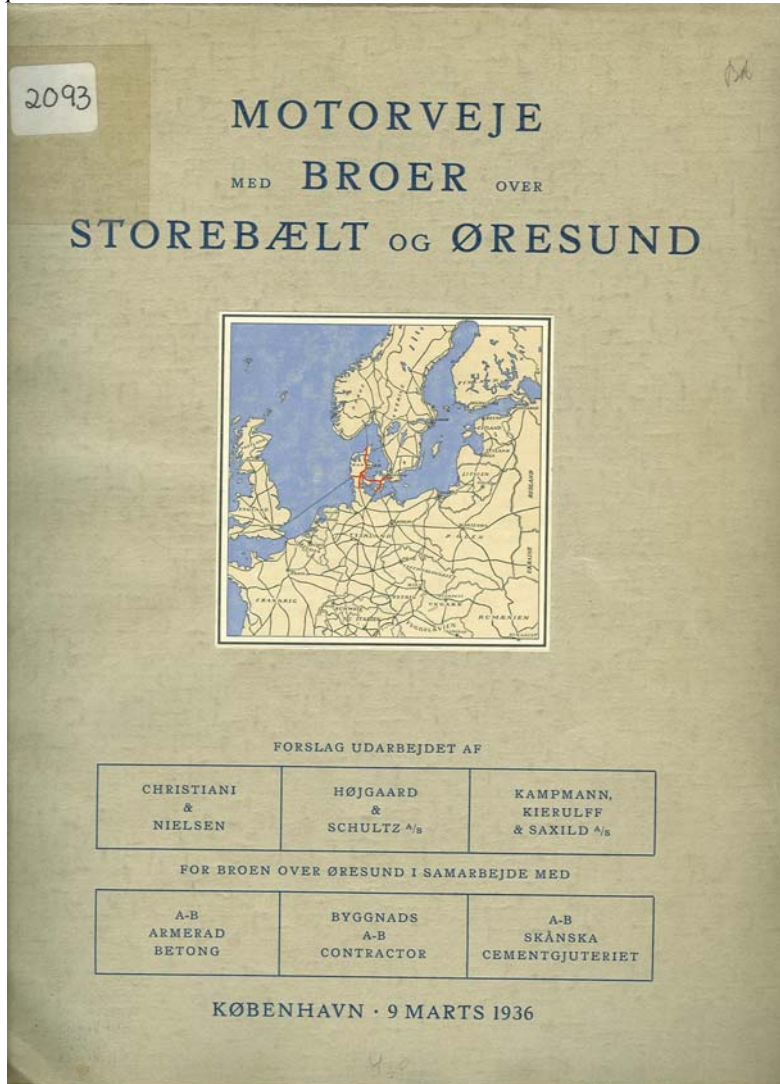
²⁰⁷ Andersen (2005:79-81).

²⁰⁸ *Motorveje med broer over Storebælt og Øresund; Förslag till bro över Öresund mellan Malmö och Köpenhamn*.

²⁰⁹ Toft et al. (2000:110).

(Ingeniørforeningen) March 25th 1936.²¹⁰ This motorway and bridge plan was obviously made with the Stauning executive's quiet consent.

Figure 7: The engineering and construction companies' 1936 motorway and bridge plan.



Source: Christiani & Nielsen, Højgaard & Schultz A/S, Kampmann, Kierulf & Saxild A/S, *Motorveje med broer over Storebælt og Øresund*, Copenhagen, March 9th 1936.

²¹⁰ Andersen (2005:74-76, 78-80, 461). For further discussions about engineer Knud Højgaard's flirts with the interwar years' Danish rightwing and nationalist movements see for instance Lidegaard (2005:100-110).

The engineering and construction companies that made this grand plan were not ‘anybodies’. Several Danish engineering companies specialized in advanced concrete constructions for harbors, railroads, tunnels and bridges prior to and after World War One, and became soon multinational enterprises, because the Danish home market was small and limited the engineering and construction companies’ growth opportunities. Denmark had also an engineer surplus during the interwar years. About 400 Danish engineers were in 1939 employed abroad by Danish engineering companies. Many of the Danish engineers that established engineering and construction companies involved in business abroad had studied at *Denmark’s Technical University* (Polyteknisk Lærestanstalt) under Professor Asger S. Ostenfeldt.²¹¹ Christiani & Nielsen was founded 1904. Højgaard & Schultz A/S and Kampsax were both founded in 1918. Christiani & Nielsen built a major railroad installation and parts of Cherbourg’s quays in France in 1928, Rio de Janeiro’s airport and a railroad in Caracas, Venezuela. Højgaard & Schultz A/S built harbors in Gdynia in Poland, and Setubal and Madeira in Portugal. Kampsax built 850 kilometers railroad in Turkey between 1927 and the early 1930s, and began similarly construction of the Trans Iranian Railroad in 1933.²¹² Danish engineering companies expanded hence internationally during the interwar years, when Denmark struggled economically, and became soon recognized as leading in advanced concrete constructions.

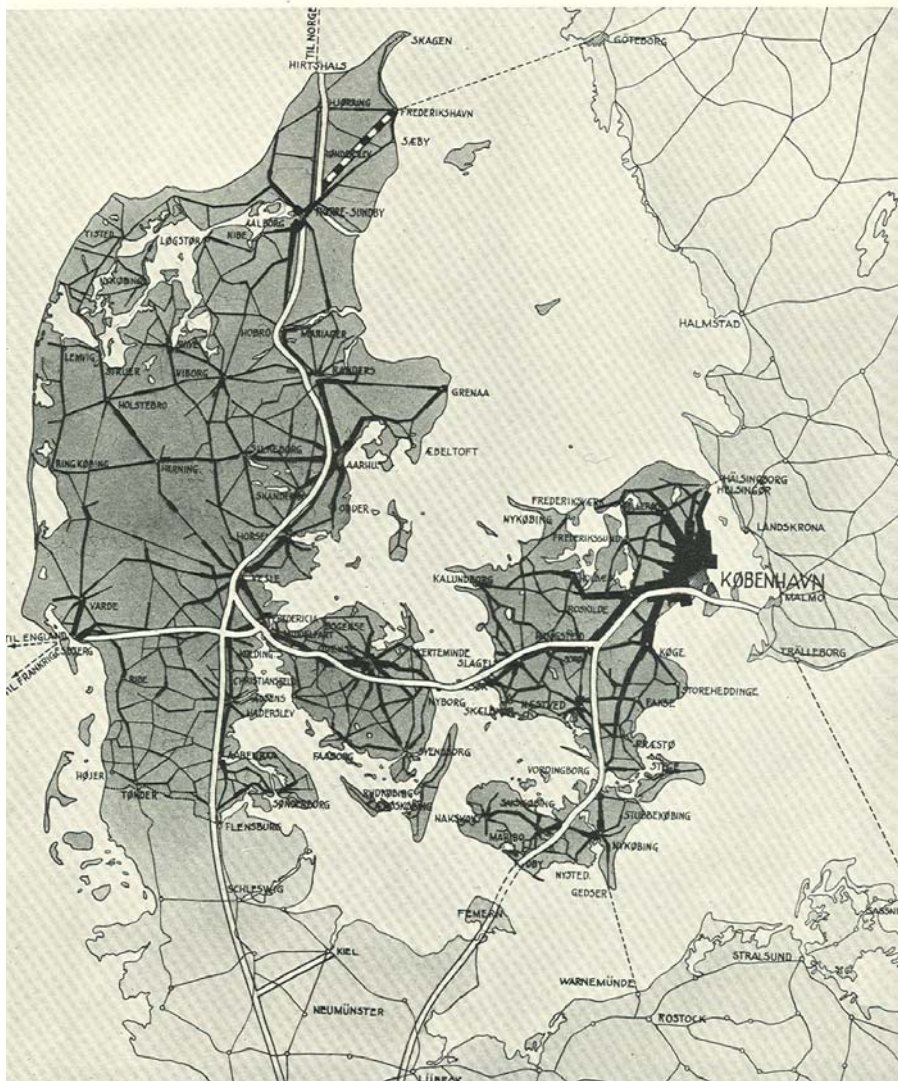
Germany became Christiani & Nielsen’s most important and profitable market after Adolf Hitler’s takeover in 1933, because construction of motorways played a crucial role in the nazi-executive’s counter cyclic policy. About 124.000 Germans were engaged in construction of motorways in 1936, even if the number went down to 81.000 in 1939 and 19.000 in 1940. Christiani & Nielsen built 68 kilometers of the Hansa motorway between Hamburg and Lübeck in 1934-35, a section in the former HAFRABA project, and one of the first sections on the “Straßen des Führers”. Christiani & Nielsen was awarded further contracts for construction of German motorways from 1935 until the outbreak of World War Two, and had in 1939 completed about 120 kilometers motorways. Christiani & Nielsen was thus one of the major players on the German market. Germany’s largest construction company, Phillip Holzmann, had completed about 300 kilometers when the Autobahn construction was suspended in 1942. Christiani & Nielsen was partly forced to reinvest its profits in Germany, because the Nazi executive restricted transfers to Denmark.²¹³

²¹¹ Andersen (2005:53-56).

²¹² Rallis (1992:67, 109); Andersen (2005:53-56, 93-105, 458-459, 466-469).

²¹³ Andersen (2005:118-120).

Figure 8: The revised proposed motorway H, June 1937.



Source: Christiani & Nielsen, Højgaard & Schultz A/S, Kampmann, Kierulf & Saxild A/S, *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*, Copenhagen, June 17th 1937:36 Fig. 28.

The Danish engineering and construction companies' plan outlined construction of three four-lane 19,5 meters wide concrete motorways north south and east west all across Denmark, with a total length of 684,56 kilometers, almost similarly as Denmark's first national trunk road system built 1763-1867. *Motorway I* from Copenhagen in east to Esbjerg in west, with a combined motorway and dual track railroad bridge across Great Belt, via Fyn and Odense, across the Small Belt, and thereafter across Jutland. Esbjerg provided ship connections to among others Great Britain; one of Denmark's most important export markets. *Motorway II* went

from Kruså in southern Jutland, at the German border, to Hirtshals on Jutland's almost northernmost point, and made Jutland the link between Norway and the European mainland via ferries. *Motorway III* from Copenhagen, across Falster down to Rødbyhavn on Lolland, linked eastern Denmark to Germany via a ferry across Fehmarn, alternatively via a bridge across Fehmarn, and established the planned Beeline.²¹⁴ These three motorways became the starting point for what was later became known as the *motorway H*.

The three motorways with bridges would lead to significant timesaving compared to the existing highways and ferry connections. Motorway I from Copenhagen to Esbjerg would reduce the traveling time from 7,5 to 3,5 hours given construction of the Great Belt Bridge. Motorway II from Kruså to Hirtshals would similarly reduce the traveling time from 7,5 to 3,75 hours. And motorway III from Copenhagen to Rødbyhavn would reduce the traveling time from 4,5 to 2 hours.²¹⁵ Motorway III with a ferry Rødbyhavn – Fehmarn would similarly reduce the average driving time from Copenhagen to Hamburg from more than 11 hours via Gedser – Warnemünde to 4,5 hours given a speed of 100 kilometers per hour on the motorways. The Øresund Bridge would similarly reduce the traveling time with train from Malmø to Hamburg from 13 hours via Gedser – Warnemünde or 11,25 hours via Trällebørg – Sassnitz to 4,75 hours with an express train, and 6 hours with a steam train.²¹⁶ The proposed motorways and road and railroad bridges would thus increase Denmark's efficiency considerably, improve the infant Danish trade and industry's competitiveness and largely pay for themselves through timesaving and increased employment. On top of the timesaving came significantly improved road safety. The proposed motorways would simply make Denmark smaller, similarly as the 19th century's transition from horse and cart and sailing vessels to railroads and steamships.

The engineering and construction companies recommended organizing and financing their project through what they denoted as *Denmark's Motorway and Bridge Fund* (Danmarks Motorvejs- og Brofond). The estimated construction costs were about 628 millions 1936 DKK or 1.526,9 millions 1990 PPP USD, hereunder 565 millions DKK or 1.373,7 millions 1990 PPP USD in Denmark, because the Øresund Bridge's costs were supposed shared with Sweden, because southern Sweden would benefit greatly. The estimated cost for the three motorways was 219 millions DKK or 532,5 millions 1990 PPP USD, 257 millions DKK or 624,9 millions 1990 PPP USD for the Great Belt Bridge and 152 millions DKK or 369,6 millions 1990 PPP USD for the Øresund Bridge. The engineering and construction companies recommended accomplishing the plan within ten years. Annual investments of approximately 56,5 millions DKK or 137,4 millions 1990 PPP USD would provide employment for about 12.000 workers annually with related multiplier effects. The engineering companies recommended financing the motorways and bridges with 30 years State loans carried by Denmark's Motorway and Bridge Fund, and proposed also a 50/50 split of the interest payments and loan amortization between the motorists' fuel and vehicle tax payments to the Road Fund

²¹⁴ *Motorveje med broer over Storebælt og Øresund*:15-17.

²¹⁵ *Motorveje med broer over Storebælt og Øresund*:17.

²¹⁶ *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*: 49.

and annual appropriations from Rigsdagen.²¹⁷ Increased employment was not an insignificant argument, because road construction had been one of the Danish executive, counties and municipals' most important means against unemployment during the 1920s and 30s, and explains largely why Denmark had one of Europe's best-developed road systems in 1940.²¹⁸ Investing 565 millions DKK or 1.373,7 millions 1990 PPP USD in new roads was a lot, but the average annual Danish road and bridge investments 1924/25-1934/35 had been about 80 millions DKK or 201,9 millions 1990 PPP USD. The engineering companies' proposal of investing about 56,5 millions DKK or 137,4 millions 1990 PPP USD annually were thus well below the former annual road investments, even if Denmark in 1936 struggled with State economic problems due to the depression's repercussions and significantly reduced agricultural exports, because of the gold standard's collapse and the increasing tendency to politicized trade based on bilateral agreements. The engineering and construction companies' proposal of lower annual road investments than the preceding decade may have been part of the motorway and bridge plan's marketing efforts.

However, the motorway and bridge plan came almost immediately under attack, most likely because it challenged Denmark's road policy status quo and the municipal autonomy. The engineering and construction companies claimed Denmark's decentralized road administration lead to uncoordinated road investments, inefficient utilization of the motorists' payments to the Road Fund and a road system with poor road safety records.²¹⁹ The engineering and construction companies were here in line with the Stauning executive, because they recommended establishment of a centralized road administration similarly as in Italy, Germany and Great Britain. But the engineering and construction companies' recommendation could be interpreted as a cutthroat attack on the counties, the County Road Inspectors that often were local petty kings as well as Rigsdagen's distributional coalitions. *Danish Road Journal* (Dansk Vejtidskrift), edited by Professor A. R. Christensen from Denmark's Technical University (Danmarks Tekniske Højskole), Bornholm's County Governor P. Chr. von Stemmann and the Ministry of Public Work's S. Garde, considered the proposed motorways and bridges as overkill given the road traffic.²²⁰ The three engineering and construction companies were hence correct professionally but missed the mark politically, despite the executive's tacit support, because they overlooked the mayors, County Road Inspectors and Rigsdagen's distributional coalitions. This miscalculation may have been a result of among others Knud Højgaard and other leading Danish engineers' contempt for democracy during the interwar years.

The three engineering and construction companies response to the traditionalists' opposition against the 1936 motorway and bridge plan was a revised and reduced proposal in June 1937, based on partly turnpike financing of the Great Belt Bridge, instead of complete tax financing, or fast ferries instead of a bridge, and a road bridge only across Øresund, rather than a combined railroad and road bridge. The Øresund Bridge could also be organized as a private enterprise with State

²¹⁷ *Motorveje med broer over Storebælt og Øresund*:23-30.

²¹⁸ Jørgensen (2001:250).

²¹⁹ *Motorveje med broer over Storebælt og Øresund*:13-15, 28.

²²⁰ Jørgensen (2001:299).

guaranteed loans and fully user financed through turnpikes. The engineering companies proposed also to substitute some of the 19,5 meters wide four lane motorways with 13 meters wide two or three lane expressways on the least crowded sections, because expressways reduced the construction costs about 22 percent per meter, but of course at the cost of reduced road safety. The expressways could later be expanded to motorways, but at the price of increased total construction costs.²²¹ However, the engineering and construction companies stressed the only foresighted and sustainable solution of Denmark's fast growing congestion, accident and environmental problems were construction of adequately equipped motorways.²²² The proposed motorways and bridges would also make Denmark the hub in Scandinavia's future road transport system, which would benefit Denmark economically. The proposed motorways and bridges was the only cost efficient solution in the long run, compared to Denmark's existing crowded highways and ferries.

Danish road policy and road construction during World War Two

Germany assaulted Denmark April 9th 1940 similarly as Norway, but Denmark was not occupied de jure such as Norway, even if most Danes were well aware the actual power relations. It was therefore seemingly business as usual for the elected executive and Rigsdagen, even if Thorvald Stauning's Social Democratic and Radical Parties coalition was expanded to a national coalition supplied with technocratic ministers from July 8th 1940. Businesspersons and technocrats like the engineers Knud Højgaard and Peer Kampmann, ship owner A. P. Møller and Prince Axel, the so-called Højgaard circle, considered themselves better fit to govern Denmark than the elected politicians because of the extraordinary situation, to avoid a Nazi executive. Erik Scavenius, civil servant and former Radical Party member, who also had served as Denmark's technocratic minister of foreign affairs during World War One, was appointed as new minister of foreign affairs. Public prosecutor Harald Petersen was appointed minister of justice. Erik Scavenius served also as Prime Minister from November 9th 1942 until May 5th 1945, after democratic executive resigned August 29th 1943 and was replaced by civil servant rule.²²³ More than 60.000 Danes worked in Germany in 1941. There was also a large but unspecified number of Danes who were employed by the Germans for construction of airports and fortifications in Denmark during World War Two.²²⁴

Gunnar Larsen served as technocratic minister of public works July 8th 1940 – August 29th 1943. Gunnar Larsen graduated as engineer in chemistry from Massachusetts Institute of Technology in 1926 and worked thereafter as head of the cement and cement production equipment manufacturer F.L. Smidth & Co's New York subsidiary until 1932 when he returned to Denmark to assist his father Poul Larsen's governing of F.L. Smidth & Co. Gunnar Larsen became partner and

²²¹ *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:35-37, 38-41, 42-47.

²²² *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:33-34, 48-51.

²²³ Poulsen (2002:332 ff.); Busck and Poulsen (2002:444); Skou (1999:1914 Verdenskrig; Regeringen opfylder tysk krav og spærrer Storebælt, 1940 Hitler siger nej til Frits Clausen); Mørch (2004:195-217).

²²⁴ Poulsen (2002:344); Andersen (2005:145 ff, 191 ff.).

managing director in F.L. Smidth & Co when his father died, and was even Cementcentralen's managing director.²²⁵ F.L. Smidth & Co had monopoly on production of cement in Denmark throughout most of the 20th century, and was also Denmark's single largest industrial export enterprise in the 1920s and 30s. Many of F.L. Smidth & Co's export projects were accomplished in close cooperation with Denmark's internationally oriented engineering and construction companies.²²⁶ Gunnar Larsen belonged to the same network as the three engineering and construction companies that made the 1936-37 motorway and bridge initiative, and had also been a part of the Højgaard circle. The "national conservative" Højgaard-circle's ideal was the French Vichy-regime.²²⁷

The Germans suggested in July 1940 construction of a motorway from Germany to Sweden, via Rødbyhavn, Copenhagen and Helsingør. This motorway, except the leg from Copenhagen to Helsingør was identical to the three engineering and construction companies' Motorway III proposed in 1936, and the Beeline championed by the motorist organizations since the early 1930s. Gunnar Larsen met with Reichsminister Fritz Todt in Berlin in August 1940. Rudolf Christiani, head of Denmark's largest engineering and construction company Christiani & Nielsen and member of Rigsdagen, headed Rigsdagen's committee that processed the law about the Lolland motorway. But the Liberal Party's Oluf Kragh opposed this project in Rigsdagen's committee according to the economic historian Steen Andersen, because Kragh considered this motorway a "major invasion route for Germany". But the Liberal Party came to an agreement with the other collaborating parties, and the Danish Ministry of Public Works and the German Ministry of Traffic signed April 8th 1941 the agreement about construction of ferry harbors in Rødbyhavn and Fehmarn with entailing motorway and railroad connections south and north of the border. Denmark's four major parties agreed also about construction of a motorway across Lolland and Falster April 17th 1941, another section of the Beeline. The Lolland-Falster motorway from Rødbyhavn to the Storstrøm Bridge, hereunder a new bridge across Guldborgsund, was managed by the Ministry of Public Work's new department *Technical Central* (Teknisk Central). Establishment of Technical Central was motivated by the Social Democratic Party's desire for employment and checking the private construction companies' political influence, according to Steen Andersen, even if Technical Central was staffed by engineers from the major construction companies and F.L. Smidth & Co. The spade broke September 14th 1941 when minister of public works Gunnar Larsen launched construction of the Lolland motorway. One of the guests that witnessed the broken spade was Fritz Todt. Many Danes considered this broken spade an omen concerning the collaboration policy. The Danish motorway was planned and built by the construction companies Monberg & Thorsen, and N.C. Monberg. The construction companies Christiani & Nielsen and Højgaard & Schultz were also involved in

²²⁵ Ellemose (2005:69-73, 76-86, 89); Andersen (2005:463).

²²⁶ E-mail from Steen Andersen, Copenhagen Business School, March 31st 2005; Welcome to more than 120 years of cement [Online April 1st 2005] – URL:

<http://www.flsmidt.com/flsmidt/english/company+profile/history/default.htm>; Andersen (2005:75-77).

²²⁷ Jørgensen (2001:302-304, 502); Skou (1999:1940 Hitler siger nej til Frits Clausen, 1941 Tyskland kræver kommunisterne interneret – DKP bliver forbudt); Andersen (2005:181-188); Ellemose (2005:84-86); Lidgaard (2005:215-217).

planning and construction of the Beeline, but on the German side of the border.²²⁸ Gunnar Larsen did his best to maintain the employment and activity level after the German invasion. One result was construction of Denmark's first motorways.

The engineering and construction companies' downsized 1937 plans did not change *Danish Road Journal's* view on the project, rather the opposite, because *Danish Road Journal* defended status quo, particularly the local road administrations and the County Road Inspectors. The Ministry of Public Work's individual reimbursement and the Chief Road Inspector was more than sufficient centralization, according to *Danish Road Journal*, which considered the existing road system adequate given the traffic. Possible motorway sections could be built later on if or when needed. Folketinget shelved most of the 1936-37 motorway and bridge plans, during its deliberations about a new Road Act during the spring 1941, even if Knud Højgaard and others engaged in lobbying for a centralized and expert governed road administration.²²⁹ These deliberations made it evident that neither Thorvald Stauning's executive nor the engineering and construction companies that advocated construction of motorways was satisfied with the 1867 Road Act that made construction of trunk roads, which were national collective goods, local responsibilities rather national responsibilities such as in Germany, Italy and Great Britain. Motorways were then defined as highways in Denmark, which were local responsibilities according to the 1867 Road Act. However, the Danish motorway enthusiasts headed by Gunnar Larsen and Knud Højgaard were not able to change the rules of the game during World War Two. Rigsdagen's majority defended status quo.

The engineering and construction companies Christiani & Nielsen and Højgaard & Schultz planned and built German sections of the Beeline until Fritz Todt's successor Albert Speer in 1943 postponed further works.²³⁰ Rudolf Christiani used also the opportunity under an official Danish visit in Berlin in November 1941, headed by minister of public works Gunnar Larsen, to propose construction of a bridge across Great Belt, financed through the German accounts in Denmark's Nationalbank. But Christiani's initiative enraged the Social Democratic Party's minister of finance Vilhelm Buhl, because Rudolf Christiani was not only member of Folketinget but also Christiani & Nielsen's managing director. Christiani interfered here directly in the Danish-German relations, which was the executive's turf.²³¹ The Danish executive was hence well aware Rudolf Christiani's particular mixture of politics and business, hereunder his attempts of utilizing the German presence to his own company's advantage on the taxpayers and the executive's expense.

Gunnar Larsen was one of Erik Scavenius' "most loyal supporters" and bridged the gap between the "increasingly skeptical politicians" according to the historian Bo Lidegaard, because a growing number of Danes began to question the collaboration policy.²³² Erik Scavenius and Gunnar Larsen initiated in October 1941 establishment of a private association which was constituted December 11th 1941 as

²²⁸ Jørgensen (2001:302-307, 502); Lidegaard (2005:296); Andersen (2005:217-220); E-mail from Steen Andersen, Copenhagen Business School, September 14th 2005.

²²⁹ Jørgensen (2001:299-300); Andersen (2005:79-81).

²³⁰ Andersen (2005:217-219).

²³¹ Andersen (2005:219-223).

²³² Lidegaard (2005:359).

The Working Party for Promotion of Danish Initiatives in Eastern and Southeastern Europe (Arbejdsudvalget til Fremme af dansk Initiativ i Øst- og Sydøsteuropa) headed by Aarhus Oliemølle's director Thorkild Juncker, who was well connected with Danish Nazis and conservative industrialists such as Knud Højgaard. Gunnar Larsen and Thorkild Juncker visited Port Kunda in Estonia in April 1942 to study whether it was possible to reopen F.L. Smidth's cement factory that had been nationalized after the Russians occupied Estonia in 1940. The factory came in production in 1942, and produced cement for the Germans until February 1944. The factory was manned by Jewish slave laborers from a nearby concentration camp from October 1943, when the Danish managers left the factory, according to Bo Lidegaard who studied Danish politics during the interwar years and during World War Two, and the journalist Søren Ellemose who wrote F.L. Smidth & Co's history. The Working Party for Promotion of Danish Initiatives in Eastern and Southeastern Europe became later the Danish Ministry of Foreign Affairs' *Eastern Commission* (Østrumsudvalg). Its main purpose was, according to the economic historian Steen Andersen, to reestablish Danish business interests in the Soviet areas occupied by the Germans. However, the Eastern Commission's existence was not publicly known until January 1943. The Eastern Commission was wound up in October 1943.²³³ Gunnar Larsen fled to Sweden August 30th 1944, because he feared being liquidated by the National Resistance Movement.²³⁴ The governing Danish civil servants made hence some organizational adjustments when the military balance of power between the Germans and the allied nations started to shift. Gunnar Larsen understood somewhat later that others questioned some of his political moves after the German invasion.

The German invasion in April 1940 created a window of opportunity for the Danish engineering and construction companies' 1936-37 plans for a national motorway and bridge system. The German invasion created also a window of opportunity for entrepreneurs like Gunnar Larsen and Rudolf Christiani with rightwing nationalist sympathies, who combined politics, collaboration and personal profits through publicly financed infrastructure projects in Denmark and abroad. Their maneuvering through the foul waters 1940-45 facilitated also construction of Denmark's first motorway sections from 1941 on the so-called Beeline, and similarly construction of harbors and motorway sections on the German part of the Beeline until 1943. Rudolf Christiani brought even the proposed Great Belt Bridge on the agenda, but this initiative fell to the ground, among others because of minister of finance Vilhelm Buhl's unhesitating intervention against Christiani's combined private diplomacy and project acquisition.

Conclusions

Where do these discussions bring us concerning this study's four working hypothesis with regard to the Danish case prior to 1945? First, this study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was both strengthened and weakened prior to 1945 because the Danish State's

²³³ Lidegaard (2005:297-300); Ellemose (2005:91-97); Andersen (2005:463).

²³⁴ Ellemose (2005:89).

construction of a national trunk road system 1761-1867 to facilitate economic growth and development was strong evidence about trunk roads perceived as national collective goods. The late 18th century Danish executive imported these ideas from France. But the 1867 Road Act made road policy and road construction the counties and municipals' responsibility when the first trunk road system was completed. The 1867 Road Act's institutional arrangement facilitated first and foremost construction of roads that were local collective or private goods. But Rigsdagen's establishment of the Road Fund and the executive's approval of individual applications for reimbursements from 1931, when road transports substituted railroad transports, increased the executive's ability to coordinate the counties and municipals' road policy and road construction. The Danish engineering and construction companies' 1936-37 plans for construction of a national motorway system with bridges across Great Belt and Øresund, developed with the executive's tacit consent, indicated clearly the Danish executive considered modern trunk roads and motorways national collective goods similarly as in Italy, Germany and Great Britain, but Rigsdagen's majority defended status quo and the local road administrations. Denmark's engineering and industry moved into the executive when F.L. Smidth & Co's managing director Gunnar Larsen became technocratic minister of public works July 8th 1940 – August 29th 1943. Gunnar Larsen used this window of opportunity to combine politics, collaboration and business and launched in September 1941 construction of Denmark's first motorway sections from Rødbyhavn to the Storstrøm Bridge.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was strengthened prior to 1945, after the 1867 Road Act came into power, because the bicameral Rigsdagen's seat allocation led to establishment of distributional coalitions that governed the Road Fund's allocation key. 5/6 of the Road Fund's reimbursements went to highways in rural areas, even if most cars were located in urban areas. Rigsdagen's distributional coalitions championed also the decentralized road administrations' maintenance. Most Danish bridges built during the interwar years were result of pork barrel deals or logrolls in Rigsdagen. Almost every major bridge was linked to bridges in other parts of Denmark. Rudolf Christiani's private diplomacy in Great Britain for construction and financing of the Storstrøm Bridge in the early 1930s succeeded, but Christiani's private diplomacy in Germany in November 1941 for construction of the Great Belt Bridge was not equally successful, even if Christiani during the spring 1941 managed to convince the other Liberal Party legislators to approve construction of the Beeline and Denmark's first motorway.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was strengthened prior to 1945, because the Liberal Party was a particularly staunch defender of the counties and municipals' autonomy with regard to road policy and road construction, and the Road Fund's allocation of the highway reimbursements reflected clearly the Liberal Party's preferences. The Danish prewar motorway enthusiasts were first and foremost engineers with rightwing nationalist sympathies, but even the Social Democratic and Radical Parties' executive prior to World War Two desired a road policy governed by the executive to safeguard national rather than local interests. The minister of public works used road

investments strategically in the Social Democratic and Radical Parties' core areas to remedy the unemployment. Denmark had Scandinavia's highest density of cars and Europe's most developed public road system prior to World War Two. Many roads were built, upgraded and/or paved as part of the executive's counter cyclic policy during the interwar years to reduce the unemployment, because Denmark was severely hit by the 1920s' crisis and deflationary policy, the early 1930s' depression and the 1931 liquidation of the gold exchange standard.

The final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Danish case prior to 1945. First, Denmark's 1849 Constitution replaced the autocracy's collegial rule with German-French style minister rule. The minister rule persisted even after introduction of parliamentary rule in 1901. The introduction of minister rule in 1849 explains Denmark's very powerful executives throughout the 20th century, even after introduction of parliamentary rule, and is clearly an example of path dependence. Second, the 1866 Constitution gave the Conservative and Liberal Parties' increasing returns until they lost control of Landstinget in 1936, even if the 1915 Constitution and 1920 Constitutional Amendments changed the polity's rules of the game and paved the way for mass politics, and changed thereby Denmark's political economy fundamentally. Denmark had well-established political parties prior to introduction of parliamentary rule in 1901. Third, the Danish Ministry of Finance lost its dominant position after the 1894 compromise between the Liberal and Conservative Parties and introduction of parliamentary rule, and was overruled by Rigsdagen until the 1920s, when the Social Democratic Party's minister of finance did his best to reestablish a responsible economic policy. The Danish Ministry of Finance had a weaker position than the Swedish and Norwegian Ministries of Finance prior to 1945. Finally, the 1867 Road Act abolished partly the 1793 Road Act's road polity, downgraded trunk roads to highways and made road construction and road policy the counties and municipals' responsibility. This equilibrium came under pressure in 1927 when Rigsdagen dedicated the Road Fund's reimbursements to construction of highways, and even more in 1931 when the executive permitted individual applications for reimbursements. The equilibrium came further under pressure in 1933 when the executive appointed a commission for development of a new Road Act and even more in 1936-37 when the engineering and construction companies forwarded their own national motorway and bridge plans with the executive's tacit consent. However, the 1866/67 equilibrium persisted, because the voters rejected the Social Democratic, Radical and Conservative Parties' proposed new Constitution in the 1939 referendum with the smallest possible margin. The engineering and construction industry governed the Ministry of Public Works from July 1940 until August 29th 1943, but was not able to alter the road polity formally.

1945-59 – Political and economic reconstruction and adaptation to mass motoring

1945-59 was first and foremost characterized by political and economical reconstruction after World War Two, and Denmark's transition from an agricultural to a diversified industrial economy. The first postwar period became also the mass motoring's definite break through, and necessitated fundamental reforms within the road polity as well with regard to road policy and road construction.

Political and economic reconstruction after the collaboration 1940-45

The Germans financed their stay in Denmark with payments from two accounts in Denmark's Nationalbank guaranteed by the executive.²³⁵ The executive paid hence for the Germans by printing money, because the Germans enjoyed unlimited cash credit in Denmark's Nationalbank. But the Germans were not able to pay for these loans that among others had been spent on purchasing goods and services from Danish farmers, merchants, manufacturers and construction companies.²³⁶ Denmark's Nationalbank replaced therefore all bank notes July 23rd 1945.²³⁷ This money substitution reduced the postwar money supply significantly, because the money supply had increased fourfold 1940-45.

The voters punished the Social Democratic and Radical Parties for their collaboration in the October 1945 election that brought the Liberal Party to power. But the postwar Liberal executive's economic policy was no success. Their attempts of increased export prices for agriculture products combined with free imports lead to reduced exports, increased imports of consumer goods and lack of foreign currency to pay for the imports. The answer to these problems was import regulations and continued rationing until about 1953. The Liberal Party's attempt of regaining Slesvig from Germany led to a new election in 1947 that brought the Social Democratic Party back in position.²³⁸

The Danish economic policy 1945-53 shifted back and forth depending on who was in position. The Liberal Party believed in a small state and annual budget balance. The Social Democrats believed initially in an active state, and in nationalization and socialization of the means of production, but moderated their economic policy after the agreements with the Conservative and Liberal Parties in 1932 and 1933, but used plenty of radical rhetoric in their 1945 political platform, *Future Denmark* (Fremtidens Danmark).²³⁹ This radical rhetoric was first and foremost for containing the Communists that had strengthened their position, particularly in urban industrialized areas during the war. But *Future Denmark's* substantial content was a Keynesian economic policy for increased employment and wealth.²⁴⁰ The bottom line was development of a bigger pie after the liberation that facilitated increased redistribution to the Social Democratic Party's core voters.

The Social Democratic Party believed in a more regulated economy than the Liberal Party, and established in November 1947 the *Economic Secretariat* (Det Økonomiske Sekretariat) headed by former Prime Minister, minister of finance and then minister without portfolio Vilhelm Buhl, who also headed the *Ministerial Committee for Economic Coordination and Supplies* (Ministerudvalg for Økonomisk Samordning og Forsyning). Buhl became soon the executive's strong man concerning economic policy, on the Ministry of Finance's expense.²⁴¹

²³⁵ 1940 German clearing account [Online May 25th 2005] – URL:

<http://www.nationalbanken.dk/dnuk/hist.nsf>.

²³⁶ Gelting (1948:221-240); Skou (1999:1945 Danmark frit – regnskabets time inde for dem, der tjente på krigen).

²³⁷ 1945 The substitution of money [Online May 25th 2005] – URL:

<http://www.nationalbanken.dk/dnuk/hist.nsf>.

²³⁸ Rasmussen (2002a:361-364).

²³⁹ Rasmussen (2002a:373-374).

²⁴⁰ Lidegaard (2001:219 ff.); Mørch (2004:323-324).

²⁴¹ Østergaard (1998:9); Therkildsen (1997:4-5a, 1-4b); Mørch (2004:192-193).

However, the Ministry of Finance's weak position, Folketinget's Finance Committee's strong position and its approval of extra appropriations and the Economic Secretariat's strong position made it difficult to limit the postwar public spending.²⁴² The net result became a stop-go policy throughout the 1950s.

Denmark joined the International Monetary Fund (IMF) and participated in the postwar periods fixed exchange rate system established through the 1944 Bretton Woods agreement.²⁴³ Denmark received Marshall Aid between 1948 and 53, but the Liberal Party was skeptical to the Marshall Aid, because it introduced what many liberals considered as a planned economy. But the Marshall Aid moderated the Social Democratic Party's economic policy further, because Denmark had to join OEEC, lift the import regulations and introduce economic long-term planning, hereunder national budgets. The Danish executive made its *Long Term Program* in 1949.²⁴⁴ The DKK was devaluated about 30 percent September 19th 1949 after Great Britain September 18th devaluated the GBP 30 percent, once again to safeguard Denmark's agricultural exports to Britain.²⁴⁵

A Liberal and Conservative coalition headed by the Liberal party's Erik Eriksen came to power after the 1950 election, and governed until 1953. Erik Eriksen's two most significant achievements, according to the historian Søren Mørch, were that he became Prime Minister and that he piloted the *1953 Constitution* through Rigsdagen and the referendum.²⁴⁶ Denmark's four major parties agreed finally about the new Constitution, even if the Liberal Party's former Prime Minister Knud Kristensen with followers opposed it. The voters approved the 1953 Constitution with the smallest possible margin, because only 45,76 percent of those with the right to vote voted yes.²⁴⁷ Erik Eriksen managed hence to get the voters' approval, which slipped for Thorvald Stauning in 1939, because Erik Eriksen utilized the female succession politically. Most voters did not have a clue or were not particularly concerned about the political implications of introducing a unicameral system, parliamentary rule by law and an election system based on one person – one vote, even if these issues triggered most political parties' tactic and strategic considerations. But most voters understood that female succession would make princess Margrethe Queen of Denmark.²⁴⁸ Erik Eriksen was thus the right person in the right position in the decisive moment, and understood, unlike for instance Knud Kristensen, that Denmark's political balance and political economy had been fundamentally altered already in 1936 when the Liberal and Conservative Parties lost control of Landstinget. Erik Eriksen understood also the bicameral system could keep the Liberal Party out of power for decades. Because the bicameral system that had safeguarded the Liberal Party's influence until 1936 could also do the opposite, similarly as in Sweden where the bicameral system kept the

²⁴² Østergaard (1998:9-10).

²⁴³ 1944 The International Monetary Fund and the Bretton Woods System [Online May 25th 2005] – URL: <http://www.nationalbanken.dk/dnuk/hist.nsf>.

²⁴⁴ Rasmussen (2002a:364-365); Therkildsen (1997:5-6b). See also Dillard (1987:533-535, 538-539).

²⁴⁵ 1949 Devaluation of the krone [Online May 25th 2005] – URL: <http://www.nationalbanken.dk/dnuk/hist.nsf>. See also Dillard (1987:535-538).

²⁴⁶ Mørch (2004:260-261).

²⁴⁷ Rasmussen (2002a:385 ff); Worre (1978:12); Heidar et al. (2000:26).

²⁴⁸ Mørch (2004:268-272).

Social Democratic Party in position and reduced the non-socialist parties to powerless opposition.

The 1953 Constitution reshaped thereby the Danish polity fundamentally, even if it still maintained conservative guarantees such as referendums in case of constitutional amendments or surrender of national sovereignty and the possibility for rejection of laws approved by Folketinget through referendums, except the State's annual budget.²⁴⁹ The 1953 Constitution instituted also adjustments of Folketinget's geographical allocation of the 135 district seats every 5th year, according to the census of population, and introduced also a similar procedure for adjustment of the geographical allocation of Folketinget's 40 supplementary seats.²⁵⁰ The 1953 Constitution strengthened the party discipline and party bosses significantly, because of more frequent elections, abolition of Landstinget with eight years terms and because common members of Folketinget that deviated from the party line risked their forthcoming nomination.²⁵¹

The Social Democratic Party regained power in September 1953, and governed thereafter uninterrupted until February 1968 either alone or in coalitions.²⁵² The so-called triangle executive established after the 1957 election, consisting of the leftwing Social Democratic Party, the middle Radical Party and the rightwing Georgistic *Justice Party* (Retforbundet), and changed Denmark fundamentally, because the triangle executive initiated and carried out structural reforms that transformed the Danish economy from almost unilateral dependence of agricultural exports to diversified trade and export industries. These structural reforms paved the way for Denmark's economic miracle throughout the 1960s.²⁵³ The Ministry of Economy became permanent from April 1st 1958, and the Radical Party's Bertel Dahlgaard headed the ministry until 1961. Dahlgaard had been minister of interior 1929-40 in Stauning's executive.²⁵⁴ The triangle executive was Denmark's first postwar majority executive.²⁵⁵ This explains why the triangle executive was able to accomplish substantial reforms that earlier had been politically impossible.

Denmark's 1950 trade and industry structure came close to the Western average with 22 percent employed in the primaries, 37 percent in the industry and 41 percent in the services.²⁵⁶ Iron and metal industry replaced food and beverages as Denmark's leading industries 1947-56.²⁵⁷ But the Danish economic policy throughout the 1950s differed fundamentally from those in Sweden and Norway because of liberal credit markets. Denmark's private credit institutions and savings

²⁴⁹ Grundloven. Historie og statstanker [Online April 21st 2003] – URL:

<http://www.ft.dk/?/samling/20021/MENU/00000004.htm>.

²⁵⁰ Det danske valgsystem. [Online April 15th 2003] – URL:

<http://www.ft.dk/BAGGRUND/00000033/00232599.htm>.

²⁵¹ See for instance the Data Appendix' Table 2.5-2.9 for an overview of how the 1953 election system affected Folketinget's geographical seat allocation.

²⁵² Busck and Poulsen (2002:444).

²⁵³ Mørch (2004:288 ff.); Lidegaard (2001:547 ff.); Mjøset (1986:141-145).

²⁵⁴ Therkildsen (1997:2-4c).

²⁵⁵ Oversigt over regeringer der har fungeret under Grundloven af 5. juni 1953 [Online August 26th 2005]

– URL: <http://www.statsministeriet.dk>; Folketingsvalg 1953-2005 [Online August 26th 2005] – URL:

<http://www.folketinget.dk>.

²⁵⁶ Mjøset (1986:73).

²⁵⁷ Westergaard-Nielsen (2002:381 Tabel 13.3).

and loans were permitted to issue bonds. Denmark's Nationalbank emphasized also a high-interest policy, with interests above the international capital markets, and encouraged the trade and industry to utilize the international capital markets, to compensate for Denmark's almost permanent balance of payments deficits, because the dominant agricultural sectors blocked further industrialization.²⁵⁸ The Swedish and Norwegian executives pursued low interest policies with partial credit rationing in Sweden and politically governed credit rationing and politically governed allocation of major investments in Norway.

The Danish agriculture experienced 8,3 percent annual growth 1947-50, and thereafter 2,3 percent annual growth until 1957. Danish industry experienced similarly 9,4 percent annual growth 1947-50 and thereafter 2,4 percent annual growth until 1957. The Danish construction sector experienced 8,4 percent annual growth 1947-50, and thereafter 2,1 percent annual growth until 1957. The tertiary sector experienced 3,5 percent annual growth 1947-50 and thereafter 3,0 percent annual growth until 1957. The total annual economic growth 1947-50 was 5,0 percent, and thereafter 2,7 percent.²⁵⁹ The DKK became convertible towards the US dollar in 1958.²⁶⁰ The Danish economy performed very well during the initial reconstruction 1947-50, but went thereafter into a phase of relatively slow growth, until the long-term boom that facilitated the transformation from agricultural to industrial exports began in 1958. Most of the initial postwar growth took place in traditional primary and secondary sectors; i.e. production of edible or tangible goods.

How was Denmark's absolute and relative economic performance 1945-59? Angus Maddison's calculations show that Denmark's GDP per capita measured in 1990 international Geary-Khamis dollars were 5.066 dollars in 1945, 6.943 in 50 and 8.637 in 59. The average for the 12 West European countries was 4.154 dollars in 1945, 5.018 in 50 and 7.184 in 59.²⁶¹ Denmark was in other words well above the West European average both in 1945, 50 and 59, as West Europe's fourth wealthiest country measured in GDP per capita in 1945, third wealthiest in 50 and second wealthiest in 59.²⁶² But the price was significant unemployment, and the sop-go policies gave also relatively low growth until the boom started in 1958.

Denmark's postwar road policy – facilitating the transformation from one-sided agricultural dependence to diversified trade and export industries

Denmark's national resistance movement arrested Gunnar Larsen, technocratic minister of public works July 8th 1940 – August 29th 1943, May 12th 1945 when he returned from his exile in Sweden.²⁶³ Gunnar Larsen had supported Erik Scavenius' signing of the Antikomintern Treaty in Berlin November 25th 1941, even if

²⁵⁸ Mjøset (1986:94-95, 137-141).

²⁵⁹ Svend Aage Hansen, *Økonomisk vækst i Danmark*, Akademisk Forlag, Copenhagen 1974:149 in Rasmussen (2002a:383).

²⁶⁰ 1958 The krone becomes convertible [Online May 25th 2005] – URL: <http://www.nationalbanken.dk/dnuk/hist.nsf>

²⁶¹ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-63 Table 1c.

²⁶² Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-63 Table 1c.

²⁶³ Skou (1999:1941 Tyskland kræver kommunisterne interneteret – DKP bliver forbudt); Ellemose (2005:97-100).

Rigsdagen's majority and the remaining executive opposed this move.²⁶⁴ The Antikomintern Treaty made the neutral Denmark a de facto partner of Germany, Italy and Japan, even if other Danes did their best to minimize the damages. Gunnar Larsen was exonerated by the Circuit Court in 1947 and by the Supreme Court in 1948 from the accusations about economic treason, among others because the British Lord Selborne claimed Larsen had cooperated with SOE during the war, even if Larsen's cooperation was limited to forwarding information after two visits to Germany in September 1939 and March 1940 prior to the German invasion of Denmark. But the other founding families among F.L. Smidth & Co's owners considered obviously Gunnar Larsen as a debit, despite the court's exoneration. Gunnar Larsen was namely forced to sell his stocks in the holding company to his sisters, and became thereafter in 1954 managing director and chairman of the board for F.L. Smidth's subsidiary in Ireland. Gunnar Larsen became later also Irish citizen.²⁶⁵ Gunnar Larsen was hence exonerated by the courts, but punished by his own family and business partners who clearly considered him a debit and bad for F.L. Smidth & Co's future business opportunities.

Rudolf Christiani, the engineer, entrepreneur and legislator, who was one of the 1936-37 motorway and bridge plans' champions, was denoted as "a notorious German collaborator" by *New York Times*, and the US authorities blacklisted his company Christiani & Nielsen in 1944.²⁶⁶ Rudolf Christiani was forced to resign as Christiani & Nielsen's managing director December 18th 1946 by among others Handelsbanken, and was succeeded by his son Alex Christiani who headed Christiani & Nielsen's French subsidiary during the war together with the German engineer Emil Blunk, who headed Christiani & Nielsen's construction of motorways in Germany prior to World War Two. Emil Blunk joined the German Nazi Party in 1935, cooperated closely with Organisation Todt during the war, and had a crucial role in Christiani & Nielsen's construction of submarine bunkers along France's Atlantic coast during the German occupation. Rudolf Christiani was in 1946 charged for economic treason, but the case was dismissed in 1949. Rudolf Christiani was back in business in 1948 when he once again became part of Christiani & Nielsen's head of affairs, after Christiani & Nielsen had been reorganized from a personally owned partnership to a joint stock company.²⁶⁷ Two of those in the Danish engineering and construction industry that personified the collaboration policy 1940-45 were both back in business at the turn of the 1940s and 50s, even if Gunnar Larsen was de facto deported by his business associates.

The summer of 1945, immediately after the liberalization, was characterized by lack of goods, increasing unemployment and lack of housing. One of Carl Petersen's first decisions in 1945, as Social Democratic Party minister of public works in the liberation executive, was to freeze the Lolland motorway's ongoing construction that had been approved by Rigsdagen in 1941. Carl Petersen had then no desire for further improvement of the roads to Germany. About 35 kilometers of the Beeline was almost completed in 1945, except for the paving. The Lolland motorway was first completed after the Danish executive and the German federal

²⁶⁴ Lidegaard (2005:300-309, 467).

²⁶⁵ Andersen (2005:392-394); Lidegaard (2005:539); Ellemose (2005:100-107).

²⁶⁶ Andersen (2005:396-397, 399-404).

²⁶⁷ Andersen (2005:120, 246-248, 320-332, 413-434, 446-447, 457-460).

executives in 1958 signed a new Beeline agreement.²⁶⁸ The worst fumes from the collaboration had then evaporated. The Danish engineering and construction companies were forgiven. The same was largely the prewar motorway enthusiasts' rightwing and nationalist sympathies.

The Danish executive did not impose long lasting rationing and regulations of passenger cars, to save foreign currency, such as in Norway, but used instead the voter's wallets as rationing device. The Conservative minister of trade Ove Weikop introduced also a particular tax from January 1951 to reduce the profits on sale of used cars, due to record high prices on used cars because the demand by far exceeded the supply.²⁶⁹ Denmark's density of passenger cars in 1955 was 48 per 1000 inhabitants, compared to Norway's 36 per 1000 inhabitants. The Social Democratic governed Sweden, which then had no restrictions on import and sale of passenger cars, had 89 passenger cars per 1000 inhabitants.²⁷⁰ All Danish import restrictions on trucks and lorries were abolished in 1952, similarly as in Norway. The Danish import of passenger cars increased similarly significantly from 1952 when the executive permitted financing of import of passenger cars with export dollars. All Danish restrictions on imports of passenger cars were liquidated in 1957, after introduction of very high vehicle taxes that later have been further increased.²⁷¹ The usually governing Danish Social Democratic Party relied hence far more on market mechanisms than direct regulations during the reconstruction, compared to their Norwegian sister party that more relied on direct regulations and rationing after World War Two. Denmark's lack of a national automotive industry made also cars an almost perfect tax object, because the legislators could impose very high taxes with limited risk for retaliations from other countries. Sweden, which had far fewer vehicles per 1000 inhabitants than Denmark prior to World War Two, passed Denmark in the early 1950s, because most regulations were lifted prior to 1950 due to the non-socialist opposition parties' resistance against a tightly regulated economy, and because the very high Danish vehicle taxes imposed from 1957 limited the number of cars, even if Denmark later became one of the wealthiest countries in the world.

The Danish Ministry of Public Works established the so-called *Great Belt Commission* (Storebæltskommissionen) in 1948, because cold winters 1939-40 and 1947 divided Denmark in two isolated partitions. The Great Belt Commission submitted its first report in 1956, which mainly was a discussion about technical problems.²⁷² But Denmark's future need for a ferry-free connection across Great Belt was hardly questioned after World War Two.

The Social Democratic executive established also the *Directorate of Public Roads* (Vejdirektoratet) April 1st 1949, as an integrated part of the Ministry of Public Works, according to the so-called Danish model. This new centralized State road administration originated from the former Liberal executive's 1947 initiative about decentralizing the central administration, even if the outcome differed somewhat from the Liberal Party executive's intentions. The Directorate of Public Roads was a

²⁶⁸ Toft et al. (2000:121); Jørgensen (2001:306-307).

²⁶⁹ Skou (1999:1951) En afgift skal hindre skyhøje fortjenester på brugte biler.

²⁷⁰ *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken, Oslo 1957:23. OVA.

²⁷¹ Andréasson et al. (1997:126-127).

²⁷² Jørgensen (2001:438-439).

merger of the Ministry of Public Work's two Road Departments, the Road Office and the Chief Road Inspector's Office. Technical Central, which had been manned by engineers from among others Christiani & Nielsen, Højgaard & Schultz A/S, Kampsax and F.L. Smidth & Co during the war, became somewhat tainted, among others because of its involvement in the Lolland motorway. Technical Central was therefore renamed to the *Directorate of Construction* (Anlægsdirektoratet) in 1945, and subordinated the Directorate of Public Roads from 1951, where it took care of construction issues, particularly motorways.²⁷³ Technical Central was integrated in the new State road administration after the charges against Gunnar Larsen and Rudolf Christiani had been sorted out and the air had been cleared from the worst fumes of collaboration.

Carl Petersen, who served as Social Democratic minister of public works for the second time, appointed the lawyer Kaj Bang as the Directorate of Public Road's first head. The Directorate of Public Road's main task was planning a national motorway system, which then was a well-established idea, among others from Germany, Italy, Holland and the Danish engineering and construction companies' 1936-37 plans that had been partly approved during the war.²⁷⁴ Kaj Bang, who had headed one of the Ministry of Public Work's Road Offices since 1942, governed the Directorate of Public Roads until 1972. The appointment of a lawyer, and not a chartered engineer was obviously a bitter pill for many of the engineering and construction companies, but they soon learned to live with Kaj Bang, because Bang's long-term goal was a National Road Plan. Bang introduced systematic use of cost/benefit analyses in the Directorate of Public Roads almost from day one. Kaj Bang must have been a cunning administrator and careful general, because he did seemingly not challenge the counties' established autonomy concerning road policy and road construction. But the fact that the Directorate of Public Roads was subordinated the Ministry of Public Work's permanent undersecretary, and not the minister directly created sometimes tensions both within the ministry and directorate.²⁷⁵ The leading Danish chartered engineers and motorway enthusiasts' well-known rightwing and nationalist sympathies during the interwar years and 1940-45 made it obviously easier for the Social Democratic Party executive to appoint a lawyer instead of a chartered engineer as head of the new Directorate of Public Roads.

The Directorate of Public Roads became Denmark's new central road administration, even if it then didn't plan or manage any road construction, because road construction and maintenance was still the counties and municipal's responsibility according to the 1867 Road Act. The Road Act commission had been in action since 1933, but was still far from an agreement. The Directorate of Public Roads became instead responsible for the State's Road Fund and the counties' reimbursement, even if the Directorate of Public Roads so far had no authority – whatsoever – to obstruct or prevent the counties' accomplishment of particular road projects.²⁷⁶ But many perceived the executive's establishment of the Directorate of

²⁷³ *Vejdirektoratet 50 år*, Vejdirektoratet April 1st 1999 [Online September 10th 2004] – URL: <http://www.vejdirektoratet.dk>; Jørgensen (2001:302-307, 323, 330 ff.).

²⁷⁴ Toft et al. (2000:121-122); Mom (2005:759-763).

²⁷⁵ Jørgensen (2001:332, 334-335, 349).

²⁷⁶ Jørgensen (2001:333).

Public Roads as an attempt of changing Denmark's road polity and road policy status quo.

The Danish and Swedish engineering and construction companies that made the 1936-37 motorway and bridge plans revised the planned ferry-free connection across Øresund in 1952. The revised plan included a bridge or a tunnel between Helsingør and Helsingborg, the so-called H-H alternative, and a tunnel from Amager to Saltholm and a tall bridge from Saltholm to Malmø, the so-called K-M alternative. Both alternatives were proposed built with four-lane motorways and dual track railroads. The Swedish legislature Riksdagen discussed the proposal in 1952, and the *Nordic Council of Ministers* (Nordisk råd) encouraged the Swedish and Danish executives to further investigating the proposal in 1953.²⁷⁷ The Danish and Swedish executives respectively appointed the *Øresundscommission* (Øresundsudvalget) and *The Swedish Øresundsdelegation* (Svenska Øresundsdelegationen) with technical and traffic technical work groups March 12th 1954. Kaj Bang, head of the Directorate of Public Road, took part in the Danish commission, and headed also the traffic economic work group. The Swedish Road and Water Construction Board's Director General Karl-Gustav Hjort took similarly part in the Swedish delegation.²⁷⁸ Road and railroad connections with national collective good characteristics in both countries came clearly high on the road policy agenda both in Denmark and Sweden after World War Two.

Kai Lindberg, the Social Democratic Party's minister of public works from August 1955 until November 1966, established the *Traffic Economic Commission* (Det Trafikøkonomiske Udvalg) September 15th 1955, headed by the Ministry of Public Work's permanent undersecretary Palle Christensen. Other members were among others Kaj Bang and the heads of the State Railroads, Postal and Telegraph Services, the Telephone Inspection and the permanent undersecretary in the executive's Economic Secretariat. The commission's task was to outline Denmark's need for high-level transport and communication infrastructures the forthcoming 20 years.²⁷⁹ Kaj Bang was obviously not satisfied with Denmark's existing high-level transport and communication infrastructures and lack of policy coordination, due to the counties and municipals' prominent roles with regard to road policy and road construction.

Kai Lindberg opened Denmark's first motorway from Jægersborg to Brådebæk on northern Sjælland in 1956. Even the construction of this motorway had been approved in 1942, but was later postponed because of the war. This motorway was later extended towards Helsingør, and became the northeastern leg of on the motorway H.²⁸⁰ The national motorway system proposed by the private construction and engineering companies 1936-37 was thus not shelved after World War Two, such as similar plans in Norway outlined during the German occupation.

Denmark's road policy turn started in 1957 when Folketinget approved the Road Act that had been in process since 1933. The *1957 Road Act* replaced the 1867

²⁷⁷ Jørgensen (2001:449-451); Betænkning nr. 413, *Øresundsforbindelsen. 1. del Betænkning og bilag*, Copenhagen 1962:10-11.

²⁷⁸ Betænkning nr. 413, *Øresundsforbindelsen. 1. del Betænkning og bilag*:12-13.

²⁷⁹ Betænkning nr. 294, *Indplaceringen af de store trafikinvesteringer Storkøbenhavns nærtrafik, Storebæltsbro, Øresundsbro i et samlet 20 års program for de offentlige trafikinvesteringer*, Copenhagen, October 2nd 1961:7, 11 ff.

²⁸⁰ Toft et al. (2000:123), Jørgensen (2001:367 ff.).

Road Act, reintroduced trunk roads 90 years after Jacob Brønnum Scavenius Estrup downgraded them to highways and made road policy and road construction the counties and municipals' turf. The 1957 Road Act authorized the Ministry of Public Roads to reclassify roads, and authorized also the minister of public works to demand construction of particular new roads or upgrading existing roads, according to the minister's own discretion. The 1957 Road Act gave similarly the counties financial incentives to further construction or upgrading of trunk roads, through increased reimbursements compared to the other road classes. The 1957 Road Act made also the motorway H proposed by the engineering and construction companies' 1936-37 template for Denmark's future motorway system, and safeguarded the Directorate of Public Road's development of a National Road Plan by law. The 1957 Road Act established finally the so-called *Road Council* (Vejnevn), a corporative body. But the Road Council became never a strong institution, despite members from the Ministry of Public Works, Ministry of Interior and Ministry of Housing, in addition to ten members from the counties, rural municipals, cities and magistrates.²⁸¹ The 1957 Road Act changed hence the rules of the game, and punctuated the road policy equilibrium established by Jacob Brønnum Scavenius Estrup, and initiated dismantling of the municipal regime that had governed Danish road policy and road construction since the 1867 Road Act came into power. The 1953 Constitution that abolished the bicameral system paved the way for the 1957 Road Act because of Folketinget's revised seat allocation.²⁸²

The next Danish road political institutional change took place in 1958, when Folketinget approved the *1958 Road Reimbursement Act*, which replaced the 1931 Road License Act that permitted individual applications for reimbursements. The 1958 Road Reimbursement Act increased the counties' reimbursement, and decoupled partly the Road Fund's annual reimbursement from the annual vehicle and fuel tax revenues, because it permitted the counties and municipals to initiate projects exceeding the expected annual reimbursements, and introduced also allocation of the reimbursements after negotiations between the Ministry of Public Works, the Directorate of Public Roads and the county mayors, the so-called "MAMBO-meetings". The 1958 Road Reimbursement Act gave the counties 75 percent reimbursement of the approved road costs, but the counties could apply for further reimbursement limited to 85 percent of the highways and local roads' construction costs, and up to 100 percent of the motorways' construction costs, except for a minimum county contribution of 50.000 DKK or 47.146,4 1990 PPP USD per kilometer motorway.²⁸³ The 1958 Road Reimbursement Act opened literally the floodgate for construction of new and modern trunk roads, particularly motorways. The counties initiated many trunk road projects, exactly as anticipated by minister of public works Kai Lindberg and others who championed the 1957 Road Act and the 1958 Road Reimbursement Act. Construction of modern trunk roads and motorways was some of the executive's means to facilitate Denmark's transition from an agricultural to a diversified industrial economy.

²⁸¹ Jørgensen (2001:323, 337-338).

²⁸² See the Data Appendix' Table 2.5-2.9 for an overview of the 1953 Constitution's effects on Folketinget's geographical seat allocation.

²⁸³ Jørgensen (2001:338, 341); Toft et al. (2000:30, 50-52).

Many major Danish roads built during the 1930s were paved with concrete. However the 1950s' concrete shortage prevented further construction of concrete roads, even if many of the 1930s' concrete paving lasted until the 1970s.²⁸⁴ Most of Denmark's highways and local roads were paved with asphalt within 1960, and had often far better standard than comparable Norwegian highways and local roads 25-30 years later. This paving was possible because many Danish asphalt companies provided favorable loans to the counties and municipals throughout the 1950s.²⁸⁵ The Danish counties and municipals carried thereby out significant loan financed improvements of the highways and local roads in the 1950s, that both reduced the counties and municipals' maintenance costs and the road users' transport times and costs.

However, not everything was hunky-dory in Denmark during the second half of the 1950s, even if the executive did far more for developing a modern road infrastructure than for instance in Norway. The head of the Directorate of Public Road's Road Planning Department since 1956, Anders Nyvig, resigned in protest in 1959, because the Directorate of Public Roads overlooked the cities and urban areas, and favored construction of roads in rural areas. Only 1/6th of the reimbursements were allocated to the cities and urban areas because of the Road Fund's allocation key established in the 1920s, even if the urban areas had the largest population, most cars and the most serious congestion, accident and environmental problems. But Nyvig's resignation was not in vain. The Traffic Economic Commission noticed it.²⁸⁶ The urban areas limited road investments in the second half of the 1950s reflected clearly the former bicameral Rigsdagen's geographical seat allocation and power relations, because of the rural constituencies' pivotal position in Landstinget prior to introduction of the unicameral system in 1953.

Conclusions

Where do these discussions bring us concerning this study's four working hypothesis with regard to the Danish case between 1945 and 1959? First, this study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly strengthened between 1945 and 1959, because establishment of the Directorate of Public Roads in 1949, appointment of the 1954 Øresund Commission, the 1955 Traffic Economic Commission, and Folketinget's approval of the 1957 Road Act and the 1958 Road Reimbursement Act are evidence that Denmark's Social Democratic Party postwar executives and the majority of the legislators considered modern trunk roads and motorways national collective goods and necessary for the desired transformation from an agricultural to a diversified industrial economy. Engineers with rightwing nationalist or even fascist sympathies advocated construction of motorways prior to World War Two, but the Danish Social Democratic Party's bosses and economists understood soon that motorways could be a useful mean to fuel the growth. Denmark's numerous minority executives 1945-59 did not rule out an emphasis on development of national collective goods,

²⁸⁴ Jørgensen (2001:238-245, 463-465).

²⁸⁵ Jørgensen (2001:336).

²⁸⁶ Jørgensen (2001:340-342).

because the institutional design safeguarded the common good despite minority executives. Many Danish engineering and construction companies were somewhat tarnished after World War Two, because of their combination of politics, business and collaboration 1940-45, but they were soon forgiven, because their services were urgently needed during the reconstruction and postwar boom.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was weakened between 1945 and 1959, because the Liberal Party's Prime Minister Erik Eriksen piloted the 1953 Constitution through Rigsdagen and the entailing referendum. The 1953 Constitution liquidated the bicameral system and weakened the constituencies' primacy concerning road policy, road construction and particularly concerning resource allocation, even if road policy and road construction still remained the counties and municipalities' responsibility because of the 1867 Road Act that still governed Denmark's road policy and road construction.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was clearly strengthened between 1945 and 1959, because the 1953 Constitution and introduction of the unicameral Folketinget instead of the bicameral Rigsdagen strengthened the political parties' power and influence on the constituencies' expense. Denmark's new election system based on one person – one vote made it very costly politically for the parties to overlook the most crowded constituencies' voters. This fundamental shift paved the way for a forthcoming change of the Road Fund's reimbursement allocation key. The Social Democratic Party used also road policy and road construction deliberately as a mean for increased economic growth, which in turn facilitated future redistribution to the Social Democratic Party's voters. The Social Democratic Party's motivation for advocating construction of modern roads differed thus fundamentally from the rightwing nationalists' during the interwar years, because the Danish engineering and construction companies championed first and foremost motorways because of the business opportunities. The Social Democratic Party considered modern roads as a mean for increased economic growth, and thereby future opportunities for increased redistribution to the Social Democratic Party's core voters. Kai Lindberg, minister of public works 1955-66, became the architect and executor of the Social Democratic Party's high-growth road policy, which partly reflected Denmark's post 1953 political economy.

This study's final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Danish case between 1945 and 1959. First, the 1953 Constitution's unicameral system and new election system based on one person – one vote punctuated the equilibrium established by the 1866 Constitution that had been partly upheld by the 1915 Constitution and the 1920 Constitutional Amendment. Second, the Danish Ministry of Finance had a weak position even after World War Two, a fundamental difference compared to Sweden and Norway, but largely a result of path dependence established as a result of the 1894 compromise, because of the Ministry of Finance's close relations with the Estrup regime. Third, the executive's establishment of the Economic Secretariat in 1947 together with the Ministerial Committee for Economic Coordination and Supplies, and the establishment of the Directorate of Public Roads in 1949 together

with the new 1953 Constitution made the 1867 Road Act's days numbered. The 1957 Road Act reintroduced trunk roads, and the 1958 Road Reimbursement Act gave the counties financial incentives for construction of motorways or other trunk roads. The lack of road investments in the most crowded areas that struggled with serious congestion, accident and environmental problems was then questioned publicly. Finally, the Road Fund's reimbursement key was upheld because of path dependence, because the pre 1949, 1953 and 1957-58 road polity gave the rural areas increasing returns, but even this institution's days were numbered because of the new election system based on one person – one vote established through the 1953 Constitution.

1960-80 – Boom and crises

The period 1960-80 was first and foremost characterized by Denmark's economic miracle that ended shortly before the first oil price shock 1973-74. The Danish road policy during the 1960s paved the way for construction of the motorway H and parked many of the local interests that had governed Danish road policy and road construction since the 1867 Road Act came into power. However, the early 1970s' green tide combined with the State economic crisis and stagflation entailing the two oil price shocks distinguished soon Danish road policy and road construction.

Denmark's postwar economic miracle – and crash landing

The Danish political system was very stable and predictable, despite frequent changes of executives. Minority executives became the rule, rather than the exception 1960-80. Only the executives in power from January 1960 until September 1964, February 1968 until October 1971 and August 1978 until October 1979 were majority executives.²⁸⁷ The Social Democrats governed alone or in coalitions until 1968, when a coalition between the Liberal, Radical and Conservative Parties, headed by the Radical Party's Hilmar Baunsgaard, Denmark's first "TV politician", came to power.²⁸⁸ The Social Democratic Party's Jens Otto Krag from Randers on northern Jutland was one of the architects of Denmark's postwar economic policy. Krag's aim since the 1950s, particularly after he became Prime Minister in 1962, was Danish membership in EEC.²⁸⁹ However, Krag's 1966-68 executive was dependent of the leftwing populist *Socialist People's Party* (Socialistisk Folkeparti), and became soon known as the "red cabinet".²⁹⁰ The non-socialist executive that came to power in 1968 can be understood as the voters' protest against the increasing welfare state; seemingly strongly increasing taxes, the Social Democratic Party's 1966-68 embracing of the leftwing populists, and against the interest organizations' increasing influence. The non-socialist executive can also be explained as a result of the voters being fed up with the Social Democratic Party that had governed Denmark most of the time since 1929. Jens Otto Krag regained

²⁸⁷ Oversigt over regeringer der har fungeret under Grundloven af 5. juni 1953 [Online August 2005] – URL: <http://www.statsministeriet.dk>; Folketingsvalg 1953-2005 [Online August 26th 2005] – URL: <http://www.folketinget.dk>.

²⁸⁸ Mørch (2004:351 ff.).

²⁸⁹ Mørch (2004:332 ff., 343-349); Lidegaard (2002).

²⁹⁰ Rasmussen (2002a:387); see also Mørch (2004:340-343); Lidegaard (2002:302 ff.).

the power in 1971, but resigned immediately after almost 2/3 of the Danes approved Danish membership in EEC in the October 2nd 1972 referendum. Krag handed over the power to his preferred successor Anker Jørgensen, a former trade union boss.²⁹¹

Denmark's 1973 election became a political earthquake, similarly as Norway's 1973 election, and paved the way for leftwing and rightwing populist and protest parties, among others because of the 1968-72 tax increases.²⁹² The 1973 election punctuated partly the postwar equilibrium and established a new and less tidy political landscape. The Communist and the Justice Parties reappeared in Folketinget. The *Christian People's Party* (Kristelig Folkeparti), rather similar to its Norwegian sister party got 4 percent of the votes and 7 seats. The *Center Democrats* (Centrumsdemokraterne, CD), a rightwing splinter from the Social Democrats that mainly represented the suburban areas' motorists and row house owners, got 7,8 percent of the votes and 14 seats, and became later one of Denmark's leading parties with regard to road policy and road construction even if it often struggled with the election system's limit. Mogens Glistrup's rightwing populist *Progress Party* (Fremskridtpartiet) got 15,9 percent of the votes, and became Folketinget's second largest party with 28 seats. The Social Democratic Party lost 24 seats, and had only 46 left.²⁹³ The Liberal Party headed by Prime Minister Poul Hartling governed until February 1975 when the Social Democrats and Anker Jørgensen regained power and remained in position until September 1982. Anker Jørgensen governed even in coalition with the Liberal Party 1978-79, until the coalition collapsed because of the economic crisis.²⁹⁴ But Anker Jørgensen was no success as Prime Minister, because he remained mentally a trade union boss according to the historian Søren Mørch, and emphasized pragmatic and incremental short-term solutions rather than bold strategic moves.²⁹⁵ Anker Jørgensen's executives stumbled from crisis to crisis, even if the Social Democratic and Liberal Parties coalition obviously was an attempt of recreating the 1930s' social compromise between the labor and agrarian interests.

Denmark experienced constant economic growth from 1958 until the first oil price shock in 1973-74, OPEC 1. But the growth was not equally distributed among the sectors. The agriculture experienced 0,9 percent annual decline from 1958 to 1970, while the secondary sector experienced 7,2 percent annual growth. The tertiary sector, including the public services, experienced 4,7 percent annual growth. The average annual growth for the entire Danish economy from 1958 to 1970 was 5,0 percent.²⁹⁶ The Danish executive constrained from 1973 construction of housing through a tighter fiscal policy.²⁹⁷ The housing boom explains partly the overheating of Danish economy in the late 1960s and early 70s, because construction of housing crowded out more profitable investments, for instance in the export industries. The

²⁹¹ Rasmussen (2002a:387-389); Skou (1999:1972 Folkeafstemning giver stort ja til medlemskab af Fællesmarkedet); Mørch (2004:367-373).

²⁹² Mjøset (1986:147).

²⁹³ Rasmussen (2002b:401-403); Skou (1999:1973 Jordskredsvalg: Mogens Glistrup næststørste parti i Folketinget); Mørch (2004:373-378).

²⁹⁴ Rasmussen (2002a:387-389, 393-395); Busck and Poulsen (2002:444-445); Lidegaard (2002:601-646); Skou (1999:1972 Folkeafstemning giver stort ja til medlemskab af Fællesmarkedet, 1979 SV-regeringen bryder sammen i uenighed om årets åbningstale).

²⁹⁵ Mørch (2004:379-389).

²⁹⁶ Svend Aage Hansen, *Økonomisk vækst i Danmark*, Akademisk Forlag, Copenhagen 1974:149 in Rasmussen (2002a:383).

²⁹⁷ Mjøset (1986:187).

same did partly the fast growing public expenses. Almost every interest group in Denmark experienced “increasing returns” during the 1960s because of the economy’s high growth rate, but the relative distribution between the sectors remained almost unchanged. Denmark went thereby on full blast during the 1960s, until the executive put on the brakes. Denmark missed therefore partly the raw material boom between 1972 and 1974 that benefited most other Nordic countries. The recession hit Denmark severely 1974-75, the first years since 1945 with negative economic growth, even if the Danish economy was instable already prior to the OPEC 1 shock.²⁹⁸ Denmark joined the so-called Currency Snake in 1972 and the European Monetary System (EMS) in 1979 to stabilize the currency fluctuations.²⁹⁹

The Danish economy recovered somewhat after 1975, even if the growth rates were meager compared to 1958-73. Denmark was hit by a new economic crisis in 1979, because of the second oil price shock, OPEC 2. Mass unemployment returned to Denmark. The unemployment rates increased from about 1 percent in 1973 to 5 percent in 1975 and 10,5 percent in 1983, until it peaked with 12 percent in 1993.³⁰⁰ The mass unemployment led to increasing public spending and decreasing tax revenues. But the executive assumed it was a short-term crisis, not a structural problem, and borrowed heavily to facilitate a traditional Keynesian counter cyclic policy in some sectors, combined with reductions in others. The result became an indebted Denmark. The national debt’s interest payments would be burdensome even if the business cycles shifted in Denmark’s favor.³⁰¹ The period 1960-80, that started with a very long boom ended thus with crisis and public indebtedness.

But the Danish economy came in a somewhat paradoxical situation throughout the 1970s and early 80s, because the membership in EEC created some optimism, even if the Danish executive soon returned to the 1950s’ stop-go policy because of almost constant balance of payment problems amplified by the DKK’s revaluation because of the German Mark’s revaluation, because of Denmark’s participation in the Currency Snake. However, Denmark was the only Nordic country that maintained the same economic growth during the second half of the 1970s as during the first half, except for Norway where the oil sector grew strongly during the second half of the 1970s. But Denmark’s numerous SMEs fared reasonably well during the second half of the 1970s, because of their flexibility and ability to adapt to the turbulent conditions. The Danish interest rates increased from about 10 percent for 10 years State bonds in 1969 to about 20 percent in 1980. The very high interest rates crowded out the housing and agricultural sector that had crowded out the more profitable export industries in the late 1960s and early 1970s. Denmark’s industry structure with largely SMEs exposed to the market forces gave hence Danish economy an excellent starting point for the 1980s, despite the 1970s’ crisis.³⁰² The paradoxical situation was in other words that the second half of the 1970s’ high interest rates and economic crisis carried out many of those structural

²⁹⁸ Mjøset (1986:148-153, 163, 184-185).

²⁹⁹ 1971 ‘The Currency Snake’: 1979 the European Monetary System [Online May 25th 2005] – URL: <http://www.nationalbanken.dk/dnuk/hst.nsf>.

³⁰⁰ Rasmussen (2002b:399-400).

³⁰¹ Rasmussen (2002b:400).

³⁰² Mjøset (1986:211-213-, 227, 230, 241-246); Østergaard (1998:13-14); Andersen (2002:174-175 Figur 6.1).

adjustments that had been politically impossible to accomplish in the 1960s and early 70s.

How was Denmark's economic ability during the 1960s and the 1970s? Denmark's GDP per capita measured in 1990 international Geary-Khamis dollars was 8.812 dollars in 1960, 12.686 in 70, 13.945 in 73 and 15.227 in 80. The averages for the 12 West European countries were 7.607 dollars in 1960, 10.959 in 70, 12.156 in 73 and 14.057 in 80.³⁰³ The Danish economy was among West Europe's top performers. Denmark was number two in 1960, number three in 70, and again number two in 73 and 80, measured as GDP per capita, despite the late 1970's crisis. The Danish economic miracle was based on hard work and the ability to utilize opportunities entailing the memberships in EFTA and later also in EEC. The triangle executive's attempt of transforming the economy from almost one-sided dependence on agriculture exports to more diversified trade and industry after the 1957 election paid off handsomely during the 1960s and 70s, despite domestic overheating, partly reintroduction of the 1950s' stop-go policy, high interest rates and increasing unemployment.

Paving the way for the motorway H

Denmark's road policy during the 1960s can be summarized as paving the way for the motorway H approved through the 1957 Road Act, even if most kilometers motorways were built from the early 1970s until about 2000.

The Traffic Economic Commission forwarded its recommendations to the Ministry of Public Works October 2nd 1961. Anders Nyvig, who left the position as head of the Directorate of Public Road's Planning Department in 1959 because of disagreement about the skewed allocation of the Road Fund's reimbursements, joined the commission's final spurt. The Traffic Economic Commission's recommended investing 33,715 billions 1961 DKK or 30,17 billions 1990 PPP USD during the forthcoming 20 years in new roads, railroads, harbors, airports and improved telephone and postal services. 2,1 billions DKK or 1,88 billions 1990 PPP USD were suggested invested in bridges across Great Belt and Øresund, 18,98 billions DKK or 16,98 billions 1990 PPP USD in roads and 4,86 billions DKK or 4,35 billions 1990 PPP USD in new railroads. 1,12 billions DKK or approximately 1 billion 1990 PPP USD of the railroad investments were recommended allocated in Greater Copenhagen to facilitate commuting, while 3,65 billions DKK or about 3,27 billions 1990 PPP USD were recommended allocated to remote traffic.³⁰⁴ The recommended investments' order of magnitude indicate clearly the Traffic Economic Commission did not foresee half hearted tightwad measures, but complete and permanent modernization of Denmark's high-level transport and communication infrastructures.

The Traffic Economic Commission allocated 10,18 billions DKK or 9,11 billions 1990 PPP USD of the total recommended road investments to new roads and 8,8 billions DKK or 7,87 billions 1990 PPP USD to maintenance, upgrades and minor projects. 3 billions DKK or 2,68 billions 1990 PPP USD were allocated to

³⁰³ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-65 Table 1c.

³⁰⁴ Betænkning nr. 294, *Indplaceringen af de store trafikinvesteringer Storkøbenhavns nærtrafik, Storebæltsbro, Øresundsbro i et samlet 20 års program for de offentlige trafikinvesteringer*:35 Tabel 2, 43 Tabel 9, 44 Tabel 10.

new roads in Greater Copenhagen. 1,4 billions DKK or 1,25 billions 1990 PPP USD were allocated to motorways in rural areas. The Traffic Economic Commission recommended similarly construction of 548 kilometers four lane motorways in areas with 2.000 vehicles in each direction per hour, 40 kilometers six lane motorways in areas with more than 3.000 vehicles per hour, and 410 kilometers four lane trunk roads in areas with 1.000-1.500 vehicles per hour.³⁰⁵ The Traffic Economic Commission stressed that construction of the new transport and communication infrastructures had to utilize “every kinds of modern facilities” to achieve maximum “work productivity” to minimize the construction costs and to “safeguard the economic progress”.³⁰⁶ The Traffic Economic Commission warned hence strongly against any ideas about establishment of spade and wheelbarrow brigades, because that would delay the new transport and communication infrastructures, make them unnecessarily costly and postpone the community’s harvesting of the benefits. The rationale behind the Traffic Economic Commission’s recommendations was the total time saving, and a more cost efficient and competitive Denmark through modern transport and communication infrastructures.³⁰⁷ Improved road safety came on top of that as a bonus; similarly as promised by the engineering and construction companies in their 1936-37 national motorway and bridge plan. Development of viable and competitive enterprises was sustainable welfare policy, and development of modern national transport and communication infrastructures in Denmark facilitated viable and competitive enterprises.

The Traffic Economic Commission expanded the recommended motorway system to 800 kilometers already in 1962. Per Milner, then head of the Directorate of Public Road’s Motorway Department, who became head of the Directorate of Public Roads in 1972, outlined the motorway H July 21st 1962 in the journal *MOTOR*. Milner’s motorway H was almost a blueprint of the engineering and construction companies’ 1936-37 motorway and bridge plans, except for the added ‘fingers’ radiating from Copenhagen included a northern branch to Helsingør, and the missing link between Aalborg and Hirtshals.³⁰⁸ Per Milner graduated as chartered engineer in constructions from Denmark’s Technical University in 1951. Per Milner emigrated in 1955 to USA, where the consultative engineering company Meyer employed him and Seagold in San Francisco. Per Milner returned to Denmark in 1956 where he was employed by the engineering and construction company Kampsax. Milner went thereafter to Iran for Kampsax, where he stayed until 1962, when he returned to Denmark and became head of the Directorate of Public Road’s Motorway Department.³⁰⁹ The motorway H was, according to Per Milner based on the US *Highway Capacity Manual* and *AASHO Geometric Design – Rural Roads* and *AASHO Geometric Design – Urban Roads*.³¹⁰ The Danish Directorate of Public Road’s planners utilized thus the road engineers’ bible’s

³⁰⁵ Betænkning nr. 294, *Indplaceringen af de store trafikinvesteringer Storkøbenhavns nærtrafik, Storebæltsbro, Øresundsbro i et samlet 20 års program for de offentlige trafikinvesteringer*:26-35.

³⁰⁶ Betænkning nr. 294, *Indplaceringen af de store trafikinvesteringer Storkøbenhavns nærtrafik, Storebæltsbro, Øresundsbro i et samlet 20 års program for de offentlige trafikinvesteringer*:62.

³⁰⁷ Betænkning nr. 294, *Indplaceringen af de store trafikinvesteringer Storkøbenhavns nærtrafik, Storebæltsbro, Øresundsbro i et samlet 20 års program for de offentlige trafikinvesteringer*:128-132.

³⁰⁸ Jørgensen (2001:342, 373-374).

³⁰⁹ Milner (2005 [Interview]).

³¹⁰ Jørgensen (2001:343, 373-375).

receipts developed for the US Interstate and Defense Highway programs' construction of about 65.000 kilometers of motorways, similarly as their Swedish colleagues in the Road and Water Construction Administration.

However, accomplishment of the Traffic Economic Commission's recommended trunk roads and motorways as national collective goods necessitated a new regime. The executive's official reason for changing the established rules of the game was to safeguard common technical standards on the new motorways, which until then had been built by each county and financed through reimbursements from the Road Fund. The 1958 Road Reimbursement Act gave the counties a chance to invite to dinner while the State picked up the bill. Svend Horn, the Social Democratic Party's road political spokesperson in Folketinget and orchestrator of the 1963 road political reform preferred the State forwarding the invitations since the State had to pay for the party anyway. Only the Liberal Party, which was a staunch defender of the counties and other local interests, opposed this institutional reform, because the local road administrations were one of the Liberal Party's 'sacred cows'. Svend Horn became minister of public works in November 1966 when Kai Lindberg resigned, and was also the Social Democratic Party's axe man against the counties' interest organization and the Liberal Party. Horn considered the counties' interest organization's opposition against the 1963 road political reforms as struggles against "windmills". Horn concluded that if Folketinget in 1867 had known that roads would take over much of the long distance traffic already 50 years later, Folketinget would then not have spent time discussing the counties' road administration in 1963.³¹¹ The counties were forced to accept the reform.

However, Folketinget did not overrun the counties, but settled for a compromise, because the executive agreed the Ministry of Public Roads should stay away from highways and local roads.³¹² Denmark did hence not introduce a Swedish style road administration responsible for almost all public roads, but limited the State's responsibility to roads with national collective good characteristics. The *1963 Trunk Road Act* and the *1963 Public Road Act* liquidated many principles established by the 1867 Road Act. The Ministry of Public Works became responsible for construction and management of trunk roads that became 100 percent financed by the Road Fund. The State would also finance the trunk roads' maintenance, and construction of highways, which otherwise was the counties' responsibility.³¹³ Even the 1963 Road Acts were facilitated by the 1953 Constitution and the new election system based on one person – one vote.³¹⁴ Folketinget's decisions came most likely very close to the executive's preferences, because transferring the responsibility for trunk roads and motorways from the counties to the Ministry of Public Works safeguarded swift construction of a small but modern and functional trunk road and motorway system. It prevented also the Road Fund's means from being spread thinly across many kilometers of highways, such as for instance in Norway. Further State financing of highways was most likely a concession to the Liberal Party and the powerful county mayors.

³¹¹ Jørgensen (2001:343-345).

³¹² Jørgensen (2001:343-345).

³¹³ Jørgensen (2001:345 ff.); *Vejdirektoratet 50 år*, Vejdirektoratet April 1st 1999 [Online September 10th 2004] – URL: <http://www.vejdirektoratet.dk>

³¹⁴ See the Data Appendix' Table 2.5-2.9 for an overview of the 1953 Constitution's consequences for the seat allocation.

The Social Democratic and Liberal Parties' compromise included also a promise from minister of public works Kai Lindberg, that the State would not establish its own organizations for construction of motorways. But the Ministry of Public Works forgot this promise when Svend Horn succeeded Lindberg in 1966. Even the Liberal Party ignored this promise when it came to power in 1968. The Directorate of Public Roads established first a motorway office in Viby near Århus on middle Jutland in 1967, thereafter a second motorway office in Næstved on southwestern Sjælland in 1968 and finally the third motorway office in Birkerød on northern Sjælland in 1970. Fyn maintained its county road administration until 1975.³¹⁵ The Directorate of Public Road's regional motorway offices brought Denmark one step further towards realization of the Traffic Economic Commission's recommendations, and established also a partly decentralized centralized State road administration responsible for the trunk roads and motorways. But the Directorate of Public Roads did not establish its own construction or maintenance units after the State takeover in 1963, such as the Swedish Road and Water Construction Administration or Norway's Combined Road Administration, but bought instead construction and maintenance services from the counties' road administrations or from private construction companies.

The 1960s' second big road political issue was localization of the motorways, and Jutland's north-south motorway was the most controversial. The Directorate of Public Roads proposed in 1962 locating Jutland's north-south motorway along the eastern coast, similarly as proposed by the engineering and construction companies in 1936-37 because most of the Jutlanders lived along the east coast. However, Professor Johs. Humlum, an ethno geographer from Århus University, who considered the motorway more a regional political undertaking than a transport infrastructure, proposed locating the motorway along the middle of Jutland, because Humlum opposed centralization and development of only a few major urban areas. The 1960s' so-called Humlum-debate was very similar to the Danish railroad debates in the 1840s and 50s, but the Directorate of Public Road's transport economic calculations finished off Humlum's proposal. A motorway in the middle of Jutland, such as proposed by Humlum, would lead to significant more driving, hereunder increased fuel and time consumption, increased pollution and transport costs, and would also increase the driving time about 20 minutes in average per vehicle for distances between 100 and 200 kilometers. Folketinget approved the Directorate of Public Road's proposed eastern line in 1965, despite the Liberal Party's protests.³¹⁶ The only of Humlum's ideas that survived, as we will see later, was construction of motorways north of Aalborg to Frederikshavn and Hirtshals, almost as proposed by the engineering and construction companies in 1936-37.

The Great Belt Commission submitted its second report in December 1959, and concluded ferries would be sufficient until about 1980, which proved to be fairly accurate. Folketinget's approval of the motorway H led to appointment of a new work group for the Great Belt Connection in December 1960 headed by Kaj Bang, head of Directorate of Public Roads. Folketinget's Traffic Economic Committee approved further work with the Great Belt Connection in 1961. The aim was an operational connection in 1975. The work group submitted its three volumes

³¹⁵ Jørgensen (2001:345-346).

³¹⁶ Jørgensen (2001:377-383); Rallis (1992:117); Toft et al. (2000:113-117).

recommendation in November 1968, which outlined 6 alternatives across Great Belt, ranging from pure bridges to pure tunnels and combinations thereof.³¹⁷ A ferry-free connection across the Great Belt was still on the agenda and clearly one step closer to realization.

The Øresund-connection's work groups submitted similarly their report in November 1962, and recommended construction of a combined motorway and railroad connection between Helsingborg and Helsingør, the former mentioned H-H alternative. This connection would be economically viable given similar prices for the travelers as the ferry tickets, and could be organized as a Danish-Swedish State-private joint venture similarly as the airline SAS. The traffic across Øresund increased sharply during the 1950s, from 4,9 millions passengers in 1952 to 14,2 millions in 1961, and from 170.000 vehicles in 1962 to 586.000 vehicles in 1961. However, the railroad's goods volumes increased only from 800.000 tons in 1952 to 1,2 million tons in 1961.³¹⁸ A new report in October 1967 emphasized the need for a future ferry-free connection across Øresund, but advised against construction of ferry-free railroad connections only both via Helsingør-Helsingborg and Copenhagen-Malmø, because only a four-lane motorway connection between Copenhagen and Malmø would be profitable. But a ferry-free motorway connection between Copenhagen and Malmø would aggravate the Copenhagen-area's congestion problems, because of increased local traffic between southern Sweden and Greater Copenhagen.³¹⁹ The Copenhagen-area struggled with increasing congestion problems in the second half of the 1960s because of the counties' emphasis on road investments in rural areas rather than in urban areas.

The period from 1963 to 1968-69 was first and foremost used by the Directorate of Public Roads to prepare construction of the approved motorway H. The Danish transport and energy infrastructures were namely overloaded in the late 1950s and early 60s, and constrained hence further growth and development.³²⁰ Both the Ministry of Public Works and the Directorate of Public Roads took the political and economical realities into consideration, because they started construction of the motorway H's most crowded sections in all three of Denmark's regions, such as driveways to Copenhagen, a new Small Belt Bridge between Jutland and Fyn and the Limfjord Tunnel in Aalborg on northern Jutland.³²¹ The Ministry of Public Works and the Directorate of Public Road's adapted also the road policy and road construction to the political parties and the most crowded constituencies' strengthened position in Folketinget, because the Social Democratic, Radical and Conservative Parties had their strongholds in the major cities. But realization of the Traffic Economic Commission's recommendations gave something to everybody all across Denmark, which also indicates the Danish executives and legislators

³¹⁷ Betænkning nr. 508, *Fast forbindelse over Storebælt. Bind I. Tekst*. Copenhagen, November 1968:7-9; Betænkning nr. 508, *Fast forbindelse over Storebælt. Bind II. Bilag og tegninger til kapittel II*. Copenhagen, November 1968; Betænkning nr. 508, *Fast forbindelse over Storebælt. Bind III. Bilag til kapittel III*. Copenhagen, November 1968. See also Jørgensen (2001:439-440, 441-442).

³¹⁸ Betænkning nr. 314, *Øresundsforbindelsen, 1. del*, November 23rd 1962:21-25, 26-44.

³¹⁹ Betænkning nr. 463, *Faste forbindelser over Øresund*, Copenhagen, October 10th 1967:117-118 Fig. 7.1, 125-127, 184-187.

³²⁰ Østergaard (1998:10).

³²¹ Jørgensen (2001:324); Rallis (1992:116).

considered trunk roads and motorways as national collective goods, and not only local collective goods for particular constituencies.

From the motorway H to the motorway h

The 1970s started with a significant institutional reshuffling, because the Radical, Liberal and Conservative Parties' coalition reshaped literally Denmark's political landscape in 1970. The Baunsgaard executive reduced the number of counties from 25 to 14, and similarly the number of municipals from 1.064 to 277. The executive's aim was streamlining Denmark's public sector, to save costs and to improve the municipals' abilities as service providers, because the counties and municipals were responsible for production of most of the Welfare State's services.³²² The non-socialist executive that came to power in 1968, was largely the counties' executive, but faced soon the economic realities. The executive's response was a comprehensive reorganizing of Denmark to make the Welfare State more efficient. Folketinget's majority approved these structural reforms.³²³ A side effect of these structural reforms was increased relative power to the peripheral counties and constituencies, because they became fewer and with more seats in Folketinget. The central counties and constituencies remained relatively small and fragmented.

The Baunsgaard executive's county and municipal reform affected also the road administration, and finished almost off the Liberal Party's localist tradition. Because the Liberal Party's minister of public works from 1968, Ove Guldberg, a construction engineer and lawyer from middle Jutland, perceived transport and communication issues more from a technocratic than a political perspective. Guldberg concluded soon the 1958 reimbursement system missed the target given the Traffic Economic Commission's 1961 recommendations. Significant parts of the Road Fund's reimbursements were still allocated to construction of highways and local roads rather than to trunk roads and motorways. The investments in Greater Copenhagen's public transports were also far too small. The Ministry of Public Works made therefore a 15 years plan for the fiscal years 1970/71-1984/85, about construction of the motorway H approved by Folketinget in 1957, hereunder the Great Belt and Øresund Connections such as outlined by the Traffic Economic Commission in 1961 and the engineering and construction companies in 1936-37, which also included improvements of Greater Copenhagen's public transports.³²⁴ The 1963 Road Acts had not been able to punctuate completely the 1867 Road Act's equilibrium.

Ove Guldberg's most consequential move, as minister of public works was clearly the *1971 Road Act* that liquidated the Road Fund and the 1958 Road Reimbursement Act and instituted a new financing and governance system for the Danish road sector. The motorists' payments of vehicle and fuel taxes went from 1972 directly into the State's coffer, which was governed by Folketinget, instead of to the Road Fund governed by the Ministry of Public Works and the Directorate of

³²² Rasmussen (2002a:380); Jørgensen (2001:347).

³²³ See the Data Appendix' Table 2.5, 2.7 and 2.8. for an overview of the consequences for Folketinget's geographical seat allocation of the 1970 reform. The seat allocation changed particularly within the three categories of constituencies, and changed thereby also the relative power among the peripheral constituencies.

³²⁴ Toft et al. (2000:123-124).

Public Roads. The counties and municipals' reimbursements from the Road Fund were replaced by lump sum allocations. The 1971 Road Act reintroduced thereby Denmark's 1793-1867 three-tier road administration where each administrative level managed and financed its own roads. However, Ove Guldberg gave the counties a small concession. The Directorate of Public Roads would not establish its own production or maintenance units, such as in the Swedish and Norwegian State road administrations.³²⁵ The Radical, Liberal and Conservative Parties' executive gave thereby Folketinget direct influence on road policy and road construction, which until then had been the Ministry of Public Works, the Directorate of Public Roads and the counties and municipals' turf.

The 1971 Road Act that came into force April 1st 1972 made also the Directorate of Public Roads an autonomous public administration, almost according to the Swedish model. The State's Road Laboratory was integrated in the new Directorate of Public Roads. Kaj Bang resigned as head of the Directorate of Public Roads because of health problems. Per Milner, who then was known as "Mr. Motorway", became head of the new integrated and autonomous Directorate of Public Roads. The new Directorate of Public Roads established its own staff for planning those motorways not yet commenced by the counties.³²⁶ The 1971 Road Act's intentions, according to Per Milner, was modernizing the entire Danish public road system, through implementation of a new road policy governed by concerns for among others road safety, environmental conditions and transport economy. Traffic engineering was one of the means to achieve these goals. The 1971 Road Act made in practice the State to the counties and municipals' "guiding dog", because the new Directorate of Public Roads developed norms and standards for all categories of roads that governed even the counties and municipals' management of their parts of the public road system.³²⁷

Denmark's new governance system for the road sector instituted by Ove Guldberg was based on Folketinget's governing of the annual road appropriations and of investments in motorways. The formerly approved motorway H determined the entire motorway system's layout. Folketinget approved therefore usually construction of 30-40 kilometer long sections. The minister of public works governed similarly allocation of all other trunk road investments given Folketinget's budget constraints, based on the Directorate of Public Roads' professionals' recommendations and plans. The counties and municipals governed construction of highways and local roads, often in dialogue with the Directorate of Public Roads.³²⁸ This new governance system safeguarded hence national interests because Folketinget engaged only in construction of motorways, which were national collective goods. All other trunk roads, which also were national collective goods, were governed directly by the minister of public works. The counties and municipals governed construction of roads with local collective or even private good characteristics. The new governance system reduced seemingly the risk for pork barrel deals in Folketinget.

³²⁵ Jørgensen (2001:119-120, 347); Rallis (1992:116); Toft et al. (2000:35, 123-124); e-mail from Per Milner September 14th 2005; Milner (2005 [Interview]).

³²⁶ Jørgensen (2001:349, 350).

³²⁷ E-mail from Per Milner September 14th 2005; Milner (2005 [Interview]).

³²⁸ Milner (2005 [Interview]).

Per Milner emphasized the Directorate of Public Roads' new role after the 1972 reform, which was to serve as the minister of public works' adviser. The Directorate had to remain loyal towards the minister but also to maintain an independent position, and to furnish the minister with professionally founded alternatives concerning road policy and road construction.³²⁹ The Danish Ministry of Public Roads was hence not supposed to work as the minister or the legislators' microphone stand. This was a fundamental difference, at least compared to Norway in the second half of the 1960s and 70s.

The 1970 county and municipal reform, the 1971 Road Act and the Directorate of Public Road's 1972 reform had at least one contra entry, namely establishment of Folketinget's standing subject matter committees, hereunder a *Traffic Committee*. Folketinget's only permanent committee prior to 1972 had been the Finance Committee. All other committees had been ad hoc.³³⁰ But there is one distinguishing feature between Folketinget, Riksdagen and Stortinget. Folketinget reshuffles its committees annually.³³¹ This annual reshuffling reduced all other things equal the likelihood of development of sector specialists and enthusiasts, strengthened the political parties and weakened the constituencies' position. Folketinget's Traffic Committee became therefore in practice far weaker than for instance Stortinget's Standing Committee on Transport and Communications, which had a tradition for very or even exceptionally long tenure and development of sector specialists and enthusiasts.

Ove Guldberg's 1971 Road Act and new governance system established thereby a fundamentally new road polity with a Traffic Committee in Folketinget, a new integrated and autonomous Directorate of Public Roads, and the already established municipal and county road administrations. This new governance system abolished also the Road Fund that had dedicated the motorists' payments of vehicle and fuel taxes to road purposes since World War One. The Road Fund had been dedicated to highways since 1927, and safeguarded linking of the vehicle and fuel tax revenues to road purposes. Denmark maintained thereby the centralized and minister governed trunk road administration established from the late 1950s until the early 1960s even after this reform, which safeguarded the national interests. However, it is somewhat paradoxical that the Liberal Party, which traditionally had been the counties' advocate, increased the State's governing of the road policy, although indirectly, via the Directorate of Public Roads' norms, standards and dialogues, even if each administrative level managed and financed its own roads. It was thereby the Liberal Party's minister of public works Ove Guldberg who punctuated the 1867 Road Act's equilibrium.

The Social Democratic Party became partly an environmentalist and populist party during its opposition from February 1968 to October 1971, after having embraced the leftwing populists 1966-68. Because the Social Democratic Party's bosses did obviously their best to minimize the voter leaks to the numerous popular movements that emerged on their left flank from the late 1960s, and adopted many

³²⁹ Milner (2005 [Interview]).

³³⁰ Damgaard (1990:35).

³³¹ Folketingets arbejdsform:1-2. [Online 15. april 2003] – URL: <http://www.ft.dk/BAGGRUND/00000033/00232601.htm>; e-mail from Hanne Rasmussen in Folketinget's administration April 23rd 2003.

of the leftwing populist and environmentalist ideas during the late 1960s and early 1970s.³³² Jens Kampmann, the Social Democrats' combined minister of public works and environmental protection from October 1971 to December 1973, reduced the motorway investments, which then already were 5-6 years delayed, compared to the Social Democratic Party's former long-term plan. All road investments were then significantly reduced because the Danish economy was in trouble already prior to the first oil price shock. The Danish welfare State was heading toward crisis. Folketinget's Traffic Committee cancelled or postponed several proposed motorways in the Greater Copenhagen area, and omitted also alternative investments in railroads.³³³ Folketinget's new Traffic Committee choked hence Greater Copenhagen's growth through omission of road and railroad investments recommended by among others the Traffic Economic Commission in October 1961.

The first oil price shock 1973-74 affected Danish construction of motorways. The Liberal Party's combined minister of public works and ecclesiastic matters, Kresten Damsgaard, cancelled further construction of motorways in 1974. The Social Democratic Party's minister of public works from February 1975 to February 1977, Kjell Matthiassen abandoned in 1975 the approved motorway leg north of Århus and transformed thereby the approved motorway H to a *motorway h*, and sacrificed partly future development of Denmark's peripheral areas north of Århus. Kjell Matthiassen ordered also the Directorate of Public Roads to plan a downsized motorway system. The official reason for fewer kilometers motorways was the 1974 road plan, based on 1973 forecasts prior to the oil price shock. The Social Democratic, Radical, Christian People's, Communist and Socialistic People's Parties and the Left Socialists supported all reduced road investments. Only CD, the Liberal, Conservative and Progress Parties opposed reduced road investments.³³⁴ It was hence a clear division between left and rightwing parties with regard to road policy and road construction in the 1970s.

The mid 1970s' struggles concerning the Danish trunk road and motorway investments' order of magnitude can also be understood as struggles between proponents for so-called "New Politics" and "Old Politics"; i.e. environmental protection against economic growth.³³⁵ An alternative interpretation is of course lack of resources, because of the oil price shock and entailing stagflation, even if Social Democratic Party's environmentalism and embracing of the leftwing populists partly explains why some of the party's proponents for old politics headed by Erhard Jakobsen established CD prior to the 1973 election. A third interpretation, in addition to lack of resources and environmentalism, according to Per Milner, was revised transport forecasts because of increased oil prices. Both the Ministry of Finance and the Ministry of Public Works estimated namely the future traffic work

³³² Mjøset (1986:179-184).

³³³ Toft et al. (2000:124-125); Mjøset (1986:176-177, 181).

³³⁴ Jørgensen (2001:349, 389-390); Toft et al. (2000:125); Milner (2005 [Interview]).

³³⁵ Knutsen's (1988; 1993) studies about a new socio-cultural cleavage was inspired by Inglehart's (1977) theory about changed value preferences along a materialistic/postmaterialistic dimension. Tøgeby's (1989:98, 123 ff.) study about the Nordic grass root movements in 1987, was similarly inspired by Inglehart's theory, and found strong indices of development of Danish grass root movements in the late 1960s and 1970s, and that postmaterialistic values were of importance in all the Danish political parties. Tøgeby (1989:124) and others found also that the Danish voters' postmaterialistic attitudes in the 1980s were highly correlated with the traditional left/right cleavage.

would be reduced 20-40 percent. The future need for motorways was therefore reduced accordingly.³³⁶

One direct result of the 1970s' reduced traffic forecasts, were the executive's attempts of converting formerly approved motorway sections to expressways. But Denmark's leading motorist organization, FDM, mobilized heavily against this proposal, because expressways would be detrimental for the road capacity as well as the road safety. FDM's campaign succeeded. Folketinget decided therefore in 1977 that both the southern Sjælland and Jutland motorways should be built as narrow four-lane motorways, with 3 instead of 12 meters center strips.³³⁷ These low-budget motorways, often without a shoulder, were rather similar to the 'narrow gauge' motorways introduced in Norway from about 2000. But the Danish Directorate of Public Roads ceased construction of narrow gauge motorways as soon the State economy recovered. Another cost saving measure introduced in the late 1970s was the Social Democratic and Liberal Parties' executive's decision in 1978 about postponing construction of the Great Belt and Øresund connections, even if they were profitable undertakings. These projects were also postponed late in 1973, after Folketinget had approved these projects in June 1973.³³⁸ The 1970s' State economic problems became hence very consequential for Danish road policy and road construction, and the width of the Danish motorways' center strip indicated clearly the 1970s' business cycles and State economic conditions.

Conclusions

Where do these discussions bring us concerning this study's four working hypothesis with regard to the Danish case between 1960 and 1980? First, this study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly strengthened between 1960 and 1980, because the Traffic Economic Commissions' October 1961 recommendations about high-level transport and communication infrastructure investments the forthcoming 20 years, and the 1963 Road Acts made construction and financing of trunk roads and motorways a State responsibility. This shift paved the way for completion of motorway H approved in 1957, which the executives and most legislators considered a national collective good. However, State economic problems already prior to the first oil price shock 1973-74 jeopardized partly the motorway construction. The entailing stagflation and State economic problems in 1975 triggered the Social Democratic executive's transformation of the approved motorway H to a motorway h through omission of the motorway north of Århus. The executive settled later for construction of narrow gauge motorways because of State economic problems. However, the numerous minority executives 1960-80 did not rule out the executive or the legislators' emphasis on national collective goods such as motorways, the motorway construction was upheld despite State economic problems.

³³⁶ Milner (2005 [Interview]). See also Table 1 and Data Appendix Table 2.15 concerning the annual Danish road investments' order of magnitude.

³³⁷ Jørgensen (2001:390).

³³⁸ Betænkning afgivet af det danske og det svenske udvalg af 1975 om Øresundsforbindelserne, *Øresundsforbindelser*, Copenhagen, June 1978: 107-222; Jørgensen (2001:443-444, 455); Skou (1999:1973 Landbrugsministeren i klemme – aner ikke hvad han har gjort i EF).

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was both weakened and strengthened between 1960 and 1980. Because the 1970 county and municipal reform strengthened some of the peripheral counties' position in Folketinget compared to the more centrally located counties, but the 1971 Road Act that came into force in 1972 reintroduced partly the 1793 road polity where each administrative level managed and financed its own roads. Folketinget's establishment of a standing Traffic Committee in 1972 strengthened similarly the constituencies' influence on the road policy and road construction, even if the committee was reshuffled annually. This reshuffling strengthened the political parties' position on the constituencies' expense.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was clearly strengthened between 1960 and 1980 because the political parties strengthened their control of the road policy and road construction. The 1971 Road Act liquidated the Road Fund. Folketinget allocated from then the annual tax financed State trunk road appropriations. Folketinget's establishment of a standing Traffic Committee in 1972 strengthened the political parties' position because of the annual reshuffling. Road policy and road construction was frequently used to position the political parties throughout the 1970s, particularly after the Social Democratic Party abandoned its former high-growth policy and embraced and adopted many of the leftwing populist and environmentalist ideas about road policy and road construction. This shift made road policy and road construction a highly visible distinction between the Danish left and rightwing parties in the second half of the 1970s.

The final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Danish case between 1960 and 1980. First, the 1963 Road Acts furthered the pressure on the road political equilibrium established by the 1867 Road Act, and instituted minister governed allocation of the trunk road and motorway investments. Minister rule had been a tradition in Denmark since 1849. The 1963 Road Acts were largely a result of the new unicameral system instituted by the 1953 Constitution and the new election system based on one person – one vote. However, the 1867 equilibrium punctuated first when the 1971 Road Act championed the Liberal Party's minister of public works Ove Guldberg came into power in 1972. The 1867 Road Act's equilibrium gave the counties and municipals increasing returns. But Ove Guldberg, who reasoned more as a technocrat than a politician, recognized that local governance of national collective goods gave dysfunctional transport and communication infrastructures, particularly in the crowded Copenhagen area, because the counties and municipals prioritized roads with local collective or private goods characteristics rather than roads with national collective goods characteristics. This practice was largely a result of path dependence established through the former bicameral system. Second, the Danish Ministry of Finance struggled even during the 1960s and 70s compared to the Swedish and Norwegian Ministries of Finance that had far more dominant positions. One result was an economic stop-go policy even during the 1970s. Third, the 1971 Road Act abolished the Road Fund, made construction of motorways subject to Folketinget's approval and budget constraints. Folketinget established a Traffic Committee that was reshuffled annually to prevent

development of specialists and sector enthusiasts. The Traffic Committee governed usually allocation of the motorway investments. Allocation of all other trunk road investments were governed by the minister of public works based on the Directorate of Public Roads' professional advises given Folketinget's budget constraints. This organizing safeguarded usually the national interests. The counties and municipals governed similarly construction of highways and local roads with local collective good characteristics given their own budget constraints. The result was development of both a new road polity and new road policy equilibrium from April 1972, when the 1971 Road Act came into power.

1981 – From Social Democracy to neo-liberalism – accomplishing the motorway H

Denmark underwent an economic turnaround during the late 1980s and early 1990s that came close to the austerity in Thatcher's Great Britain, due to introduction of relatively tough neo-liberal policies. However, the Danish executives and Folketinget emphasized completion of national collective goods such as the motorway H, hereunder ferry-free connections across Great Belt and Øresund to safeguard Denmark's attractiveness as future location for trade and industry and to improve the trade and industry's competitiveness.

Reestablishing Danish trade and industry's growth and competitiveness and preparing for the Single European Market

Denmark's neo-liberal shift can be dated rather exactly. The Social Democratic and Liberal Parties' executive reduced the counter cyclic policy from 1978, almost similarly as in Norway, but Denmark was indebted and in serious State economic problems when the Conservative Party's Poul Schlüter came to power in September 1982. The first Schlüter executive that consisted of the Conservative, Liberal and Christian People's Parties and CD carried out an economic turnaround compared to the former Social Democratic executives' counter cyclic policy. Even the Radical and Progress Parties supported the Schlüter executive's policy. Poul Schlüter governed until January 1993, when the Social Democratic Party's Paul Nyrup Rasmussen came to power and governed until November 2001. Nyrup Rasmussen's executives furthered largely the Schlüter executives' policy. The same did largely Anders Fogh Rasmussen's current Liberal and Conservative coalition.³³⁹ Anders Fogh Rasmussen's success was partly a result of Uffe Ellemann-Jensen and Anders Fogh Rasmussen's transformation of the Liberal Party from an almost dedicated rural and agricultural party to a modern liberalistic and urban party throughout the 1980s.³⁴⁰ Anders Fogh Rasmussen carried out an inverse Blair prior to the 2001 election, and reoriented the Liberal Party towards the political center. Denmark's

³³⁹ Rasmussen (2002b:408, 410); Busck and Poulsen (2002:445); Skou (1999:1982 Socialdemokratiet: Danmark er på den økonomiske afgrunds rand, Anker Jørgensen giver op – Poul Schlüter bliver ny statsminister, 1998 Efterlønsgarantien, der forsvandt)

³⁴⁰ Skou (1999:1985 Rod i regnskabet: Folketinget må tælle stemmesedler i dagevis); Kragh (2004:113 ff.).

only majority executive 1980-2005 was Poul Nyrup Rasmussen's first executive from January 1993 until September 1994.³⁴¹

Poul Schlüter's executives instituted a "paradigmatic shift" in the finance policy compared to the former Social Democratic executives, among others through imposition of significant elements of NPM ideas through decentralization, introduction of more market and less State, net State budgets and strengthened thereby the Ministry of Finance' position.³⁴² The Schlüter executive pegged also the DKK to the German Mark in 1982, and punctuated thereby Denmark's traditional devaluation policy. The exchange rate between the German Mark and the Euro remained unchanged from January 1987.³⁴³ The four Schlüter executives scrutinized the welfare state, but the single most important measure was the so-called "Potato Cure" (Kartoffelkuren). The balance of payments deficits from 1985 forced the executive to rather draconian actions. Consumption-reducing measures were introduced during the Christmas 1985 and Easter 1986, and the tax system was revised in 1987. The Potato Cure began in late 1986, and was an attempt of reducing the loan-financed consumption. Some kinds of loans were taxed by a 20 percent interest charge. The Potato Cure reduced the consumption, but also other economic activities. Indebted persons came in troubles, and the real estate prices dived, but gave also the industry a strong impetus for increased exports and improved productivity. The price was increased unemployment. About 350.000 persons were unemployed during the peak in 1993, but the high unemployment reduced the wage level and wrought thereby the inflation out of the Danish economy.³⁴⁴ The Potato Cure was bitter medicine but restored the Danish trade and industry's competitiveness. The Danish State had surplus on the balance of payments for the first time in 27 years in 1990, and began thereafter amortization of the State's foreign debt.³⁴⁵ Many in the 1980s and early 90s had to reconsider their opinions about Poul Schlüter, because Schlüter managed to keep the Conservative Party's group in Folketinget together, and carry out substantial policy shifts, because the Danish Conservative Party's members of Folketinget had until then, according to the historian Søren Mørch, spent most of their time since 1915 "embarrassing each other".³⁴⁶ Poul Schlüter was clearly more than a perfume salesman, one of the labels attached to him by his political opponents.

The German unification in 1990 led to increased German domestic spending because of the reconstruction of former East Germany that in turn led to increased inflation. Germany's Bundesbank responded with increased interest rates, which in turn created problems for the other EMS member countries. The high German interest rates combined with a recession because of the Gulf War 1990-91 caused in practice the EMS' collapse August 2nd 1993, when Italy and Great Britain withdrew

³⁴¹ Oversigt over regeringer der har fungeret under Grundloven af 5. juni 1953 [Online August 26th 2005] – URL: <http://www.statsministeriet.dk>; Folketingsvalg 1953-2005 [Online August 26th 2005] – URL: <http://www.folketinget.dk>.

³⁴² Østergaard (1998:15).

³⁴³ 1982 Fixed krone exchange rate [Online May 25th 2005] – URL:

<http://www.nationalbanken.dk/knuk/hist.nsf>; Lars Ole Løkke, "Bodil Nyboe Andersen: Politikerne har gjort mit job lettere", *Politiken* (Økonomi), October 9th 2005; Ole Mikkelsen, "Danskerne nej til euroen var en personlig skuffelse", *Berlingske Tidende* (Business), October 9th 2005.

³⁴⁴ Rasmussen (2002b:412-414).

³⁴⁵ Therkildsen (1997:1 f).

³⁴⁶ Mørch (2004:409-410).

after speculations against the GBP.³⁴⁷ However, the EMS' collapse gave reduced interest rates and new optimism, and became thus an economic turning point.

Poul Nyrup Rasmussen's Social Democratic coalitions furthered the Schlüter executives' neo-liberal policies. The Social Democratic minister of finance Mogens Lykketoft was determined to carry out a responsible economic policy, similarly as C.V. Bramsnæs did in the 1920s and 30s. Nyrup Rasmussen's executive introduced in 1996 similar accounting principles for the public administrations as in private enterprises, and introduced also long-term contracts between the sector ministers and the heads of the subordinated public administrations, and reorganized many public administrations to State owned joint stock companies, to bypass Folketinget's annual budget constraints.³⁴⁸ Many of the Schlüter executives' finance policy shifts persisted and were furthered by Poul Nyrup Rasmussen's Social Democratic executives, and indicated clearly the neo-liberal ideas' impact in Denmark, even within the Social Democratic Party.

How was Denmark's economic ability during the 1980s and the 1990s? Angus Maddison's calculations shows that Denmark's GDP per capita measured in 1990 international Geary-Khamis dollars, was 15.096 dollars in 1981, 18.452 in 1990 and 23.010 in 2000. The average for the 12 West European countries was 14.045 dollars in 1981, 16.872 in 1990 and 19.806 in 2000.³⁴⁹ Maddison's calculations indicate clearly the Danish economy struggled somewhat during the early 1980s, as mentioned above, but Denmark recovered, among others because of the Potato Cure. Denmark was number four in 1981, number three in 1990 and number two in 2000, measured as GDP per capita. Only Norway had higher GDP per capita in 2000. But the Danish economy's performance was remarkable, because the Danes earned their high GDP per capita selling pork, beer cans, consumer goods and services, not by harvesting raw materials or natural resources such as Norway but that benefited from significant oil and gas revenues.

Completing the motorway H

The joint Danish-Swedish 1975 Øresund Commission concluded in June 1978 that ferry-free connections across Øresund at Helsingborg-Helsingør or Copenhagen-Malmø would be profitable, given 8 percent discount rate, 3,5 percent annual GDP growth and turnpike costs half the ferry tickets or 2 percent annual GDP growth and turnpike fees equal to the ferry tickets with 20, 30 or 40 years time horizon.³⁵⁰ However, the deal between the Social Democratic and Liberal Parties prior to establishment of the August 1978 coalition executive postponed construction of the Great Belt and Øresund Connections. The same deal prioritized also Great Belt to Øresund, because Great Belt connected Denmark, while Øresund first and foremost benefited the other Scandinavian countries.³⁵¹

³⁴⁷ 1993 Collapse of the EMS [Online May 25th 2005] – URL: <http://www.nationalbanken.dk/knuk/hist.nsf>. See also Eichengreen (1998:170-181).

³⁴⁸ Østergaard (1998:16-17).

³⁴⁹ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003: 65 Table 1c.

³⁵⁰ Betænkning afgivet af det danske og det svenske udvalg af 1975 om Øresundsforbindelserne, *Øresundsforbindelser*:194-210, Table 7.3, Table 7.5, Table 7.9, Table 7.10.

³⁵¹ Jørgensen (2001:456).

The executive's postponement of Great Belt and Øresund in August 1978 finished almost off the Great Belt project, because the Ministry of Public Works' Bridge Office established in 1973 was closed down. The engineers that had planned the Great Belt Connection went instead to the Danish State's oil and natural gas company DONG. However, a new report in 1982 and two further new reports in 1985 revived the project. The 1985 conclusion was that a railroad tunnel, with rail ferries for cars, similarly as under the English Channel, would be sufficient in the short run. But the only viable long-term solution was a combined motorway and railroad connection. The Ministry of Public Works, which became the Ministry of Traffic after the Schlüter executive came to power, was not willing to settle for a short-term solution in a project of the Great Belt Connection's order of magnitude. Arne Melchior, minister of traffic and one of CD's founders, championed the Great Belt connection, and managed to establish a political compromise in June 1986 between Schlüter's four party coalition and the Social Democratic Party's group in Folketinget. The Great Belt connection would be realized as a combined motorway and railroad bridge across Vestrånden, and a motorway bridge and railroad tunnel across Østrånden. The project was supposed organized so the railroad connection would be completed with a three years advance.³⁵² The deliberately delayed completion of the motorway made the project edible for the Social Democratic Party's hinterland in the Danish State Railroads, and for the party's leftwing populists and environmentalists. This political compromise safeguarded realization of a project that would be a national collective good and of utmost importance for Denmark's future development.

However, the Great Belt project demonstrated not only how the political parties orchestrated a great deal across the party lines, but also how legislators representing Denmark's peripheral constituencies accomplished their political horse trade or pork barrel deal of the century. Because the major parties' members of Folketinget representing northern Jutland's constituencies' support of the Great Belt Connection was highly conditioned, even if Jutland would benefit substantially from closer economic integration with eastern Denmark. Some legislators representing northern Jutland's constituencies demanded first transformation of the 1975 motorway h to the initially approved motorway H, and construction of two new motorways, one from Aalborg to the ferry harbor Frederikshavn and one from Aalborg to the ferry harbor Hirtshals.³⁵³ The Jutland legislators' political price for approving the Great Belt Connection was hence completing the engineering and construction companies' 1936-37 motorway plans between Århus and Aalborg combined with professor Humlum's proposed motorway north of Aalborg from the early 1960s.

The political orchestrators of the Great Belt Connection's horse trade was first and foremost the so-called "Jutland Mafia" consisting of the Social Democratic Party's Jens Risgaard Knudsen, who served as minister of public works 1979-81, the Conservative Party's Kaj Ikast, who served as minister of traffic 1989-93, and the Liberal Party's Svend Heiselberg. The Social Democratic Party's Helge Mortensen

³⁵² Jørgensen (2001:444-445); Toft et al. (2000:126-127).

³⁵³ Toft et al. (2000:127); Kun dronningen kaldte ham minister, March 19th 2004 [Online September 9th 2004] – URL: <http://www.politik.tv2.dk>

replaced later Jens Risgaard Knudsen in the Mafia.³⁵⁴ Jens Risgaard Knudsen masterminded the Great Belt deal.³⁵⁵ The Jutland Mafia was, according to Slangerup's Liberal Party mayor Bent Lund, a consequence of the Radical, Liberal and Conservative executive's 1970 county and municipal reform. Slangerup is a municipal located in the crossing between the road from Helsingør and Roskilde, and the road between Copenhagen and northern Sjælland. The 1970 county and municipal reform created some very powerful constituencies on Jutland, with sufficient political muscles to divert resources from the Greater Copenhagen area, because the wealthy constituencies on northern Sjælland were not always able or willing to agree and cooperate in Folketinget such the constituencies on Jutland often did.³⁵⁶ The Liberal Party did not abandon its position as the counties' advocate in 1970, even if they changed the rules of the game, but advocated instead the peripheral counties' cause with other means. The 1970 county and municipal reform changed namely Folketinget's seat allocation, and made it possible for legislators who considered roads as local collective or private goods, and who worked geographically across the party lines, similarly as under the bicameral system, to establish distributional coalitions and carry out political horse trades or pork barrel deals. However, the Great Belt deal has few parallels in Scandinavia, because of its order of magnitude. The Great Belt deal is also an interesting case because the legislators representing Denmark's peripheral constituencies struggled for safe and efficient connections with Denmark's major cities, crowded areas and mainland Europe, and reasoned thus fundamentally opposite from many of their Norwegian opposite numbers, at least prior to the middle of the 1990s.

Folketinget approved the Great Belt Connection formally June 10th 1987. The Great Belt Connection's approval coincided with the Potato Cure. The Schlüter executive was clearly inspired by Margaret Thatcher's privatization efforts, and decided therefore in January 1987 to organize the Great Belt Connection as a State owned joint stock company, fully loan financed via the international capital market with State loan guarantees, accounted separately from the State's ledger and fully user financed through turnpikes.³⁵⁷ The Schlüter executive looked to Britain, but looked also back in time because some of the Great Belt Commission's former reports and the engineering and the engineering and construction companies' revised 1937 plan proposed user financing with State loan guarantees as one of the options. Loan financing of the Great Belt Connection and accounting for the projects outside the State's ledger made clearly political sense, because the Great Belt Connection's construction costs were more than ten times the total ordinary annual tax financed State, county and municipal road investments in 1987.³⁵⁸ All other Danish road

³⁵⁴ Kun dronningen kaldte ham minister, March 19th 2004 [Online September 9th 2004] – URL: <http://www.politik.tv2.dk>; Jørgensen (2001:407); Toft et al. (2000:126, 128); Helge Mortensen, *Finansloven er en mosaik*, December 1999:10-12. [Online September 9th 2004] – URL: <http://www.soc-eb.dk/arkiv/1999/indlaeg14.html>.

³⁵⁵ Jørgensen (2001:407).

³⁵⁶ "Modpol til den jyske mafia", *LokalAvisen*, August 27th 2004 [Online September 9th 2004] – URL: <http://www.ugenyt.dk>; "Overlad ikke initiativet til den jyske mafia", [Online September 9th 2004] – URL: <http://www.dagbladetonline.dk>.

³⁵⁷ Jørgensen (2001:445-446).

³⁵⁸ Cf the Danish Directorate of Public Road's overview of the State, counties and municipals' annual tax financed road investments measured in current DKKs (Udgifter til offentlige veje. Anlægsudgifter. Løbende priser [Online August 25th 2005] – URL:

investments remained tax financed, but the Great Belt Connection was a mega project, and was organized different from the other Danish trunk road and motorway projects, to avoid politically costly reallocations and/or imposition of new taxes.

The Danish Directorate of Public Roads introduced a new model for allocation of the trunk road appropriations in 1981 based on rational criteria that received international attention. The model's parameters were among others transport time, transport costs, accident costs, maintenance costs, consequences for the agriculture, noise, air pollution, barrier effects, construction costs and road paving. The total costs were divided 50/50 between quantifiable and difficult quantifiable costs, and each of the elements in the models was weighted.³⁵⁹ The Directorate of Public Roads used this model to prioritize between non-motorway trunk road investments governed by the minister of public works. Per Milner presented in June 1981 a list of 27 rank ordered non-motorway trunk road projects all across Denmark for the Social Democratic Party's minister of public works Jens Risgaard Knudsen. Risgaard Knudsen accepted the list without discussions. CD's minister of traffic Arne Melchior was presented for a similar list with 25 rank ordered non-motorway trunk road projects in July 1984, and even Melchior accepted the Directorate of Public Roads' list without amendments.³⁶⁰ Allocation of the non-motorway investments according to a formalized rational model safeguarded the annual road appropriations efficient utilization, and the minister of public roads/minister of traffic's governing of these investments according to the Directorate of Public Roads' professional advises prevented similarly road policy pork barrel deals in Folketinget. Because the executive's task was to safeguard the national concerns, the legislators were usually more concerned with their own constituencies.

Even the Øresund Connection proposed by the engineering and construction companies 1936-37 was finally accomplished. The Danish executive's tight financial policy from 1978 similarly as in Norway was eased somewhat in 1984. Even here was CD's minister of traffic Arne Melchior one of the champions. The Schlüter executive's somewhat eased financial policy created a window of opportunity even for new negotiations between the Danish and Swedish executives that established the so-called *Øresund Commission*, which in 1985 recommended construction of a ferry-free four-lane road connection between Copenhagen and Malmø, and a ferry-free dual track railroad connection between Helsingborg and Helsingør. This recommendation triggered a report from the *European Roundtable of Industrialists* (ERT), a lobby organization consisting of Europe's leading industrialists, established by Volvo's CEO Pehr G. Gyllenhammar in 1983. ERT issued in 1985 the report *Missing Links*, about the gaps in Europe's transport and communication infrastructures, and demanded construction of a combined motorway and railroad connection across Øresund as part of the so-called ScanLink

http://webapp.vd.dk/interstat/downloadExcel.asp?TABLE_ID=2913&subjectFilter={38156|38158}&viewID=1.

³⁵⁹ Rørbech (Forthcoming:22-24).

³⁶⁰ Milner (2005 [Interview]); Rørbech (Forthcoming:24).

project. ERT published further reports about Europe's transport infrastructures in 1987 and 1989.³⁶¹

The Danish Social Democratic Party preferred in 1989 a railroad tunnel between Copenhagen and Malmø. The Øresund Commission issued a new report in 1991 about the Øresund area's environment and outlined what later became the finally approved solution: A tunnel from Kastrup airport to an artificial island near Saltholm, thereafter a low and then a tall bridge across Flintrønden to Limhamn south of Malmø. The Swedish and Danish executives agreed finally March 23rd 1991 about the connection between Copenhagen and Malmø, instead of Helsingborg-Helsingør. The Copenhagen-Malmø connection could create a very strong Øresund region, and would also improve the utilization of Kastrup airport. The political orchestrator of the final agreement between the Danish and Swedish executive in March 1991 about the Øresund connection was the Conservative Party's minister of traffic Kaj Ikkast from northern Jutland.³⁶² Kaj Ikkast was then a well-known member of the Jutland Mafia because of his involvement in the Great Belt deal. The agreement with the Swedish executive was based on an agreement in Folketinget between CD, the Conservative, Liberal and Social Democratic Parties that usually considered modern trunk roads and motorways as national collective goods. Sweden's legislature Riksdagen approved the Øresund connection in June 1991. Folketinget approved it in an extraordinary session August 14th 1991. Even construction of the Øresund Connection was organized and financed similarly as the Great Belt Connection, through a state owned joint stock company, fully loan financed via the international capital market with State loan guarantees, and amortized by the users through turnpikes. The only difference was that Øresund was a joint venture between the Danish and Swedish States.³⁶³ Even the Øresund Connection was a mega project compared to the Danish ordinary tax financed road investments, almost 15 times the Danish State, counties and municipals' ordinary total tax financed road investments in 1991.³⁶⁴ It made definitely sense for the executive and legislators to keep even the Øresund project separate from the State's ledger, unless they were willing to substantial reallocations and/or imposing new taxes. The Øresund Connection was not result of a pork barrel deal similarly as the Great Belt Connection, according to Per Milner, because most legislators considered Øresund a logical extension of the Great Belt Connection.³⁶⁵

Per Milner was summoned to the Social Democratic Party's minister of traffic Jan Trøjborg June 11th 1996, and informed that minister of finance Mogens Lykketoft had agreed with the County Association's (Amtsrådforeningen) leader, Kresten Philipsen, that 2/3 of the trunk roads, which then were the Directorate of

³⁶¹ Highlights of ERT activities [Online September 10th 2004] – URL: <http://www.ert.be/pg/eng00.htm>.

³⁶² The Ministry of Public Works became the *Ministry of Traffic* in 1986, when the responsibility for the postal services went to the new *Ministry of Communications* (Tidligere ministre [Online September 9th 2004] – URL: <http://www.trm.dk>; Toft et al. (2000:127)).

³⁶³ Jørgensen (2001:456-458); Toft et al. (2000:126-127, 218); Historik [Online September 10th 2004] – URL: <http://osb.oeresundsbron.dk/library/index.php?obj=1274&menu=474>

³⁶⁴ Cf the Danish Directorate of Public Road's overview of the State, counties and municipals' annual tax financed road investments measured in current DKKs (Udgifter til offentlige veje. Anlægsudgifter. Løbende priser [Online August 25th 2005] – URL: http://webapp.vd.dk/interstat/downloadExcel.asp?TABLE_ID=2913&subjectFilter={38156|38158}&viewID=1.

³⁶⁵ Milner (2005 [Interview]).

Public Road's responsibility, would be downgraded to highways and transferred to the counties. The Directorate of Public Roads would only maintain the motorways and the most crowded other trunk roads, and was ordered to develop its own organization for planning, management and maintenance. The Directorate of Public Roads was not permitted to further the established cooperation with the counties and municipals' road administrations. This agreement between the Nyrup Rasmussen executive and the County Association was a result of the municipals' dissatisfaction with the 1971 Road Act. The counties that mainly were responsible for schools and hospitals had since 1972 downgraded most highways to local roads, and thereby shifted the costs to the municipals.³⁶⁶ The counties had transformed many roads that largely were national collective goods to local collective or private goods through reclassification and thereafter shifted the responsibility to the municipals. However, the executive that first and foremost was concerned about the national interests made sure that motorways and trunk roads, which were national collective goods, remained so, because they were still supposed managed by the Directorate of Public Roads. Per Milner claimed the forthcoming reform was an attempt from the County Association to maintain its power and to prevent a municipal reform, and regret that minister of finance Mogens Lykkesøft was fooled by Kresten Philipsen.³⁶⁷ The forthcoming road policy reform was hence about division of the tasks between the State, counties and municipals, not about road policy as such.

Per Milner retired, and was succeeded by Henning Christiansen January 1st 1997. Henning Christiansen graduated from the University of Roskilde as Cand.tech.soc., a cross disciplinary study in science and social planning. Christiansen was Roskilde municipal's technical director before he became head of the Directorate of Public Roads.³⁶⁸ The Directorate of Public Road's first head had been a lawyer, the second a chartered engineer and the third was a public planner and management expert. It seems the Danish executives' choice of heads of the Directorate of Public Roads were contingent the directorate's tasks and institutional environment.

The 1996 compromise between the Nyrup Rasmussen executive and the County Association was reflected in the *1997 Road Act* that came into force January 1st 1998. The State' road system, the trunk roads and motorways, shrank to 1.650 kilometers, included the Great Belt Connection and the Øresund motorway on Amager east of Copenhagen, which was a part of the not yet completed Øresund Connection. The other trunk roads were, as agreed in 1996, reclassified to highways and transferred to the counties.³⁶⁹ The Danish State withdrew hence partly from road construction when the motorway H was almost completed, similarly as in 1867, and shifted the maintenance tasks to the counties. The 1971 Road Act had served its purpose, because it facilitated and safeguarded construction of the motorway H, hereunder the desired Great Belt and Øresund Connections, in addition to modernizing of the entire public road system. The 1997 Road Act had many similarities with Estrup's 1867 Road Act, and was clearly an example of path

³⁶⁶ Jørgensen (2001:357, 363).

³⁶⁷ Milner (2005 [Interview]).

³⁶⁸ Jørgensen (2001:355); Cand.tech.soc. [Online September 10th 2004] – URL: <http://www.dhs.dk/cgi-bin/dhs/frontend/browse.do?contentOID=12463>.

³⁶⁹ *Vejdirektoratet 50 år*, Vejdirektoratet April 1st 1999 [Online September 10th 2004] – URL: <http://www.vejdirektoratet.dk>

dependence, because the Danish State involved itself in major infrastructure tasks, but withdrew as soon the projects were completed and handed over most of the responsibility for maintenance and operations of the public roads to the counties and municipals, particularly those roads with local collective or private good characteristics.

The Great Belt connection was completed June 14th 1998. However, the agreed three years advance for the railroads was not possible, because construction of the railroad tunnel had been significantly delayed. The railroad tunnel was first completed June 1st 1997, but the Danish State Railroads were compensated economically.³⁷⁰ The motorway H was almost accomplished in 1998, when the motorway from Århus to Aalborg was completed. The construction of the Øresund Connection's Danish on shore installations, 9 kilometers of motorway and 18 kilometers railroad, began in September 1993, and was completed in September 1998, and the entire Øresund Connection was completed July 1st 2000.³⁷¹ Jutland's two northernmost motorways, from Aalborg to Frederikshavn and from Aalborg to Hirtshals, which were used as bargaining chips in the Great Belt deal together with the motorway from Århus to Aalborg, were similarly also more or less completed in 2000.

The so-called motorway H, first outlined in the three Danish and the three Swedish engineering and construction companies' national motorway and bridge plan of March 1936, came hence through, even if the proponents of status quo prior to World War Two did their best to torpedo their plans. But the responsible Danish political parties considered obviously the motorway H as a national collective good. The completed motorway H made Denmark the hub in the Scandinavian road system exactly as promised by the engineering and construction companies in their revised 1937 proposal. The motorway H has obviously been consequential for Denmark's settlement, because the relative distribution of settlement between central, middle and peripheral constituencies was almost unchanged from 1950 to 2000.³⁷² The peripheral constituencies increased actually their relative share of the settlement, a fundamental difference compared to Sweden and Norway. Functional transport and communication infrastructures, such as the motorway H, is most likely one of the explanations of why the Danes have been able to maintain and even increase peripheral constituencies' relative settlement.

Danish road policy post 2000 – how to prepare for global competition?

What about Danish road policy and road construction post 2000, after completing the motorway H? One of the most prominent road political debates has been Sjælland and Greater Copenhagen's congested roads and railroads, and how to maintain Greater Copenhagen's future attractiveness as location for trade and industry.³⁷³ A ferry-free connection across Fehmarn Belt, the Beeline's 19 kilometers missing link between Rødbyhavn and Puttgarden in northern Germany,

³⁷⁰ Jørgensen (2001:446-449).

³⁷¹ Historik [Online September 10th 2004] – URL: <http://osb.oeresundsbron.dk/library/index.php?obj=1274&menu=474>

³⁷² See the Data Appendix' Table 2.1-2.4.

³⁷³ Karsten Madsen, "Behov for langsigtet debat om Hovedstaden", søndagskommentar, *Berlingske Tidende*, January 27th 2002.

will connect eastern Denmark and the motorway H's most crowded southeastern leg directly with the German motorway system and the Hamburg area. Such a project will similarly connect southern and western Sweden and southeastern Norway directly with mainland Europe via ScanLink and the Øresund Connection.

Figure 9: The Danish national motorway and trunk road system in 2005.



Source: Statens veje [Online January 26th 2006] – URL: <http://www.vejdirektoratet.dk>.

The three Danish engineering and construction companies that in 1936-37 launched the idea about the motorway H were some of the first to outline a ferry-free connection across Fehmarn Belt. But the German Nazi executive considered

this project less cost efficient than the established ferry lines.³⁷⁴ The federal German executive spent most of the 1990s rebuilding former East Germany's worn down infrastructures, but the dream about a ferry-free connection across Fehmarn Belt was still there. The Danish and German ministers of traffic signed December 6th 2000 an agreement about further studies of a ferry-free connection. The Fehmarn Belt connection was in 2001 included on EU's list of 17 so-called *Trans-European Network* (TEN) projects.³⁷⁵ The TEN-projects are one of the EU Commission's attempts of improving Europe's competitiveness through removal of bottlenecks from the road and railroad infrastructures, and is one result of among others ERT's persistent lobbying since the 1980s.

Anders Fogh Rasmussen's Liberal-Conservative executive and Schleswig-Holstein's union state executive agreed in June 2002, but Gerhard Schröder's federal executive hesitated because of Germany's ailing State economy and the European Central Bank's requirements for budget balance.³⁷⁶ Schröder's executive refused to commit itself further until after the 2002 election.³⁷⁷ Anders Fogh Rasmussen's executive argued in November 2002 for organizing and financing the Fehmarn Belt Connection similarly as the Great Belt and Øresund Connections, because State loan guarantees would reduce the transport users' costs and a joint stock company and user financing through turnpikes would keep the project away from the State's ledger.³⁷⁸ The idea about the ferry-free Fehmarn Belt Connection came close to death during the first half of 2003, because Gerhard Schröder's executive allocated nil Euros to it in its long-term traffic plan to 2015, even if Anders Fogh Rasmussen's executive had proposed 100 percent user financing. The German's were also skeptical to State loan guarantees.³⁷⁹ This skepticism pleased among others the Danish Socialistic People's Party.³⁸⁰ The Socialistic People's Party opposed often mobility as such, and particularly development of modern transport and communication infrastructures.

EU's transport commissioner Loyola de Palacio revived the dream about the ferry-free Fehmarn Belt Connection ultimo June 2003, when EU's workgroup for TEN-projects headed by former transport commissioner Karel van Miert recommended completion of 18 projects within 2010, hereunder Fehmarn Belt. Øresund was that far one of the few completed TEN-projects.³⁸¹ EU's premiers decided similarly in December 2003 to invest about 1.600 billions DKK or approximately 138,85 billions 1990 PPP USD within 2010 to improve Europe's economic growth. The Fehmarn Belt Connection was considered eligible for up to 20 percent EU financing, and that increased its chances of completion, according to

³⁷⁴ *Motorveje med broer over Storebælt og Øresund supplerende bemærkninger til forslag af 9. Marts 1936*:8-9.

³⁷⁵ Jørgensen (2001:458-459); *Trans-European network: the Commission wants to concentrate its efforts on bottlenecks and a limited number of major projects*, IP/01/1357, European Commission, Brussels October 2nd 2001.

³⁷⁶ "Trafikminister: Femern-forbindelse på vej", *Morgenavisen Jyllands-Posten*, June 13th 2002.

³⁷⁷ "S: Femern-forbindelse en gevinst for miljøet", *Morgenavisen Jyllands-Posten*, June 13th 2002.

³⁷⁸ "Fehmer som statsprojekt", *Berlingske Tidende*, November 26th 2002.

³⁷⁹ "Tyskerne dropper Femernbro", *Berlingske Tidende*, March 24th 2003; "Tysk nej til Femernbro", *Berlingske Tidende*, June 27th 2003.

³⁸⁰ "SF tilfreds med tysk nej til Femern-forbindelse", *Berlingske Tidende*, June 23rd 2003.

³⁸¹ "EU. Femernbro bør sættes i verk før 2010", *Berlingske Tidende*, June 30th 2003.

Prime Minister Anders Fogh Rasmussen.³⁸² The Danish executive worked thereby the EU system, despite the leftwing populists and environmentalists' resistance against modern transport and communication infrastructures and the Danes' skepticism to EU in many other policy areas.

The Danish Ministry of Traffic concluded in March 2004 that a cable stayed bridge across Fehmarn Belt with a four-lane motorway and a dual track railroad completed in 2015 would provide 7 percent internal rate of return and a net present value of 14,4 billions DKK or 1,23 billion 1990 PPP USD 50 years after 2015, given 66 billions DKK or 5,66 billions 1990 PPP USD in construction, financing and operating costs, 81 billions DKK or 6,95 billions 1990 PPP USD in gains, zero EU contributions, 6 percent discount rate and user costs equal to the ferry tickets.³⁸³ The Danish executive planned the Fehmarn Belt Connection with a 50 years time horizon, similarly as the Great Belt and Øresund Connections, and seemed thereby to be looking farther ahead than for instance the Norwegian executive and Ministry of Finance. The Norwegian Ministry of Finance looked usually only 10-15 years ahead when planning road infrastructures, and reduced the time horizon further in 2003 through imposition of 8 percent discount rate for road investments.

Both the EU Council and the European Parliament approved the proposed TEN-project list in April 2004, which included the Fehmarn Belt Connection. EU's approval paved the way for an agreement between the Danish executive and the federal German executive June 23rd 2004 about construction of a four-lane motorway and dual track railroad, either as a cable-stayed bridge or tunnel, similarly as the 1958 agreement about the Beeline, but financed similarly as the Great Belt and Øresund Connections. The Danish and German ministers of traffic ruled also out possible use of private investors and so-called *PPP* or *Public Private Partnership* contracts, because the private investor's demand for a risk premium and profits would increase the road users' costs significantly.³⁸⁴ Both the Danish and German executives desired hence construction of a cost effective ferry-free connection across the Fehmarn Belt, and ruled out PPP contracts such as introduced for outsourcing of planning, financing, construction, operation and maintenance of Norwegian trunk roads from 2003.³⁸⁵

Both the Danish and German executives understood that buying roads through installment plans was very costly. The Schlüter executive's model for financing the Great Belt Connection established a pattern for future projects, first across Øresund and soon also most likely also across Fehmarn Belt, and was clearly an example of path dependence. Because the Schlüter executive's financing model provided increasing returns to the executive and legislators because it kept these fully user financed mega projects away from the State's ledger and prevented major budget

³⁸² "EU vedtager vækstplan", *Morgenavisen Jyllands-Posten*, December 12th 2003.

³⁸³ COWI and Danmarks Transportforskning, *Samfundsøkonomisk vurdering af en fast forbindelse over Femern Bælt*, Trafikministeriet, Copenhagen, March 2004:7-9, 22, 24 Table 4.1, 33 Table 5.1. [Online September 13th 2004] – URL: <http://www.trm.dk>.

³⁸⁴ Fælles erklæring om samarbejde om den videre udvikling af en fast forbindelse over Femern Bælt mellem Trafikministeriet i Kongeriget Danmark og Forbundsministeriet for Transport, Byggeri og Bolig i Forbundsrepublikken Tyskland, Berlin, June 23rd 2004 [Online September 13th 2004] – URL: <http://www.trm.dk>.

³⁸⁵ See for instance E39 Klett – Bårdshaug. Landets første OPS-prosjekt åpnet [Online August 25th 2005] – URL: http://www.vegvesen.no/vegvesen-SV/Vartikkel-SV/VartikkelMedBunnlinter_callerPage-1042188916512_1120115734060.html.

reallocations and/or tax increases. The Schlüter executive's financing model gave also the road users increasing returns, because State loan guarantees and financing via the international capital markets saved costs compared to financing through domestic finance institutions. Organizing through a non-profit State owned joint stock company saved similarly costs compared to PPP contracts. The Schlüter executive's financing model protected also the ordinary tax financed road investments against imposition of common turnpike financing in addition to the established vehicle and fuel taxes, such as in Norway, and was thereby an example of institutional layering. The Schlüter executive's financing model gave finally the taxpayers increasing returns because it prevented tax increases. The Schlüter executive's financing model gave thereby the executive, legislators, road users and taxpayers, but not the domestic finance institutions or road investors, increasing returns.

The Fehmarn Belt connection is so far not finally approved, but Folketinget's Jutland's Mafia was ready for new pork barrel deals, among others through attempts of linking Fehmarn Belt to new motorways on Jutland.³⁸⁶ The Danish daily *Politiken's* editorial writer accused the Jutland's Mafia in September 2004 for being myopic and pursuing "pork barrel" politics, because the Øresund, Great Belt and Fehmarn Belt connections were important for safeguarding Denmark's future as interesting location for trade and industry. These ferry-free connections were also important for transforming Denmark from the agricultural age, where progress was measured according the harvesters' speed, to an open, international economy, where progress was measured according to the inhabitants' cleverness.³⁸⁷

Had the 1971 Road Act and the 1972 reforms of the Directorate of Public Roads and the road sector's governance system any effects? The road safety on Danish roads was significantly improved between 1972 and 2005. This was largely a result of systematic removal of so-called "black spots" from the public roads, areas with an unexpected high number of accidents. The road investments to remedy problem areas were rank ordered according to the costs. Those projects that were most cost efficient; i.e. prevented most accidents given the costs accomplished first. The Directorate initiated this work more than 30 years ago. More than 1.100 persons were killed on Danish roads in 1972 when the road traffic was only about 1/3 of that in 2005. 369 persons were killed on Danish roads in 2004. The risk was hence reduced to almost 1/12 compared to 1972.³⁸⁸ Systematic removal of black spots, construction of safe roads and completing the motorway H gave significant improvements of the Danish road safety, exactly as promised by the three engineering and construction companies in their 1936-37 national motorway and bridge plans.

Anders Fogh Rasmussen's first Liberal and Conservative Parties executive proposed in April 2004 streamlining Denmark through transforming the 13 counties plus Copenhagen and Frederiksberg Boroughs and Bornholm's Region Municipal into five new regions.³⁸⁹ The Fogh-Rasmussen executive and the rightwing populist *Danish People's Party* (Dansk Folkeparti) agreed about the new structure in June

³⁸⁶ Lars From, "Jyske politikere ønsker nye motorveje", *Morgenavisen Jyllands-Posten*, August 31st 2004.

³⁸⁷ "Motorvejsbølger", editorial, *Politiken*, September 1st 2004, the editorial writer's italics.

³⁸⁸ Sloth (Forthcoming:40-43).

³⁸⁹ Det nye Danmark [Online April 4th 2005] – URL: <http://www.detnyedanmark.dk>.

2004.³⁹⁰ The executive's 2004 structural reform had also far-reaching implications for the organizing of the public road system and the road administrations, because the county roads were agreed divided between the State and the municipals. Trunk roads and motorways would remain the State's responsibility.³⁹¹ The forthcoming reform distinguished hence between roads with national collective and local collective good characteristics.

Fogh Rasmussen's executive and the Social Democratic and Radical Parties and Danish People's Party agreed similarly March 3rd 2005 about Denmark's new municipal structure, which will enter into force January 1st 2007, and reduce the number of municipals to 102.³⁹² Denmark's forthcoming two-tier road system will, according to the minister of traffic, consist of about 5 percent or 3.260 kilometers managed by the Directorate of Public Roads, which are estimated to carry out about 35 percent of the future traffic work. The remaining 95 percent or 68.760 kilometers public roads will be managed by the municipals.³⁹³ The forthcoming Danish two-tier road system has almost inverse relations between State and municipal managed roads compared to Sweden, which also has a de facto two-tier road system. Because Swedish Road Administration managed in 2004 about 71 percent of the public roads while the municipals managed the remaining 29 percent.³⁹⁴ The Danish 2004-05 settlement combined elements from the 1793, 1867, 1963, 1971 and 1997 Road Acts, and established a small but high-standard network of roads with national collective good characteristics managed by the Directorate of Public Roads, similarly as prior to 1867 and since 1963, which consolidated the investments in the most profitable or industrially necessary roads. The 2004-05 settlements established also a large system of roads with local collective or even private good characteristics managed by the municipals, similarly as according to the 1793, 1867, 1963, 1971 and 1997 Road Acts, which located the responsibility for the local roads among those who harvest most benefits from these roads.

Conclusions

Where do these discussions bring us concerning this study's four working hypothesis with regard to the Danish case from 1981 until about 2005? First, this study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was significantly strengthened from 1981 after the neo-liberal shift, because of completing the motorway H, included the Great Belt and Øresund Connections, even if Denmark struggled with significant State economic problems. Even the planned Fehmarn Belt Connection indicates the Danish executive and

³⁹⁰ Indenrigs- og Sundhedsministeriet, *Aftale om strukturreform*, juni 2004 [Online April 4th 2005] – URL: <http://www.im.dk>.

³⁹¹ Indenrigs- og Sundhedsministeriet, *Aftale om strukturreform*, juni 2004:69 [Online April 4th 2005] – URL: <http://www.im.dk>.

³⁹² Indenrigs- og Sundhedsministeriet, *Aftale mellem regeringen (Venstre og Det Konservative Folkeparti) og Socialdemokraterne, Dansk Folkeparti og Det Radikale Venstre om den kommunale inddeling pr. 1. januar 2007*. [Online april 4th 2005] – URL: http://www.im.dk/imagesupload/dokument/Aft_03.03.05.pdf.

³⁹³ *Strukturreform, spørgsmål vedr. trafikområder*:Spørgsmål 1, 2 and 3 [Online April 4th 2005] – URL: http://www.detnyedanmark.dk/publikation/besvarelse_trafikomraadet.pdf.

³⁹⁴ *Statistisk årsbok för Sverige 2004*:212 Tabell 227.

legislators emphasized national collective goods. Denmark had only minority executives 1981-2005 except January 1993 – September 1994, but the numerous minority executives did not rule out significant investments in national collective goods such as motorways and major bridges that made Denmark smaller and gave the rest of Scandinavia a ferry-free connection to mainland Europe. Even the forthcoming Danish structural reform facilitates further emphasis on national collective goods, because the most crowded 5 percent of the public road system with national collective good characteristics will remain State roads managed by the Directorate of Public Roads. The remaining 95 percent with local collective or private good characteristics will be managed locally by the municipals.

The second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was strengthened after 1981. Folketinget's pork barrel deal about the Great Belt Connection in June 1987 demonstrated clearly that even motorways could be understood as local collective or private goods and the resource allocation could be governed by the constituencies' resource struggle, even in Denmark after introduction of the unicameral system and introduction of the 1972 road policy governance system. The Great Belt deal was facilitated by the 1970 municipal reform that created some very strong counties and constituencies on northern Jutland, which were able to divert resource from the constituencies on Sjælland that not always were able or willing to cooperate in Folketinget such as the constituencies on Jutland often did.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was strengthened after 1981 because the Schlüter executive's compromise with the Social Democratic Party's group in Folketinget's in June 1986 about the Great Belt Connection was facilitated by introduction of a three years advance for the railroads. This compromise demonstrates clearly the political parties' rivalry could be decisive for the resource allocation. Even the Schlüter executive's financing model for the Great Belt and later also for the Øresund Connection demonstrate the political parties' rivalry governed the resource allocation. The Schlüter executive's financing model kept namely these mega projects away from the State's ledger, prevented significant reallocations and/or tax increases considered politically costly by the executive and political parties. Even the planned Fehmarn Belt Connection demonstrates that road projects divide the Danish political parties.

The final working hypothesis about road policy and road construction governed by path dependence was also strengthened by the Danish case after 1981. First, the Danish Ministry of Finance strengthened its position significantly during the Schlüter executives that instituted a more responsible financial policy that what had been common in Denmark until then. The Schlüter executive established hence a new equilibrium with regard to Danish financial policy. Second, the Schlüter executive's introduction of turnpike financing of the Great Belt and Øresund Connections punctuated partly the equilibrium established 1910-27 through the Road Fund, with tax financed road investments, even if all other Danish roads remained tax financed. Third, the 1997 Road Act represented partly a return to the 1867 Road Act's logic, because the Danish State withdrew almost from road construction when the motorway H or the second national trunk road system was

almost completed, similarly as in 1867, and shifted the responsibility for many trunk roads to the counties and municipals, similarly as according to the 1867 Road Act. But the Danish State maintained its responsibility for the motorways and the most crowded trunk roads. Finally, the forthcoming Danish structural reform that replaces the 14 counties with 5 regions and reduces the number of municipals, introduces also a two-tier road system. The Directorate of Public Roads will manage only about 5 percent of the most crowded public roads with national collective goods characteristics. The remaining 95 percent of the public roads with local collective or private good characteristics will be maintained by the 102 new municipals. This reform furthers the principles established by the 1793, 1957, 1963, 1971 and 1997 Road Acts and is clearly an example of path dependence.

Summary and conclusions

What about this chapter’s findings about the study’s four working hypotheses concerning the Danish case? Table 4 provides an overview of the empirical findings from the Danish case concerning the study’s four working hypotheses.

Table 4: Empirical findings from the Danish case concerning the four working hypotheses.

Period/Hypothesis	Road policy and road construction governed by politicians pursuing the common good	Road policy and road construction governed by the constituencies’ resource struggles	Road policy and road construction governed by the political parties’ rivalry	Road policy and road construction governed by path dependence
Prior to 1945	+/-	+	+	+
1945-1959	+	-	+	+
1960-1980	+	-/+	+	+
1981-2005	+	+	+	+

This study has corroborated the main hypothesis or benchmark about roads as national collective goods governed by legislators that pursue the common good independent of constituencies and political parties. The Danish executive built Denmark’s first national trunk road system 1761-1867. The Danish executive built similarly Denmark’s second national trunk road system; the so-called motorway H included the Great Belt and Øresund Connections 1957-2000, which had been outlined by private engineering and construction companies in 1936-37. Denmark’s high number of minority executives 1945-2005 did not prevent the executives or the majority of legislators from prioritizing development of national collective goods such as the motorway H. The entire motorway H, except the Great Belt and Øresund Connections, has been tax financed.

The second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies’ resource struggles have some support, even if the 1867 Road Act made road policy and road construction to the counties and municipals’ task. First, the bicameral Rigsdagen’s seat allocation governed the Road Fund’s reimbursement key, because 5/6th of the reimbursements went to rural areas. The rural constituencies held a pivotal position in the bicameral Rigsdagen’s sanctioning chamber Landstinget. Second, Rigsdagen’s approval of construction of major bridges during the interwar years was usually based on pork barrel deals. Third,

introduction of the unicameral system 1953 included the new election system based on one person – one vote reduced the constituencies' influence, but the 1970 structural reform increased the constituencies' influence, and paved the way for Denmark's pork barrel deal of the century in 1987 about the Great Belt Connection. The constituencies' struggles about the resource allocation had thus significant influence on the road policy and road construction despite the legislators' only indirect involvement in the road policy and road construction from 1867 until 1972.

The third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was clearly strengthened, because the political parties rivalry has been decisive for Danish road policy and road construction, despite minister rule. First, the Social Democratic and Radical parties' prewar executive used road policy and road construction strategically to counter the unemployment. Second, the postwar Social Democratic Party executives emphasized construction of modern trunk roads and motorways to facilitate the transformation from an agricultural to a modern, diversified industrial economy, to facilitate economic growth and thereby future opportunities for increased redistribution to the Social Democratic Party's core voters. This motivation differed somewhat from the private engineering and construction companies' 1936-37 national motorway and bridge plan championed by chartered engineers with rightwing nationalist sympathies that most likely advocated construction of motorways because of possible business and profit opportunities in addition to improved effectiveness and road safety. However, the Social Democratic Party embraced the leftwing populists and environmentalists throughout the 1970s, and reduced the emphasis on road policy and road construction. The road construction was also reduced because of the State economic problems entailing the first oil price shock. Finally, the non-socialist Schlüter executive piloted through the necessary decisions in Folketinget throughout the 1980s and early 90s for completing the motorway H and the Great Belt and Øresund Connections as part of its neo-liberal reform program.

The final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened, because path dependence reproduced the Danish road polity's power relations and resource allocation until sudden breakdown and development of new equilibriums. First, construction of modern roads to facilitate economic growth and development in Denmark was initiated already in 1761, and this policy has survived all kinds of external shocks, economic crises and regime changes, and is still upheld by Danish executives, legislators, counties and municipals, and is clearly an example of path dependence. Second, the Danish Ministry of Finance had a relatively weak position from 1894 until the Schlüter executive that was strongly influenced by the neo-liberal shift and NPM ideas instituted a fundamentally new financial policy in the 1980s based on budget discipline and no more devaluation. Third, Denmark's initial road policy regime established from 1761 and regulated through the 1793 Road Act was partly punctuated by the 1866 Constitution and the landowner's regime. The 1866 Constitution created path dependence, because Landstinget's veto power gave the peripheral and rural constituencies a very powerful position on the urban constituencies' and expense. Landstinget was partly weakened through the 1915 Constitution, which increased the number voters and eligible. Introduction of common suffrage from 1918 and proportional elections from 1920 through the

Constitutional Amendment changed gradually the Danish political system's character. Landstinget lost most of its political relevance from 1936 when the Liberal and Conservative Parties lost their majority, but was upheld until the 1953 Constitution came into power. The 1953 Constitution established the unicameral Folketinget and an election system based on the principle one person – one vote. Fourth, the 1866 Constitution and landowner rule created also road political path dependence, because the 1867 Road Act made road construction and maintenance local matters, liquidated the State road administration and abolished the trunk roads which were reclassified to highways and managed by the counties. Fifth, establishment of the Road Fund from 1910 and dedication of the Road Fund to highways from 1927 kept the road financing away from the legislators as well as the Ministry of Finance, and safeguarded swift construction of a modern road system already prior to World War Two. Establishment of the Road Fund was most likely the result of a weak Ministry of Finance. Sixth, establishment of the Directorate of Public Roads in 1949 challenged seriously the localist principles established by the 1867 Road Act, but this equilibrium was first punctuated by the 1953 Constitution that paved the way for the 1957 and 1963 Road Acts and the 1958 Road Reimbursement Act. The 1963 Road Acts made construction of motorways a State responsibility governed by the minister of public works. Seventh, the 1971 Road Act reintroduced the 1793 Road Act's three-tier road system, where each administrative level financed its own roads. Folketinget governed construction of motorways, the minister of public works/minister of traffic construction of all other trunk roads. The counties and municipals governed construction of highways and local roads. Eight, the 1997 Road Act represented partly a return to the 1867 Road Act's regime, when the motorway H was almost completed. The forthcoming structural reform that substitutes the counties with five regions and far fewer and larger municipals further many principles established through the 1997 Road Act, because the public road system will be reorganized to a two-tier road system. The Directorate of Public Roads will manage the 5 percent most crowded roads with national collective good characteristics. The rest, roads with local collective or private good characteristics, will be managed by the municipals. Finally, a recent example of path dependence is the Schlüter executive's NPM financing model initially established to safeguard construction of the Great Belt Connection. The same model was later also used to finance construction of the Øresund Connection, a joint venture with the Swedish State. The Schlüter executive's NPM financing model is also agreed used for the planned Fehmarn Belt Connection, a joint venture with the German Federal State. The Schlüter executive's NPM financing model gave the motorists increasing returns because turnpikes were limited to road sections that earlier had been serviced through user financed ferries, and reduced also the motorists' costs to an absolute minimum through State loan guarantees and financing through the international capital markets. The Schlüter executive's financing model became also an example of institutional layering, because the turnpikes at Great Belt and Øresund coexisted with tax financing of all other roads, because the tax financing equilibrium was not punctuated after the neo-liberal shift such as in Norway.

Chapter 3 – Sweden – the catch-up case

It has been a common belief – at least in Norway – that Swedish road policy and construction of Sweden’s modern world-class road system has been a straightforward and smooth ride. But this chapter reveals that has definitely not been the case, except when the experts or technocrats governed the road policy and road construction approximately 1954-70, when Sweden made its great road leap forwards and caught up with its road infrastructure lag.

This chapter is organized in five sections similarly as chapter two about Denmark. The first section introduces background and context about Sweden’s unique road polity and the road policy and road construction prior to 1945. The second section about 1945-59 is about the mass motoring’s breakthrough that became a major challenge for the Swedish executive, legislators and road administrators, because the prewar road system was dysfunctional concerning capacity, safety and environmental standards. The third section about 1960-80, when the Swedish model experienced its boom and bust, started with road policy catch-up and ended with significant road policy adjustments among others because of the Social Democratic Party’s road and traffic policy flip-flops. The fourth section is about 1981 until about 2005 when Sweden was hit by serious State economic problems and underwent the neo-liberal shift. The executive placed itself in the road policy driver’s seat, overruled in some instances the technocrats and used construction of motorways and modern trunk roads as means to jumpstart the ailing economy. Riksdagen increased similarly its power because of the numerous minority executives. The final section is summary and conclusions concerning the study’s four working hypotheses.

Background and context

The second industrial revolution 1890-1930 transformed Sweden from a backwards agrarian to a modern industrial society. Sweden underwent protracted struggles for democratization, but the balance of power shifted during the interwar years. The road policy prior to 1945 was characterized by struggles between those who defended status quo, decentralized municipal road administrations governed by laymen, and those who desired a centralized State road board staffed and governed by professionals.

Delayed democratization and introduction of mass politics

Sweden’s *1809 Constitution*, which constituted the executive’s ground rules until 1975, was a compromise based on the separation of power principle and upheld the State bureaucracy established by Chancellor Axel Oxenstierna through his *1634*

Constitution that instituted centralized boards and regional State administrations. The 1719 and 1772 *Constitutions* furthered Oxenstierna's bureaucracy.³⁹⁵ The State bureaucracy operated according to norms about State reason, meritocracy and promoting Sweden Inc. rather than special interest groups, and increased gradually its autonomy towards the King and Riksdagen. The State bureaucracy's development path was clearly an example of path dependence, because the autonomy gave the bureaucrats increasing returns. However, the Chancery Review Court that in 1799 was renamed to the *Administrative Court of Appeals* (Kammarrätterna) kept the autonomous boards in check.³⁹⁶ Even the Swedish bureaucracy was thus based on the separation of power principle.

The 1809 Constitution authorized both the King and Riksdagen to pass common laws, but only the legislature Riksdagen was authorized to impose taxes. Riksdagen met initially only every fifth year, but the King could summon extraordinary sessions and call for extraordinary elections. Approval from three of the four estates was equal to Riksdagen's approval, except for constitutional amendments or introduction or abolition of privileges that had to be approved by all four estates or chambers, namely the privileged estates nobility and clergy, and the non-privileged estates urban citizens and farmers.³⁹⁷ 'King status quo' governed Sweden until the 1860s, because the ancient corporative system with four estates and the four-cameral system blocked effectively most attempts of collective actions such as fundamental or radical reforms. The consequences were among others delayed modernization and industrialization of Sweden.

The 1865-66 constitutional reforms broke the ancient regime's deadlock through abolition of the estates' privileges and making Riksdagen bicameral. The four chambers approved the reform in December 1865, and the four-cameral Riksdagen held its final meeting June 21st 1866.³⁹⁸ Justice Prime Minister (justisstatsminister) Louis De Geer, the bicameral system's architect, aimed at creating an institutional framework that permitted new development paths but safeguarded the wealthy and educated groups' control of Sweden's future political, economical and social development.³⁹⁹ Louis De Geer and his minister of civilian matters (civilminister) Johan August Gripenstedt were both proponents for Sweden's emerging urban middle class that had been excluded from political power and influence by the four-cameral system, even if they both belonged to the nobility.

³⁹⁵ *Regeringsform 1719 K M:ts allernådigst konfirmerade regeringsform; Regeringsform 1772 Kongl Maj:ts och Rikens Ständers fastställda regeringsform*. See also Wetterberg (2002); Hadenius (1994:55-65); Rystad (1985:74-80, 93-116, 121-123).

³⁹⁶ National Courts Administration (not dated:6).

³⁹⁷ *Kongl. Maj:ts och Rikets Ständers fastställda REGERINGSFORM dat. Stockholm den 6 juni 1809*: See among others §§ 4-11, 49, 57, 81, 87. See also Fischier (1893:II:23); Hadenius (1994:121-122); Stråth (2005:63-75, 542-548).

³⁹⁸ See for instance Thyselius (1910: 329-331, 336-372, 383-383, 388) and Carlsson (1985a:194-199, 216 ff.); Stjernquist (1996:21 ff., 26) and Hadenius (1991:11 ff.) for further discussions about the process from 1809 until approval of the bicameral system.

³⁹⁹ Stjernquist (1996:32-33); Hadenius (1991:11); Stråth (2005:549-553).

Figure 10: Swedish counties 1996, an overview.



Source: U.S. Central Intelligence Agency, from Perry-Castañeda Library Map Collection, University of Texas [Online January 24th 2006] – URL: http://www.lib.utexas.edu/maps/europe/sweden_div96.jpg.

Riksdagen’s two new chambers, the *First Chamber* (Första kammaren) and the *Second Chamber* (Andra kammaren) were created equal, similarly as in the former four-cameral assembly. Both chambers could initiate motions, but the matters were rejected if the two chambers disagreed. The King could dissolve one or both chambers and call for new elections.⁴⁰⁰ These principles established by the

⁴⁰⁰ Stjernquist (1996:30-32).

1809 Constitution were furthered. The two chamber's equal position gave the bicameral system a very strong consensual bias, similarly as the four-cameral Riksdagen, but the King's entitlement to call for new elections in only one of the chambers safeguarded status quo, the interests usually represented by the First Chamber. But the bicameral system made still radical reforms far more likely than under the four-cameral system, and changed thereby Sweden's political economy fundamentally.

The major cities' municipal councils and the rural areas' county councils appointed the First Chamber members successively for nine years terms. The members of the First Chamber were not required to live in their constituency. Many lived in Stockholm or other major cities. Almost every member of the First Chamber had academic or officer education.⁴⁰¹ The First Chamber represented the counties and major cities' interests, and institutionalized status quo due to its long terms and successive replacement. But the First Chamber instituted also the concern for progress, modernization and common good, hereunder development of national collective goods, because the First Chamber members belonged often to Sweden's intellectual elites, and were often well informed about technical, economical, institutional and political innovations. The First Chamber had therefore a dual or triple nature, due to its particular mixture of reactionaries, progressives and the concerns for the common good, which was determined by the political balance.

The popularly elected Second Chamber had three years terms until the 1924 election when the terms were extended to four years. Those eligible needed only to be aged 25 and own 1/80th of the property or to be taxed for 1/5 of the annual income for those eligible to the First Chamber. The Second Chamber's members had to live in their constituencies.⁴⁰² The Second Chamber's members represented first and foremost their constituencies, and prioritized usually local collective or private goods to their own constituencies. Many members of the Second Chamber were skeptical to public spending and development of national collective goods due to their often local or parochial perspective.

The bicameral Riksdagen upheld the former four-cameral Riksdagen's five standing committees. These were not subject matter committees, but organized functionally according to Riksdagen's tasks, with standing committees for constitutional and legal matters, the State's expenses, incomes and national bank matters.⁴⁰³ Riksdagen's committees had maintained strong positions since the 18th century.⁴⁰⁴ The *State Committee* (Statsutskotten) was often considered most powerful, because it could refuse public spending, and became therefore particularly popular among farmers who opposed what they considered unnecessary public spending.⁴⁰⁵ The two chambers' equal representation in the committees made the

⁴⁰¹ Fischier (1893:II:24); Carlsson (1985b:223-224); Stjernquist (1996:28-29); Hadenius (1991:13).

⁴⁰² Fischier (1893:II:24); Carlsson (1985b:224-225); Stjernquist (1996:29); Hadenius et al. (1991:350-351 Tabell 1C).

⁴⁰³ *Kongl. Maj:ts och Rikets Ständers fastställda REGERINGSFORM dat. Stockholm den 6 juni 1809*: §§ 53-56, 58, 59, 66, 69-71, 81, 84,87, 89, 90, 105-107, 109, 110; SOU 1969:62 *Ny utskottsorganisation*:30 ff.

⁴⁰⁴ *Regeringsform 1719 K M:ts allernådigst konfirmerade regeringsform*: § 37; *Regeringsform 1772 Kongl Maj:ts och Rikets Ständers fastställda regeringsform*: §§ 47, 50; Carlsson (1985a:199-200); Hadenius (1994:81).

⁴⁰⁵ *Kongl. Maj:ts och Rikets Ständers fastställda REGERINGSFORM dat. Stockholm den 6 juni 1809*: §§ 53, 58, 59, 62, 66, 69, 71, 109; Carlsson (1985b:225); Hadenius (1994:193).

First Chamber members relatively more powerful than their more numerous Second Chamber colleagues. The long tenure gave also the First Chamber's 'senators' a psychological upper hand.⁴⁰⁶ The bicameral Riksdagen furthered the tradition with committees responsible for many sectors and policy areas, which made the members of Riksdagen to all-round legislators rather than narrow-minded sector specialists and sector enthusiasts. The functional committees' persistence was also clearly an example of path dependence.

Many of the autonomous boards came clearly in question throughout the 19th century when the State engaged in more policy areas. The *Supreme Administrative Court* (Regeringsrätten) was therefore established in 1909 to take care of the judicial issues. The executive governed in those instances where the laws' appropriateness came in question.⁴⁰⁷ The Swedish system differed thus fundamentally both from Denmark where the executive ruled and in Norway where the legislature ruled.

The struggle for common suffrage and parliamentary rule went on longer in Sweden than in Denmark and Norway. Sweden's first formal Liberal and Conservative Parties were founded already in 1868, but splintered into struggling fractions. The Social Democratic Party was founded in 1889. The Social Democratic and Liberal Parties cooperated from the 1890s against the different Conservative and reactionary groups for introduction of common suffrage.⁴⁰⁸ The Social Democratic Party's first stronghold was lumberjacks in northern Sweden, but the party shifted gradually its attention towards urban industrial workers and later also public sector employees.⁴⁰⁹ The King appointed the executive's ministers even after the turn of the 19th and 20th century. Sweden did not have modern, national parties, except for the Social Democratic Party until after the turn of the 19th and 20th century.

Introduction of universal suffrage and mass-politics in Sweden took place through two reforms. The first reform came into power after the 1908 Second Chamber election and introduced common male suffrage to the Second Chamber together with direct proportional elections (PR) and seat allocation according to d'Hondt's method. This reform changed also the voting rules for the local elections and made the wealthiest farmers eligible to the First Chamber.⁴¹⁰ The second reform came into power from the 1921 Second Chamber election and introduced common suffrage to the Second Chamber elections for persons aged 23 or more. The suffrage was still limited for some categories, but the graded local votes were abolished. The voting age in the local elections that governed the appointment of members to the First Chamber was reduced to 27. The First Chamber's terms were also reduced to 8 years. This reform made also some wealthy workers eligible for the First Chamber.⁴¹¹ These two reforms punctuated the political equilibrium established throughout the 19th century and set in motion a chain reaction that gradually shifted the political balance and paved the way for further democratization.

The Social Democratic Party dominated the Second Chamber from the 1914 election and maintained this position until the Second Chamber's abolition in

⁴⁰⁶ See for instance Einar Larsson's experiences from Riksdagen's committees (Gustafsson 1996:234 ff.).

⁴⁰⁷ National Courts Administration (not dated:7).

⁴⁰⁸ Hadenius (1991:27, 36).

⁴⁰⁹ Mjøset (1986:45).

⁴¹⁰ Hadenius (1991:54-68); Wieslander (1991a:91); Stjernquist (1996:82).

⁴¹¹ Hadenius (1991:89); Wieslander (1991a:94-95); Stjernquist (1996:100-101). See also Sejersted (2005:73-81).

1970.⁴¹² The Social Democratic Party became similarly the First Chamber's dominant party from the 1922 local elections, won exactly half the seats in 1941 and held the majority from 1945 until the First Chamber's abolition in 1970.⁴¹³ Introduction of common male suffrage encouraged also establishment of new political parties. Two Agrarian Parties were established in 1913 and 15. Both parties won seats in the 1917 Second Chamber election and merged into one Agrarian Party, Bondeförbundet, in 1921. The Communist Party was similarly established in 1921. Sweden's current Liberal Party was first established in 1934 after a merger of the two Liberal Parties. The current Conservative Party was similarly first established in 1935 when the First Chamber Conservatives and the Second Chamber's two Conservative Parties merged.⁴¹⁴ The 1907-09 and 1921 suffrage and election system reforms reshaped thus Sweden's party system and political landscape, furthered the democratization and shifted gradually the political balance in the labor movement's favor.

The struggles for parliamentary rule went on in parallel with the struggles for suffrage and voting system reforms. The Liberal Party headed by Karl Staaf desired British style parliamentary rule based on the directly elected Second Chamber, similarly as introduced in Denmark in 1901. Riksdagen's Conservatives with among other law and political science professors like Rudolf Kjellén claimed the 1809 Constitution was incompatible with parliamentary rule.⁴¹⁵ But the Russian revolution scared obviously the nobility and the Conservatives, because the King accepted introduction of parliamentary rule based Riksdagen's both chambers after the Conservatives lost the Second Chamber election. The Liberal and Social Democratic Parties established a coalition executive in October 1917.⁴¹⁶ This was not the first instance of parliamentary rule in Sweden, because Riksdagen's four estates established something that resembled political parties and parliamentary rule from the 1730s until King Gustav III's coup d'état August 19th 1772 that partly reestablished the autocracy.⁴¹⁷ Sweden's history differed thus fundamentally from that in Denmark and Norway, due to Riksdagen's strong position and the autonomous bureaucracy that usually protected the citizens against the King's arbitrary rule.

The Swedish polity and parliamentary rule established from 1917 were unique. First, the 1809 Constitution gave the executive and Riksdagen almost equally strong positions. Second, the bicameral system gave up to 12 years lag between the voters' preferences and the appointed members of the First Chamber's preferences. Third, the parliamentary rule was based on both of Riksdagen's chambers, not only the directly elected chamber such as in Denmark and Great Britain. Finally, Axel Oxenstierna's 17th century State bureaucracy persisted, and operated still according to the norms about State reason and meritocracy, and upheld also its autonomy towards the executive and Riksdagen, but was kept in check by the administrative courts. The struggles between Riksdagen's Conservatives and

⁴¹² Stjernquist (1996:123 Tabell 2).

⁴¹³ Stjernquist (1996:123 Tabell 2).

⁴¹⁴ Hadenius et al. (1991:352-353 Tabell 2); Wieslander (1991a:91-92); Stjernquist (1996:118).

⁴¹⁵ Stjernquist (1996:62-81, 229-235, 262-265).

⁴¹⁶ Hadenius et al. (1991:350 Tabell 1c, 352-353 Tabell 2A, 363-364 Tabell 3); Hadenius (1991:81-87); Wieslander (1991a:91 ff.).

⁴¹⁷ Rystad (1985:85-93); Metcalf (1985); Hadenius (1994:68 ff., 79-107); Stråth (2005:63-64).

Liberals may according to the political scientist Helena Wockelberg's dissertation explain why the autonomous boards persisted even after introduction of parliamentary rule in 1917, because conservative members of Riksdagen such as Professor Rudolf Kjellén considered namely autonomous boards as guardians of "particular national values", or simply conservative guarantees in case of abolition of the monarchy. Liberal members of Riksdagen such as Carl Lindhagen on the other hand considered autonomous boards legitimate if they represented the "national will".⁴¹⁸ Both the conservatives and liberals found thus Sweden's autonomous boards useful, but with fundamentally different motivations. These common interests furthered most likely the autonomous boards against those who desired introduction of minister rule, which in turn furthered Sweden's unique polity.

1920-32 was Riksdagen and particularly the committees' golden years, due to lack of clear-cut majorities. Sweden had one civil servant, three Social Democratic, two Conservative and two Liberal Party executives during these years. Riksdagen's pivotal parties were often able to dictate the executive's policies.⁴¹⁹ The Social Democratic Party settled for a reformist course during the 1920s and accepted the capitalist system, similarly as the Danish Social Democratic Party and the Norwegian Social Democratic Party that splintered from Norway's then very radicalized Labor Party. Sweden's political instability coincided with the post World War One deflation crisis. Sweden was the Nordic country hit most severely. 30 percent of the unionized workers were unemployed 1921-22, and the GDP sank 20 percent. The Swedish kroner's (SEK) gold parity was restored in 1925 and the convertibility was reestablished, and the Swedish economy performed well during the second half of the 1920s.⁴²⁰ Sweden's good economic performance during the second half of the 1920s was a fundamental difference compared to Denmark and Norway that struggled economically even during the second half of the 1920s.

The 1929 Wall Street crack sent the world economy into a depression. Sweden was hit in 1931 when Great Britain September 21st abolished the gold standard. Sweden gave up the gold standard soon after. Sweden's central bank, the Riksbank devaluated the SEK to a level favorable for the exports, reduced the interest rates and provided liberal credits to stimulate the economy, among others through investments in domestic industry and construction of housing to reduce the unemployment.⁴²¹ Sweden became a part of the so-called Sterling area after Great Britain abolished the gold standard and pegged the SEK to the British Pound, and avoided thereby largely the consequences of the 1930s' beggar-thy-neighbor policies.⁴²² The Swedish unemployment peaked during the winter 1932-33. Riksdagen's non-socialist parties argued for a traditional economic policy with reduced public spending to overcome the crisis. John Maynard Keynes' ideas influenced the Swedish Social Democratic Party's Ernst Wigforss already in 1930,

⁴¹⁸ Wockelberg (2003:71). See also Stjernquist (1996:145-148).

⁴¹⁹ Hadenius et al. (1991:363-367 Tabell 3); Wieslander (1991a:91 ff.).

⁴²⁰ Mjøset (1986:49-50, 54); Myhrman (1988:217-218). See also Eichengreen (1998:45-50, 57 ff.) about reconstruction of the gold standard after World War One.

⁴²¹ Schön (2000:287 ff); Wieslander (1991a:112); Mjøset (1986:51-52).

⁴²² See for instance Eichengreen (1998:49-50, 72-92) about how the Sterling crisis punctuated the new gold standard and how Great Britain and other countries within the Sterling area recovered from the depression. See also Myhrman (1988:218).

who introduced ideas about public relief works to market wages in the Social Democratic Party's 1932 political platform, which proposed financing public works, such as construction of roads, bridges, airfields, hydroelectric power plants, harbors and railroads by State loans, which would be partly self-financing through the market wages' multiplier effects. The Social Democratic Party won the 1932 Second Chamber election, and Sweden's Social Democratic order started when Per Albin Hansson became Prime Minister. Ernst Wigforss served as minister of finance from 1932 until 1949.⁴²³ The 1932 Second Chamber election shifted Sweden's political balance, and paved the way for a development path that persisted until the 1976 election.

The Agrarian and Social Democratic Parties' horse trade or class compromise in May 1933 became another of Sweden's political turning points. The farmers were compensated through protective measures and economic support. A short-lived Agrarian Party executive replaced the Social Democratic Party executive in June 1936, but was succeeded by a Social Democratic and Agrarian Party coalition after the Social Democratic Party won the Second Chamber election. This bipartite executive was expanded to a national coalition in 1939 after the outbreak of World War Two.⁴²⁴ The 1933 class compromise did not only facilitate an active State and an active finance policy and the "Welfare Capitalism", but established also Sweden's modern corporative negotiation system founded on collective bargaining and peaceful resolution of labor conflicts. Even the farmers' and the trade and industry's business sector organizations were included in this corporative negotiation system that first and foremost promoted Sweden Inc.'s interests.⁴²⁵ The 1930s' class compromises paved also the way for increased productivity and growth, particularly within transport, manufacturing industry and public sectors.⁴²⁶ Sweden's new corporative negotiation system can be understood as an extension of the established autonomous State bureaucracy that operated according to the norms about State reason and professionalism, but the new corporative negotiation system made the Social Democratic Party and partly its sister organization the Federation of Trade Unions (LO) the hub in Sweden's political system. Sweden's political economy changed therefore fundamentally, even if the polity formally remained the same. The new Swedish corporative system led also to establishment of a new social contract between the citizens, executive, legislators, political parties, civil servants and interest organizations founded on a highly rational engineer approach to politics.

Sweden experienced stronger economic growth than the other Nordic countries during the second industrial revolution from 1890 to 1930, measured in GDP per capita.⁴²⁷ Angus Maddison calculated Sweden's GDP per capita measured in 1990 international Geary-Khamis dollars to 2.802 dollars in 1920, 3.937 dollars in 1930 and 4.857 in 1940. The average for the 12 West European countries was according to Maddison 3.305 dollars in 1920, 4.289 in 1930 and 4.984 in 1940. Sweden lagged behind the West European average in 1920, 30 and 40, with West Europe's seventh highest GDP per capita in 1920, eight highest in 1930 and fifth

⁴²³ Wieslander (1991a:116-117).

⁴²⁴ Wieslander (1991b:118-133); Mjøset (1986:60).

⁴²⁵ Wieslander (1991b:130-131); Magnusson (1997:403-406, 409 ff.).

⁴²⁶ Schön (2000:336-341)

⁴²⁷ Schön (2000:220 ff., 223 Tabell 4.1).

highest in 1940.⁴²⁸ But Sweden caught up economically during the interwar years, despite the 1920s debt and deflation crisis and the 1930s depression.

Roads remained a local responsibility, despite establishment of a professional State road administration

Sweden's military and bureaucratic nobility and senior civil servants were closely integrated with the landowners and wealthy farmers. Sweden's cities remained relatively weak until the industrialization gained momentum from the second half of the 19th century.⁴²⁹ King Carl XIV Johan approved establishment of the *Royal Board of Common Road and Water Constructions* (Kungl. Styrelsen för Allmänna Väg och Vattenbyggnader) August 6th 1841, after the four-cameral Riksdagen June 1st 1841 had approved a four-year road investment program that safeguarded State contributions to road construction to catch up Sweden's lag concerning transport and communication infrastructures, after Captain Axel Erik von Sydow's study in 1840 concluded the need for among others improved roads. Sweden was divided into five regional road and water construction districts, each headed by an engineer officer.⁴³⁰ Riksdagen's approval of the road plan and the executive's establishment of the Royal Board of Common Road and Water Constructions was clearly acknowledgement that Sweden was left behind with regards to road infrastructures. The idea that improved transport and communication infrastructures was partly imported from abroad, similarly as in Denmark.

The Swedish Army's *Royal Road and Water Construction Corps* (Kungliga Väg och Vattenbyggnadskåren) was established in 1851 for planning and managing construction of major new infrastructures. 1851 became the second turning point, because the Colonel who headed the Royal Road and Water Construction Corps headed also the Royal Board of Common Road and Water Constructions, which became a hybrid civilian and military organization. The Royal Road and Water Construction Corps' five Majors headed similarly the Royal Board of Common Road and Water Constructions' five regional road and water construction districts. These Majors became the board's expertise in the field. The Royal Board of Common Road and Water Constructions became in 1883 the *Royal Board of Roads and Waterways* (Kungliga Väg och Vattenbyggnadsstyrelsen). The Royal Road and Water Construction Corps remained elite, because only the nobility and the upper classes could afford the required chartered engineer studies and reserve officer education. The Royal Road and Water Construction Corp's members were entitled to the Royal Board of Roads and Waterways' managerial positions until 1934, when the Social Democratic Party executive abolished these ties.⁴³¹ The ties between the Royal Road and Water Construction Corps and the Royal Board of Roads and Waterways made the Royal Board of Roads and Waterways an autonomous elite, with close relations to the nobility and upper classes at least until World War Two.

The Royal Board of Roads and Waterways' main task during most of the 19th century was not construction of roads but construction of canals and inland waterways. The board was also engaged in planning and construction of railroads,

⁴²⁸ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-63 Table 1c.

⁴²⁹ Mjøset (1986:32-33).

⁴³⁰ Pettersson (1988:25-26); Gerentz (1991:12-18); Kaijser (1999:231); Blomkvist (2001:54).

⁴³¹ Pettersson (1988:26); Blomkvist (2001:78-79); Jönsson (1991:40).

similarly as its French role model, *Le Corps des Ponts et Chaussées*.⁴³² Sweden's railroad epoch was from 1850 to 1920, according to the economic historian Olle Krantz.⁴³³ ⁴³⁴ The 1853-54 Riksdagen decided the Swedish State should build and operate a number of trunk railroads. The executive submitted in 1856 a trunk railroad plan, based on construction of five trunk railroads, a western from Stockholm to Gothenburg, a southern from Malmö to Falköping, a northern from Stockholm to Storvik, an eastern from Katrineholm to Nässjö and the northwestern from Laxå to the Norwegian border, and the connection between Stockholm C and Stockholm S that linked the southern and northern trunk railroads. These first trunk railroads, which were completed within 1875, connected southern and middle Sweden's industrial areas and population clusters with the capital Stockholm. The railroad investments' allocation was governed by the transport demand and where the trunk railroads gave most significant reductions of transport costs.⁴³⁵ Construction of trunk railroads was first and foremost governed by a transport economic logic, even if these railroads also were supposed to fuel Sweden's economic growth as such. The Royal Board of Roads and Waterways was responsible for construction of railroads from 1882 until the responsibility was handed over to the *Royal Board of Railroads* (Kungliga Järnvägsstyrelsen) in 1888.⁴³⁶ The Swedish minister of finance Johan August Gripenstedt described in a speech in Riksdagen in 1857 the Swedish State's role in trade and industry policy as the "helping hand", and construction of railroads, was according to the technology historian Arne Kaijser, decisions with "extremely long-lasting impact".⁴³⁷

A division of labor between Sweden's different transport infrastructures emerged gradually during the late 19th and early 20th century. Sea transport and inland waterways took care of the long distance transports and heavy hauls. Most middle range transports went by railroads. The short distance and local transports went on roads.⁴³⁸

Riksdagen approved in 1891 Sweden's first modern Road Act that superseded the 1734 *Road Act* that made road construction and maintenance the property owners' sole responsibility, and the obligations were dependent of the agricultural property's size. The First Chamber's Conservatives had then postponed a new road act for years. The farmers had opposed the duty work in Riksdagen since 1786 according to the economic historian Eva Liljegren. The 1891 *Road Act*, which came into power in 1895, replaced all kinds of turnpikes with local property road taxes even on industrial estates that earlier had been exempt from road taxes and duty work. The 1891 Road Act upheld the farmers' duty work, but those liable to duty work were except from the property road tax. The 1891 Road Act divided the road system into 360.000 sections managed by 368 road maintenance districts or *road*

⁴³² "Alla" kanaler i Sverige [Online April 24th 2003] – URL: <http://kanaler.arnholm.nu/allas.html>; Modig (1991:222); Montelius (1987a:26); Dobbin (1994:100 ff.).

⁴³³ Krantz (2000:16 ff.).

⁴³⁴ The Swedish State spent about 9 millions SEK on road construction from 1841 to 1891, and about 260 millions SEK on the trunk railroads from 1853 to 1891 (Modig 1991:223-224).

⁴³⁵ Andersson-Skog (1993:1, 27-32, Figur II:1, Tabell II:1). See also Kaijser (1999:232) for a brief overview of the development prior to 1853-54 Riksdagen's decision about construction of trunk railroads.

⁴³⁶ Andersson-Skog (1993:35).

⁴³⁷ Kaijser (1999:223).

⁴³⁸ Modig (1991:226).

municipals that usually were organized according to the municipal borders. The 1891 Road act introduced also 10 percent State contributions to the road municipals' maintenance costs, which increased to 15 percent in 1905 and 30 percent in 1918.⁴³⁹

The 1891 Road Act instituted road policy and road construction governed by the municipals' laymen. The road municipals' transaction costs were significant due to the large number of road administrations and the even larger number of road sections, because construction of new roads led to requirements for partitions of the road system into new sections, which was costly and time consuming. It was also difficult to coordinate the road construction and maintenance across the road municipal borders. Trunk roads or other roads with collective good characteristics represented particular problems. The duty work burden was often larger for those farmers responsible for sections on crowded trunk roads than for those responsible for sections of sparsely trafficed parish roads.

The shift towards semi-state governed road policy and road construction

The car's initial breakthrough in Sweden took place at Stockholm's 1903 international automobile exhibition, and led among others to establishment of a national motorist association, *Sweden's Automobile Club* (Sveriges Automobilklubb) (SAC). Most of SAC's members belonged to the nobility or other elites. SAC began almost immediately lobbying for making the members of Riksdagen more agreeable to motoring. SAC became Sweden's *Royal Automobile Club* (Kungliga Automobil Klubben) (RAC) in 1908. Those days' American *Good Roads Movement* inspired RAC, which in 1911 took the initiative to establishment of a Swedish Good Roads Movement. But there was one significant difference. The US Good Roads Movement had started as a grass roots initiative, even if the movement later was co-opted by the car, construction and oil industries. The similar Swedish initiative emanated from the ruling elites. *Swedish Road Federation* (Svenska vägföreningen) was formally established in January 1914, with Sörmland's County Governor Lennart Reuterskiöld as chairman. RAC's Captain Ingemar Petersson became treasurer and de facto leader. King Gustav V became Swedish Road Federation's patron, a position he maintained until his death in 1950, when his successor Gustav VI Adolf took over.⁴⁴⁰ One of Swedish Road Federation's goals was a new Road Act, because the duty work and small road parcels prevented rational road maintenance, according to the historian Ove Pettersson.⁴⁴¹ Swedish Road Federation was thus as far from a grass root organization as possible, and was very well connected with or part of those days' ruling elites.

The railroads' diminishing profitability in the 1920s was largely a result of the trucks' breakthrough after World War One.⁴⁴² This shift from railroad and inland waterway transports to road transports of passengers and goods triggered in turn

⁴³⁹ Gustafsson (1987:92-94); Pettersson (1988:27-28, 31-32, 34-37, 123, 126-127); Montelius (1996); Gerentz (1991:18); Jönsson (1991:40); Modig (1991:223); Liljegren (1999:22-23); Blomkvist (2001:52-58).

⁴⁴⁰ Blomkvist (2001:62-70, 83-86). See also Pettersson (1988:127-129) and Andréasson et al. (1997:105-109).

⁴⁴¹ Pettersson (1988:37-38).

⁴⁴² Andersson-Skog (1993:45-47, 86-88); Andersson-Skog and Ottosson (1994:8-9).

demands for better roads and more professional road maintenance.⁴⁴³ RAC, Swedish Road Federation and later also other motorist organizations engaged in lobbying for improved roads, which in turn led to questioning of the 1891 Road Act and the road municipals' road policy and road construction governed by laymen rather than engineers or other professionals.

Swedish Road Federation became gradually one of the interwar years' major road political players through skillful utilization of its political network, and managed to do so without challenging the railroad interests. The trick according to the technology historian Pär Blomkvist was depoliticizing and defusing the road issues by dressing them as technical and economical matters.⁴⁴⁴ Swedish Road Federation desired industrialized road maintenance instead of the farmers' duty work. This initiative achieved common support, but abolition of Sweden's numerous road municipals was an entirely different matter, because that challenged the municipal autonomy, the layman rule, and those who defended status quo and feared increased public spending.

The 1920s became a transition period for the local layman governed road administrations due to increased State contributions to the road construction and maintenance. The almost an exponentially growing number of motor vehicles increased the need for road maintenance, because most roads were built for horse and cart. The number of motor vehicles increased from about 37.000 in 1920 to more than 200.000 in 1930 or from 21.000 cars in 1920 to more than 145.000 in 1930.⁴⁴⁵ Riksdagen approved vehicle and rubber taxes in 1922, gasoline taxes in 1924 and finally taxes on alcohol based fuels in 1929. The *1911 Road Commission* proposed vehicle taxation based on the marginal cost principle according to the economic historian Eva Liljegren, but Pär Blomkvist claimed RAC and Swedish Road Federation's lobby efforts were decisive for dedication of the vehicle tax revenues to road purposes. The main reason for the 1924 gasoline tax was the deteriorating trade balance due to the 1920s' deflation crisis, according to Eva Liljegren. However, Eva Liljegren's study based on analysis of Riksdagen's deliberations concluded the motorist organizations did not affect Riksdagen's decisions about introduction of vehicle and road taxation during the interwar years.⁴⁴⁶ Riksdagen's approval of the marginal cost principle limited the taxation of the motorists, because Riksdagen's majority considered cars a utility, not a luxury item. Dedication of vehicle and fuel tax revenues safeguarded similarly the road construction and maintenance's financing, because the road appropriations increased proportionally with the number of cars and their use.

But how did Riksdagen's introduction of vehicle, rubber and fuel taxes challenge the layman governed road municipals and the locally governed road policy and road construction? This process started early in the 1920s and included several institutional changes that gradually toppled the road policy equilibrium favoring traditionalists, localists and laymen and established instead a new

⁴⁴³ Castensson (1991:232); Krantz (2000:18-19); Kritz (1991:243).

⁴⁴⁴ Blomkvist (2001:89, 98-100).

⁴⁴⁵ Pettersson (1988:38); Gustafsson (1987:95).

⁴⁴⁶ Blomkvist (2001:113-115); Montelius (1996:205); Wedin (1982:25-30); Liljegren (1999:32-35, 37-39, 43, 73); Gustafsson (1987:95).

equilibrium favoring modernists, centralists and professionals. This shift came to a temporary halt in 1937, but the 1937 equilibrium was not viable.

The *1921 Road Act Amendment* made it possible for the road municipals to substitute duty work with payments of property road tax, which did away with most of the duty work during the 1920s.⁴⁴⁷ The 1921 Road Act amendment led to employment of road inspectors in most road municipals and facilitated similarly many road municipals' procurement of the first specialized machines, even if the average road municipal only managed 200 kilometers of roads.

Riksdagen's approval of vehicle, rubber and fuel taxes strengthened gradually the Royal Board of Roads and Waterways' professionals' influence on the road municipals' road policy and road construction, because the Royal Board of Roads and Waterways managed the road municipals' State contributions. The road municipals had to apply for State contributions and build and maintain the roads according to the Royal Board of Roads and Waterways' technical requirements, because the Royal Board of Roads and Waterways' engineers approved the road municipals' plans. The road municipals carried out the road maintenance during the 1920s and 30s, but contracted usually out construction of roads and bridges to private construction companies. The plans for such projects were usually made by the construction companies or consulting engineers. The Ministry of Communications signaled in 1924 a desire for development of perennial road plans in each road municipal. This desire was formalized in 1929, because the road municipals was ordered to develop quadrennial local road plans for 1931-33, which were supposed succeeded by further quadrennial road plans.⁴⁴⁸ The Royal Board of Roads and Waterways' management of the State contributions and supervision of the road municipals facilitated thus development of a more uniform road system. The same was the Ministry of Communications' introduction of long term road planning and perennial budgets in each road municipal.

Riksdagen decided in 1929 to reorganize the Royal Board of Roads and Waterways. The five road and water construction districts were replaced by road administrations within each of the 24 State county administrations from July 1st 1930 that supervised the road municipals.⁴⁴⁹ The 1930 reform furthered the Royal Board of Roads and Waterways influence on the road municipals, because their engineers were from then present in every county's State administration, which increased the Royal Board of Road and Waterway's administrative capacity.

Road construction was one of the executives and municipals' most commonly used relief works during the 1920s and 30s economic crises, particularly in northern Sweden. The so-called *Norrland-system* divided the planned roads into 150-250 meters sections, which were auctioned on site to groups of self-employed workers. The Norrland-system reduced the construction costs, but reduced also the road workers' incomes, particularly if high unemployment. This road construction was generally based on manual labor. The only exceptions were in some parts of southern Sweden where specialized construction companies engaged in road

⁴⁴⁷ Gustafsson (1987:95); Pettersson (1988:123-124, 131-132).

⁴⁴⁸ Pettersson (1988:39, 54-55, 132-133, 159).

⁴⁴⁹ Ernst Augustinsson, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskost*, Vol. 61, February 28th 1931:26-27; P. E. Hubendick, *Vägkonsulenter, vägingenjörer och underhåll* [Online October 9th 2004] – URL: <http://www.vv.se>; Historia i årtal [Online October 9th 2004] – URL: <http://www.vv.se>; Montelius (2001:4); Gustafsson (1987:95).

construction, because the labor force there often had more profitable alternatives than road construction.⁴⁵⁰ The interwar years' Swedish road construction was thus usually not mechanized such as in Denmark, even if road construction also was commonly used as relief works in Denmark.

The Swedish State's fuel and vehicle tax revenues exceeded the municipal property road tax revenues at the turn of the 1920s and 30s.⁴⁵¹ The State's financial contributions to construction of new roads in 1930 increased from 2/3 to 3/4 of the construction costs, and the maintenance contributions were similarly increased from 70 to 75 percent.⁴⁵² The Royal Board of Roads and Waterways and the road municipals spent about 100 millions SEK annually in 1931 and 1932 on road investments and maintenance, approximately 191,6 and 197,72 millions 1990 PPP USD per year. The State's financial contributions to road maintenance increased further from 75 to 80 percent in 1931; hereunder 65 percent financed by the dedicated vehicle, rubber and fuel taxes. The State's maintenance contributions increased further to 90 percent in 1932.⁴⁵³ The State's financial contributions to the road municipals' road construction and maintenance were linked to the local road taxes, and increased with the local property road taxes.⁴⁵⁴ But the early 1930s' increased road appropriations necessitated in turn increased vehicle and fuel taxes to maintain the State's budget balance. Riksdagen increased therefore the vehicle and fuel taxes in 1927, 29, 31, 32 and 38, and abolished similarly the rubber taxes in 1938.⁴⁵⁵ The significantly increased State contributions to the road municipals during the 1920s and early 30s indicated clearly that road construction and maintenance was used counter cyclic to fight unemployment, no matter the executives' political affiliation. These contributions increased also the Royal Board of Roads and Waterways' involvement in the road policy and road construction, which still was governed locally by the road municipals' laymen.

The high unemployment and shift from railroad to road transports of passengers and goods placed also road policy and road construction firmly on the Swedish domestic political agenda.⁴⁵⁶ The executive appointed the *1929 Road Committee* to update the 1891 Road Act, the *1931 Road and Bridge Committee* to

⁴⁵⁰ Törnlund (1996:2-3, 8, 10-12 Tabell 1).

⁴⁵¹ Liljegren (1999:24 Tabell 2); Historia i årtal [Online October 9th 2004] – URL: <http://www.vv.se>.

⁴⁵² Ernst Augustinsson, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 61, February 28th 1931:27-28; Nils von Materen, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 62, February 27th 1932:23.

⁴⁵³ Nils von Materen, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 62, February 27th 1932:22-24; Fr. Ploman, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, April 22nd 1933:43-45.

⁴⁵⁴ See for instance Nils von Materen, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 62, February 27th 1932:23 concerning the linking of the State contributions to the local road taxes and "Ett 10-årsprogram för vägväsendet", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, December 23rd 1933:140-141 for an overview of the counties' road taxes in 1933.

⁴⁵⁵ Liljegren (1999:45, 48, 52, 54-55, 61, 66-68, 71).

⁴⁵⁶ See for instance Olle Krantz, *Historiska nationalräkenskaper för Sverige: Transporter och kommunikationer 1800-1980*, Ekonomisk-historiska föreningen/Studentlitteratur, Lund 1986:197 Tabell T48, 200 Tabell T51, 207 Tabell T58, 208 T59 for an overview of the State owned and private railroads and the trucks' annual turnover and use during the interwar years. See also *Historiska nationalräkenskaper för Sverige: Transporter och kommunikationer 1800-1980*:212-213 Tabell T63 for an overview of the relative changes between the different means of goods and passenger transport during the interwar years.

update the road planning procedures and road design manuals, and finally the *October 1931 Committee* to elucidate the Royal Board of Roads and Waterways' organizing and a possible State takeover of RAC's Road Research Institute.^{457 458} The entire Swedish road administration came hence under scrutiny at the turn of the 1920s and 30s.

Sweden's chartered engineers were well aware the German plans for construction of a national motorway system.⁴⁵⁹ They were similarly well aware of the US efforts for introduction of scientific planning and construction of modern roads, because Swedish scholars and engineers published regular reviews of international literature in journals like *Teknisk tidskrift – Väg- och vattenbyggnadskonst*.⁴⁶⁰ The question about construction of dedicated roads for cars vs. construction of roads that mixed cars, horses, bicycles and pedestrians was one of the interwar years' big issues for road engineers.⁴⁶¹ These questions were also discussed among Swedish engineers, which evidently were well aware of those days' professional debates in mainland Europe and USA. Ideas about modern road planning and construction diffused among others to those who elucidated Sweden's future road policy, road construction and organizing of the road administration.

The 1929 Road Committee's majority did not recommend establishment of a centralized State road board such as in Italy or Germany, but consolidating the 376 road municipals into larger units, each headed by a locally elected Road Board. The 1929 Road Committee's engineers proposed also State management of the most crowded roads.⁴⁶² The 1929 Road Committee's studies revealed that road municipals responsible for few kilometers of roads had far higher costs per kilometer than road municipals responsible for many kilometers of roads.⁴⁶³ The explanation was most likely that urban road municipals with crowded roads had far higher maintenance costs per kilometer than rural road municipals responsible for many kilometers of sparsely trafficked roads. Because the economy recovered after the depression, and increased economic activity led in turn to increased road traffic.

Riksdagen approved the *1934 Road Act* after the Social Democratic and Agrarian Parties' class compromise in May 1933. The 1934 Road Act that came into

⁴⁵⁷ Ernst Augustinsson, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 61, February 28th 1931:28; Nils von Materen, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 62, February 27th 1932:23-24; Nils von Materen, "Det nya väglagsförslaget", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, January 28th 1933:1-3.

⁴⁵⁸ RAC established in 1923 its own *Road Research Institute* (Svenska väginstitutet) that in 1935 became a State research institute. RAC's Road Research Institute furnished professional arguments, among others through development and dissemination of new technologies for more rational and efficient road construction and maintenance, and was thus of importance for those who engaged in lobbying for better roads during the 1920s and early 30s (Ernst Augustinsson, "Vägar", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 61, February 28th 1931:28; Blomkvist 2001:116-111; Jönsson 1991:4; Turesson 1991:185-186).

⁴⁵⁹ "Riksautomobilvägar i Tyskland", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, September 23rd 1933:108.

⁴⁶⁰ Odd Albert, "Highway Economics", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 61, October 24th 1931:140; H. N. Pallin, "Der Strassenbau in U.S.A.", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 64, September 22nd 1934:107-108.

⁴⁶¹ See for instance Mom (2005:754 ff.) for an overview of the international debate about dedicated vs. mixed roads.

⁴⁶² Nils von Materen, "Det nya väglagsförslaget", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, January 28th 1933:1-6.

⁴⁶³ Prop 21/1934 in Gustafsson (1987:99 Figur 5).

power in 1937 abolished the duty work, reduced the road municipals' number to 170, increased the road municipals' average road length to approximately 500 kilometers and codified many of the 1920s and early 30s road policy reforms. The 1934 Road Act formalized also the Royal Board of Roads and Waterways' influence on the road policy and road construction through establishment of *County Road Boards* as the road municipals' supreme authorities, almost as recommended by the 1929 Road Committee. The State county administrations' road engineers, who were the Royal Board of Roads and Waterways' local representatives, were entitled to participate in the County Road Board's negotiations.⁴⁶⁴ The combination of the Royal Board of Roads and Waterways' 1930 reform that established road administrations in each county's State administrations and the 1934 Road Act paved hence the way for new local road administrations with seemingly many similarities with Norway's so-called *Combined Road Administration* established from 1893, as a merger of the State's Directorate of Public Roads that managed the trunk roads and the counties' Public Roads Administrations that managed the parish roads.

An important forum for dissemination of knowledge about modern road policy and road construction among Nordic road administrators, engineers and construction companies was *Nordic Road Association* (Nordisk vegteknisk forbund) established in Stockholm June 19th 1935.⁴⁶⁵ Nordic Road Association with its many subgroups has since then facilitated cross-national networking among road administrators, consulting engineers and engineering and construction companies.

Sweden's public road system increased significantly from the turn of the 19th and 20th century until World War Two. The roads managed by the road municipals measured 59.257 kilometers in 1906, 65.807 kilometers in 1921, 71.623 kilometers in 1926, 77.056 kilometers in 1931 and 88.595 kilometers in 1941.⁴⁶⁶ However, the trunk roads and highways' length increased only from 19.086 kilometer in 1910, to 19.990 kilometers in 1930 and 23.603 kilometers in 1936.⁴⁶⁷ Most roads built by the road municipals during the interwar years were thus local, except in the 1930s when construction of trunk roads and highways increased somewhat.

⁴⁶⁴ Gustafsson (1987:96-98); Pettersson (1988:39, 50-53); Blomkvist (2001:102-103); Montelius (1987a:27; 2000:19); Jönsson (1991:40); Liten Vägverkshistoria [Online October 9th 2004] – URL:<http://www.vv.se>.

⁴⁶⁵ The meeting in Stockholm June 19th 1935 where road engineers and road administrators from Sweden, Denmark, Norway, Finland and Iceland founded Nordic Road Association was held in connection with the first Nordic Road Congress. The first ideas about a Nordic Road Association came up already at PIARC's (Permanent International Association of Road Congress) meeting in Sevilla, Spain, in 1923, but these ideas were not formalized until 1935. Nordic Road Association has since then been an important arena for chartered engineers employed by the public road administrations, private construction and/or consulting companies. The heads of the Nordic road administrations have all been crucial in Nordic Road Association. The Royal Board of Road and Water Construction's Chief Director Nils Bolinder became Nordic Road Association's first leader. Chartered engineer Nils von Materen was employed as the first Secretary General (Jensen et al. 1995:14-20).

⁴⁶⁶ Kungl. Väg- och Vattenbyggnadsstyrelsen, *Väg och Vattenbyggnadsverket 1/1-1944 – 30/6-1947*, Sveriges Officiella Statistik, Stockholm 1952:11.

⁴⁶⁷ Liljegren (1999:23 Tabell 1).

The municipal taxes became the lever that shifted the balance between laymen and professionals

The Royal Board of Roads and Waterways initiated in 1937, when the 1934 Road Act came into force, development of master plans for the consolidated road municipals. But these plans were never completed, because the Ministry of Communications ordered further considerations about the road administration's organizing already in November 1938, because the ongoing municipal taxes study required in October 1938 elucidation of possible State management of the public roads. Equalization of the municipals' tax burdens was namely impossible unless abolition of the municipal property road taxes. The 1930s' extensive road construction combined with increased road traffic had, despite significant State contributions to the road municipals, made the municipal property road taxes highly noticeable, particularly in the high tax municipals. The road construction and maintenance was in 1938 almost completely State financed and one of the few costs that easily could be shifted from the municipals to the State.⁴⁶⁸ The conclusion was thus almost given when the *State Takeover Commission* commenced.

Appointment of the State Takeover Commission was not the only important move that took place in 1938. An equally important institutional reform was creation of a particular account (*automobilskattemedlens specialbudget*) in the State's accounting system that consolidated the vehicle and fuel tax revenues. The account's contra entries were the State's annual road appropriations. Creation of this particular account in the State's general ledger for vehicle and fuel tax revenues dedicated these revenues to road purposes.⁴⁶⁹ Establishment of this particular account made it very difficult for the executive to spend the road and vehicle tax revenues on balancing the budget rather than on road investments and maintenance, and institutionalized thereby the practice established since Riksdagen's approval of the first vehicle and fuel taxes in 1922.

The State Takeover Commission's task listed several reasons for State management of the public roads. The most important reasons were the fast growing motoring that had made road management a national task, the road municipals' varying road standard, the locally initiated road construction that led to different priorities, the road municipals' high transaction costs and the absence of economies of scale. State managed roads would also improve the coordination of the road construction and maintenance with regard to the business cycles' fluctuations. The State Takeover Commission's 1941 recommendations added national security and the armed forces' needs to this list, and Riksdagen approved the State takeover in 1942.⁴⁷⁰ Motions for State takeover of the management of public roads had been forwarded to Riksdagen in 1889, 1905, 1908, 1910, 1911, 1915, 1919 and 1927, but been rejected every time, usually because the farmers and non-socialist parties feared increased costs and tax burdens.⁴⁷¹ Riksdagen's 1942 decision concluded hence almost 50 years struggles about the public roads' management and financing, and was a major victory for the Social Democratic Party, the Royal Board of Roads and Waterways' chartered engineers and other technocrats who desired a centralized

⁴⁶⁸ Gustafsson (1987:98); Gerentz (1991:19). See also Pettersson (1988:39-40)

⁴⁶⁹ Andréasson et al. (1997:44).

⁴⁷⁰ Gustafsson (1987:98); Blomkvist (2001:161-162).

⁴⁷¹ Pettersson (1988:123-126); Gerentz (1991:19); Montelius (1987a:27); Blomkvist (2001:161-163).

State road administration operating according to the professionals' norms, similarly as for instance the *Royal Board of Waterfalls* (Kungliga vattenfallsstyrelsen). But Riksdagen's 1942 decision was more a result of Ernst Wigforss, Sweden's strong minister of finance's desire for a municipal tax reform than the road engineers' desire for rational and professional management of Sweden's public roads, and can thus be understood as a side effect of the minister of finance's moves.

The executive established in 1943 the ground rules or institutional framework governing the new State road administration. The *1943 Road Act* (SFS 1943:431) that came into force January 1st 1944 made the State responsible for management and financing of the rural areas' public roads, except those local roads still managed by the municipals. The major cities maintained the responsibility for management of their own public roads. The *1943 Road Statutes* (SFS 1943:437) instituted road management according to perennial plans and budgets, and furthered thereby the practice established in 1931. The Royal Board of Roads and Waterways' task was development of perennial plans for the rural areas' trunk roads. The county councils became similarly responsible for development of perennial plans for all other rural roads. The Royal Board of Roads and Waterways made also perennial road plans for the cities based on the cities' local plans. The *King's Decree for State Contributions to the Cities' Road Management* (SFS 1943:438) established the principle the cities received quadrennial State road contributions that had to be accounted for annually. The State financed generally 95 percent of the cities' construction and maintenance costs for those roads eligible for State contributions. The *King's Decree of August 30th 1943 for the Royal Board of Roads and Waterways and its subordinated county units* (SFS nr 681) regulated the new State road administration's activities and organizing.⁴⁷² The 1943 Road Act, Road Statute and Road Decrees punctuated thereby the 1891 Road Act's local or parochial road policy equilibrium, and established a new equilibrium based on State management of most public roads that placed the Royal Board of Roads and Waterways' professionals in Sweden's road policy driver' seat. The 1943 Road Statutes established also a rational division of labor between the Road Board of Roads and Waterways that planned trunk roads and other roads with national collective good characteristics and the county councils that planned roads with local collective or private good characteristics.

Sweden's new State road administration established January 1st 1944 was organized according to French model, because the responsibilities for several engineer-intensive infrastructures were gathered in the Royal Board of Roads and Waterways that either became directly responsible for planning, construction and maintenance, or for supervision of other boards or agencies responsible for planning, construction, maintenance and/or operations of the infrastructures. The Royal Board of Roads and Waterways in Stockholm and its 24 subordinated county road administrations managed the rural areas' trunk roads, highways and county roads, and supervised also the cities' management of the public roads. A Road Director headed each of the Royal Board of Roads and Waterways' county units, and coordinated the road policy matters with the county councils, State county administrations and the Royal Board of Roads and Waterways in Stockholm. This model was upheld until the 1992 reform, which reintroduced regions transcending

⁴⁷² Kungl. Väg- och Vattenbyggnadsstyrelsen, *Väg och Vattenbyggnadsverket 1/1-1944 – 30/6-1947*, Sveriges Officiella Statistik, Stockholm 1952:3, 12-13, 24-25. See also Skårfors (1999:28-29).

the county border similarly as prior to 1930.⁴⁷³ The road municipals were history January 1st 1944, when the road policy and road construction governed by the road municipals' laymen were replaced by road policy and road construction governed by the Royal Board of Roads and Waterways' professionals.

Sweden's new State road administration had seemingly many similarities with Norway's Combined Road Administration. But there were fundamental differences. First, the Swedish executive outlined the road policy, forwarded the propositions to Riksdagen that made the strategic decisions and approved the annual road appropriations. Second, the Royal Board of Roads and Waterways received lump sum allocations and implemented Riksdagen and the executive's road policy according to its own engineers' scientific and professional standards, and furthered thereby the practice established since the 1920s when the Royal Board of Roads and Waterways managed allocation of the State road appropriations to the road municipals. Finally, the Swedish executive and legislators delegated the road policy and road construction to the Royal Board of Roads and Waterways' professionals, because neither the executive nor Riksdagen engaged in micro management of the professionals such as their Norwegian opposite numbers did. This practice was clearly in accordance with the tradition for policy implementation through an autonomous State bureaucracy established since the 18th century, and was clearly an example of path dependence.

Riksdagen approved also in 1939 State takeover of private railroads based on voluntary agreements between the Royal Board of Railroads and the individual private railroad companies.⁴⁷⁴ This decision increased the Royal Board of Railroads' number of kilometers of unprofitable railroads from approximately 1940. The difference between Riksdagen's 1939 approval of State takeover of the private railroads and Riksdagen's 1942 decision about State managed roads was striking, according to the economic historian Lena Andersson-Skog, because the State's takeover of the railroads was a defensive move. Replacement of the road municipals with a national road board was an offensive move.⁴⁷⁵ Many railroads were yesterday's transport infrastructures in the early 1940s. Roads were then tomorrow's transport infrastructure, because of the road transports flexibility and cost effectiveness compared to most obsolete railroads.

Conclusions

What about this chapter's findings about the study's four working hypotheses concerning the Swedish case prior to 1945? This study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was weakened prior to the turning point in 1944, because roads were not considered national collective goods in Sweden until 1942. Road policy and road construction had namely been the farmers' responsibility since the middle ages. The 1891 Road Act

⁴⁷³ Kungl. Väg- och Vattenbyggnadsstyrelsen, *Väg och Vattenbyggnadsverket 1/1-1944 – 30/6-1947*, Sveriges Officiella Statistik, Stockholm 1952:3. See also Pettersson (1988:55 ff.); Montelius (1987a:23-26; 1987b:80, 81); Kaijsers (1999:234); Blomkvist (2001:52 ff., 113-116, 161-164); Historia i årtal [Online October 9th 2004] – URL: <http://www.vv.se>.

⁴⁷⁴ Andersson-Skog (1993:139).

⁴⁷⁵ Andersson-Skog (1993:145, 148-149).

upheld the idea about roads as local collective or private goods though establishment of the road municipals where layman governed the initially locally financed road policy and road construction. However, the road municipals were challenged throughout the 1920s and 30s by increased road traffic and increased State road financing, which increased the Royal Board of Roads and Waterways' professionals influence on the road policy and road construction. An increasing number of legislators recognized roads as collective goods, and Riksdagen approved in 1942 State management of the rural areas' public roads. The 1943 Road Statutes established a rational division of labor, where the Royal Board of Roads and Waterways became responsible for planning of trunk roads and other roads with national collective good characteristics, while the counties became responsible for planning of roads with local collective or private good characteristics. The road municipals were history January 1st 1944 when the Royal Board of Roads and Waterways usually got the final say concerning road policy and road construction. State financed road construction and delegation of the road policy and road construction to the Royal Board of Roads and Waterways indicated clearly the legislators perceived many roads as national collective goods.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was clearly weakened by the Swedish case prior to 1945, even if roads first and foremost were considered as local collective or private goods prior to Riksdagen's 1942 decision. But Swedish the road policy and road construction prior to 1944 was not governed by the constituencies' resource struggles, because the 1891 Road Act made road policy and road construction municipal matters. The State's involvement in the road policy and road construction increased significantly during the interwar years because of increased State financing after introduction of fuel and vehicle taxes, among others to mitigate the 1920s and 30s' high unemployment when road construction was used as relief works. But the State's financial contributions to the road municipals were linked to local property road taxes and managed by the Royal Board of Roads and Waterways. Riksdagen was not directly involved such as Stortinget in Norway.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was weakened by the Swedish case prior to 1945, because the political parties' rivalry was not decisive for the road policy and road construction prior to 1944, because the executives – no matter their political affiliation – used road construction and maintenance counter cyclic during the 1920s and 30s to mitigate the high unemployment. The political use of road policy and road construction prior to the State takeover was indirect, via the road municipals and the Royal Board of Roads and Waterways that allocated the State road appropriations.

The study's final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Swedish case prior to 1945. First, Sweden's 1809 Constitution established a strong executive and a strong legislature, and upheld the State bureaucracy established by Axel Oxenstierna in the 17th century. The ancient corporative system and the four-cameral Riksdagen delayed Sweden's modernization during the first part of the 19th century, but Riksdagen's decision in December 1865 punctuated this equilibrium and established the bicameral system and abolished the estates' privileges. Second, the four-cameral

Riksdagen's functional committee system was furthered even in the bicameral Riksdagen, and was also an example of path dependence. Third, the 1907-09 and 1921 suffrage reforms punctuated the political equilibrium established through Riksdagen's introduction of the bicameral system, and established a new equilibrium with entailing political economy that paved the way for the Social Democratic Party's takeover in 1932. Fourth, introduction of parliamentary rule in 1917 based on Riksdagen's both chambers established similarly a unique political system with a strong executive and legislature and State boards with a high degree of autonomy both towards the executive and Riksdagen. These boards were first and foremost governed by the norms about State reason and the professionals' scientific and professional standards, exactly as outlined by Axel Oxenstierna in the 17th century, even if they also were kept in check by the administrative courts. The boards' autonomy developed since the 18th century was clearly an example of path dependence. Fifth, the Social Democratic and Agrarian Parties' 1933 political horse trade or class compromise established Sweden's modern corporative negotiation system, and changed once again the political economy, among others through increased expert and technocrat influence on the policy development compared to most other countries. The class compromise and new corporative negotiation system paved the way for a new social contract between the citizens and the authorities, which largely was based on a highly rational engineer approach to politics. Sixth, establishment of a particular account in the State's accounting system in 1938 that consolidated the vehicle and fuel tax revenues, with the road appropriations as a contra entry, instituted dedicated vehicle and fuel tax revenues to road purposes, a practice established in the 1920s. Finally, Riksdagen's 1942 decision and the 1943 Road Act, Road Statute and Road Decrees punctuated the 1891 Road Act's local or parochial road policy equilibrium governed by laymen, and placed instead the Royal Board of Roads and Waterways' professionals in the road policy driver's seat from January 1st 1944, when the executive and legislators delegated the road policy and road construction to the professionals, in accordance with the practice instituted since Axel Oxenstierna.

1945-1959 – Establishment of Sweden's expert governed road policy

The period 1945-59 was characterized by political stability despite the opposition parties' questioning of whether Sweden actually had parliamentary rule, because of the bicameral system's lag that maintained the Social Democratic Party's power. The postwar boom began in 1950 and lasted until 1975. Passenger cars became Sweden's most important mean of transportation from about 1950, but the postwar road system was dysfunctional and not able to handle the fast growing road traffic. The remedy was the executive, legislators and new centralized State road administration's import of ideas from USA about traffic engineering and development of a national road plan to catch up Sweden's lag concerning modern road infrastructures.

Sweden's political and economic development 1945-59

Sweden remained neutral during World War Two. The Swedish exports increased 50 to 100 percent during World War One but were halved during World War Two,

according to the economic historian Lennart Schön. But the Swedish State and politicians' role in the economy increased significantly.⁴⁷⁶ Germany was Swedish trade and industry's most important export market during World War Two, according to the economic historian Lars Magnusson. Germany supplied Sweden with most raw materials at least until 1943.⁴⁷⁷ Many Swedish export industries reoriented themselves during the war, and served instead the domestic needs for supplies and armaments.⁴⁷⁸ The Swedish exports to Germany were reduced after 1943 because of political pressure from the allied nations, particularly USA.⁴⁷⁹ Many Swedish companies feared namely US blacklisting, and acted accordingly.

Prime Minister Per Albin Hansson died suddenly October 6th 1946. Tage Erlander, the Social Democratic Party's minister of ecclesial matters, won the power struggle with Gustav Möller and governed until October 1969.⁴⁸⁰ Sweden had little need for reconstruction after the war, because of its neutrality. The Social Democratic Party's chief ideologue and minister of trade Gunnar Myrdal prepared for a major postwar recession, similarly as after World War One, but the expected recession failed to materialize. The planned regulations were therefore never implemented fully, among others because of fierce opposition from the trade and industry and the non-socialist parties, particularly the Liberal Party's Bertil Ohlin. The Swedish economy remained an open market economy.⁴⁸¹ United Nations (UN) established in 1947 *Economic Commission for Europe* (ECE) headed by former minister of trade Gunnar Myrdal. ECE's tasks were among others coordination of trade, economy, technology and environmental problems, and to improve Europe's infrastructures to fuel the economic growth.⁴⁸² Most ideas about a planned Swedish postwar economy went away with Gunnar Myrdal. The postwar problem became not deflation but inflation.

The Swedish Ministry of Finance increased its power within the executive during and after World War Two, and became gradually a 'super ministry'. Per Edvin Sköld, minister of finance from October 1949 to September 1955, and Gunnar Sträng, minister of finance from September 1955 until October 1976, achieved particularly prominent positions within the executive, and constrained the other ministries' room for maneuvering.⁴⁸³ The Swedish Ministry of Finance achieved thereby almost a similarly dominant position as the Norwegian Ministry of Finance, but there were, as we will see later, some fundamental differences.

The Social Democratic Party's executive reintroduced rationing in 1947 because of the European currency crisis, even if the rationing had been partly abolished in 1946. Reintroduction of rationing fueled the non-socialist parties' critique of the executive prior to the election. Reintroduction of gasoline rationing in April 1948 furthered the non-socialist parties' arguments against the executive's economic policy. This critique paid off, because the Liberal Party more than doubled

⁴⁷⁶ Schön (2000:359).

⁴⁷⁷ Magnusson (1997:411).

⁴⁷⁸ Schön (2000:359 ff.); Magnusson (1997:411).

⁴⁷⁹ Wieslander (1991c:151-152).

⁴⁸⁰ Molin (1991a:180-181); Hadenius et al. (1991:368-370); Ruin (1991:31-53); Sejersted (2005:322-323).

⁴⁸¹ Magnusson (1997:410-411); Schön (2000:363-365); Sejersted (2005:326-28).

⁴⁸² Blomkvist (2001:137, 139); Hadenius et al. (1991:369).

⁴⁸³ Molin (1991a:196-197); Hadenius et al. (1991:369-371).

its number of seats in the Second Chamber after the 1948 election.⁴⁸⁴ But the Social Democrats remained in position, despite their losses in the 1948, 1952 and 1956 Second Chamber elections, due to their control of the indirectly elected First Chamber.⁴⁸⁵ The Social Democratic Party governed alone from July 1945 to October 1951 and from October 1957 to October 1976 and in coalition with the Agrarian Party from October 1951 to October 1957.⁴⁸⁶ The Agrarian Party got the ministry of agriculture, interior, ecclesial matters and a consultative minister.⁴⁸⁷ The bicameral system safeguarded thus continuity and partly status quo, exactly as planned by Justice Prime Minister Louis De Geer, except that the First Chamber's lag and successive replacement maintained the Social Democratic Party's power.

The postwar Second Chamber elections' lack of political consequences increased the non-socialist parties' critique of the bicameral system, which in turn led to replacement of the Second Chamber's seat allocation according to d'Hondt's method by a modified St. Lagüe's method prior the 1952 election. This reform was initially for the 1952 Second Chamber election only, but was upheld until introduction of the unicameral system. Denmark's 1953 constitutional reform, hereunder abolition of the bicameral Rigsdagen and introduction of the unicameral Folketinget with an election system based on one person – one vote, had similarly consequences. Because Sweden's bipartite executive surprised many in August 1954 when it appointed a commission to propose modernization of the constitution. Some of the non-socialist opposition parties had then questioned whether Sweden actually had parliamentary rule, because the Social Democratic and Agrarian coalition remained in position even after the 1956 Second Chamber election.⁴⁸⁸ However, a new constitution and election system was still decades ahead, similarly as 100 years earlier under the struggles about the four-cameral system and the estates.

Sweden's 1950 trade and industry structure differed slightly from that in Denmark and Norway, because of 20 percent agriculture, 40 percent industry and 40 percent services.⁴⁸⁹ Sweden had a somewhat smaller agricultural sector than Denmark and Norway and a larger industrial sector, but was otherwise rather similar to the West European average. But Sweden was the only Scandinavian country where production of investment goods and durable consumer goods became the leading export sector after World War Two.⁴⁹⁰ The Swedish trade and industries differed therefore fundamentally from Denmark, where the agriculture and its industrial offspring still dominated the exports, and Norway where the smokestack industries' export of raw materials and commodities achieved a prominent position after World War Two. The so-called "Swedish model" was characterized by a combination of the executive's active labor market policy that encouraged streamlining of the trade and industry and the trade unions' so-called solidary wage policy, outline by the Federation of Trade Union's economists Gösta Rehn and

⁴⁸⁴ Molin (1991a:181-183).

⁴⁸⁵ Stjernquist (1996:123 Tabell 2); Hadenius et al. (1991:350-351 Tabell 1C); Historisk statistik över valåren 1910-2002. Procentuell fördelning av giltiga valsedlar efter parti och typ av val [Online September 8th 2005] – URL: <http://www.scb.se>.

⁴⁸⁶ Hadenius et al. (1991:369-370 Tabell 3).

⁴⁸⁷ Molin (1991a:190).

⁴⁸⁸ Stjernquist (1996:279-285).

⁴⁸⁹ Mjøset (1986:73).

⁴⁹⁰ Mjøset (1986:86-87, Figur 3.3.1, 96 Tabell 3.3.4, 121 ff.).

Rudolf Meidner in 1951, that weeded out enterprises not able to pay the agreed wages and moved the labor force to the employment opportunities, and not the opposite such as in Norway.⁴⁹¹ Sweden's postwar executives, the trade unions and the trade and industry safeguarded the welfare State through a joint policy that institutionalized effectiveness, competitiveness and trade and industries that provided high returns on the investments.

How did the Swedish economy perform during the first postwar period? The executive imposed import regulations and restrictions on construction works March 15th 1947, to limit imports and save foreign currency, hereunder a complicated system with bilateral payment and trade agreements. The non-socialist opposition strongly criticized these measures.⁴⁹² Sweden received Marshall Aid from 1948, and joined OEEC and the European Council, despite the Communist Party's protests.⁴⁹³ The Economic Cooperation Administration (ECA) headed by Paul Hoffman, a former US automotive industry executive, governed the Marshall Aid.⁴⁹⁴ The Swedish executive lifted the rationing of butter, meat, bacon and sugar in 1949. The SEK was also devaluated about 30 percent compared to the US dollar, to increase the exports, similarly as most other West-European currencies. The restrictions on construction works were first lifted in 1958.⁴⁹⁵ Sweden endorsed the Bretton Woods agreement in 1950.⁴⁹⁶ Swedish trade and industry profited from the Korea-boom that began in 1950, despite an economic setback in 1951.⁴⁹⁷ The Korea-boom was the beginning of the Swedish trade and industry's "golden age", which lasted until about 1975.⁴⁹⁸

The Swedish executive pursued a low interest policy after World War Two according to the Norwegian sociologist Lars Mjøset.⁴⁹⁹ The interest rates were reduced to about 3 percent during World War Two. The Riksbank reduced the discount rate further to 2,5 percent in February 1945, but overlooked the low interest rates and credit expansion's effect on the demand for goods when the wartime regulations were lifted, according to the Swedish economist Johan Myhrman. The result was inflation. The low interest policy disabled one of the Riksbank's means for managing the economy, and was therefore gradually abolished from 1950 through a law of credentials that in 1952 authorized the Riksbank to govern issuing of new bonds, and through the 1955, 56 and 57 discount rate hikes. The low interest policy was hence not tenable.⁵⁰⁰ But the Swedish executive did never impose politically governed credit rationing such as the Norwegian postwar Labor Party executive did, but established instead flexible interest rates adapted to an open market economy together with market regulations that safeguarded construction of housing. Neither were the Swedish postwar executives obsessed with the currency balance, such as the Norwegian postwar executives.

⁴⁹¹ Mjøset (1986:121 ff.); Sejersted (2005:245-248).

⁴⁹² Molin (1991a:178 ff.).

⁴⁹³ Molin (1991d:328-329); Blomkvist (2001:136-137).

⁴⁹⁴ Dillard (1987:539).

⁴⁹⁵ Magnusson (1997:412 ff.).

⁴⁹⁶ Schön (2000:268).

⁴⁹⁷ Molin (1991a:195-197); Magnusson (1997:415-417).

⁴⁹⁸ Schön (2000:375 ff.).

⁴⁹⁹ Mjøset (1986:131-132).

⁵⁰⁰ Myhrman (1988:237-240).

The Swedish economy underwent significant structural changes 1945-59. The agriculture and forestry's share of the GDP went down. The labor from the agriculture and forestry sectors went to the high-yield industry and service sectors. The industry's share of the GDP was fairly constant, but the service sector's share increased. The exports increased, particularly to Europe, and changed gradually character from raw materials and commodities to more finished goods, such as cars. The modern industry structure developed since the beginning of the second industrial revolution in the 1890s made it possible for Sweden to harvest economically from the early 1950s.⁵⁰¹ Sweden's GDP per capita measured in 1990 international Geary-Khamis dollars were 5.568 dollars in 1945, 6.739 in 50 and 8.288 in 59. The average for the 12 West European countries was 4.154 dollars in 1945, 5.018 in 50 and 7.184 in 59. Sweden had West Europe's third highest GDP per capita in 1945, fourth highest in 50 and again third highest in 59.⁵⁰² In other words, the Swedish postwar economic policy seemed to work well, and the trade and industry was able to utilize the postwar boom's numerous windows of opportunities.

Sweden's postwar challenge – a dysfunctional road system

Sweden's number of motor vehicles grew almost exponentially after the November 1949 abolition of the wartime rationing of gasoline, lubricant, rubber and restrictions on import of motor vehicles. The late 1940s and early 50s became the mass motoring's definite breakthrough, because Sweden had about 50.000 passenger cars in 1945, 242.000 in 1950 and 1,2 millions in 1960! But the road traffic and number of accidents increased accordingly.⁵⁰³ The final restrictions on vehicle imports from West Germany were lifted in 1955.⁵⁰⁴ Sweden had about similar density of cars in 1953 as France and Great Britain, and was well ahead of West Germany and Italy.⁵⁰⁵ The mass motoring's progress in Sweden after World War Two may have been a result of the *Motoring's Council* (Bilismens centralråd), an informal network established in 1946 by RAC as a defensive measure against other means of transport.⁵⁰⁶ Roads became Sweden's most important transport infrastructure for persons from approximately 1950 according to the economic historian Olle Krantz.⁵⁰⁷ The Swedish State's takeover of private railroads from the 1930s until 1945 facilitated a restructuring of the railroad system. About 25 percent or almost 4.100 kilometers of the railroads were closed down between 1950 and 1972.⁵⁰⁸

Neither the road appropriations nor the road investments kept up with the fast growing number of vehicles and the entailing road traffic. The Royal Board of

⁵⁰¹ Magnusson (1997:417-424); Schön (2000:381 ff.).

⁵⁰² Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-63 Table 1c.

⁵⁰³ Kungl. Väg- och Vattenbyggnadsstyrelsen, *Väg och Vattenbyggnadsverket 1/1-1944 – 30/6-1947*, Sveriges Officiella Statistik, Stockholm 1952:7 Tabell A; Blomkvist (2001:134); Castensson (1991:236 Tabell "Fordonsparkens utveckling 1925-1990"); Gerentz (1995:5 Diagram 1).

⁵⁰⁴ Andréasson et al. (1997:16).

⁵⁰⁵ Gerentz (1995:1995:5-6 Diagram 1, Diagram 2).

⁵⁰⁶ Andréasson et al. (1997:26 ff.); Blomkvist (2001:160).

⁵⁰⁷ Olle Krantz, *Historiska nationalräkenskaper för Sverige: Transporter och kommunikationer 1800-1980*, Ekonomisk-historiska föreningen/Studentlitteratur, Lund 1986:212-213 Tabell T63, 228-229 Tabell T75; Krantz (2000:20-21). See also Andersson-Skog (1993:64-73, Diagram III:6).

⁵⁰⁸ Andersson-Skog (1993:60-63 Tabell III:5, 130-143, 147).

Roads and Waterways became soon one of Sweden's most criticized public administrations. Because the Royal Board of Roads and Waterways prioritized first and foremost temporary measures for maintaining the road traffic during the second half of the 1940s.⁵⁰⁹ This was most likely a result of the Swedish executive's constraining of all investments and construction projects between 1947 and 1951 that not gave immediate export revenue increases, immediate improvements of the trade and industry's productivity or other measures to save foreign currency, or avoid scarcity of manpower and to prevent overheating of the building and construction sector.⁵¹⁰ The Swedish Ministry of Finance reasoned almost as its Norwegian opposite numbers between 1945 and the early 50s, but the Swedish executive, trade unions and trade and industry recognized soon, similarly as Axel Oxenstierna did in the 17th century, that functional transport and communication infrastructures were decisive for economic growth and development.⁵¹¹

The new State road administration; i.e. the Royal Board of Roads and Waterways in Stockholm, the 24 subordinated county road administrations and the *Vehicle Inspection* (Statens bilinspektion) was in 1947 renamed to the *Road and Water Construction Administration* (Väg- och vattenbyggnadsverket), but used the designation Royal Board of Roads and Waterways officially until 1967.⁵¹² Karl-Gustaf Hjort succeeded in 1949 Nils Bolinder as the Road and Water Construction Administration's Director General.⁵¹³ The historian Ove Pettersson claimed in his dissertation that Sweden's municipal pre 1944 road administrations were deeply rooted locally in the municipal and county councils and in the local trade and industry, but were not deeply rooted upwards in the executive and Riksdagen. The 1934 Road Act democratized the municipal road administrations because the 1921 suffrage reforms introduced common and not graded votes in the local elections. But the post 1944 Road and Water Construction Administration with subordinated county units was only deeply rooted upwards, not locally such as the former municipal road administrations.⁵¹⁴ Ove Pettersson considered the Road and Water Construction Administration's lack of local deep rooting a problem. The forthcoming discussions question Pettersson's claims.

Sweden's 1947 road system consisted of 90.237 kilometers public roads, 4.509 kilometers trunk roads and highways, 20.043 kilometers county roads and 65.685 kilometers parish roads. Only 4.034 kilometers were in July 1947 paved; the rest was dirt or gravel road. The public road system included also 8.985 bridges and 127 ferry routes.⁵¹⁵ These bridges permitted only 2,5 tons payloads and were the postwar road system's Achilles heels.⁵¹⁶ Because these bridges' low carrying capacity constrained the agriculture, forestry, trade and industry's road transports. Many trucks, lorries and buses that came on the market from 1945 could not cross

⁵⁰⁹ Gerentz (1991:19); Montelius (1987b:80).

⁵¹⁰ Blomkvist (2001:135).

⁵¹¹ See for instance Wetterberg (2003:34-36) about Axel Oxenstierna and the need for improved transport and communication infrastructures to safeguard economic growth and development.

⁵¹² Vägverkets namn genom tiderna [Online October 9th 2004] – URL: <http://www.vv.se>

⁵¹³ Montelius (1987b:81).

⁵¹⁴ Pettersson (1988:134-135).

⁵¹⁵ Kungl. Väg- och Vattenbyggnadsstyrelsen, *Väg och Vattenbyggnadsverket 1/1-1944 – 30/6-1947*, Sveriges Officiella Statistik, Stockholm 1952:11 Tab. D.

⁵¹⁶ Montelius (1987b:82).

these bridges even without payload.⁵¹⁷ The road system inherited from the road municipals was neither able to handle the emerging mass motoring nor the trade and industry's increasing demand for road transports, but how to remedy such a dysfunctional road system? The fix came through three parallel and partly intertwined threads or processes.

The first thread or process was introduction of traffic engineering in Sweden, which established the scientific and professional foundation for how to handle the fast growing road traffic's problems. The Institute of Traffic Engineers, established in USA in 1931, introduced the designation *traffic engineering*, which became a recognized academic discipline in 1943, when Theodore Matson established a study in traffic engineering at Yale University. However, traffic engineering was not an exclusive American phenomenon, because Professor H.N. Pallin at Sweden's *Royal Institute of Technology* (Kungliga tekniska högskolan) began in 1929 lecturing in subjects that later were subsumed under traffic engineering. Pallin's lectures became a textbook in 1936.⁵¹⁸ Swedish chartered engineers wrote numerous articles about traffic engineering, road safety and transport economy during the interwar years.⁵¹⁹ Many of these authors were most likely former students of Professor Pallin, who used the opportunity to disseminate their knowledge and also to advertise their expertise to the road municipals. The traffic engineering's basic ideas were to design and treat the road system and traffic regulation mechanisms similarly as a production process. The aims were the desired mix of traffic flows, transportation and travel time, costs and road safety through application of scientific principles and methods.

The *Royal Swedish Academy of Engineering Sciences'* (Kungl. Ingenjörsvetenskapsakademiens) *Transport Research Commission* headed by the Royal Railroad Board's branch director A. Sjöberg was established at the Transport Day April 27th 1949. The automotive and motoring lobby's most important subcommittee was the *Road and Vehicle Committee*, headed by the Royal Institute of Technology's Professor Torsten Åström, who furthered Professor H.H. Pallin's efforts in traffic engineering. The automotive and motoring lobby got ten of the Road and Vehicle Committee's twenty members, in addition to Åström. The Royal Board of Railroads got three members; the remaining six were divided between the Road and Water Construction Administration and Sweden's Armed Forces. The

⁵¹⁷ See for instance Blomkvist (2001:188-191) about the different studies carried out between 1948 and 1951 by Swedish Road Federation concerning the bridge's' limited capacity. The Royal Board of Roads and Waterways' initially proposed weight restrictions were not compatible with new and heavier vehicles.

⁵¹⁸ Blomkvist (2001:176-181).

⁵¹⁹ See for instance S. Ribbing, "Beräkning av trafikbelastningen", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 61, May 30th 1931:61-67 and *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 61, June 27th 1931:77-82; Nils Lidvall, "Kommunalteknik", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 62, January 23rd 1932:5-9; G. A. Nylén, "Teoretisk trafikräkning", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 62, June 25th 1932:73-75; A. E. Ullerstam, "Om körbanekurvor", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, January 28th 1933:6-11 and *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, March 25th 1933:33-36; Einar Nordendahl, "Förortsbanor versus omnibuslinjer", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, February 25th 1933:13-21; W. Silfverhjelms, "Metod för trafikstörningsstudier. Störningar registreras under färd med bil", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, May 27th 1933:55-58; Gösta Malm and Nils von Materen, "Motortrafikens andel i konstnaderna för väghållningen", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 63, October 28th 1933:109-113; G. Hentz, "Nya infartsvägar till Malmö", *Teknisk tidskrift – Väg- och vattenbyggnadskonst*, Vol. 64, June 23rd 1934:69-72.

Road and Vehicle Committee accomplished 1949-50 basic studies of Sweden's settlement, industry structure and need for transportation, which were permeated by ideas from traffic engineering.^{520 521} The Royal Institute of Technology's scholars and the automotive lobby that met in the Royal Swedish Academy of Engineering Sciences paved thereby the way for import, translation and dissemination of knowledge about traffic engineering in Sweden.

The second thread or processes towards a permanent remedy of Sweden's obsolete or dysfunctional postwar road system began in Swedish Road Federation with affiliated business sector organizations. Swedish Road Federation was reorganized and refinanced in 1947, because the 1944 abolition of the road municipals and establishment of the Royal Board of Roads and Waterways as a centralized and professional State road administration deprived its former *raison d'être*. This turnaround from dissemination of practical knowledge about modern road maintenance to high-level road policy issues and dissemination of traffic engineering were financed 43 percent by *Swedish Automotive Industry Association* (Sveriges Automobilindustriförening) and the automotive dealers, 18 percent by the three motorist organizations, 20 percent by *Swedish Petroleum Institute* (Svenska Petroleumsinstitutet) and 8 percent by the Trade and Industry's Traffic Delegation.⁵²² The 1944 road polity and road policy reforms forced hence Swedish Road Federation to reconsider its mission completely, and expanded thereby its reach and horizon. This was most likely an unintended consequence of the 1944 reform.

USA's multinational automotive, oil and rubber industries established *International Road Federation* (IRF) in Washington D.C. May 5th 1948, because of concerns for their future business opportunities. The US Good Roads Movement established early in the 20th century inspired even IRF. IRF's main goals were planning and construction of modern national road systems and construction of a modern transnational road system. IRF developed close ties to the US executive; disseminated knowledge about traffic engineering and logistics developed during World War Two and championed the idea about a linear and positive relationship between road construction and economic growth. IRF became one of the 1950s' strongest proponents for traffic engineering and development of national road plans.⁵²³ IRF had far more financial and political muscles than any other similar organization prior to World War Two, and exercised considerable influence in many western industrialized countries, particularly those that received Marshall Aid.

⁵²⁰ Blomkvist (2001:192-193).

⁵²¹ The Royal Swedish Academy of Engineering Sciences was established in 1919. Its predecessors were Sweden's Industry Association, established in 1910 and the National Board of Trade's (Kommerskollegium) Industry Office, established in 1912. The National Board of Trade was established in 1637 as Collegium for the Trades together with a Collegium for Mining that was abolished in 1857 and incorporated in the National Board of Trades. The Royal Swedish Academy of Engineering Sciences was established as a bridge between academia, trade and industry, public administrations and numerous special interest groups, and is still one of Sweden's important meeting places (Historik; An independent bridge-builder [Online September 26th 2005] – URL: <http://www.iva.se>; History of the National Board of Trade [Online September 26th 2005] – URL: <http://www.kommers.se>).

⁵²² Blomkvist (2001:151-160, 165-168). See also Andréasson et al. (1997:120).

⁵²³ Introduction [Online October 10th 2004] – URL: <http://www.irfnet.org>; Blomkvist (2001:169-171, 172).

IRF established a European branch in London already in 1948. The American Douglas Clarke became in 1951 managing director of IRF's new Paris office and IRF's liaison to UN and other bodies established to safeguard Europe's postwar reconstruction. IRF became soon UN's consultative body in road matters.⁵²⁴ IRF worked as an intermediary between the automotive, oil and rubber industries, universities, research institutions, executives, legislatures and the numerous national and international bodies established to facilitate Europe's economic reconstruction after World War Two, and became soon one of the late 1940s and early 50s road policy premise providers.

Swedish Road Federation joined IRF already in June 1948, and took part in IRF's annual meeting in London in November 1949, which became an eye-opener. IRF's managing director Robert Swain impressed Swedish Road Federation's chairman, Gothenburg's County Governor Malte Jacobsson, and managing director Bertil Liljequist during his lecture "Traffic Engineering in USA". Swain's main message was early planning to avoid future traffic problems, particularly in urban areas.⁵²⁵ Swedish Road Federation and IRF held a joint meeting in Karlstad, Värmland, June 13th and 14th 1950, where also four of the Nordic countries' Director Generals or Road Directors took part together with *Norwegian Road Federation* (Opplysningsrådet for Biltrafikken), Swedish Road Federation's sister organization that had been established by the Norwegian motorist organizations in November 1948. The Karlstad meeting's main topic was future road investments. Douglas Clarke, ECA's transport adviser, lectured about "The roads' economic significance in USA".⁵²⁶ Swedish Road Federation did not only network with IRF, but connected also IRF with its recently established Norwegian sister organization that struggled against politically governed car rationing, minuscule road investments and a ruling party that considered cars and road investments unnecessary luxury. IRF managed to convey the idea about the need for a Swedish long-term national road plan at the 1949 and 50 meetings.

Bureau of Public Roads, USA's federal road administration, issued the first version of its *Highway Capacity Manual* in 1950 that summarized the state of art with regard to traffic-engineering research. *Highway Capacity Manual* became the scientific and professional starting point for USA's forthcoming Interstate Highway System, and the ideal condition was an unconstrained flow of traffic.⁵²⁷

Swedish Road Federation's chairman Malte Jacobsson discussed in August 1952 development of a national road plan with the Road and Water Construction Administration's Director General Karl-Gustaf Hjort. The Road and Water Construction Administration wrote early in 1953 about the necessity of a national long-term road plan, and had thereby adopted many of Swedish Road Federation's ideas. Swedish Road Federation emphasized also design and construction of roads according to traffic engineering's principles could provide significant improvement in road safety.⁵²⁸ Swedish Road Federation conveyed thus IRF's ideas about traffic

⁵²⁴ Blomkvist (2001:170-171).

⁵²⁵ Blomkvist (2001:174); *Årsberetning 1/1-31/12-1950*, Opplysningsrådet for Biltrafikken, Oslo 1951:3. OVA.

⁵²⁶ *Årsberetning 1/1-31/12-1950*, Opplysningsrådet for Biltrafikken, Oslo 1951:3. OVA; Østby (1995:224 f.); Blomkvist (2001:139-140).

⁵²⁷ Blomkvist (2001:179-180).

⁵²⁸ Blomkvist (2001:201-205); Gerentz (1991:20).

engineering and a national road plan to the Road and Water Construction Administration's top-level management.

Swedish and Norwegian Road Federation were both permitted to send one chartered engineer each to Yale University in New Haven, Connecticut during the term 1953-54, for further studies in traffic engineering. Stig Nordqvist went to Yale together with the Norwegian Directorate of Public Road's chartered engineer Arne Grotterød.⁵²⁹ Grotterød became later crucial for development of Norway's first modern national road plan. Stig Nordqvist established traffic engineering as an engineering discipline at Sweden's technical institutes, because he received financial support from the Royal Swedish Academy of Engineering Sciences' Transport Research Commission and translated and adapted *Highway Capacity Manual* to Swedish after completing his studies at Yale.⁵³⁰ Stig Nordqvist did not participate directly in development of Sweden's forthcoming road plan, but contributed indirectly through establishment of the road plan's scientific, professional and ideological platform.⁵³¹ Swedish Road Federation, IRF and Stig Nordqvist were thus crucial for import, translation and dissemination of traffic engineering in Sweden.

However, the final thread or process that became decisive for Sweden's future road policy and road construction took place within the executive and Road and Water Construction Administration. But the ruling Social Democratic Party struggled internally with railroad, motoring, planned and market based transports. The minister of finance 1949-55, Per Edvin Sköld, considered cars an excellent tax object. Tage Erlander, Prime Minister 1946-69, considered cars and a functional road system means for increasing the population's welfare and freedom of choice. Gunnar Lange, minister of trade 1955-70, was similarly positive to motoring, according to Rune Andréasson, Jonas Gawell and Sven Gerentz, who were central actors within the Swedish automotive and motoring lobby.⁵³² The Swedish executive proposed a temporary doubling of the vehicle taxes in 1951 to balance the budgets due to the economic slump. Riksdagen approved this tax hike. Minister of finance Per-Edvin Sköld appointed also March 6th 1951 a committee to elucidate future vehicle taxes. This initiative triggered strong protests, but the executive sweetened the pill by linking tax hikes to increased road appropriations after discussions with the automotive and motoring lobby.⁵³³ The dedicated vehicle and fuel taxes introduced in the 1920s and instituted formally through the 1938 accounting system reform survived thereby the 1951 tax hikes.

⁵²⁹ Chartered engineer Gunnar Kullström was initially chosen for studies at Yale. Kullström was employed by Stockholm's City Planning Office, and member of Swedish Road Federation, but was refused a leave from the City Planning Office. Stig Nordqvist went instead. Swedish Road Federation was awarded a new scholarship 1954-55. Gunnar Kullström became then the second Swedish road engineer at Yale. Director General Karl-Gustaf Hjort decided in 1955 to send one of the Road and Water Construction Administration's own chartered engineers to Yale for further studies in Traffic Engineering, and Ture Grahn was chosen (Blomkvist 2001:174, 185-186). See also Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, Oslo 2001:3-5, VDA.

⁵³⁰ Nordqvist (1958).

⁵³¹ Blomkvist (2001:186).

⁵³² Tage Erlander had not a driver's license himself, but his wife had, and the family bought a car in 1950. Sven Erlander, one of Tage Erlander's sons, engaged later in transport and road safety research (Andréasson et al. 1997:14, 123).

⁵³³ Blomkvist (2001:194-196).

The *1951 Vehicle Tax Committee* did not conclude before November 4th 1953, but further studies of vehicle taxes were already in June 1953 handed over to the *1953 Traffic Commission* (1953 års trafikutredning) appointed by minister of communications Sven Andersson, after meetings between the Ministry of Communication's Parliamentary Secretary (statssekreteraren) Per Åsbrink and the *Trade and Industry's Traffic Delegation* (Näringslivets Trafikdelegation) headed by Sven Gerentz. Riksdagen approved relatively larger tax increases for heavy vehicles than for passenger cars in 1954, but the established link between vehicle taxes and road appropriations survived even this tax hike.⁵³⁴ ⁵³⁵ ⁵³⁶ The Swedish motoring lobby lost some battles but won partly the war, because the 1953 Traffic Commission was most likely a result of Sven Andersson's compromise with the motoring lobby. This move illustrates how Sweden's postwar corporative system worked.

Sven Andersson perceived obviously the motoring lobby's campaigns as a political problem, because he wrote an article in the Social Democratic Party's journal *Tiden* no. 7 1953 that clearly was an attempt of touching up the Social Democratic and Agrarian Parties' executive's anti-motoring image. Sven Gerentz assumed this article was written or inspired by Per Åsbrink, because Sven Andersson would not constrain the motoring despite the railroads' difficult situation. The challenge, according to Sven Andersson, was how to maintain profitable railroads and utilize the road transports' advantages.⁵³⁷ Sven Andersson – or most likely the executive – used this article as an opportunity to signal the motoring's advantages to the 1953 Traffic Commission and to the common party and trade union members.⁵³⁸ Because road transports were often far more flexible and cost

⁵³⁴ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:191; SOU 1961:23 *Svensk trafikpolitik I Riktlinjer och handlingsprogram*:7 ff; Andréasson et al. (1997:28); Blomkvist (2001:157, 194-199); Gerentz (1995:9, 16); Montelius (1987b:80); Larsson (1993:227); Melin (2000:85-88).

⁵³⁵ Sweden's Chambers of Commerce established in 1942 *The Chambers of Commerce' Association's Traffic Delegation* (Handelskamrarnas Nämnds Trafikdelegation) to monitor the counties' enforcement of the 1940 Occupational Traffic Decree. The Chambers of Commerce' Commission's Traffic Delegation was in 1944 expanded to *The Trade and Industry's Traffic Delegation* among others as a defensive move within the corporative system against the railroads. The founding members were The Chambers of Commerce' Association (Handelskamrarnas Nämnd), Swedish Industry Association (Sveriges Industriförbund), Swedish Wholesale Dealers' Association (Sveriges Grossistförbund), Swedish Retailers' Association (Sveriges Köpmannaförbund), Swedish Agriculturalists' Association (Sveriges Lantbruksförbund, later Lantbrukets Riksförbund), Swedish Artisans' and Small and Medium Size Enterprises' Association (Sveriges Hantverks- och Småindustriorganisation) and finally The Cooperative Federation (Kooperativa förbundet) (Blomkvist 2001:157; Andréasson et al. 1997:28).

⁵³⁶ Sven Gerentz became the Trade and Industry's Traffic Delegation's secretary July 1st 1952, but the position was denoted managing director in 1956. Sven Gerentz had been employed at the National Board of Trade's Naval Office since 1945 and had also been involved in miscellaneous studies for the Ministry of Trade. Sven Gerentz became Swedish Automotive Industry Association's managing director February 1st 1957, and held this position until June 30th 1960, when he became the Swedish Automotive Industry Association's Chairman. Sven Gerentz established close ties with Stockholm's Chamber of Commerce, the Motoring's Council and was also member of RAC and Swedish Road Federation's board of directors and the Royal Swedish Academy of Engineering Sciences' Transport Research Commission (Gerentz 1995:16). Sven Gerentz was thus one of the Swedish automotive and motoring lobby's most central actors during the 1950s; a position he maintained until the 1990s.

⁵³⁷ Gerentz (1995:10-11).

⁵³⁸ See for instance Andersson-Skog (1993:144-163) about the railroad political shift that took place between 1945 and Riksdagen's 1963 Traffic Policy Decision.

efficient than railroad transports. Neither the executive nor Riksdagen could overlook such economic fundamentals in the long run. Neither could the executive overlook the fact that road transport had become relatively more economically important than railroad transports from the middle of the 1950s.⁵³⁹

The automotive and motoring lobby's postwar efforts paid off June 4th 1954, when Tage Erlander's executive appointed *The Commission for High Level Road Planning* (Delegationen för översiktlig vägplanering).⁵⁴⁰ The Road and Water Construction Administration appointed September 9th 1954 a particular work group, and met for the first time September 15th and 16th 1954. The Commission for High Level Road Planning's task was development of a high level plan for the future Swedish public road system, and had significant discretion and autonomy, because it was authorized to outline the road plan according to the members' scientific and professional standards. The Swedish executive took the mass motoring's emergence for granted, similarly as the Danish executive. The question was not whether there was need for a new road infrastructure, but where and when the necessary roads had to be completed, and according to which technical standards.

But the Social Democratic Party's internal struggles were obviously not yet settled; because minister of communications Sven Andersson wrote in 1956 the booklet *Can We Afford the Car?* (Har vi råd med bilen?), where he warned against too fast increase in the number of cars, and argued for priority of the export industries and construction of housing rather than roads given the Ministry of Finance's restrictions on constructions.⁵⁴¹ But Sven Andersson wrote also that diffusion of cars from the upper to the other classes was part of Sweden's "democratization".⁵⁴² Sven Andersson did obviously his best to keep in check the Social Democratic Party's struggling motorist and anti-motorist fractions, but Sven Andersson was clearly in line with Prime Minister Tage Erlander who supported ownership and use of cars. Sven Andersson reasoned thus fundamentally different from the contemporary Norwegian Labor Party executive that upheld the car rationing, constrained the road investments and often relied on normative arguments against ownership and use of cars.

The first draft proposal for Sweden's modern road system came in April 1956, and went to the county administrations and many other interest groups both for review and for anchoring the idea about a modern road system. The Commission for High Level Road Planning submitted its final draft of *Swedish Road Plan* (Vägplan för Sverige) November 8th 1957.⁵⁴³

⁵³⁹ See Andersson-Skog (1993:47 Diagram III.1) for an overview of the shift from railroad to road transports and the transport infrastructures' relative economic importance.

⁵⁴⁰ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:11 ff.

⁵⁴¹ Andersson (1956) in Skårfors (1999:19).

⁵⁴² Andersson (1956:3) in Tengström (1990:14).

⁵⁴³ Karl-Gustaf Hjort, the Road and Water Construction Administration's Director General, headed the Commission for High Level Road Planning. Erik Nelander, the Road and Water Construction Administration's Chief Director, headed the work group. The Road and Water Construction Administration got only four of the Commission for High Level Road Planning's twelve members. The other members were Ingvar Svenilsson, professor in economics, Gerd Enquist, professor in economic geography, Ivar Jonsson, head of office in the Construction Board (Byggnadsstyrelsen), landowner Nils Rosenlund, managing director Rutger Wijkander from the Industry Association and Scania-Vabis' former managing director Carl-Bertel Nathorst from Swedish Road Federation. The work group carried out studies ordered by the Commission for High Level Road Planning, through appointment of dedicated

The climate within the Commission for High Level Road Planning was strained, according to Sven Gerentz, because Director General Karl-Gustaf Hjort delayed the progress. But the 1956 study tour to USA, where among others Karl-Gustaf Hjort took part, became a turning point.⁵⁴⁴ Why did Sven Gerentz claim that Karl-Gustaf Hjort dragged his feet? One explanation may be the not invented here syndrome. Another explanation may be party-tactical reasons. Karl-Gustaf Hjort may have been instructed by the minister of communications to slow down until the Social Democratic Party's internal struggles were settled. Sven Andersson's 1956 booklet supports this interpretation. A third explanation may be the fact that Karl-Gustaf Hjort was an old man that may have been stuck professionally in the 1920s and 30s' road planning and road construction. It is thus not possible to rule out that Hjort initially overlooked the economical, political and road safety implications of the combination of fast growing road traffic and an obsolete and dysfunctional road system.

Gustav Vahlberg, the *Labor Market Board's* (Arbetsmarknadsstyrelsens) Director General, succeeded late in 1957 Karl-Gustaf Hjort as the Road and Water Construction Administration's Director General. The motoring lobby greeted Vahlberg warmly, because he was far more sympathetic to the trade and industry's needs than Hjort, according to Sven Gerentz. The Trade and Industry's Traffic Delegation had, according to Gerentz, initiated appointment of Vahlberg.⁵⁴⁵ But there are reasons to question Sven Gerentz' interpretation of the 1957 events, there are similarly reasons to question Pär Blomkvist's interpretation of Sven Gerentz.

Karl-Gustaf Hjort's retirement and the executive's appointment of Gustav Vahlberg was a regime change, because Karl-Gustaf Hjort personified Sweden's ancient bureaucracy, autonomous boards staffed by the nobility and upper classes and operating according to the norms about State reason and meritocracy. Hjort graduated as chartered engineer from the Royal Institute of Technology in 1917, became Lieutenant in the Royal Road and Water Construction Corps in 1921, was promoted to Captain in 1929, Major in 1947 and Colonel in 1957.⁵⁴⁶ Gustav Vahlberg lacked formal academic education, worked in a steel mill from 1924 until 1932 when he became full time union boss and member of the Metal Workers' Union's board of directors. Vahlberg became the Metal Workers' Union's deputy leader in 1936 and Swedish Federation of Trade Unions' deputy secretary in 1938. Vahlberg served as the Federation of Trade Unions' deputy leader from 1946 until Tage Erlander's executive in 1948 appointed him as the Labor Market Board's Director General.⁵⁴⁷ It does not seem very likely that Gerentz and others' lobbying was necessary to convince Prime Minister Tage Erlander and minister of communications Gösta Skoglund that Gustav Vahlberg was the right candidate as

expert panels (SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:12-15, 28-31; Blomkvist 2001:206-209; Gerentz 1995:15).

⁵⁴⁴ Gerentz (1995:15).

⁵⁴⁵ Gerentz (1995:17); Blomkvist (2001:230, 231-232).

⁵⁴⁶ Karl-Gustaf Hjort [Online September 1st 2005] – URL: <http://www.vv.se>.

⁵⁴⁷ Gus Vahlberg [Online September 1st 2005] – URL: <http://www.vv.se>.

the Road and Water Construction Administration's Director General. The Social Democratic Party bosses may have reasoned that Vahlberg would weed out the last remnants of nobility and upper class from the Road and Water Construction Administration and make the board less autonomous and more politically manageable. Appointment of Gustav Vahlberg placed also the Swedish Federation of Trade Unions and particularly the Metal Workers' Union in the road policy driver's seat. Few Swedes were more centrally located in the postwar corporative system than Gustav Vahlberg. He was well connected within the executive, Social Democratic Party, trade unions, employer organizations and the numerous business sector organizations. The executive's appointment of Gustav Vahlberg as Director General was thus one of the fundamental differences between Sweden and Norway, because most Swedish trade unions encouraged construction of modern roads in the 1950s, while some Norwegian trade unions in pivotal positions vigorously opposed liquidation of the car rationing and construction of modern roads.

Swedish Road Plan – the road engineers' rational response to a dysfunctional road system

Sweden's first motorway, between Malmö and Lund was completed in 1956.⁵⁴⁸ Sweden's public trunk road, highway and county road system in 1957 measured approximately 98.000 kilometers. The Road and Water Construction Administration managed approximately 92.000 kilometers; the remaining 6.000 kilometers were managed by the cities.⁵⁴⁹

Swedish Road Plan was first and foremost a plan for improving the Swedish agriculture, forestry, trade and industries competitiveness and thus Sweden's wealth, through faster, safer and more flexible and cost efficient transports than the railroads and canals could provide.⁵⁵⁰ *Swedish Road Plan* outlined the future modern road system according to the so-called "pearl-chain principle" (pärlbandsprincipen), with the most inhabited cities as pearls, instead of the more radical "beeline principle" (fågelvägsleder). The beeline-principle would have created trunk roads as straight lines between origins and destinations. The pearl-chain principle connected the cities. The main arguments for the pearl-chain principle were limited resources and the fact that most road transports were short-distance transports. The beeline principle was also more costly.⁵⁵¹ The pearl-chain principle provided thus most 'bang for the bucks' or the most favorable cost/benefit ratios. The Commission for High Level Road Planning took for granted the Swedish community's pool of common resources had to be allocated as efficient as possible. Such reasoning was clearly in accordance with Road and Water Construction Administration's governing norms about State reason and professionalism.

Swedish Road Plan pioneered also road safety, and paved the way for Sweden's later position as world champion in road safety, due to implementation of

⁵⁴⁸ Castensson (1991:237).

⁵⁴⁹ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:28.

⁵⁵⁰ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:32-79, 187.

⁵⁵¹ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:54-56, 128-129, 151, 218.

many principles established by or derived from traffic engineering.⁵⁵² A comparative study between the old road from Malmö to Lund 1950-53 and the new motorway 1953-56, revealed the old road had three times as many accidents as the new motorway, despite far lower driving speeds and traffic intensity on the old road. A similar ex-post and ex-ante study from Stockholm in 1938-39 and 1946-47 revealed that substituting traditional crossings with traffic circles in crowded roads or city streets reduced the number of accidents 450-1.200 percent!⁵⁵³ Road safety came thus early on the road policy agenda in Sweden, similarly as in Denmark, because Swedish road engineers were early starters with regard to systematic measures efforts for mitigating the mass motoring's inconveniences. Neither did the Swedish executive or legislators oppose the road safety measures' road policy implications, such as the Norwegian executive and legislators.

The Commission for High Level Road Planning's initial trunk road proposal forwarded for comments in 1956 limited the need for road construction by funneling as much road traffic as possible into the trunk roads, and was thus an attempt of house holding with the road appropriations. The Commission for High Level Road Planning prioritized construction of almost a motorway triangle between Sweden's three major cities Stockholm, Gothenburg and Malmö, and similarly construction of modern trunk roads between Gothenburg and Norway, between Stockholm and Bergslagen, between Stockholm and Norrland, and from southern Sweden to mainland Europe. These proposed trunk roads and motorways had many similarities with the trunk railroads built by the Swedish State during the second half of the 19th century.⁵⁵⁴ *Swedish Road Plan's* cost/benefit calculations were based on 5 percent discount rates, equal to the Riksbank's discount rate in 1956 and 57. The recommended trunk roads would provide a net gain of at least 10 billions SEK, approximately 9,16 billions 1990 PPP USD.⁵⁵⁵ The reviewers accepted the pearl-chain principle.⁵⁵⁶ *Swedish Road Plan's* use of the Riksbank's discount rate is strong evidence the executive considered modern road infrastructure a national collective good with very long time-horizon, similarly as the trunk railroads built by the Swedish State in the 19th century. Because neither the Ministry of Finance nor the Commission for High Level Road Planning added any risk premium to these road investments, such as for instance the Norwegian Ministry of Finance did in 1967 and in 2004 to constrain the road investments.

Swedish Road Plan outlined construction of 13.900 kilometers trunk roads with 10/18 tons carrying capacity within 1975, hereunder bridges with 22 tons capacity. These recommendations was a significant improvement compared to the old road system's bridges that only permitted 2,5 tons. The outlined trunk roads' estimated construction costs were 8.000 millions 1956 SEK or approximately 7.329 millions 1990 PPP USD, hereunder 2.000 millions SEK or 1.832,3 millions 1990

⁵⁵² SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:Chapter 9; T. Grahn and S. A. Rempler, B05 "Trafiksäkerheten", in SOU 1958:2 *Vägplan för Sverige. Del 2.*

Expertutredningar och övriga textbilagor:95-131.

⁵⁵³ T. Grahn and S. A. Rempler, B05 "Trafiksäkerheten", in SOU 1958:2 *Vägplan för Sverige. Del 2.*

Expertutredningar och övriga textbilagor:122-123.

⁵⁵⁴ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:126-127, 129-135.

⁵⁵⁵ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:223. Information about the discount rate is from Myhrman (1988:240).

⁵⁵⁶ SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:128-129, 151.

PPP USD for the cities' driveways. The trunk roads and motorways were expected to halve the number of fatalities in road accidents, compared to the 1956 number of fatalities.⁵⁵⁷

Table 5: Swedish Road Plan's recommended geographical allocation of trunk roads, hereunder motorways.

Constituencies	Recommended allocation of trunk roads (km / %)	Recommended total trunk road investments (millions 1956 SEK / %)	Hereunder recommended allocation of motorways (km / %)	Hereunder recommended investments (millions 1956 SEK / %)
Central	2.265 / 16%	2.435 / 31%	540 / 41%	1.500 / 51%
Middle	5.390 / 39%	3.225 / 40%	770 / 59%	1430 / 49
Peripheral	6.245 / 45%	2.340 / 29%	0 / 0%	0 / 0%
Grand total	13.900 / 100%	8.000 / 100%	1.310 / 100%	2.930 / 100%

Source: SOU 1958:1 *Vägplan för Sverige. Del 1. Riktlinjer och förslag samt kartbilagor*:157 Tabell 11.2.

Table 5 shows the geographical allocation of Swedish Road Plan's 13.900 kilometers trunk roads, hereunder 1.310 kilometers of motorways. Most trunk roads were recommended built in the peripheral constituencies, because of large distances between the settlements, raw material and industrial areas, and least kilometers in the central constituencies. The situation was exactly opposite with regard to construction of motorways, because they were only recommended built in crowded central and middle constituencies. There were planned fewer kilometers motorways in the central than in the middle constituencies, but allocated more money to those motorways in the central constituencies because of high construction costs because of requirements for road capacity, numerous costly intersections, etc. The recommended allocation of trunk road investments gave a reasonable balanced trunk road system all across Sweden. The planned road standard reflected expected road traffic and the need for road capacity, road safety and environmental standards.

Swedish Road Plan outlined also construction of a secondary road system within 1975, consisting of 81.000 kilometers county roads, to an estimated cost of 10.830 millions 1956 SEK or approximately 9.921,7 millions 1990 PPP USD, hereunder 2.300 millions SEK or 2.107,1 millions 1990 PPP USD in Stockholm, Gothenburg and Malmö.⁵⁵⁸ The existing roads largely gave this secondary road system. The Commission for High Level Road Planning estimated the completed trunk roads would carry out about 60 percent of the traffic work, even in the rural

⁵⁵⁷ The Commission for High Level Road Planning recommended construction of 1.310 kilometers trunk roads as four-lane motorways and 550 kilometers other four-lane roads; i.e. 1.860 kilometers or 13 percent as four-lane roads. The Commission for High Level Road Planning recommended also construction of 5.360 kilometers or 39 percent trunk of the roads as expressways with wide shoulders; 4.560 kilometers or 33 percent as expressways with narrow shoulders; and finally 2.120 kilometers or 15 percent as narrow trunk roads. 12.500 kilometers of the trunk roads were suggested built by the Road and Water Construction Administration in rural areas. 1.400 kilometers were suggested built by the municipals in cities and urban areas (SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:154, 156, 157 Tabell 11:2, 158 Tabell 11:3, 158-160, 215).

⁵⁵⁸ The proposed county roads were distributed between 18.950 kilometers or 23 percent county roads of particular importance for the trade, industry, population and national defense and 22.600 kilometers or 28 percent county roads that were important for other reasons. The remaining 39.450 kilometers or 49 percent other county roads were of limited economic significance; i.e. mainly social welfare goods (SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:180 Tabell 12.4, 181 Tabell 12:5, 222).

areas, but even the secondary roads were recommended built with 10/18 tons carrying capacity on the paved roads, similarly as the trunk roads, and with 8 tons capacity on the unpaved roads.⁵⁵⁹ Significant parts of this secondary road system had public service functions and many similarities with the secondary and tertiary railroads built approximately 1870-1920.⁵⁶⁰

Table 6: Swedish Road Plan's recommended geographical allocation of secondary roads.

Constituencies	Recommended allocation of secondary roads (km / %)	Recommended total secondary road investments (millions 1956 SEK / %)	Hereunder recommended allocation of those secondary roads decisive for trade and industry, settlement and national defense (km / %)	Hereunder recommended investments (millions 1956 SEK / %)
Central	10.990 / 14%	1.690 / 16%	2.090 / 11%	415 / 13%
Middle	33.560 / 41%	4.030 / 37%	5.850 / 31%	895 / 28%
Peripheral	36.450 / 45%	5.110 / 47%	11.010 / 58%	1.835 / 58%
Grand total	81.000 / 100%	10.830 / 100%	18.950 / 100%	3.145 / 100%

Source: SOU 1958:1 *Vägplan för Sverige. Del 1. Riktlinjer och förslag samt kartbilagor*:180 Tabell 12.4.

Table 6 provides an overview of *Swedish Road Plan's* recommended allocation of the 81.000 kilometers secondary roads, hereunder those 3.145 kilometers secondary roads considered decisive for trade, industry, settlement and national defense. Most of the secondary roads were planned in the peripheral and middle constituencies, and as feeder systems to the trunk roads.

Swedish Road Plan was first and foremost governed by the desire for efficient utilization of the public investments, fast payback, improved road safety and safeguarding the trade and industry's competitiveness. 55 percent of the proposed trunk roads, hereunder motorways, all of the most important county roads, 25 percent of the important county roads and 15 percent of the remaining county roads were recommended built between 1958 and 1967. The remaining road investments were recommended postponed until 1968-75.⁵⁶¹ The Commission for High Level Road Planning's recommendations was thus governed by the norm about State reason, such as instituted by Axel Oxenstierna in the 17th century; ideas that still permeated Sweden's autonomous boards in the 1950s. *Swedish Road Plan* was also clearly an imitation of the 1956 US Interstate plan, and based on ideas from *US Highway Capacity Manual* translated and adapted to Swedish by Stig Nordqvist.

One of The Commission for High Level Road Planning's most important recommendations in addition to the outlined road and investment profile was establishment of a dedicated corporative body to safeguard *Swedish Road Plan's* implementation.⁵⁶² The Trade and Industry's Traffic Delegation championed this initiative. Director General Gustav Vahlberg appointed in May 1958 the *Road Management Cooperation Delegation* (Vägväsendets samarbetsdelegation). Its main tasks were monitoring of Riksdagen's annual appropriations and the Road and

⁵⁵⁹ SOU 1958:1 *Vägplan för Sverige. Del 1. Riktlinjer och förslag samt kartbilagor*:161, 172.

⁵⁶⁰ Cf. Andersson-Skog (1993:28, 37-38) about the development of Sweden's secondary and tertiary railroads.

⁵⁶¹ SOU 1958:1 *Vägplan för Sverige. Del 1. Riktlinjer och förslag samt kartbilagor*:223-224.

⁵⁶² SOU 1958:1 *Vägplan för Sverige. Del 1. Riktlinjer och förslag samt kartbilagor*:226.

Water Construction Administration's utilization of these appropriations.⁵⁶³ Gustav Vahlberg knew definitely how to tie up the executive and legislators' hands, to safeguard *Swedish Road Plan's* accomplishment. But Vahlberg, who most likely had been appointed by the executive to make the Road and Water Construction Administration more politically manageable and to weed out the remnants of the nobility and upper class acted soon according to Axel Oxenstierna's norm about State reason and the Road and Water Construction Administration's professional ethos. Because the Road and Water Construction Board's professionals influenced clearly Gustav Vahlberg, similarly as Gustav Vahlberg influenced the Road and Water Construction Administration with his knowledge about Sweden's new corporative system.

Swedish Road Plan was not included in the executive's 1958 *State Board Proposition* (statsverksproposition), due to the State economic situation. But Riksdagen overruled the Ministry of Finance and increased the annual road appropriations significantly. The executive included *Swedish Road Plan* in its 1959 *State Board Proposition*, and Riksdagen approved the plan almost without debate.⁵⁶⁴ The Ministry of Finance headed by Gunnar Sträng overruled the Ministry of Communications and delayed hence *Swedish Road Plan* until the postwar restrictions on construction activities had been lifted in 1958. But Riksdagen's majority in turn overruled Gunnar Sträng and the Ministry of Finance, and increased the road appropriations already from 1958. Riksdagen's approval of *Swedish Road Plan* was obviously based on broad consensus even if the executive postponed the plan until 1959. The Swedish executive and legislators reasoned obviously in variable sum terms, and considered modern trunk roads and motorways as national collective goods. A comprehensive network of high standard secondary roads all across Sweden would similarly benefit almost the entire population. Sweden's bicameral system, committees organized according to the functional principle and the Road and Water Construction Administration's autonomy made it thus possible for the executive as well as the legislators to transcend the constituencies' narrow self interests and safeguard Sweden Inc.'s long-term national interests. Riksdagen's approval of *Swedish Road Plan* furthered thereby road policy as national matters, such as instituted by the 1944 State takeover of the management of most public roads.

Conclusions

What about this chapter's findings about the study's four working hypotheses, concerning the Swedish case between 1945 and 1959? This study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly

⁵⁶³ The Trade and Industry's Traffic Delegation got three members. Rutger Wijkander represented the industries, C V Curtmann represented the agriculture and C G Sundberg represented the forestry. Swedish Road Federation got similarly two members, Carl-Bertel Nathorst and Sven Gerentz. Sweden's City Association, representing those cities that managed their own roads under the Road and Water Construction Administration's supervision, got one member. Even the Construction Board and The Royal Board of Roads and Waterways got members in the Road Management Cooperation Delegation (Gerentz 1995:17; Blomkvist 2001:230).

⁵⁶⁴ Blomkvist (2001:228-230); Gerentz (1995:16, 17). See also the Data Appendix Table 3.28 for an overview of the annual Swedish road investments.

strengthened 1945-59, because the public road system built by the road municipals became dysfunctional and not able to provide safe, flexible and cost efficient transports after World War Two due to strong growth in number of vehicles and road transports of passengers and goods. The postwar legislators and executive considered obviously modern trunk roads and motorways as national collective goods, because *Swedish Road Plan* approved by Riksdagen in 1959 was permeated by a technocratic and economic rationality, partly imported from USA via Swedish Road Federation and IRF. The trunk road investments were allocated according to cost/benefit calculations. But even domestic scholars from Sweden's Royal Institute of Technology developed ideas about traffic engineering. The Road and Water Construction Administration's lack of deep local rooting was clearly not a problem, such as claimed by Ove Pettersson, but rather a necessary condition for development of a rational road plan serving national rather than local and parochial interests. Because absence of deep local rooting maintained the Road and Water Construction Administration's professional autonomy, which in turn facilitated development of national collective goods such as modern, safe and efficient trunk roads and motorways.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was clearly weakened by the Swedish case even between 1945 and 1959, because the executive had delegated allocation of the State road investments to the Road and Water Construction Administration's professionals already in the interwar years. The constituencies' resource struggle did hardly affect Swedish road policy and road construction at all 1945-59. *Swedish Road Plan* gave something even to those who considered roads as local collective or private goods, because it outlined a very comprehensive modern secondary road system targeting local needs in addition to trunk roads and motorways serving national needs.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was clearly weakened by the Swedish case between 1945 and 1959, because the political parties' rivalry did hardly influence Swedish road policy and road construction during this period, even if the Social Democratic Party had internal struggles between railroad and motoring proponents until the middle of the 1950s. A broad consensus among most political parties, trade unions, trade and industry about the need for a modern road system, emerged gradually similarly as in Denmark, most likely as a result of Sweden's modern corporative system. The question was not whether Sweden needed a modern road system but how soon and where. Appointment of the Labor Market Board's Director General and the Federation of Trade Unions' former deputy leader Gustav Vahlberg as the Road and Water Construction Administration's Director General in late 1957 placed de facto Sweden's Federation of Trade Unions and particularly the Metal Workers' Union in the road policy driver's seat, because Gustav Vahlberg was one of the corporative system's high-flyers. Sweden differed thus fundamentally from Norway where the governing Labor Party officially considered cars and construction of modern roads as unnecessary luxury. Some Norwegian trade unions vigorously opposed abolition of the car rationing and construction of modern roads with almost every means.

This study's final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Swedish case between 1945 and 1959. First, the non-socialist opposition parties' questioning of the bicameral system and whether Sweden actually had parliamentary rule had many similarities with the farmers and urban citizens' questioning of the four cameral Riksdagen and the estate system in the 19th century, because the First Chamber safeguarded the Social Democratic Party's power after World War Two. Second, the links between the motorists' payments of vehicle and fuel taxes and the annual road appropriations established during the 1920s and formalized by 1938 accounting system reform survived even the 1950s vehicle and fuel tax hikes, because the automotive and motoring lobby vigorously defended these links. Third, the executive, legislators and Road and Water Construction Administration compared construction of modern trunk roads 1945-59 with the Swedish State's construction of trunk railroads during the second half of the 19th century. The outlined secondary roads resembled similarly the secondary and tertiary railroads built by private railroad companies from the 1870s until about 1920. Fourth, the executive's appointment of Gustav Vahlberg as the Road and Water Construction Administration's new Director General in 1957 when Karl-Gustaf Hjort retired, punctuated the established equilibrium since 1844 with a Road and Water Construction Administration dominated by officers and chartered engineers emanating from the nobility and upper classes. Vahlberg strengthened the Road and Water Construction Administration politically, due to his position in the new corporative system, and influenced definitely the Road and Water Construction Administration. But Vahlberg was also strongly influenced by the Road and Water Construction Administration's professionals' norms about State reason and professionalism instituted by Axel Oxenstierna in the 17th century and the norm about autonomy that had developed since Oxenstierna. The appointment of Gustav Vahlberg as Director General placed de facto the Swedish Metal Workers' Union in the road policy driver's seat. The final example of path dependence was Riksdagen's approval of *Swedish Road Plan* in 1959 that upheld the division of labor established since the 1920s and instituted by Riksdagen in 1942, where Riksdagen made the high-level policy decisions and approved the annual road appropriations, while the policy implementation was left to the executive. The executive in turn delegated allocation of the road investments and choice between individual projects in the different constituencies to the Road and Water Construction Administration's professionals who operated according to their scientific and professional norms.

1960-1980 – Boom and bust and road and traffic policy flip-flops

Sweden's political system changed fundamentally from 1971 after introduction of the unicameral Riksdagen and an election system based on one person – one vote. This regime change coincided with severe State economic problems that strained the corporative system. Swedish road policy 1960-80 emphasized construction of the economically and industrially most important trunk roads and county roads prior to 1970, when the road investments peaked, exactly as outlined in *Swedish Road Plan* and furthered through Riksdagen's 1963 Traffic Policy Decision that instituted a transport policy governed by economic effectiveness. The combination of the new unicameral system, State economic problems and change of ruling parties in 1976

had profound road policy implications, because Riksdagen's 1979 Traffic Policy Decision instituted a transport policy governed by concerns for regional policy and socio-economic effectiveness.

Boom, bust and constitutional reforms

The 1954 Constitutional Commission reached an initial compromise in February 1961, but the Social Democratic and non-socialist parties disagreed about Riksdagen's chamber structure and whether the election system should be national or linked to the county elections. This disagreement led to appointment of the *1966 Constitutional Commission* (Grundlagsberedningen), which in 1967 reached the so-called "Åre-compromise" that agreed about converting the bicameral Riksdagen to a unicameral Riksdagen with 350 seats; 310 district seats and 40 national supplementary seats. The election system was supposed based on the principle one person – one vote, almost as in Denmark, with a 4 percent limit for the supplementary seats, to prevent party fragmentation. Riksdagen approved the Åre-compromise during the spring 1968, and approved further constitutional amendments in 1969.⁵⁶⁵ The Åre compromise did not fundamentally alter Riksdagen's geographical seat allocation, because even the bicameral Riksdagen's seat allocation reflected the actual settlement.⁵⁶⁶ The Åre-compromise and Riksdagen's 1968 and 1969 decisions abolished the bicameral system that had governed Swedish politics for better or worse since 1867.

Riksdagen's committee system, that mainly had been organized functionally since the 18th century became also subject to the 1966 Constitutional Commission's attention. The most important committees in 1969 concerning road policy and road construction were the State Committee responsible for the State's expenses and the Third Legislation Committee responsible for the road and traffic legislation. The State Committee had 30 members in 1969 and was divided into five subcommittees with six members each. The fourth subcommittee was responsible for the Ministry of Communications and its subordinated boards' matters, hereunder road appropriations and distribution between investments and maintenance.⁵⁶⁷ ⁵⁶⁸ The 1966 Constitutional Commission recommended to replace the functional committees with 16 new standing subject matter committees, each with 15 members, and proposed establishment of a *Standing Transport and Communication Committee* (Samfärdselutskottet) responsible for railroads, mail services, telegraph and telephone matters, roads, road traffic, sea traffic, air traffic and the weather services.⁵⁶⁹ The 1966 Constitutional Commission did in other words recommend introduction of a committee system with many similarities to that in Norway's legislature Stortinget.

⁵⁶⁵ Molin (1991b:241-244).

⁵⁶⁶ See the Data Appendix' Table 3.1-3.10 for an overview of Sweden's settlement and geographical political representation 1950-2000 under the bicameral and unicameral system.

⁵⁶⁷ SOU 1969:62 *Ny utskottsorganisation*:3-32, 122.

⁵⁶⁸ Herbert Tingsten's 1934 study revealed that Riksdagen's most important committees concerning road issues since 1867 had been the State Committee, Legislation Committee, Agricultural Committee and Appropriation Committee (Tingsten 1934:254, 255, 257, 258, 275).

⁵⁶⁹ SOU 1969:62 *Ny utskottsorganisation*:129-131.

But why did the governing Social Democratic Party abandon the bicameral system that had safeguarded its power since 1932, except for the short Agrarian Party interregnum in 1936? The poor 1966 local elections was most likely an eye opener for the party bosses, because the Social Democratic Party lost 5,1 percent of the votes compared to the 1964 Second Chamber election.⁵⁷⁰ The local elections elected those who appointed the members of the First Chamber, and reduced support in the local elections could thus swing the political balance for decades, similarly to what happened in the 1930s. The Social Democratic Party could in worst-case risk more than 30 years in opposition if the balance shifted, similarly as the Liberal and Conservative Parties had experienced. The Swedish electorate's moods shifted significantly during the second half of the 1960s. The Social Democratic Party's bosses accepted most likely a unicameral system and an election system based on one person – one vote, because that reduced their operational and political risk significantly compared to the established bicameral system with its lag and indirectly elected First Chamber.

The Communist Party changed name to the *Leftwing Communist Party* (Vänsterpartiet Kommunisterna) in 1967, to distance itself from Moscow, and to increase the party's appeal among new voters.⁵⁷¹ The Social Democratic Party recovered from the 1966 shock and reached its all time high in the 1968 Second Chamber election with a record high turnout after the Russian invasion of Czechoslovakia. The Agrarian Party became the leading non-socialist opposition party.⁵⁷² The voters supported most likely the ruling party in 1968 due to the perceived threat against Sweden's national security. Tage Erlander, who had been Prime Minister since October 1946, retired in October 1969. Olof Palme, who had been Erlander's closest aide since 1953 succeeded him, even if some party comrades rather saw Gunnar Sträng, minister of finance since 1955, as Erlander's successor.⁵⁷³ Olof Palme was in many instances Tage Erlander's fundamental opposite. Olof Palme was colorful, highly visible, and charismatic and created strong feelings among followers and opponents.

Introduction of the unicameral system removed most of the 'sluggishness', stability and predictability that had characterized Swedish politics since 1867, and particularly since 1932. The September 1970 election gave the voters a choice between two blocks and two alternative executives. It was close race, but Olof Palme and the Social Democratic Party governed further through a minority executive.⁵⁷⁴ The Åre compromise reintroduced three-year terms in Riksdagen that had been abandoned after the 1924 Second Chamber election. The 1973 election gave the so-called "equilibrium Riksdagen", with 175 seats to the socialist parties and 175 seats to the non-socialist parties.⁵⁷⁵ But Olof Palme did not call for a new election, despite the two blocks' equal number of seats, because three so-called Haga-compromises in 1973, 1975 and 1976 between the Social Democratic and

⁵⁷⁰ Hadenius et al. (1991:350-351 Tabell 1c).

⁵⁷¹ Molin (1991b:238-240).

⁵⁷² Hadenius et al. (1991:350-351 Tabell 1c); Molin (1991b:250-253). 89,3 percent of the voters cast their ballots in 1968.

⁵⁷³ Molin (1991b:253); Hadenius (1994:197); Peterson (2002:54).

⁵⁷⁴ Hadenius (1994:196).

⁵⁷⁵ Molin (1991c:260-261); Hadenius (1994:197).

middle parties settled many important issues.⁵⁷⁶ But the equilibrium Riksdagen led also to significant political risk, unpredictability and inconsistent policy, because many important matters were settled through lotteries. Riksdagen's chairman's (talmannens) lottery machine was used 18 times during the spring 1974, 45 times during the spring 1975 and 79 times during the 1975-76 session!⁵⁷⁷ Riksdagen's equal number of seats was obviously a design flaw, because the 'impossible' happened when the two blocks won an equal number of seats in the 1973 election.

The Åre-compromise and the 1969 constitutional amendment were only partial constitutional reforms. The political parties agreed about most remaining issues in 1973. Riksdagen approved the new constitution in 1974, which came into force January 1st 1975 and replaced the 1809 Constitution. Parliamentary rule was written into the *1974 Constitution* (Regeringsformen), and Riksdagen's chairman replaced the King during change of executive, reduced the King to a symbolic figure. The 1974 Constitution instituted also Riksdagen's approval of a new Prime Minister through a vote of confidence or investiture.⁵⁷⁸ Riksdagen's calendar was similarly changed during the fall 1975 from spring and fall sessions to fall and spring sessions, similarly as in the Norwegian legislature Stortinget. Riksdagen's number of seats was also reduced to 349 prior to the 1976 election, to prevent further equilibrium terms.⁵⁷⁹ Sweden's constitutional reforms at the turn of the 1960s and 70s was obviously a learning process.

The 1974 Constitution furthered and strengthened Sweden's autonomous bureaucracy developed since Axel Oxenstierna established the first boards and county administrations in the 17th century, and banned so-called minister rule even if parliamentary rule was written into the constitution.⁵⁸⁰ The Swedish ministers were not authorized to instruct any subordinated boards about how to handle their individual matters. They were only authorized to outline the policy goals; minister rule was considered almost as a kind of corruption. The 1974 Constitution safeguarded also the bureaucracy's meritocracy, through explicit requirements for qualified and professional civil servants.⁵⁸¹ This requirement for qualified civil servants was also an example of path dependence, because similar requirements were written into the 1634, 1719, 1772 and 1809 Constitutions.⁵⁸² The Swedish executive and parliamentary system worked in other words fundamentally different from that in Denmark where each minister had been almost sovereign within her or his policy domains since 1849, and instructed the civil servants about how to handle

⁵⁷⁶ Molin (1991c:262-263); Peterson (2002:345-357).

⁵⁷⁷ Molin (1991c:264).

⁵⁷⁸ *Regeringsformen* (SFS-nummer 1974:152): Chapter 1 §1, Chapter 2 §§ 2-4; Carlsson (1985a:193); Molin (1991b:244; 1991c:2256-257); Hadenius (1994:195); Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>; Riksdagens historia [Online April 15th 2003] – URL: <http://www.riksdagen.se>.

⁵⁷⁹ Riksdagens historia [Online April 15th 2003] – URL: <http://www.riksdagen.se>.

⁵⁸⁰ *Regeringsformen* (SFS 1974:152): §§ 1.1, 1.6, 7.3, 11.7. See also Förslag till riksdagen 1999/2000:RS1 *Riksdagen och den statliga revisionen*: Chapter 2.1, Chapter 2.3; Wockelberg (2003:20-28).

⁵⁸¹ *Regeringsformen* (SFS 1974:152): § 11.9.

⁵⁸² *Regeringsform 1634 af Rikets ständer gillad och daterad Stocholm den 29 juli 1634*: See among others §§ 8, 10-13; *Regeringsform 1719 K M:ts allernådigt konfirmerade regeringsform*: §§3, 12; *Regeringsform 1772 Kongl Maj:ts och Rikens Ständers fastställda regeringsform*: §§10, 26; *Kongl. Maj:ts och Rikets Ständers fastställda REGERINGSFORM dat. Stockholm den 6 juni 1809*: §§ 10, 27, 28, 33, 103, 107.

each individual matter, because Denmark did not abandon minister rule after introduction of parliamentary rule in 1901.⁵⁸³ The 1974 Constitution's seemingly innocent details maintained thereby the Swedish parliamentary rule's unique dual character, where the executive was accountable to Riksdagen and ultimately to the voters, but where the boards largely maintained their autonomy toward the executive and Riksdagen and operated according to norms about State reason and professionalism, even if they were partly kept in check by the administrative courts. Sweden's 1974 Constitution furthered thus the parliamentary system established from 1917 with autonomous boards, except for the conversion to the unicameral system, and was clearly an example of path dependence.

The 1976 election became a new turning point, because the Social Democratic Party lost power after having been in office since 1932, except for a few months in 1936. Olof Palme explained the lost 1976 election as a result of among others the Wage Earner Funds (löntagarfonderna) championed by the trade union bosses, Ingmar Bergman's tax problems, Astrid Lindgren's fairytale about Pomperipossa due to Sweden's then more than 100 percent marginal tax for self-employed, and finally the nuclear power utilized skillfully by the Agrarian Party's Thorbjörn Fälldin.⁵⁸⁴ The tax legislation's enforcement was largely the autonomous boards' responsibility, and may indicate that Olof Palme questioned at least some boards' autonomy, because he was accountable to the voters, the tax bureaucrats were not.

The Swedish non-socialist parties cooperated for the first time in a three party majority executive headed by the Agrarian Party's Thorbjörn Fälldin after the 1976 election, but this executive dissolved from within due to the nuclear power issue and the increasing State economic problems. A minority executive headed by the Liberal Party's Ola Ullsten came to power in October 1978. The non-socialist parties won even the 1979 election with 175-174 seats to each block and governed until the 1982 election.⁵⁸⁵ The unicameral system worked hence as planned by its designers, because the Swedish political system's sluggishness and predictability was history.

The new *Traffic Committee* (Trafikutskottet), with 15 members and 15 to 18 deputy members during the 1970s, took care of the unicameral Riksdagen's road policy matters.⁵⁸⁶ The Traffic Committee had many similarities with the Norwegian Stortinget's *Standing Committee on Transport and Communications* (Samferdselskomiteen). First, some committee members served up to three terms in the committee and became partly sector specialists. Second, the central constituencies had only two members 1971-73 and 1973-76. The peripheral and middle constituencies dominated the committee 1971-82, but the middle constituencies were pivotal. Third, the leftwing parties dominated the committee 1971-73. The middle and rightwing parties dominated the committee 1973-76, 1976-

⁵⁸³ For further discussions about differences between the Swedish and Danish executive and organizing of the public administrations see for instance Wolf (1998).

⁵⁸⁴ Peterson (2002:185-188, 225-227, 251, 294, 312-315).

⁵⁸⁵ Hadenius (1994:197-198); Molin (1991c:266-267); Peterson (2002:248-264); Hadenius et al. (1991:372-373).

⁵⁸⁶ *Riksdagsmatrikel 1971-72:34-35; Riksdagsmatrikel 1973:34-35; Riksdagsmatrikel 1974:34-35; Riksdagsmatrikel 1975:34-35; Riksdagsmatrikel 1975/76:34-35; Riksdagsmatrikel 1976-77:34-35; Riksdagsmatrikel 1977-78:34-35; Riksdagsmatrikel 1978-79:34-35; Riksdagsmatrikel 1979-80:62-63; Members by committee [Online October 14th] – URL: http://www.riksdagen.se/folkvald/ledamotr/organ/on_tu_en.htm.*

79 and 1979-82.⁵⁸⁷ But there was one fundamental difference compared to Norway's legislature, because Riksdagen's Traffic Committee maintained road policy as a national matter, and furthered thereby the traditions established under the bicameral system; i.e. the responsibility for road policy and road construction was delegated to the autonomous Road and Water Construction Administration. This institutional configuration kept usually the legislators on arm's length distance from individual road projects and reduced the likelihood of pork barrel politics even in the unicameral Riksdagen.

Sweden joined EFTA in 1960 together with among others Denmark, Norway and Great Britain, but Prime Minister Tage Erlander declared in 1961, when Great Britain, Denmark and Norway considered joining EEC, that Swedish membership in EEC was incompatible with the neutrality.⁵⁸⁸ The Swedish economic policy throughout the 1960s was first and foremost characterized by the expanding public sector and increasing inflation problems. The ruling Social Democratic Party did its best to shift the attention from costly to less costly policy reforms, such as environmental protection.⁵⁸⁹ A new Swedish distributional coalition, not organized according to the left-right cleavage but according to economic growth vs. environmental protection, or so-called "Old Politics" vs. "New Politics", was established throughout the 1960s and 70s.⁵⁹⁰ This environmental distributional coalition started as an intellectual and elite protest, but became later also a popular protest movement against urbanization, centralization, pollution and nuclear power. The first political parties to capitalize politically were the Agrarian Party that utilized the nuclear power issue throughout the 1970s, and partly even the Leftwing Communist Party.⁵⁹¹

The economic historian Lars Jonung denoted 1970-73 as Sweden's "lost years" because of the Palme executive's contractive policy 1971-72 as a response to the 1969-70 boom that gave tendencies to overheating of the Swedish economy.⁵⁹² The Bretton Wood system's breakdown in 1971 led to increasing economical turbulence. Sweden joined EEC's Currency Snake but left it in August 1977. Sweden profited from the 1970-74 raw material boom prior to the first oil price shock, OPEC 1 in 1973-74, but the raw material boom led partly to overheating of the economy.⁵⁹³ The first oil price shock reduced the domestic and export markets' demand and brought many underlying problems to the surface, hereunder Sweden's need for energy.⁵⁹⁴ The Swedish trade and industry's high costs and diminishing productivity had been masked by sustained economic growth since the 1950s. The 1970s stagflation was according to the economic historian Lennart Schön a

⁵⁸⁷ See the Data Appendix' Table 3.17-3.20.

⁵⁸⁸ Molin (1991d:329); Schön (2000:370).

⁵⁸⁹ Molin (1991b:226-227).

⁵⁹⁰ Cf. Knutsen's (1988; 1993) and Togeby's (1989:89, 123 ff.) studies about a new socio-cultural cleavage, which were inspired by Inglehart's (1977) theory about changed value preferences along a materialistic/postmaterialistic dimension. See also Mjøset (1986:179-183) about red and green popular protest movements.

⁵⁹¹ Molin (1991b:231).

⁵⁹² Jonung (1999:147-149, 160-161).

⁵⁹³ Mjøset (1986:159-162, 184-186, 188-190, 192); Eichengreen (1998:154-160, Table 5.1).

⁵⁹⁴ Peterson (2002:220-224); Mjøset (1986:188-194).

structural and technological shift from old smokestack and manufacturing industries to new knowledge based industries and services.⁵⁹⁵

A broad majority in Riksdagen 1974-76 supported the executive's counter cyclic response to the recession entailing the first oil price shock, but the Swedish wage level increased more than the competitors' during the 1970s. The Swedish trade and industry lost competitiveness, which in turn led to State economic problems due to reduced exports. But Sweden's dependence of the export markets constrained the special interest groups' influence, according to Lennart Schön, and safeguarded a rational and consensus oriented policy even during the crisis.⁵⁹⁶ Some claimed that Sweden's large public sector in the 1970s crowded out private enterprises, but that was not the case according to the Norwegian sociologist Lars Mjøset.⁵⁹⁷ The corporative system established since the 1930s was strained, but safeguarded seemingly rational handling of the 1970s' crisis.

The Fälldin executive's responses to the State economic problems were devaluation of the SEK to improve the exports, increased VAT to increase the State's incomes, reduced public investments, and borrowing on the international capital markets from 1977. The State economic problems led to the Fälldin executive's resignation in 1978 prior to the second oil price shock, OPEC 2 from the fall 1979 that came as a result of the Iranian revolution.⁵⁹⁸ OPEC 2 aggravated Sweden's State economic problems further due to increased inflation and growing balance of payment problems. The Swedish corporative model came in question.⁵⁹⁹ The Carter administration's deflationary policy from 1978 that squeezed the inflation out of the US economy harmed the Swedish exports.⁶⁰⁰ The two decades 1960-80 that started with a boom ended with an emerging system crisis.

Sweden's GDP per capita measured in 1990 international Geary-Khamis dollars, were 8.688 dollars in 1960, 12.716 in 70, 13.494 in 73 and 14.937 in 80. The average for the 12 West European countries was 7.607 dollars in 1960, 10.959 in 70, 12.156 in 73 and 14.057 in 80.⁶⁰¹ Sweden was above the average and number three in 1960, number two in 1970 and number three in 1973. But Sweden's golden years culminated in 1975. Sweden was reduced to number five in 1980 measured as GDP per capita and barely above the West European average, because of the stagflation entailing OPEC 1 and the Swedish system's crisis during the late 1970s.

The technocrats' heydays – implementation of Swedish Road Plan and development of its successor – Road Plan 1970

The 1953 Traffic Commission concluded in May 1961 and June 1962 and recommended introduction of free choice of means of transport, removal of cross subsidies between the means of transport and deregulating truck and tractor transports.⁶⁰² Riksdagen's *1963 Traffic Policy Decision* established economic

⁵⁹⁵ Schön (2000:435 ff.). See also Jonung (1999:164-166).

⁵⁹⁶ Schön (2000:488). See also Jonung (1999:166-177) and Sejersted (2005:378-380).

⁵⁹⁷ Mjøset (1986:132-134).

⁵⁹⁸ Molin (1991c:269-271); Mjøset (1986:210-211); Jonung (1999:168).

⁵⁹⁹ Mjøset (1986:259-261); Jonung (1999:185-187).

⁶⁰⁰ Eichengreen (1998:144, 146 ff.)

⁶⁰¹ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:63, 65 Table 1c.

⁶⁰² SOU 1961:23 *Svensk trafikpolitik I. Riktlinjer och handlingsprogram*:19-40; SOU 1962:35 *Svensk trafikpolitik III. Plan för lastbils- och traktortågstrafikens liberalisering*.

effectiveness and competitiveness as the transport and communication policies' lodestar, and approved also a three-phase deregulation of the transport sector within 1967.⁶⁰³ However, Riksdagen's 1963 Traffic Policy Decision established some fairly strange bedfellows according to the political scientist Jörgen Wedin's dissertation. Because the Federation of Trade Unions, the Railroad Workers' Union, the Transport Workers' Union, the motorist organizations and the Communist Party championed a plan based traffic policy, while the Trade and Industry's Traffic Delegation, the Railroad Board, the Social Democratic, Agrarian, Liberal and Conservative Parties argued for a market based traffic policy such as approved by Riksdagen.⁶⁰⁴ The Swedish executive and legislators in the early 1960s were thus far more concerned with the trade and industry's competitiveness than preserving particular transport and communication infrastructures, or keeping the trade unions happy. Riksdagen's 1963 Traffic Policy Decision had significant road policy implications, because it furthered the shift from railroad to road transports.

One of the 1960s and 70s most influential Swedish ideas was *SCAFT* (Stadsbyggnad, Chalmers, Arbetsgruppen för Trafiksäkerhet), a collection of norms, principles and technical standards for urban and traffic planning developed from 1961 by architects, road engineers and urban planners at Chalmers Technical Institute (Chalmers tekniska högskola) in Gothenburg. *SCAFT*'s ideas and norms permeated soon Swedish road policy and road construction, and diffused even to other countries. *SCAFT*'s starting points were *Swedish Road Plan*, traffic engineering and adaptation of Sweden to mass motoring. The Road and Water Construction Administration and the *Planning Board* (Planverket) assigned the task. *SCAFT* was supposed to safeguard road safety, and systematized and institutionalized the traffic engineering's means, tools and methods. *SCAFT*'s most important means were *traffic separation*, physical separation of hard and soft road users through construction of separate road systems for motor vehicles, pedestrians and cyclists, *traffic differentiation*, physical separation of fast and slow moving vehicles and remote and local traffic through a differentiated road system with trunk roads and motorways, highways, county roads, local roads, city streets and dedicated bicycle and pedestrian paths. *SCAFT* introduced also residential areas without motor vehicle traffic, in addition to generally well arranged, tidy, logical and predictable traffic environments.⁶⁰⁵ The road system outlined in *Swedish Road Plan* and most of Sweden's new residential areas and suburbs were all built according to *SCAFT*'s guidelines. Even the Danish Directorate of Public Roads, the Danish counties and municipals built most of Denmark's modern road system according to *SCAFT*'s guidelines. There were also attempts of introducing the *SCAFT* paradigm in Norway during the 1960s, but these attempts failed completely except in some of Oslo's new satellite towns built during the 1960s and 70s. The concerns for road safety, which can be understood as a collective good, were thus instituted in Swedish and partly also in Danish road planning and road construction, but hardly so in Norway.

Gösta Skoglund, Sweden's minister of communications since April 1957, appointed April 29th the *1964 Commission for High Level Road Planning*, because

⁶⁰³ SOU 1969:56 *Vägplan 1970*:26-27; Wedin (1982:74-78); Melin (2000:85-86, 88-89, 91).

⁶⁰⁴ Wedin (1982:116).

⁶⁰⁵ *Riktlinjer för stadsplanering med hänsyn till trafiksäkerhet*, Statens planverk and Statens vägverk, Stockholm 1965/68; Palme (1970:117-118); Andersson (2002:2, 5, 6).

the centralization, urbanization, vehicle and traffic growth by far exceeded *Swedish Road Plan's* forecasts. Skoglund desired a plan for further road construction until 1985. He was particularly concerned about the road safety, and desired also improved coordination between the urban and rural areas' road construction, and between construction of roads and housing.⁶⁰⁶ Tage Erlander's executive planned namely construction of a million housing units between 1965 and 1975, the so-called million program.⁶⁰⁷ Erik Grafström headed the 1964 Commission for High Level Road Planning initially, but Gösta Skoglund replaced him in December 1965, when Olof Palme became minister of communications.⁶⁰⁸

The 1964 Commission for High Level Road Planning submitted its *Road Plan 1970* (Vägplan 1970) in December 1969, an updated and revised version of *Swedish Road Plan* for 1970-85.⁶⁰⁹ The cost/benefit calculations were based on 8 percent discount rate, 3 percent more than in the original *Swedish Road Plan*, but this was in accordance with the Ministry of Finance's guidelines. The 1964 Commission for High Level Road Planning assumed the road investments had 30 years life span, and outlined two alternatives for Riksdagen's road appropriations 1970-85. The 'low growth' alternative with 4 percent annual growth was based on allocation of 36.640 millions 1969 SEK or approximately 20.568,4 millions 1990 PPP USD 1970-85, hereunder investment of 19.960 millions 1969 SEK or approximately 11.253,9 millions 1990 PPP USD. The high growth alternative with 7,5 percent annual growth was based on allocation of 47.800 millions 1969 SEK or approximately 26.950,6 millions 1990 PPP USD 1970-85, hereunder investment of 31.120 millions 1969 SEK or approximately 17.546,1 millions 1990 PPP USD. The low-growth alternative was based on the existing vehicle and fuel taxes; the high-growth alternative necessitated increased vehicle and fuel taxes to maintain the balance between vehicle and fuel tax revenues and road appropriations.⁶¹⁰ The 1964 Commission for High Level Road Planning's estimation model included investment costs, maintenance costs, costs for parking areas, vehicle and time costs and accident costs, and concluded the society should be willing to increase the road investments equal to the social costs for a totally disabled person, to avoid future traffic accident fatalities.⁶¹¹ ⁶¹² *Road Plan 1970* became therefore a seminal or path-breaking work

⁶⁰⁶ *Svenska vägplaneutredningen*, Utdrag av protokollet över kommunikationsärenden, hållet inför Hans Maj:t Konungen i statsrådet på Stockholms slott den 29. april 1964. Kungl. Bokstr. Sthlm 640512, May 12th 1964. Document stamped Norsk vegplan B-29, VDA cassette Norsk vegplan B22-45.

⁶⁰⁷ Schön (2000:392).

⁶⁰⁸ The 1964 Commission for High Level Road Planning had only four other members, namely Erik Höök from the Ministry of Finance; Per Olov Tjällgren from The Road and Water Construction Administration, who was Director General Gustav Vahlberg's closest aide and Erik Nilsson from the Ministry of Communications. Director Sven Gerentz represented Swedish trade and industry (SOU 1969:56 *Vägplan 1970*:7; Gerentz 1995:17; Blomkvist 2001:231).

⁶⁰⁹ SOU 1969:56 *Vägplan 1970*:8.

⁶¹⁰ SOU 1969:56 *Vägplan 1970*:9, 11, 14, 105.

⁶¹¹ SOU 1969:56 *Vägplan 1970*:99-105. See also Palme (1970:128-130) about road accidents and environmental problems caused by the mass motoring.

⁶¹² *Road Plan 1970* outlined the following allocation of the road investments from 1970 until 1984, independently of the low and high-growth budget alternatives: 9.073 millions 1969 SEK or approximately 5.115,5 millions 1990 PPP USD to construction of 1.579 kilometers four-lane motorways; 909 millions 1969 SEK or approximately 512,5 millions 1990 PPP to construction of 622 kilometers of expressways with wide shoulders, and 1.222 millions 1969 SEK or approximately 689 millions 1990 PPP to construction of 271 kilometer narrow four-lane roads. The commission recommended also investing

with regard to road safety, because it established the Road and Water Construction Administration's use of allocation models that included accident costs, and differed thus fundamentally from the contemporary *Norwegian Road Plan* that omitted accident costs and road safety considerations both from the formal investment allocation models and most politically adjusted allocations of the road investments.

Road Plan 1970's new road standards were based on SCAFT's guidelines, and included three main parameters, namely "road safety" (trafiksäkerheten) measured in number of vehicle kilometers per accident, "traveling speed" (reshastigheten) measured in kilometers per hour and "carrying capacity" (bärigheten) measured as permitted axle, bogie and total vehicle weights in tons. The 1964 Commission for High Level Road Planning recommended construction of motorways where the average traffic exceeded 6.000 vehicles per day during each road's first year of operations.⁶¹³ These three parameters were all of great importance for the Swedish trade and industry's future competitiveness, for Sweden's future road safety and for the Swedish healthcare and social system's future costs. But the increased discount rate combined with road safety as one of the model's parameters reduced *Road Plan 1970's* recommended investments in the peripheral areas' county roads, a fundamental difference compared to the contemporary *Norwegian Road Plan*. Riksdagen approved *Road Plan 1970* in 1972.⁶¹⁴ However, it was soon evident that *Road Plan 1970's* growth estimates came close to State economic hubris.

Sweden's public road system's length increased from 92.070 kilometers in 1957 to 97.960 kilometers in 1969. Sweden had 19 kilometers motorways in 1957 and 328,5 kilometers motorways and 139,7 kilometers expressways January 1st 1969.⁶¹⁵ The permitted axle load in 1957 was 6 tons on most public roads. The permitted axle load in 1968 was 8 tons on 96 percent of the public roads, but 80 percent of the new trunk roads and about one third of the most important county roads permitted in 1968 10/16 tons axle/bogie loads.⁶¹⁶ The Road and Water Construction Administration prioritized thus construction and modernizing of the industrially most important trunk roads and county roads during the 1960s. Most of the road construction and modernizing was governed by an economic logic, exactly as outlined in *Swedish Road Plan*.

5.114 millions 1969 SEK or approximately 2.883,4 millions 1990 PPP USD in county roads, and investing 604 millions 1969 SEK or approximately 340,55 millions 1990 PPP USD in improvements of 2.775 kilometers roads. The 1964 Commission for High Level Road Planning's total recommended investments were hence 16.892 millions 1969 SEK or approximately 9.524,1 millions 1990 PPP USD distributed across 11.695 kilometers of roads. These investments were divided between 13.035 millions 1969 SEK or approximately 7.349,4 millions 1990 PPP USD to 7.244 kilometer trunk roads and 3.857 millions 1969 SEK or approximately 2.174,7 millions 1990 PPP USD to 4.451 kilometer primary county roads. 4.422 millions 1969 SEK or approximately 2.493,2 millions 1990 PPP USD of the proposed investments were recommended allocated to 538 kilometer urban roads and city streets (SOU 1969:56 *Vägplan 1970*:146 Tabell 9:1, 147 Tabell 9:2).

⁶¹³ SOU 1969:56 *Vägplan 1970*:108-109, 119-121.

⁶¹⁴ SOU 1975:85 *Vägplanering*:19-20.

⁶¹⁵ SOU 1969:56 *Vägplan 1970*:39 Tabell 3:4, 40 Tabell 3.5.

⁶¹⁶ SOU 1969:56 *Vägplan 1970*:43, 44 Tabell 3:8 and Tabell 3:9.

From expert ruled to more politically governed road policy and road construction

The Road and Water Construction Administration's lack of deep local rooting became a problem for the Road and Water Construction Administration in the 1960s and 70s according to the historian Ove Pettersson, because the engineers built excellent roads but overlooked often other considerations of great importance for those affected by the road construction or lack of such.⁶¹⁷ The county borders and county organizations were also perceived as problems for the Road and Water Construction Administration throughout the 1950s and early 60s. The Ministry of Communications appointed a commission to elucidate the Road and Water Construction Administration's organization in 1963 that concluded in 1965, and transformed July 1st 1967 the Road and Water Construction Administration to *Swedish National Road Administration* (Statens vägverk). The road construction and maintenance activities were gathered into seven regions transcending the county borders, similarly as the Royal Board of Roads and Waterways' five road and water construction districts prior to the 1930 reform. This new regionalized model was upheld until 1982. The Water and Sewage Branch (Vatten och Avlöpsbyrån) was spun off to the new Environmental Protection Board (Naturvårdsverket). The Road Traffic Branch (Vägfikbyrån) was similarly in 1968 spun off to a new *Road Safety Board* (Trafiksäkerhetsverket).⁶¹⁸ Sweden changed from left-hand to right-hand driving during the night September 3rd 1967. Sweden had no general speed limits until 1960, but the Road Safety Board introduced 90 km/h as maximum speed limit on highways and 110 km/h on motorways in 1970, after trials with various speed limits after introduction of right-hand driving.⁶¹⁹

Was the real reason for the 1967 reforms the county borders or had the Road and Water Construction Administration become too powerful, too autonomous and unmanageable? Was Director General Gustav Vahlberg deaf to the executive's political signals? The Swedish centralization went on for full blast during the 1960s, well ahead of the 1950s' wildest expectations. The Road and Water Construction Administration and the major cities' construction of trunk roads, driveways and motorways fueled this centralization. Few domestic political issues interested Olof Palme, the new minister of communications from November 1965, more than regional policy and distribution of goods between rural and urban areas, particularly the distribution of employment.⁶²⁰ It was also commonly accepted knowledge within the Road and Water Construction Administration that Gustav Vahlberg was a strong

⁶¹⁷ Pettersson (1988:135 ff.).

⁶¹⁸ Montelius (1987b:80-81); Liten Vägverkshistoria [Online October 9th 2004] – URL: <http://www.vv.se>; Vägverkets namn genem tiderna [Online October 9th 2004] – URL: <http://www.vv.se>.

⁶¹⁹ Vägverket 1944 till idag; Högertrafikens historia; Hastighetsbegränsningarnas historia [Online September 15th 2005] – URL: <http://www.vv.se>.

⁶²⁰ Peterson (2002:159). See also Palme (1970:112-120, 123-124). Thage G. Peterson was a leading member of the Social Democratic Party's Youth Movement (SSU) 1961-67, and worked in the Community Center Movement (Folketshusrörelsen) 1967-70. Peterson was member of Riksdagen from 1971 and Parliamentary Secretary at the Prime Minister's office 1971-75, where he developed the modern Prime Minister's Office. Peterson was minister of coordination from 1975 until the Social Democratic Party's executive's resignation after the 1976 election. Peterson served first as minister of industry in Palme's second executive from 1982 and thereafter as minister of industry in Ingvar Carlsson's executive until 1988. Peterson served also as minister of justice during three months, after Anna-Greta Leijon's resignation (Peterson 2002:15; Hadenius et al. 1991:371, 374).

Director General who struggled for increased road appropriations and questioned the executive's use of road construction as a business cycle regulator, even if his own party governed.⁶²¹ Gustav Vahlberg may have been perceived as a problem for the ministers of communication, but Olof Palme had sufficient political strength and backing to lop off Director Generals who ignored the executive's political signals.

The Social Democratic Party lost as mentioned earlier the 1966 local elections. The middle parties lost voters to the Conservative Party, while the Social Democratic Party lost voters to the middle parties.⁶²² Olof Palme's skepticism to the Agrarian Party was growing, because the Agrarian Party had been targeting urban voters since 1957 when the coalition executive dissolved and the Agrarian Party changed its name from *Bondeförbundet* to *Centerpartiet*. The 1930s' class compromises and the 1950s' coalition between the Social Democratic and Agrarian Parties were first and foremost possible because the Agrarian Party represented the rural areas' wealthy farmers and forest owners. The Social Democratic Party represented similarly the urban areas, industrial workers and civil servants.⁶²³ Olof Palme feared most likely a trend where reduced voter support could shift the political balance in the non-socialist parties' favor similarly as the political balance had shifted in the Social Democratic Party's favor in the 1930s.

The Agrarian Party questioned in 1966 Riksdagen's 1963 Traffic Policy Decision because it led to winding up of unprofitable peripheral and rural secondary and tertiary railroads. These discussions continued in Riksdagen in 1967. The issue at stake was the final phase of 1963 Traffic Policy Decision's deregulations. Even Riksdagen's 1967 debates created some strange political bedfellows, according to Jörgen Wedin's study, because the Leftwing Communist Party, the Federation of Trade Unions and the Railroad Workers' Union argued for a plan based traffic policy. The Transport Workers' Union shifted slightly more towards the market position. The Truck Owners' Association, Agrarian and Liberal Parties were similarly almost at the market end of the continuum. The Social Democratic and Conservative Parties and the Trade and Industry's Traffic Delegation remained firmly at the market end of the continuum similarly as in 1963.⁶²⁴ The Social Democratic and Conservative Parties maintained thereby their belief in market based transport and communication policies to safeguard the trade and industry's competitiveness. The middle parties on the other hand had shifted more towards a planned transport policy since 1963, most likely because they recognized the voters' response.

Minister of communications Olof Palme replaced in 1967 the former Road and Water Construction Administration's Road Management Cooperation Delegation with a board of directors between the new Swedish National Road Administration's Director General and the Ministry of Communications.⁶²⁵ This board had two directors from Riksdagen, one representing the Social Democratic and one the Agrarian Party. The third director represented the Federation of Trade Unions. Swedish Automotive Industry Association's Chairman Sven Gerentz represented the

⁶²¹ Gus Vahlberg [Online September 1st 2005] – URL: <http://www.vv.se>;

⁶²² Molin (1991b:249); Hadenius et al. (1991:350-351 Tabell 1c).

⁶²³ Peterson (2002:370).

⁶²⁴ Wedin (1982:144 ff., 164).

⁶²⁵ Blomkvist (2001:231).

automotive and motoring lobby. Swedish National Road Administration's Director General Gustav Vahlberg headed the new board of directors.⁶²⁶ The corporative model that had facilitated swift implementation of *Swedish Road Plan* was hence furthered and formalized through Olof Palme's 1967 reform that seemingly not reduced Director General Gustav Vahlberg's power and influence significantly, because Vahlberg headed the new board of directors. But the new board of directors made the Agrarian Party a road policy accomplice, and may have been one of Olof Palme's moves to contain the Agrarian Party. Swedish National Road Administration's board of directors sanded most decisions, according to Sven Gerentz. The Director Generals took usually the other directors' views into consideration.⁶²⁷ Olof Palme's new board of directors between Swedish National Road Administration's Director General and the Ministry of Communications furthered thus the corporative consensus tradition established as soon former Director General Carl-Gustaf Hjort retired, but glued the opposition parties to the executive's road policy.

Minister of communications Svante Lundkvist postponed in 1968 until further Riksdagen's 1963 Traffic Policy Decision's final phase deregulations.⁶²⁸ New road and traffic policy shifts were obviously in the pipeline, most like as a result of the Social Democratic Party's strategic moves to contain the Agrarian Party.

Stockholm pioneered the road policy shifts

Stockholm's number of inhabitants increased from about 100.000 in 1856 to about 390.000 in 1913. Greater Stockholm area's number of inhabitants increased similarly from about 500.000 in 1910 to about 1,1 millions in 1950.⁶²⁹ This fast population growth and the fact that many inhabitants moved from the city hub to the surrounding suburbs after World War Two necessitated radical improvements of greater Stockholm's transport infrastructures, both rail bound public transports and trunk roads.

The 1956 draft version of *Swedish Road Plan* proposed construction of several motorways in the Stockholm area, but Stockholm's aldermen required even more motorways in their commentary, first and foremost a motorway ring encircling Stockholm's city hub to drain the through traffic and radial entrance roads from the suburbs to the city hub. *Swedish Road Plan* allocated 2.000 millions SEK or approximately 1.832,3 millions 1990 PPP USD to unspecified trunk road projects in the major cities. *Stockholm's 1960 Trunk Road Plan* (Trafikledsplan för Stockholm 1960) developed further Stockholm's 1958 *Region Plan*, and outlined construction of a six-lane motorway ring encircling Stockholm's city hub, with radial entrance motorways. *Stockholm's 1960 Trunk Road Plan* assumed investment of 2.330 millions SEK or approximately 1.850,4 millions 1990 PPP USD in roads and 284 millions SEK or approximately 225,4 millions 1990 PPP USD in land purchase the forthcoming 20 years.⁶³⁰

⁶²⁶ Gerentz (1995:17).

⁶²⁷ Gerentz (1995:17-18).

⁶²⁸ Wedin (1982:165 ff.).

⁶²⁹ Skårfors (1999:21, 32).

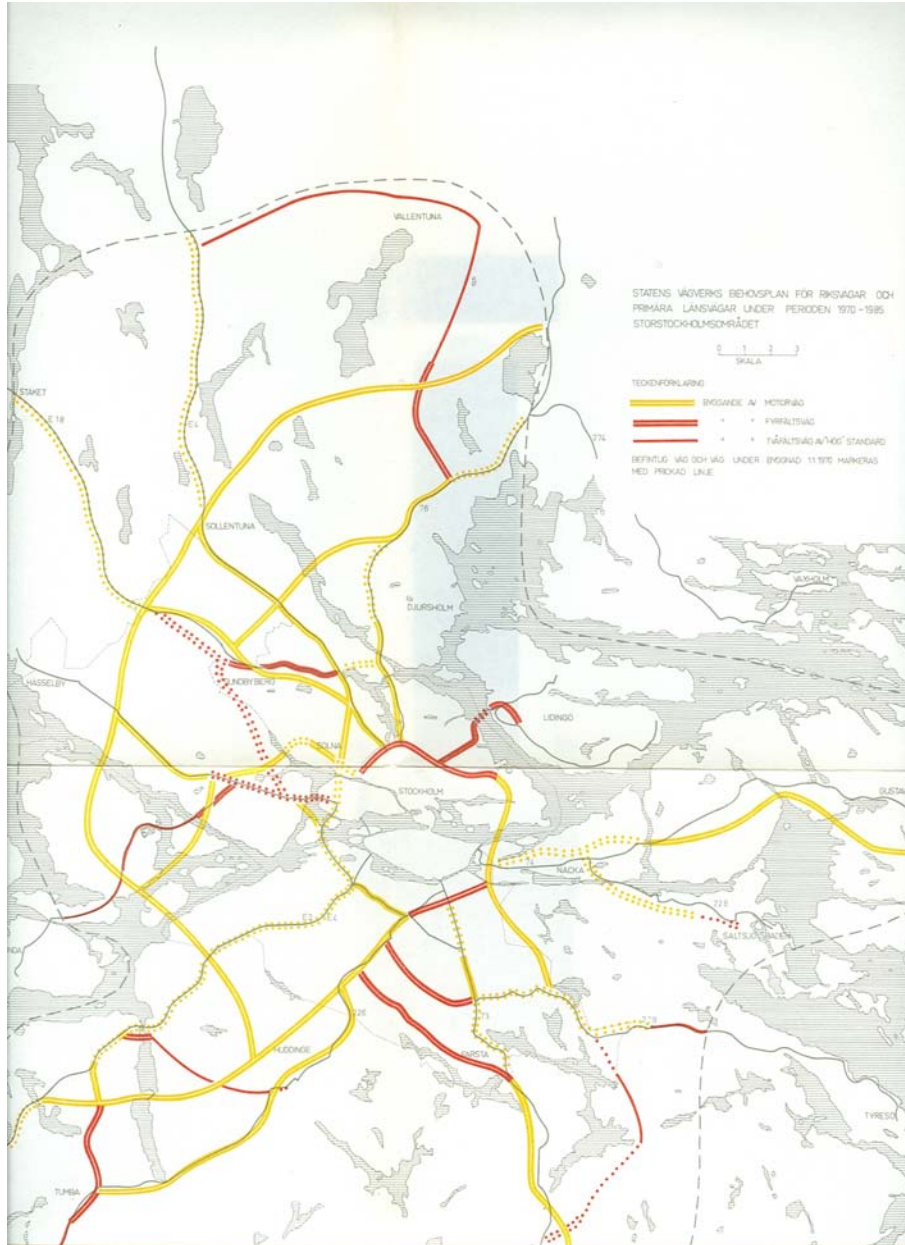
⁶³⁰ Skårfors (2001:72-81). See also Skårfors (1999:46-60) for an overview of Stockholm's local road plans 1945-60.

The *Essingen Trunk Road* (Essingeleden), the southwestern corner of the planned motorway ring, was initially approved by Stockholm's city council October 15th 1959 and agreed built in two phases. Phase one 1960-69, was construction of a motorway with reduced width in some sections. Phase two 1975-79, was expansion to full width. Stockholm's city council's decision triggered many protests, but the project was revised and furthered. Both Stockholm's Essingeleden (E 3, E 4) and Gothenburg's Tingstad Trunk Road (Tingstadleden) (E 6), which also came as a result of *Swedish Road Plan*, were vital links and potential bottlenecks in Sweden's future national trunk road system. Stockholm and Gothenburg received significant co-financing from the Road and Water Construction Administration during the 1960s. Tingstadleden and most of Gothenburg's other planned trunk roads and motorways were completed. The Essingen Trunk Road and Stockholm's motorway ring's remaining parts were largely abandoned from 1970, due to popular resistance and lack of funding.⁶³¹ The Essingen Trunk Road's Bromma section was one of Sweden's most profitable road investment, with a 7,3 cost/benefit ratio, according to the economist and doctoral engineer Ingemar Ahlstrand, but was not completed.⁶³²

⁶³¹ Skårfors (2001:103, 153-160, 182-185, 263).

⁶³² Ahlstrand (1995:58-59).

Figure 11: Greater Stockholm's future trunk road system outlined in Road Plan 1970.



Source: SOU 1969:56 *Vägplan 1970*.

Rikard Skårfors' economic historical study of Stockholm's urban planning 1945-75 uncovered the local opposition against the planned and approved motorways and trunk roads increased significantly throughout the 1960s. One strong

indication was the political parties and community groups' formal comments to the proposed plans. The number of comments peaked in 1970. The local resistance against further construction of motorways and trunk roads was evident in *Stockholm County's 1973 Regional Plan* (Regionplan 1973 för Stockholm's län).⁶³³ Sweden experienced similarly as Denmark and Norway a significant red-green environmentalist tide in the second half of the 1960s and early 70s. Many of these organizations were popular or grass root movements not formally related to the established political parties.⁶³⁴ 1970 became in other words a road policy turning point in Stockholm and in most other major Swedish cities, because of increasing radical and environmental critique of mass motoring and the cities' road construction.⁶³⁵

How to explain this road policy shift approximately from 1970? Rikard Skårfors found two broad categories of explanations. The economical explanation was first the so-called 1964 *Hörjel-agreement*, orchestrated by the Ministry of Communication's Parliamentary Secretary Nils Hörjel that permitted Stockholm city council to finance 95 percent of the construction costs for Stockholm's subway with State road appropriations. Only the remaining road appropriations were left to road construction. The major cities' State road appropriations were reduced. Adaptation of Stockholm's city hub to mass motoring and construction of Essingeleden became also more costly than planned. A temporary slump in Stockholm's population growth in the second half of the 1960s gave less traffic growth than estimated, and reduced thereby temporarily the need for trunk road construction. The change of mood among Stockholm's inhabitants and local politicians started as an elite phenomenon in the early 1960s, but diffused soon to miscellaneous popular movements. The new generation of local politicians that came in position at the turn of the 1960s and 70s perceived these signals and adjusted the road policy and road construction accordingly in *Stockholm County's 1973 Regional Plan* and in the entailing road and infrastructure plans.⁶³⁶ However, there was one fundamental difference between Sweden and Norway, which also had fairly strong popular and political mobilization against road construction at the turn of the 1960s and 70s. The economically most important Swedish road sections were completed before this change of mood took place. Swedish National Road Administration or the former Road and Water Construction Administration allocated the road investments according to transport economic considerations, cost/benefit calculations and desires about improved road safety, and prioritized therefore high-gain projects. Norwegian legislators postponed construction of profitable trunk roads at least until 1978.

The 1964 Hörjel-agreement challenged seriously the road policy equilibrium established since the 1920s and instituted by the 1938 accounting reform that dedicated vehicle and fuel tax revenues to road appropriations.⁶³⁷ The 1951 Vehicle Tax Committee refused financing construction of urban subways with vehicle and fuel tax revenues, because that violated the established "cost responsibility

⁶³³ Skårfors (1999:69-70, 83, 107 Tabell 7.1, 108-109 Tabell 7.2, 110 Tabell 7.3). See also Isaksson (2001:29 Bild 1.3.2).

⁶³⁴ Wrigge (2003:3-9). See also Tengström (1990:39-42), Gullberg (1990:66-78). Isaksson (2001:7-9) and Sejersted (2005:259-261) about the 1960s and 70s critique against the motoring.

⁶³⁵ Skårfors (2001: 104); Isaksson (2001:7-9).

⁶³⁶ Skårfors (1999:38, 65, 71, 83-84, 93, 119).

⁶³⁷ Andréasson et al. (1997:51).

principle". Even the 1955 *Urban Road Management Committee* that submitted its recommendations in 1959 advised against financing construction of urban subways with vehicle and fuel tax revenues, even if substitution of urban tramlines with subways would increase the cars' available road capacity. Stockholm's city council asked in February 1957 for the Ministry of Communication's permission to finance construction of the planned subways with road appropriations.⁶³⁸ The Ministry of Communication's Parliamentary Secretary Nils Hörjel orchestrated the agreement that authorized financing 95 percent of the construction costs for Stockholm's subway with road appropriations, despite the automotive and motoring lobby's protests. But Nils Hörjel's move safeguarded construction of a comprehensive and very functional subway system that improved Stockholm's environment and traffic conditions fundamentally.

The 1970s' road and traffic policy flip-flops

Railroads carried most of Sweden's domestic goods transports until 1970 measured in ton kilometers.⁶³⁹ But this shift from railroad to road transports was not reflected in the road investments, because they peaked about 1970 and was almost halved within 1980.⁶⁴⁰ *Road Plan 1970's* strong growth projections were literally Spanish castles prior to Riksdagen's approval in 1972, because the Palme executive's contractive economic policy 1971-72. The urban areas' road investments were similarly strongly reduced during the 1970s, due to the first oil price shock 1973-74, the entailing stagflation and international recession, the Swedish corporative system's crisis, tighter budgets for public investments and popular and political resistance against urban road construction.

Ove Pettersson claimed Swedish National Road Administration maintained its strong position until the early 1970s, when it was undermined by large municipals that gradually acquired their own road, urban and environmental planning expertise. The Swedish road policy and road construction that almost had been dictated by the former Road and Water Construction Administration changed therefore gradually character to a negotiation process between Swedish National Road Administration and the involved counties and municipals. This development was also a result of the 1970s' ambitions about a more decentralized Sweden.⁶⁴¹ Was Pettersson right about Swedish National Road Administration's weakened position?

The new Traffic Committee became responsible for road policy issues in 1971 after introduction of Riksdagen's unicameral system. Gustav Vahlberg retired similarly August 1st 1971. Sven-Göran Olhede succeeded him as Swedish National Road Administration's Director General. Olhede had served as Parliamentary Secretary in the Ministry of Defense 1966-69 and in the Ministry of Industry 1969-70 and became member of Riksdagen for the Social Democratic Party in 1970 until he became Director General.⁶⁴² It became also known in 1973 that Sven-Göran Olhede had been involved in the Social Democratic Party's secret surveillance of

⁶³⁸ SOU 1959:19 *Statsbidrag till städernas vägor och gator m.m.*:4, 29-32.

⁶³⁹ Krantz (1986:228-229 Tabell T75); Modig (1991:228); Kritz (1991:244).

⁶⁴⁰ Larsson (1993:215-217).

⁶⁴¹ Pettersson (1988:137, 154-155, 170).

⁶⁴² Vegverkets generaldirektörer [Online October 9th 2004] – URL: <http://www.vv.se>; Gus Vahlberg; Sven-Göran Olhede [Online September 1st 2005] – URL: <http://www.vv.se>.

communists together with Swedish Industry and the military intelligence services.⁶⁴³ Sven-Göran Olhede was also one of the social democrats that polished the party's ideological profile.⁶⁴⁴ Riksdagen's establishment of standing subject matter committees and Vahlberg's retirement created a new situation that increased Riksdagen's influence even in road policy matters.

The Agrarian Party that became the Social Democrats' primary opponent after the 1968 election revised its manifesto in 1969, and promised introduction of social and socio-economic concerns as guidelines for Sweden's future transport and communication policy, hereunder integration of regional, transport and communication policies to achieve a decentralized society.⁶⁴⁵ Olof Palme was well aware the three major cities' growth during the 1960s and early 70s had increased the Agrarian Party's support. Olof Palme was also well aware that Stockholm's strong man, Hjalmar Mehr, had done his best to increase Stockholm's number of inhabitants through liberal application of glass and concrete constructions. Olof Palme became almost "obsessed" with the Agrarian Party's secretary, Gustaf Jonnergård, and the Agrarian Party's new leader from 1971, Thorbjörn Fälldin, and pursued a dual strategy to stem the Agrarian Party's progress in urban areas, according to Olof Palme's Parliamentary Secretary Thage G. Peterson. Olof Palme accused first the Agrarian Party for describing the major cities' inhabitants as second-class citizens forced to live in the major cities, and depicted the major cities' living conditions as "Dantes inferno", in his speech at Stockholm's Labor Municipal's (arbetarkommun) annual meeting in April 1972.⁶⁴⁶ Hjalmar Mehr was in September 1971 offered an honorary and face saving retreat from his position as Stockholm's city manager (finansborgarråd), when he was appointed to Stockholm's County Governor.⁶⁴⁷ Olof Palme knew when and how to remove those within the movement who were out of tune with the popular sentiments and furnished the opposition parties with arguments, but he attacked also the Agrarian Party head on, and used the opportunity to boost the Social Democratic Party's followers' morale.

Olof Palme's second move against the Agrarian Party came through the executive's 1972 *State Board Proposition*, which included *Road Plan 1970*. But *Road Plan 1970* was – as we soon will see – almost dead on arrival. The cities had not responded as expected to the executive's carrots. Olof Palme used therefore the stick to limit the three major cities' growth, because some of Stockholm's Social Democratic Party bosses had not been able or willing to see the political connections between increased centralization and the Agrarian Party's progress, even if Stockholm's road investments already had been significantly reduced due to popular resistance.⁶⁴⁸ Olof Palme instructed obviously his ministers of communications

⁶⁴³ "Principskiss över det svenska spionaget, Samband mellan IB och Statsföretag AB", *Folket i Bild/Kulturfront*, No. 17, 1973 [Online September 21st 2005] – URL: <http://www.fib.se/IB/princips.html>; <http://www.fib.se/IB/samband.html>; Konstitutionsutskottets betänkande 1998/99:KU25 *Granskning av statsrådets tjänsteutövning och regeringsärendenas handläggning*: Chapter 1.2.

⁶⁴⁴ Sven-Göran Olhede [Online September 1st 2005] – URL: <http://www.vv.se>; "100 års tradition i partiprogrammet: Krav på planerad ekonomi", *Socialisten* [Online September 21st 2005] – URL: http://www.socialisten.nu/abr/sap/partiprogram_historia_53.shtml

⁶⁴⁵ Wedin (1982:213).

⁶⁴⁶ Peterson (2002:159, 367-371). See also Palme (1970:113-121, 123-131, 133-142) about the major cities environmental problems and how these could be solved among others through public planning.

⁶⁴⁷ Skårfors (1999:90-91).

⁶⁴⁸ Peterson (2002:159, 369).

Bengt Norling, because Norling promised closer integration of the road and regional policies in the *1972 State Board Proposition* similarly as promised by the Agrarian Party prior to the 1970 election. Both Riksdagen's new Traffic Committee and the plenary approved Norling's ideas, but the road investments were still supposed allocated according to cost/benefit ratios. Bengt Norling appointed May 5th 1972 the *1972 Committee for Long Term Road Planning* (Komitén för den långsiktiga vägplaneringen) to develop a model that integrated road and regional policy and other kinds of public planning.⁶⁴⁹ Olof Palme tried obviously to outflank the Agrarian Party and those within the Social Democratic Party that opposed further centralization, but upheld Swedish National Road Administration's allocation of the road investments based on rational criteria. Director General Sven-Göran Olhede did not oppose this road policy shift.

Minister of Communications Bengt Norling questioned also the traffic policy as such on the Social Democratic Party's 1972 convention when he signaled willingness to shift from road to railroad transports of goods though imposition of transport policy measures.⁶⁵⁰ Jörgen Wedin's study revealed the Social Democratic Party in 1972 located itself almost in the same traffic policy position as the Leftwing Communist Party. The Conservative Party remained in the market end of the continuum. The Agrarian and Liberal Parties were both near the market end of the continuum, but somewhat more towards plan, similarly as in 1967. Bengt Norling's move represented clearly a traffic policy flip-flop, compared to the Social Democratic Party's positions in Riksdagen's 1963 Traffic Policy Decision and Riksdagen's 1967 traffic policy debate. Jörgen Wedin explains this flip-flop as a result both of party internal considerations and strategic considerations given the situation in Riksdagen, because the railroad workers' dissatisfaction had to be contained internally. It was also of utmost importance to divide the non-socialist parties prior to the forthcoming 1973 election.⁶⁵¹ The parliamentary situation and a minority executive dictated a shift in the Social Democratic Party's traffic policy to strangle the Leftwing Communist Party, contain the Agrarian Party and divide the non-socialist block. Similar motives explain most likely Bengt Norling's road policy moves in May when he appointed the 1972 Committee for Long Term Road Planning.

The 1972 Committee for Long Term Road Planning submitted its recommendations in October 1975. *Road Plan 1970's* 8 percent discount rate was upheld, according to the Budget Commission's (Budgetutredningen) 1973 recommendations.⁶⁵² The 1972 Committee for Long Term Road Planning established a new road plan regime based on planning in three levels or phases. First *strategic long-term planning* with 15 years time horizon derived from the executive's policy goals and the desired development of the Swedish society, thereafter *physical detail planning* of the desired roads based on the long-term plans. Finally *priority of the individual road projects* every third year coordinated with Riksdagen's elections, based on Swedish National Road Administration's ten-years long term road plans and quinquennial revolving road plans with feedback loops to

⁶⁴⁹ SOU 1975:85 *Vägplanering*:17-23. See also Melin (2000:92, 95-96).

⁶⁵⁰ Wedin (1982:191-193).

⁶⁵¹ Wedin (1982:221-225). See also Melin (2000:95-96).

⁶⁵² SOU 1975:85 *Vägplanering*:171-173.

the physical planning and political decision processes. Swedish National Road Administration's new investment allocation model increased the accident costs' significance compared to *Road Plan 1970's* investment allocation model, and introduced also regional policy considerations and uncertainty through stochastic elements.⁶⁵³ But the Ministry of Finance's high discount rates undermined both Olof Palme's executive and Riksdagen's increased regional and structural policy ambitions, because high discount rates reduce the number of profitable projects and tend to concentrate the investments in the most profitable projects, all other things equal. But this effect was partly mitigated through introduction of uncertainty and regional policy parameters in the allocation model.

But the Ministry of Finance's high discount rate was only a ripple compared to the tide, the macro economic shock caused by the 1973-74 oil price shock and the entailing stagflation that triggered Sweden's fast growing State economic problems. One indication of these problems was the 1972 Committee for Long Term Road Planning's recommended reductions in road widths compared to the road standards established through *Road Plan 1970*, even if road width is a decisive road safety parameter. Motorways and other four-lane roads were from 1975 recommended built only if the average traffic exceeded 12.000 vehicles per day, a doubling compared to *Road Plan 1970*. Expressways and two-lane trunk roads with wide shoulders were similarly recommended built where the average traffic was 9.000-12.000 vehicles per day. Two-lane trunk roads with wide shoulders were similarly recommended built where the average traffic was 6.000-9.000 vehicles per day.⁶⁵⁴ Narrower roads reduced the construction costs, but the 1975 'narrow gauge' road standard had profound long-term road safety implications.

The most significant consequence of the fast growing State economic problems was substantially reduced road investments. The revised *Road Plan 1970's* total investments 1976-85 were scaled down to 16.279 millions 1975 SEK or approximately 6.262,5 millions 1990 PPP USD, with 8.267 millions SEK or approximately 3.180,3 millions 1990 PPP USD to Swedish National Road Administration and 8.012 millions SEK or about 3.082,2 millions 1990 PPP USD to the major cities.⁶⁵⁵ Swedish National Road Administration was thus hit severely by the oil price shock and the entailing stagflation and State economic problems already in 1975, through recommendations about significantly reduced road investments.

Torbjörn Fälldin used environmental issues and regional policy as means for convincing the voters about the need for a system change prior to the 1976 election, and won. The Agrarian Party and Torbjörn Fälldin dominated three of the four executives 1976-82, except the Liberal executive headed by Ola Ullsten from October 1978 until October 1979.⁶⁵⁶ Sweden's first non-socialist executive since the 1930s 'purged' the ministries and boards, and began also dismantling many corporative institutions. The Conservative Party's Bo Turesson served as minister of

⁶⁵³ SOU 1975:85 *Vägplanering*:12-15, 119-155.

⁶⁵⁴ SOU 1975:85 *Vägplanering*:200-201 Tabell 10:3.

⁶⁵⁵ Swedish National Road Administration's investments were recommended allocated with 2.930 millions to national level investments; i.e. trunk roads, and 5.337 millions to county level investments. Significant parts of the major cities' investments were similarly allocated to county roads (Sekundärled), local roads (Matarled) and subways and other public transports (SOU 1975:85 *Vägplanering*:99 Tabell 4:1, 100 Tabell 4:2 and Tabell 4:3, 101).

⁶⁵⁶ Hadenius et al. (1991:372-373).

communication from October 1976 until October 1978 and adjusted Bengt Norling's traffic policy somewhat, because the 1977 budget proposition emphasized effectiveness both through competition between means of transport and enterprises.⁶⁵⁷ Bo Turesson reestablished thereby almost the governing market based traffic policy prior to the Social Democratic Party's 1972 flip-flop.

Helena Wockelberg's study of Riksdagen's debates about the Swedish public administration unveiled the Conservative and Liberal Parties desired a small State. The Agrarian Party desired similarly a small but decentralized State that delegated tasks to the counties and municipals. The Agrarian Party argued in the 1970s for a spoils system or cronyism, almost as in USA, with their own followers as head of the boards with terms of years coordinated with the elections, because that would align the boards' policy implementation with the national will, according to the Agrarian Party.⁶⁵⁸ The Fälldin executive appointed Carl-Olof Ternryd, who had a doctoral degree in engineering from the Royal Institute of Technology as Swedish National Road Administration's new Director General May 1st 1978, after the Social Democratic Party's Sven-Göran Olhede died March 23rd.⁶⁵⁹ ⁶⁶⁰ Carl-Olof Ternryd was not an active politician but first and foremost a skilled professional and civil servant, even if he most likely sympathized with the new executives and the automotive and motoring lobby.

Olof Palme's executive started relocating State boards from Stockholm to more peripheral areas in the late 1960s, to constrain the centralization, reduce the peripheral counties' depopulation and to contain, outflank and disarm the Agrarian Party. Riksdagen decided in 1973 to relocate Swedish National Road Administration to Borlänge in Dalarna, northeast of Stockholm. The physical relocation took place under the Liberal Ullsten executive 1978-79 and was completed in 1980.⁶⁶¹ The relocation to Borlänge weakened Swedish National Road Administration's opportunities for quiet lobbying, but the increased distance to the Ministry of Communications and Riksdagen on the other hand protected Swedish National Road Administration's autonomy, even if the Agrarian Party desired more politically manageable boards, for instance through appointment of Director Generals sympathetic to their programs.

Neither the Social Democratic Party's Bengt Norling nor the Conservative Party's Bo Turesson was in position when Riksdagen finally concluded the 1970s' traffic policy debates. It was Ola Ullsten's Liberal minority executive's minister of communications, Anitha Bondestam, a former deputy undersecretary (expeditionschef) in the Ministry of Communications that forwarded the proposition, which was approved by Riksdagen June 1st 1979.⁶⁶² Riksdagen's *1979 Traffic Policy Decision* instituted requirements for "socio-economic" assessments of future

⁶⁵⁷ Wedin (1982:256).

⁶⁵⁸ Wockelberg (2003:88-89, 112, 131-133, 171-172, 197-198).

⁶⁵⁹ Vegverkets generaldirektörer [Online October 9th 2004]; Sven-Göran Olhede; Carl-Olof Ternryd [Online September 1st 2005] – URL: <http://www.vv.se>; Nya ambassadörer 2003 [Online September 21st 2005] – URL: <http://www.vaxjo.se>.

⁶⁶⁰ Carl-Olof Ternryd had initially a licentiate degree in engineering and was employed by the Road and Water Construction Administration in 1957. Ternryd served as Swedish National Road Administration's Technical Director 1970-78 until he became Director General (Andréasson et al. 1997:134).

⁶⁶¹ Montelius (1987b:81); Liten Vägverks historia [Online October 9th 2004] – URL: <http://www.vv.se>.

⁶⁶² Wedin (1982:257-259).

infrastructure investments.⁶⁶³ The 1972 Committee for Long Term Road Planning had already introduced such assessments in Swedish National Road Administration's investment allocation models.

Riksdagen's 1979 Traffic Policy Decision reestablished almost the equilibrium prior to the Social Democratic Party's 1972 traffic policy flip-flop, according to Jörgen Wedin's study, and reflected clearly the Liberal Party's preferences. The Leftwing Communist Party, the Federation of Trade Unions and the new Government Employees' Union, which then organized the railroad workers, championed as usual planned rather than market based transports. The Transport Workers' Union, the Agrarian, Liberal and Social Democratic Parties clustered almost at the market end of the continuum. Swedish Road Federation, the Truck Owners' Association, the Trade and Industry's Traffic Delegation and the Conservative Party championed market-based transports.⁶⁶⁴ The major political parties upheld thereby Riksdagen's 1963 Traffic Policy Decision's principles about competition between different means of transport, even if Riksdagen's 1979 Traffic Policy Decision facilitated more regulations to safeguard regional policy concerns. But the established road and traffic policies prevailed. The Social Democratic Party's joining of the middle parties' position a few months prior to the 1979 election was a second road and traffic policy flip-flop, and most likely an attempt to divide the non-socialist block.

Torbjörn Fälldin's second three-party executive liquidated in 1980 the account introduced in 1938 that consolidated the annual vehicle and fuel tax revenues with the State's annual road appropriations as a contra entry.⁶⁶⁵ This move against one of the non-socialist parties' most important interest groups' sacred cows punctuated the equilibrium established since the 1920s with dedicated vehicle and fuel taxes to road purposes, and abolished de facto the Swedish Road Fund, but was most likely a State economic necessity, because of Sweden's augmenting State economic problems.

Conclusions

What about this chapter's findings about the study's four working hypotheses concerning the Swedish case between 1960 and 1980? This study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly strengthened, because modern trunk roads and motorways were obviously considered as national collective goods by the Swedish legislators and executives even between 1960 and 1980, despite growing popular and political resistance against trunk roads and motorways in Stockholm and other major cities. The SCAFT-paradigm and *Road Plan 1970* established also road safety as a national collective good. The road investments were reduced significantly from 1970 when significant parts of *Swedish Road Plan* were completed. *Road Plan 1970* furthered the road policy established through *Swedish Road Plan*, even if the ambitions were further reduced in 1975 and 1979 due to State economic problems. But trunk roads

⁶⁶³ See for instance Falkemark (1999b:302) and Melin (2000:98-102).

⁶⁶⁴ Wedin (1982:298).

⁶⁶⁵ Andréasson et al. (1997:51).

and motorways remained national collective goods and Swedish National Road Administration upheld its rational allocation of the road investments through formal models that also included road safety and later also regional policy parameters.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was weakened by the Swedish case between 1960 and 1980, because the constituencies' struggles for resources to local collective or private goods did not displace road policy and road construction as national matters despite introduction of the unicameral system in 1971, establishment of a standing Traffic Committee instead of the former bicameral Riksdagen's functional State Committee or the 1976 regime change when the non-socialist parties came to power for the first time since 1936. But introduction of the unicameral Riksdagen facilitated linking of road policy and regional policy throughout the 1970s. But Swedish National Road Administration's autonomy prevailed, even if the municipalities and counties increased their influence on road policy and road construction through acquiring their own road and environmental planning expertise.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was clearly strengthened by the Swedish case between 1960 and 1980, because the political parties' rivalry permeated Swedish road policy and road construction from the middle of the 1960s. The Swedish political parties used traffic and road policy to distinguish themselves after Riksdagen's 1963 Traffic Policy Decision when only the Communist Party deviated from the market consensus. The Social Democratic executive's reorganizing of the Road and Water Construction Administration and reduced road construction in the major cities can be interpreted as attempts of containing the Agrarian Party. The Social Democratic Party's 1972 road and traffic policy flip-flops were moves to contain the Agrarian Party as well as the railroad workers that often sympathized with the Leftwing Communist Party. The Social Democratic Party's 1979 traffic policy flip-flop, when it joined the middle parties' position and reintroduced the market mechanisms together with regional policy concerns, was most likely similarly an attempt of dividing the non-socialist parties prior to the 1979 election.

The final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Swedish case between 1960 and 1980. First, introduction of the unicameral system after the 1970 election punctuated the bicameral system's equilibrium and removed the Swedish political system's sluggishness, but upheld largely the former Second Chamber's election system based on one person – one vote. Second, introduction of the unicameral system led also to replacement of the bicameral system's functional committees with standing subject matter committees, but road policy and road construction remained national matters. The road policy details had namely been instituted as Swedish National Road Administration's turf since 1944, after having been established practice since the 1920s. Third, the 1974 Constitution maintained Sweden's unique parliamentary rule established from 1917, with autonomous boards, and banned minister rule and upheld the requirements for qualified civil servants. The unique Swedish parliamentary rule with autonomous boards responsible for the policy implementation was clearly another example of path dependence. Fourth, the 1976 election punctuated the Social Democratic Party's hegemony since 1936.

Introduction of the unicameral system after the 1970 election and removal of the First Chamber's lag gave executives more in accordance with the voters' preferences. Fifth, the Social Democratic Party's road and traffic policy flip-flops in 1972 and 1979 did not fundamentally alter the market based road and traffic policies established through Riksdagen's approval of *Swedish Road Plan* in 1959 and the 1963 Traffic Policy Decision, even if Riksdagen's 1979 Traffic Policy Decision also introduced regional policy concerns and requirements for socio-economic effectiveness. Sixth, the 1964 Hörjel-agreement that authorized financing 95 percent of the construction costs for Stockholm's subway by State road appropriations challenged the road policy equilibrium established since the 1920s and instituted through the 1938 accounting system reform that consolidated the vehicle and fuel tax revenues with road appropriations as contra entries. But the non-socialist Fälldin executive punctuated this equilibrium in 1980, when it abolished dedication of the vehicle and fuel tax revenues to road appropriations, most likely because of the augmenting State economic problems. Finally, Swedish National Road Administration's persistent allocation of the road investments according to the professionals' scientific and professional norms, among others through use of rational investment allocation models, even under the 1970s' State economic problems and when Swedish National Road Administration became subject to the political parties' road and traffic policy flip-flops, was clearly an example of path dependence.

1981 – Jumpstarting and restructuring Sweden's ailing economy through further investments in national collective goods

The neo-liberal shift and dismantling of Sweden's corporative system characterized the period from 1981 until about 2005. The leading politicians and industrialists' takeover of the road policy characterized similarly the 1980s, when major infrastructure projects such as ScanLink were supposed to strengthen the ailing Swedish trade and industry's competitiveness. But these moves led to increased political polarization between Sweden's environmentalist and growth lobbies. Riksdagen's 1988 Traffic Policy Decision linked the transport and environmental policies. The early 1990s was characterized by State economic crisis with entailing State economic restructuring. The road policy became a part of the State financial restructuring, and emphasized investments in national collective goods such as motorways and trunk roads, in some instances through use of institutional and financial innovations to safeguard swift construction. Riksdagen's 1998 Traffic Policy Decision established the principle that taxes and fees were supposed to internalize the transports' social costs. The road policy since the 1998 election was clearly affected by the Green Party's pivotal position and the executive's desire for a healthy economy and sustainable development.

From a corporative to a neo-liberal system

Thorbjörn Fälldin's Agrarian, Conservative and Liberal majority executive dissolved in May 1981. Thorbjörn Fälldin established thereafter an Agrarian and

Liberal Party minority executive.⁶⁶⁶ The Social Democratic Party won the 1982 election and Olof Palme established a new minority executive, the first in 50 years without ties to former Social Democratic Party executives. Olof Palme served as Prime Minister until he was murdered February 28th 1986, when Deputy Prime Minister Ingvar Carlsson took over.⁶⁶⁷

The 1988 election reshaped Sweden's political landscape because the *Green Party* (Miljöpartiet de Gröna) founded in 1980 passed the 4 percent limit and won 20 seats in Riksdagen.⁶⁶⁸ The Leftwing Communist Party redressed and became the *Left Party* (Vänsterpartiet) in 1990 after the Berlin wall and the Soviet empire's collapse, and rose again as a leftwing populist party.⁶⁶⁹ The Social Democratic Party started similarly in 1990 to aim for Swedish membership in EU, because the cold war was brought to an end with entailing reshaping of Europe's geopolitical landscape.⁶⁷⁰ The 1991 election further reshaped Sweden's political landscape. The Green Party lost their seats in Riksdagen, instead came the *Christian Party* (Kristen Demokratisk Samling) and the rightwing populist *New Democracy* (Ny Demokrati). The Conservative Party's Carl Bildt established a minority executive together with the Liberal, Agrarian and Christian Parties, with the rightwing populist New Democracy as Riksdagen's pivotal party.⁶⁷¹ The Bildt executive pursued a relatively high-profile neo-liberal profile in some policy areas.

Riksdagen introduced four-year instead of three-year terms in 1994. The fiscal year became similarly equal to the calendar year, and Riksdagen was supposed to approve the State' annual budget during the fall session.⁶⁷² These reforms made Riksdagen more similar to Denmark's Folketinget and Norway's Stortinget.

The leftwing parties won the 1994 election. The rightwing populist New Democracy disintegrated and the Green Party returned to Riksdagen. The Social Democratic Party headed by Ingvar Carlsson established a new minority executive based on an agreement with the Left Party. The growth coalition prevailed when 52,3 percent of the Swedes voted yes in the 1994 EU referendum. Sweden joined EU in 1995 together with Finland and Austria. Ingvar Carlsson governed until March 22nd 1996, when the Social Democratic Party needed a new leader not tainted by the EU-struggles. Göran Persson became the Social Democratic Party's new strong man, and was still in power during the fall 2005. Persson's minority

⁶⁶⁶ Molin (1991c:280-284); Hadenius (1994:197-198); Hadenius et al. (1991:372-373); Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>.

⁶⁶⁷ Molin (1991d:298-301, 309-314); Riksdagens sammansättning 1929-2002 [Online June 14th 2004] – URL: <http://www.scb.se>; Hadenius (1994:199); Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>.

⁶⁶⁸ Molin (1991d:314-316); Riksdagens sammansättning 1929-2002 [Online June 14th 2004] – URL: <http://www.scb.se>; The Green Party [Online September 15th 2005] – URL: <http://www.riksdagen.se>; Fakta och siffror om Miljöpartiet [Online October 30th 2005] – URL: <http://www.mp.se>.

⁶⁶⁹ Vår historia och vår organisation [Online October 30th 2005] – URL: <http://www.vansterpartiet.se>; Vänsterpartiet; The Left Party [Online September 15th 2005] – URL: <http://www.riksdagen.se>.

⁶⁷⁰ Molin (1991d:330).

⁶⁷¹ Hadenius (1994:201-202); Riksdagens sammansättning 1929-2002 [Online June 14th 2004] – URL: <http://www.scb.se>; Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>.

⁶⁷² Riksdagens historia [Online April 15th 2003] – URL: <http://www.riksdagen.se>.

executives after the 1998 and 2002 elections were based on agreements with the Left and Green Parties.⁶⁷³

Sweden's neo-liberal shift started in 1982 with Olof Palme's second executive, because the corporative Agrarian Party had dominated most of the non-socialist executives between 1976 and 1982 that basically did their best to keep the corporative system afloat, often by using more of the Social Democratic Party's medicine. Olof Palme's response to the 1976 defeat was a dual strategy. First tough opposition in Riksdagen, to chase the non-socialist parties further into the quagmire, secondly a complete reorientation of the Social Democratic Party. The Social Democratic Party lost even the 1979 election, but Olof Palme seemed to be happy, because the marginal victory furthered the non-socialist parties' problems and gave him more time for honing the alternatives. The second oil price shock in 1979, OPEC 2, and the entailing international recession did not make life easier for the non-socialist executives. A work group headed by Ingvar Carlsson wrote the Social Democratic Party's crisis manifest *Future for Sweden* (Framtid för Sverige) prior to the 1982 election. Olof Palme was very careful not to promise any reforms not fully financed or possible to deliver almost immediately because the Social Democratic Party's credibility was at stake. Palme buried also the idea about Wage Earner Funds, despite the trade union bosses' protests.⁶⁷⁴ 1982 became also the turning point for Sweden's public sector employment, which had been growing steadily throughout the entire postwar period.⁶⁷⁵ Even the balance of power within Sweden's Federation of Trade Unions shifted in 1982, because the Municipal Employees' Union (Kommunalarbetarförbundet) displaced the Metal Workers' Union's dominant position.⁶⁷⁶ The Federation of Trade Union's center of gravity and balance of power shifted therefore gradually from the private to the public sector employees throughout the 1980s.

The Palme executive's aggressive devaluation in 1982, to jumpstart Sweden's ailing economy through increased exports, and for pursuing the so-called "third way", punctuated the corporative system. The devaluation led also to increased interest costs due to Sweden's mounting foreign debt accumulated as a result of the crisis policy since 1975. The devaluation increased also Swedish trade and industry's liquidity, but the new credit market did not work properly through State controlled interest rates, which led to deregulation of the credit markets. The combination of the executive's devaluation and deregulation of the credit markets led soon to a more expansive economic policy during the remaining 1980s.⁶⁷⁷ The Swedish economy grew fast 1983-84 both compared to the other OECD countries as such and the other Nordic countries, but this growth was almost exclusively export driven, due to the devaluation. The domestic demand lagged because of the

⁶⁷³ *Riksdagen i siffror riksdagsåret 2001/2002*, Riksdagsförvaltningen, Stockholm 2002/2003:11; Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>; Riksdagens sammansättning 1929-2002 [Online June 14th 2004] – URL: <http://www.scb.se>; Vår historia och vår organisation [Online October 30th 2005] – URL: <http://www.vansterpartiet.se>; Svenning (2005:209-212).

⁶⁷⁴ Peterson (2002:250-268).

⁶⁷⁵ Mjøset (1986:264); Schön (2000:501); Hadenius et al. (1991:382 Tabell 7c).

⁶⁷⁶ Mjøset (1986:265).

⁶⁷⁷ Molin (1991d:301-301); Schön (2000:495-496); Magnusson (1997:478-480); Jonung (1999:185-187, 200-201).

executive's very stern policy until deregulating the capital markets.⁶⁷⁸ The Social Democratic Party's victory in the 1982 election and Olof Palme's second executive initiated hence Sweden's neo-liberal shift. NPM inspired reforms gradually displaced the corporative system. The Social Democratic Party did not emphasize easy populist solutions after its opposition period, because these reforms were partly necessitated by the economic realities, but were also results of the Social Democratic Party's fundamental reorientation during its opposition 1976-82.

The Supreme Administrative Court was in 1988 empowered to make legal reviews of the executive and bureaucracy's decisions in some issues; i.e. whether they were compatible with the legal provisions.⁶⁷⁹ The empowerment of the Supreme Administrative Court weakened further the boards' professionals' autonomy that already had been significantly weakened throughout the 1970s.

Sweden went into the 1990s with an overheated economy, but Riksdagen rejected in February 1990 tightening the economic policy, among others because of the trade unions' strong protests. The executive resigned. Ingvar Carlsson established a new executive, but without Kjell-Olof Feldt as minister of finance. Ingvar Carlsson second executive's tighter economic policy combined with a new tax system with lower marginal tax rates for the middle class and a sudden drop in inflation punctuated the loan financed real estate bubble developed during the 1980s. The result was a banking crisis from the fall 1990 until about 1993, which ultimately led to State control of some major banks. The Riksbank, Sweden's national bank, which then was controlled by the executive, pegged the SEK unilaterally to EU's most important currencies, the ECU, May 17th 1991, to signal Sweden's intentions to join EU. This pegging reinforced the economic crisis further, through overvaluation of the SEK, loss of exports and speculations against the SEK that culminated in 1992 when the Riksbank was forced to increase the interest rates to 500 percent, to defend the SEK. Carl Bildt's non-socialist executive that came to power after the 1991 election gave finally in and floated the SEK, which led to about 25 percent devaluation of the SEK, Sweden's greatest devaluation ever. The Bildt executive introduced also inflation targets for the Riksbank in 1993. The Bildt executive's neo-liberal rhetoric about a system change, and introduction of further NPM inspired reforms increased the Swede's uncertainty. Sale of new cars is usually a very reliable economic indicator. The number of new cars went down 20 percent from 1990 to 1991. The number of new cars went further down 30 percent from 1991 to 1992. The car sale in 1993 was below that in the 1950s. Many Swedes in the early 1990s preferred saving their money, and reinforced hence the economic crisis.⁶⁸⁰ The Swedish economy was hence in a very deep recession in the early 1990s. The Bildt executive abolished the Wage Earners' Funds in 1991. The accumulated capital was located in autonomous foundations. The profits were dedicated to research activities.⁶⁸¹

⁶⁷⁸ Mjøset (1986:223, 264-265).

⁶⁷⁹ National Courts Administration (not dated:13-15).

⁶⁸⁰ Magnusson (1997:480-483); Eichengreen (1998:171-175); Jonung (1999:201-211); Schön (2000:506-507); Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>; 20th century, Riksbank, General Secretariat Department, March 15th 2004 [Online October 14th 2004] – URL: <http://www.riksbank.com>.

⁶⁸¹ Sejersted (2005:396-397).

The early 1990s' State economic and banking crises with entailing rise in unemployment cleaned up the Swedish economy, similarly as the Potato Cure did in Denmark, and squeezed the inflation out of the Swedish economy, increased the economic growth, the workers' productivity and washed away most remnants of the corporative system. The Social Democratic Party minority executives that have governed since the 1994 election furthered largely the Bildt executive's neo-liberal economic policy, even if the rhetorical wrapping has been very different. Karl Marx, John Maynard Keynes, Rudolf Meidner and Gösta Rehn were all shelved, according to the social democratic journalist Olle Svenning. Sweden, and particularly the Stockholm area, became a center for knowledge based future businesses such as telecommunications, pharmacy and biotechnology during the 1990s.⁶⁸² Sweden's GDP per capita measured in 1990 international Geary-Khamis dollars, was 14.917 dollars in 1981, 17.695 in 1990 and 20.321 in 2000. The average for the 12 West European countries was 14.045 dollars in 1981, 16.872 in 1990 and 19.806 in 2000.⁶⁸³ Sweden's GDP per capita was well above the West European average during the 1980s, but lagged behind between 1992 and 1998. The Swedish economy recovered from 1999, and performed thereafter better than the West European average, measured as GDP per capita.

The Swedish ministers and leading industrialists' partnership safeguarded construction of new motorways but strengthened also Sweden's environmentalist and anti-growth lobby

The Swedish road investments were further reduced during the early 1980s because of the State economic problems, and reduced to approximately the 1955 level in 1985. The road investments increased thereafter somewhat. The 1970s and early 80s' reduced road appropriations gave a 20 billion 1969 SEK or approximately 11,3 billions 1990 PPP USD investment deficit, compared to the 1970-84 investment program approved through *Road Plan 1970*. But the road maintenance was increased somewhat, particularly after 1980, to compensate for lack of investments.⁶⁸⁴ The 1970s and early 80s' lack of road investments was not immediately a detrimental blow to Swedish trade and industry's competitiveness, because those road investments that gave the largest aggregated reductions in transport costs had already been accomplished within 1969 after Riksdagen's approval of *Swedish Road Plan*.

Thorbjörn Fälldin's executive reorganized Swedish National Road Administration's board of directors in 1981. Sven Gerentz replaced Swedish National Road Administration's Director General as chairman in 1982, and held this position until 1992. Carl-Olof Ternryd resigned as Director General in June 1982 when he was appointed to Försvarets Materielverk's (FMV) Director General. Olof Palme's second executive renamed Swedish National Road Administration to *Swedish Road Administration* (Vägverket) in April 1983 and appointed Per Anders Örtendahl, a former Agrarian Party politician in Gothenburg's municipal council and Parliamentary Secretary in the Ministry of Industry who held a doctoral degree

⁶⁸² Schön (2000:516-517); Svenning (2005:171). See also Jonung (1999:220-231) about lessons learned from the early 1990s crisis.

⁶⁸³ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003: 65 Table 1c.

⁶⁸⁴ Larsson (1993:216-217).

in economics, as new Director General.⁶⁸⁵ ⁶⁸⁶ The Fällidin executive's reorganizing of the board of directors may have been an attempt of making Swedish National Road Administration more politically manageable and sensitive to the trade and industry's need for better roads, because Sven Gerentz had been one of the Swedish trade and industry's leading road lobbyists since the 1950s.

Volvo's CEO, Pehr G. Gyllenhammar, was one of Sweden and the Nordic countries' most influential road lobbyists in the 1980s. Gyllenhammar initiated the lobby organization *European Roundtable of Industrialists* (ERT) in Paris, April 6-7th 1983. ERT addressed among others Europe's structural problems, and argued for comprehensive modernization of Europe's trade, industry and infrastructures, to remain competitive against USA and Japan.⁶⁸⁷ *The Work Group for Increased Nordic Economic Cooperation* (Arbetsgruppen för utvidgat ekonomisk samarbete i Norden) headed by Pehr G. Gyllenhammar was established early in 1984, with the five Nordic Prime Minister's blessing. The Work Group's board of directors included among others Volvo, Asea, Nokia and Norsk Hydro's CEOs.⁶⁸⁸ ERT's number one priority was improved infrastructures. Gyllenhammar and ERT published the report *Missing Links* December 13th 1984 that argued for construction of a sub sea railroad tunnel, Euro-Route, from France to England, and ScanLink, a ferry-free motorway and railroad connection between Norway, Sweden and Denmark to Northern Germany, along Sweden's West Coasts, and across Øresund and Fehmarn Belt. *Missing Links* lead in turn to a joint report from ERT and the European Commission about championing and financing major infrastructure projects.⁶⁸⁹ Hence, *Missing Links* paved the way for what later became known as EU's TEN (Trans-European Network) projects for improvements of Europe's major road and railroad infrastructures. Gunnar Falkemark claimed Olof Palme's executive supported ERT's and Pehr G. Gyllenhammar's vision about ScanLink.⁶⁹⁰ Pehr G. Gyllenhammar was one of Olof Palme's confidants, according to former ministry of industry, Thage G. Peterson.⁶⁹¹ It seems thus likely that Pehr G. Gyllenhammar's European and Nordic infrastructure initiatives had both the Nordic countries' executives' and the leading Nordic industrialists' blessings.

The E6 motorway from Stenungsund north of Gothenburg to Uddevalla, between Gothenburg and the Norwegian border, was a section of ScanLink and became one of Sweden's most controversial road projects in the 1980s and early 90s. This motorway was largely a result of Uddevalla Shipyard's (Uddevallavarvet)

⁶⁸⁵ Blomkvist (2001:231); Montelius (1987b:81); Andréasson et al. (1997:132, 134); Vägverkets generaldirektörer [Online October 9th 2004] – URL: <http://www.vv.se>; Vägverkets namn genom tiderna [Online October 9th 2004] – URL: <http://www.vv.se>; Urban Hallén, "Örtendahls revansch", *Dagens Industri*, November 12th 2001 [Online October 28th 2005] – URL: <http://www.di.se>.

⁶⁸⁶ Sven Gerentz was Swedish Automotive Industry Association's managing director 1957-60 and chairman 1960-83. Sven Gerentz was also managing director for the conservative newspaper *Svenska Dagbladet* 1960-73 and chief editor 1969-73, and finally managing director and chief editor for the news agency *TT* 1974-86 (Andréasson et al. 1997:132).

⁶⁸⁷ *ERT highlights 1983-2003*, European Roundtable of Industrialists, June 2003:6. [Online July 14th 2004] – URL: <http://www.ert.be>.

⁶⁸⁸ Falkemark and Westdahl (1991:23 ff.).

⁶⁸⁹ *ERT highlights 1983-2003*, European Roundtable of Industrialists, June 2003:14, 23, 24-25. [Online July 14th 2004] – URL: <http://www.ert.be>. See also Falkemark (1999a:13-14) and Falkemark and Westdahl (1991:21-23).

⁶⁹⁰ Falkemark (1999b:302).

⁶⁹¹ Peterson (2002:127-128).

bankruptcy December 11th 1984, when 2.300 persons lost their jobs. The Nordic ministers of finance submitted a joint plan in January 1985, *Nordic Growth* (Norden i vekst), which was approved by *Nordic Council* (Nordisk råd) in March 1985. *Nordic Growth* proposed several infrastructure projects, hereunder construction of the motorway from Stenungsund to Uddevalla.⁶⁹²

The Palme executive approved in December 1984 construction of another section of ScanLink, the motorway from Varberg to Falkenberg south of Gothenburg. The executive's decision about building this section of E6 as a motorway was clearly a road policy turnaround that challenged Swedish Road Administration's autonomy, because Swedish Road Administration had namely, based on the planning and investment allocation models developed during the 1970s, recommended construction of an expressway rather than a motorway. Swedish Road Administration overruled thereby the formerly approved *Swedish Road Plan* based on construction of the entire E6 between Malmö and Uddevalla with motorway standard within 1975. Olof Palme's executive approved in June 1983 Swedish Road Administration's revised recommendations about the new section of E6 Varberg-Falkenberg as an expressway; most likely because of the State economic situation and the road section's estimated cost/benefit ratio. But the executive's approval of an expressway triggered strong complaints from Halland County, because E6 was Western Sweden's transport artery with poor accident records. It was also popular demand for a motorway. Volvo with approximately 55.000 employees was then responsible for about 10 percent of Sweden's exports.⁶⁹³ It is not unlikely that Volvo and Pehr G. Gyllenhammar were involved even in the Palme executive's road policy turnaround in December 1984, because Varberg-Falkenberg was a section on ScanLink and of utmost importance for Volvo's logistics.

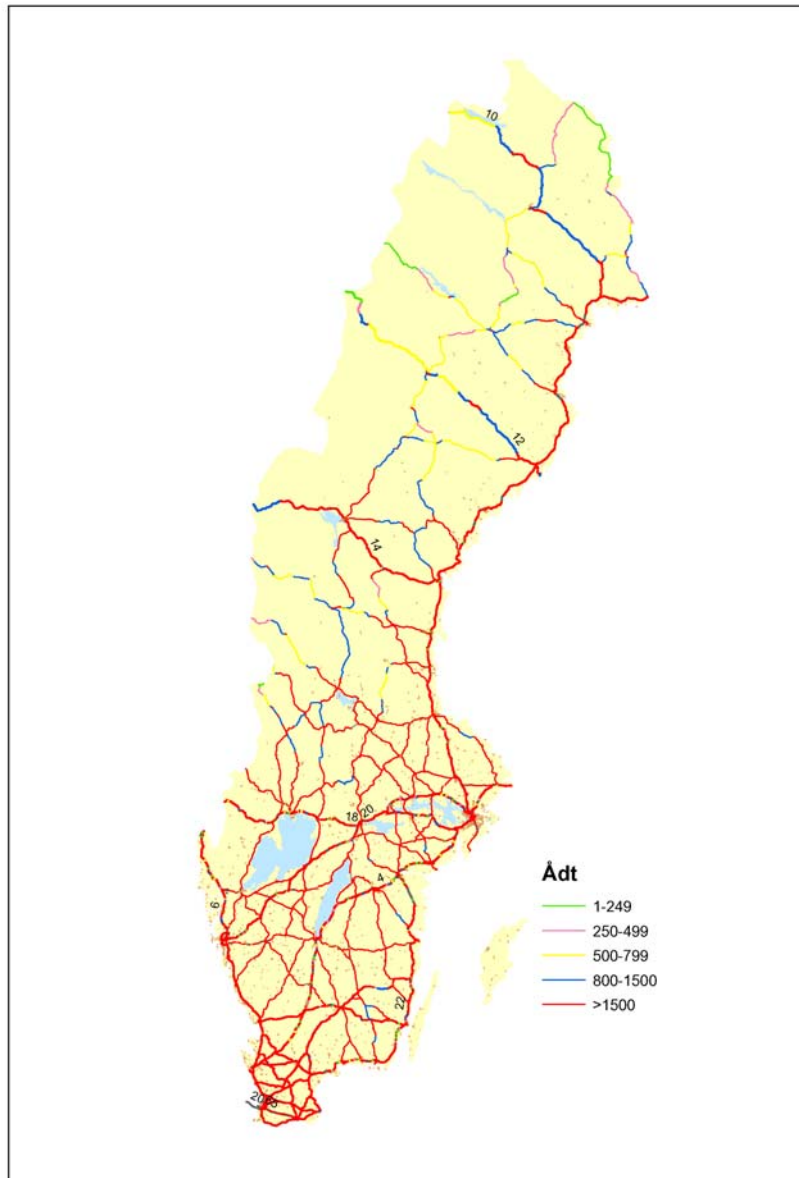
Volvo started negotiations with minister of finance Kjell-Olof Feldt and minister of industry Thage G. Peterson when the Uddevalla shipyard failed. Minister of communications Curt Boström did not participate personally in these negotiations, even if the motorway from Stenungsund to Uddevalla was Swedish Road Administration's single largest project until then. Pehr G. Gyllenhammar and Kjell-Olof Feldt agreed in January 1985 that Volvo should establish a new automotive factory in Uddevalla. The executive's quid pro quo was access for Volvo to significant State investment funds and construction of the motorway from Stenungsund to Uddevalla to improve Volvo's logistics.⁶⁹⁴

⁶⁹² Falkemark and Westdahl (1990:Chapter 2; 1991:17-18, 29-31); Falkemark (1999a:9-10).

⁶⁹³ Falkemark and Westdahl (1991:21, 33-35); SOU 1958:1 *Vägplan för Sverige . Del 1. Riktlinjer och förslag samt kartbilagor*:Kartbilaga 1 till Vägplan för Sverige (SOU 1958:1).

⁶⁹⁴ Falkemark and Westdahl (1990:Chapter 2; 1991:17-18, 31-33, 35-46); Falkemark (1999a:9-10).

Figure 12: Sweden's trunk road system late 2005 with average traffic per day.



Source: Swedish Road Administration.

Ingvar Carlsson's executive honored the agreement with Volvo and proposed construction of the motorway from Stenungsund to Uddevalla in its *1986 Budget Proposition*, partly financed through loans from the Nordic Development Bank.

Only the Agrarian and Leftwing Communist Parties opposed this proposal in Riksdagen. The Carlsson executive came back to Riksdagen in its *1987 Budget Proposition*, due to ScanLink north of Gothenburg's increased construction costs, which were supposed financed through a new loan from *The Swedish National Debt Office* (Riksgäldskontoret). Riksdagen approved even the 1987 proposal against the Agrarian and Leftwing Communist Parties' protests.⁶⁹⁵ Construction of ScanLink north of Gothenburg towards Norway did not only trigger the Agrarian and Leftwing Communist Parties' opposition in Riksdagen. There were also opposition from local environmental administrators in Gothenburg and Bohus County, protests from the neighboring city Trollhättan where the automaker SAAB had a factory, because the motorway to Uddevalla was too favorable for Volvo and Uddevalla, and on-site protests from the so-called "tree-huggers".⁶⁹⁶ The Leftwing Communist Party's Viola Claesson complained to Riksdagen's *Constitutional Committee* (Konstitutionsutskottet) in February 1988 about the Carlsson executive's alleged violation of the *Nature Resource Act* (Naturressurslagen) that came into power July 1st 1987. The Green Party complained similarly to Riksdagen's Constitutional Committee in November 1988 about the Carlsson executive's alleged violation of the 1974 Constitution's § 7.2; i.e. for not having gathered sufficient information from the relevant boards and authorities. However, the Carlsson executive was only mildly criticized by the Constitutional Committee because of a somewhat superficial environmental impact assessment.⁶⁹⁷ Hence, the Palme executive's agreement with Volvo in January 1985 did not only result in construction of a new motorway, but also State loan financing of motorways similarly as Sweden's 19th century's trunk railroads. This loan financing was not based on turnpikes such as in Norway, but amortizing through the motorists' ordinary payments of vehicle and fuel taxes. State loans to motorway investments represented thus a financial innovation compared to Sweden's traditional tax financing that had been directly linked to the vehicle and fuel tax revenues until 1980, but then decoupled because of the State economic problems. Loan financing safeguarded forced construction and swift harvesting of the new motorway's benefits, compared to traditional tax financing where the appropriations usually constrained and delayed the progress.

The ScanLink controversies were clearly reflected in Riksdagen's *1988 Traffic Policy Decision* that instituted both environmental concerns and how to catch up the investment lag on the road and transport policy agenda. Environmental concerns had not been part of Riksdagen's 1963 and 1979 Traffic Policy Decisions. The 1988 Traffic Policy Decision differed fundamentally from the 1963 and 1979 Traffic Policy Decisions, because the Ministry of Communications' civil servants carried out the elucidation within 18 months. The 1963 decision's elucidations took about 10,5 years. The 1979 decision's elucidations took about 6¾ years. All parties, except the Leftwing Communist Party supported Riksdagen's 1988 Traffic Policy Decision.⁶⁹⁸ The environmental and growth lobbies' increasing conflicts characterized thereby the 1980s' Swedish road policy, largely because of ScanLink. These conflicts went through the political blocks, triggered conflicts within some of

⁶⁹⁵ Falkemark and Westdahl (1990:Chapter 6; 1991:128-143).

⁶⁹⁶ Falkemark and Westdahl (1991:97-108, 121, 24-127).

⁶⁹⁷ Falkemark and Westdahl (1991:134-143). See also *Regeringsformen* (SFS 1974:152): §7.2.

⁶⁹⁸ Melin (2000:102-108 Tabell 4.1; 2003:7-9).

the parties and paved the way for new road policy alliances in the 1990s. The ministers' and industrialists' partnership in the mid 1980s may explain why the Green Party passed the 4 percent limit in the 1988 election.

Sweden's minister of communications, Curt Boström, and Denmark's minister of public works, Arne Melchior, appointed the *Öresund Commission* in February 1984, and revived thereby the Öresund Bridge, another crucial section in ScanLink. Establishment of the Öresund commission was both a result of the Schlüter-executive's eased finance policy and Arne Melchior's personal efforts. But even the Palme executive had started looking ahead in 1984. Pehr G. Gyllenhammar and other industrialists' lobbying, among others through ERT, to remedy Europe's diminishing competitiveness, may have been decisive for the Palme executive's increased interest in improved infrastructures with national collective goods characteristics. The Öresund Commission's report *Permanent Öresund Links* submitted in the summer of 1987 recommended construction of a combined road and railroad bridge. But the Öresund Commission's report and the motorway from Stenungsund to Uddevalla triggered the Social Democratic Party's environmentalist and railroad phalanx at the September 1987 convention, and came close to jeopardizing the bridge, but the convention made no formal decisions concerning ScanLink. The Carlsson executive championed a combined motorway and railroad bridge. The Danish Social Democratic Party, which then was in opposition, championed a railroad tunnel only. Curt Nicolin, Scandinavian Link Svenska AB's chairman and one of Sweden's leading industrialists, said after the Social Democratic convention that a stepwise construction of ScanLink was acceptable. The Carlsson executive struggled the autumn 1989 both internally with the Social Democratic Party's environmentalists and the Danish Social Democratic Party's reluctance. The Danish Social Democratic Party's support for a bridge across Öresund was in January 1990 dependent of the Swedish Social Democratic Party, according to Sweden's ambassador in Copenhagen, Anders Ferm. The Swedish Social Democratic Party's board approved the Öresund Bridge in April 1990. The Carlsson and Schlüter executives entered into negotiations in June 1990, and agreed about the Malmö-Copenhagen alternative March 23rd 1991. Riksdagen approved construction of the Öresund Bridge June 12th 1992, as a joint venture between the Swedish and Danish State, financed through loans.⁶⁹⁹

The economist and doctoral engineer Ingemar Ahlstrand was one of many that questioned the Öresund Bridge's socio-economic profitability. Ahlstrand's critique was seemingly more based on ideology than facts, because Ahlstrand claimed alternative connections, such as expressway and railroads bridges and tunnels at Helsingborg and Malmö had "not been studied properly".⁷⁰⁰ Ahlstrand ignored either deliberately or were ignorant about the 1930s, 50s and 60s elucidations of the Öresund Bridge discussed in this dissertation's chapter 2. Ahlstrand claimed also the Öresund Bridge should have been built as a combined expressway and railroad rather than a motorway and railroad connection.⁷⁰¹ Ahlstrand overlooked also the

⁶⁹⁹ Falkemark and Westdahl (1990:Chapter 3; 1991:59-72); Falkemark (1999a:14-20; 1999b:301-306); Trafikutskottets betänkande 1999/2000:TU10 Villkoren för järnvägstrafiken på den fasta förbindelsen över Öresund m.m.. See also this dissertation's chapter 2 about the Danish discussions about the Öresund Bridge.

⁷⁰⁰ Ahlstrand (1995:27-28).

⁷⁰¹ Ahlstrand (1995:27 ff.).

Öresund Bridge's expected life span, the need for redundancy in case of accidents or maintenance and the fact that later expansion to motorway standard would be prohibitively costly. The Norwegian bridge across Drammen on E18 built as an expressway rather than a motorway in the 1970s is one example of road construction according to Ingemar Ahlstrand's ideals. The Drammen Bridge became soon one of the Norwegian trunk road system's worst bottlenecks, and was expanded to a motorway about 2004. The costs were prohibitive compared to the added costs for motorway standard in the 1970s.

The previous discussions show clearly the governance of Swedish road policy and road construction changed fundamentally when Olof Palme's second executive came to power in 1982, even if no formal institutional reforms took place. The Palme and the entailing Carlsson executive's road policies were namely often results of direct negotiations between the Prime Minister, minister of finance and minister of industry and Sweden's leading industrialists. The minister of communications and the Ministry of Communications that had increased their power and influence significantly in the 1970s became less influential concerning road policy. Riksdagen's Traffic Committee's influence on the road policy was similarly reduced after 1982; the same was largely the case for intermediaries such as Swedish Road Federation that had been one of the trade and industry's most prominent road lobbyists during the 1950s and 60s. The middle and rightwing parties dominated Riksdagen's Traffic Committee 1979-82. The middle constituencies had the largest number of members. The leftwing parties dominated the Traffic Committee 1982-85 and the central constituencies had the largest number of members. The leftwing parties also dominated the Traffic Committee 1985-88 and 1988-91, but the middle constituencies had most members 1985-88 and a strong majority 1988-91.⁷⁰² The political scientist Gunnar Falkemark and lawyer Peter Westdahl claimed that Swedish Road Administration in some instances had been ordered by the Ministry of Communications to orchestrate the needed formal arguments after the ministers and industrialists had agreed about the road policy priorities.⁷⁰³ If Falkemark and Westdahl were right, then it was possible to perceive the Ministry's moves as something approaching minister rule.

The Swedish road policy's development after the 1982 election resembled partly the procedures in Denmark, even if no formal reforms had taken place. Swedish Road Administration's autonomy was partly punctuated by Olof Palme's executive after the 1982 election and later also by Ingvar Carlsson's executive. These moves challenged clearly Axel Oxenstierna's system. Sweden's 1974 Constitution did not authorize minister rule, but the Prime Minister, minister of finance and minister of industry's direct negotiations with Sweden's leading industrialists and the entailing instructions of Swedish Road Administration came pretty close. These findings are clearly in line with Ove Pettersson's findings that Swedish Road Administration in 1985 had returned to its regionalized and negotiating 19th century starting point, after its centralized and technocratic heydays 1944-70.⁷⁰⁴ Significant but informal road policy reforms took hence place in the 1980s.

⁷⁰² See the Data Appendix' Table 3.20-3.23.

⁷⁰³ Falkemark and Westdahl (1991:38-42, 73-77).

⁷⁰⁴ Pettersson (1988:166 Figur 2).

The Palme and Carlsson executives and Riksdagen's majority prioritized mega infrastructure projects during the second half of the 1980s such as ScanLink with motorways between Varberg and Falkenberg, Stenungsund and Uddevalla, and later also the Öresund Bridge, despite State economic problems. These were all projects with strong national collective good characteristics. But the executive, industrialists, Conservative and Liberal Parties, Social Democratic Party and trade unions' growth lobby's championing of ScanLink triggered resistance from among others the Social Democratic Party's railroad and environmentalist lobby and the Agrarian, Leftwing Communist and Green Parties that questioned the alleged relations between modern road infrastructures and Sweden's future as a welfare State. The environmentalist and anti-growth lobby may have desired reduced economic growth, taken Sweden's wealth for granted or simply engaged in deliberate opportunistic free riding on other parties' willingness to carry out necessary but not always popular decisions.

The infrastructures' decade – but which infrastructures and how to finance these investments?

Swedish road policy and road construction during the 1990s and after the turn of the 20th and 21st century was clearly affected by the early 1990s State financial and bank crises with entailing State financial restructuring. The road policy and road construction was used deliberately to fuel the economic growth, reduce the road accidents' number and consequences to safeguard the State economic restructuring, but was also used to safeguard sustainable development through mitigation of environmental problems and facilitating more energy efficient transports. Construction of modern railroads supplemented trunk roads and motorways. Riksdagen achieved a far more prominent position in the road policy and road construction from the 1990s than during the 1970s and 80s due to the minority executives, usually through high-level agreements between the minority executives and their supporting parties.

Many assumed the 1990s would become the "infrastructures' decade", because investments in modern infrastructures were supposed to create economic growth, promote European integration and mitigate Sweden's environmental problems.⁷⁰⁵ These assumptions were based on the Carlsson executive's *Productivity Commission* (den statliga produktivitietsdelegationen) that in 1991 concluded modern infrastructures were important to safeguard Sweden's future economic growth. The Bildt executive that came to power after the 1991 election furthered many of these ideas.⁷⁰⁶ The Productivity Commission concluded hence almost similarly as those in the 1950s' who made *Swedish Road Plan*.

The Bildt executive reorganized in 1992 Swedish Road Administration according to those days' ruling NPM ideas, in a double matrix with 7 road management regions as purchasers, and 5 production regions as providers. The Road Safety Board spun off in 1968 was also merged with Swedish Road Administration.⁷⁰⁷ The Bildt executive's NPM-inspired reforms established thus a

⁷⁰⁵ Malmsten (1993:8); Melin (2003:12 ff.).

⁷⁰⁶ Melin (2003:7-8, 11-12).

⁷⁰⁷ Montelius (2000:20; 2001:6); Liten Vägverkhistoria [Online October 9th 2004] – URL: <http://www.vv.se>; Historia i årtal [Online October 9th 2004] – URL: <http://www.vv.se>.

purchaser-provider split and regions transcending the county borders, and reintroduced also the road safety activities.

It was not only the Swedish executive that emphasized road policy matters in 1992. Swedish Road Federation made a scoop when Kjell-Olof Feldt, minister of finance until February 1990 succeeded Swedish Road Administration's Director General 1978-82, Carl Olof Ternryd, as chairman of the board.⁷⁰⁸ Kjell-Olof Feldt's acceptance of the position as Swedish Road Federation's chairman is clearly evidence about the Social Democratic Party's internal conflicts that had festered since the 1970s between the growths and environmental lobbies. The Social Democratic Party and the trade unions' growth lobby, where Kjell-Olof Feldt belonged, considered modern infrastructures crucial for the Swedish trade and industry's competitiveness, for creation of new employment opportunities and for safeguarding Sweden's future as a welfare State.

Sweden was as mentioned earlier severely hit by the State economic and banking crises 1991-92 that sent the Swedish economy into a deep recession with entailing unemployment. The economist and doctoral engineer Ingemar Ahlstrand claimed the Swedish executive and legislators "lost their head" 1993-94 when the unemployment soared, and approved Swedish Road Administration's "unprofitable giant investments".⁷⁰⁹ The Bildt executive's 1993 *Infrastructure proposition* recommended to invest 98 billions SEK or approximately 9,5 billions 1990 PPP USD in new transport infrastructures, about half of these in roads. The Christian Party's minister of communications Mats Odell proposed also building Sweden's most important trunk roads as transport corridors or arteries, with equal road standard from origin to destination, no matter the traffic level. Mats Odell proposed also loan financed infrastructure investments, to safeguard swift completion and early harvesting of the benefits, but Riksdagen's majority refused further loan financing.⁷¹⁰ The State economic and banking crises had obviously taught the legislators some lessons. Many of Denmark's most important trunk roads were then under construction as transport corridors, but those Swedes who opposed infrastructure investments claimed transport corridors or arteries would be unnecessarily costly and lead to excess road capacity. However, Riksdagen's majority approved the idea about transport corridors or arteries. Riksdagen's willingness to invest in modern transport infrastructures was remarkable, given Sweden's State economic and bank crises, because neither the executive nor Riksdagen could easily remedy Sweden's State economic problems through increased production of oil, such as the Norwegian neighbors.

The major cities' congestion and environmental problems were some of Sweden's most controversial road policy issues throughout the 1990s. The major cities' traffic infarcts led to waste of time, increased transport costs and increased air pollution, because cars in congested streets or roads used about four times more fuel than cars driving on roads with sufficient capacity.⁷¹¹ The congestions quadrupled

⁷⁰⁸ Melin (2003:9); *Svenska vägföreningen. Årsberättelse för 2001 det 88:e verksamhetsåret; Svenska vägföreningen. Årsberättelse för 2002 det 89:e verksamhetsåret; Svenska vägföreningen. Årsberättelse för 2003 det 90:e verksamhetsåret*. [Online October 9th 2004] – URL: <http://www.vagforeningen.se>.

⁷⁰⁹ Ahlstrand (1995:43).

⁷¹⁰ Melin (2003:13-14).

⁷¹¹ See for instance Wersell (2001:10-11) for further discussions about the congestions' environmental and economical consequences.

the CO₂ emissions and led also to significantly increased NOX emissions, all other things equal. However, Stockholm's traffic situation differed somewhat from the major Norwegian cities', because 70 percent of the traffic within Stockholm's city hub during peak hours went by public transports that otherwise carried out about 42 percent of Stockholm's daily transports.⁷¹² The public transports' dominant position in Stockholm was largely a result of the 1964 Hörjel agreement that permitted financing 95 percent of Stockholm's subway's construction costs with State road appropriations.

The congestions were gradually perceived as a problem for the entire Stockholm-region's future growth and development opportunities. Four major Swedish enterprises established the Eastern Trunk Road Consortium (Österledskonsortiet), and offered in 1985 completing Stockholm's motorway ring that had been abandoned in the 1970s as a turnpike project. Stockholm's Chamber of Commerce carried similarly out a study in 1986 to revive the motorway ring.⁷¹³ These and other lobby efforts succeeded, because the Carlsson executive appointed in April 1990 Bengt Dennis, the Riksbank's governor, to negotiate a long-term agreement within January 15th 1991, with Stockholm's city and county councils, to solve the entire Stockholm area's congestion and environmental problems.⁷¹⁴

Bengt Dennis outlined a combination of improved public transports and user financed trunk roads through turnpikes because of the State economic problems. Swedish Road Administration's Director General Per Anders Örtendahl engaged early in the negotiations, according to Stockholm's regional planning director and head of the Dennis negotiation's secretariat Bo Malmsten. Örtendahl championed Swedish Road Administration's construction of Stockholm's internal *Motorway Ring* (Ringen) and the so-called *Outer Traverse Trunk Road* (Yttre Tvärleden), a western bypass for the north south through traffic, as turnpikes. Swedish Road Administration established the joint stock company *Stockholmsleder AB*, to plan, finance, build, own and operate the turnpike projects.⁷¹⁵ Swedish Road Administration utilized obviously this window of opportunity, because the Motorway Ring and the Outer Traverse Trunk Road were mega projects with an estimated cost of approximately 20 billions 1992 SEK or approximately 2,03 billions 1990 PPP USD.

Stockholm's Social Democratic, Liberal and Conservative Parties agreed finally in September 1992 about what became known as the *Dennis-package*. The planned investments 1992-2006 were 35,7 billions 1992 SEK or about 3,62 billions 1990 PPP USD, with approximately 56/44 division between trunk roads and public transports. However, the Dennis-package triggered intense debates about environmental, spatial and financial issues, which was thoroughly studied by among others Karolina Isaksson. The local opposition against the Dennis package in Stockholm's county council emanated first and foremost from the Agrarian, Left and Green Parties, the *Stockholm's Party* (Stockholmspartiet) and partly also the *Motorist Party* (Bilistpartiet) and *The Party Against the Eastern Trunk Road* (Partiet

⁷¹² Malmsten (1993:9).

⁷¹³ Malmsten (1993:9-10, 13-14, 25, 28, 45); Falkemark (1999a:28); Isaksson (2001:9-20); Wersell (2001:5, 7).

⁷¹⁴ Malmsten (1993:12); Ahlstrand (1995:47-52); Falkemark (1999a:27-28); Lundberg (2001:33); Isaksson (2001:22 ff.).

⁷¹⁵ Malmsten (1993:26, 30, 45-50); Isaksson (2001:28 Bild 1.3.1, 29 Bild 1.3.2).

mot Österleden).⁷¹⁶ The local opposition against the Dennis-package was hence first and foremost those who opposed road construction as such, those who opposed road construction in their neighborhood; i.e. NIMBY protests, and finally motorists who opposed turnpikes.

But the executive and its supporting parties in Riksdagen largely determined the second half of the 1990s' road policy development. The final Swedish decision about the Öresund Bridge, which had been postponed several times, came close to splintering Carl Bildt's four-party executive in 1994, a few months prior to the election. The Agrarian Party's leader Olof Johansson resigned as minister of environment and left the executive. The other Agrarian ministers protested but stayed.⁷¹⁷ The voters were obviously not happy with the Bildt executive's neo-liberal experiments during the crisis, because the Social Democratic Party won the 1994 election. Ingvar Carlsson established his third minority executive.⁷¹⁸ The Social Democratic Party went as mentioned earlier to bed with the Left Party after the election, but Ingvar Carlsson, Mona Sahlin, Göran Persson and other leading members of the Social Democratic Party agreed with the Agrarian Party during the spring 1995 about the needed State financial restructuring. This flip-flop was most likely both a result of party tactical considerations, because the Left Party targeted the same voters as the Social Democratic Party, and a result of strategic considerations, because lenders, Swedish and foreign investors, IMF and even some trade unions feared the alliance with the Left Party.⁷¹⁹ The State economic problems had thus direct political implications, because the cooperation with the Left Party safeguarded only financial hardship, not necessarily the desired State economic restructuring, while the Social Democratic Party was held accountable. Another important trust building measure, according to the journalist Olle Svenning who was well connected within the Social Democratic Party, was minister of finance Göran Persson's appointment of former minister of finance Kjell-Olof Feldt as the Riksbank's chairman.⁷²⁰ It was also worth noticing that Göran Persson had been on far more friendly terms with the Agrarian Party's former leader Thorbjörn Fälldin, than for instance Olof Palme. Persson was similarly on good terms with Olof Johansson, the Agrarian Party's leader until 1998.⁷²¹ Former minister of finance Allan Larsson introduced Göran Persson for Volvo's CEO Pehr G. Gyllenhammar 1991-94, when the social democratic opposition had frequent talks with Gyllenhammar.⁷²² Göran Persson's political role model was former minister of finance Gunnar Sträng. Both believed in the "ideological trinity: healthy finances, a strong public sector and complete employment".⁷²³ As we soon will see, the political

⁷¹⁶ Malmsten (1993:5-8, 12-13, 17, 23.); Ahlstrand (1995:52-64); Falkemark (1999a:29-33); Isaksson (2001:22-29, 71-77).

⁷¹⁷ Falkemark (1999a:20-21); Melin (2003:14); 90-talet. Djup ekonomisk kris. Fyrpartiregering och sanering [Online October 30th 2005] – URL: <http://www.centerpartiet.se>.

⁷¹⁸ Riksdagsledamöter efter region, parti och tid [Online October 19th 2005] – URL: <http://www.ssd.scb.se/databaser/makro/temp/tmp20051019912327ME0104A6.xls>.

⁷¹⁹ Svenning (2005:209-222); 90-talet. Djup ekonomisk kris. Fyrpartiregering och sanering [Online October 30th 2005] – URL: <http://www.centerpartiet.se>.

⁷²⁰ Svenning (2005:69).

⁷²¹ Svenning (2005:27-28, 56-57, 180-181, 213-225,206).

⁷²² Svenning (2005:59).

⁷²³ Svenning (2005:89-91).

landscape after the 1994 election and the Social Democratic Party’s flip-flop had road and infrastructure policy implications.

Figure 13: Stockholm’s current and planned trunk road system approximately 2005.



Source: Swedish Road Administration.

How did the 1994 election affect Stockholm’s congestion and environmental problems? The Social Democratic Party supported the Dennis-package, but the Left and Green Parties opposed it.⁷²⁴ Ingvar Carlsson resigned as Prime Minister March 16th 1996. His mission was completed when Sweden joined EU. Minister of finance Göran Persson won the power struggles with among others Mona Sahlin, Ingela Thalén, Anna-Greta Lejon and Margareta Winberg when it became known that Ingvar Carlsson would resign, even if many from Stockholm’s leading social democratic families considered Göran Persson an outsider. The Social Democratic and Left Parties approved Göran Persson as Prime Minister in Riksdagen’s vote of

⁷²⁴ Falkemark (1999a:34).

confidence March 21st 1996.⁷²⁵ The Left Party gave thus the Social Democratic Party a second chance, even if they had been abandoned in 1995.

Many agreed improvements of Stockholm's public transports were carried out 1994-97, but the Motorway Ring that mainly was planned as tunnels, was delayed because of the Dennis-package's lack of popular support and the increasing opposition against turnpikes. But it was seemingly legal actions that punctuated the Dennis-package. Stockholm's city managers made several administrative decisions 1993-95 concerning the development plan for the *Northern Link* (Norra Länken), one of the Motorway Ring's sections. Some affected by the plans filed late 1996 a complaint to the Supreme Administrative Court about violation of the Nature Resource Act. The Supreme Administrative Court ruled January 31st 1997 that parts of the Northern Link's approved route violated the Nature Resource Act. The Ministry of Communications liquidated thereafter February 7th 1997 the Dennis-package, and imposed instead a reduced and ostensibly more environmental friendly deal named the *Ines-package* after the Carlsson and first Persson executives' minister of communications Ines Uusmann. The Ines-package was based on a deal in Riksdagen between the Social Democratic and Agrarian Parties that abandoned the Motorway Ring's *Eastern Trunk Road* (Österleden) and the Outer Traverse Trunk Road's *Western Trunk Road* (Västerleden), which in turn made it possible for the executive to liquidate the turnpikes, because they were not necessary to finance the Ines-package's remaining motorways.⁷²⁶

It has been a commonly held belief the Supreme Administrative Court's ruling January 31st 1997 punctuated the Dennis-package, but Karolina Isaksson claimed, based on interviews with among others employees in Swedish Road Administration and local environmentalists, that the mood within the *Government Offices of Sweden* (Regeringskansliet) had started to change already during the fall 1996, because of Prime Minister Göran Persson's "lack of interest for turnpikes", the voters' increasing skepticism to turnpikes and the perceived risk for turnpikes as a costly barrier between northern and southern Stockholm.⁷²⁷ It was hence not possible to rule out the Supreme Administrative Court saved the Persson executive's face, and created a window of opportunity that made it possible for Göran Persson to disarm the turnpike issue well in advance of the 1998 elections.

Swedish Road Administration's holding company *AB Väginvest* established under the Bildt executive, owned the joint stock company *Stockholmsleder AB* that managed the Dennis-package's loan-financed subsidiaries and partnerships. *SVEDAB AB* managed similarly the Swedish share of the Öresund Bridge. *Banverket*, the new board responsible for Sweden's railroad infrastructures, and Swedish Road Administration guaranteed each for 50 percent of *SVEDAB AB*'s loans from The Swedish National Debt Office. *Stockholmsleder AB*'s loans were transferred to *AB Väginvest* to save administration and capital costs when the Persson executive in February 1997 liquidated the Dennis-package, abolished the turnpikes and approved construction of the Motorway Ring's *Southern Link* (Södra

⁷²⁵ Svenning (2005:77-85, 319-320); Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>.

⁷²⁶ *Årsredovisning 97*, Vägverket, Borlänge 1998:15; Falkemark (1999a:34); Isaksson (2001:225-232).

⁷²⁷ Isaksson (2001:232-233). See also Isaksson (2001:237-240).

Länken) that started the same year.⁷²⁸ The Persson executive furthered and refined thereby the financing model established by the Bildt executive, which furthered the idea about loan financing of infrastructure investments from the Carlsson executive's ScanLink initiatives, even if the turnpikes most likely was a result of the Bildt executive's neo-liberal and NPM ideologies and the early 1990s' State economic crisis.

The Persson executive's model for loan financed road investments was far more cost efficient for the motorists than the equivalent Danish and Norwegian turnpike models. First, because the State owned joint stock companies could borrow money from The Swedish National Debt Office at the lowest possible costs. Even the Danish State's turnpike company borrowed with State loan guarantees. The Norwegian municipal and county owned turnpike companies had to borrow through Norwegian finance institutions at market rates, because they were refused State loan guarantees and not permitted to borrow directly from the international capital markets similarly as the State owned Danish turnpike company. Second, the Swedish motorists avoided turnpikes after the Persson executive's liquidation of the Dennis-package, and avoided thereby also the turnpike companies' operational costs and overheads, such as the motorists had to pay in Denmark and particularly in Norway. The Carlsson and later also the Bildt and Persson executive's loan financing of infrastructure investments through The Swedish National Debt Office was also de facto reintroduction of long-term infrastructure investment budgets, because the loans were irreversible or hardly reversible commitments that effectively tied the future members Riksdagen's hands. Loan financed infrastructure investments was thus an important institutional innovation, compared to Sweden's traditional tax financing where the road construction had been constrained by the annual appropriations and the motorists' annual payments of vehicle and fuel taxes.

The Ministry of Communications' agreement with Stockholm December 22nd 1997 established also a new equilibrium that reduced the State financing of urban infrastructure investments from 95 to 75 percent.⁷²⁹ This agreement instituted the practice established through Stockholm, Gothenburg and Malmö's very complex urban packages with entailing political struggles for increased local influence on such investments decisive for future development paths. The reduced State financing of the urban infrastructure investments reflected also clearly the 1990s State economic problems, but increased local influence was also contingent increased local co-financing, to maintain the cost responsibility principle.

Minister of communications Ines Uusmann appointed formally February 1st 1995 the *Communication Committee* (Kommunikationskommittén).⁷³⁰ Swedish Road Federation decided not to participate in ComCom's expert groups, but established instead late in 1994 its lobby campaign *Sweden in Movement* (Sverige i Rörelse) that

⁷²⁸ *Vägverkets Årsredovisning 1993*, Vägverket, Borlänge 1994:13, 20; *Årsredovisning 97*, Vägverket, Borlänge 1998:15; Regeringens proposition 1997/98:123 *Finansiering av vissa trafikaneläggningar i Stockholms län m.m.*:10; Södra Länken – en ny trafikled i Stockholm:2, 37 [Online October 14th 2005] – URL: <http://www.sodralanken.nu/press>.

⁷²⁹ *Överenskommelse om finansiering av Årstabron, Södra Länken m m* [Online October 14th 2005] – URL: <http://www.stockholm.snf.se/bibliotek/pressmed/finanser.htm>

⁷³⁰ Melin (2000:217-127 Tabell 5.1).

went on until the end of 2003.⁷³¹ The orchestrators of Sweden in Movement were first and foremost chairman Kjell-Olof Feldt and managing director Lars Gunnar Tannerfors. The campaign's aim, according to Tannerfors, was to prevent "realization" of ComCom's ideas.⁷³² Sweden's automotive and motoring lobby mobilized thus heavily against ComCom's linking of environmental and traffic policy issues.

Minister of communications Ines Uusmann appointed also Jan Brandborn as Swedish Road administration's new Director General, because Per Anders Örtendahl lost the minister's trust April 10th 1995 after the press had dug into Örtendahl's housing affairs in Borlänge and Stockholm, but the court acquitted Anders Örtendahl in April 1998.⁷³³ Swedish Road Administration had thereby its share of affairs in the 1990s, but the responsible for this alleged affair was not a social democrat but an agrarian.

The Persson executive's December 1996 *Infrastructure Proposition* changed ComCom's recommended balance between railroad and road investments from 60/40 to 50/50. Riksdagen's 1997 *Infrastructure Decision*, approved after the State economic restructuring was well in advance, prioritized construction of E6 or ScanLink on the West Coast, after agreement between minister of communications Ines Uusmann, Gothenburg's Social Democratic Party city manager Göran Johansson and the Ministry of Communication's Lars Nilsson. The 1997 Infrastructure Decision included also construction of the Botnia railroad in Northern Sweden, after a deal between Prime Minister Göran Persson and the Agrarian Party's leader Olof Johansson.⁷³⁴ Riksdagen's 1997 Infrastructure Decision gave thus something both to the environmental and peripheral lobby and to the growth lobby. The Botnia Railroad was clearly a concession to the pivotal Agrarian Party, as well to the Left Party and the Social Democratic Party's own railroad and environmental lobbies. ScanLink was similarly a concession to the Social Democratic Party and the trade unions' growth lobbies, as well to the Liberal, Christian and Conservative Parties and to Swedish Road Federation.

Riksdagen gave Swedish Road Administration the sector responsibility for road safety in 1996, and approved the so-called *Zero Vision* (Nollvisionen) in 1997 that made the vision about zero killed and injured in road accidents official policy.⁷³⁵ Road safety issues achieved hence once again a prominent position on the Swedish political agenda, most likely because road accidents generated significant costs for the publicly financed health care system in addition to personal costs for those inflicted. The accident costs were also a significant obstacle for the ongoing

⁷³¹ Melin (2000:127-129 Tabell 5.2, 131); "Bana nya vägar!", *Sverige i Rörelse Svensk vägtidning från Svenska vägföreningen*, 2003, No. 3 [Online October 9th 2004] – URL: <http://www.vagforeningen.se/SiR/SiR/sir2003-3.pdf>.

⁷³² Melin (2000:132).

⁷³³ Vägverkets generaldirektörer [Online October 9th 2004] – URL: <http://www.vv.se>; Per-Anders Örtendahl; Jan Brandborn [Online October 19th 2005] – URL: <http://www.vv.se>; Wolfgang Hansson, "– Jag har varit förföljd i tre år. Örtendahl blev helt friad av domstolen", *Aftonbladet* april 9th 1998 [Online October 17th 2005] – URL: <http://www.aftonbladet.se/nyheter/9804/09/orten.html>; Urban Hallén, "Örtendahls revansch", *Dagens Industri*, November 12th 2001 [Online October 28th 2005] – URL: <http://www.di.se>.

⁷³⁴ Melin (2000:146-148).

⁷³⁵ *Trafiksäkerhetsrapport 97*, Vägverket, Borlänge 1998:4-5.

State economic restructuring. Road safety can also be understood as a national collective good.

ComCom's 1997 final report recommended internalization of the transports' social costs, among others through increased diesel taxes.⁷³⁶ ComCom's former broad majority was then reduced to the Social Democratic and Agrarian Parties. The Green and Left Parties required further increased fuel taxes, the Liberal, Christian and Conservative Parties held opposite views.⁷³⁷ ComCom's final report illustrates clearly how Prime Minister Göran Persson maneuvered politically, through containing the Left and Green Parties that jeopardized the economic restructuring, and dividing the non-socialist parties through his understandings with the Agrarian Party's Olof Johansson. Göran Persson maintained thereby the Social Democratic Party's hegemonic position through cunning divide and conquers.

ComCom's final report triggered strong opposition from the automotive and motoring lobby, but it were those, according to Carl Melin's study, who claimed Swedish Road Federation's lobby campaign backfired, because the newsletter *Sverige i Rörelse* scorned minister of communications Ines Uusmann.⁷³⁸ ComCom's recommended fuel tax increases triggered also the Social Democratic Party's members of Riksdagen representing peripheral and rural constituencies' resistance, in addition to resistance from the Metal Worker's and Transport Worker's Unions. The Service and Communication Workers' Union SEKO, that also organized the railroad workers, was divided internally.⁷³⁹

The Persson executive's March 5th 1998 *Traffic Policy Proposition* omitted ComCom's recommended diesel tax increases but upheld the principle about internalization of the social costs, and emphasized also the need for an available transport system, road safety, environment standards and regional development. Riksdagen approved most of the proposition, hereunder taxes and fees from the transport infrastructure users' equal to the social marginal costs.⁷⁴⁰ The Left and Green Parties argued for the railroad and environmental interests, the Liberal, Christian and Conservative Parties for the road interests, while the Social Democratic and Agrarian Parties settled for a middle position, according to Carl Melin's study.⁷⁴¹ Riksdagen's 1998 *Traffic Policy Decision* was a significant setback for minister of communications Ines Uusmann. Other losers, according to Carl Melin, were the environmental movements and the railroad workers' trade union SEKO. Swedish Road Federation and the Metal Workers' Union were among the winners.⁷⁴² Prime Minister Göran Persson learned most likely that challenging the automotive and motoring lobby in an election year could entail significant political costs. Because Prime Minister Göran Persson pursued both economic growth and State financial restructuring combined with sustainable development. Participation at UN's Conference on Environment and Development in Rio de Janeiro in 1992 convinced Göran Persson about sustainable development's

⁷³⁶ Edin (1998); Melin (2000:152-156).

⁷³⁷ Melin (2000:156-160 Figur 6.3).

⁷³⁸ Melin (2000:168-170).

⁷³⁹ Melin (2000:197-198, 210-211).

⁷⁴⁰ Regeringens proposition 1997/98 *Transportpolitik för en hållbar utveckling*:1, 42-48.

⁷⁴¹ Melin (2000:225 Figur 8.1).

⁷⁴² Trafikutskottets betänkande 1997/98:TU10 *Transportpolitik för en hållbar utveckling*; Melin (2000:264-265; 2003:21-23).

necessity. Even the Agrarian Party's leader Olof Johansson, who then served as minister of environment in Carl Bildt's executive, took part at the Rio conference.⁷⁴³ But Prime Minister Göran Persson was first and foremost a political realist. He was not willing to permit ComCom to obstruct the ongoing State economic restructuring. The Agrarian Party's leader Olof Johansson shared most likely Persson's realist views.

Olof Johansson's resignation as leader of the Agrarian Party in 1998 terminated effectively the cooperation with Göran Persson's Social Democratic executive, because the Agrarian Party's new leader Lennart Daléus was more idealist and environmentalist than a practical politician, and engaged later in Greenpeace after he in March 2001 resigned as party leader and was succeeded by Maud Olofsson. Daléus cooperated with the other non-socialist parties prior to the 1998-election.⁷⁴⁴ The Social Democratic Party lost 30 seats in the 1998 election, but Göran Persson's minority executive survived the Conservative Party's vote of no confidence because of an agreement that safeguarded the Left and Green Parties' support. The other non-socialist parties abstained from voting.⁷⁴⁵ The Agrarian Party's change of leader prior to the 1998 election shifted partly the political balance, and made the Green Party Riksdagen's pivotal party.

Göran Persson reorganized the executive almost immediately after the election to safeguard the growth issues' prominent position. The three former ministries for industry, labor market and communications were in 1990 merged into a so-called super ministry, *The Ministry of Industry, Employment and Communications* (Näringsdepartementet), headed by the former trade union boss and Norrbotten's county governor Björn Rosengren.⁷⁴⁶ Björn Rosengren was a friend of Göran Persson and an important link to the heterogeneous group of middle class white-collar workers organized by the trade union TCO.⁷⁴⁷ Ines Uusmann had to leave the executive and became not head of the trade union SIKÅ.⁷⁴⁸ The Persson executive established also the new holding company *Statens Väg- och Baninvest AB*, fully owned by The Ministry of Industry, Employment and Communications, which in turn owned *Stockholmsleder AB*, *Göteborgs Trafikleder AB* and *Botniabanan AB* that managed and organized the loan financed infrastructure investments.⁷⁴⁹

Swedish Road Federation introduced so-called PPP-projects where private consortiums finance, build, own and operate infrastructures on the State's behalf for

⁷⁴³ Svenning (2005:49-52).

⁷⁴⁴ 90-talet. Djup ekonomisk kris. Fyrpartiregering och sanering; 2000-talet. Ett nytt årtusende och digital allemansrätt [Online October 30th 2005] – URL: <http://www.centerpartiet.se>; Svenning (2005:180-181, 188-189, 218-221).

⁷⁴⁵ Riksdagens sammansättning 1929-2002 [Online June 14th 2004] – URL: <http://www.scb.se>; Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>; Schlaug (2001); Vår historia och vår organisation [Online October 30th 2005] – URL: <http://www.vansterpartiet.se>; Svenning (2005:125-126,

⁷⁴⁶ *Samverkan för sysselsättning och tillväxt. 1999 Näringsdepartementets första år:3.* [Online October 24th 2002] – URL: <http://naring.regeringen.se>; Areas of responsibility [Online October 9th 2004] – URL: <http://www.sweden.gov.se>.

⁷⁴⁷ Svenning (2005:37-41, 141-142, 147-150,

⁷⁴⁸ Melin (2000:9).

⁷⁴⁹ *Statens väg och Baninvest AB* (publ) *Årsredovisning 2000* [Online October 13th 2004] – URL: <http://www.vagochbaninvest.se/vag-o-ban.htm>; *Stockholmsleder AB* [Online October 13th 2004] – URL: <http://www.vagochbaninvest.se/stockholmsleder.htm>; *Göteborgs Trafikleder AB* [Online October 13th 2004] – URL: http://www.vagochbaninvest.se/gbg_trafikleder.htm.

an agreed number of years before the title to the infrastructure is transferred to the State, for minister of communications Georg Andersson prior to the 1991 election. The Bildt executive's minister of communications Mats Odell piloted Sweden's first PPP-project, the Arlanda airport express railroad through Riksdagen.⁷⁵⁰ The Persson executive's liquidation of the Dennis-package in 1997, the 1997 Gothenburg-agreement and EU's budget requirements made Swedish Road Federation launch a new campaign for PPP-projects, particularly construction of the Outer Traverse Trunk Road's Western Trunk Road.⁷⁵¹ Göran Persson and the Social Democratic Party did most likely not oppose organizing construction of new motorways as PPP-projects, because the party's internal workgroup that prepared the *2001 Infrastructure Proposition* was positive to PPP-projects.⁷⁵² Swedish Road Administration's current Director General, Ingemar Skogö, replaced Jan Brandborn in July 2001.⁷⁵³

But the Persson executive's dependence of the Green and Left Parties' ruled out PPP projects from Riksdagen's 2001 Infrastructure Decision, even if the Stockholm area's congestion problems became one of the most prioritized tasks.⁷⁵⁴ The executive outlined several trunk road and motorway projects in its *2001 Infrastructure Proposition*, but each new trunk road or motorway came at a price of increased railroad appropriations, due to the Green Party's pivotal position.⁷⁵⁵ Riksdagen approved December 14th 2001 the executive's proposed spending of 364 billions SEK or approximately 32,08 billions 1990 PPP USD in investments and operations of the transport and communication infrastructures 2004-2015, hereunder investing 39 billions SEK or about 3,44 billions 1990 PPP USD in trunk roads and motorways, 30 billions SEK or about 2,64 billions 1990 PPP USD in regional roads and 100 billions SEK or about 8,8 billions 1990 PPP USD in trunk railroads. 45 billions SEK or approximately 3,97 billions 1990 PPP USD of these investments were supposed borrowed through The Swedish National Debt Office, the rest was supposed financed through ordinary appropriations.⁷⁵⁶ Swedish Road Association heavily criticized Riksdagen's 2001 Infrastructure Decision. First, because the railroad investments were almost twice as large as the road investments, second, because the trunk road investments were only sufficient for the most precarious projects within and near the major cities. The economically most significant trunk roads between the regions and to the most important export markets such as E4, E6, E18, E20, and E22 and highway 40 and 45 had numerous 'missing links'.⁷⁵⁷ But there is no wonder why the executive and Riksdagen prioritized the major cities,

⁷⁵⁰ Melin (2003:12-13).

⁷⁵¹ *Nytt sätt att finansiera väginvesteringar. En idéskiss fra Svenska vagforeningen*. September 1997. [Online October 9th 2004] – URL:

http://www.vagforeningen.se/rapporter/vestra_lanken/vestra_lanken.pdf.

⁷⁵² Melin (2003:29).

⁷⁵³ Vägverkets generaldirektörer [Online October 9th 2004] – URL: <http://www.vv.se>.

⁷⁵⁴ Kägeson (2001); SOU 2001:51 *Transportsystemet i Stockholmsregionen – problemanalys och målbild för den framtida utvecklingen*.

⁷⁵⁵ Melin (2003:24-28).

⁷⁵⁶ Regeringens proposition 2001/02:20 *Infrastruktur för ett långsiktig hållbart transportsystem*:1-2, 112-115, 124-128; Letter from Näringsdepartementet to Banverket. "Uppdrag att upprätta långsiktiga planer för transportinfrastrukturen m.m.", Regeringsbeslut I 36, N2001/11612/IR (delvis) N2002/2930/IR, March 14th 2002 [Online October 13th 2004] – URL: <http://www.vv.se>.

⁷⁵⁷ Cordi (2002:8-10).

because Stockholm County with approximately 20 percent of the population provided 40 percent of the tax revenues. The Stockholm area produced similarly almost half of Sweden's GDP growth during the second half of the 1990s. The Stockholm-area's economic growth had also been almost twice the national average since the 1980s.⁷⁵⁸ The Persson executive's dependence of the Green and Left Parties after the 1998 election led thus to significantly increased railroad investments and linking of trunk road and railroad investments. But the road investments' allocation reflected clearly the need for increased economic growth to safeguard the State economic restructuring. The Stockholm area was one of the Swedish economy's motors, and priority of the major cities was clearly a move to safeguard the economic growth and wealth creation.

Figure 14: Stockholm's internal Motorway Ring (Ringen).



Source: Swedish Road Administration.

⁷⁵⁸ Wersell (2001:12); Kågeson (2001:11-15).

The Green Party became Riksdagen's pivotal party even after the 2002 election. Göran Persson preferred cooperating with the Green Party because that was complementary to the Social Democratic Party. The Green Party competed directly with the Agrarian Party but the Agrarian Party oriented itself to the right, the Green Party oriented itself to the left. The Left Party targeted largely the same voters as the Social Democratic Party.⁷⁵⁹ The Social Democratic and Green Parties made an agreement October 1st 2002, which was expanded to a 121 items agreement that even included the Left Party October 4th 2002, the day before the Conservative Party's required vote of no confidence, which then was supported by all non-socialist parties except the Green Party. But the October agreements safeguarded the Left and Green Parties' votes in favor of Persson's executive.⁷⁶⁰ Göran Persson reorganized the executive even after the 2002 election, and upheld the Ministry of Industry, Employment and Communications. Ulrica Messing became new minister of communications and later minister of infrastructures. The Green Party's price for supporting the Persson executive was introduction of a congestion fee in Stockholm's city hub, and 100 billions SEK or approximately 8,62 billions 1990 PPP USD to railroads the forthcoming twelve years. The Social Democratic Party in Stockholm City and Stockholm County had committed themselves publicly against any congestion fees prior to the 2002 local elections, but the October 4th agreement prevailed. The three parties in Stockholm's town hall agreed soon about a congestion fee in Stockholm. Construction of the Motorway Ring's Northern Link was similarly approved in 2002.⁷⁶¹ However, the Northern Link was the fall 2005 once again headed for the Supreme Administrative Court similarly as in 1996.^{762 763} The Green Party's pivotal position in Riksdagen dictated thus partly the national infrastructure policy, as well as Stockholm's local traffic policy.

Riksdagen's approval of the Zero Vision led to establishing of a new public administration, the *Road Traffic Inspection* (Vägförmyndigheten) January 1st 2003.⁷⁶⁴ Riksdagen's majority was obviously not satisfied with Swedish Road

⁷⁵⁹ Svenning (2005:230-241).

⁷⁶⁰ Hundratjugo punkter för ett tryggare, rättvisare och grönare Sverige 1 oktober 2002 kl. 20.40. Överenskommelse mellan Socialdemokraterna och Miljöpartiet [Online October 30th 2005] – URL: <http://www.mp.se>; 121 punkter för ett tryggare, rättvisare och grönare Sverige. 4 oktober 2002 kl. 01.35. Överenskommelse mellan Socialdemokraterna, Vänsterpartiet och Miljöpartiet. [Online October 30th 2005] – URL: <http://www.mp.se>; Riksdagens sammansättning 1929-2002 [Online June 14th 2004] – URL: <http://www.scb.se>; Regeringsbildning [Online June 24th 2004] – URL: <http://www.riksdagen.se>; Svenning (2005:223-228).

⁷⁶¹ Hundratjugo punkter för ett tryggare, rättvisare och grönare Sverige 1 oktober 2002 kl. 20.40. Överenskommelse mellan Socialdemokraterna och Miljöpartiet [Online October 30th 2005] – URL: <http://www.mp.se>; 121 punkter för ett tryggare, rättvisare och grönare Sverige. 4 oktober 2002 kl. 01.35. Överenskommelse mellan Socialdemokraterna, Vänsterpartiet och Miljöpartiet. [Online October 30th 2005] – URL: <http://www.mp.se>; Melin (2003:27-28).

⁷⁶² Väg E20, Norra Länken [Online October 25th 2005] – URL: <http://www.vv.se>; Norra Länken genom Bellevue [Online October 25th 2005] – URL: http://www.haga-brunnsviken.org/n-lnk_a.htm.

⁷⁶³ Stockholm's city council's majority decided June 2nd 2003 to carry out trials with a *congestion fee* (trängselskatt). Riksdagen sanctioned this decision June 16th 2004. The trials started August 22nd 2005 with improved public transports. The congestion fees within the city hub will be collected from January 3rd 2006 until July 31st 2006. The trials will be concluded September 17th 2006 through a referendum together with the local and national elections (Stockholmsförsöket 22 augusti 2005 – 31 juli 2006 [Online October 20th 2005] – URL: http://www.stockholm.se/files/96600-96699/file_96691.pdf).

⁷⁶⁴ Vill vi göra vägtrafiken säker? Vägförmyndigheten, Borlänge January 13th 2004. [Online October 9th 2004] – URL: <http://www.vagtrafikinspektionen.se>.

Administration's handling of the road safety issues. Swedish Road Administration's responsibility for planning and management of the road system could also conflict with the road safety efforts, for instance because of tight budget constraints. Riksdagen established therefore an independent agency to supervise Swedish Road Administration's road safety efforts.

Swedish Road Administration estimated in 2003 a need for about 126 billions SEK or approximately 10,66 billions 1990 PPP USD in additional investments to the formerly approved 69 billions SEK or about 5,84 billions 1990 PPP USD, both to mend the public road system's shortcomings and to fulfill the Zero Vision's aims. The 126 billions SEK included among others 35 billions SEK, approximately 2,96 billions 1990 PPP USD for construction of physical separation between the directions of traffic on the most crowded expressways not planned upgraded to motorways.⁷⁶⁵ Swedish Road Federation headed by Kjell-Olof Feldt launched a new lobby campaign for PPP-projects in 2003, then inspired by Great Britain, Finland and Norway's utilization of PPP projects. The party leaders' attitude to PPP projects was divided according to Riksdagen's political blocks, because the Social Democratic, Left and Green Parties opposed PPP-projects, the Liberal, Agrarian, Christian and Conservative Parties championed PPP-projects.⁷⁶⁶ Chairman Kjell-Olof Feldt and managing director Lars Gunnar Tannerfors wound up Swedish Road Federation's lobby campaign Sweden in Movement at the end of 2003. Swedish Road Federation was similarly liquidated in January 2004 after having been Sweden's leading road lobbyist for 90 years. The road lobby task was handed over to *Confederation of Swedish Enterprises* (Svensk Näringsliv), the trade and industry's new umbrella organization.⁷⁶⁷ Swedish Road Federation's mission was largely completed, because the Persson executive was then ready to launch Sweden's largest infrastructure investments ever in modern times.

The executive's revised April 1st 2004 *Road and Railroad Proposition 2004-2015* increased the railroad investments to 107,7 billions SEK or approximately 9,1 billions 1990 PPP USD. The trunk road and motorway investments were similarly increased to 42,1 billions SEK or approximately 3,55 billions 1990 PPP USD. Most of these were allocated to E4, E6, E12, E18, E20, E22, E65 and highway 40 and 45.^{768 769} However, the principle established in 2001 by the pivotal Green and Left Parties when Persson's executive had to 'buy' increased road investment through further railroad investments prevailed. Most trunk road investments were allocated as recommended by Swedish Road Federation and others, to those trunk roads most critical for the trade and industry's future competitiveness. Stockholm's Southern Link, 6 kilometer of the Motorway Ring, hereunder 4,5 kilometer in tunnels, was

⁷⁶⁵ Cordi (2003:3). See for instance *Trafiksäkerhetsrapport 97:4-5* about the Zero Vision.

⁷⁶⁶ *Alternativ finansiering ger möjligheter!* Svenska vägföreningen, Stockholm 2003. [Online October 13th 2004] – URL: <http://www.vagforeningen.se/startside/PPP.pdf>.

⁷⁶⁷ Bana nya vägar!”, *Sverige i Rörelse Svensk vägtidning från Svenska vägföreningen*, 2003, No. 3 [Online October 9th 2004] – URL: <http://www.vagforeningen.se/SiR/SiR/sir2003-3.pdf>; Leif Gravenius, “Eldsta lobbyisterna slutar efter 90 år”, January 30th 2004 [Online October 25th 2005] – URL: <http://www.vagforeningen.se/nyheter/nyheter.shtml>.

⁷⁶⁸ Regeringens proposition 2003/04:95 Utökade planeringsramar för väg- och järnvägsinvesteringar 2004-2015:3, 30-31.

⁷⁶⁹ See also infrastructure minister Ulrica Messing's home page about Sweden's largest infrastructure investments ever, and the need for reducing distances and regional differences (Ulrica Messing, April 23rd 2004 [Online November 1st 2005] – URL: <http://www.regeringen.se/sb/d/1118/a/17504>).

similarly completed as planned October 24th 2004, and was supposed to drain about 60.000 vehicles per day from the city streets. The Southern Link was that far Sweden's most costly individual road project. The costs were initially estimated to 5,6 billions 1992 SEK approximately 567,2 millions 1990 PPP USD, but increased to about 8 billions 2002 SEK or approximately 689,9 millions 1990 PPP USD.⁷⁷⁰

The leftwing parties dominated Riksdagen's Traffic Committee 1991-94, 1994-98, 1998-2002 and 2002-06. The middle constituencies held similarly the Traffic Committee's pivotal position 1991-94 and 2002-06. The peripheral constituencies held the pivotal position 1994-98, and 1998-02 together with the middle constituencies.⁷⁷¹ The Traffic Committee's geographic center of gravity may explain Riksdagen's approval of the Öresund Bridge and further investments in ScanLink. Helena Wockelberg's interviews with 10 members of Riksdagen's Traffic Committee the fall 2003 uncovered that most of them considered transport and communication policy, hereunder road policy national and not local matters, despite plenty of so-called "hometown motions".⁷⁷² The hometown motions were obviously first and foremost 'greetings' to the voters. Helena Wockelberg found also that special interest group representatives and members of Riksdagen as directors threatened the boards' autonomy.⁷⁷³

Swedish road and infrastructure policy during the 1990s indicate clearly that Riksdagen's Traffic Committee's members' constituencies were less important than their party affiliation, because most road investments went to roads with national collective good characteristics. But the executive and party leaders' high-level agreements governed most of the road investments' allocation. Sweden's motorway system's length more than doubled from 1986 to 2005, from about 800 to more than 1600 kilometers. Swedish road policy and road construction 1981-2005 differed fundamentally from contemporary Norwegian road policy and road construction, because the Swedish executive and legislators were willing to fortify the economic growth in those areas that went well, for instance through the Dennis, Gothenburg and Malmö packages. The Swedish executives and legislators were also willing to invest in motorways and trunk roads to support struggling trade and industries such as the west coast's automotive industry through construction of ScanLink. It seems hence reasonable to conclude that most legislators and most members of the Traffic Committee considered road policy national and not local matters.

The findings 1981-2005 indicates also the executive's influence on the road policy increased significantly, particularly compared to 1944-1970 when the executive and legislators hardly questioned Swedish Road Administration's autonomy. Riksdagen's influence on the road and infrastructure policy increased also, particularly after the 1994 election. These findings were clearly in line with Helena Wockelberg's study that in 2003 concluded the 1974 Constitution did not protect the formally autonomous Swedish boards against "political governance".⁷⁷⁴ Helena Wockelberg questioned in her concluding remarks whether it was "time to

⁷⁷⁰ Velkommen til Södra Länken [Online October 13th 2004] – URL: <http://www.sodralanken.nu>; Historik [Online October 13th 2004] – URL: <http://www.sodralanken.nu>; Pressmeddelande 2004-10-04 Nr:76

"Södra Länken i Stockholm invigs den 24 oktober [Online October 25th 2005] – URL: <http://www.vv.se>.

⁷⁷¹ See the Data Appendix' Table 3.24-3.27.

⁷⁷² Wockelberg (2004:19-21 Tabell 1).

⁷⁷³ Wockelberg (2004:26).

⁷⁷⁴ Wockelberg (2003:334).

introduce minister” rule even in Sweden, even if minister of coordination Pär Nuder in 2003 defended the Swedish system based on Axel Oxenstierna’s autonomous bureaucracy.⁷⁷⁵ But Pär Nuder indicated June 28th 2004 willingness to reshape and redesign Axel Oxenstierna’s bureaucracy and governance system fundamentally. The so-called *Responsibility Committee* (Ansvarskommittén) is supposed to submit its recommendations within February 2007.⁷⁷⁶ The discussions about Swedish road policy since 1981 indicate clearly the Swedish system with autonomous boards changed fundamentally, even if the 1974 Constitution ruled out minister rule and guaranteed the boards’ autonomy. It was evident the system had changed informally, particularly when compared to the bicameral system prior to 1971.

Conclusions

What about this chapter’s findings about the study’s four working hypotheses concerning the Swedish case from 1985 until about 2005? This study’s main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly strengthened from 1981 until about 2005, because the motorway system’s length was more than doubled 1986-2005, from about 800 to more than 1600 kilometers, despite the State economic crisis and entailing State economic restructuring. The 1997 Zero Vision furthered road safety as a national collective good, and the idea about sustainable development that also can be understood as a national collective good was linked to road policy throughout the 1990s.

This study’s second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies’ resource struggles was clearly weakened by the Swedish case, because the constituencies’ struggles for resources to local collective or private goods did hardly affect road policy and road construction at all 1981-2005. The members of Riksdagen’s Traffic Committee considered road policy national and not local matters, despite numerous hometown motions made for the voters. The counties and municipals’ influence on the road policy increased throughout the 1990s, but the counties and municipals did not exercise their influence through the constituencies but rather through the political parties and the established institutions for local democracy.

This study’s third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties’ rivalry was significantly strengthened, because the political parties’ rivalry permeated Swedish road policy and road construction from 1981 until about 2005. The executive and leading industrialists’ direct negotiations 1982-91 largely overruled Swedish Road Administration. Swedish Road Administration was similarly largely overruled by the minority executive’s agreements and national pork barrel deals with the supporting parties after the 1994 election. The need for State

⁷⁷⁵ Wockelberg (2003:348-350).

⁷⁷⁶ Pär Nuder, “Artikel av samordningsminister Pär Nuder med anledning av nya tilläggsdirektiv till den statliga Ansvarskommittén, 28. juni 2004”, Statsrådsberedningen, June 28th 2004 [Online November 1st 2005] – URL: <http://www.sou.gov.se/ansvar/Nuders%20artikel%202004-06-28.pdf>. See also Ansvarskommitténs home page [Online November 1st 2005] – URL: <http://www.sou.gov.se/ansvar/index.htm>.

financial restructuring after the 1991-92 State economic and bank crises and achievement of sustainable development overruled most other concerns after the 1994 election.

The final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Swedish case from 1981 until about 2005. First, the Palme and Carlsson executives' direct negotiations with leading industrialists about road construction during the 1980s weakened Riksdagen and Swedish Road Administration's influence on the road policy and road construction. The same was largely the case with the minority executive's high-level agreements and pork barrel deals with the supporting parties after the 1994 election. Second, the Carlsson executive introduced loan financing to safeguard swift construction of ScanLink in the second half of the 1980s, and the Bildt executive furthered the loan financing of the Öresund Bridge and later also Stockholm's Dennis-package. The Bildt executive imposed also turnpikes, among others in the Dennis-package, but the Persson executive abolished Stockholm's turnpikes in 1997 together with the Dennis Package. However, the financing of road investments through loans from The Swedish National Debt Office was furthered, and safeguarded swift road construction to the lowest possible costs for the road users. These loans were amortized through the ordinary road appropriations not through turnpikes or other kinds of direct user payments such as for instance in Norway. Maintenance of loan financed road and infrastructure investments amortized through the road appropriations can be understood as an example of path dependence. Third, empowerment of the Supreme Administrative Court in 1988 to carry out legal reviews of the executive and bureaucracy's decisions paved similarly the way for the Persson executive's abolition of the Dennis-package and Stockholm's turnpikes, and weakened partly the executive's power towards the citizens and the local administrations. Fourth, Riksdagen's 1988 Traffic Policy Decision linked road policy and environmental policy. Riksdagen's 1998 Traffic Policy Decision introduced similarly fuel taxes supposed to internalize the transports' social costs. The Green Party's pivotal position after the 1998 and 2002 elections led to linking of railroad and trunk road investments in Riksdagen's 2001 Infrastructure Decision. Increased railroad investments were similarly part of the agreements between the Green, Social Democratic and Left Parties after the 2002 election. The railroad investments increased more than the road investments in 2004 when the infrastructure investments were further increased to safeguard the State economic reconstruction, Swedish trade and industry's future competitiveness and sustainable development. Introduction of a congestion fee in Stockholm was also part of the Green Party's 2002 agreement with the Social Democratic and Left Parties. Fifth, Swedish Road Federation liquidated itself in January 2004 after having been Sweden's leading road lobbyist for 90 years. Finally, Axel Oxenstierna's bureaucracy lost partly its autonomy after 1981, even if no formal reforms took place, but fundamental structural reforms of Sweden's bureaucracy and governance system seem to be in the pipeline.

Summary and conclusions

What about this chapter’s findings about the study’s four working hypotheses concerning the Swedish case? Table 7 provides an overview of the empirical findings from the Swedish case concerning the study’s four working hypotheses.

Table 7: Empirical findings from the Swedish case concerning the four working hypotheses.

Period/Hypothesis	Road policy and road construction governed by politicians pursuing the common good	Road policy and road construction governed by the constituencies’ resource struggles	Road policy and road construction governed by the political parties’ rivalry	Road policy and road construction governed by path dependence
Prior to 1945	-	-	-	+
1945-1959	+	-	-	+
1960-1980	+	-	+	+
1981-2005	+	-	+	+

This study’s main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly corroborated. Riksdagen’s decision that substituted the municipal road administrations with a centralized State road administration accompanied by State financing of most public roads from January 1st 1944 was a turning point and safeguarded construction of roads with national collective good characteristics beneficial for the common good. The executive delegated from then the responsibility for management of most public roads to the Royal Board of Roads and Waterways. The Royal Board of Roads and Waterways’ autonomy and lack of local anchoring was most likely a necessary condition for development of *Swedish Road Plan* that safeguarded national rather than parochial interests. *Swedish Road Plan* instituted allocation of the road investments according to cost/benefit calculations and road safety considerations, because house holding with the community’s common pool of resources was clearly in line with the autonomous bureaucracy’s norms about State reason and professionalism. The SCAFT paradigm and *Road Plan 1970* made similarly road safety to national collective goods. The economically most important road investments were accomplished within 1970. The Swedish motorway system’s length more than doubled 1986-2005, despite State economic problems since the second half of the 1970s and bank crises 1991-93. The executive invested deliberately in motorways and other trunk roads with national collective good characteristics to jumpstart the ailing economy, to safeguard the urgently needed State economic restructuring and sustainable development, which also can be understood as a national collective good. The 1997 Zero Vision furthered road safety as a national collective good even after the turn of the 20th and 21st century.

This study’s second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies’ resource struggles was clearly weakened by the Swedish case. The constituencies’ struggles for resources to local collective or private goods have hardly affected Swedish road policy and road construction at all, neither prior to 1944 when the road policy and road construction was governed locally by the road municipals, under the bicameral system 1944-70 after introduction of State

management of most public roads, or after introduction of the unicameral system. The Royal Board of Roads and Waterways allocated the State road appropriations to the road municipals autonomous of Riksdagen prior to 1944. The entailing Road and Water Construction Administration and from 1967 Swedish National Road Administration allocated similarly most road investments according to the professionals' norms and standards autonomously of the executive and Riksdagen until the 1970s. Riksdagen's approval of *Swedish Road Plan* safeguarded also construction of a very comprehensive secondary road system. Introduction of the unicameral system and the Traffic Committee in 1971 did not reduce road policy and road construction to local matters, even if the municipals and counties increased their influence on road policy and road construction through acquiring their own road and environmental planning expertise from the 1970s. Riksdagen's Traffic Committee did not engage in micromanagement of the road policy and road construction such as the Norwegian legislators had done since 1851.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was both weakened and strengthened by the Swedish case. The political parties' rivalry was not decisive for road policy and road construction prior to 1944 because the executives, no matter their political affiliation used road construction and maintenance counter cyclic to mitigate the 1920s and 30s unemployment. A broad consensus among the major political parties governed similarly the road policy and road construction after World War Two. Appointment of the Labor Market Board's Director General Gustav Vahlberg as the Road and Water Construction Administration's Director General in late 1957 placed de facto Sweden's Federation of Trade Unions and particularly the Metal Workers' Union in the road policy driver's seat, because Gustav Vahlberg was one of the corporative system's high-flyers. But the road policy consensus ruptured partly in the second half of the 1960s, because of the Social Democratic and Agrarian Parties' shadow boxing. The Social Democratic executive used road policy and road construction as one of its means to contain the Agrarian Party hereunder reduced road investments within and near the major cities. The Social Democratic Party's road and traffic policy flip-flops in 1972 and 1979 were similarly motivated by party tactical considerations. The executive and the leading industrialists' direct negotiations governed the road policy and road construction during most of the 1980s, and weakened both Swedish Road Administration's professional autonomy and Riksdagen's Traffic Committee's influence. Road policy and road construction was similarly governed by party tactical considerations throughout the 1990s and after the turn of the 20th and 21st century, through high-level agreements or pork barrel deals between the minority Social Democratic Party executive and the Agrarian Party 1995-98 and between the minority Social Democratic Party executive and the pivotal Green and Left Parties after the 1998 and 2002 elections. The political parties' rivalry became hence decisive for Swedish road policy and road construction after introduction of the unicameral system.

The final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Swedish case. First, the 1809 Constitution established the rules of the game until 1975 when it was furthered by the 1974 Constitution that maintained most of the 1809 Constitution's principles. Second, Riksdagen's four-cameral system was replaced by a bicameral

system 1866-67, which in turn was replaced by a unicameral system 1970-71. These chamber structure reforms changed Sweden's political economy fundamentally. Introduction of the bicameral system made fundamental reforms far more likely, but established also a very stable, status quo and consensus oriented regime because of the First Chamber's lag and the members' long tenure, successive replacement and restricted votes in the local elections of those who appointed the First Chamber's members. However, the 1907-09 and 1921 suffrage reforms shifted the political balance from the nobility and upper classes, via the wealthy farmers to the middle and working classes' favor. Introduction of the unicameral system gave a far more volatile system, and removed the Swedish political system's sluggishness and predictability. Third, replacement of the bicameral Riksdagen's functional committees with the unicameral Riksdagen's standing subject matter committees, such as the Traffic Committee, did not reduce road policy and road construction to local matters, because allocation of the road appropriations based on rational methods and models had been Swedish National Road Administration's responsibility since the 1920s. Road policy as a national matter persisted, and was clearly an example of path dependence because of increasing returns to the road users. Fourth, Sweden's parliamentary rule introduced 1917 with a strong executive, strong legislature and with an autonomous bureaucracy established by Axel Oxenstierna in the 17th century that worked according to norms about State reason and professionalism, but kept in check by the administrative courts, was unique. Fifth, the 1930s' class compromise established a corporative system based on negotiations between the executive and the interest organizations that persisted until it was punctuated by the 1970s and 80s State economic problems and the neo-liberal shift and NPM reforms. Sixth, the vehicle and fuel taxes introduced in the 1920s were informally linked to road construction and maintenance, but were formally linked to the road appropriations through the 1938 State accounting reform that made road investments and road maintenance the vehicle and fuel tax revenues' contra entries. This equilibrium persisted until 1980 when it was punctuated by the Fälldin executive because of State economic problems, despite the motoring lobby's protests, even if the 1964 Hörjel-agreement that permitted financing construction of Stockholm's subway with road appropriations almost punctuated it. Seventh, *Swedish Road Plan* furthered and instituted the Road and Water Construction Administration's professionals' allocation of the road investments based on rational methods and formal models. This principle survived even the 1970s, 80s and 90s State economic crises, and entailing State economic reconstruction, even if the models were refined and modified to reflect the executive and Riksdagen's changing priorities, and was clearly an example of path dependence. Such resource allocation was also in accordance with the norms about State reason and professionalism. Eighth, Riksdagen's 1963 Traffic Policy Decision made economic effectiveness the road and traffic policies' lodestar. Riksdagen's 1979 Traffic Policy Decision linked traffic, road and regional policies and instituted also requirements for socio-economic effectiveness. Riksdagen's 1988 Traffic Policy Decision linked road and environmental policies. Riksdagen's 1998 Traffic Policy Decision instituted taxes and fees supposed to internalize the transports' social costs. Ninth, the 1988 empowerment of the Supreme Administrative Court to carry out legal reviews of the executive and bureaucracy's decisions paved the way for punctuation of Stockholm's so-called Dennis-package in 1997. Tenth, the traditionally tax financed

road appropriations were partly replaced by loan financed road investments in the second half of the 1980s, to safeguard swift construction of motorways. This model was furthered in the 1990s and after the turn of the 20th and 21st century. The Persson executive abolished in 1997 the turnpikes imposed by the Bildt executive, when it liquidated the Dennis-package, but upheld loan financing through The Swedish National Debt Office that safeguard swift road construction to the lowest possible costs, that gave the motorists, trade and industry and taxpayers increasing returns. Eleventh, the Social Democratic Party executive's agreement with the Green and Left Parties in Riksdagen's 2001 Infrastructure Decision linked trunk road and railroad investments, but Riksdagen's 2004 Infrastructure Decision increased the railroad investments more than the trunk road and motorway investments. This linking was part of the executive's price for the Green Party's support, together with introduction of congestion fees in Stockholm. Twelfth, Swedish Road Federation liquidated itself in January 2004 after having been Sweden's leading road lobbyist for 90 years. Its mission was completed when Riksdagen made its 2004 Infrastructure Decision and approved Sweden's largest infrastructure investments ever in modern times. Finally, Axel Oxenstierna's autonomous bureaucracy seems to have been punctuated by the executive's moves throughout the 1980s and 90s to handle the State economic problems and by the State economic restructuring since 1994.

Chapter 4 – Norway – the deviant case

Norway is here denoted the deviant case, because postwar Norwegian executives and legislators carried out an almost contrary road policy compared to many other Western industrialized countries until about 1995. Norway lagged in 2005 approximately 30 to 60 years after many other West European industrialized countries with regard to modern trunk roads and motorways between the regions and to the export markets.

This chapter is organized in five sections similarly as the preceding chapters about Denmark and Sweden. The first section presents background and context about Norway's polity and road policy prior to 1945 when the mass motoring had its initial breakthrough. The second section is about 1945-59, when the majority Labor Party executives upheld the car rationing after completing the initial reconstruction, while Stortinget's majority and the counties derailed the road policy established during the interwar years. The third section is about 1960-80, when the car rationing was liquidated and the mass motoring had its second breakthrough in Norway, and the Labor Party modernists' road policy reformation was rolled back by a counterreformation. The fourth section is about 1981 until about 2005 when Norway underwent the neo-liberal shift and a fundamental road policy reorientation after the early 1980s' road policy debacle. But the executives and legislators were not in a hurry to catch up Norway's lag concerning trunk roads and motorways, most likely because the oil revenues placed the Norwegian State in very comfortable financial situation compared to most other West European countries. The final section is summary and conclusions concerning the study's four working hypotheses.

Background and context

Norway was a Danish province 1536-1814, but the Danish King that sided with the Napoleon wars' losing party was forced to pass over Norway to Sweden as compensation for Sweden's loss of Finland to Russia in 1809. Norway remained in personal union with Sweden until 1905, but the Norwegian elites managed to establish a constitution, a legislature, Stortinget, and an executive in between the handover from Denmark to Sweden. Norway's road polity was largely established from the early 19th century until World War Two, and institutionalized patterns or trajectories of development that governed Norwegian road policy and road construction during most of the 20th century.

An exceptionally strong legislature dominated by the peripheral and rural constituencies

Norway's legislature Stortinget is formally bicameral, but with equal representation in both chambers, because the election systems have never distinguished between the two chambers, Lagtinget and Odelstinget. Stortinget became hence a *hybrid* between a unicameral and a bicameral legislature.⁷⁷⁷ The 1814 election system, written into the Constitution, gave the peripheral and rural areas 2/3 and the cities 1/3 of Stortinget's seats. The cities had then about 1/10 of the inhabitants, but that

⁷⁷⁷ Rasch and Rommetvedt (1999:30).

would soon change. Stortinget's 1814 seat allocation was frozen in 1859 through the so-called *Farmer's Paragraph*, a constitutional amendment that shielded the peripheral and rural areas against political consequences from the increasing urbanization and industrialization.⁷⁷⁸

The 1814 election system, the Farmer's Paragraph and the political power struggles between the legislators which were farmers, urban citizens and civil servants, and the executive dominated by civil servants instituted what here is denoted Stortinget's *peripheral and rural areas' distributional coalition*.⁷⁷⁹ The peripheral and rural areas' distributional coalition is Norway's oldest, strongest and most aggressive all-party distributional coalition or meta-party, and cemented the center-periphery and urban-rural cleavages as basic conflict dimensions in Norwegian politics prior to establishment of formal political parties.

Stortinget was established with standing subject matter committees in 1814, and established in 1854 a new *Standing Road Committee*.⁷⁸⁰ *Stortinget's Rules of Procedures* (Stortingets forretningsorden) was revised in 1871. The members of Stortinget spent from then the whole term in one and only one standing subject matter committee, which increased the specialization and division of labor.⁷⁸¹ This procedural change strengthened the committees, facilitated legislator rule and instituted the tradition where the legislators spent their entire career within one or only a few committees.

The historian Jens Arup Seip claimed the so-called *Norwegian System* governed Stortinget's provision and allocation of collective goods and infrastructure investments such as roads and railroads during the middle of the 19th century.⁷⁸² The starting point, according to Seip, was the prevailing laissez-faire ideology's ideal, a passive State. Local initiatives, either private and/or municipal replaced centralized planning. At least 20 percent local co-financing could lead to partial State financing of roads or other infrastructure investments, but the different counties' projects were pitted against each other until Stortinget's final decision.

The economic historian Fritz Hodne questioned Jens Arup Seip's understanding of the Norwegian System, because Stortinget's farmer legislators managed to abolish the land tax in 1837. Export and import duties became from then two of the State's most important revenue sources. The State's revenues and budget balance reflected clearly the international business cycles' fluctuations.⁷⁸³ Jens Arup Seip claimed Fritz Hodne perceived the Norwegian System as a tactical measure for making the farmers pay, because they refused to pay State taxes.⁷⁸⁴ The Norwegian System's reason for existence, according to Fritz Hodne, was prevention of costly national precedents, because requirement for local co-financing constrained the demand and prevented free riding. The Norwegian System linked also the counties and cities' contributions to the community to State financing of collective goods and

⁷⁷⁸ NOU 2001:3 *Velgere, valgordning, valgte*:Chapter 3.3.

⁷⁷⁹ See for instance also Rokkan (1967; 1975a; 1975b) about cleavages in Norwegian politics and development of the party system.

⁷⁸⁰ Kaartvedt (1964:206).

⁷⁸¹ Kaartvedt (1964:153); see also for instance Danielsen (1964:151-177).

⁷⁸² Seip (1959:28-57).

⁷⁸³ Hodne (1975:179-180; 1980:82 Tabell 4.2, 277-279 Tabell IV).

⁷⁸⁴ Seip (1972:211).

infrastructures.⁷⁸⁵ Fritz Hodne explained the Norwegian System as a result of scarce resources and a liberal ideology. Locally or privately initiated collective goods and infrastructure investments made differentiated supply tolerable. Stortinget approved only uniform supply and State financing of low cost collective goods and infrastructures such as telegraph services and lighthouses.⁷⁸⁶ Jens Arup Seip's answer to Fritz Hodne's critique was that competing projects safeguarded efficient resource allocation, but prevented also equal treatment of the counties.⁷⁸⁷

One of the Norwegian System's most important side effects was institutionalization of the new Norwegian State as the counties and municipals' servant, instead of opposite such as in Denmark and Sweden where the executives emphasized development of national collective goods and left development of local collective goods to the counties and municipals. The Norwegian System instituted a localistic, communalistic pattern, where provision of national collective goods and infrastructures depended on local willingness to pay, but constrained on the other hand the constituencies' tendencies to rent seeking. Because the constituencies received few public financed goods unless they were willing to contribute financially.

⁷⁸⁵ Hodne (1971:290-294; 1972:14, 22, 34;1980:235-238, 252-253).

⁷⁸⁶ Hodne (1971:291-292).

⁷⁸⁷ Seip (1972:211).

Figure 15: Norwegian counties 2005, an overview.



Source: Statens kartverk and Statistisk sentralbyrå.

Introduction of parliamentary rule from 1884 after the impeachment court's verdict punctuated the so-called *Civil Servant State* established from 1814.⁷⁸⁸ The

⁷⁸⁸ Seip (1963:12 ff.); Borgen (1999:34-35); Seip (1981:181-187); Nordby (1991:85-99; 2000:74-85). See also Seip (1945) for a thorough discussion about the political process that led to introduction of parliamentary rule in Norway and Nordby (1991:45-70) for an overview of the socio-economic changes during the second half of the 19th century and the 20th century's first decades.

Civil Servant State had been a closed and self-supplying system, because the Norwegian ministers were ordinary civil servants appointed by the Swedish union King. The ministers were often considered “Stortinget’s enemies” prior to 1884, but became instead “Stortinget’s prisoners of war” after introduction of parliamentary rule, according to the historian Rolf Danielsen.⁷⁸⁹ Introduction of parliamentary rule led also to establishment of formal political parties. The *Liberal* (Venstre) and *Conservative* (Høyre) Parties were both established in 1884. The Liberal Party’s initial followers were farmers and urban citizens who utilized the second half of the 19th century’s liberalization of trade, crafts and industry. The Conservative Party’s initial followers were mostly civil servants and others with stakes in the ancient regime.⁷⁹⁰ The *Labor Party* (Arbeiderpartiet) was founded in 1887, but did not achieve a prominent position until the 1920s and 30s.⁷⁹¹ Because the Liberal and Conservative Parties that otherwise usually fought each other, cooperated against the emerging labor movement, unlike in Denmark and Sweden where liberals and social democrats partly cooperated against the conservatives.

The Civil Servant’s State was replaced by the so-called *Liberal Party State* from 1884, and was governed by the Liberal and Conservative Parties with offspring until 1935. The Liberal Party State’s most central actors were farmers, fishermen, small town ship owners, entrepreneurs and industrialists, merchants and lumber barons. Most of the economic elites did not live in the capital, Kristiania, but in peripheral towns scattered along the coast and in the inland where the raw material harvesting and/or processing took place. Kristiania, which was renamed Oslo in 1925, was first and foremost an administrative city, even if the Kristiania or Oslofjord area experienced strong economic growth during the second half of the 19th and early in the 20th century. The Liberal Party State persisted until the German occupation 1940-45.

The Norwegian System was gradually replaced by what is here denoted as the *Liberal Party’s System*, which emerged from about 1870, because of increasingly politicized allocation of railroad investments. The Liberal Party’s System became permanent from the 1890s after reintroduction of State taxes in 1892, and instituted Stortinget’s allocation of collective goods and infrastructure investments according to a political rather than an economic logic such as under the former Norwegian System.⁷⁹² Fritz Hodne’s studies revealed how Stortinget gradually 1840-1914 developed into a “marketplace” for infrastructure investments. But Hodne’s study revealed also how Stortinget’s market mechanisms gradually deteriorated from the 1890s because of decoupling the counties and cities’ contributions to the community and Stortinget’s allocation of collective goods and infrastructure investments.⁷⁹³ Stortinget’s majority’s political preferences replaced from then head on competition between projects and the counties’ willingness to local co-financing such as under the Norwegian System. The Liberal Party’s System gave therefore the constituencies strong incentives to rent seeking.

⁷⁸⁹ Danielsen (1964:327).

⁷⁹⁰ Mjeldheim (1984:87); Kaartvedt (1984:29-30, 38-48, 51, 54 ff.).

⁷⁹¹ Bull (1985:366 ff.).

⁷⁹² See for instance Hodne (1980:254) for a discussion about collective goods and infrastructure investments’ tax price.

⁷⁹³ Cf. Hodne (1980).

Introduction of parliamentary rule did not alter the pattern with a very strong legislature. Neither did Stortinget amend the Constitution to reflect introduction of parliamentary rule. Norway became the only parliamentary democracy with fixed terms.⁷⁹⁴ The head of State or Prime Minister was not authorized to call for new elections. This peculiarity made the Norwegian governance systems more like a separation of power system such as for instance in USA. The executive and legislative were almost stuck with each other, if the opposition was not willing to get into position.⁷⁹⁵ Fixed terms made it more likely with negotiations and pork barrel deals in Stortinget than in most other parliamentary legislatures, all other things equal. The peripheral and rural areas' overrepresentation due to the election system and the Farmer's Paragraph entrenched the political system's peripheral and rural bias and maintained the peripheral and rural areas' distributional coalition even after introduction of parliamentary rule and establishment of formal political parties.

Norway's 1905 direct single seat district plurality election system introduced after the independence from Sweden, and the 1921 direct multimember district proportional election system (PR) with seat allocation according to d'Hondt's method, upheld both the Farmer's Paragraph's seat allocation in Stortinget and gave the rural areas and small towns' inhabitants far stronger political representation than the major cities' inhabitants.⁷⁹⁶ Even these election systems ignored the urbanization and industrialization that had taken place since the second half of the 19th century, and reflected clearly the peripheral and rural areas' distributional coalition's dominant position, and maintained hence Stortinget's peripheral and rural bias despite significant shifts concerning settlement structure.

Norway's modern six-party system was completed in 1933, with a *Communist Party* (Norges Kommunistiske Parti) and a social democratic Labor Party to the left, after the Labor Party splintered into a revolutionary Labor Party and a reformist Social Democratic Party, which reunited to the current Labor Party. There were three middle parties, the Liberal Party with its offspring, the *Agrarian Party* (Bondepartiet) and the *Christian Peoples' Party* (Kristelig Folkeparti). It was finally the Conservative Party to the right.⁷⁹⁷ The Norwegian population could similarly be divided into three broad sociological categories, namely *modernists*, *traditionalists* and *anti-modernists*. The modernists embraced new technologies and did not fear possible structural changes. The traditionalists were not against new technologies per se, according to the technology historian Olav Wicken, but opposed possible structural changes entailing new technologies. The anti-modernists opposed vigorously new technologies as well as possible structural changes in the traditional sectors.⁷⁹⁸ The modernists were first and foremost found among the Labor and Conservative Parties' followers in central and urban areas, but even the Liberal

⁷⁹⁴ Nordby (2000:119 ff.); Apenes (1989:93 ff.).

⁷⁹⁵ cf. Shugart and Carey (1992:1, 18-19).

⁷⁹⁶ Danielsen (1964:9-26); NOU 2001:3 *Velgere, valgordning, valgte*:Chapter 3.3; See for instance Seip (1963:15-16) about the parties and the interest groups 1905-18; Furre (2000:37); Heidar and Berntzen (1995:51). See also the Data Appendix Table 4.5.

⁷⁹⁷ See for instance Nielsen (2001b:39-43); Danielsen (1984:60-63); Maurseth (1987:170 ff, 252 ff, 423 ff.); Nordby (1991:135-146); Nielsen (2001b:8 ff.); Øystese (1963:39) about establishment of Norway's modern 6 party system.

⁷⁹⁸ Cf. Wicken (1992:4-13; 1994) for further discussions about traditionalists and anti-modernists concerning introduction of new technologies in traditional Norwegian sectors.

Party had modernist followers in some urban areas. The traditionalists were usually found among the Labor and the middle parties' followers in peripheral and rural areas. The anti-modernists were first and foremost found among the middle parties' followers in peripheral and rural areas.

Norway was highly polarized politically until 1935 because the farmers and citizenry did their best to marginalize the workers politically, among others through the 1905 election system and the non-socialist parties' flirts with several nationalist and fascist groups during the interwar years' crises. Major Vidkun Quisling served for instance as minister of defense in Peder Kolstad and Jens Hundseid's Agrarian Party executives 1931-32 and 1932-33.⁷⁹⁹ The Labor Party had similarly fierce internal struggles between revolutionaries and reformists until the party settled for a reformist course, even if it maintained its radical rhetoric to contain the Communist Party.⁸⁰⁰ These struggles between revolutionaries and reformists distinguish clearly the Norwegian Labor Party from the Danish and Swedish Social Democratic Parties that early settled for a reformist course, cooperated with liberal middle parties and achieved political power and influence far earlier than the Norwegian Labor Party.

The 1920s' became Norway's lost decade. Many other countries prospered until the Wall Street crack in October 1929. But the sudden drop in export prices from September 1920, the entailing 1921-24 bank crisis because of failing export industries and Bank of Norway's slow response as lender of last resort, and finally Bank of Norway's deflationary par policy 1925-27 to reestablish gold parity were all devastating blows for Norwegian trade and industry.⁸⁰¹

The 1920s and early 30s economic crises and entailing political polarization strained the political system and undermined partly the trust in democracy both on the left and right side of the political specter. These problems culminated in 1931, when the employers demanded up to 40 percent wage reductions and reduced real salaries, when the unemployment accelerated because of the depression. The employers declared several lockouts in April and May 1931 that refused up to 81.000 industrial workers employment. The industrial production fell to a fraction of the normal output. Some enterprises, such as Norsk Hydro, circumvent their own lockout through use of scabs. Vidkun Quisling, the Agrarian Party executive's minister of defense, used military troops and State Police at Menstad in Telemark to protect the scabs against the regular workers. This lockout went on for about six months and led to loss of approximately 7,5 million man-days, which gave numerous repercussions such as reduced exports, tax revenues, etc.⁸⁰²

Great Britain abandoned the gold exchange standard September 21st 1931 through devaluation of the British pound (GBP). Norway's national bank, Norges Bank, abandoned the gold exchange standard September 27th; the same did Sweden's Riksbank. Norway's two largest banks ceased payments December 15th and received immediately a three months moratorium from the Agrarian Party executive. The Norwegian kroner (NOK) was devaluated almost 20 percent to the

⁷⁹⁹ Borgen (1999:237-257); Nielsen (2001b:178-195). See for instance Borgersrud (2000:159-183) concerning Norwegian rightwing and fascist conspirations 1931-32.

⁸⁰⁰ See for instance Maurseth (1987:170 ff, 252 ff., 423 ff.); Olstad (1999: 36-106); Steen (2003:46-77).

⁸⁰¹ Hodne (1975:376-381, 386-414); Hodne and Grytten (1992:96-110, 131-132); Knutsen and Ecklund (2000:87-132, 137-146); Mjøset (1986:50-51). See also Dillard (1987:450-455, 460-462) for further discussions about the 1920s' crisis in a European perspective and a comparison with the 1930s' crisis.

⁸⁰² Larssen (1969:177-181); Hodne (1975:425-427); Sejersted (2005:161-162).

GBP in 1932. Norges Bank established also a voluntary currency rationing together with the banks and business sector organizations. Abandoning the gold exchange standard became a turning point; because Norges Bank's monetary policy became less doctrinaire. This in turn stimulated the home market industries and construction of housing, and led gradually also to increased investments and exports.⁸⁰³ Norway struggled economically even during the depression, but the depression was less noticed in Norway than in many other countries because Norway was already kneeling due to the 1920s deflation and bank crises.

The Labor Party settled for a reformist course and got its breakthrough in the 1933 elections when they promised employment for everyone.⁸⁰⁴ The political climate changed noticeably from 1935. First because the National Federation of Labor and the Employers' Association agreed about a *Principal Agreement* (Hovedavtalen), which constituted the labor market's ground rules. Second, because Johan Nygaardsvold, one of the Labor Party peripheral and rural chieftains, established a minority executive after a horse trade and crisis compromise with the Agrarian Party that safeguarded economic support to farmers and municipals, because many farmers were then on the rim of precipice. The agreement led also to increased road construction to overcome the economic crisis. The economic historian Fritz Hodne claimed the Nygaardsvold executive financed increased relief expenditures through introduction of a one-percent sales tax, taxes on bank deposits and dividends, and through increasing the tax system's graduation.⁸⁰⁵ The Principal Agreement and the agreement with the Agrarian Party paved the way for Norway's broad class compromise and strengthened also the corporative system developed since World War One.⁸⁰⁶ Even the Liberal Party became soon one of the Nygaardsvold executive's supporters. These moves isolated the Conservative Party politically prior to World War Two.⁸⁰⁷ The Liberal Party State's days were thus numbered. A regime change was imminent, but the German invasion April 9th 1940 that changed the regime was highly unexpected.

The Nygaardsvold executive shifted Stortinget's median somewhat to the left, but maintained Stortinget's peripheral and rural bias. The Nygaardsvold executive did not carry out a Keynesian policy, despite popular belief, but furthered the former Liberal and Agrarian executives' economic policy, even if the public sector spending stabilized the demand.⁸⁰⁸ The common belief is the business cycle's shift from 1934 was more responsible for Norway's economic recovery prior to World War Two than the executive's activist policy. But the economic historians Tore Jørgen Hanisch and Jan Veia claimed the 1930s' recovery was not a result of increased international demand, but rather increased domestic production, because ending the 1931 labor market conflicts led to increased production of consumer goods in the new home market industries, not within the export enclaves. The

⁸⁰³ Hodne (1975:425-427); Mjøset (1986:52-53); Nordvik (1990:186-181); Hodne and Grytten (1992:113-116). See also Dillard (1987:455-462) about the consequences of Great Britain's abandoning of the gold exchange standard.

⁸⁰⁴ Larssen (1969:182-195); Steen (2003:76-78, 84-100).

⁸⁰⁵ Hodne (1975:442-443); Furre (2000:58, 76); Maurseth (1987:569-578), Greve (1964:353-356); Mjøset (1986:17-18, 61-63); Larssen (1969:204-210); Nielsen (2001b:203-214).

⁸⁰⁶ Hodne and Grytten (1992:156-157); Nordby (1994:43-52); Sejersted (2005:163-164).

⁸⁰⁷ Danielsen (1984:333 ff.).

⁸⁰⁸ Greve (1964:356-370); Hodne (1975:441-444); Hodne and Grytten (1992:125).

emerging Norwegian home market industries emphasizing consumer goods had namely their breakthrough during the 1920s and 30s.⁸⁰⁹ Hanisch and Vea's claims are partly corroborated by Fritz Hodne's studies that indicated increased domestic demand for many consumer goods during the 1930s.⁸¹⁰

How was Norway's economic performance prior to World War Two? Norway underwent the so-called second industrial revolution 1890-1930. Norway's GDP per capita measured in 1990 international Geary-Khamis dollars was 2.780 dollars in 1920, 3.712 in 1930 and 4.088 in 1940. The 12 West European countries' average was 3.305 dollars in 1920, 4.289 in 30 and 4.984 in 40. Norway lagged thereby behind the West European average in 1920, 30 and 40, with West Europe's eight highest GDP per capita in 1920, ninth highest in 30 and eight highest in 40.⁸¹¹ The 1920s crises reduced Norway's economic performance, but the relative performance improved after 1934, among others because of increased production in the new home market industries.

Repugnant transition from railroad to road transports

Norway's *1824 Road Act* abolished the former Danish centralized State road administration and made road construction and maintenance local matters, governed by the County Governors (amtmennene). The 1824 Road Act divided the road system into main roads and parish roads. Trunk roads were not singled out as a particular class, even if the costs for main roads defined as trunk roads, which were national collective goods, were distributed among all counties according to their properties' tax obligations, until the State tax was abolished in 1837. All other roads were financed locally. Road construction was accomplished through the farmers' duty work, but construction of expensive bridges was based on competitive bidding.⁸¹² The *1837 Local Government Act* made the county councils' executive committees (formannskapetene) powerful road political players, because the county and municipal councils were authorized to approve road investments. The 1837 Local Government Act gave the farmers valuable political training for later use in Stortinget.

The *1851 Road Act* upheld the 1824 Road Act's semi-local county road administrations and introduced a road tax that until 1894 was dedicated to a Road Fund. The civil servant executive proposed in 1879 changing the Road Fund's allocation from 4/5 to 2/3 to the rural areas and 1/5 to 1/3 to the cities, similarly as Stortinget's seat allocation, which was rejected by Stortinget's majority.⁸¹³ Stortinget's peripheral and rural areas' distributional coalition upheld thereby the Road Fund's biased but for them highly favorable allocation. But the 1851 Road Act's most important institutional change was establishment of the principle that Stortinget approved individually each road project that received partial State financing.

⁸⁰⁹ Hanisch and Vea (2005:61-82, Tabell 3; Tabell 5).

⁸¹⁰ Hodne (1975:435-441). See also Hodne and Grytten (1992:119-124, 133-133-138).

⁸¹¹ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-63 Table 1c.

⁸¹² Broch (1937:39-44); Bjørnland (1977:82-90; 1989:23-28, 33-34); Arnulf (1983:9, 18). See for instance Nordby (1991:76-80) about the farmers' political mobilization.

⁸¹³ Broch (1937:44); Bjørnland (1977:89-90; 1989:33-34); Hodne (1972:17, 20-21).

The executive decided in 1861 the Army's Engineering Brigade should manage the most important public roads with national collective good characteristics. This decision was most likely inspired by the Swedish State road administration established in 1844, but Stortinget's majority overruled this decision in 1864 and established instead the *Directorate of Public Roads* (Vegdirektoratet), to manage planning and construction of main roads and bridges eligible for partial State financing according to the Norwegian System.⁸¹⁴ The Directorate of Public Roads was subordinated the *Ministry of Interior* (Indredepartementet), established in 1846 to modernize Norway. The Directorate of Public Roads became soon one of the Norwegian System's cogwheels, and was transferred to the new *Ministry of Public Works* (Arbeidsdepartementet) in 1885. The Ministry of Public Works became soon Norway's largest ministry because it managed and supervised various collective goods and infrastructures such as roads, canals, lighthouses, postal services, scheduled ship services, railroads, telegraph, telephone, and later also hydroelectric power plants and the power grid, until it was downsized by the 1920s' so-called axe-committees.⁸¹⁵

Stortinget emphasized construction of passable main roads or trunk roads in the second half of the 19th century, but most trunk roads were then feeder systems to the railroads and scheduled steamship services.⁸¹⁶ This policy made perfectly sense because railroads and steamships substituted horse and cart for long distance transports and heavy hauls. The geographical allocation of road investment 1820-1908 with approximately 20 percent to the central constituencies and 40 percent each to the middle and peripheral constituencies reflected clearly the Norwegian System's impact, because most road investments went to crowded southern central and middle rural constituencies willing and able to provide the required local co-financing.⁸¹⁷ The 19th century Norwegian road policy and road construction was first and foremost a bottom-up process, initiated by the municipal and county councils, and not top down from the executive such as in Denmark prior to the 1867 Road Act came into power and made road policy and road construction local matters even in Denmark.

The *1893 Road Act Amendment* was Stortinget's next important move that abolished the Road Fund, introduced State road financing through the annual budgets and established the so-called *Combined Road Administration*. The Combined Road Administration was a merger of the State and the counties' road administrations. All counties' *Public Roads Administrations* (vegkontorene) except in the two largest cities Kristiania and Bergen were subordinated the Directorate of Public Roads. The *County Engineer* (amtsingeniøren), the County Governor's former road inspector, headed each county's Public Roads Administration except in Kristiania and Bergen. The *Road Director* (vegdirektøren), head of the Directorate of Public Roads, headed also the entire Combined Road Administration, and was in

⁸¹⁴ Broch (1937:52); Seip (1974:137-142); Kolsrud (2001:122, 322-329); Bjørnland (1989:35-36); Arnulf (1983:18).

⁸¹⁵ *Innstilling fra veglovkomiteen av 1951. Utkast til veglov med motiver*. Samferdselsdepartementet 1957:42. See also for instance Kolsrud (2001:320-370) about the Ministry of Interior/Public Works' establishing, growth and decline 1846-1940.

⁸¹⁶ Bjørnland (1989:79-80).

⁸¹⁷ Calculated from Bjørnland's (1989:158-159) overview of the road investment's geographical allocation 1820-1908.

turn subordinated the Ministry of Public Works.⁸¹⁸ Kristiania and Bergen's roads were managed by municipal road administrations subordinated these cities' combined city and county councils. The 1893 Road Act Amendment instituted also the Liberal Party's System as Stortinget's governing principle for allocation of State road appropriations.

Norway's 1912 Road Act reflected clearly introduction of parliamentary rule, the Liberal Party's System for resource allocation and the peripheral and rural areas' distributional coalition's dominant position, because only the rural areas became eligible for State road appropriations. The 1912 Road Act strengthened also the Combined Road Administration through establishment of the *County Road Boards* (*amtsvegstyrene*) with one member appointed by the County Governor and two members appointed by the county councils. The county councils were until 1976 collegiate bodies of the municipals' mayors, headed by the County Governor, and responsible for each rural county's road construction and maintenance. The County Road Boards in turn delegated their responsibility to the County Engineer, which often became the County Road Board's de facto fourth member.⁸¹⁹

The 1893 Road Act Amendment, the Combined Road Administration and the 1912 Road Act reflected all the fact that peripheral and small town interests dominated most Liberal or Conservative Party executives that governed Norway 1884-1935. The Combined Road Administration and the 1912 Road Act forced similarly the County Engineers to serve two masters, the remote Directorate of Public Roads concerning trunk roads, which were national collective goods, and the always present county politicians concerning parish roads, which were local collective or even private goods. The 1912 Road Act, the Combined Road Administration and the County Road Boards undermined effectively the Directorate of Public Roads' role as coordinating body for the State's road policy, and established a pattern where members of the County Road Boards and the county councils often cooperated directly with each county's members of Stortinget. Each county's party bosses were thus often able to bypass the Directorate of Public Roads and/or the Ministry of Public Works, because Stortinget had the final say whether a road project received partial State financing or not. The 1912 Road Act institutionalized therefore local and decentralized control of the road policy combined with State financing.

The first car came to Norway in 1895, but common use of cars on public roads was first permitted in 1913, when the 1912 *Motor Vehicle Act* came into power. Each ride on the main roads prior to 1913 except in a few central and urban counties and cities had to be approved in advance by the County Governor. Each ride on the parish roads had similarly to be approved in advance by the concerned municipal councils.⁸²⁰ The 1912 Motor Vehicle Act introduced also motor vehicle taxes based on the marginal cost principle, to compensate for the vehicles' wear and tear on the roads. These tax revenues were allocated to the counties, where the County Road Boards further distributed them to the rural municipals.⁸²¹ Cars were initially an

⁸¹⁸ Bjørnland (1989:33, 36-37); Paulsrud (1996); Østgård (2002:9 ff.).

⁸¹⁹ Arnulf (1983:18-19); Bjørnland (1989: 38-39).

⁸²⁰ Bjørnland et al. (1981:27-28); Bjørnland (1989:104-106); Mellbye (1995:13-14); Toldnes (2004).

⁸²¹ Dag Bjørnland, *Riksvegutgifter og deres finansiering*, Norsk vegplan Arb dok nr 113, Transportøkonomisk institutt, May 1968:53, VDA, binder Norsk vegplan Arb.dok 105-122. See also Bjørnland (1989:191-192).

urban phenomenon, because the early institutional arrangements made it very cumbersome to own and use cars in rural and peripheral areas. Norway's public road system in 1900 exclusive city streets, measured 28.591 kilometers. 10.671 kilometers were defined as trunk roads, the rest were parish roads. The public road system measured 33.190 kilometers in 1915. 13.069 kilometers were then defined as trunk roads. The rest were parish roads.⁸²²

The central and most crowded areas' road investments were significantly reduced 1908-1926 compared to 1820-1908.⁸²³ This shift reflected clearly the Liberal Party's System's emergence. 15,3 percent of the State road investments 1908-26 were allocated to central rural constituencies. 39 and 45,7 percent were allocated to middle and peripheral rural constituencies.⁸²⁴ Many peripheral and rural areas lacked then road connections, because resistance against local co-financing had prevented allocation of road investments to these areas under the former Norwegian System. The *1926 Road Plan*, approved by Stortinget in 1929, fixed the rural counties' share of the annual State road appropriations until 1964.⁸²⁵ The 1926 Road Plan approved in 1929 with adjustments allocated 12,6 percent to the central rural constituencies and 39,1 and 48,3 percent to the middle and peripheral rural constituencies.⁸²⁶ The coastal rural constituencies from Hordaland in southwest to Finnmark in north, the peripheral and rural areas' distributional coalition's heartland, were the road policy winners from 1908. The 1912 Road Act gave similarly City of Oslo and City of Bergen 0 percent of the State road investments.⁸²⁷ The counties' fixed share of the road appropriations 1929-64 was clearly an example of path dependence, because of increasing returns to those constituencies that took part in the peripheral and rural areas' distributional coalition in Stortinget. These institutional arrangements reflected clearly those days' election systems' peripheral and rural bias.

Norway was a railroad society prior to World War Two, but most narrow gauge railroads built during the late 19th century's railroad mania were obsolete already in the 1920s.⁸²⁸ The railroad heydays' were 1890-1920. 1920-40 was only a transition towards the forthcoming mass motoring according to the historian Trond Bergh.⁸²⁹ The Directorate of Public Road's engineers made transport economic calculations in the 1920s for Road Director Andreas Baalsrud that laid open that horse transports in some instances were far more cost efficient than those days' obsolete railroads.⁸³⁰ But railroads had become one of the legislators' sacred cows;

⁸²² *Historisk statistikk 1968*, Statistisk sentralbyrå, Oslo 1969:415 Tabell 205.

⁸²³ See for instance Bergh et al. (1983:198-201) about those days' infrastructure and regional policies.

⁸²⁴ Calculated from Bjørnland (1989:158-159) which provides an overview of the road investments' geographical allocation 1908-26.

⁸²⁵ *Innstilling fra Veglovkomiteen av 1951. Utkast til veglov med motiver*. Samferdselsdepartementet, Oslo, 1957:149; Thomas Offenbergs Backer, "Vegdirektoratet gjennom 100 år", *Vegen og Vi*, Vol. 5, No. 1, 1965:61.

⁸²⁶ Calculated from Bjørnland's (1989:158-159) overview of the road investments' geographical allocation.

⁸²⁷ See for instance Bjørnland (1989:158-159) for an overview of the State road investments' historical allocation in counties and regions.

⁸²⁸ Bergh (2004a:239-373); Hodne (1975:208-217); Hodne and Grytten (2000:146); Kolsrud (2001:345, 356-358).

⁸²⁹ Bergh (2004a:239 ff., 375 ff.).

⁸³⁰ Bjørnland (1989:137-139).

most likely because they had been Norway's largest 19th century publicly financed investments. The significance of establishing *Norwegian State Railroads* (Norges Statsbaner) in 1926 as a public administration with approximately 16.000 employees should not be underestimated.⁸³¹ The railroads symbolized modernity and progress for many legislators. Several narrow gauge railroads were therefore decided expanded to normal gauge.⁸³² Many legislators were not able or willing to recognize that cars often provided far more cost efficient and flexible transports.

Many legislators considered cars a dangerous competitor that had to be constrained. Several of the interwar years' studies about whether to invest in new railroads or update the 19th century road system were permeated by ideology, according to the economist and transport historian Dag Bjørnland.⁸³³ Many legislators' strong belief in railroads throughout the interwar years is one decisive difference compared to Denmark and Sweden, where most legislators had a more fact based and realistic understanding of the transport infrastructures functions in the transport system. Stortinget's majority imposed legal constraints on occupational road traffic in June 1930 to protect the railroads.⁸³⁴ The Liberal Mowinkel executive imposed also so-called temporary protective restrictions; hereunder import quotas for cars in 1934.⁸³⁵

The Norwegian railroad champions did their best to prevent or delay the shift from railroad to road transports, but were not able to stem the tide. The number of cars increased almost exponentially, from 320 in 1910; 9.100 in 1920; 46.478 in 1930 and 87.767 in 1940.^{836 837} Storting imposed July 18th 1917 a temporary luxury tax on motor vehicles, proposed by the Ministry of Finance, to balance the State's budget.⁸³⁸ But few things are more permanent than temporary laws. The temporary luxury tax became a major revenue source when the number of vehicles increased throughout the 1920s and 30s. The 1912 Motor Vehicle Act was superseded by the *1926 Motor Vehicle Act* that substituted the initial horsepower tax with weight based annual fees and rubber taxes, and warranted fuel taxes. Stortinget imposed a fuel tax in 1931 to balance the budget. The fuel tax increased annually until 1940. The 1926 Motor Vehicle Act allocated 5 percent of the tax revenues to the cities' road

⁸³¹ Hodne (1975:222); Hodne and Grytten (2000:145-146); *Historisk statistikk 1968*, Statistisk sentralbyrå, Oslo 1969: 407 Diagram 49, 408 Diagram 50, 410 Tabell 200, 412 Tabell 201, 413 Tabell 202, 417 Tabell 208.

⁸³² See for instance Bergh (2004b) about the railroads' symbolic role and the need for reconstruction of the narrow gauge railroads

⁸³³ Bjørnland (1989:137-148).

⁸³⁴ Bjørnland (1989:139-145, 147); Bergh (2004a:379-402).

⁸³⁵ Bjørnland (1989:150); Borgen (1999:215).

⁸³⁶ *Historisk statistikk 1968*, Statistisk sentralbyrå, Oslo 1969:416 Tabell 207.

⁸³⁷ Norway underwent a transport revolution 1850-1939. Ship borne passenger transports peaked about 1900. The railroad transports of passengers peaked during World War One. The population's mobility measured in passenger kilometers increased about 2.800 percent 1850-1939. The goods transports increased similarly about 2.700 percent 1850-1939 measured in ton kilometers. Ships carried out about 80 percent of the goods transports in 1930, while 9 and 6 percent went on railroads and roads. Taxis, buses and passenger cars increased their share of the passenger transports from the outbreak of World War One, and became soon some of the most popular means of person transports. Roads were responsible for more person kilometers than railroads already in 1927, and responsible for almost 60 percent of the Norwegian person transports in 1939 (Bjørnland et al. (1981:30); DB-DBA-GTW 1926-2002; DB-DBA-PTW 1926-2002).

⁸³⁸ Bjørnland (1989:192).

maintenance. The cities' share increased to 8 percent in 1934.⁸³⁹ The interwar years' vehicle and fuel tax revenues were hence dedicated to the public road system's maintenance. The annual vehicle and fuel tax-revenues balanced almost the State's annual expenses for road maintenance 1930-40, according to Dag Bjørnland.⁸⁴⁰ The 1926 Motor Vehicle Act upheld the marginal cost principle instituted by the 1912 Motor Vehicle Act.

However, at least somebody within Johan Ludwig Mowinkel's Liberal Party executive understood the shift from railroad to road transports was imminent, despite the railroad lobby's resistance, because the Directorate of Public Roads was made responsible for maintenance of 8.700 kilometers trunk roads from January 1st 1928. The counties contributed initially financially to this maintenance, which was completely State financed from 1939.⁸⁴¹ Stortinget established a new Road Fund in 1928 funded through an initial appropriation and the vehicle tax revenues. The Directorate of Public Roads could borrow from this Road Fund for paving trunk roads, modernizing of bridges and similar projects. But Stortinget decided already in 1931 to finance the maintenance of trunk roads through the road tax revenues. The road tax revenues were from 1932 allocated according to the counties' maintenance costs and share of public roads, and from 1935 according to road technical and even economic criteria.⁸⁴² But Road Director Andreas Baalsrud's optimism during the interwar years must have been controlled, because he championed so-called "progressive road construction". It was better with "poor roads than no roads" at all, which could be improved later on, if necessary.⁸⁴³

Dag Bjørnland's calculations revealed Norwegian road investments and road maintenance for trunk roads and parish roads measured in fixed prices almost doubled from 1919 to 1938, from 72,7 millions 1961 NOK, or about 53,04 millions 1990 PPP USD to 136,4 millions 1961 NOK or approximately 99,52 millions 1990 PPP USD.⁸⁴⁴ The interwar years' emphasis on road construction and maintenance reflected clearly the fast growing number of cars, but road construction and maintenance was also used as relief works during the 1920s and 30s crisis, similarly as in Denmark and Sweden, particularly in the peripheral and rural areas. But the Norwegian executives and legislators were not equally willing as their Danish opposite numbers to invest in modern roads. But the 1926 Motor Vehicle Act's significance should not be underestimated, because of its dedication of the vehicle, rubber and fuel tax revenues to road maintenance.

Norway's most urgent road problems during the interwar years, in addition to the peripheral and rural areas' lack of roads, were found in Greater Oslo, where most cars were located. Oslo's entrance roads and city streets were built for horse and cart, not for trams, buses and mass motoring. One of the first attempts to solve these problems were Aker municipal's head of area development, August Nielsen, and his chief architect Ljungberg, who in 1925 proposed construction of a tunnel below Rådhusgaten to drain the east west thorough traffic from Oslo's city hub. Harald

⁸³⁹ Bjørnland (1989:191-195).

⁸⁴⁰ Bjørnland (1989:197).

⁸⁴¹ Innstilling fra veglovkomiteen av 1951. Utkast til veglov med motiver, Samferdselsdepartementet Oslo 1957:42; Bjørnland (1989:186).

⁸⁴² Bjørnland (1989:195).

⁸⁴³ Hegdalstrand (1988:13).

⁸⁴⁴ Bjørnland (1989:188).

Hals' 1929 *General Plan* furthered many of Nilsen and Ljungberg's ideas.⁸⁴⁵ Road Director Andreas Baalsrud championed commuting to Oslo by buses instead of construction of new tramlines and suburban railroads, and recommended therefore in 1933 construction of modern entrance and remote roads dedicated to cars. But Baalsrud's motoring friendly views did not prevail.⁸⁴⁶ Andreas Baalsrud was thus well informed about one of interwar years' most dominant discussions among the road engineers all across Europe and in USA, namely construction of roads dedicated for roads construction of roads that mixed cars, horses, bicycles and pedestrians.⁸⁴⁷ *Greater Oslo, Aker and Bærum's General Area Development Plan of 1934* were instead based on construction of three so-called combined entrance and remote roads radiating from Oslo's outskirts that mixed hard and soft road users and local and remote traffic, namely southeastwards along the current E6; westwards along the current E18; and finally northeastwards along the current E6. In addition came several new tramlines and suburban railroads to existing and planned suburbs in Oslo's surrounding municipalities Oppegård, Aker and Bærum.⁸⁴⁸ The Oslo area's local politicians recognized only reluctantly the mass motoring's emergence, but were also most likely struggling with tight budget constraints because of unemployment and economic crisis. Nor should one forget those days' leftwing parties that preferred public to individual transports.

One of Road Director Andreas Baalsrud's few bright moments during the interwar years came in 1936 when Stortinget approved the so-called *1937 Trunk Road Plan* that outlined construction of about 7.000 kilometers trunk roads between the regions to facilitate utilization of modern buses and trucks. Andreas Baalsrud had then championed a national trunk road plan since the 1920s.⁸⁴⁹ The Nygaardsvold executive's increased emphasis on road construction was part of the 1935 settlement and class compromise between the Labor and Agrarian Parties. *Norwegian Automobile Owners' Association* (Norges Automobilforbund) proposed already in 1936 expanding the *1937 Trunk Road Plan* from 24 millions NOK, or 52,1 millions 1990 PPP USD to 35 millions NOK or 75,95 millions 1990 PPP USD through State loan financing. Road Director Andreas Baalsrud and Stortinget's Standing Road and Railroad Committee supported these proposed extra road investments during four years, which would be self-financing through increased road traffic and thereby increased vehicle and fuel tax revenues, but the Ministry of Finance refused. Road Director Andreas Baalsrud proposed similarly in 1938 forced construction of the most important trunk roads through State loans. Stortinget's Standing Road and Railroad Committee supported Baalsrud's proposal. Norwegian Automobile Owners' Association proposed similarly once again in 1938 a revised

⁸⁴⁵ Tvedt et. al. (2000:170); Sæland (1993:47).

⁸⁴⁶ Letter to Road Director Baalsrud from the Committee for Development of a General Area Development Plan for Oslo and Aker etc's Work Group, March 25th 1933; Handwritten draft letter "Generalreguleringsplan for Oslo – Aker m.v.", from the Directorate of Public Roads, signature KN, to Komiteen for utarbeidelse av generalreguleringsplan for Oslo – Aker m.v., December 22nd 1933, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

⁸⁴⁷ See for instance Mom (2005:754-763) about the interwar years' international discussions about construction of roads dedicated for cars vs. construction of roads with mixed traffic.

⁸⁴⁸ Map 1:25.000 "Stor-Oslo Oslo – Aker – Bærum. Soneplan". Generalplankomiteen for Stor-Oslo 1934, VDA cassette 363a Reguleringsplan for Stor-Oslo 1942, Aker 1927-1946.

⁸⁴⁹ St. prp. nr. 1 (1947) *Kap. 713. Vegarbeider*:100-101, 105; Thomas Offenbergs Backer, "Vegdirektoratet gjennom 100 år", *Vegen og Vi*, Vol. 5, No. 1, 1965:61; Hegdalstrand (1988:11-13).

35 millions NOK, or 68,9 millions 1990 PPP USD, trunk road plan that emphasized construction and modernization of the most important trunk roads up to Trøndelag, which included Norway's most crowded counties. The Nygaardsvold executive acknowledged this plan, but shelved it because it had already proposed 8,3 millions NOK or 16,34 millions 1990 PPP USD in extra road investments.⁸⁵⁰ The Ministry of Finance was hence clearly skeptical to loan financed forced construction of modern trunk roads during the second half of the 1930s, even if the highly increased activity level after the depression accelerated the shift from railroad to road transports of passengers and goods. But the *1937 Trunk Road Plan* became a turning point. The new trunk roads facilitated the different regions' economic integration, and linked thereby road, trade and industry policies.

The Norwegian public road system measured 37.443 kilometers in 1930. 9.303 kilometers were classified as trunk roads, 6.116 kilometers as county roads and 22.024 kilometers as parish roads. Only 99 kilometers outside the cities were paved, the rest was gravel road. The Norwegian public road system in 1940 measured 42.598 kilometers. 14.695 kilometers were classified as trunk roads, 5.135 kilometers as county roads and 22.768 kilometers as parish roads. 1.572 kilometers outside the cities were paved in 1940.⁸⁵¹ The *1937 Trunk Road Plan* gave thereby results concerning paving, but the trunk road system's length increased most 1930-35, because road construction was then used as relief works during the depression. Parts of the public road system were also reclassified in the 1930s.

The German occupation established a temporary expert governed road policy

The German occupation from April 9th 1940 until May 8th 1945 led to introduction of temporary civil servant and expert rule in many sectors.⁸⁵² The German occupation led also to temporary suspension of the Liberal Party's System for resource allocation, because the parliamentary democracy was replaced by totalitarian rule. This temporary return to a regime with some similarities with the 1814-1884 Civil Servant's rule took place through the senior civil servants' *Administration Council* (Administrasjonsrådet) that governed from April 15th until September 25th 1940, when Adolf Hitler's vice regent in Norway Josef Terboven appointed the so-called commisarior ministers. The commisarior ministers did not constitute a collegium, because each minister was accountable to Reichskommissar Joseph Terboven. The commisarior ministers governed until February 1st 1942, when the Germans installed Vidkun Quisling's so-called national executive through an official ceremony (statsakten) at Akershus Castle.⁸⁵³ Quisling's second regime remained in power until the liberation May 8th 1945.

The National Resistance Movement's self appointed top management in Oslo consisting of among others the Labor Party's Einar Gerhardsen, Oslo's deputy mayor 1938-40 and mayor a short period in 1940, and some industrialists and senior

⁸⁵⁰ St. prp. nr. 1 (1947) Kap. 713. *Vegarbeider*:106; see also Knutsen and Boge (2005:62-65).

⁸⁵¹ *Historisk statistikk 1968*, Statistisk sentralbyrå, Oslo 1969:415 Tabell 205.

⁸⁵² See for instance Skånland (2004:25 ff.) about how politically and expert governed interest rates replaced the market-based system from May 1940.

⁸⁵³ *Om landssvikoppjøret. Innstilling fra et utvalg nedsatt for å skaffe tilveie materiale til en innberetning fra Justisdepartementet til Stortinget. Uvalget oppnevnt 22. desember 1955. Innstilling avgitt 11. januar 1962.* Justis- og politidepartementet, Oslo 1962:9-11, 127-128; Borgen (1999:288-289).

civil servants affiliated with the non-socialist parties, planned already in 1941 postwar Norway in secret meetings. Three of their aims according to the historian Finn Olstad were establishing of a strong executive and expert rule similarly as in Denmark and Sweden, development of a new party system with preferably 2 or maximum 3 parties and last but not least the Nygaardsvold executive's immediate resignation after the liberation.⁸⁵⁴ However, these plans were soon shelved because Einar Gerhardsen and thousands of others opposing the German occupation were arrested and sent to Norwegian and later also German concentration camps.

How did the German occupation and temporary civil servant rule affect the road policy? The Administration Council decided July 1st 1940 that trunk roads outlined in the *1937 Trunk Road Plan*, which were not yet completed, would be fully financed by the State; i.e. without 20 percent county co-financing.⁸⁵⁵ The Administration Council's decision recognized clearly trunk roads as national collective goods, similarly as the *1937 Trunk Road Plan* did. But the Administration Council's technocrats perceived obviously trunk roads somewhat different than the legally elected legislators and executives did prior to the German occupation, and were obviously inspired by the interwar years' road policy development in for instance Denmark, Germany and USA, such as discussed in chapter 2.

How did the German occupation affect the Combined Road Administration and the road planning and road construction? Norway got a new polity during the occupation, a dual government structure, similarly as in more recently occupied countries. The German Reichscommisariat's headquarter in Oslo supervised and overruled in some instances the Norwegian ministries and public administrations. The Reichscommisariat had also regional chapters, so-called Aussenstellen in Kristiansand, Stavanger, Bergen, Trondheim and Narvik. The Reichscommisariat's most important section concerning road policy and road construction was Hauptabteilung Volkswirtschaft, headed by Carlo Otte that supervised the Ministry of Public Works. Hauptabteilung Volkswirtschaft had one Abteilung Verkehr headed by Ober-Reichsbahnrat Windscheid who supervised the Norwegian State Railroads, one Abteilung Technik that in 1942 became Hauptabteilung Technik, headed by Ministerialrat Henne. Oberbaurat and later Hauptbauleiter Hesse headed similarly Hauptabteilung Technik's Organisation Todt Arbeitsgebiet Straßen- und Brückenbauten that supervised the Combined Road Administration's road construction.⁸⁵⁶ Organisation Todt was among others responsible for construction of the German Autobahns after the regime change in 1933, and engaged similarly in road planning and construction in Norway. Organisation Todt supplemented Norwegian construction workers with Russian prisoners of war after the German invasion of the Soviet Union.⁸⁵⁷ April 9th 1940 changed the Norwegian polity fundamentally, because the democratically elected legislators and executives were replaced by a totalitarian regime combined with partly civil servant and expert rule, which in turn was supervised and in some instances overruled by the German occupants' local representatives.

⁸⁵⁴ Olstad (1999:150-157).

⁸⁵⁵ St. prp. nr. 1 (1947) Kap. 713. *Vegarbeider*:100.

⁸⁵⁶ Kolsrud (2004:147-151); Hegdalstrand (1988:29).

⁸⁵⁷ Hegdalstrand (1988:23-24).

Reichskommissar Josef Terboven appointed September 25th 1940 the architect Tormod Hustad, who had been minister of agriculture in Vidkun Quisling's April 9th executive, as commissarian minister of public works.⁸⁵⁸ Norwegian road construction reached its all time high 1940/41 measured in man-hours, but was significantly reduced when the German warfare lost momentum.⁸⁵⁹ About 69.200 Norwegian workers were employed in the construction sector in 1939 prior to the German invasion. The construction sector's employment increased to approximately 120.000 workers in 1940 and reached its all time high in July 1941 with 147.000 workers. The construction sector's number of employees went thereafter down to 137.600 in 1942, 120.500 in 1943, 107.400 in 1944 and finally about 78.700 in January 1945.⁸⁶⁰

The German occupation did not lead to significant improvements of the Norwegian road system, despite popular belief, because the construction activities 1940-45 served first and foremost the occupants' military needs, not the Norwegian population or trade and industry's needs.⁸⁶¹ However, the very expansive economic policy during the occupation removed Norway's almost permanent prewar unemployment and the 1920s and 30s debt crisis.⁸⁶² The railroads' share of the passenger transports increased from 22 percent in 1939 to 35 percent in 1945. But the roads' share of passenger transports went down from 59 percent in 1939 to 32 percent in 1945. The railroads' share of the goods transport increased from 9 percent in 1939 to 28 percent in 1945. But the roads' relative share of the goods transports increased from 6 percent in 1939 to 8 percent in 1945.⁸⁶³ The roads' increased share of goods transport even during the occupation indicated clearly that cars received a more prominent position in the transport system, despite lack of fuel, spare parts and restricted use of cars.

The German occupants and their Norwegian helpers used also the opportunity plan the 'new order' within the German Großwirtschaftsraum. Commissarian minister of interior Viljam Albert Hagelin appointed December 4th 1941 *Greater Oslo's Planning and Beautification Commission* (Stor-Oslos Regulerings- og Skjønnhetsnevnd (S.O.R.S.)), headed by Hagelin's deputy, permanent undersecretary (Innenriksråd) Thorleif Dahl. Engineer Skjalm Bang, head of Aker's municipal road administration and the Public Roads Administration's engineer Anders Tomter were Greater Oslo' Planning and Beautification Commission's road expertise. Anders Tomter was also the commission's secretary, but Skjalm Bang substituted when Tomter volunteered in the German invasion of Soviet until May 1st 1942 through his participation in the Norwegian Legion (Norske Legion), a chapter of Waffen SS.⁸⁶⁴ Greater Oslo' Planning and Beautification Commission's tasks

⁸⁵⁸ Kolsrud (2004:186-189).

⁸⁵⁹ *Melding om vegvesenets virksomhet 1960*, bilag til budsjettproposisjonen 1961-62, Vegdirektoratet, Oslo, September 1961:11, VDA.

⁸⁶⁰ *Om landssvikoppgjøret. Innstilling fra et utvalg nedsatt for å skaffe tilveie materiale til en innberetning fra Justisdepartementet til Stortinget. Uivalget oppnevnt 22. desember 1955. Innstilling avgitt 11. januar 1962*:280-281.

⁸⁶¹ See for instance Hodne and Grytten (1992:160); Furre (2000:113) about the German construction activities.

⁸⁶² Hodne and Grytten (1992:163-165); Furre (2000:114).

⁸⁶³ Cf. DB-DBA-PTW 1926-2002 and DB-DBA-GTW 1926-2002.

⁸⁶⁴ *Forslag til nytt grunnlag for Stor-Oslo byplan. Veg og Jernbaneplan*, N.S. Rikstrykkeri, Moss September 1942:7-8, VDA cassette 363a Reguleringsplan for Stor-Oslo 1942, Aker 1927-1946. See also

were first to revise *Greater Oslo's 1934 General Plan* and second to approve the revised plan.⁸⁶⁵ Greater Oslo's Planning and Beautification Commission's dual role as planners and approvers illustrates another aspect of the regime change after April 9th 1940.

But how did the Directorate of Public Roads and Akershus' Public Roads Administration handle the German occupation and establishing of Greater Oslo's Planning and Beautification Commission? One member of *Aker's Area Planning Council* (Akers Reguleringsråd), most likely Akershus' County Engineer Arne Olai Korsbrekke, sent a private letter to Road Director Andreas Baalsrud in February 1942, enclosed a copy of Greater Oslo's Planning and Beautification Commission's letter to Aker's Area Planning Council of January 31st 1942 that informed about the so-called 'new order' for planning and area development.⁸⁶⁶ Greater Oslo's Planning and Beautification Commission supplemented and replaced namely from then partly the 1924 Building Act, which regulated the urban areas' area planning and road construction. The so-called "new order" was based on the established local autonomy, supplemented with expert coordination to improve the "common utility". The new Ministry of Interior's permanent undersecretary Thorleif Dahl headed Greater Oslo's Planning and Beautification Commission, but he was also Greater Oslo's Planning and Beautification Commission's expert and supreme authority, because all decisions were from then made in accordance with the so-called "fuehrer principle".⁸⁶⁷ These letters – particularly the copy of Greater Oslo's Planning and Beautification Commission's letter to Aker's Area Planning Council – may have been a warning from County Engineer Arne Olai Korsbrekke to Road Director Andreas Baalsrud, and illustrates other aspects of the regime change began April 9th 1940.

What made *Greater Oslo's Road and Railroad Plan of September 1942* (Forslag til nytt grunnlag for Stor-Oslo byplan - Veg- og jernbaneplan) more than a historical parenthesis and curiosity? Skjalm Bang and Anders Tomter introduced here many ideas from the Danish engineering and construction companies' 1936-37 motorway and bridge plans, such as discussed in chapter 2. These ideas had been established as facts on the ground through German motorways and US entrance

Sæland (1993:14-15) for an overview of Aker's municipal road administration's history until Aker's merger with Oslo in 1948.

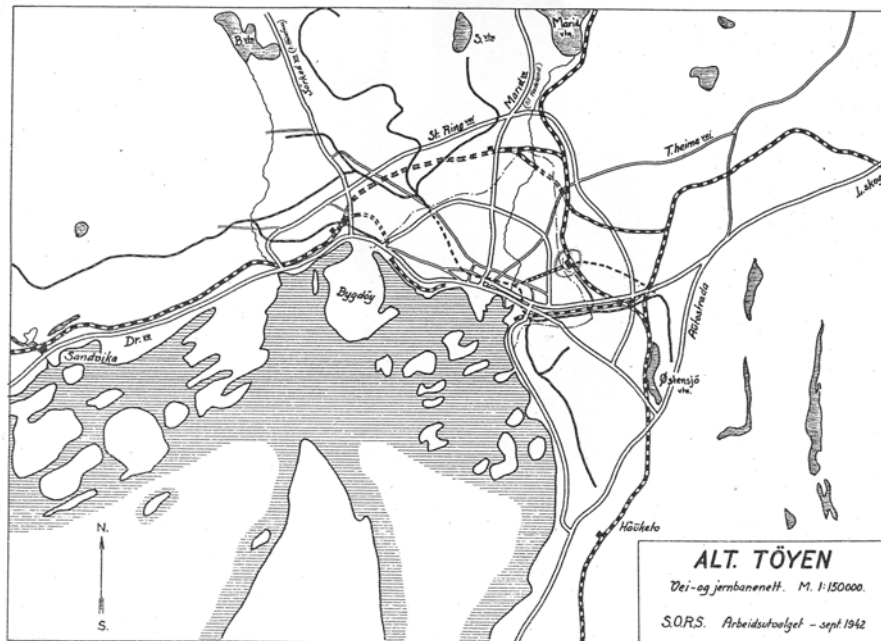
⁸⁶⁵ Copy of letter to Aker's Area Planning Council from Greater Oslo's Planning and Beautification Commission (Stor-Oslos Regulerings- og Skjønnhetsnevnd) January 31st 1942 "Vedr. forholdet mellom Stor-Oslos Regulerings- og Skjønnhetsnevnd og de stedlige reguleringsråd", signed by chairman Thorleif Dahl and interim secretary Skjalm Bang, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

⁸⁶⁶ Private letter dated February 14th 1942 from a member of Aker's Area Planning Council (Reguleringsrådet i Aker) [most likely Arne O. Korsbrekke] to Road Director Baalsrud, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

⁸⁶⁷ Copy of letter to Aker's Area Planning Council from Greater Oslo's Planning and Beautification Commission (Stor-Oslos Regulerings- og Skjønnhetsnevnd) January 31st 1942 "Vedr. forholdet mellom Stor-Oslos Regulerings- og Skjønnhetsnevnd og de stedlige reguleringsråd", signed by chairman Thorleif Dahl and interim secretary Skjalm Bang; enclosed private letter of February 14th 1942 from member of Aker's Area Planning Council to Road Director Baalsrud, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

roads prior to World War Two.⁸⁶⁸ The Reichscommisariat and Organisation Todt planned similarly construction of a Norwegian Autostrada from Halden in south at the Swedish border, via Oslo to the third largest city Trondheim in Sør-Trøndelag County. *Greater Oslo's Road and Railroad Plan of September 1942* was based on transport economic calculations. Skjalm Bang and Anders Tomter launched here ideas that first reemerged in Norway in the late 1950s and early 60s, but never gained similar foothold such as in Denmark and Sweden until the 1980s and late 90s, and hardly even then.

Figure 16: Greater Oslo's Planning and Beautification Commission's proposed trunk road and railroad plan of September 1942



Source: *Forslag til nytt grunnlag for Stor-Oslo byplan. Veg og Jernbaneplan*, N.S. Rikstrykkeri, Moss September 1942: Bilag A10, VDA cassette 363a Reguleringsplan for Stor-Oslo 1942, Aker 1927-1946.

Greater Oslo's Planning and Beautification Commission planned construction of Oslo's three radial entrance roads approved through *Greater Oslo's 1934 General Plan* as 18 meters wide four-lane urban motorways, with physical separation between the directions of traffic, no direct entrances from the adjacent properties and level-free crossings, and with an Autostrada from Halden to Trondheim bypassing Oslo's central areas in the east through Aker municipal. *Greater Oslo's Road and Railroad Plan of September 1942* represented thus a radical departure both from the prevailing Norwegian road regime, based on construction of narrow

⁸⁶⁸ *Forslag til nytt grunnlag for Stor-Oslo byplan. Veg og Jernbaneplan*, N.S. Rikstrykkeri, Moss September 1942:7-8, VDA cassette 363a Reguleringsplan for Stor-Oslo 1942, Aker 1927-1946.

and bendy 19th century style gravel roads, and *Greater Oslo's 1934 General Plan* based on construction of combined entrance roads that mixed soft and hard road users and remote and local traffic. Bang and Tomter suggested also merging the three entrance roads southeast of Oslo's Eastern Railroad Station (Østbanestasjonen) that was planned closed down and reestablished as a new Central Station (Sentralbanegård) at Tøyen northeast of the city hub. Bang and Tomter's main arguments for building the entrance roads as urban motorways were road capacity, efficiency and road safety.⁸⁶⁹ *Greater Oslo's Road and Railroad Plan of September 1942* was thereby a state of the art high-level road plan, similarly as the Danish engineering and construction companies' 1936-36 motorway and bridge plans, but from the wrong persons under the wrong circumstances, and was clearly an attempt of introducing a German road policy in Norway.

Knut Waarum was in 1942 employed as senior engineer in the Directorate of Public Roads, after having served as Finnmark's County Engineer 1938-41 and Nordland's County Engineer 1941-42, and became soon Road Director Andreas Baalsrud's deputy.⁸⁷⁰ Road Director Andreas Baalsrud, who had been struggling with the railroad lobby since he became Road Director in 1919, endorsed partly *Greater Oslo's Road and Railroad Plan of September 1942* in a letter April 21st 1943, where he concluded Greater-Oslo was congested, despite many warnings, among others through his 1932 PM to the Ministry of Public Works. Baalsrud concluded "extraordinary and innovative measures" were necessary to overcome these problems, even if there were some indications of ambiguity and reservations to the plans.⁸⁷¹ It seems that Road Director Andreas Baalsrud here tread water, because Andreas Baalsrud was never a nazi according to his granddaughter Kristin (Kikkik) Baalsrud, but a "democratic conservative". Andreas Baalsrud had ostensibly been instructed by the National Resistance Movement to remain Road Director, despite his age, among others to monitor the Quisling regime's public works through mobilization of labor through the *Labor Services* (Arbeidstjenesten).⁸⁷² But the National Resistance Movement was a fragmented conglomerate prior to its reorganizing in 1944 according to Jens Chr. Hauge, who headed MILORG, the military wing of the National Resistance Movement from 1942 until the liberation.⁸⁷³ Kristin Baalsrud's father and Andreas Baalsrud's son, Terje Baalsrud, was a prominent member of the rightwing nationalist movement *Fedrelandslaget* prior to World War Two.⁸⁷⁴ Many Norwegians on the political rightwing sympathized with Germany during the interwar years, but many changed sympathies April 9th 1940.

⁸⁶⁹ *Forslag til nytt grunnlag for Stor-Oslo byplan. Veg og Jernbaneplan*, N.S. Rikstrykkeri, Moss September 1942:8, 11, 49-51, 94-102 214-228; Map 1:25.000 "Stor-Oslo Oslo – Aker – Bærum. Soneplan". Generalplankomiteen for Stor-Oslo 1934, both documents from VDA cassette 363a Reguleringsplan for Stor-Oslo 1942, Aker 1927-1946.

⁸⁷⁰ Hegdalstrand (1988:5, 31); Paus (1956:28).

⁸⁷¹ Copy of the Directorate of Public Road's letter to the Ministry of Public Work' Road and Railroad Section, April 21st 1943, initials AR/MB signed by Andreas Baalsrud and Axel Rønning, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

⁸⁷² Baalsrud (2005 [Telephone interview]).

⁸⁷³ Hauge (1985:14 ff.).

⁸⁷⁴ See for instance Kvanmo and Rygnestad (1993:59-60, 68); Figueiredo (2002:191-194, 216, 360); Emberland and Roughtvedt (2004:200-202) concerning *Fedrelandslaget* and Terje Baalsrud.

Knut Waarum was in 1943 chosen by the Norwegian exile executive in London, and evacuated to Great Britain via an invitation through the Directorate of Public Road's engineer Johannes Holt, who had been employed at the Bridge Department since 1939. Johannes Holt was one of the Directorate of Public Roads' liaisons to the Reichscommissariat and Organisation Todt, because of his mastering of the German language, but he was also secret agent for the exile executive's intelligence network XU.⁸⁷⁵ Knut Waarum went to Britain, and served 1943-45 as member of the Technical Advisory Committee Inland Transports, where he planned postwar Norway's road administration.⁸⁷⁶ Road Director Andreas Baalsrud was thus partly on his own after his deputy went to London. Many clandestine activities took place at the Directorate of Public Roads' premises during the occupation, because the directorate's offices and archives were poorly guarded, according to Johannes Holt.⁸⁷⁷ The poor guarding of the Directorate of Public Roads' offices and archives, which were highly attractive targets for allied intelligence services, may indicate the Germans or their Norwegian helpers hardly questioned the Directorate of Public Roads or Road Director Andreas Baalsrud's loyalty during the occupation.

The Quisling regime renamed in February 1944 the Directorate of Public Roads to *Directorate General of Public Roads Administration* (Generaldirektoratet for vegvesen), after the Ministry of Public Works January 28th had been renamed Ministry of Traffic. Road Director Andreas Baalsrud became *Director General of Public Roads Administration* and was authorized to govern the Directorate General of Public Roads Administration according to the fuhrer principle.⁸⁷⁸ Andreas Baalsrud had earlier proposed altering the County Engineers' title to *Chief County Road Officer* (veisjefer) in his 1939 budget proposal, but Stortinget postponed the idea. Baalsrud forwarded it once again, and the Ministry of Public Works approved Baalsrud's proposal. The County Engineers became Chief County Road Officers (vegsjefer) January 1st 1944.⁸⁷⁹ The Quisling regime reorganized hence the Ministry of Public Works and the Combined Road Administration according to the German role model, with a Ministry of Traffic and an autonomous Directorate General of Public Roads Administration.

The Ministry of Traffic processed *Greater Oslo's Road and Railroad Plan of September 1942* with comments during 1944.⁸⁸⁰ Minister President Vidkun Quisling approved the plan October 21st 1944. The Ministry of Traffic ordered implementation in February 1945.⁸⁸¹ Newspapers permitted by the Quisling regime

⁸⁷⁵ Hegdalstrand (1988:26, 29-33); Sæter and Sæter (1995:13 ff., 57, 69-70).

⁸⁷⁶ Hegdalstrand (1988:30-31); Paus (1956:28); Kolsrud (2004:111, 367, 417).

⁸⁷⁷ Hegdalstrand (1988:29-31); Sæter and Sæter (1995:57, 69-70).

⁸⁷⁸ Kolsrud (2004:189-191).

⁸⁷⁹ Østgård (2002:10).

⁸⁸⁰ Letter from Stor-Oslo Regulerings- og Skjønnhetsnevnd Gd. f. w. 021014 44, April 18th 1944 to the Ministry of Traffic, signed by chairman Thorleif Dahl og secretary Anders Tomter, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

⁸⁸¹ Letter from Directorate General of Public Road Administration to Akershus' Chief County Road Officer, "Forslag til nytt grunnlag for Stor-Oslo byplan", 5742/44 Ak P/RL, January 31st 1945, enclosed copy of letter from Ministry of Traffic, "Forslag til nytt grunnlag for Stor-Oslo byplan", 1422/44 J AEH/RMS Gd. f. vv. 05742/44 Ak, November 18th 1944, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

promoted also construction of modern roads during the fall 1944 and winter 1945.⁸⁸² But *Greater Oslo's Road and Railroad Plan of September 1942* was shelved immediately after the liberation May 8th 1945. The road sector differed thus fundamentally from the energy sector, where the Germans and the Quisling regime's new hydroelectric policy gave the Norwegian State a prominent position in development of large-scale heavy industries after the liberation.⁸⁸³

Norway had 43.980 kilometers public roads in 1945. 15.866 kilometers were defined as trunk roads, 5.243 kilometers as county roads and 22.871 kilometers as parish roads. 1.555 kilometers outside the cities were paved.⁸⁸⁴ The Germans and the Quisling regime built thereby about 1.300 kilometers new roads. Most of these were trunk roads, but very few kilometers were paved, because of the oil product shortage. Concrete were hardly used for road paving during the occupation, because most concrete went to construction of German fortifications and hydroelectric power plants.

Conclusions

What about this chapter's findings about the study's four working hypotheses concerning the Norwegian case prior to 1945? First, this study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly weakened from the 1890s until 1928, but thereafter strengthened until 1945. The Combined Road Administration, 1912 Road Act and County Road Boards undermined clearly the Directorate of Public Roads and Ministry of Public Works' roles as coordinating bodies for road policy and road construction, and established a system with decentralized and local control of the road policy combined with State financing, which in turn created common pool problems because of poor correspondence between the constituencies' contributions to the community and allocation of publicly financed goods such as trunk roads. The Liberal Party executive's transferring of responsibility for maintenance of trunk roads from the counties' Public Roads Administration to the Directorate of Public Roads from 1928 strengthened clearly the Directorate of Public Road's role as road policy coordinating body. This reform at the mass motoring's initial breakthrough in Norway recognized clearly trunk roads as national collective goods. The same did Stortinget's approval of the *1937 Trunk Road Plan* that linked road, trade and industry policies. The German occupation established temporary expert ruled road policy and road construction and increased the Directorate of Public Roads' professional autonomy. The Quisling regime and Organisation Todt planned similarly construction of motorways in Oslo and an Autostrada from Halden to Trondheim via Oslo. These plans introduced ideas about modern trunk roads and motorways such as outlined in Denmark prior to World War Two.

⁸⁸² "Revolusjonerende generalreguleringsplan for Stor-Oslo", *Aftenposten*, nr. 543, November 22nd 1944; "Hurtigvegene" skal lette lokaltrafikken i framtiden. Ubegrenset fart og envegskjøring", *Aftenposten*, nr. 547, [most likely] November 27th 1944; "Nytt grunnlag for Stor-Oslo byplan. Autostrada Halden – Oslo – Trondheim. Flere hurtigveger inn til Oslo", *Fritt Folk*, January 8th 1945.

⁸⁸³ See for instance Thue (1994:348-385) concerning the energy sector's position during and after World War Two.

⁸⁸⁴ *Historisk statistikk 1968*, Statistisk sentralbyrå, Oslo 1969:415 Tabell 205.

Second, the working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was clearly strengthened by the Norwegian case prior to 1945. The farmers' struggles with the civil servants in Stortinget established the peripheral and rural areas' distributional coalition prior to establishment of formal political parties, and made road policy and road construction an area for resource struggles between the constituencies. Establishment of the Combined Road Administration in 1893 and the 1912 Road Act gave similarly the constituencies' strong incentives for construction of roads with local collective or even private good characteristics rather than roads with national collective good characteristics, because the State paid most of the costs.

Third, the working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was also strengthened by the Norwegian case prior to 1945. Introduction of parliamentary rule from 1884 and establishment of formal political parties instituted politicized resource allocation to collective goods and public utilities. The political parties' rivalry was also clearly evident in the 1920s and 30s struggles between road and railroad champions. The Labor and Liberal Parties had many railroad champions, but the Labor Party revised its road policy somewhat after the 1935 agreement with the Agrarian Party that facilitated Stortinget's approval of the *1937 Trunk Road Plan*. The German occupation 1940-45 established a temporary totalitarian regime that banned all political parties except the Norwegian Nazi Party, and established a system where the Germans and the Combined Road Administration governed road policy and road construction according to the professionals' norms and standards.

Finally, the working hypothesis about road policy and road construction governed by path dependence was also strengthened by the Norwegian case prior to 1945. First, the 1824 Road Act instituted a localist and communalist pattern, where road policy and road construction was governed bottom-up and not top-down such as in Denmark prior the 1867 Road Act came into power. Second, the 1851 Road Act instituted Stortinget's individual approval of every single road that received partial State financing, an arrangement that gave the legislators increasing returns, even if road policy in the middle of the 19th century was governed according to the so-called Norwegian System where Stortinget's allocation of infrastructure investments was contingent local co-financing through local taxes. Third, introduction of parliamentary rule and political parties from 1884, State taxes from 1892 and establishment of the Combined Road Administration through the 1893 Road Act Amendment paved the way for the Liberal Party's System that instituted politicized resource allocation and redistribution to infrastructures, and governed Stortinget's resource allocation to roads most of the 20th century. The 1912 Road Act blocked allocation of State road appropriations to the cities and gave also the peripheral and rural constituencies increasing returns. Stortinget's 1929 key froze the counties' annual share of the State road appropriation until 1964, no matter the actual need for road investments. The Liberal Party's System was clearly an example of path dependence. Fourth, the equilibrium established through the Combined Road Administration was almost punctuated by the executive's transferring of responsibility for maintenance of trunk roads from the counties' Public Roads Administration to the Directorate of Public Roads from 1928 and

Stortinget's approval of the *1937 Trunk Road Plan*. Finally, the German occupation 1940-45 established a new but highly unstable equilibrium where the Combined Road Administration's professionals temporarily governed road policy and road construction.

1945-59 – Struggles within the governing Labor Party after derailing the interwar years' development path that linked road, trade and industry policies

The interwar years' development path that linked road, trade and industry policies was derailed during the initial reconstruction. New studies of primary sources revealed the majority postwar Labor Party executives fought several wars at once with regard to road policy and road construction; both internally against the Labor Party traditionalists, railroad lobby and anti-motorists, and externally against the non-socialist opposition parties that opposed the car rationing imposed in 1947 and demanded increased road investments. These findings differ from former studies that partly overlooked the Labor Party's intraparty conflicts concerning road and motoring policies.

The new Labor Party State – or return to the former 1814-1884 Civil Servant State?

A regime change took place after the liberation May 8th 1945. The National Resistance Movement's (Hjemmefrontens) caretaker executive governed until May 31st, when the legally elected Prime Minister Johan Nygaardsvold returned from his exile in London.⁸⁸⁵ The political parties' *Common Manifesto* (Fellesprogrammet) presented by King Haakon at his return from exile June 7th liquidated the so-called Oslo group's dream about a new political system discussed in secret meetings immediately after the occupation.⁸⁸⁶ A national coalition executive headed by the Labor Party's new strong man, Oslo's mayor Einar Gerhardsen, replaced Nygaardsvold's Labor Party executive June 25th.^{887 888} Many considered then Johan Nygaardsvold a political debit, because his executive's disarmament policy was held partly responsible for the German invasion. The legal postwar executives invalidated or reversed the Quisling executive's illegal decisions, but reintroduced later some of the Quisling executive's organizational and administrative means.

The Germans financed the occupation by printing money.⁸⁸⁹ The transition from wartime to peacetime economy posed several challenges. First, it was risk for

⁸⁸⁵ Borgen (1999:267, 270-271).

⁸⁸⁶ "Arbeid for alle. De politiske partienes felles program". The King's speech at his arrival June 7th 1945, in *Vi vil...! Norske partiprogrammer 1884-2001*.

⁸⁸⁷ Borgen (1999:298-299); Solumsmoen and Larssen (1967:10, 20 ff.).

⁸⁸⁸ Einar Gerhardsen was arrested by GESTAPO September 11th 1941 and sent to Sachsenhausen in Germany April 10th 1942 together with 53 other Norwegians. Einar Gerhardsen remained in Sachsenhausen until August 10th 1944, when he was sent back to the Norwegian concentration camp Grini. More than 13.300 Norwegians had been prisoned at Grini during Gerhardsen's stay in Sachsenhausen. Gerhardsen were held at Grini until the liberation (Nyhamar 1982:352-373).

⁸⁸⁹ Aukrust and Bjerve (1945); Erik Brofoss, *Norway's economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:7-9, AAB-EB, cassette Da 3.

strong inflation because of excess liquidity. Second, Finnmark and Nord-Troms had to be rebuilt, because the Germans burned down almost every building when they withdrew from the Russians. Third, there was acute shortage of housing, particularly in Oslo and other major cities. Fourth, the labor force, which had been employed in the wartime production and partly also in the Norwegian merchant marine, had to be employed. Fifth, machines, tools and transport and communication infrastructures had to be maintained and rebuilt, due to lack of renewal and maintenance during the occupation. Finally, there was risk for shortages on consumer goods during a transition period.⁸⁹⁰

The Labor Party won 76 of Stortinget's 150 seats in the 1945 election, and maintained its majority even after the 1949, 1953 and 1957 elections.⁸⁹¹ Einar Gerhardsen established the Labor Party's first majority executive November 5th 1945. Majority Labor Party executives governed Norway until after the 1961 election. The Labor Party's internal power relations therefore determined many political issues. The executive's governing apparatus during the initial reconstruction was based on a trinity, the "corporative pyramid", direct price and quantity regulations and National budgets.⁸⁹² The corporative pyramid consisted of the executive's *Economic Coordination Council* (Det økonomiske samordningsråd) established in May 1945, *Business Sector Councils* (Bransjeråd), approved by Stortinget in June 1947 against the non-socialist parties' votes, and *Production Committees* (Produksjonsutvalg) in each firm, agreed between the trade unions and the employers organization in December 1945. The corporative pyramid came in addition to the elected political institutions, but ceased in practice to exist in the early 1950s, because the 1953 Price Act removed the Economic Coordination Council and partly also the Business Sector Councils' legal basis.⁸⁹³

Erik Brofoss, minister of finance in Einar Gerhardsen's first Labor Party executive who designed the particular Norwegian postwar economic policy was a lawyer with supplementary exam in State Economy from University of Oslo in 1938 that had served in the exile executive's Ministry of Supply in London 1942-45.⁸⁹⁴ Erik Brofoss' economic policy was an amalgam of ideas from John Maynard Keynes and Professor Ragnar Frisch from University of Oslo, who headed the so-called Oslo School of economics. Keynes argued for State interventions to stabilize the macro economy. Frisch argued for micro economic State activism, and considered the real economy opposed to the so-called financial fiction economy.⁸⁹⁵ Erik Brofoss and his advisers saw themselves as Norway Inc.'s management team.⁸⁹⁶ Brofoss' aim was policy based on "rational considerations"; i.e. expert

⁸⁹⁰ Knutsen (2001b:8-10); Hodne (1975:446-447, 449); Hersoug and Leonhardsen (1979:23-31); Lie (1995:13-14); Bergh (1981:19-20).

⁸⁹¹ Valen and Urwin (1985:93 Appendix 1, Appendix 2); Nordby (1985a:131-141, 147-157, 162-171, 179-188).

⁸⁹² Hodne (1975:451-454).

⁸⁹³ Erik Brofoss, *Norway's economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:63-65, AAB-EB, cassette Da 3. See also Bergh (1981:31, 39-41, 65-68); Grønlie (1981:117, 118-120); Hodne and Grytten (1992:185); Erichsen (1999:22-23).

⁸⁹⁴ Lie (1995:44-46, 77-94); Nordby (1985b:427-428); Erichsen (1999:10); Bergh (1987:244-249).

⁸⁹⁵ Lie (1995:15-16, 64-77); Bergh (1981:21-24).

⁸⁹⁶ Lie (1995:63-64).

rule.⁸⁹⁷ Brofoss made the Ministry of Finance a super ministry or executive within the executive, and gave Ragnar Frisch' followers – the economists (sosialøkonomene) graduated from University of Oslo – prominent positions, and instituted positivism and 'social-economism' as the governing beliefs. The economists and their social-economism diffused gradually to other ministries and agencies as the economists partly displaced lawyers as leading civil servants.⁸⁹⁸ The Labor Party executive's economic policy furthered partly the temporary civil servants' expert rule 1940-45. The result was soon close ties between leading civil servants and the Labor Party. But there were some fundamental differences: The Swedish-Norwegian King appointed the 1814-1884 civil servants. The temporary 1940-45 civil servant rule was totalitarian and installed by the German occupants. The postwar Labor Party executives were all popularly elected through democratic elections.

Einar Gerhardsen's first Labor Party executive's reconstruction policy was based on "raising the national income above the 1939 level", "spending relatively less of the national income on consumption and more on investment" and by "surplus imports from abroad financed out of reserves of foreign exchange and by foreign credits". This policy was achieved through "deliberate austerity maintaining a very strict rationing system for all main consumer goods".⁸⁹⁹ Erik Brofoss' economic policy worked until 1947 when the dollar reserves earned by Norway's merchant marine during World War Two were spent. Norway experienced then a currency crisis similarly as most other West European countries, among others because the anomalous drought reduced the agricultural crops and stocks of cattle. Norway received Marshall Aid from April 1948 until June 30th 1953, but with strings attached. Norway joined OEEC in 1948 and the European Payment Union (EPU) in 1950. The NOK was devaluated about 30 percent to the USD in 1949. But the executive's stabilization and subsidy policy had to be abandoned in 1950, when almost 1/3 of the State's budget went to subsidies, despite the National Federation of Labor's opposition against reduced subsidies.⁹⁰⁰ Norway joined NATO in 1949 after internal struggles between the Labor Party modernists and Atlantists and traditionalists and neutralists.⁹⁰¹

The 1947 currency crisis and entailing State economic problems led to Erik Brofoss' takeover of the import and export regulations from minister of supplies Oscar Torp, and to establishment of the new *Ministry of Trade* (Handelsdepartementet) December 6th 1947, headed by Erik Brofoss. Olav Meisdalshagen, one of the Labor Party's leaders of the peripheral and rural areas'

⁸⁹⁷ Bergh (1993:35).

⁸⁹⁸ Erichsen (1999:36-37); Lie (1995:63-77); Larsen (2005 [Interview]).

⁸⁹⁹ Erik Brofoss, *Norway's economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:10-11, AAB-EB, cassette Da 3.

⁹⁰⁰ Erik Brofoss, *Norway's economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:32-35, AAB-EB, cassette Da 3; Erichsen (1999:12-23); Bergh (1981:29, 32-33, 35-37, 59; 1987:254-258); Nordahl (1973: 25-27, 107-108); Hodne and Grytten (1992:179-180); Olstad (1999:217-218). See also Dillard (1987:533-539) for an overview of the development of a plan economy in many European countries after World War Two, the European balance of payment crisis and the Marshall Aid.

⁹⁰¹ Nordahl (1973:106-110, 112-113); Lie (1985:149-427); Ørvik (1977:26-27, 197-201); Bergh (1987:40-44, 259-286); Olstad (1999:219-249).

distributional coalition and a staunch neutralist, became minister of finance. The Ministry of Finance was reduced to a tax and budget ministry during Meisdalshagen's tenure, because the currency accounting went to the new Ministry of Trade and Norges Bank.⁹⁰² The OEEC membership led to gradual dismantling of the command economy in most sectors from November 1949, because of the free listing system. About 50 percent of the private imports in 1949/50 were exempt from direct price and quantity regulations that gradually were substituted by indirect regulations.⁹⁰³ Erik Brofoss served as minister of trade until 1954, when he became governor (sentralbanksjef) of Norges Bank, a position he held until 1970. Erik Brofoss moved then "from the stage to the string attic".⁹⁰⁴ But few knew better than Erik Brofoss the rules of the game had changed fundamentally 1950-54.

The economic historian Sverre Knutsen denoted the Labor Party's postwar economic policy as "Strategic Capitalism" or neo-mercantilism, because of politically governed channeling of the investments to hydroelectric power plants and heavy metallurgical and electrochemical industries.⁹⁰⁵ ⁹⁰⁶ The Ministry of Finance upheld the politically governed interest rates imposed during the German occupation, and the "doctrine about low cost loans" created loan queues that facilitated politically governed credit rationing.⁹⁰⁷ The low interest policy was not considered tenable in Sweden, such as previously discussed in chapter 3, but the Labor Party executive established a new corporative body in 1951, the *Cooperation Council* (Samarbeidsnemda) that allocated credits to politically desirable projects through voluntary agreements between the executive and the finance institutions' business sector organizations. The executive's aim, according to Erik Brofoss, was to "check borrowing from private banks", to reduce the "inflationary pressure". Erik Brofoss headed the Cooperation Council 1954-65 and the *Currency Council* (Valutarådet) 1954-70.⁹⁰⁸ The Labor Party executive's aim was export led growth, through utilization of Norway's comparative advantages based on cheap electrical power and relatively cheap labor, and social leveling and maintenance of the peripheral areas' settlement. This policy based on comparative advantages was clearly in accordance with E.C.A., the Marshall Aid administration's preferences.⁹⁰⁹ However, the non-socialist parties became gradually more critical to the Labor Party's economic and monetary policy, particularly after the initial reconstruction

⁹⁰² Erichsen (1999:14); Bergh (1993:44-45); Lie (1995:182-183); Olstad (1999:218-219).

⁹⁰³ Knutsen (2001a: 29-32); Knutsen and Ecklund (2000:195-199); Bergh (1981:63, 68, 71-72, 76, 79); Knutsen and Boge (2005:56-57).

⁹⁰⁴ Bergh (1987:249). See for instance Nordby (1985b:427-428) for a brief overview of Erik Brofoss' biography.

⁹⁰⁵ Knutsen (1995:45-54). See also Erichsen (1999: 44); Lie (1995:63-77, 94, 115-120, 149-153, 307-310, 328-329); Furre (2000:155).

⁹⁰⁶ The economic historian Francis Sejersted (1991b:193 ff.) denoted the same phenomenon "Corporative Capitalism". The sociologist Lars Mjøset (1986:121) denoted it "Credit Socialism", but that missed the mark, because many investments took place in private enterprises.

⁹⁰⁷ See for instance Skånland (2004:25-78) for a discussion about the low interest policy and its consequences.

⁹⁰⁸ Erik Brofoss, *Norway's economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:38-39, AAB-EB, cassette Da 3. See also Knutsen (1995:32-40; 2001:31); Knutsen and Ecklund (2000:195-196); Bergh (1981:63).

⁹⁰⁹ Knutsen and Boge (2005:57).

had been accomplished about 1948/49.⁹¹⁰ The non-socialist opposition parties advocated a far more liberal and localistic economic policy, hereunder development of a diversified and dispersed trade and industry, based on traditional Norwegian businesses, such as fisheries, agriculture, lumber, wood processing, manufacturing, crafts, services and tourism.

The Strategic Capitalism derailed effectively the development path established during the interwar years and under the German occupation based on home market industries for production of consumer goods, and strengthened what is here denoted the *power industrial complex* and enhanced an alternative development path based on the export enclaves' energy intensive industries. The export enclaves were often located in peripheral and rural areas.⁹¹¹ The power industrial complex consisted largely of industrialists, trade union bosses, legislators and members of county and municipal councils dependent of the export enclaves. Traditional Norwegian trade and industries and the emerging home market industries were in practice crowded out by the heavy industries.

Einar Gerhardsen resigned as Prime Minister November 19th 1951, officially because he was tired, but most likely because of intraparty struggles about security political matters according to the historian Trond Bergh and the political scientist Nils Ørvik who also was member of the Labor Party, and an economic policy no longer tenable according to the economic historian Sverre Knutsen and the historian Finn Olstad, because Norway's membership in OEEC was not compatible with direct price and quantity regulations and Einar Gerhardsen's preferred corporative system. Einar Gerhardsen appointed Oscar Torp as his successor. Trygve Bratteli, the Labor Party's deputy leader since 1945 succeeded Olav Meisdalshagen as minister of finance.⁹¹² The Ministry of Finance strengthened its position significantly from 1952, through establishment of the *Economy Department* (Økonomiavdelingen), staffed by the Ministry of Trade's economists and planners. Lawyers staffed the Ministry of Finance's other sections when Trygve Bratteli succeeded Olav Meisdalshagen as minister of finance.⁹¹³ The new Economy Department's economists were crucial for the transition from direct price and quantity to indirect regulations.⁹¹⁴ But Einar Gerhardsen and the Labor Party executive's postwar economic policy was not socialism, according to the Ministry of Finance's economist Bjørn Larsen, despite Einar Gerhardsen's often radical rhetoric, but rather the Liberal Party's prewar alternative to socialism, "a planned economy", such as outlined by Wilhelm Thagaard, the very influential head of Norway's Price and Trust Control 1921-60.⁹¹⁵ Bjørn Larsen, who had first hand experiences both

⁹¹⁰ See for instance Petersen (1954); Rovde (1981:427 ff., 449-454); Sejersted (1984:61-84).

⁹¹¹ Strategic Capitalism and political channeling of credits to the export enclaves rather than to the home market industries and tourism made a difference. The heavy industries' exports tripled 1955-70; the home market industries grew only about 50 percent during the same period. The Strategic Capitalism gave also the State a more prominent position as industrial actor, because the State's share of the industry's owner capital increased from 0,4 percent 1945 to 15 percent in 1963 (Bergh et al. 1983:178-181. See also Sejersted 1991b:184-191).

⁹¹² Bergh (1987:40-44, 341-348); Ørvik (1989:68-73); Knutsen (1995:32 ff.); Olstad (1999:250-273, 278-282); Erichsen (1999:29).

⁹¹³ Erichsen (1999:29-35); Bergh (1993:45); Lie (1995:181-202).

⁹¹⁴ Kleppe (2003:112-113).

⁹¹⁵ Bjørn Larsen graduated from University of Oslo in 1947, worked as Professor Ragnar Frisch' research assistant 1947-48 and thereafter in Wilhelm Thagaard's Directorate of Price and Trust Control 1948-52.

with Ragnar Frisch and Wilhelm Thagaard, recognized their ideas immediately in 1952 when he became a part of the Ministry of Finance’s middleware of politically interested civil servants.

Einar Gerhardsen regained his position as Prime Minister January 22nd 1955 through a “Palace revolution” and imposed the so-called February measures to prevent overheating of the economy.⁹¹⁶ Oscar Torp’s executive had then changed the economic policy from direct to largely indirect regulations. Einar Gerhardsen’s third executive was a result of increasing tensions between Oscar Torp’s executive and the Labor Party’s faction in Stortinget headed by Einar Gerhardsen, according to the National Federation of Labor’s leader Konrad Nordahl who also was one of the Labor Party’s rulers. The historian Finn Olstad claimed Prime Minister Oscar Torp and his minister of finance Trygve Bratteli advocated more market and less regulation than preferred by Einar Gerhardsen and his followers. Bergen and Hordaland’s County Governor Mons Lid became new minister of finance, but resigned in December 1956 and was succeeded by Trygve Bratteli.⁹¹⁷ Growing inflation was one of the third Gerhardsen executive’s “headaches”, according to the historian Trond Bergh.⁹¹⁸ But the third Gerhardsen executive upheld the low interest policy that most likely aggravated the inflation problems. Abandoning the low interest policy was not an issue, because that would have undermined both the Strategic Capitalism and the regional policy, two of the jewels in the Labor Party’s crown.

The historian Jens Arup Seip denoted the period 1945-61 as the “Monoparty State”, but this period can also be understood as return to the Civil Servant State, after its suspension 1884-1940.⁹¹⁹ ⁹²⁰ Stortinget had been suspended between June 1940 and June 1945. Some claimed Stortinget partly became the executive’s rubber stamp 1945-61.⁹²¹ However, the forthcoming discussions about road policy and road construction nuance and modify these claims, because the traditionalists and the peripheral and rural areas’ distributional coalition strengthened their positions during the German occupation, due to often more pronounced resistance in rural and peripheral than in central and urban areas. Both the Liberal Party’s System for resource allocation and the peripheral and rural areas’ distributional coalition were

Bjørn Larsen was employed by the Ministry of Finance’s new Economy Section in 1952, headed by deputy undersecretary Eivind Erichsen (Larsen (2005 [Interview]). Hersoug and Leonhardsen (1979:51-53) questioned the idea about a planned Norwegian economy after Norway joined OEEC.

⁹¹⁶ Olstad (1999:294 ff.). See also Erik Brofoss, *Norway’s economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:31, 51-55 and Table XXI, AAB-EB, cassette Da 3 and Erichsen (1999:45-47) about the contractive February measures.

⁹¹⁷ Larsen (2005 [Interview]); Nordahl (1973:101-106); Bergh (1987:350-357); Olstad (1999:291-303).

⁹¹⁸ Bergh (1987:356 ff.). See also Erichsen (1999:54-56) concerning the growing inflation.

⁹¹⁹ Seip (1963:21, 24).

⁹²⁰ Even the sociologist Lars Mjøset (1986:119) and others claimed postwar Norway became more like a new “Civil Servant State” rather than a monoparty state after World War Two.

⁹²¹ See for instance Seip (1963:2 ff.); Greve (1964:398-404).

hardy perennials that rose again after their 1940-45 suspension, and accommodated soon to the new *Labor Party State*.

The Norwegian election system underwent fundamental changes prior to the 1953 election. The 1859 Farmer's Paragraph was formally abolished in 1952 after a delicate and implicit compromise between the Labor and Conservative Parties, despite the Agrarian Party's protests. Even d'Hondt's method for seat allocation was replaced with a modified St. Laguë's method favoring smaller parties.⁹²² The 1953 election system made the counties common constituencies for urban and rural areas. This institutional shift gave the rural areas control of many political parties' nominations to the parliamentary elections, because most counties had far more rural than urban municipals.

The 1953 election system did not establish the principle one person – one vote, such as Denmark's 1953 election system did, but upheld the peripheral and rural areas' malapportionment and furthered the established principle that distinguished between A and B voters similarly as in many Scandinavian joint stock companies. The revised geographical seat allocation gave the coastal counties from Rogaland in southwest to Finnmark in north 73 of Stortinget's 150 seats until the 1973 election.⁹²³ These counties have always been the peripheral and rural areas' distributional coalition's heartland, and needed only 3 additional votes to establish an MWC and thus control of the annual State budgets and their geographical allocations. The peripheral counties held similarly almost 2/3 of Stortinget's seats. The coastal counties from Rogaland to Finnmark held similarly more than 1/3 of Stortinget's seats that gave them negative control in case of constitutional amendments. The same was largely the case for the traditionalists. The institutional configuration 1945-59 established hence a political economy favoring the traditionalists and the peripheral and rural areas' distributional coalition. The National Federation of Labor's leader Konrad Nordahl claimed the Farmer's Paragraph that "protected narrow parish interests, fell like a ripe fruit".⁹²⁴ But Nordahl was wrong. The Farmer's Paragraph was upheld substantially, despite formal abolition prior to the 1953 election.

Stortinget's *Standing Committee on Transport and Communications* (Samferdselskomiteen) was established after the 1949 election as a merger of Stortinget's Standing Road and Railroad Committee and the Standing Mail, Telegraph and Coastal Navigation Committee.⁹²⁵ The peripheral constituencies and the socialist and middle parties' representatives dominated Stortinget's Standing Road and Railroad Committee 1946-49, and similarly the new Standing Committee on Transport and Communications 1950-53, 1954-57 and 1958-61 both numerically and with regard to formal positions.⁹²⁶ The committee's members' constituencies and background made road policy and road construction 1945-59 to the peripheral and rural areas' distributional coalition and the traditionalists' turf.

⁹²² Lyng (1972:240-260); Bergh (1987:32-36); Greve (1964:14, 18); Vatnaland (1980:87-89); Grønn-Hagen (1980:106); Heidar and Berntzen (1995:51); NOU 2001:3 *Velgere, valgordning, valgte*:Chapter 3.3.

⁹²³ See the Data Appendix' Table 4.5 and 4.6.

⁹²⁴ Nordahl (1973:100).

⁹²⁵ Nordby (1985a:144-145, 160); Greve (1964:76-77).

⁹²⁶ See the Data Appendix' Table 4.10-4.13.

How did Norway perform economically 1945-59? There is a stubborn myth that Norway was poor and backwards during the 1950s. The initial reconstruction was completed 1948/49, as discussed previously in chapter 1.⁹²⁷ Norway's GDP per capita measured in 1990 international Geary-Khamis dollars, was 4.029 dollars in 1945, 5.463 in 1950 and 6.871 in 1959. The average for the 12 West European countries was 4.154 dollars in 1945, 5.018 in 1950 and 7.184 in 1959. Norway had thus caught up economically in 1950, because of strong economic growth 1945-50, particularly within the domestic consumer good industries, but lagged somewhat behind in 1959, because of weaker economic growth 1950-59 than the West-European average, despite exceptionally high investments. Norway had West Europe's eighth highest GDP per capita in 1945, sixth highest in 1950 and eight highest in 1959.⁹²⁸ Norway's relatively poor economic performance 1950-59 may therefore be a direct result of the Labor Party executives' Strategic Capitalism and regional policy that allocated significant resources to projects with low economic return on the investments.

Derailing the interwar years' road and motoring policies

The Quisling executive's Ministry of Traffic was largely upheld after the liberation, but renamed Ministry of Public Works. The Directorate General of Transports was renamed *Directorate of Transports* (Transportdirektoratet) and transferred to the *Ministry of Supplies and Reconstruction* (Forsynings- og gjenreisningsdepartementet). The Directorate of Transports was merged with the Ministry of Public Works February 22nd 1946. This reform established the current *Ministry of Transport and Communications* (Samferdselsdepartementet).⁹²⁹ The Ministry of Traffic was hence one of the Quisling executive's organizational arrangements that persisted after the liberation but under a different name.

The Directorate General of Public Roads Administration was renamed Directorate of Public Roads after the liberation. The Director General of Public Roads Administration became once again Road Director. The counties' Chief County Road Officers became similarly County Engineers. The 73 years old Road Director Andreas Baalsrud, who graduated as chartered engineer from Zurich in 1894, retired in 1945, and was succeeded by the 68 years old Arne Olai Korsbrekke, who graduated as chartered engineer from Dresden in 1906. Arne Olai Korsbrekke who had been Nord-Trøndelag's County Engineer 1920-34 and Akershus' County Engineer since 1934, was only a transitional figure, but did his best to establish Oslo's then crowded entrance roads on the political agenda before he retired. Korsbrekke was succeeded by the 56 years old Thomas Offenbergs Backer in 1948, who in 1914 graduated in the first hatch of chartered engineers from *Norwegian Institute of Technology* (Norges Tekniske Høgskole) in Trondheim. Backer had been employed in the Directorate of Public Roads 1935-40 and served as Oppland's

⁹²⁷ *Historisk statistikk 1994*, Statistisk sentralbyrå, Oslo and Kongsvinger 1995:532 Tabell 22.1; Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:51 Table 1b; Bergh (1981:59); Grønlie (1981:108-111).

⁹²⁸ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-63 Table 1c.

⁹²⁹ Kolsrud (2004:342).

County Engineer 1940-48.⁹³⁰ The County Engineers became once again Chief County Road Officers (vegsjefer) in 1949.⁹³¹ Road Director Andreas Baalsrud was not investigated after the liberation, according to his granddaughter Kristin (Kikkik) Baalsrud, and had the use of an office in the Directorate of Public Roads for years after he retired.⁹³² The Combined Road Administration, hereunder the Directorate of Public Roads and the Ministry of Public Works/Ministry of Traffic's role under the German occupation is an interesting and so far understudied part of Norwegian road policy and public administration.

The liberation led hence to a partial regime change even in the Combined Road Administration, because the Directorate of Public Roads lost already in 1945 its new autonomy introduced in February 1944. The County Road Boards and Public Roads Administrations used clearly this window of opportunity and punctuated partly the 1928 equilibrium that made trunk roads the Directorate of Public Roads' turf, and undermined partly the Directorate of Public Roads' position during the initial reconstruction.

Erik Brofoss' economic policy during the initial reconstruction aimed first and foremost at increased production, and prioritized investments that gave immediate export revenues or saved foreign currency, similarly as the contemporary Swedish economic policy discussed in chapter 3. All other investments, hereunder roads and import of cars were postponed, because it was "not possible to export roads", according to Brofoss. Nils Langhelle from Bergen, minister of transport and communications until January 5th 1952, was not a sector enthusiast but a political generalist, and became soon one of Erik Brofoss' closest friends and allies.⁹³³ ⁹³⁴ The Ministry of Public Works/Transport and Communications governed the road and motoring policy formally 1945-59, but was overruled by the Ministry of Finance's governing of the budget constraints.

Stortinget approved the very restrictive *1947 Transport and Communication Act* (Samferdselsloven) that imposed direct price and quantity regulations in the transport sector, hereunder politically governed allocation of permits for transports, and later also mandatory allocation of goods and passenger transports through transport centrals.⁹³⁵ The 1947 Transport and Communication Act protected the railroads against competition, and upheld a highly fragmented transport industry, because the truck owners were usually only permitted to own one vehicle.

The 1947 currency crisis triggered the executive's imposition of car rationing from July 1st 1947, and similarly fuel rationing from July 1st 1947 until June 20th 1949. The Combined Road Administration's motor vehicle inspectors managed both the car and fuel rationing.⁹³⁶ An extraordinary and temporary fiscal fuel tax was

⁹³⁰ Paus (1956:25-27); Thomas Offenberg Backer, "Vegdirektoratet gjennom 100 år", *Vegen og Vi*, Vol. 5, No. 1, 1965:61.

⁹³¹ Budsjett-innst. S. nr. 172 (1949):3; Østgård (2002:10).

⁹³² Baalsrud (2005 [Telephone interview]). A request to Riksarkivet about access to the Traitor Archive (Landssvikarkivet) to clarify whether Road Director Andreas Baalsrud had been investigated after the liberation was refused in Riksarkivet's letter 2005/23482 TIFL/LEITHI November 11th 2005.

⁹³³ Helle (1991:76-77, 79); Nordby (1985a:302-303).

⁹³⁴ Nils Langhelle was arrested by GESTAPO January 29th 1943. He was sent to Sachsenhausen December 9th 1943 and thereafter to Oranienburg. The Swedish Red Cross saved Langhelle March 25th 1945 (Helle 1991:62-68).

⁹³⁵ Bjørnland (1989:148-150); Dammann (1955:106-119). Østby (1995:139-140); Helle (1991:82-84).

⁹³⁶ Eriksen (1982:197).

imposed in 1949 after abolition of the fuel rationing, officially for balancing the budgets.⁹³⁷ But the 1949 extraordinary fuel tax furthered also the rationing with other means, and punctuated the 1912 and 1926 Motor Vehicle Acts' equilibrium by decoupling the fuel tax revenues from the road maintenance appropriations. The 1949 extraordinary fuel tax could hence be interpreted as an omen about the Ministry of Finance's forthcoming decoupling of all vehicle and fuel tax revenues from the annual road appropriations.

Norwegian Automobile Owners' Association proposed already May 29th 1945 forced improvements of the 2.500 kilometers most important trunk roads to far better standard than agreed in the *1937 Trunk Road Plan*. The estimated extra costs were 156 millions 1945 NOK or 194,15 millions 1990 PPP USD. Both the Ministry of Public Works and Stortinget's Standing Road and Railroad Committee supported this initiative.⁹³⁸ But this initiative was temporarily shelved, because of lack of manpower due to the initial reconstruction.

Road Director Arne Olai Korsbrekke championed the *1947 Trunk Road Plan* (Stamvegplanen av 1947), a slightly a reworked version of Norwegian Automobile Owners' Association's May 1945 initiative, and Korsbrekke proposed financing through State loans, similarly as proposed by the Directorate of Public Roads in 1883, 1886, 1920, 1937, 1938 and 1939. The new trunk roads would be self-financing according to the Ministry of Transport and Communications, through reduced transaction costs and increased tourism and fuel and vehicle tax revenues. Stortinget approved the *1947 Trunk Road Plan* July 8th 1949 against 8 votes, but financed through ordinary appropriations instead of State loans. The *1947 Trunk Road Plan's* aim was investment of 200 millions 1949 NOK, or 241,8 millions 1990 PPP USD, the forthcoming 10 years to facilitate use of modern buses and trucks. New trunk roads were completely State financed, but updates of old roads required local co-financing. The *1937 Trunk Road Plan* was first accomplished in 1951. The *1947 Trunk Road Plan* provided at least 9,6 percent return on the investments according to the road and motoring lobby, given paving of 6.480 kilometers trunk roads.⁹³⁹ The Ministry of Transport and Communications' economist Eiler Holtermann claimed in September 1955 that paving the roads gave 8 to 20 percent return on the investments given 200-500 vehicles per kilometer per day.⁹⁴⁰ The Ministry of Transport and Communication's championing of the *1947 Trunk Road Plan* and State loan financing indicated clearly that both minister of transport and communications Nils Langhelle and the Ministry of Transport and Communication's civil servants reasoned almost as the Nygaardsvold executive did prior to the German occupation and similarly as the Administration Council did during the occupation's initial phase. Stortinget's approval of the *1947 Trunk Road Plan* was

⁹³⁷ *Opplysningsrådets årsberetning 1949*, Opplysningsrådet for Biltrafikken, Oslo 1950:5; *Årsberetning 1/1-31/12 1950*, Opplysningsrådet for Biltrafikken, Oslo 1951:7-8, OVA.

⁹³⁸ Budsjett-innst. S. nr. 153 (1947):1, 6; *Stortingstidende* (1947):1375-1376; St. prp. nr. 1 (1947) *Kap. 713. Vegarbeider*:100, 106-107.

⁹³⁹ St. prp. nr. 1 (1947) *Kap. 713. Vegarbeider*:100-105,110; St. prp. nr. 1 (1949) *Kap. 713*

Vegarbeider:72-73; Budsjett-innst. S. nr. 172 (1949):6-9; *Stortingstidende* (1949):2074; *Våre stamveger*, Opplysningsrådet for Biltrafikken, publication No. 12, January 1955:5, 25, OVA; Thomas Offenbergs Backer, "Vegdirektoratet gjennom 100 år", *Vegen og Vi*, Vol. 5, No. 1, 1965:61.

⁹⁴⁰ Note "Litt nærmere om enkelte aktuelle samferdselsproblemer", Ministry of Transport and Communications, EH, September 25th 1995, AAB-DNA cassette Da 127.

similarly evidence of the executive and legislators' willingness to prioritize investments in national collective goods – at least in principle.

The non-socialist opposition parties required every year more road appropriations than proposed by the executive during Nils Langhelle's tenure as minister of transport and communications. Many Labor Party legislators representing the peripheral and rural areas' distributional coalition supported the opposition parties' demands. The result was often increased road investments, despite Erik Brofoss' protests.⁹⁴¹ The Norwegian postwar road investments reached their all time low 1951/52, with 33 millions NOK, or approximately 32,5 millions 1990 PPP USD. The 1939/40 road investments had been 30,3 millions NOK or approximately 57 millions 1990 PPP USD.⁹⁴² The reduced investments increased the roads' average construction period from 5 years in 1939/40 to 17,5 years in 1951/52.⁹⁴³ Rearmament was the executive's "top priority" at the turn of the 1940s and 50s, according to Erik Brofoss.⁹⁴⁴ The Labor Party executive thus deliberately postponed Road investments.

Stortinget's majority ignored soon the 1947 *Trunk Road Plan*, because the 1929 allocation key, the County Road Boards and Public Roads Administrations dispersed the road investments to hundreds of small construction sites, particularly in the peripheral and rural constituencies. The aim was often employment rather than completed roads, even if the Ministry of Transport and Communications and the Directorate of Public Roads required consolidation of the road investments in fewer and larger construction sites to facilitate mechanized road construction. But most road construction in Norway after World War Two was based on manual labor.⁹⁴⁵ Road Director Thomas Offenbergh Backer claimed in October 1955 the county authorities had "responded somewhat different" to the executive and Directorate of Public Roads' request for reduced number of construction sites to improve the sparse road appropriations' utilization.⁹⁴⁶ The 1912 Road Act, County Road Boards and Combined Road Administration together counteracted effectively most attempts of implementing a road policy governed by transport economic and cost/benefit considerations even after World War Two, because the legislators were often more concerned with their voters than party discipline in low politics issues such as road policy and road construction. The counties prioritized similarly often

⁹⁴¹ Helle (1991:80-81).

⁹⁴² *Våre stamveger*, Opplysningsrådet for Biltrafikken, publication No. 12, January 1955:5, 25; *Årsberetning for 1951*, Opplysningsrådet for Biltrafikken, Oslo 1952:17; *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken, Oslo 1957:41, OVA; Dammann (1955:35, 40-41; 1956:338); *Melding om Vegvesenets virksomhet 1960*, Bilag til budsjettproposisjonen 1961-62, Vegdirektoratet, september 1961:11, VDA.

⁹⁴³ Dammann (1955:25, 35).

⁹⁴⁴ Erik Brofoss, *Norway's economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:36-37, AAB-EB, cassette Da 3.

⁹⁴⁵ See for instance St. prp. nr. 1 (1949) *Kap 711 m.fl. Vegvesenet*:8-10; Dammann (1955:25) and Bjørnland (1989:239). See also Laurits Kristian Hiorth Oppegaard "Utvikling og ønskemål", *Vegen og Vi*, Vol. 5, 1965 No.2:3-8, 4; "Teknisk direktør i Vegdirektoratet", *Vegen og Vi*, Vol. 2, 1962 No. 2:58-59; "Moderne veganleggsdrift":25-29; *Vegvesenets virksomhet i 1965*, Vegdirektoratet, Oslo 1966:41, VDA. Cf. also Martinsen (2002 [Interview]); Selnes (2002 [Interview]); Johnsen (2004 [Telephone interview]).

⁹⁴⁶ Letter "Konsentrasjon av vegarbeidsdriften m.v.", from the Directorate of Public Roads 5721/55 Veg SB/LH October 28th 1955 to minister of transport and communications Kolbjørn Varmann, AAB-DNA cassette Da 127.

construction of roads with local collective or private good characteristics rather than roads with national collective good characteristics.

But why was mechanized road construction and maintenance significantly delayed in Norway compared to Denmark and Sweden? Stortinget's decision March 15th 1894 banned the executive's accomplishment of public works through competitive bidding and use of private construction companies, except in "particular circumstances".⁹⁴⁷ This ban was approved soon after the 1893 Road Act Amendment that established the Combined Road Administration. Competitive bidding and private construction companies were commonly used for road construction and maintenance in Denmark and Sweden. Delayed mechanization gave increasing returns to the Norwegian legislators, because provision of employment through numerous minuscule construction sites increased the legislators' likelihood of reelection. The peripheral and rural areas' distributional coalition that largely consisted of Labor and middle parties legislators had thereby few incentives to abolish the ban against competitive bidding and use of private construction companies prior to World War Two, because cars were then largely an urban phenomenon. Most car owners were well off financially. The car rationing imposed in 1947 delayed and constrained further diffusion of cars. The counties' number of cars in 1939 determined the postwar car quotas.⁹⁴⁸ The postwar car rationing upheld thereby cars as an urban phenomenon. Stortinget did not abolish the ban against competitive bidding and use of private construction companies until 1954, after Road Director Thomas Offenbergs Backer had requested Stortinget's permission, to safeguard swift road construction.⁹⁴⁹ Stortinget's 50 years ban against competitive bidding and use of private construction companies can thus be understood as an example of path dependence, and explains also why construction of 19th century style gravel roads persisted in Norway during the interwar years and even after World War Two.

Stortinget and the counties' partly overruling of the executive and Directorate of Public Roads' initiatives for construction of modern trunk roads weakened clearly the historian Jens Arup Seip's claim in his famous 1963 speech that Oslo took charge of the Labor Party in 1945 when Einar Gerhardsen ousted Johan Nygaardsvold.⁹⁵⁰ The *1947 Trunk Road Plan* became almost a textbook example of common pool problems, because the Liberal Party's System and the peripheral and rural areas' distributional coalition rose again after the 1940-45 occupation and the 1945 regime change. The Liberal Party's System and the peripheral and rural areas' distributional coalition emphasized local collective or private goods rather than national collective goods, and instituted also an almost inverse relation between the constituencies' financial contributions to the community and allocation of publicly

⁹⁴⁷ Letter "Konsentrasjon av vegarbeidsdriften m.v.", from the Directorate of Public Roads 5721/55 Veg SB/LH October 28th 1955 to minister of transport and communications Kolbjørn Varmann, AAB-DNA cassette Da 127.

⁹⁴⁸ See for instance *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken, Oslo 1957:55, OVA; Østby (1995:115) about the car rationing and the car quotas.

⁹⁴⁹ "Kontraktarbeider", Statens vegvesen, Vegdirektøren, Rundskriv nr, 3/55 Ak, Uten jnr./54 Ak, TMH/LH, January 6th 1955; Letter "Konsentrasjon av vegarbeidsdriften m.v.", from the Directorate of Public Roads 5721/55 Veg SB/LH October 28th 1955 to minister of transport and communications Kolbjørn Varmann, both in AAB-DNA cassette Da 127.

⁹⁵⁰ Cf. Seip (1963:31).

financed investments through the central and urban constituencies' cross subsidization of the peripheral and rural constituencies.

Lack of financing clearly constrained Norwegian road construction in the 1950s. The counties financed often trunk roads in advance, even if trunk roads were an explicit State responsibility according to the 1912 Road Act. The counties' accumulated advance payments were 49,4 millions NOK or 44,5 millions 1990 PPP USD in 1953, and more than 100 millions NOK or 80,6 millions 1990 PPP USD in 1957. The State's net road investments 1956/57 were 113,9 millions NOK or 91,81 millions 1990 PPP USD to trunk roads and 11,1 millions NOK or 8,95 millions 1990 PPP USD to parish roads.⁹⁵¹ The balance between investments in trunk roads and local roads shifted thus fundamentally during the 1950s from emphasis on local roads at the turn of the 1940s and 50s to 91 percent trunk road investments 1956/57, among others because of the Directorate of Public Roads and the Ministry of Transport and Communications' initiatives for fewer and larger construction sites, but the total investments were only a fraction of the actual demand.

The forthcoming discussions about road and motoring policies from approximately 1950 to 1959 are organized along two paths. The first is about the non-socialist opposition parties and the road and motoring lobby's challenges after completing the initial reconstruction 1948/49. The second is about the governing Labor Party's policy responses, and investigates why profitable road investments were postponed or never accomplished and why liquidation of the unpopular car rationing was postponed through use of seemingly misleading or phony arguments until 1960, twelve years after completing the initial reconstruction.

The non-socialist opposition parties and the road and motoring lobby's challenges

The motorist organizations, automobile importers and dealers, trade, industry and others established the umbrella organization *Norwegian Road Federation* (Opplysningsrådet for Biltrafikken), November 11th 1948 to facilitate more efficient lobbying for liquidation of the car rationing and increased road construction, and hired former motor vehicle inspector Chr. Christiansen as managing director from January 1st 1949.⁹⁵² Chr. Christiansen engaged immediately in networking at home and abroad, as mentioned previously in chapter 3, to promote motoring and road construction, and furnished those who argued for liquidation of the car rationing or increased road construction with comprehensive and reliable data. Norwegian Road Federation was not able to join I.R.F. formally such as Swedish Road Federation did, due to the currency restrictions, but was still treated almost as a member.⁹⁵³

The non-socialist opposition parties desired development of a national road system, similarly as the Labor Party executive, because improved roads and communications were two pillars in their alternative economic and regional policies.

⁹⁵¹ *Styrets beretning for 1953*, Opplysningsrådet for Biltrafikken, Oslo 1954:30; *Styrets beretning for 1957*, Opplysningsrådet for Biltrafikken, Oslo 1958:97, 102, OVA.

⁹⁵² *Rapport vedr. Opplysningsrådets virksomhet Iste halvår 1949*, Opplysningsrådet for Biltrafikken, Oslo, September 12th 1949:1, OVA. See also Fasting and Hagerup (1966:86); Østby (1995:224-225).

⁹⁵³ *Rapport vedr. Opplysningsrådets virksomhet Iste halvår 1949*, Opplysningsrådet for Biltrafikken, Oslo, September 12th 1949:2, 4; *Opplysningsrådets årsberetning for 1949*, Opplysningsrådet for Biltrafikken, Oslo, 1950:3, OVA.

These demands' strength increased from the 1949 election, when most of the initial reconstruction had been accomplished. The three middle parties championed increased road appropriations 1950-53; the Labor and Conservative Parties omitted this issue. Only the Conservative Party championed competitive bidding and use of private construction companies. The Agrarian Party did not mention mechanized road construction in its manifesto, but argued for construction of local rather than trunk roads, and was the only party that championed amendments of the 1947 Transport and Communication Act. Neither the Liberal Party mentioned construction of trunk roads. Only the Labor Party argued explicit for paving of the roads in its 1950-54 manifesto.⁹⁵⁴

Norwegian Road Federation established direct contacts with the US Marshall Aid administration, *Economic Cooperation Administration* (E.C.A.), and UN's *Economic Commission for Europe* (E.C.E.) at Swedish Road Federation's annual meeting in June 1950, such as previously mentioned in chapter 3. Douglas Mac Clarke, E.C.A.'s transport adviser and USA's representative in E.C.E., Norwegian Road Federation's chairman Jon Skotte, managing director Chr. Christiansen and Swedish Road Federation's managing director Bertil Liljequist went all to Norway after this meeting where Vestfold's Chief County Road Officer Thor Larsen gave a guided tour on Norwegian roads.⁹⁵⁵ Thor Larsen quoted frequently the US Road Director's adage, "you pay the same for roads whether you build them or not", and claimed that good roads paid for themselves.⁹⁵⁶ Thor Larsen was one of the few Chief County Road Officers in the 1950s that publicly disseminated I.R.F.'s ideas, that modern roads facilitated economic growth.

Douglas Mac Clarke visited Oslo even in August 1951, when he invited Norwegian Road Federation to join I.R.F. at very favorable terms, namely donations to I.R.F.'s fund for further education of road engineers instead of the ordinary fee. UN used I.R.F.'s Paris office for mapping E.C.E.'s planned future Pan-European trunk road system, which was one of the agenda items in Douglas Mac Clarke and Chr. Christiansen's meeting with the Ministry of Transport and Communications and Directorate of Public Roads. Norwegian Road Federation joined I.R.F. in October 1951.⁹⁵⁷ But ECA's interest for improved Norwegian roads vanished as soon the Marshall Aid was completed in 1953. Norwegian Road Federation lost then its probably most powerful ally.

Norwegian Road Federation was closely affiliated with the non-socialist opposition parties, business sector and motorist organizations, and took part in several postwar corporative bodies.⁹⁵⁸ But Norwegian Road Federation managed

⁹⁵⁴ "Arbeiderpartiet 1949, Arbeidsprogrammet": Samferdselen; "Valgprogram for Venstre 1949": 15 Samferdsels og reiseliv; Kristelig Folkeparti. Program ved Stortingsvalget 10. oktober 1949: §3 Kommunikasjonene m. m.; "Bondepartiets valgprogram 1949": Kommunikasjoner; "Høires program ved stortingsvalget 10. oktober 1949": 11 Elektrisitetsutbygging og samferdsel, all in *Vi vil..! Norske partiprogrammer 1884-2001*.

⁹⁵⁵ *Årsberetning 1/1 31/12 1950*, Opplysningsrådet for Biltrafikken, Oslo 1951:3-5, OVA. See for instance Dillard (1987:538-539) about the Marshall Aid and ECA.

⁹⁵⁶ Archer (1998:141-143).

⁹⁵⁷ *Årsberetning for 1951*, Opplysningsrådet for Biltrafikken, Oslo 1952:6-7, 19-20, OVA; Blomkvist (2001:170-171).

⁹⁵⁸ *Årsberetning for 1951*, Opplysningsrådet for Biltrafikken, Oslo 1952:7; *Årsberetning for 1952*, Opplysningsrådet for Biltrafikken, Oslo 1953:7-8, 9; *Styrets beretning for 1955*, Opplysningsrådet for Biltrafikken, Oslo 1956:14, 15; *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken, Oslo

never to establish equally close relations with the trade unions and social democrats such as Swedish Road Federation did. The conflict level in Norway was far higher, most likely because of the car rationing. Three of the Swedish road and motoring lobby's leading actors, Rune Andréasson, Jonas Gawell and Sven Gerentz, explained Norwegian Road Federation's lack of success as a result of the member organizations' very divergent interests. Both Prime Minister Einar Gerhardsen and Prime Minister Oscar Torp personally considered cars a luxury, while Sweden's Prime Minister Tage Erlander considered cars a utility. Erlander did not oppose the Social Democratic Party's voters' desire for cars, rather the opposite.⁹⁵⁹

The Conservative Party tried to establish a *Trunk Road Committee* (Stamveikomiteen) in October 1952, prior to the 1953 election, but had difficulties finding volunteers. Most party members were then busy earning money. The Conservative Party managed finally to establish a committee headed by attorney Odd Nerdrum from Tønsberg, with Royal Norwegian Automobile Club's lieutenant colonel Arne Rørholt, one of Norwegian Road Federation's initiators, as secretary. The committee met in October and December 1952, and agreed to meet in January, but the archive had no further traces of this committee that most likely led to nothing.⁹⁶⁰ The Conservative Party's difficulties mobilizing their own members for collective action is probably one explanation of why the car rationing was upheld twelve years after completing the initial reconstruction.

All the major political parties agreed about increased road appropriations 1954-57 in their 1953 manifestos, but the Labor Party would not increase the road appropriation until the rearmament was completed. The non-socialist opposition parties required dedicated vehicle and fuel tax revenues to road appropriations; i.e. establishment of a Road Fund, similarly as in Denmark, Sweden and several other countries. All parties advocated mechanized road construction, but none advocated explicit use of competitive bidding and private construction companies such as the Conservative Party did in its 1949 manifesto. Only the Labor, Agrarian and Conservative Parties championed paving the roads. The Labor Party advocated furthering the 1947 Transport and Communication Act that suspended the market mechanisms, while the Agrarian and Conservative Parties required amendments. The Labor and Conservative Parties emphasized construction of trunk roads with national collective good characteristics in addition to construction of local roads.⁹⁶¹ The three middle parties championed clearly a more localist road policy than the

1957:13, 14; *Styrets beretning for 1957*, Opplysningsrådet for Biltrafikken, Oslo 1958:57, 58; *Styrets beretning for 1958*, Opplysningsrådet for Biltrafikken, Oslo 1959:7; *Styrets beretning for 1959*, Opplysningsrådet for Biltrafikken, Oslo 1960:11, all from OVA.

⁹⁵⁹ Andréasson et al. (1997:122-123).

⁹⁶⁰ Cf. letters to and from potential candidates and minutes from the 1952 Trunk Road Committee's meetings, RA-HH cassette 97.

⁹⁶¹ "Arbeiderpartiet Arbeidsprogram 1953-1957": Samferdselen; "Valgprogram for Venstre 1953": 13 Samferdsel og reiseliv; "Kristeleg Folkeparti Program ved stortingsvalet 12. oktober 1953": VI Kommunikasjon og kraftutbygging; "Bondepartiets program Stortingsvalget 1953": 4 Samferdsel og kraftutbygging; "Programmet åt Høgre til stortingsvalet 1953": Samferdsel, all in *Vi vil...! Norske partiprogrammer 1884-2001*.

Labor and Conservative Parties, and were obviously still the peripheral and rural areas' distributional coalition's core parties 1953-57.

The Directorate of Public Road's chartered engineer Arne J. Grotterød was, as mentioned in chapter 3, the first Norwegian that received I.R.F.'s scholarship. Grotterød studied traffic engineering at Yale University's Bureau of Highways 1953/54 together with the Swedish chartered engineer Stig Nordqvist.⁹⁶² The studies at Yale was "a trip into a future that first came through in Norway 30-40 years later", according to Grotterød, who learned how to design effectiveness and road safety into the road system. Road Director Thomas Offenbergs Backer and Arne J. Grotterød agreed in August 1954 that Grotterød should not write a report, but disseminate his new knowledge through articles, lectures and speeches about traffic engineering. Grotterød claimed in some of these speeches "Norway needed motorways". Such claims brought him in direct conflict with somebody in the Directorate of Public Road's top management that opposed motorways. Grotterød did unfortunately not write whom. He was thereafter left partly idle until the fall 1956, when he was employed as substitute leader of Akershus County's Public Roads Administration's Bridge office, where he supervised construction of several bridges.⁹⁶³

Norwegian authorities and legislators did not adopt traffic engineering similarly as their Danish and Swedish opposite numbers, such as discussed in chapter 2 and 3. Why did they respond differently? Most Labor Party ministers were modernists and rationalists, and the non-socialist opposition parties desired increased road investments. Was Road Director Thomas Offenbergs Backer not able or willing to orchestrate the necessary lobby campaigns? Did he not utilize Arne J. Grotterød's new knowledge properly, or was Grotterød a better professional than salesman or lobbyist? Stortinget's majority and the County Road Boards may have understood that common introduction of traffic engineering would establish a fundamentally different road policy. None of these explanations are mutually excluding. The Norwegian authorities and legislators' ignoring of traffic engineering was most likely a result of several interacting factors, but distinguished clearly Norway from Denmark and Sweden. The governing Norwegian Labor Party bosses reasoned similarly fundamentally different compared to their Danish and Swedish fellow believers.

The economist Axel Dammann, who was employed by the Directorate of Public Roads 1952-55, published in December 1955 a comprehensive study of Norwegian postwar transport and communication policy.⁹⁶⁴ Dammann found the executive and legislators had overlooked the transport and communication's significance for economic growth and for the production system as such, and even these investments' profitability. The transport and communication sector's allocation of authority and investments was often governed by history or path dependence. Lack of competition between different means of transport preserved status quo. Unprofitable railroads were often upheld where road transports could do

⁹⁶² *Styrets beretning for 1953*, Opplysningsrådet for Biltrafikken, Oslo 1954:40-44, OVA.

⁹⁶³ Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, Oslo 2001:3-5, 11, VDA.

⁹⁶⁴ Dammann (2003 [Interview]).

the job more cost efficient or even profitably.⁹⁶⁵ Axel Damman claimed allocating the transport and communication investments according to their cost/benefit ratios would improve the currency balance, one of the Labor Party executives and the Ministry of Finance's major concerns in the 1940s and 50s.⁹⁶⁶ Axel Dammann's findings indicated clearly Stortinget's majority reasoned fundamentally different compared to their opposite numbers in Denmark and Sweden such as discussed in chapter 2 and 3. Most Danish and Swedish road investments were then allocated according to cost/benefit calculations, other rational models and/or the trade and industry's needs.

Arne J. Grotterød assisted professor Ole Didrik Lærum's preparations of Norwegian Institute of Technology in Trondheim's first course in traffic engineering, January 3-6th 1956, where approximately 100 engineers, urban planners, consultants and policemen took part.⁹⁶⁷ ⁹⁶⁸ Professor Lærum introduced also transport and communication technology as the *Institute of Road and Railroad Construction's* (Institutt for veg- og jernbanebygging) fourth major in 1956/57, hereunder courses in traffic engineering and transport economy. Traffic engineering became a common course for the institute's students from 1958.⁹⁶⁹ But the first chartered engineers with in-depth knowledge of traffic engineering and transport economy did not graduate from Norwegian Institute of Technology until the early 1960s. One of these was Olav Søfteland, who became Road Director in 1992.

Bjarne Braathen in Buskerud's Conservative Party suggested in November 1955 to the Conservative Party's leadership selling the State's stocks, and allocating the revenues in a Road Fund, which also could serve as a tax shelter for firms, through deposit of surplus profits against tax credits.⁹⁷⁰ Bjarne Braathen proposed similarly in February 1956 using a "Road Fund on approximately 500 millions NOK" or approximately 419 millions 1990 PPP USD as one of the hooks in the forthcoming 1957 election campaign.⁹⁷¹ The Conservative Party's central board decided March 2nd 1956 to establish a committee to study further development of

⁹⁶⁵ Dammann (1955:12-16, 143, 146). See also "Forskningsinstituttet feller skarp dom over samferdselspolitikken" and "Våre transportproblemer" (editorial column), both in *Morgenbladet*, February 15th 1956.

⁹⁶⁶ Dammann (1956:338-339).

⁹⁶⁷ Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, 2001:9-11, VDA; *Styrets beretning for 1955*, Opplysningsrådet for Biltrafikken, Oslo 1956:12; *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken, Oslo 1956:10-11, OVA; Østby (1995:283-288).

⁹⁶⁸ Ole Didrik Lærum (1901-72) was appointed professor at the Norwegian Institute of Technology in 1941, but did not take up teaching until 1946. Lærum headed the Institute of Road and Railroad Construction until 1965. Lærum graduated in railroad construction from Norwegian Institute of Technology in 1923 and worked for the Norwegian State Railroads and the Danish consortium Kampsax, among others in Iran during World War Two where he assisted the allied forces through construction and maintenance of roads. Lærum was Emperor Haile Selassie's personal adviser concerning construction of roads and railroads 1945-46, before he returned to Norway and his chair as professor at Norwegian Institute of Technology. Railroad and airport construction became prominent subjects during Lærum's tenure, even if he emphasized road construction and maintenance 1949-54. Lærum made airports, railroads and roads the Institute of Road and Railroad Construction's three majors from 1954 (Hovd 2004:165-166; e-mail from Ole Didrik Lærum (the elder Ole Didrik Lærum's nephew) June 15th 2005).

⁹⁶⁹ Hovd (2004:166-167).

⁹⁷⁰ Copy of letter from Buskerud Høire, Bjarne Braathen (ref BB/IR) to Høires National Board att: Secretary General Leif Helberg, November 23rd 1955, RA-HH cassette 97.

⁹⁷¹ Letter from Buskerud Høire, Bjarne Braathen to Høires National Board, February 21st 1956, RA-HH cassette 97.

Norwegian transports and communications, hereunder establishment of a Transport and Communication Fund that also could serve as a tax shelter.⁹⁷² *The Conservative Party's Transport and Communication Committee* (Høires Samferdselskomité) was established formally November 16th 1956, headed by Nordland's member of Stortinget and the Standing Committee on Transport and Communications since 1954 Håkon Kyllingmark. The economist Axel Dammann served as secretary, together with Paul Thyness.⁹⁷³ ⁹⁷⁴ But the industry was not interested in the Conservative Party's tax shelter and Road Fund, "except in particular instances".⁹⁷⁵ The Labor Party executive's Strategic Capitalism created seemingly paradise conditions for the heavy industries and others within the power industrial complex, which dominated those days' Norwegian corporative negotiation system. But trade and industries dependent of road transports and their employees were poorly represented in the corporative negotiation system, and thereby almost powerless. The Conservative Party's initiative for a combined tax shelter and road fund was hence almost stillborn or dead on arrival.

The industrialist and entrepreneur Fritz Rieber from Bergen held a public lecture in *Polytechnic Association* (Polyteknisk Forening) in Oslo February 26th 1957 where ministers, legislators, civil servants, engineers and industrialists met. Rieber proposed here reorganizing the Directorate of Public Roads to a State owned Joint Stock Company, *Norwegian Roads Inc.* (A/S Norsk Veiselskap) responsible for management of a Road Fund funded through dedicated fuel and vehicle tax revenues. Rieber suggested also organizing and financing particularly costly projects as turnpikes and/or PPP projects, public private partnerships where such undertakings were profitable for the road users. Fritz Rieber estimated Norway's future needs for road investments to at least 15 billions 1957 NOK, or approximately 12,1 billions 1990 PPP USD.⁹⁷⁶

Neither Stortinget as such, the Standing Committee on Transport and Communications, the Ministry of Finance, the Ministry of Transport and Communications, the Directorate of Public Roads, the County Road Boards or the Public Roads Administrations applauded Rieber's initiative publicly. Many perceived it as a cutthroat attack on the established road political order. But several

⁹⁷² Minutes from Høires Central Board [not dated, but most likely March 2nd 1956 or later] with the committees' mandate, RA-HH cassette 97.

⁹⁷³ Cf. letters and minutes, RA-HH cassette 97.

⁹⁷⁴ The other members of The Conservative Party's Transport and Communication Committee were Birger Brokhaug, motor vehicle inspector from Kongsberg; solicitor Leif Burull from Hamar, member of Stortinget and the Standing Road and Railroad Committee 1946-49; Karsten Dahlum, LKAB's manager in Narvik; Sigurd Lersbryggen, Vestfold's member of Stortinget and the Standing Road and Railroad Committee 1946-49, the Standing Transport and Communication Committee 1950-53 and the Industry Committee 1953-57; Kr. Løken from Oslo, the Norwegian State Railroads regional manager; Kaare Meland, mayor in Fana in Hordaland; Aust-Agder's County Road Manager Arne Nilsen, member of Stortinget and member of the Standing Committee on Transport and Communications 1953-57; manager S. H. Rosness from Hvittingfoss in Vestfold; managing director Alfred Schøyen from Akershus, owner and manager of Schøyens Bilcentraler, the Oslo-area's major bus company, and finally Vestfold's new County Road Manager Alf Torp. Ole Siem replaced Arne Nilsen when he died. Director O. Steen from Oslo was appointed as member after the committee was formally established November 16th 1956 (*En 10 års plan for samferdselen*, Høires Centralstyre, Oslo, september 1957:6, RA-HPA cassette Fm-0086-Fn-00868. See also Nordby (1985b) for biographical data about the members of Stortinget).

⁹⁷⁵ "Protokoll fra Samferdselskomitéens møte torsdag 2. mai kl. 12.00", 1957, RA-HH cassette 97.

⁹⁷⁶ Rieber (1957:12, 31-32, 37-39).

of Fritz Rieber's ideas rose again after the neo-liberal shift, particularly after the turn of the 20th and 21st century. However, Fritz Rieber's initiative was strong evidence about the road policy issues' contentedness prior to the 1957 election, and indicated also growing dissatisfaction and frustration from the construction companies and road users with the Directorate of Public Roads and particularly Road Director Thomas Offenberg Backer's perceived lack of vigor.

Håkon Kyllingmark ignored the trade and industry's lukewarm reception of the Conservative Party's proposed combined Road Fund and tax shelter, and championed instead the Conservative Party's Transport and Communications Committee's *10 Years Plan for Transports and Communications* (En 10års plan for samferdselen) published in September 1957 just in time for the election. The *10 Years Plan for Transports and Communications* outlined how to reduce the Norwegian State Railroads' increasing deficits, how to increase the road investments and how to remove the telephone queues. The suggested remedies were among others deregulating the transport and communication sector, removal of cross subsidies and charging the users for the actual costs, except in the peripheral areas, where profitable operations or road investments were not possible. The *10 Years Plan for Transports and Communications* promised investments of approximately 3.5-4.0 billions 1957 NOK, or between 2,82 and 3,22 billions 1990 PPP USD, in new roads the forthcoming 10 years, hereunder 214 millions NOK in 1957/58, approximately 172,5 millions 1990 PPP USD, with 50 millions NOK or about 40,3 millions 1990 PPP USD financed through loans, as a kick-off.⁹⁷⁷ The Norwegian State's net road investments 1956/57 were 125 millions NOK, approximately 100,75 millions 1990 PPP USD. Even the Conservative Party championed establishment of a new road administration based on Danish and US role models that outsourced road construction to private construction companies through competitive bidding.⁹⁷⁸ The Conservative Party's *10 Years Plan for Transports and Communications* was a tenable and credible alternative to the Labor Party's transport and communication policy, based on Axel Dammann's transport economic studies. Modern transport and communication infrastructures would, according to the Conservative Party improve the trade and industries' cost effectiveness and competitiveness, and thereby improve the currency balance.

All the major political parties championed increased road appropriations 1958-61 prior to the 1957 election, similarly as during the term 1953-57. All parties – except the Labor Party – championed dedicated vehicle and fuel taxes for the term 1958-61 similarly as 1953-57; and advocated hence establishment of a Road Fund. The novelty 1958-61 was that all non-socialist parties championed alternative financing in addition to State road appropriations, for instance through private investments, loans and turnpikes, to safeguard catch-up of Norway's lag with regard to road construction. But only the Labor and Conservative Parties championed allocation of road investments according to transport economic methods. The middle parties defended the Liberal Party's System. All parties championed competitive bidding; private construction companies, mechanized road construction and paving

⁹⁷⁷ *En 10års plan for samferdselen*, Høyres Centralstyre, Oslo, September 1957, RA-HPA cassette Fm-0086-Fn-00868.

⁹⁷⁸ *En 10års plan for samferdselen*, Høyres Centralstyre, Oslo, September 1957:13, RA-HPA cassette Fm-0086-Fn-00868.

of the roads, but the Liberal and Agrarian Parties were as usual more concerned with construction of local than trunk roads.⁹⁷⁹ The influence from Norwegian Road Federation, I.R.F., Axel Dammann's 1955 study and Fritz Rieber's February 26th speech were clearly evident in many of the parties' manifestos. The Labor Party won even the 1957 election, but the Labor Party bosses had been mentally prepared for loosing this election, according to Norwegian Federation of Labor's leader Konrad Nordahl.⁹⁸⁰ The *10 Years Plan for Transports and Communications* was therefore partly shelved, even if the ideas were furthered in the Conservative Party's forthcoming manifestos. Many ideas and proposals reemerged also twelve years later in *Norwegian Road Plan* when Håkon Kyllingmark served as minister of transport and communications. The political struggles 1945-59 discussed in this section of the chapter was clearly overlooked by the economist and transport historian Dag Bjørnland and by the historian Per Østby that wrote about the 1950s in their studies about Norwegian postwar road and motoring policies.⁹⁸¹

The car rationing created growing dissatisfaction, particularly throughout the second half of the 1950s when the voters' purchase power increased and car ownership became a realistic option for an increasing number of Norwegians. The car rationing system was namely not perceived equally fair as the Telephone Board's rationing system, according to the historian Harald Espeli. The car rationing system could be evaded, and established a so-called "quota nobility".⁹⁸² The Public Roads Administrations' motor vehicle inspectors handed out purchase permits twice a year.⁹⁸³ Purchase permits for cars were valuable, because of almost black market conditions for used cars. There were also examples of purchase permit fraud, abuse of the rationing system and black market sale of cars, according to the economist and transport historian Dag Bjørnland and the historian Per Østby.⁹⁸⁴ Both the non-socialist opposition parties and Norwegian Road Federation used the car rationing politically against the governing Labor Party. Even the financing constrained the sale of cars, because the buyers had to pay 50 percent cash and the rest during 12 months for passenger cars and 18 months for vans and delivery trucks.⁹⁸⁵ The politically governed credit rationing made it also difficult for common wage earners to obtain bank loans for purchase of cars.

Those responsible for the postwar rationing system considered obviously somebody more equal than others, because Per Kleppe received immediately private telephone and a purchase permit for a passenger car in 1957 when he was appointed Parliamentary Secretary in the Ministry of Finance. Per Kleppe passed his drivers license test in 1958, and purchased a Vauxhall Cresta 1957 model for 18.000 borrowed NOK or approximately 14.105 1990 PPP USD.⁹⁸⁶ Information about

⁹⁷⁹ "Arbeidsprogram for Det Norske Arbeiderparti stortingsperioden 1958-61": Samferdselen; "Venstre Arbeidsprogram for stortingsperioden 1958-61": Samferdsel og reiseliv; "Kristelig Folkeparti Program ved stortingsvalget 1957": VII Kommunikasjonene; "Bondepartiets program 1957": 5 Samferdsel; "Hovedprogram for Høyre og Høyres arbeidsprogram 1958-61": Samferdsel, all in *Vi vil...! Norske partiprogrammer 1884-2001*.

⁹⁸⁰ Nordahl (1973:141-142).

⁹⁸¹ See Bjørnland (1989) and Østby (1995).

⁹⁸² Espeli (2005:331).

⁹⁸³ *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken, Oslo 1957:55, OVA; Østby (1995:115).

⁹⁸⁴ Bjørnland (1989:150-152); Østby (1995:116-117).

⁹⁸⁵ *Stortingstidende* (1958):3005.

⁹⁸⁶ Kleppe (2003:106).

allocation of the purchase permits, car ownership and the vehicle population's age and geographical distribution was hidden behind a veil of secrecy. The Road Director's circular letters 49/48M and 22/49M prohibited namely dissemination of such information. No other western industrialized country had similar restrictions. This secrecy was upheld until October 7th 1958.⁹⁸⁷ Most Norwegian voters in the late 1950s were well aware that cars were common property among ordinary wage earners in the Social Democratic Party governed Sweden.

The governing Labor Party's internal struggles and policy response

How did the majority Labor Party executives respond to the challenges from the non-socialist opposition parties and Norway's road and motoring lobby?

The Gerhardsen executive permitted in June 1951 free imports of trucks and lorries from OEEC countries participating in EPU, because of the free listing system, but upheld the van and passenger car rationing. Minister of trade Erik Brofoss expressed December 12th 1951 concerns for the currency reserves in case of unconstrained imports of cars, but imports of vans and passenger cars from OEEC countries were free from 1952. Rationing of trucks and lorries was similarly abolished in May 1952, well in advance of the forthcoming 1953 election. Norwegian Road Federation had then lobbied vigorously for improved productivity through increased road transport. But the rationing of vans and passenger cars were upheld, ostensibly because of the currency balance.⁹⁸⁸ Liquidation of the truck and lorry rationing removed soon the remaining horse transports all across Norway.⁹⁸⁹ All restrictions on import and sale of cars made in the Soviet Union or other east block countries were abolished in 1954, because such imports were based on bilateral barter that saved foreign currency.⁹⁹⁰ But the historian Per Østby found the lack of foreign currency argument not tenable after 1955, and considered the "long lasting restriction policy anyway peculiar". However, Per Østby was far more concerned with the car rationing's cultural than political implications.⁹⁹¹ The US economic historian Dudley Dillard concluded similarly that Europe's dollar problems were solved approximately 1950, among others through EPU, where Norway took part.⁹⁹² The currency balance argument for maintained car rationing was hence questionable, and most likely a political smokescreen to mask intra Labor Party conflicts.

The corporative *Transport and Communication Council* (Samferdselsrådet) summarized March 25th 1953 the local requirements for new roads to approximately 50.000 kilometers, almost equal to the length of the existing public road system. The

⁹⁸⁷ *Rapport vedr. Opplysningsrådets virksomhet 1ste halvår 1949*, Opplysningsrådet for Biltrafikken, Oslo, September 12th 1949:2, 4; *Opplysningsrådets årsberetning for 1949*, Opplysningsrådet for Biltrafikken, Oslo, 1950:3; *Årsberetning 1/1 31/12 1950*, Opplysningsrådet for Biltrafikken, Oslo 1951:2-3; *Årsberetning for 1952*, Opplysningsrådet for Biltrafikken, Oslo 1953:6. *Styrets beretning for 1958*, Opplysningsrådet for Biltrafikken, Oslo 1959:5-7, OVA.

⁹⁸⁸ *Årsberetning for 1951*, Opplysningsrådet for Biltrafikken, Oslo 1952:11; *Årsberetning for 1952*, Opplysningsrådet for Biltrafikken, Oslo 1953:17, OVA; Fasting and Hagerup (1966:89-91); Østby (1995:130-134).

⁹⁸⁹ Nielsen (2001a:80).

⁹⁹⁰ Fasting and Hagerup (1966:90-91); Østby (1995:116).

⁹⁹¹ Østby (1995:118-122, 134).

⁹⁹² Dillard (1987:539-541, 571-572).

Transport and Communication Council recognized also local requirements for approximately 4.500 kilometers new railroads, even that almost equal to the length of the existing railroad system. But railroads were very costly. The Transport and Communication Council recommended therefore only construction of new railroads where the traffic was sufficient to justify such investments, and recommended otherwise construction of roads.⁹⁹³ The population's demand for new roads and railroads was obviously enormous in the early 1950s. The Transport and Communication Council's recommendations were clearly governed by economic considerations and those days' very tight budget constraints for transport and communication investments.

The executive's 1954-57 *Long-Term Program* submitted to Stortinget April 29th 1953 by Prime Minister Oscar Torp proposed "significant change in the composition of investments" after completing the rearmament, housing and large industrial projects, and signaled "a large increase" in investments in "internal communications, particularly roads".⁹⁹⁴ The Torp executive claimed that construction of roads was the most efficient solution of the growing need for transports, similarly as the Transport and Communication Council concluded a few months earlier.⁹⁹⁵ The postwar Labor Party executives improved seemingly sector by sector, and transport and communications was obviously prioritized 1954-57. But the Torp executive's promises about increased road investments were also most likely a policy response to the non-socialist opposition parties and the road and motoring lobby's challenges because of the forthcoming 1953 election.

The Gerhardsen executive's approval of E.C.E.'s *Pan-European Trunk Road Treaty* in 1950, and Norway's ratification of the treaty in 1953, indicated clearly the executive's willingness to invest in national collective goods. The *Motorists' Temperance Association* (Motorførernes Avholdsforbund) proposed in December 1954 forced construction of 2.380 kilometers trunk roads that connected eastern, southern, western and middle Norway's most crowded areas and the most important export markets, financed through extraordinary appropriations and State loans. These investments were supposed self-financing through reduced time consumption, fewer accidents and increased tourism.⁹⁹⁶

The Motorists' Temperance Association's initiative was noticeable, because this small motorist organization was well connected politically with the Christian Peoples' and Liberal Parties, the Labor Party teetotalers and Stortinget's peripheral and rural areas' distributional coalition. One of the Motorists' Temperance Association's most prominent members was minister of transport and communications Jakob M. Pettersen from Hordaland.⁹⁹⁷ The Motorists' Temperance Association's December 1954 initiative advocated views usually associated with Norwegian Automobile Owners' Association, Norwegian Road Federation and

⁹⁹³ "Samferdselsrådet har bredt anlagt møte i Oslo: Problemet bil-bane trer fram i diskusjonen igjen", *Arbeiderbladet*, March 26th 1953.

⁹⁹⁴ Erik Brofoss, *Norway's economic and financial problems*, Two lectures by the Governor of Bank of Norway, at the University of Oslo Summer School for American students, July 1956:42, 50, AAB-EB, cassette Da 3.

⁹⁹⁵ St. meld. nr. 62 (1953) *Om et langtidspåprogram for 1954-1957*:183-184 Tabell 106.

⁹⁹⁶ *Forslag om hurtig utbygging av Europavegene i Norge*, Motorførernes Avholdsforbund, Oslo, December 1954, VDA cassette 363 Div. reguleringsplaner i Oslo 1928-1971.

⁹⁹⁷ Cf. Jacob M. Pettersen's biography in Nordby (1985b:581).

I.R.F. Jakob M. Pettersen told later his friend Rune Andréasson, managing director in the Motorists' Temperance Organization's Swedish sister organization 1953-67, half jokingly, that he went to USA to study road policy and road construction, but was forced to resign as minister when he returned.⁹⁹⁸

The priest Kolbjørn Varmann from Nordland succeeded namely Jakob M. Pettersen as minister of transports and communications January 22nd 1955, when Einar Gerhardsen established his third executive and imposed the contractive February measures.⁹⁹⁹ Kolbjørn Varmann was in April 1955 informed by the Ministry of Transport and Communications' economist Arne Hoff that Norway lagged significantly behind many Western industrialized countries with regard to transport and communication infrastructures. The road system needed urgent updates, because Norway's public roads had the lowest permitted axle loads and the narrowest permitted vehicle width of 13 countries. Norwegian roads permitted generally only 2,0 tons axel load and 2,2 meters wide vehicles. Other countries permitted 13 tons and 2,5 meters. Axle load and vehicle width were two of the most decisive transport economic parameters together with transport time. The Swedish road appropriations measured in nominal SEK increased 441 percent 1946/47 - 1955/56. The total Norwegian investments in roads, railroads and airports increased only 70 percent 1946/47-1955/56. Kolbjørn Varmann was also made aware that Finland, Belgium, France, West Germany and USA had developed or already approved national road plans. Arne Hoff expected 30 percent increased private consumption the forthcoming 10 years, and assumed most of the new purchase power would be spent on cars. Sweden's number of cars had increased approximately 100.000 per year during the first half of the 1950s. Arne Hoff urged therefore increased road construction to prevent "chaotic conditions".¹⁰⁰⁰ Arne Hoff's note and its location in the Labor Party's archive is clearly evidence the Labor Party bosses were well aware the road and motoring issues' political implications.

⁹⁹⁸ Andréasson et al. (1997:124, 132).

⁹⁹⁹ Nordby (1985a:304; 1985b:770-771).

¹⁰⁰⁰ Note "Er statens (og distriktenes) bevilgninger i kommunikasjonssektoren etter hele vår økonmomi og vårt produksjonsliv, av riktig størrelsesorden?", Ministry of Transport and Communications, Arne Hoff, April 3rd 1955, AAB-DNA cassette Da 127.

Table 8: Norway's relative geographical distribution of roads and cars in 1954.

Counties (Informal regions)	Area (%)	Inhabitants 1950 (%)	Roads (%)	Cars (%)	Seats in Stortinget 1949-1953 (%)	Seats in the Standing Committee on Transport and Communications 1949-1953 (%)
Østfold, Akershus, Oslo, Hedmark, Oppland, Buskerud and Vestfold (Østlandet)	24,6	44,1	31,5	61	37,3	30,8
Telemark, Aust-Agder, Vest-Agder, Rogaland (Sørlandet)	12,6	15,9	20,2	15	20,0	23,1
Hordaland, Bergen, Sogn and Fjordane, Møre and Romsdal (Vestlandet)	15,2	18,3	20,6	10	18,7	23,1
Sør-Trøndelag, Nord-Trøndelag (Trøndelag)	12,7	9,4	21,1	8	10,7	7,7
Nordland, Troms, Finnmark (Nord-Norge)	34,9	12,3	15,7	6	13,3	15,4
Grand total	323.917,2 km ²	3.278.546	47.446 km	197.434	150	13

Sources: ¹⁰⁰¹

Most roads and cars in 1954 were located on Østlandet. Sørlandet had second most cars but fourth most roads. Vestlandet had third most cars and roads. Trøndelag had fourth most cars and second most roads. Nord-Norge had least cars and roads. Table 8 indicates clearly that Østlandet was strongly underrepresented in Stortinget and in the Standing Committee on Transport and Communications 1949-53. Sørlandet, Vestlandet and Nord-Norge were over represented both in Stortinget and the Standing Committee on Transport and Communications. Trøndelag was slightly over represented in Stortinget but underrepresented in the Standing Committee on Transport and Communications. Many roads on Østlandet were built in the 19th century under the Norwegian System, prior to establishment of the Combined Road Administration and the Liberal Party's System. The Ministry of Transport and Communications' 1955 challenges were among others lack of road capacity and poor road safety in the greater Oslo area, lack of roads on Sørlandet, Vestlandet, Trøndelag and Nord-Norge, and lack of modern trunk roads between the regions all across Norway and to the most important export markets.

Many Labor Party members perceived obviously Norway's poor transport and communication infrastructures a potential political problem, because the 1955 convention urged the Labor Party's national board to initiate an analysis of the transport and communication policy. The national board approved this request May 31st 1955 and passed the request to the central board that August 16th 1955 appointed *The Party Commission for Transport and Communication Problems* (Partiutvalg for samferdselsproblemer), headed by lawyer Jens Haugland, member of Stortinget for

¹⁰⁰¹ *Statistisk årbok for Norge 1960*, 79th issue, Statistisk sentralbyrå, Oslo 1960:6 Tabell 5 (area and settlement); Note "Er statens (og distriktenes) bevilgninger i kommunikasjonssektoren etter hele vår økonomi og vårt produksjonsliv, av riktig størrelsesorden?", Ministry of Transport and Communications, Arne Hoff, April 3rd 1955, AAB-DNA cassette Da 127 (relative allocation of roads and cars); Opplysningsrådet for Biltrafikken, *Bil og veistatistikk 1996*:Spreadsheet 1-10 (electronic version) (total number of cars), OVA; Nordby (1985a:147-160, 162-171) (political representation 1949-53).

Vest-Agder and minister of justice November 1st 1955 until August 28th 1963.¹⁰⁰²

¹⁰⁰³ The central board's appointment of The Party Commission for Transport and Communication Problems recognized clearly that poor transport and communications could backfire politically in the forthcoming 1957 election. Appointment of Secretary Haakon Lie and other modernists as member of the commission was also very a strong signal, because Haakon Lie was the Labor Party's chief strategist and de facto managing director.

The Party Commission for Transport and Communication Problems discussed several questions that had been non-issues or kept off the official agenda, and concluded in May 1956.¹⁰⁰⁴ The recommendations included among others significantly increased road investments, considerations about introduction of progressive vehicle taxation, allocation of the vehicle taxes to a Road Fund with long term balance between vehicle taxes and road appropriations such as in Denmark and Sweden, consolidation of the road investments to fewer and larger construction sites to facilitate swift and mechanized road construction, use of competitive bidding and private construction companies and paving of the roads.¹⁰⁰⁵ Oslo and Akershus' County Governor Trygve Lie proposed also establishment of a more autonomous Directorate of Public Roads governed by a corporative board with

¹⁰⁰² Letter to minister of transport and communications Kolbjørn Varmann, from Det Norske Arbeiderparti, Frank Andersen, June 9th 1955, AAB-DNA cassette Da 127; Minutes from the Labor Party's central board's meeting August 16th 1955:361-362, AAB-DNA cassette Ac 5. The biographical data about Jens Haugland are from Nordby (1985b:280-281).

¹⁰⁰³ The Party Commission for Transport and Communication Problems' other members appointed by the central board August 16th 1955 were the Norwegian State Railroad's Director General 1951-66 Halvdan Eyvind Stokke who had been minister of transport and communications Nils Langhelle's Parliamentary Secretary 1947-48, Aker's mayor 1946-48 and Oslo's mayor 1948-50 after Oslo and Aker merged; head of the Ministry of Transport and Communications' Coordination Office assistant secretary (byråsjef) John Paxal; director in Norwegian Bus Owner Association Gottfred Hoem; the Labor Party's Secretary Haakon Lie; minister of transport and communications Kolbjørn Varmann and minister of finance Mons Lid. The last member appointed somewhat later was Oslo and Akershus' County Governor 1955-63 Trygve Lie, former minister of foreign affairs in the Nygaardsvold executive and Gerhardsen's first two executives, UN's Secretary General 1946-53 and head of *The Oslo-Area's Regional Planning Committee* (Regionplankomiteen for Oslo-området) (Letter to Jens Haugland "Partiutvalg for samferdselsproblemer", from Det Norske Arbeiderparti, Frank Andersen, August 28th 1955, AAB-DNA cassette Da 127. For Trygve Lie's biography see for instance Nordby (1985b:444-445). For Halvdan Eyvind Stokke's biography see for instance Gulowsen and Ryggvik (2004:83)).

¹⁰⁰⁴ Note "Aktuelle samferdselsproblemer – momentliste", Ministry of Transport and Communications, Eiler Holtermann, September 19th 1955; Note, "Litt nærmere om enkelte aktuelle samferdselsproblemer", Ministry of Transport and Communications, Eiler Holtermann, September 25th 1955; Note "Bør bilavgiftsinntekter i prinsippet gå til vegformål, subsidiært til samferdselsformål i sin alminnelighet? Hva med toll og omsetningsavgift?", Ministry of Transport and Communications, Eiler Holtermann, September 28th 1955; Note "Er statens (og distriktenes) bevilgninger til i [sic] kommunikasjonssektoren, etter hele vår økonomi og vårt produksjonsliv, av riktig størrelsesorden?", Ministry of Transport and Communications, Eiler Holtermann, October 1st 1955; Letter to minister of transport and communications Kolbjørn Varmann "Konsentrasjon av vegarbeidsdriften m.v.", Directorate of Public Roads, Vegdirektøren 5721/55 SB/LH October 28th 1955; Note "Samferdselsinvesteringene i Norge har i de senere år ikke holdt takt med investeringene for øvrig, ikke holdt takt med produksjonsutviklingen og når det gjelder utbyggingen av vegene heller ikke holdt takt med økningen i antall motorkjøretøyer, trafikken og lastebilene og bussenes størrelse", Ministry of Transport and Communications, no author [but most likely Eiler Holtermann], not dated [but most likely the spring 1956], all from AAB-DNA cassette Da 127.

¹⁰⁰⁵ Note (draft) "Konklusjon", April 26th 1956 [with Jens Haugland or Kolbjørn Varmann's handwritten comments]; Letter "Til kommunikasjonskomiteens medlemmer" from Det Norske Arbeiderparti, Jens Haugland, attached draft "Konklusjon", both from ABB-DNA cassette Da 127.

representatives from the road users' organizations and trade unions in case of establishment of a Road Fund. Trygve Lie claimed the road users' organizations' involvement was necessary in case of financing roads in crowded areas through turnpikes or loans and contributions from insurance companies and trade and industry dependent of road transports, because those days' tax revenues were not sufficient to provide the desired roads.¹⁰⁰⁶ The Party Commission for Transport and Communication Problems' recommendations were most likely pragmatic responses to the non-socialist opposition parties and the road and motoring lobby's challenges, but modify completely the prevailing views concerning the Labor Party's road policy in the 1950s, because these recommendations had many similarities with the non-socialist opposition parties' views, and were in some instances far more progressive if the aim was development of a functional road and transport system.

Information about the Labor Party's central board's appointment of The Party Commission for Transport and Communication Problems August 16th 1955 changed the initial understanding of Buskerud Conservative Party's initiative for a combined tax shelter and Road Fund in November 1955, Axel Dammann's study about Norwegian postwar transport and communication policy published in December 1955, the Conservative Party's Transport and Communication Committee established in November 1956 and Fritz Rieber's lecture in February 1957, because the Labor Party bosses' initiative came prior to the non-socialist opposition's initiatives. The Conservative Party's *10 Years Plan for Transports and Communications* can thus be understood as a response to the Labor Party's internal activities, and not only an isolated move in the Conservative Party's opposition such as assumed earlier.¹⁰⁰⁷ Only a small number of those days' economists and chartered engineers were involved in development of transport, communication and road policies. It seems thus reasonable to assume they knew each other and talked together, no matter their party affiliation. The Labor Party's central board's appointment of The Party Commission for Transport and Communication Problems was thereby most likely well known for the Conservative Party's leadership.

The Party Commission for Transport and Communication Problems' recommendations coincided with the Ministry of Finance's preparations of the executive's forthcoming *1958-61 Long-Term Program*. The Ministry of Finance's economist Eskild Jensen argued for increased transport and communication investments 1958-61, particularly road investments, but concluded the question about car rationing had to be discussed later.¹⁰⁰⁸ Eskild Jensen's colleague in the Ministry of Finance, the economist Bjørn Larsen, concluded June 15th 1956 that abolition of car rationing would neither increase the private consumption nor undermine the currency balance, because car imports would substitute other currency demanding imports, given constrained consumer credits. Bjørn Larsen concluded also that increased road investments in case of increased car imports would not result in State financial problems, because the vehicle and fuel tax

¹⁰⁰⁶ Letter "Til kommunikasjonskomiteens medlemmer" from Det Norske Arbeiderparti, Jens Haugland, attached draft "Konklusjon" and Trygve Lie's "Tillegg til kommunikasjonsprogrammets post 3 – etter siste avsnitt", ABB-DNA cassette Da 127.

¹⁰⁰⁷ See for instance Knutsen and Boge (2005:66-69).

¹⁰⁰⁸ Ministry of Finance's note "Den økonomiske politikken 1958-61", not dated EJ/BB [but most likely written during the first half of 1956], AAB-TB cassette Db 10.

revenues increased almost proportionally with the number of cars.¹⁰⁰⁹ The Ministry of Finance punctuated hence in June 1956 the myth that car rationing was necessary because of the currency balance. But Labor Party ministers and legislators used the currency balance as argument for maintained car rationing even after June 1956.

The Norwegian State Railroads with 26.622 employees in 1955/56 that operated with 119,7 millions NOK or approximately 100,3 millions 1990 PPP USD in deficits, more than the annual State investments in trunk roads, was one of the most significant obstacles against increased road investments and liquidation of the car rationing. The State Railroads annual deficits increased strongly throughout the 1950s after significant surpluses during the German occupation.¹⁰¹⁰ Road transports of goods passed railroad transports measured in ton kilometers already in 1954.¹⁰¹¹ But the Railroad Workers' Union held prominent positions both within the National Federation of Labor and the Labor Party after World War Two, according to Jon Gulowsen and Helge Ryggvik, who wrote the Norwegian State Railroads' history 1940-2004.¹⁰¹² The Labor Party bosses could not afford to overlook the railroad lobby that aggressively opposed any attempts of lifting the car rationing or increasing the road construction.¹⁰¹³ The Norwegian railroad lobby's strong position, both within the ruling Labor Party and in the opposition middle parties, was a fundamental difference compared to Denmark and Sweden.

But minister of transport and communications Kolbjørn Varmann decided June 21st 1956 to consolidate the Norwegian State Railroads through completing ongoing construction projects and streamlining the operations.¹⁰¹⁴ Varmann punctuated thereby the railroad lobby's dream about construction of new railroads.¹⁰¹⁵ The Liberal and Agrarian Parties' members of Stortinget's Standing Committee on Transports and Communications, Bent Røiseland and Trond Wirstad, demanded therefore in November 1956 binding plans either for construction of new railroads or roads as substitutes for the formerly planned railroads. Stortinget required also a comprehensive plan for how to solve Norway's transport and communication problems.¹⁰¹⁶ The balance of power between the railroad and road and motoring lobbies shifted thus gradually during the second half of 1956, when

¹⁰⁰⁹ Ministry of Finance's note "Konsekvenser for forbruk og import av en økt import av personbiler", June 15th 1956 BL/BB (Avskrift 28/-56 TT), AAB-TB cassette Db 10. Bjørn Larsen ([Interview] 2005), who wrote this note, confirmed this information and the Ministry of Finance's internal discussions about the car rationing in the 1950s.

¹⁰¹⁰ The Norwegian State Railroads' number of employees increased from 17.528 in 1939/40 to 26.251 in 1944/45. The Norwegian State Railroads delivered their all time high surplus 1942/43, with 108,4 millions NOK or approximately 141,14 millions 1990 PPP USD, after having operated barely in balance or with deficits until then. (*Historisk statistikk 1968*, Statistisk sentralbyrå, Oslo 1969: 410-411 Tabell 200, 413-414 Tabell 202. See also *Historisk Statistikk 1994*, Statistisk sentralbyrå, Oslo and Kongsvinger 1995:495 Tabell 20.26, 497 Tabell 20.28 about employment and economic performance 1955/56).

¹⁰¹¹ Cf. DB-DBA-GTW 1926-2002.

¹⁰¹² Gulowsen and Ryggvik (2004:51 ff., 147-150, 163-177). See also Bjørnland (1989:148-151, 222-224) and Knutsen and Boge (2005:69-70).

¹⁰¹³ Many Labor Party legislators were railroad champions. See the Data Appendix' Table 4.8, 4.10-4.13 concerning Stortinget's and the Standing Road and Railroad Committee 1945-49 and the Standing Committee on Transport and Communications' political representation 1949-61.

¹⁰¹⁴ St. meld. nr. 58 (1956) *Om Jernbanekommisjonens innstilling og om investeringer i jernbanesektoren i de nærmeste år*:23-25; Gulowsen and Ryggvik (2004:73 ff., 82-95).

¹⁰¹⁵ For further discussions about the postwar struggles about the Norwegian State railroads see for instance Østby (1995:148, 150-151); Gulowsen and Ryggvik (2004:69-71);

¹⁰¹⁶ *Stortingstidende* (1956):3398-3400, 3414-3416, 3449. See also Innst. S. nr. 256 (1956):641.

the Labor Party executive and Stortinget's majority recognized the interwar years' railroad policy was not tenable.

The Ministry of Trade's deputy undersecretary Knut Getz Wold claimed in a debate on national radio in February 1957 with Norwegian Road Federation's managing director Chr. Christiansen that annual import of for instance 35.000 cars in case of abolition of the car rationing would consume the annual currency revenues from the aluminum smelting work Årdal & Sunndal Verk. Christensen replied that import of coffee until then consumed more foreign currency than import of cars.¹⁰¹⁷ The Ministry of Trade used still the currency balance argument, even if the Ministry of Finance already in June 1956 had concluded that liquidation of the car rationing was not detrimental for the currency balance. But the Labor Party's political costs for maintaining the telephone and particularly the car rationing were obviously growing, because Konrad Nordahl characterized the "bourgeois press" complaints about lack of passenger cars and telephones as "distinguished want" in his inaugural address at the National Federation of Labor's 1957 convention.¹⁰¹⁸ It was obviously those trade union members and Labor Party voters who desired cars and telephones.¹⁰¹⁹ But the Labor Party and trade union bosses had cornered themselves with regard to liquidation of the car rationing, among others through use of strong normative arguments against use and ownership of cars.

It was clearly evident the Labor Party bosses considered the Combined Road Administration and the 1912 Road Act serious obstacles against development of a functional road system, because already the second Gerhardsen's executive appointed the *Road Act Committee* (Veglovkomiteen) March 30th 1951 to revise the 1912 Road Act. Jakob M. Pettersen headed this committee until he became minister of transport and communications. But the Road Act Committee, then headed by Aust-Agder's County Governor Nils Hjelmtveit, did not conclude until March 6th 1957, approximately a week after Fritz Rieber's formerly mentioned lecture in Polytechnic Association.¹⁰²⁰ The Road Act Committee proposed establishment of an almost Swedish, German or British road policy regime, where the Ministry of Transport and Communications managed and financed the rural areas' main roads or trunk roads and 75 percent of the urban areas' costs for trunk roads. The Road Act Committee did not mention the Directorate of Public Roads or the Road Director at all, but parish roads were supposed managed by the County Road Boards.¹⁰²¹ The Road Act Committee's proposal stirred up plenty of commotion, and was therefore

¹⁰¹⁷ Fasting and Hagerup (1999:93-94).

¹⁰¹⁸ Nordahl (1973:38).

¹⁰¹⁹ See for instance Østby (1995:122-129, 132-134) about some of the Labor Party legislators' moral indignation about the voters' desires for cars.

¹⁰²⁰ The Road Act Committee consisted initially of the Labor Party and Hordaland County's member of Stortinget Jakob M. Pettersen, Aust-Agder's County Governor Nils Hjelmtveit, the Labor Party and Troms County's member of Stortinget Peder Nikolai Leier Jacobsen, Hordaland's Chief County Road Officer Sven Waage, stipendiary magistrate C. W. Bang and the Ministry of Transport and Communications and the Directorate of Public Roads' assistant secretary Eugen Wister, who was the Road Act Committee's secretary. Nils Hjelmtveit headed the Road Act Committee after Jacob M. Pettersen became minister of transport and communications January 5th 1952. Jacob M. Pettersen was replaced by the Construction Workers' Unions' (Norsk Arbeidsmandsforbund) secretary Albert Karlsen. Sør-Trøndelag's Chief County Road Officer Johannes Eggen replaced Sven Waage June 12th 1953, because of Waage's illness (*Innstilling fra veglovkomiteen av 1951. Utkast til veglov med motiver:V-VI*).¹⁰²¹ *Innstilling fra veglovkomiteen av 1951. Utkast til veglov med motiver:13, 15, 42-43, 164-168, 226-227, 235-236.*

shelved until further.¹⁰²² The Road Act Committee's list of recommendations was obviously not well timed politically, because it was submitted early in an election year prior to the Labor Party's convention, and was similarly as Fritz Rieber's lecture a motion of no confidence against the established road policy regime. The Road Act Committee's bottom line was liquidation of the Liberal Party's System that had governed Stortinget's allocation of road appropriations since the 1890s and the Combined Road Administration. Such recommendations were completely unacceptable for the peripheral and rural areas' distributional coalition, and the Labor Party traditionalists and anti-motorists.

Stortinget's request in November 1956 for a comprehensive plan about how to solve Norway's transport and communication problems was partly answered May 23rd 1957 when Prime Minister Einar Gerhardsen submitted the executives' *1958-61 Long-term Program* that outlined construction of roads instead of new and unprofitable railroads, and promised increased investments in trunk roads and entrance roads to Oslo, Bergen and Trondheim, Norway's three major cities in decreasing order.¹⁰²³ The State's average gross road investments 1954-57 had been 210 millions NOK, approximately 169,3 millions 1990 PPP USD, per year which was somewhat less than planned because of the inflation, but the number of minuscule construction sites had been reduced.¹⁰²⁴ The *1958-61 Long-term Program* indicated clearly a forthcoming shift with regard to road policy and road construction.

The Labor Party's central board appointed the members of The Party Commission for Transport and Communication Problems as members of the new party internal *Transport and Communication Commission* (Samferdselskomiteen) to prepare the forthcoming 1958-61 manifesto.¹⁰²⁵ The Labor Party's national board agreed similarly May 29th 1957 about "strengthened efforts in construction and improvements of roads", and furthered hence the policy outlined in the executive's *1958-61 Long-term Program*.¹⁰²⁶ However, The Party Commission for Transport and Communication Problems and the Road Act Committee's recommendations triggered most likely opposition from the Labor Party's phalanx in the peripheral and rural areas' distributional coalition, as well as the traditionalists and anti-motorists, because the Labor Party's 1957 convention did not include establishment of a Road Fund, use of alternative road financing and the need for a new Road Act in the 1958-61 manifesto.¹⁰²⁷ Modernists like Secretary Haakon Lie, minister of transport and communication Kolbjørn Varmann and minister of Justice Jens Haugland lost the power struggle prior to and at the 1957 convention with Prime Minister Einar Gerhardsen who was a traditionalist and considered cars a luxury.

¹⁰²² *Styrets beretning for 1957*, Opplysningsrådet 1958:38-56, OVA; Bjørnland (1989:217).

¹⁰²³ St. meld. nr. 67 (1957): *Om langtidsprogrammet 1958-1961*:64-65.

¹⁰²⁴ St. meld. nr. 67 (1957): *Om langtidsprogrammet 1958-1961*:62-63.

¹⁰²⁵ "Sak 8. Utvalg til å forberede arbeidsprogrammet 1957-61", issue "e) Samferdselsutvalget", note with the agenda items to the central board's meeting 25/56, AAB-DNA cassette Da 127.

¹⁰²⁶ Minister of justice Jens Haugland oriented the Labor Party's national board about the Transport and Communication Commission's recommendations October 23rd 1956 (Minutes from the national board's meeting October 23rd 1956:570, issue 5c, AAB-DNA cassette Ac 5; minutes from the national board's meeting May 29th 1957:119, AAB-DNA cassette Ac 6).

¹⁰²⁷ "Arbeidsprogram for Det Norske Arbeiderparti stortingsperioden 1958-61":Samferdselen, in *Vi vil...! Norske partiprogrammer 1884-2001*.

Another winner was the Ministry of Finance that avoided development of a Road Fund.

The third Gerhardsen executive appointed also a *Vehicle Tax Commission* (Bilskattkomiteen) in 1956 that submitted a divided recommendation in August 1957 prior to the election. The motorist organizations and Directorate of Public Roads required vehicle taxation according to the so-called cost principle, and establishment of a Road Fund for surplus revenues, similarly as in Denmark and Sweden. But the ministries' representatives required purely fiscal taxation and opposed hence establishment of a Road Fund.¹⁰²⁸ The ministries' position in the Vehicle Commission was noticeable because they opposed here views championed by the Ministry of Transport and Communications' economists 1955-56 in The Party Commission for Transport and Communication Problems. The ministries had obviously been instructed, either by the Ministry of Finance, Prime Minister Einar Gerhardsen or by both after the Labor Party's 1957 convention, and were in August 1957 aligned with the Labor Party's 1958-61 manifesto.

Norway's road policy or lack of such got noticed even abroad, because *Swedish Road Plan* questioned whether the *1947 Trunk Road Plan* ever would be completed.¹⁰²⁹ The *1947 Trunk Road Plan* was initially supposed accomplished within a decade, but was not yet accomplished in 1970!¹⁰³⁰ Karl Gustav Hjorth, the Swedish Road and Water Construction Administration's recently retired Director General, lectured at Polytechnic Association's public meeting February a 11th 1958 about the recently submitted *Swedish Road Plan*. Road Director Thomas Offenbergs Backer used this opportunity to demonstrate vigor and proposed development of a similar road plan for Norway. Minister of transport and communications Kolbjørn Varmann endorsed Backer's idea and told the press after the meeting he desired a *Norwegian Road Plan* "as soon as possible".¹⁰³¹ Kolbjørn Varmann's response indicated clearly a forthcoming road policy shift, such as outlined by the Party Commission for Transport and Communication Problems and in the executive's *1958-61 Long-term Program*. The non-socialist opposition parties did not object.

The Gerhardsen executive appointed the *Transport Economic Council* (Transportøkonomisk utvalg) in 1958.¹⁰³² Nordic Road Association championed already in 1951 a Norwegian professorate in transport economics.¹⁰³³ Robert F. Nordén, economist from University of Oslo and one of the Labor Party's young technocrats who served in the Ministry of Finance's Economy Section 1952-58 together with among others Bjørn Larsen, became the Transport Economic Board's

¹⁰²⁸ *Styrets beretning for 1957*, Opplysningsrådet 1958:27-38, OVA.

¹⁰²⁹ SOU 1958:1 *Vägplan för Sverige. Del 1 Riktlinjer och förslag samt kartbilagor*:27.

¹⁰³⁰ *Norsk Vegplan. Innstilling fra Vegplankomiteen, Bind 2 Kap. 12-13*, Vegplankomiteen, Oslo June 30th 1969:12.06, VDA.

¹⁰³¹ *Styrets beretning for 1957*, Opplysningsrådet for Biltrafikken, Oslo 1958:60; *Styrets beretning for 1958*, Opplysningsrådet for Biltrafikken, Oslo 1959:16-17, OVA; Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, 2001:8, VDA.

¹⁰³² See Østby (1995:259-274, 317-357) for further discussions about the Transport Economic Board's troubled genesis and later development to the current Institute of Transport Economics. See also Thomassen (1997:384-387).

¹⁰³³ *Årsberetning for 1951*, Opplysningsrådet for Biltrafikken, Oslo 1952:7; *Årsberetning for 1952*, Opplysningsrådet for Biltrafikken, Oslo 1953:2-3, 10-11; *Styrets beretning for 1954*, Opplysningsrådet for Biltrafikken, Oslo 1955:7-8, OVA.

first secretary.¹⁰³⁴ Establishment of the Transport Economic Council indicated clearly the Labor Party executive responded to the growing critique against Norway's outdated transport and communication infrastructures. Another impetus, according to Bjørn Larsen, was those days' very grim road accident statistics.¹⁰³⁵ 269 persons were killed in road accidents in 1958, while 341 persons were killed in road accidents in 2000.¹⁰³⁶ The death risk in 1958 was almost seven times higher than in 2000, given the number of vehicles. Establishment of the Transport Economic Council was an important institutional move for development of a rational transport and communication policy based on facts and scientific principles and methods.

The head of the Labor Party's faction Nils Hønsvald expressed November 25th 1958 in Stortinget concern for need for construction of several new aluminum smelting works to provide sufficient foreign currency to finance unconstrained import of cars.¹⁰³⁷ The notion about lack of foreign currency was obviously deeply rooted, but clearly not in accordance with the realities, given the Ministry of Finance's conclusions in June 1956. Norway had 58.175 passenger cars in December 1949 and 43.693 trucks, lorries and vans. These numbers increased to 166.162 passenger cars and 91.407 trucks, lorries and vans in December 1958, despite the rationing.¹⁰³⁸ The car rationing delayed clearly the mass motoring's reemergence in Norway, but was not able to stem the tide.

A possible explanation of why the Labor Party executives upheld the car rationing after completing the initial reconstruction may be the links between the executive's plan economy and the labor market's corporative negotiation system. Increased prices on imported goods such as coffee triggered namely the National Federation of Labor's demands for wage compensation. Liquidation of the car rationing represented thus an imminent risk for demands for significant real wage increases according to the Ministry of Finance's economist Bjørn Larsen, to facilitate common ownership of cars.¹⁰³⁹ Car rationing may therefore have been one of Prime Minister Einar Gerhardsen's tactical moves to safeguard the Labor Party and the National Federation of Labor's domestic peace and to constrain the heavy industries' wage costs, because these industries were directly exposed to international competition. The alleged lack of foreign currency may also have been one of Einar Gerhardsen's tactical moves to check the Labor Party's very influential railroad lobby.

Stortinget's majority prolonged December 9th 1958 the temporary Car Rationing Act until June 30th 1961.¹⁰⁴⁰ This decision came three weeks prior to introduction of fully convertible currencies from January 1959.¹⁰⁴¹ But currency restrictions or the currency balance could not motivate the car rationing from

¹⁰³⁴ Lie (1995:193, 336, 361); Østby (1995:317-329).

¹⁰³⁵ Larsen (2005 [Interview]).

¹⁰³⁶ *Historisk statistikk 1994*, Statistisk sentralbyrå, Oslo and Kongsvinger 1995:503 Tabell 20.36; *Bil- og veistatistikk 2002*, Opplysningsrådet for Veitrafikken AS, Oslo 2002:10, OVA. Kjøretøybestanden 1927-2001; Personer drept eller skadd i veitrafikkulykker, etter trafikantgruppe. 1991-2000. [Online October 20th 2003] – URL: <http://www.ssb.no/emner/10/12/20/vtu/arkiv/tab-2001-05-14-01.html>.

¹⁰³⁷ *Stortingstidende* (1958):3012. See also similar discussions on page 3005-3016.

¹⁰³⁸ *Bil- og veistatistikk 1959*, Opplysningsrådet for Biltrafikken, Oslo 1959:7, OVA.

¹⁰³⁹ Larsen (2005 [Interview]).

¹⁰⁴⁰ "Loven om bilfordeling ble forlenget til 1961", *Arbeiderbladet*, December 10th 1958.

¹⁰⁴¹ Eichengreen (1998:94-96, 113-115).

January 1959. The Labor Party's exit from the car-rationing impasse went via the Ministry of Finance. Stortinget imposed namely import taxes that increased new passenger cars' sales price 15 to 25 percent in a secret meeting February 2nd 1959, among others against the Conservative Party's protests.¹⁰⁴² The Labor Party's official organ of speech *Arbeiderbladet* claimed that increased import taxes paved the way for liquidation of the car rationing, even if the Conservative Party's Kåre Willoch and Erling Petersen claimed tax increases to a level where rationing was unnecessary was "introduction of rationing through the wallet".¹⁰⁴³ Prime Minister Einar Gerhardsen had earlier strong personal objections against rationing through the wallet.¹⁰⁴⁴ But Einar Gerhardsen considered most likely in 1959 rationing of cars through the voters' wallets a necessary pragmatic adaptation to the voters' desire for cars.

The 1959 vehicle tax hikes together with the 1949 temporary fuel tax completed the Ministry of Finance's decoupling of the motorists' payments of vehicle and fuel taxes from the annual road appropriations, after the ruling Labor Party had abandoned the idea about establishment of a Road Fund. The Danish and Swedish motorists' payments of vehicle and fuel taxes were linked to the annual road appropriations until 1972 and 1980 as discussed earlier in chapter 2 and 3.

Rationing of vans was liquidated in September 1959.¹⁰⁴⁵ The genie was then partly escaped from the bottle. The political costs for furthering the rationing would be prohibitive. Neither was further car rationing compatible with Norwegian membership in EFTA. But car rationing was not on the agenda in any of the Labor Party's central board's meetings between January 1957 and March 1960.¹⁰⁴⁶ But Prime Minister Einar Gerhardsen, who most likely feared losing the 1961 election, announced at a press conference October 8th 1959 liquidation of the car rationing in 1960.¹⁰⁴⁷ Einar Gerhardsen who was an exceptionally skilled political player defused here one of the non-socialist opposition parties' favorite issues well in advance of the forthcoming 1961 election.

Norway's public rural road system in 1959 measured 50.383 kilometers. 14.841 kilometers had been built since 1925. 16.277 kilometers were defined as trunk roads, 8.093 kilometers as county roads and 26.013 kilometers as parish roads. Only 3.751 kilometers or 7,5 percent of the public roads were paved in 1959, the rest was gravel road.¹⁰⁴⁸ The public road system's length increased 6.403 kilometers since 1945. 2.196 kilometers had been paved, 4.284 kilometers less than agreed in the *1947 Trunk Road Plan*. Almost every Danish trunk road and close to 60 percent

¹⁰⁴² *Stortingstidende* (1959):268-290.

¹⁰⁴³ "Høyere avgifter vedtatt: Bilrasjoneringen går nå mot slutten", *Arbeiderbladet*, February 3rd 1959; "De økte bilavgiftene ledd i opphevingen av rasjoneringsordningen", *Arbeiderbladet*, February 4th 1959; *Styrets beretning for 1959*, Opplysningsrådet for Biltrafikken, Oslo 1960:17-19, OVA; Fasting and Hagerup (1966:96-99); Østby (1995:217-218).

¹⁰⁴⁴ Einar Gerhardsen opposed vigorously rationing through the voters' wallet, according to Bjørn Larsen (2005 [Interview]). Einar Gerhardsen's aversion against rationing through the wallet was also confirmed by the historian Finn Olstad (1999:251-253) when Gerhardsen was forced to abandon the initial reconstruction's stabilization policy.

¹⁰⁴⁵ Fasting and Hagerup (1966:102-103).

¹⁰⁴⁶ Cf. studies of minutes from the central board's meetings from January 8th 1957 until March 16th 1960, AAB-DNA cassette Ac 6.

¹⁰⁴⁷ Østby (1995:291).

¹⁰⁴⁸ *Historisk statistikk 1968*, Statistisk sentralbyrå, Oslo 1969:415 Tabell 205.

of the local roads was paved in 1959.¹⁰⁴⁹ The Swedish executive forced similarly construction of a modern high-level road system through *Swedish Road Plan* approved in 1959.

Conclusions

What about this chapter's findings about the study's four working hypotheses concerning the Norwegian case between 1945 and 1959? First, this study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was both weakened and strengthened between 1945 and 1959, because the majority of Stortinget's legislators considered trunk roads national collective goods and pursued the common good, at least in principle when they approved the *1947 Trunk Road Plan* for construction of modern, paved trunk roads between the regions and the most important export markets. But the Gerhardsen and Torp executives were soon solitary defenders of the national interests and common good, because Stortinget's majority, hereunder many Labor Party legislators, was more concerned with their own constituencies' parochial interests, and voted geographically rather than according to the party line in low politics issues such as road policy and road construction. The legislators and counties' local egoism prevailed therefore in many instances on the national interests and the common good's expense 1945-59, even if the executive and Directorate of Public Roads changed the road policy during the second half of the 1950s. Most road appropriations were allocated to trunk roads during the second half of the 1950s, even if the road appropriations only was a fraction of those needed to develop a functional road system.

This study's second working hypothesis about roads as local collective or private goods governed by the constituencies' resource struggles was significantly strengthened by the Norwegian case between 1945 and 1959, because Stortinget's majority headed by the peripheral and rural areas' distributional coalition guarded vigorously their own counties' share of the annual road investments determined by Stortinget's 1929 allocation key. The majority of legislators preferred similarly investments in local roads in their own constituencies' local roads rather than accomplishment of the *1947 Trunk Road Plan*, and defended vigorously the Combined Road Administration and the Liberal Party's System for resource allocation when the Gerhardsen and Torp executives questioned the 1912 Road Act and the Combined Road Administration.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was both strengthened and weakened by the Norwegian case between 1945 and 1959, because the Labor Party's majority 1945-61 made most issues to intraparty matters, and the Labor Party's struggling wings and factions usually determined the outcomes. The Norwegian Labor Party bosses reasoned seemingly fundamentally different from their Danish and Swedish fellow believers. The party discipline was seemingly far stricter concerning car rationing than road

¹⁰⁴⁹ Betænkning nr. 294 *Indplaceringen af de store trafikinvesteringer. Storkøbenhavns nærtrafik, Storebæltsbro, Øresundsbro i et samlet 20 års program for de offentlige trafikinvesteringer*:11-12; see also Jørgensen (2001:463-465).

policy. The Labor Party bosses' desire for domestic peace explain largely why the car rationing was upheld until late in 1960, almost 12 years after the initial reconstruction was completed in 1948/49. This study found the Labor Party's commonly used currency balance argument to be only a smokescreen to mask intraparty struggles, because the Ministry of Finance concluded already in 1956 that liquidated car rationing and increased road construction would not harm the State economy. But leading Labor Party legislators used the currency balance argument publicly at least until November 1958. The railroad lobby's strong position in the Labor Party and in the National Federation of Labor explain partly the mass motoring's delayed reemergence in Norway. The commonly held belief has been the non-socialist parties opposition parties chased the governing Labor Party with regard to road policy and road construction in the 1950s, but the Labor Party's 1955-56 Party Commission for Transport and Communication Problems headed by minister of justice Jens Haugland, with among others Secretary Haakon Lie, minister of transport and communications Kolbjørn Varmann and Oslo and Akershus' County Governor Trygve Lie as members, proposed radical road policy reforms to catch up Norway's lag with regard to road construction and road standard. Many of these proposals had striking similarities with ideas championed by the non-socialist opposition parties and the road and motoring lobby. But the Labor Party's traditionalists and railroad lobby rejected these ideas prior to or at the 1957 convention, and shelved also the Road Act Committee's 1957 proposal that would have replaced the Combined Road Administration with a Swedish style road administration and largely abolished the Liberal Party's System that governed Stortinget's resource allocation to among others roads. This study has thus lain open the governing Labor Party was far more divided internally in the 1950s with regard to road policy than what has been taken for granted.

This study's final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Norwegian case between 1945 and 1959. First, the 1945 liberation led to a regime change, because the Labor Party or rather the new Civil Servant State replaced the totalitarian Quisling regime. But the prewar Liberal Party's System that had governed Stortinget's resource allocation since the 1890s rose again, and was soon even stronger than prior to World War Two, most likely because Prime Minister and party leader Einar Gerhardsen gave concessions to the Labor Party's phalanx within the peripheral and rural areas' distributional coalition. The peripheral and rural areas' distributional coalition strengthened also its position during the German occupation, because of more pronounced resistance in peripheral and rural than in central and urban areas. Both the Liberal Party's System and the peripheral and rural areas' distributional coalition were examples of path dependence. Second, the Directorate of Public Roads was weakened after World War Two, and the County Road Boards and Public Roads Administrations punctuated partly the 1928 equilibrium that gave the Directorate of Public Roads a more prominent position. But the Directorate of Public Roads assisted by the Ministry of Transport and Communications regained partly its former position in the second half of the 1950s, and managed to carry out a road policy largely governed by the professionals' norms and standards despite minuscule road appropriations. Third, Stortinget's ban against accomplishment of public works through competitive bidding from 1894 until 1956 delayed of mechanized road construction and maintenance in Norway, and gave the legislators

increasing returns, because provision of employment on hundreds of small construction sites increased their likelihood of reelection. This ban against road construction based on competitive bidding was clearly an example of path dependence. Fourth, abolition of the Farmer's Paragraph prior to the 1953 election was only formal, not substantial. The 1953 election system did not introduce the principle one person – one vote such as in Denmark and Sweden. The peripheral and rural constituencies' malapportionment established in the 19th century was upheld, and even the 1953 election system gave thus the peripheral and rural constituencies' voters increasing returns. The election system was clearly an example of path dependence. Fifth, the Labor Party's postwar Strategic Capitalism based on politically governed allocation of investments to hydroelectric power plants and smokestack industries located in the export enclaves weakened traditional domestic sectors such retail and detail trades, manufacturing and services highly dependent of road transports. Sixth, the Road Act Commission's 1957 recommendations was one attempt from the Labor Party modernists to punctuate the Liberal Party's System for resource allocation, the 1912 Road Act and the Combined Road Administration. But this attempt failed because of intraparty reasons and the peripheral and rural areas' distributional coalition's pivotal position in Stortinget. Seventh, the Gerhardsen executive's transport and communication policy shifted in 1956 when minister of transport and communications Kolbjørn Varmann abandoned further construction of new railroads. The executive's *1958-61 Long-term Program* promised construction of modern roads rather than unprofitable railroads. Finally, Stortinget's imposition in February 1959 of significantly increased import taxes for cars paved the way for abolition of the car rationing in 1960. But the new vehicle taxes together with the 1949 extraordinary fuel tax punctuated the equilibrium established through the 1912 and 1926 Motor Vehicle Acts that had linked the vehicle and fuel tax revenues to road maintenance. The annual road appropriations were from then governed by the Ministry of Finance's budget constraints and sector allocation, and completely decoupled from the motorists' payments of vehicle and fuel taxes, despite several attempts throughout the 1950s for establishment of a Road Fund, among others from the Labor Party modernists. This reform gave the Ministry of Finance increasing returns, but prevented effectively catch-up when the car rationing was abolished and the number of cars multiplied, because the road appropriations lagged behind. The Danish and Swedish road appropriations were linked to the motorists' payments of vehicle and fuel taxes through Road Funds and safeguarded thereby increased road appropriations when the number of cars increased.

1960-80 – The Labor Party modernists' road policy reformation and the peripheral and rural areas' distributional coalition's counterreformation

The Labor Party executive's liquidation of the car rationing October 1st 1960 necessitated a complete road policy turnaround, because the public road system was some places in worse condition than prior to World War Two given the number of cars. Liquidation of the car rationing became the window of opportunity for the Labor Party modernists' 1960-65 road policy reformation, but the Labor Party lost the 1965 election. The first non-socialist executive since 1935 carried out a road policy counterreformation that made construction of local roads in peripheral and

rural areas job number one, similarly as in the early 1950s. The Labor Party modernists lost the intraparty power struggles during the 1965-71 opposition, and the 1970s' Labor Party executives furthered the Borten executive's road policy counterreformation. The result was a road policy debacle because of massive traffic infarcts in Norway's three major cities from the turn of the 1970s and 80s.

The Labor Party or new Civil Servant State from success to distress

Some of the Labor Party's most prominent NATO opponents were excluded in April 1961 and established a new leftwing populist and pacifist party *Socialist Peoples' Party* (Sosialistisk Folkeparti) that won 2 seats in the 1961 election. The Labor Party's lost majority changed the political balance and increased the non-socialist parties' influence.¹⁰⁵⁰ The 1961 election became the beginning of decades with minority executives. Einar Gerhardsen's third Labor Party executive was forced to resign in August 1963 when the Socialist Peoples' Party joined the non-socialist parties' critique of the Kings Bay affair.¹⁰⁵¹ The Conservative Party's John Lyng established a four party minority executive that was forced to resign four weeks later. Einar Gerhardsen established his fourth and final executive that remained in power until the 1965 election.¹⁰⁵²

John Lyng's interregnum became a political turning point, because the non-socialist parties' had been struggling since 1935 and the middle parties' attempt of cooperation prior to the 1961 election had failed.¹⁰⁵³ The Liberal, Agrarian, Christian Peoples' and Conservative Parties that won the majority in 1965 election had then adopted or accepted Strategic Capitalism, low interest policy and many other Labor Party policies they opposed vigorously in the 1940s and 50s.¹⁰⁵⁴ The Agrarian Party's Per Borten became Prime Minister after intense struggles behind the scene, because the Liberal Party gained most votes.¹⁰⁵⁵ Per Borten's particular leadership style distinguished this four party coalition, according to the Conservative Party's John Lyng and Kåre Willoch, who served as minister of foreign affairs and minister of trade 1965-70.¹⁰⁵⁶ One of the Agrarian Party's fundamental business ideas after its 1945 whitewash was full menu of public financed welfare goods, no matter where the inhabitants preferred to live.¹⁰⁵⁷ The Labor Party's aim for "decentralized centralization" triggered particularly the Agrarian Party's resistance.¹⁰⁵⁸ The Conservative Party had traditionally represented urban voters all across Norway, and usually not feared centralization, but accommodated to the middle parties' preferences, because the Borten executive represented first and

¹⁰⁵⁰ Gustavsen (1968:86-106, 111-122); Lie (1975:171-196); Valen and Urwin (1985:93 Appendiks 2); Bergh (1987:479, 482-485).

¹⁰⁵¹ Gustavsen (1968:160-178); Lie (1975:263-297); Lyng (1973:158-180); Bergh (1987:479-480, 504-518).

¹⁰⁵² Nordby (1985a:305); Bergh (1987:480, 519-527).

¹⁰⁵³ Finstad (1970:44-48); Lyng (1973:181-216, 268-286); Willoch (1988:275-293).

¹⁰⁵⁴ Rovde (1981: 427-454); Lundestad (1981:506-512).

¹⁰⁵⁵ Valen and Urwin (1985:1985:93 Appendiks 2); Finstad (1970:106-146); Lyng (1976:9-50); Madsen (2001:54-56).

¹⁰⁵⁶ Lyng (1976:39); Willoch (2002:10-112).

¹⁰⁵⁷ Grønn-Hagen (1980:104-105). See for instance Nielsen (2001b:237-264) concerning the Agrarian Party's whitewash after World War Two.

¹⁰⁵⁸ Nyhamar (1990:244-245). See also for instance Isaksen (1995:24, 36-38) and Madsen (2001:76-86) concerning the Labor Party's regional policy and the Agrarian Party's opposition.

foremost the peripheral and rural areas' distributional coalition's interests. The Borten executive furthered many policies questioned by the Labor Party modernists.

The Labor Party had petrified and turned stale after almost three decades in office.¹⁰⁵⁹ The party had not been able or willing to renew itself such as for instance the Swedish Social Democratic Party did, even if it had been in office since 1932. Trygve Bratteli, deputy leader since 1945, succeeded Einar Gerhardsen as leader prior to the 1965 election. Reulf Steen, one of Einar Gerhardsen's young protégés, became new deputy leader.¹⁰⁶⁰ Reulf Steen initiated a few days after the lost 1965 election development of a new manifesto that emphasized democratization and decentralization. The Labor Party's 1969 convention approved this new manifesto unanimously.¹⁰⁶¹ But Trygve Bratteli refused cooperation with parties to the Labor Party's left, according to the political scientist Hege Skjeie. This decision fueled the Labor Party's internal leftwing opposition. Trygve Bratteli came soon in troubles. The Labor Party had been governed by an oligarchy 1945-65, but Trygve Bratteli believed in more democratic procedures.¹⁰⁶² Guttorm Hansen, a Labor Party legislator representing Nord-Trøndelag and Stortinget's President 1973-81, claimed Stortinget's influence increased on the party headquarter's expense when Trygve Bratteli became party leader, because Trygve Bratteli was "never Youngstorget's or the Oslo Party's man", even if he had spent most of his political life in those circles.¹⁰⁶³ Trygve Bratteli as party leader increased the peripheral and rural areas' distributional coalition power even within the Labor Party. Haakon Lie, the very powerful Secretary since 1945, resigned at the 1969 convention and was succeeded by Ronald Bye.¹⁰⁶⁴ Ronald Bye was not willing to utilize Haakon Lie's methods, and the leftwing, traditionalists, anti-motorists, populists and the peripheral and rural areas' distributional coalition strengthened their position through establishment of miscellaneous unholy alliances.¹⁰⁶⁵ A new distributional coalition based on economic growth vs. environmental protection, or so-called "Old Politics" vs. "New Politics", emerged also from the second half of the 1960s.¹⁰⁶⁶ The Borten executive imploded in 1971, among others because of the coalition partners' divergent views concerning Norwegian membership in EEC.¹⁰⁶⁷ The EEC issue created also significant tensions within the Labor Party that was a broad alliance of divergent interest groups from all across Norway.

Trygve Bratteli's first minority executive 1971-72 abandoned many principles Bratteli had been struggling for during the 1950s and early 60s, because numerous new intraparty alliances developed during the 1965-71 opposition undermined

¹⁰⁵⁹ See for instance Steen (2003:148-183) about how the Labor Party petrified and turned stale, and Hansen (1990:92) about how the voters abandoned the Labor Party prior to the 1965 election.

¹⁰⁶⁰ Ørvik (1977:42-47, 93-94); Nyhamar (1990:48-51, 87-94); Steen (1986:101-118; 2003:172-173, 179-183).

¹⁰⁶¹ Nyhamar (1990:51-54).

¹⁰⁶² Skjeie (1999:32 ff., 51-57). See also Bergh (1987:528-532) and Nyhamar (1990:97-119).

¹⁰⁶³ Hansen (1990:156-159).

¹⁰⁶⁴ Ørvik (1977:42-47).

¹⁰⁶⁵ Nyhamar (1990:64-68, 119-127, 248-252).

¹⁰⁶⁶ Cf. Knutsen's (1988; 1993) and Tøgeby's (1989:89, 123 ff.) studies about a new socio-cultural cleavage, which were inspired by Inglehart's (1977) theory about changed value preferences along a materialistic/postmaterialistic dimension. See also Mjøset (1986:179-183) about the emergence of red and green popular protest movements.

¹⁰⁶⁷ Lyng (1978:92 ff., 117-128, 134-140, 176-196); Madsen (2001:61-68); Steen (2003:166-168).

Trygve Bratteli and other modernists' position, among others because of Trygve Bratteli's belief in democratic procedures.¹⁰⁶⁸ In addition came Trygve Bratteli's age and ailing health.¹⁰⁶⁹ The EEC-issue and the 1972 referendum became a political "earthquake", where the Labor Party's internal opposition against Norwegian membership in EEC conflicted with the ruling elites' advocacy of Norwegian membership.¹⁰⁷⁰ The alliance pattern was often the peripheral and rural areas' distributional coalition against the others. The voters' no changed partly the political landscape, and led to Prime Minister Trygve Bratteli's resignation. A Liberal, Agrarian and Christian Peoples' Parties mini coalition headed by the Christian Peoples' Party's Lars Korvald representing the popular movement against EEC and the peripheral and rural areas' distribution coalition governed until after the 1973 election. The Korvald executive's main task was negotiating Norway's free trade agreement with EEC after the voters' no.¹⁰⁷¹

The 1973 election became a second political earthquake. The EEC issue splintered the Liberal Party once again in 1972.¹⁰⁷² The Socialist Peoples' Party, the Communist Party and some Labor Party members opposing NATO and EEC established a new leftwing populist and pacifist coalition, *Socialist Election Alliance* (Sosialistisk Valgforbund) that in 1975 became the current *Socialist Left Party* (Sosialistisk Venstreparti).¹⁰⁷³ Anders Lange established similarly his rightwing populist *Anders Lange's Party* (Anders Langes Parti) that in 1977 became the current *Progress Party* (Fremskrittspartiet).¹⁰⁷⁴ The anti EEC parties, the peripheral and rural areas' distributional coalition and the traditionalists and anti-modernists won the 1973 election.¹⁰⁷⁵ Norway's political landscape was reshaped fundamentally, with left and rightwing populist parties in permanent and often prominent positions. This new political landscape delayed or postponed many modernization processes that had gained momentum during the 1960s.

Trygve Bratteli's second minority executive 1973-76 pursued many policies aiming at marginalizing the Socialist Election Alliance/Socialist Left Party, but Trygve Bratteli's position was seriously weakened.¹⁰⁷⁶ The executive and Stortinget's willingness to carry out costly regional policy reforms favoring the

¹⁰⁶⁸ Ørvik (1989:51-65, 93-94). See also Kleppe (2003:166-173) and Ørvik (1977:61) about how Reulf Steen and Per Kleppe made the Labor Party's 1969 manifesto, and Skjeie (1999:54-57, 83-87, 119-123) and Nyhamr (1990:97-127) about Trygve Bratteli's belief in democratic procedures and the Labor Party's internal opposition.

¹⁰⁶⁹ Trygve Bratteli was arrested by GESTAPO June 10th 1942, and sent to Sachsenhausen May 3rd 1943. Bratteli was later sent to the NN camp Natzweiler in France, and thereafter to Dachau, Ottobrunn, Dautmergen and finally to Vaihingen am Enz, where he was saved by the Swedish Red Cross April 5th 1945 (Anderson 1984:139-152). See also Nyhamr (1990:254-255, 290) about Trygve Bratteli's illness in 1970.

¹⁰⁷⁰ Willoch (1992:34-41). See also Mjøset (1986:203-204) and Nyhamr (1990:130-136, 139-188, 241-252) about the EEC issue.

¹⁰⁷¹ Korvald and Heradstveit (1982:215-248); Madsen (2001:68-70); Nordby (1985a:308-309).

¹⁰⁷² Garvik (1982:226-272).

¹⁰⁷³ Gustavsen (1979:128-161); Nyhamr (1990:208-219); Kort om SVs politik, historie og organisasjon [Online – February 9th 2004] – URL: <http://www.sv.no>.

¹⁰⁷⁴ Kvanmo and Rygnestad (1993:11-26); Fremskrittspartiets historie (2003) [Online – February 9th 2005] – URL: <http://www.frp.no>.

¹⁰⁷⁵ See for instance Valen and Urwin (1985:1985:93 Appendix 2) for overviews of Stortinget's seat allocation 1945-81.

¹⁰⁷⁶ Ørvik (1977); Anderson (1984:206 ff); Steen (1989:136-192; 2003:176-177, 182 ff.); Mjøset (1986:204); Nyhamr (1990:191-208, 258-268); Skjeie (1999:71-73).

peripheral and rural areas were almost unconstrained. Trygve Bratteli left the party headquarters to deputy leader Reiulf Steen, and announced similarly in June 1974 he would resign as party leader. This announcement made Trygve Bratteli a lame duck, and facilitated power struggles between deputy leader Reiulf Steen and Odvar Nordli, head of the Labor Party faction within the peripheral and rural areas' distributional coalition in Stortinget, who was considered more centrist than Reiulf Steen. Former Prime Minister and party leader Einar Gerhardsen orchestrated the compromise prior to the 1975 convention with Reiulf Steen as party leader and Odvar Nordli as Prime Minister. The only problem was that Trygve Bratteli still served as Prime Minister. The 1975 convention approved this compromise. The modernist Gro Harlem Brundtland from Oslo succeeded Reiulf Steen as deputy leader, and Ivar Leveraas succeeded Ronald Bye as Secretary. Odvar Nordli succeeded Trygve Bratteli as Prime Minister in January 1976.¹⁰⁷⁷ But Odvar Nordli struggled soon internally with Reiulf Steen, according to Hege Skjeie, among others because Steen desired cooperation with the Socialist Left Party, while Prime Minister Odvar Nordli desired cooperation with the Agrarian Party to splinter the non-socialist block. Reiulf Steen's personal problems did not reduce the power struggles. Odvar Nordli remained in power until February 1981, when a palace revolution made Gro Harlem Brundtland Prime Minister.¹⁰⁷⁸ The 1970s and early 80s' Labor Party was not for the fainthearted.

A constitutional amendment April 21st 1972 changed the election system prior to the 1973 election. Stortinget's number of seats increased to 155. Oslo got 2 and Akershus 3 of the new seats. Bergen with 5 seats was merged with Hordaland with 10 seats to one county and constituency with 15 seats.¹⁰⁷⁹ These adjustments were highly consequential, because the merger of Bergen and Hordaland gave the coastal constituencies from Rogaland to Finnmark 78 seats, exactly half plus one, a true MWC. The peripheral and middle constituencies maintained similarly their 2/3 majorities with 108 seats, compared to the central Oslofjord counties' 47 seats. The 1972 constitutional reform entrenched the EEC referendum's alliance patterns and the Liberal Party's System for resource allocation.

The middle and peripheral constituencies and the socialist and middle parties' members of Stortinget dominated also the Standing Committee on Transport and Communications 1961-81, similarly as in the 1950s.¹⁰⁸⁰ The peripheral and rural areas' distributional coalition maintained thereby the control of the Standing Committee on Transport and Communications 1961-81, similarly as 1949-61, even if the political center of gravity and the median started to shift slightly and almost unnoticeable to the right after the 1973 election.

The Cooperation Council's 'voluntary' credit rationing was in June 1965 replaced by credit rationing by law, when Stortinget approved the *Money and Credit Act* (Penge- og kredittloven). The Gerhardsen executive established also the *Credit*

¹⁰⁷⁷ See for instance Nyhamar (1990:255-258, 299-302, 304-313), Steen (1986:195-212) and Nordli (1985:95-105) about the Labor Party's internal power struggles and Anderson (1984:205-221, 289-299, 304-310) concerning the enmity between Einar Gerhardsen and Trygve Bratteli.

¹⁰⁷⁸ Nyhamar (1990:313-320, 343-352); Skjeie (1999:40-42, 57-60, 87-88); Nordli (1985:109-119, 183-196); Brundtland (1997:240-248, 260-267); Steen (1986:212-217, 222-223, 231-253; 2003:183, 189-194).

¹⁰⁷⁹ Nordby (1985a:247-257). See also the Data Appendix' Table 4.6-4.7.

¹⁰⁸⁰ See the Data Appendix' Table 4.14-4.18.

Political Committee (Kredittpolitisk utvalg), headed by the Ministry of Finance that managed the interest rates and allocation of credits.¹⁰⁸¹ Both the Borten executive and the entailing Labor Party executives tried to limit the credits, but none of them were willing to abandon the low-interest policy, because that would have limited the demand, affected the investments and the social distribution of wealth.¹⁰⁸² The demand for credits exceeded by far the supply even after 1965, which led to further tightening of the politically governed credit allocation until the rationing system started to crumble in the 1970s.

The Norwegian economy struggled with stagnating growth despite high investments. The growth rates lagged behind the other OEEC member countries at the turn of the 1950s and 60s. Weak economic growth became both an “economic and political problem” according to the historian Trond Bergh. The last two Gerhardsen executives’ response in the early 1960s was a combination of growth and regional policies.¹⁰⁸³ Chartered engineer Erik Brand Olimb, head of the *Institute of Transport Economics* (Transportøkonomisk institutt) 1960-68, claimed the Labor Party’s postwar economic policy led to low productivity.¹⁰⁸⁴ Olimb’s observation seems reasonable, because politically governed investments in the export enclaves crowded out more profitable investments in initially faster growing sectors. Limited and misallocated investments in modern transport and communication infrastructures constrained similarly mainland Norway’s growth potential outside the export enclaves.

Phillips Petroleum discovered oil in the Norwegian sector of the North Sea December 23rd 1969. Ekofisk was in full production from about 1975. Discovery of oil would soon change the Norwegian economy’s structure.¹⁰⁸⁵ Norway joined the “Snake” after the Bretton Woods system collapsed in 1972, and took part in the Snake until 1978, when the EU member countries established their European Monetary System (EMS). Norges Bank established then its own currency basket.¹⁰⁸⁶ The first oil-price shock 1973-74, OPEC 1, became the third political earthquake within two years. The entailing stagflation decimated both Norwegian ship owners and shipbuilding industry and later also many of the export enclaves’ smokestack industries. Per Kleppe, minister of finance in Trygve Bratteli’s second minority executive, responded with a State loan financed counter cyclic policy 1974-77 that prevented mass unemployment. But the price was high inflation, permanent reduction of the Norwegian trade and industry’s competitiveness and deteriorating balance of trade.¹⁰⁸⁷ The counter cyclic policy was particularly beneficial for

¹⁰⁸¹ Erichsen (1999:78-80); Bergh (1981:84-88); Knutsen and Ecklund (2000:231); Skånland (2004:31-33).

¹⁰⁸² Erichsen (1999:80).

¹⁰⁸³ Bergh (1987:487-493). See also Hersoug and Leonhardsen (1979:155-219) about some aspects concerning the regional policy 1961-73.

¹⁰⁸⁴ Olimb (2005 [Interview]).

¹⁰⁸⁵ Furre (2000:224-230); Mjøset (1986:185, 230-232); Nyhamar (1990:269-290). See also *Historisk statistikk 1994*, Statistisk sentralbyrå, Oslo and Kongsvinger 1995:530; *Statistisk årbok 2003*:Tabell 327 [Online 12. mai 2004] – URL: <http://www.ssb.no/aarbok/tab/t-0901-327.html> for an overview of structural changes 1930-2000.

¹⁰⁸⁶ Erichsen (1999:99-101); Eichengreen (1998:152-160); Skånland (2004:94-97).

¹⁰⁸⁷ Kleppe (2003:235-242); Erichsen (1999:107-112); Willoch (1992:66-71); Mjøset (1986:203, 204-207, 248-250); Noreng (1987:77); Nyhamar (1990:292-298); Hodne and Grytten (1992:255-264, 273-278); Knutsen and Ecklund (2000:227-228); Skånland (2004:12-14).

agriculture, fisheries and shipbuilding. Stortinget's majority guaranteed also the farmers almost equal income as industrial workers.¹⁰⁸⁸ This counter cyclic policy worked well in the short run, but created new problems in the long run, among others accelerated deindustrialization throughout the 1980s.

Odvar Nordli's executive abandoned the counter cyclic policy immediately after the 1977 election, when the Socialist Left Party's voter support had been reduced to the former Socialist Peoples' Party's level. The fast growing foreign debt was then 45 percent of the GDP, and the exports lagged. The shipping industry fought for its life, the oil revenues were delayed and the oil prices significantly below the 1974 level. The Norwegian State's creditworthiness was at stake.¹⁰⁸⁹ Thousands of jobs in the peripheral and rural areas created through the regional policy and the 1970s' counter cyclic policy vanished when the Nordli executive pulled the plug. The policy reversal in 1977-78 started the neo-liberal shift, even if this shift was veiled behind thick layers of social democratic rhetoric. The second oil price shock 1979-80 or OPEC 2, caused by the Iranian revolution, came on top of this, and sent the economy into a deep recession. But the increased oil price that was a problem for most other countries increased the Norwegian State's wealth. The early 1960s fast rising wealth ended thus with severe macro economic shocks, stagflation and recession from 1974, similarly as in Denmark and Sweden, but Norway was definitely better off because of the prospects of future oil and gas revenues.

How was Norway's economic performance during the 1960s and 70s? Norway's GDP per capita measured in 1990 international Geary-Khamis dollars, was 7.208 dollars in 1960, 10.033 in 1970, 11.247 in 1973 and 15.129 in 1980. The average for the 12 West European countries was 7.607 dollars in 1960, 10.959 in 1970, 12.156 in 1973 and 14.057 in 1980. Norway had West-Europe's eight highest GDP per capita in 1960, ninth highest in 1970 and 1973, and third highest in 1980.¹⁰⁹⁰ Norway lagged behind the West European average in 1960, 1970 and 1973. But the oil and gas revenues changed everything, because Norway was well above the West European average in 1980, despite OPEC 2, recession and reduced public spending in many policy areas. The Norwegian executives and legislators faced therefore never similar stern choices as their Danish and Swedish opposite numbers during the second half of the 1970s and early 80s, because the fast growing oil and gas revenues filled the State's coffers and lubricated the economy.

The Labor Party modernists' road policy reformation

The Labor Party modernists' road policy reformation gained momentum April 23rd when Trygve Bratteli, deputy leader since 1945 and minister of finance 1951-55 and 1956-60, became minister of transports and communications.¹⁰⁹¹ Bratteli gave the Ministry of Transport and Communications a hitherto unknown political strength, and brought with him the lawyer Sigurd Juell Lorentzen, who had been the Ministry of Finance's Finance Section's (Finansavdelingen) deputy undersecretary since

¹⁰⁸⁸ Noreng (1987:82-99). See also Nyhamar (1990:356-372) about some of the 1970s' costly reforms.

¹⁰⁸⁹ Erichsen (1999:112-116); Mjøset (1986:192-193-250-251); Noreng (1987:26-27); Nyhamar (1990:329-341); Kleppe (2003:276-290); Skånland (2004:14-15).

¹⁰⁹⁰ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:62-65 Table 1c.

¹⁰⁹¹ Nordby (1985a:303-304); Anderson (1984:206-209).

1952, and responsible for the annual budgets, taxes and fees. Lorentzen was appointed as the Ministry of Transport and Communication's permanent undersecretary.¹⁰⁹² Trygve Bratteli appointed also the Transport Economic Board's secretary Robert F. Nordén as Parliamentary Secretary.¹⁰⁹³ Robert F. Nordén was as mentioned earlier economist from University of Oslo, and represented fundamentally different ideas compared to Lorentzen who most likely designed the 1959 vehicle tax increases that facilitated liquidation of the car rationing and decoupled the vehicle and fuel tax revenues from the annual road appropriations.

Norwegian Road Federation launched its annual motoring week in 1960 denoted *Norway entering the motoring age* (Norge inn i bilalderen) together with Polytechnic Association and Norwegian Chartered Engineer's Association April 25th, two days after Trygve Bratteli became minister of transport and communications. The first meeting's topic was "Planning the motoring age", with the Agrarian Party's leader of Stortinget's Standing Committee on Transports and Communications Lars Elisæus Vatnaland from Rogaland as keynote speaker. The second meeting April 26th was Justice of the Supreme Court Axel Heiberg's lecture about "Norway under one Construction Act". The third meeting, April 27th about "Road construction in the motoring age", was headed by Norwegian Technical Institute's professor Ole D. Lærum and chartered engineer Harald Ekström, head of the Swedish Road and Water Construction Administration's Planning Section. The fourth meeting, April 28th, was a joint meeting with Norwegian Urban Planning Association (Norsk Byplanforening) about "The urban society in the motoring age", where Oslo's Labor Party mayor Brynjulf Bull and the Swedish Road and Water Construction Administration's Stig Nordquist lectured.¹⁰⁹⁴ Norwegian Road Federation furthered hence its public meetings, but the new topics reflected clearly Prime Minister Einar Gerhardsen's decision October 8th 1959 about liquidating the car rationing, because the 1960 agenda was not any more car rationing but how to adapt Norway to mass motoring.

The early 1960s' most important road policy moves were not initiated by Norwegian Road Federation, but by the ruling Labor Party modernists that launched a road policy reformation. Their most important moves were the 1961 manifesto, appointment of a new Road Director and removal of the Directorate of Public Roads' ancient regime, the *1962 Motorway Plan*, the 1963 Road Act, and finally development of a national road plan.

The Labor Party's 1961-65 manifesto was in process already during the summer of 1959. Transport and communication policy, hereunder road policy was one of the main issues together with regional, trade and industry policies. Norges Bank's Governor Erik Brofoss, who also was member of the Labor Party's central board, characterized in a note to Prime Minister Einar Gerhardsen's Parliamentary Secretary Dagfin Juel August 28th 1959 the 1950s' transport and communication policy as "cash transfers to the districts", and required bold and strategic moves to solve Greater Oslo's increasing road and railroad problems. Erik Brofoss questioned whether the transport and communication sector's public administrations were

¹⁰⁹² *Norges statskalender for året 1960*, H. Aschehoug & Co (W. Nygaard) Oslo 1960:156; Erichsen (1999: 33-34).

¹⁰⁹³ Lie (1995:193, 336, 361).

¹⁰⁹⁴ *Styrets beretning for 1960*, Opplysningsrådet for Biltrafikken, Oslo 1961:18-19, OVA.

capable of such moves, but stressed the Road Director had to be involved in such planning.¹⁰⁹⁵ Erik Brofoss, who designed postwar Norway's economic policy, questioned here both the Labor Party's official transport and communication policy and the transport and communication sectors' public administrations that earlier had been subject to critique from among others Trygve Lie, Fritz Rieber, the 1951 Road Act Committee, the Conservative Party and Norwegian Road Federation. The Labor Party's central board appointed therefore November 16th 1959 a *Transport and Communication Commission* (Samferdselsutvalget) headed by Bergen and Hordaland's County Governor and former minister of finance Mons Lid to prepare the 1961-65 manifesto. The Transport Economic Board's secretary Robert F. Nordén was appointed as secretary.¹⁰⁹⁶

Erik Brofoss used the opportunity at Oslo Labor Party's executive committee's meeting May 10th 1960 to launch a preemptive strike against the forthcoming political challenges because of the dysfunctional road system. Erik Brofoss claimed that in the "hundred thousand of cars" heading towards Oslo, trapped in congestion, there will be "sitting a quarter million humans cursing and swearing the incompetent executive and the negligent city council unable to provide functional roads in due time". Stortinget's allocation of the road appropriations was namely governed by the early 1930s' unemployment and not by the actual traffic conditions, because "90 percent of Norway's road traffic went on 10 percent of the roads". But Stortinget was "not affected by such considerations". Erik Brofoss proposed organizing construction of a motorway from eastern Oslo to Eidsvoll as a non-profit joint stock company owned by the State, City of Oslo and Akershus County, financed through loans and amortized through turnpikes, because construction of this motorway was "a public duty", not a project for private "profits".¹⁰⁹⁷ Erik Brofoss considered obviously turnpikes in the most crowded areas a possible exit from Stortinget's impasse, because Stortinget's resource allocation was governed by the Liberal Party's System. Turnpikes on motorways were some of the few taxes the Norwegians paid voluntarily, according to Brofoss. The Labor Party's road policy was seemingly about to shift almost 180 degrees when the dam burst.

The Labor Party's Transport and Communication Commission submitted its recommendations July 1st 1960, and concluded it was more likely that Norwegian families would purchase cars when the standard of living increased, than in most other countries, because of Norway's dispersed settlement and poorly developed public transports.¹⁰⁹⁸ The commission's recommendations were clearly influenced by Robert F. Nordén and the Transport Economic Board's studies, but also by *Swedish Road Plan* and the Danish Traffic Economic Commission's contemporary

¹⁰⁹⁵ "Arbeidsprogram for Regjeringen", note from Erik Brofoss to Parliamentary Secretary Dagfin Juel, August 28th 1959:6-7, AAB-EB cassette Dc 64.

¹⁰⁹⁶ Cf. minutes from the central board's meetings:538, AAB-DNA cassette Ac 6. The Transport and Communication Commission's other members were Per Bratland, Halvard Bojer, Kurt Mosbakk, Arne Strøm and Gustav Strøm.

¹⁰⁹⁷ Erik Brofoss, "Mangler vi perspektiver i løsningen av våre trafikproblemer?", speech at Oslo Labor Party's executive committee's meeting (representantskapsmøte) May 10th 1960:2, 4, 8-11, AAB-TB cassette Db 13.

¹⁰⁹⁸ Working paper from the Transport and Communication Commission, "Arbeidsprogrammet 1962/1965 – Oppgaver i Samferdselspolitikken", Oslo, July 1st 1960:1-2, AAB-TB cassette Db 13.

discussions about the future high-level transport and communication infrastructures, formerly discussed in chapter 2 and 3. The Labor Party's Transport and Communication Commission recommended significantly increased transport and communication investments, but issued also a warning because transport and communication infrastructures were "long-term and very capital intensive investments" with significant risk for misallocation that created inefficiencies, and recommended therefore allocation of the investments according to rational methods, such as systematic use of transport economic studies and long term planning. The Transport and Communication Commission estimated the costs for development of a functional road system to "billions" of NOK.¹⁰⁹⁹ The Labor Party's Transport and Communication Commission reasoned here almost similarly as Axel Dammann's 1955 study and the Conservative Party's 1957 *10 Years Plan for Transport and Communications* that was based on Dammann's studies, and furthered also ideas launched by the Labor Party's 1955-56 Party Commission for Transport and Communication Problems.

The Labor Party's Transport and Communication Commission distinguished between construction of "access roads" in desolate areas and update of "production roads" in areas with poor road connections. Roads that could be updated profitably, because of saved transport costs were similarly denoted "traffic roads". The Transport and Communication Commission stressed the need for "development of access and production roads" in the peripheral and rural areas, because such roads was "a precondition for economic and cultural progress" in backwards areas, but stressed also that construction of traffic roads had to be "forced" when the road traffic increased. The balance between investments in access, production and traffic roads had to be determined politically, not only by future transport costs.¹¹⁰⁰ Even the Transport and Communication Commission recommended "dedicating the vehicle taxes" to road appropriations, to safeguard swift construction of a modern and functional public road system, similarly as The Party Commission for Transport and Communication Problems did in May 1956, and recommended also considerations about "particular financing in addition to the ordinary appropriations" within and near the major cities, similarly as Trygve Lie had argued for in May 1956 and Erik Brofoss in May 1960. The Transport and Communication Commission stressed finally the need for political processing of the Road Act draft submitted in 1957.¹¹⁰¹ The Labor Party modernists argued thus once again for dedicated vehicle taxes to road purposes, similarly as in Denmark and Sweden, for possible introduction of turnpikes in the most crowded areas, and for introduction of a new Road Act that facilitated construction of a functional road system all across Norway.

The Labor Party's central board appointed October 7th 1960 minister of transport and communications Trygve Bratteli as leader of the 1961-65 manifesto's editorial committee.¹¹⁰² Trygve Bratteli was obviously well aware what was

¹⁰⁹⁹ Working paper from the Transport and Communication Commission, "Arbeidsprogrammet 1962/1965 – Oppgaver i Samferdselspolitikken", Oslo, July 1st 1960:10-12, AAB-TB cassette Db 13.

¹¹⁰⁰ Working paper from the Transport and Communication Commission, "Arbeidsprogrammet 1962/1965 – Oppgaver i Samferdselspolitikken", Oslo, July 1st 1960:12-13, AAB-TB cassette Db 13.

¹¹⁰¹ Working paper from the Transport and Communication Commission, "Arbeidsprogrammet 1962/1965 – Oppgaver i Samferdselspolitikken", Oslo, July 1st 1960:13, 14, AAB-TB cassette Db 13

¹¹⁰² The other members of the editorial committee were Dagfin Juel, Helge Sivertsen, Egil Helle and Per Monsen (Minutes from the central board's meeting October 7th 1960:73-74, AAB-DNA cassette Ac 7).

politically possible given the Labor Party's internal power relations, and omitted most of the Transport and Communication Commission's controversial recommendations, because transport and communication questions were hardly on the agenda prior to the 1961 convention. Most discussions were about foreign and security policy matters, because of the emerging Socialist Peoples' Party.¹¹⁰³ The risk for party splintering was clearly the Labor Party bosses' issue number one during the winter and spring 1961.

All major political parties argued for increased transport and communication appropriations, hereunder increased road investments during the term 1961-65, but only the three middle parties promised explicit dedicated vehicle and fuel taxes to road appropriations; i.e. establishment of a Road Fund. The Conservative Party promised a reasonable balance between vehicle and fuel taxes and road appropriations. Only the Liberal and Christian Peoples' Parties championed alternative road financing, even if the Christian Peoples' Party opposed turnpikes on trunk roads and major bridges. Only the Labor and Conservative Parties advocated allocation of the road investments according to rational methods and systematic plans. They were also the only parties that explicit championed construction of trunk roads, entrance roads and local roads all across Norway. The non-socialist parties championed road construction based on private construction companies and competitive bidding. The novelty in the 1961 manifestos was the Christian Peoples' Party's introduction of road safety as a particular issue.¹¹⁰⁴ The Labor Party modernists faced obviously stiff internal resistance from the traditionalists, railroad lobby and peripheral and rural areas' distributional coalition, similarly as prior to the 1957 election, because neither establishment of a Road Fund, turnpike financing nor approval of a new Road Act was mentioned in the 1961 manifesto. The road policy reformation was obviously a controversial issue even within the Labor Party. Only the Labor, Conservative and partly the Christian Peoples' Parties advocated investments in roads with national collective goods characteristics prior to the 1961 election.

Parliamentary Secretary Robert F. Nordén served formally as politician only a few months, because he was appointed as deputy undersecretary in the Ministry of Transport and Communication's new Elucidation Section (Utrekningsavdelingen) in January 1961.¹¹⁰⁵ The historian Per Østby denoted Nordén and some chartered engineers in the Directorate of Public Roads' top management as the "motoring's craftsmen".¹¹⁰⁶ The 1961 election shifted fundamentally Stortinget's political balance of power, because the Labor Party lost its majority, and forced the Labor

¹¹⁰³ Cf. minutes from the national board meeting January 7-8th 1961:144-152; minutes from the national board meeting April 7th 1961:213-219; minutes from the central board meeting April 17th 1961:224-225, AAB-DNA cassette Ac 7.

¹¹⁰⁴ "Sosialistisk Folkepartis Arbeidsprogram 1961-64":Kommunikasjonene; "Nye gode år, Det Norske Arbeiderpartis arbeidsprogram 1962-65":Utbygging av samferdselsnettet; "Framgang i frihet, Arbeidsprogram for Venstre stortingsperioden 1961-65":5 Kraftforsyning og kommunikasjoner; "4 år med Kristelig Folkeparti, program ved stortingsvalget 11. sept. 1961":Samferdsel; "Senterpartiets program stortingsvalget 1961":5 samferdsel; "Høires hovedprogram":Samferdsel, all in *Vi vil...! Norske partiprogrammer 1884-2001*.

¹¹⁰⁵ Lie (1995:336); Nordby (1985a:305); *Norges statskalender for året 1964*, H. Aschehoug & Co (W. Nygaard), Oslo 1964:tiltak 102-103.

¹¹⁰⁶ Østby (1995:317-326).

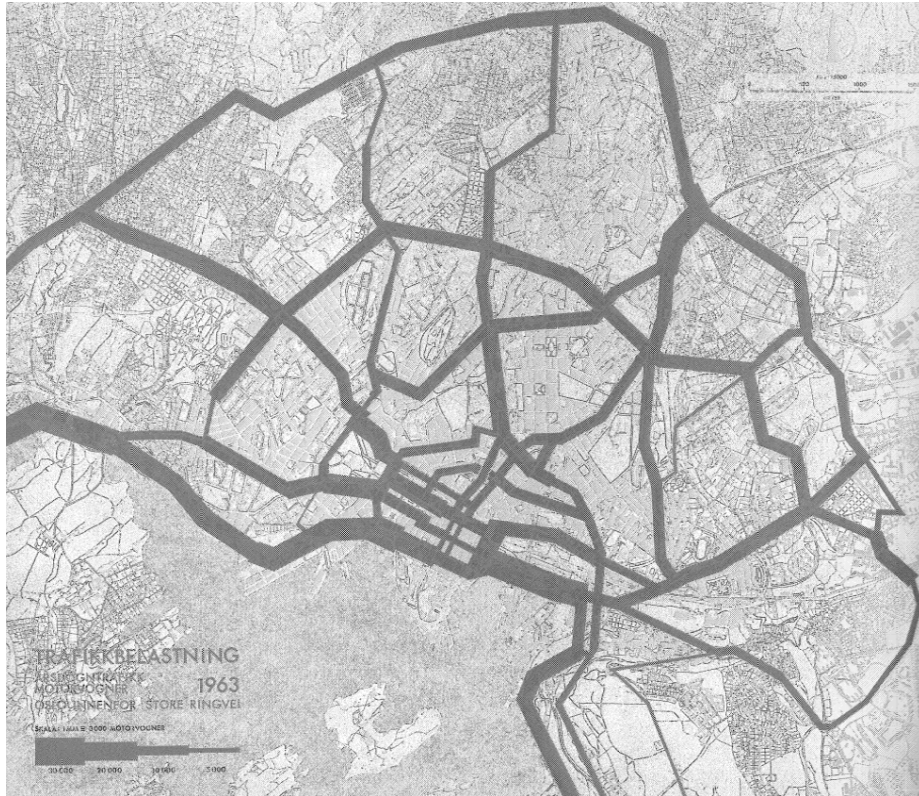
Party to implicit cooperation with the non-socialist parties to marginalize the Socialist Peoples' Party. This shift had also road policy implications.

Minister of transport and communications Trygve Bratteli did the same April 10th 1962 as Fritz Rieber did in February 1957, and launched his road policy reformation from Polytechnic Association's rostrum. The three most important tasks according to Trygve Bratteli were the major cities' entrance roads, trunk roads between the regions and to the neighboring countries, and finally construction of local roads.¹¹⁰⁷ These tasks were similar to those outlined in the Labor Party's 1961 manifesto, but Trygve Bratteli prioritized entrance roads to trunk roads, because the traffic counting made it evident that Oslo's entrance roads were Norway's most crowded. Greater Oslo's congestion, accident and environmental problems deteriorated rapidly.¹¹⁰⁸ Trygve Bratteli used clearly this opportunity to announce publicly the Labor Party's new position concerning road policy and road construction, based on industrial reasoning and transport economic considerations, after the Labor Party abandoned its 1947-60 car rationing.

¹¹⁰⁷ Trygve Bratteli (Speech in Polyteknisk Forening April 10th 1962), "Retningslinjer for vår samferdselspolitikk – Vegloven og Samferdselsloven", *Vegen og Vi*, Vol. 2, No. 3, 1962:90-103).

¹¹⁰⁸ The average number of vehicles per day was 24.336 at Oslo and Akershus' western county border on Highway 40 (E18), 6.029 at Oslo and Akershus' southeastern county border at Highway 1 (E18), and 4.778 at Kjellerholen in Akershus northeast of Oslo at Highway 50 (E6). The similar figures were 3.545 vehicles per day at Highway 50 (E6) at Rotvoll near Trondheim (*Bil- og veistatistikk 1961*, Opplysningsrådet for Biltrafikken, Oslo 1961:61, OVA. See also Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, 2001:11, VDA).

Figure 17: Oslo's central areas' average traffic per day (number of vehicles) in 1963.



Source: *Transportanalysen for Oslo-området*, Oslo Byplankontor, Oslo 1965:10.

Many of the Combined Road Administration's employees were taken by surprise when minister of transport and communications Trygve Bratteli appointed Bærum municipal's technical deputy mayor, the 51 years old chartered engineer Karl Olsen, as Road Director March 9th 1962. Olav A.B. Torpp had been the Combined Road Administration's internal candidate.¹¹⁰⁹ Karl Olsen graduated as chartered engineer from Norwegian Institute of Technology in 1934. Road Director Thomas Offenberg Backer got hold of a Marshall Aid scholarship in 1950, and sent Karl Olsen and two other engineers for 3-4 months on the job training at the US federal road administration, the Bureau of Public Roads, where Karl Olsen studied high-level road planning.¹¹¹⁰ Karl Olsen approached Trygve Bratteli after he had been appointed, to thank him and to get acquainted. Bratteli told Olsen his tasks were to "improve the Norwegian road policy's order, and to develop a proper and

¹¹⁰⁹ Søfteland (2004 [Interview]).

¹¹¹⁰ Hegdalstrand (1988:58-60); Skari (1995:100).

more rational road system”.¹¹¹¹ Thomas Offenbergh Backer retired October 1st 1962.¹¹¹²

It seems not unreasonable to conclude the Directorate of Public Roads’ ancient regime retired with Thomas Offenbergh Backer, because Arne J. Grotterød was in 1961 appointed as head of the new Planning Department.¹¹¹³ Chartered engineer Olav A. B. Torpp, Hordaland’s Chief County Officer since 1951, was similarly appointed head of the Road Department in 1961, Technical Director in 1962 and Deputy Road Director in 1964.¹¹¹⁴ Torpp was first and foremost a very efficient administrator and skilled professional.¹¹¹⁵ Torpp knew almost every section of the public road system. The Ministry of Transport and Communication’s permanent undersecretary Sigurd Juell Lorentzen appointed similarly in 1962 the lawyer Rolf Normann Torgersen, who rewrote the 1957 draft Road Act to what later became the 1963 Road Act, as head of the Directorate of Public Road’s new Road Traffic Section.¹¹¹⁶ The new top management revitalized seemingly the Directorate of Public Roads. The expectations, particularly to Road Director Karl Olsen, were high. Many perceived then Thomas Offenbergh Backer as an elderly gentleman, but Backer managed actually during the second half of the 1950s to carry out a road policy according to the road engineers’ professional norms and standards, despite minuscule road appropriations.

Trygve Bratteli became the political father of Norway’s first and so far only national motorway plan, when the Ministry of Transport and Communications in 1961 ordered the Directorate of Public Roads to provide an overview of trunk roads where motorway standard was necessary within 10 years.¹¹¹⁷ Olav Søfteland, Road Director since 1992, graduated as chartered engineer from Norwegian Institute of Technology in 1960 where among others *Swedish Road Plan* had been part of the curriculum. Søfteland made the *1962 Motorway Plan* together with Arne J. Grotterød.¹¹¹⁸ Stortinget approved *The 1962 Motorway Plan* December 12th 1962 because the Labor, Conservative and Liberal Parties cooperated about the 1963 road appropriations. But the Standing Committee on Transport and Communications emphasized that approval of the *1962 Motorway Plan* was not *carte blanche*, because Stortinget approved the road appropriations annually.¹¹¹⁹ It was then 13 years since Stortinget approved the *1947 Trunk Road Plan* that also outlined construction of roads with national collective good characteristics. The million

¹¹¹¹ Hegdalstrand (1988:60).

¹¹¹² *Vegen og Vi*, Vol. 2, No. 2, 1962:49-50.

¹¹¹³ Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, 2001:12, VDA; Eriksen (1982: 59-61).

¹¹¹⁴ Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, 2001:6, VDA; Paus (1962:42); Skari (1995:103).

¹¹¹⁵ Flaate (2002 [Interview]).

¹¹¹⁶ Torgersen (2003 [Interview]); Eriksen (1982:59-60).

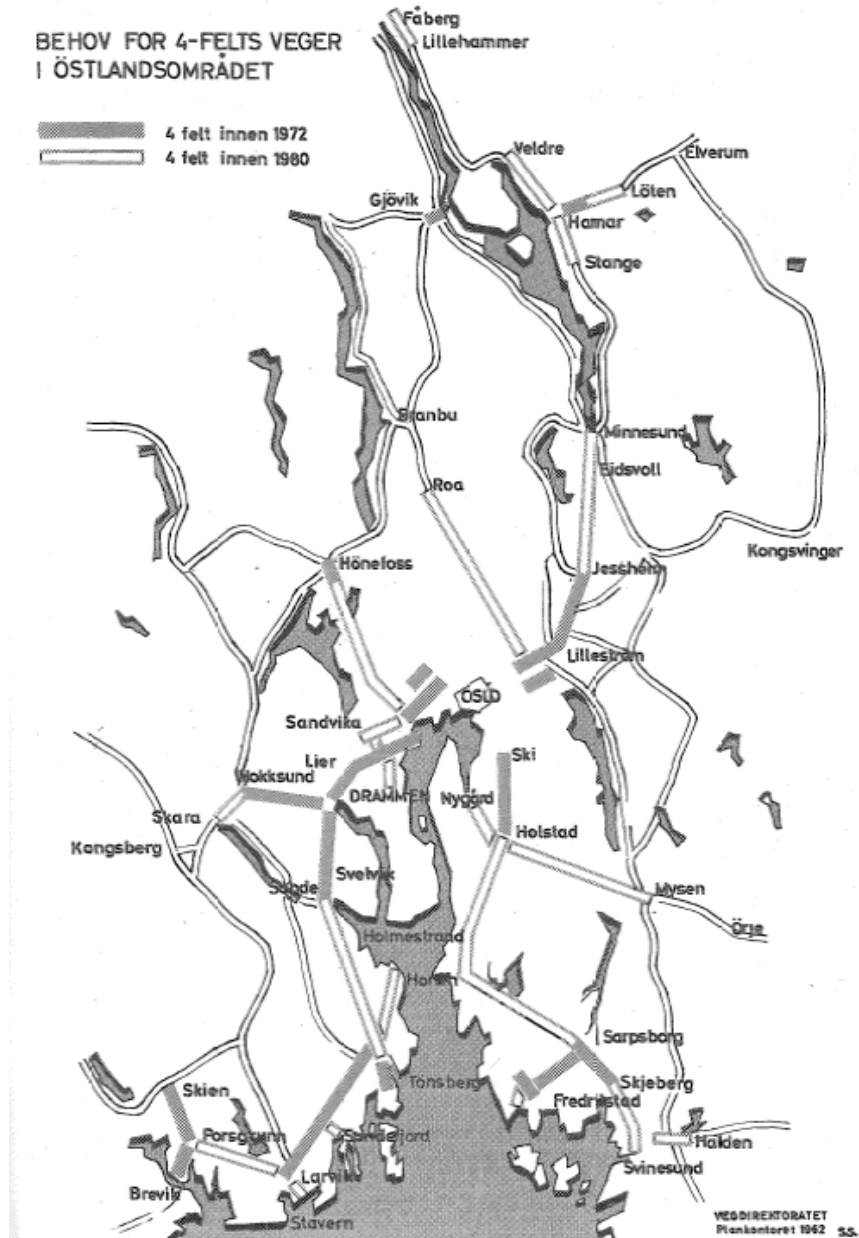
¹¹¹⁷ St. prp. nr. 1 (1962-63) *Om bevilgning til samferdselsformål*:31, 102-103; *Utbygging av motorveger*, Tillegg til budsjettproposisjonen for 1963, Statens vegvesen Vegdirektoratet, Oslo, August 1962:1, OSA.

¹¹¹⁸ *Budsjettproposisjonen for 1963. Utbygging av motorveger*, Vegdirektoratet, Plankontoret, Oslo April 1962; *Utbygging av motorveger*, Tillegg til budsjettproposisjonen for 1963, Statens vegvesen Vegdirektoratet, Oslo, August 1962, OSA; *Styrets beretning for 1962*, Opplysningsrådet for Biltrafikken, Oslo 1963:17, OVA; Søfteland (2004 [Interview]).

¹¹¹⁹ Budsjett-innst. S. nr. 109 (1962-63) *Tilråding frå samferdselsnemnda om løyving til vegstellet*; *Stortingstidende* (1962-63):1600, 1602, 1609-1610, 1614-1615, 1629, 1647-1648.

dollar question was whether the 1962 Motorway Plan ever actually would be accomplished, or face the same destiny as the 1947 Trunk Road Plan.

Figure 18: Norway's 1962 Motorway Plan – recommended motorways on Østlandet within 1980.

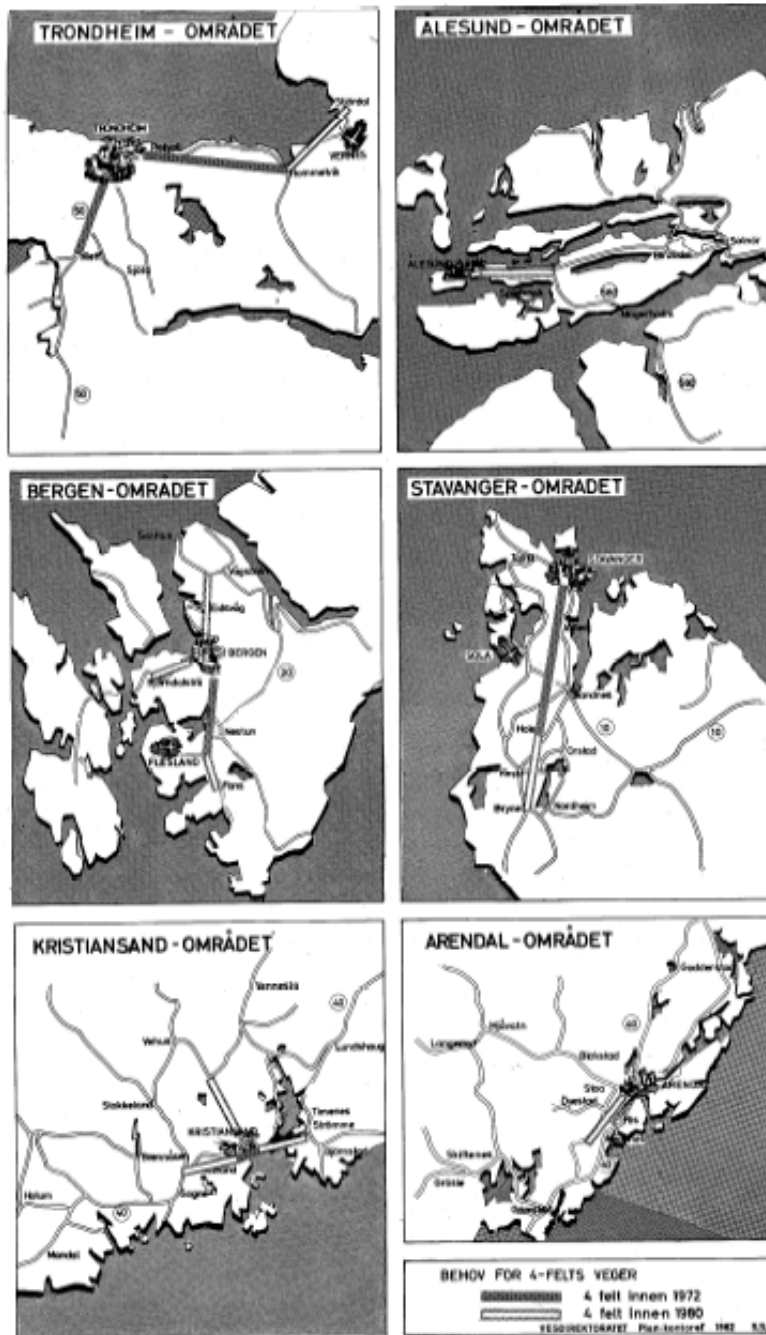


Source: St. prp. nr. 1 (1962-63) Om bevilgning til samferdselsformål:102.

The *1962 Motorway Plan's* aim was safe and efficient trunk roads through systematic implementation of traffic separation and traffic differentiation.¹¹²⁰ Arne J. Grotterød's knowledge about traffic engineering from Yale University, and influence from *Swedish Road Plan* and the emerging SCAFT-paradigm were clearly evident. Many principles concerning road safety and efficiency outlined in the *1962 Motorway Plan* had not been seen in Norway since the Quisling regime's *Greater Oslo's Road and Railroad Plan of September 1942* and Organisation Todt's plan for an Autostrada from Halden to Trondheim via Oslo.

¹¹²⁰ *Utbygging av motorveger*, Tillegg til budsjettproposisjonen for 1963, Statens vegvesen Vegdirektoratet, Oslo, August 1962:1. OSA.

Figure 19: Norway's 1962 Motorway Plan – recommended motorways in Trøndelag, Vestlandet and Sørlandet within 1980.



Source: St. prp. nr. 1 (1962-63) Om bevilgning til samferdselsformål:103.

The 1962 *Motorway plan* estimated the need for construction of at least 785 kilometers four-lane motorways in Norway's most densely populated areas within 1980, such as shown on Figure 18 and 19. 305 kilometers had to be completed as four-lane motorways within 1972, together with 105 kilometers two-lane expressways that later could be expanded to four-lane motorways. The estimated costs for 305 kilometer motorways and 105 kilometer expressways within 1972 was 1.060 millions 1963 NOK, approximately 717,7 millions 1990 PPP USD.¹¹²¹ The outlined motorways served in 1962 about 50 percent of the population, 60 percent of the enterprises, more than 80 percent of the retail trade, and gave all major cities except Tromsø motorway connections or modern entrance roads.¹¹²² Completing the 1962 *Motorway Plan*, such as outlined by the Directorate of Public Roads, would have given Norway an almost similar motorway system as in Denmark and Sweden within 1980. But this development path was soon derailed, even if construction of Norway's first motorways, Oslo's western entrance road E18 and Oslo's northeastern entrance road E6 just had started.¹¹²³ Comparing Figure 18 and 19 with Figure 2, 21, 22 and 26 is rather thought provoking.

The 1963 *Road Act* was of great importance for the Norwegian public road system's forthcoming modernizing, because the Road Act governed the road sector's basic rules of the game. But the 1963 Road Act finally approved differed fundamentally from the draft Road Act submitted by the Road Act Committee in 1957. The Labor Party traditionalists, railroad lobby and peripheral and rural areas' distributional coalition had obviously recovered after Haakon Lie's purges and Olav Meisdalshagen's death at the turn of the 1950s and 60s. The 1963 Road Act was highly controversial, because Stortinget's Standing Committee on Transport and Communications held more than 50 meetings before it concluded March 28th 1963.¹¹²⁴ The 1963 Road Act divided the road system into three tiers; *highways* (riksveger), hereunder trunk roads and motorways, which were managed by each county's Public Roads Administration but with county co-financing, *county roads* (fylkesveger) managed by each county's Public Roads Administration but with State co-financing, and *municipal roads* (kommunale veger), managed and financed by each municipal. The 1912 Road Act distinguished only between main or trunk roads and parish roads.¹¹²⁵ The ministry of Transport and Communication expanded the largely State financed highway system from approximately 16.000 to 24.000 kilometers as part of the 1963 Road Act's preparations.¹¹²⁶ The Gerhardsen executive concluded obviously it was politically necessary to spread the State road appropriations thinly and evenly across many kilometers of highways, rather than concentrating on the most crowded or economically most important trunk roads,

¹¹²¹ *Utbygging av motorveger*, Tillegg til budsjettproposisjonen for 1963, Statens vegvesen Vegdirektoratet, Oslo, August 1962:4, 6-8 OSA.

¹¹²² *Utbygging av motorveger*, Tillegg til budsjettproposisjonen for 1963, Statens vegvesen Vegdirektoratet, Oslo, August 1962:4-5. OSA.

¹¹²³ See for instance Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, 2001:13-14, VDA; Otto Arnulf, "Den nye motorveg til Oslo fra nord", *Vegen og Vi*, Vol. 2, nr. 3, 1962:114-116; Hegdalstrand (1988:60); Skari (1995:145) concerning construction of the first Norwegian motorways.

¹¹²⁴ Innst. O. XIV. (1962-63) *Tilråding frå samferdselsnemda om ny veglov; Forhandlingar i Lagtinget nr. 8*, May 30th 1963:56.

¹¹²⁵ Ot. prp. nr. 53 (1961-62) *Om ny veglov*: 21, 27-29.

¹¹²⁶ Ot. prp. nr. 53 (1961-62) *Om ny veglov*:57-58.

such as proposed by the Road Act Committee in 1957. Consolidation of the State road appropriations was then established policy in Denmark and largely also in Sweden. Dispersed road appropriations was obviously a concession to the peripheral and rural areas' distributional coalition similarly as furthering the Combined Road Administration that also had been recommended liquidated by the Road Act Committee in 1957. The road policy reformation outlined by the 1951 Road Act Committee and the Labor Party's internal Transport and Communication Commission in 1960 was clearly at stake. It was obviously risk for furthering the Liberal Party's System and the 1912 Road Act's principles with other means even in the 1963 Road Act.

The counties' co-financing was the 1963 Road Act's most controversial issue. Stortinget settled finally for 50 percent co-financing from Oslo and Bergen, exclusive land purchase, and 18 percent from the other Oslofjord counties, 7 percent from the three northernmost counties and 14 percent from the other counties, inclusive land purchase.¹¹²⁷ Stortinget debated the new Road Act five times, before the plenary finally approved it unanimously June 19th 1963. The constitution dictated then a closed procedure and approval with at least 2/3s majority.¹¹²⁸ Each county's economy and tax redistribution overshadowed thereby clearly the need for a functional and modern road infrastructure. The Gerhardsen executive's emphasis on tax redistribution rather than functional roads was most likely a concession to the peripheral and rural areas' distributional coalition.

The 1963 Road Act did not distinguish between roads with national collective and local collective good characteristics, because roads with national collective good characteristics were not defined as a particular class of roads and not completely State financed such as recommended by the Road Act Committee in 1957. The 1963 Road Act was hence born with at least one serious design flaw, if the aim was swift construction of a modern and functional road infrastructure. But the 1963 Road Act was still an improvement seen from Oslo and Bergen's point of view, because the 1912 Road Act gave them 0 percent of the State road appropriations. However, the 1963 Road Act finally approved by Stortinget was clearly a strategic setback for the Labor Party modernists' road policy reformation, and can be understood as an omen about the forthcoming road policy counterreformation.

A joint meeting between the Labor Party's faction in Stortinget, the central board and the National Federation of Labor's secretariat September 12th 1963, when the Labor Party bosses had decided to remove John Lyng's executive from office, agreed also about forced restructuring of the transport and communications with "particular emphasis on the roads".¹¹²⁹ Road policy and road construction was hence of utmost importance for Einar Gerhardsen's last executive.

¹¹²⁷ Innst. O. XIV. (1962-63) *Tilråding frå samferdselsnemnda om ny veglov*:12, 27.

¹¹²⁸ The proposed Road Act was discussed in Odelstinget May 20th, Lagtinget May 30th, Odelstinget June 11th, Lagtinget June 14th and finally by the plenary June 19th (*Forhandlinger i Odelstinget nr. 43-53*, May 20th 1963:336-419; *Forhandlinger i Lagtinget nr. 8-11*, May 30th 1963:55-86; *Forhandlinger i Odelstinget nr. 70-71*, June 11th 1963:547-564; *Forhandlinger i Lagtinget nr. 16-17*, June 14th 1963:121-131; O. nr. 187 *Odelstingets beslutning 2. gang til veglov*, June 14th 1963; *Stortingstidende* (1962-63):4065-4080).

¹¹²⁹ Joint meeting between the Labor Party's faction in Stortinget, the central board and the National Federation of Labor's secretariat, September 12th 1963, *Sentralstyrets møtebok 24/6-63 – 3/4-67*:33-37, AAB-DNA cassette Ac 8.

Trygve Bratteli was forced to resign as minister of transport and communications January 20th 1964, because of intraparty intrigues from those who tried to prevent him succeeding Einar Gerhardsen as the Labor Party's leader. Einar Gerhardsen desired Bratteli's resignation already immediately after his final executive came to power.¹¹³⁰ Bratteli's resignation was also a serious setback for the Labor Party modernists, even if the economist Erik Himle, who had been Bratteli's Parliamentary Secretary prior to the Kings Bay affair, became new minister of transport and communications.¹¹³¹ Erik Himle furthered Trygve Bratteli's rational and technocratic road policy, but lacked clearly Bratteli's position within the Labor Party.¹¹³²

The 1964 *Transport and Communication Act* (Samferdselsloven av 1964) furthered many of the 1947 Transport and Communication Act's regulations, and introduced a particular permit for pooling of goods from several customers on unscheduled transports. Stortinget's majority feared obviously pooling could undermine the scheduled transports, even if pooling of goods reduced transport costs, road traffic and pollution. The contemporary Danish and Swedish regulations facilitated both competition and effectiveness.¹¹³³ The 1964 Transport and Communication Act opposed many ideas outlined by the Labor Party's internal 1960 Transport and Communication Commission.¹¹³⁴ Maintenance of the 1947 Transport and Communication Act's intentions indicated clearly Prime Minister Einar Gerhardsen and the Labor Party's left turn after the non-socialist interregnum in August and September 1963, and can be understood both as a setback for the Labor Party modernists and a victory for the very powerful railroad lobby that opposed road transport of passengers and goods.

The Labor Party's internal workgroup concerning transport and communication policy for the forthcoming 1966-69 manifesto, then headed by minister of transport and communications Erik Himle, recommended in 1964 once again establishment of a Road Fund. Establishment of a Road Fund was this time motivated by the possibility for increased user financing of road construction and maintenance, or that increased vehicle and fuel taxes could be dedicated to road purposes, such as in Denmark, Sweden and West Germany.¹¹³⁵ Lack of resources

¹¹³⁰ See the Labor Party's Central Board's meetings November 23rd, 24th 1963 and January 15th 1964 in *Sentralstyrets møtebok 24/6-63 – 3/4-67:38, 40, 70, AAB-DNA, cassette Ac 8*. See also Anderson (1984:211-221) and Bergh (1987:543-550).

¹¹³¹ Nordby (1985a:305-306).

¹¹³² "Vi må satse forholdsvis mye på kommunikasjonene hvis vi vil ha et kommunikasjonsnett med samme standard som i andre land vi naturlig kan sammenligne oss med, sier statssekretær Erik Himle", *Aftenposten*, morning edition, March 12th 1963; "Vi trenger mer forskning i samferdselssektoren hevder statsråd Trygve Bratteli", *Norges Handels- og Sjøfartstidende*, January 11th 1964.

¹¹³³ Ot. prp. nr. 59 (1962-63) *Om lov om regulering av transport med fartøy og motorvogn*; Innst. O. XIV (1963-64) *Innstilling fra samferdselskomiteén om lov om regulering av transport med fartøy og motorvogn* (Ot. prp. nr. 59 (1962-63)); *Stortingstidende* (1963-64):692-746; Bjørnland (1989:223-224).

¹¹³⁴ Working paper from the Transport and Communication Commission, "Arbeidsprogrammet 1962/1965 – Oppgaver i Samferdselspolitikken", Oslo, July 1st 1960:5-9, AAB-TB cassette Db 13.

¹¹³⁵ *Arbeidsdokument nr. 10 om Samferdselspolitikken*, Det Norske Arbeiderparti Arbeidsprogrammet 1966-69, Oslo, DNA hustrykkeri 1964:10, AAB-DNA cassette Da 362. The central board appointed the work group December 2nd 1963 with Kåre Ellingsgård as leader. Kåre Ellingsgård served as Reulf Steen's Parliamentary Secretary in the Ministry of Transport and Communications from March until August 1971. The other members were Erik Himle; Nils Jacobsen member of Stortinget for Troms 1945-73; Kurt Mosbakk; H. Nicolaisen and Magnhild Hagelia, member of Stortinget for Aust-Agder 1950-65,

was still constraint number one for development of a functional road system, even if the road investments had been increased significantly since 1960.

The Gerhardsen executive appointed June 14th 1964 the *Road Plan Committee* (Vegplankomiteen) and the *Road Plan Council* (Vegplanrådet). Their task was development of a *Norwegian Road Plan* (Norsk Vegplan) within three years.¹¹³⁶ Only 6 percent of the Norwegian highways permitted then more than 8 tons axle loads or 12 tons bogie loads. Almost every contemporary Swedish highway permitted 8/12 tons, and 26 percent permitted 10/16 tons axle and bogie loads.¹¹³⁷ The Norwegian public road system was hence still in urgent need of modernization, because permitted axle and bogie loads were crucial for the transport economy, similarly as in the 1950s. Low permitted axle and bogie loads delayed the shift from railroad to road transports, this was excellent for the railroad lobby but perceived as a problem by most transport users. Development of a national road plan emulating the 1959 *Swedish Road Plan* or the Danish Traffic Economic Commission's 1961 recommendations would complete the Labor Party modernists' road policy reformation, where modern trunk roads were perceived as national collective goods.

All major political parties except Socialist Peoples' Party and the Agrarian Party promised increased road investments in their 1965-69 manifestos. The Liberal and Agrarian Parties championed still dedicated vehicle and fuel taxes. The Christian Peoples' Party and Conservative Party required balance between the motorists' payments of vehicle and fuel taxes and public spending on roads. The Labor Party modernists' championed once again establishment of a Road Fund, but this idea did not make it to the manifesto. The Liberal and Christian Peoples' Parties championed turnpikes or other kinds of alternative financing. The Liberal Party considered alternative road financing particularly useful in central areas and for financing of bridges and tunnels. Socialist Peoples' Party opposed turnpikes or other kinds of alternative road financing, and championed completely State financed trunk roads. But the novelty in the 1965 manifestos was public transports in urban areas as a substitute for cars. The Socialist Peoples' Party and the Labor Party that also championed construction of modern entrance roads to the major cities promoted this idea. The Labor Party's new position with regard to the urban areas was clearly a compromise between the modernists, leftwing and railroad lobby. The early 1960s' fast growing road traffic was accompanied by deteriorating road safety records. Road safety received therefore prominent positions in the Labor, Liberal, Christian Peoples' and Conservative Parties' manifestos for the term 1965-69. The Labor, Liberal and Conservative Parties advocated construction of safe roads. The Christian Peoples' Party advocated police controls. The Liberal, Christian Peoples' and

cf. minutes from the central board's meeting December 2nd 1963:57, 59, AAB-DNA cassette Ac 8. See also Nordby (1985a:308) concerning Kåre Ellingsgård's biography and Nordby (1985b:246-247, 348-349) concerning Magnhild Hagelia and Nils Jacobsen's biographies.

¹¹³⁶ *Norsk Vegplan. Foreløpig beskrivelse av arbeidsopplegg*. Arb. dok. nr. 1, ST 2146/TØI, VDA binder Norsk Vegplan Arb. dok 1-10; *Vegplanrådet Protokoll 1/64*, VDA binder Norsk Vegplan Vegplanrådets protokoller.

¹¹³⁷ *Vegplanrådet protokoll 1/65:14*, VDA binder Norsk Vegplan, Vegpanrådets protokoller.

Conservative Parties championed all use of private construction companies and competitive bidding.¹¹³⁸ Road policy and road construction were thus prominent issues for most parties prior to the 1965 election, because this election campaign took place during the mass motoring's second breakthrough in Norway, when the number of car increased dramatically.

The peripheral and rural areas' distributional coalition's road policy counterreformation

Håkon Kyllingmark, who had represented Nordland in Stortinget's Standing Committee on Transport and Communications since 1954, became minister of transports and communications October 12th 1965 when the Borten executive came to power.¹¹³⁹ Kyllingmark championed as mentioned earlier the Conservative Party's *10 Years Plan for Transports and Communications* prior to the 1957 election, and championed also Oslo and Bergen's cause 1962-63 when Stortinget deliberated the 1963 Road Act. But Håkon Kyllingmark would soon advocate other causes, because the Conservative Party's new bedfellows championed first and foremost the peripheral and rural areas' interests.

The peripheral and rural areas' road political counterreformation was launched officially February 24th 1966, when the Conservative Party's Olav Knudson from Buskerud complained in Stortinget that construction of the new motorway, E18 between Oslo and Drammen, drained resources from Buskerud's secondary highways. Because the 1963 Road Act did not, as mentioned earlier, distinguish between roads with national and local collective good characteristics. Buskerud County had to finance 18 percent of the construction costs for a motorway that first and foremost benefited the through traffic and national interests. Knudson demanded therefore that somebody else financed the motorways, for instance through turnpikes, to safeguard swift construction and to shield Buskerud's other highways, which were local collective goods.¹¹⁴⁰ Knudson's question opened a floodgate, because the 1963 Road Act's requirements for local co-financing created already then significant common pool problems for trunk roads and motorways, which were national collective goods.

Minister of transport and communications Håkon Kyllingmark's answer to Olav Knudson and others shelved the *1962 Motorway Plan* when Kyllingmark promised construction of two-lane expressways rather than four-lane motorways live from Stortinget's rostrum, because expressways were supposed to reduce the total construction costs and thereby also the resource drain from the counties' secondary highways. But Kyllingmark refused explicitly to define motorways or other trunk roads as a particular class of roads with a dedicated budget chapter, because that would not increase the total road budgets. Kyllingmark concluded turnpikes were costly and inefficient compared to traditional tax financing, but he did not oppose

¹¹³⁸ "Sosialistisk Folkepartis arbeidsprogram 1965-69":Kommunikasjoner; "Arbeiderpartiet 1965, Arbeidsprogram 1966-69": Plan og samordning for samferdselen; "Venstres arbeidsprogram for stortingsperioden 1965-69":Samferdsel; "Arbeidsprogram for Kristelig Folkeparti i stortingsperioden 1965-69"; "Stortingsvalgprogram Senterpartiet 1965-69":Samferdsel; "Høyres hovedprogram 1965":Samferdsel, all in *Vi vil..! Norske partiprogrammer 1884-2001*.

¹¹³⁹ Nordby (1985a:163-175, 179-191, 196-208, 302-316).

¹¹⁴⁰ *Stortingstidende* (1965-66):2069-2071, 2073.

turnpikes per se, and would ask for Stortinget's approval, if turnpikes were demanded locally.¹¹⁴¹ Håkon Kyllingmark's abandoning of further construction of motorways launched the peripheral and rural areas' distributional coalition's counterreformation that rolled back significant parts of the reforms launched by his predecessors Trygve Bratteli and Erik Himle. Shelving the *1962 Motorway Plan* was also one of the Borten executive's moves against the Labor Party's idea about decentralized centralization, because the planned motorways would have fueled the major cities' growth.

Håkon Kyllingmark's move in Stortinget February 24th 1966 was also a devastating blow for the most crowded Norwegian trunk roads' road safety, because construction of narrow two-lane expressways without physical separation between the directions of traffic instead of motorways led often to far more serious accidents than on the old and bendy gravel roads. The new expressways encouraged high speeds, but gave the motorists minimal safety margins compared to contemporary Swedish expressways with generous shoulders that in practice worked as four lane roads.

How about *Norwegian Road Plan* initiated by the previous Labor Party executive in June 1964? The Road Plan Committee headed by Road Director Karl Olsen outlined the plan 1964-69. The Road Plan Committee's other members were head of the Directorate of Public Road's Planning Department Arne J. Grotterød; the Directorate of Public Road's Chief Financial Officer Egil Killi; the Ministry of Transport and Communication's deputy undersecretary Robert F. Nordén; the Institute of Transport Economics' head Erik Brand Olimb, and finally Thor Skringo, deputy undersecretary in the Ministry of Municipal Affairs and Labor (Kommunal- og Arbeidsdepartementet).¹¹⁴² Regional policy was one of the Ministry of Municipal Affairs and Labor's main tasks.

Several researchers have studied the Road Plan Committee's undertakings. The political scientist Morten Thornquist emphasized the newspapers and county politicians' response to the Road Plan Committee's final recommendations.¹¹⁴³ The economist and transport historian Dag Bjørnland, then a researcher at Institute of Transport Economics who carried out studies for the Road Plan Committee, emphasized *Norwegian Road Plan* as a rational undertaking.¹¹⁴⁴ The historian Per Østby emphasized the inherent conflicts between the Road Plan Committee's engineers and the Road Plan Council's assumed political function, but claimed *Norwegian Road Plan* reflected an understanding of the society based on "technic-economic rationality".¹¹⁴⁵ The economic historian Sverre Knutsen and the political scientist Knut Boge found the commonly held idea about *Norwegian Road Plan* as a "technocratic plan" was "an ideological construction", because the politicians and not the engineers governed the road plan process, such as claimed by Dag Bjørnland and Per Østby.¹¹⁴⁶ The historian of ideas Rune Slagstad read Per Østby's dissertation, and designated Road Director Karl Olsen and Arne J. Grotterød as a so-

¹¹⁴¹ *Stortingstidende* (1965-66):2071, 2072, 2079-2080.

¹¹⁴² *Norsk Vegplan – Vegplankomiteen Protokoll 1/64*, VDA binder Norsk Vegplan, Vegplankomiteens møteprotokoller og møtereferater 1964-1965.

¹¹⁴³ Thornquist (1971).

¹¹⁴⁴ Bjørnland (1989:239-247).

¹¹⁴⁵ Østby (1995:387-424).

¹¹⁴⁶ Knutsen and Boge (2005:88-108).

called “national strategists”. Slagstad claimed also the road sector received a “system with a long time horizon and economic generosity any other sector, except the armed forces, could envy”.¹¹⁴⁷ The forthcoming discussion reveals that Slagstad’s claims were not in accordance with the realities, but rather ideological constructs.

This study emphasizes particularly the Road Plan Council; the corporative body that supervised the Road Plan Committee and sanded most strategic or high-level policy decisions. Norwegian Institute of Technology’s professor Ole Didrik Lærum headed the Road Plan Council.¹¹⁴⁸ The Road Plan Council met once in 1964, three times annually in 1965, 1966 and 1967, once in 1968 and finally four times in 1969. The Road Plan Council submitted its final report in January 1970.¹¹⁴⁹ Most scientists, except Per Østby, have so far overlooked the Road Plan Council, but Per Østby overlooked partly the Road Plan Council’s political function. The Road Plan Council sanded and legitimized namely the peripheral and rural areas’ distributional coalition’s capture of *Norwegian Road Plan*. The Road Plan Council illustrates thus how professionals were used as pieces in the high-level resource struggle by those who orchestrated the political processes, in this case the Borten executive and the peripheral and rural areas’ distributional coalition.

The Road Plan Council’s probably most important decision was made already at its constitutive meeting November 25th 1964. The Ministry of Finance’s deputy undersecretary Bjørn Larsen, head of the new *Planning Department* (Planleggingsavdelingen) established in 1963, took charge immediately, and demanded the Road Plan Council’s shunning of budget issues. Professor Lærum obeyed.¹¹⁵⁰ Bjørn Larsen’s move placed the Ministry of Finance in the Road Plan Council’s driver seat, and blocked effectively development of a *Norwegian Road*

¹¹⁴⁷ Slagstad (1998:305-307).

¹¹⁴⁸ The Road Plan Council’s other members were: Deputy Road Director Olav A.B. Torpp and department director Knut Waarum from the Directorate of Public Roads. Deputy undersecretary Bjørn Larsen represented the Ministry of Finance. Managing director Chr. Christiansen represented Norwegian Road Federation. Managing director Wabeck-Hansen represented the Transport Users’ Joint Organization. Kjell Wibstad represented the Forestry and Forestry Industry’s Research Association. Vestfold’s County Governor Olav Grove represented the counties. The Conservative Party’s Håkon Kyllingmark from Nordland and the Labor Party’s Peter Kjeldseth Moe from Møre and Romsdal represented Stortinget’s Standing Committee on Transport and Communications. Nordland’s Chief County Road Officer 1959-64 and Telemark’s Chief County Road Officer 1964-80, Sigurd Glærum, represented the Chief County Road Officers. Norwegian Automobile Owners’ Association’s director F. Nagell-Erichsen represented the motorist organizations. Managing director Reidar Carlsen represented the Regional Development Fund. Managing director Niels Lassen represented the Bus Owner’s Association. The Norwegian Transport Workers’ Union’s treasurer, Magnus Anker Bakke, represented finally the trade unions. Truck owner Sverre Johansen was appointed by the Borten executive October 12th 1965, and represented the Truck Owner’s Association. The Conservative Party’s member of Stortinget Erling Norvik jr. from Finnmark replaced Håkon Kyllingmark when he became minister of transport and communications. General Major H. F. Zeiner Gundersen was appointed December 7th 1965, and represented the armed forces (*Norsk Vegplan Vegplanrådet Protokoll 1/64; Norsk Vegplan Uttalelse og rapport fra Vegplanrådet*, January 1970, VDA binder Norsk Vegplan, Vegplanrådets protokoller).

¹¹⁴⁹ *Rapport fra Vegplanrådet*, to the Ministry of Transport and Communications, June 30th 1969, VDA binder Norsk Vegplan, Vegplanrådets protokoller.

¹¹⁵⁰ *Norsk Vegplan Vegplanrådet Protokoll 1/64*, VDA binder Norsk Vegplan, Vegplanrådets protokoller. See for instance Erichsen (1999:61-66) concerning establishment of the Ministry of Finance’s Planning Department.

Plan reflecting the actual need for roads. The Ministry of Finance governed from then the road plan process almost as a rider commanded a horse.

The Road Plan Committee's Workgroup for Economy and Finance distinguished in April 1965 between "profitable" and "social roads".¹¹⁵¹ Institute of Transport Economics concluded in March 1966 that profitable roads could justify further increased road investments financed through increased taxes or domestic loans, at the expense of reduced private consumption, but road financing through foreign loans was subject to State economic considerations. Institute of Transport Economics considered turnpikes an inefficient "emergency solution" that could prevent use of new roads, and thereby induce inefficiencies and welfare losses.¹¹⁵² The Ministry of Finance's deputy undersecretary Bjørn Larsen agreed about possible loan financing but opposed turnpikes, and restated that road investments were governed by the Ministry of Finance's budget constraints.¹¹⁵³ Bjørn Larsen emphasized here once again the Ministry of Finance's primacy. The Road Plan Council's other members understood obviously their roles, because nobody objected. This road plan process differed fundamentally from those in Denmark and Sweden where the actual need for roads and the professionals' norms and standards governed the road planning. The resource discussion came afterwards when the need for roads had been clarified and the executives and legislators implemented the desired projects.

The Ministry of Finance's undersecretary Bjørn Larsen's flat rejection of turnpikes in March 1966 was interesting, because Erik Brofoss had in May 1960 advocated turnpikes in the most crowded areas, the same did the Labor Party's internal Transport and Communication Commission prior to the 1961 election. The Liberal and Christian Peoples' Parties advocated similarly turnpikes prior to the 1957, 1961 and 1965 elections. The Agrarian and Conservative Parties advocated only turnpikes prior to the 1957 election. The Borten executive's four parties' divergent views concerning turnpikes may have led to internal discussions, even if minister of transport and communications Håkon Kyllingmark in February 1966 informed Stortinget that he would not oppose turnpikes.

How to explain Bjørn Larsen's position in the Road Plan Council concerning introduction of turnpikes? Did he advocate the Ministry of Finance or the Borten executive's position or both? The Liberal Party's minister of finance Ole Myrvoll was professor in economics at *Norwegian School of Economics and Business Administration* (Norges Handelshøyskole) in Bergen. Myrvoll did not challenge the ministry's prevailing views, according to the Ministry of Finance's permanent undersecretary Eivind Erichsen.¹¹⁵⁴ Turnpikes could seen from the Ministry of Finance's point of view challenge the Strategic Capitalism, because construction of roads could divert resources from other regional policy motivated projects, unless enlargement of the resource pool through increased taxes or foreign loans. But turnpikes could on the other hand facilitate construction of profitable roads, and

¹¹⁵¹ *Norsk Vegplan Vegplanrådet Protokoll 1/65:13*, VDA binder Norsk Vegplan, Vegplanrådets protokoller.

¹¹⁵² *Norsk Vegplan Vegplanrådet Protokoll 1/66:3-5*, VDA binder Norsk Vegplan, Vegpanrådets protokoller.

¹¹⁵³ *Norsk Vegplan Vegplanrådet Protokoll 1/66:5-6*, VDA, binder Norsk Vegplan, Vegpanrådets protokoller.

¹¹⁵⁴ Erichsen (1999:77-78).

thereby improve the utilization of the available resource pool. The non-socialist parties had in 1966 adopted both Strategic Capitalism and low interest policy, and were finally in position to govern both credit allocation and interest rates, because the 1965 Money and Credit Act made interest rates and credit rationing the Ministry of Finance's responsibility. Turnpikes could, seen from the Borten executive's point of view, facilitate increased road construction in the central and urban areas on the peripheral and rural areas' expense. The Agrarian Party, which had the Prime Minister, prioritized consequently the peripheral and rural areas on the central and urban areas expense, if in doubt.¹¹⁵⁵ It was thus neither possible to rule out that Bjørn Larsen advocated the Ministry of Finance's position, nor that he advocated the Borten executive's position, because common introduction of turnpikes could both undermine the Ministry of Finance's economists' fine-tuning of the economy, and establish a road policy contrary to the Borten executive's interests. Bjørn Larsen's position made sense seen both from the Ministry of Finance's and from the governing middle parties' point of view. It is also reasons to assume the Ministry of Finance's economists achieved a more autonomous position during the Borten executive than under the former Labor Party executives.

Lack of resources and possible use of alternative financing was also on the Road Plan Council's agenda in March 1966, February 1967 and October 1968.¹¹⁵⁶ The road investments increased significantly throughout the 1960s, but not enough to catch-up the fast growing number of cars, because the road appropriations had been decoupled from the motorists' payments of fuel and vehicle taxes and increased less than the number of cars. Norwegian Road Federation championed loan and turnpike financed construction of new motorways after Håkon Kyllingmark in February 1966 shelved the *1962 Motorway Plan*. Norwegian Road Federation's initiative led ultimately to Stortinget's approval in 1973 of the E18 turnpike expressway bridge across Drammen.¹¹⁵⁷ But Norwegian Road Federation's 1967 motorway campaign, based on the *1962 Motorway Plan* was otherwise a fiasco.¹¹⁵⁸ Stortinget's majority was not willing to prioritize further construction of motorways after the 1965 election, even if they were financed through turnpikes, because those days' credit rationing and restrictions on foreign loans meant namely that turnpikes diverted resources from other domestic projects. The politically governed interest rates were also below those on the international capital markets, and prevented effectively funding of Norwegian banks through foreign capital markets.¹¹⁵⁹ The low interest policy created queues of politically desirable projects, often with low return

¹¹⁵⁵ Madsen (2001:74-108).

¹¹⁵⁶ *Norsk Vegplan Vegplanrådet Protokoll 1/66:6*; *Norsk Vegplan Vegplanrådet Protokoll 1/67:6*; *Norsk Vegplan Vegplanrådet Protokoll 1/68:6-7* VDA binder Norsk Vegplan, Vegplanrådets protokoller.

¹¹⁵⁷ *Styrets beretning for 1966*, Opplysningsrådet for Biltrafikken, Oslo 1967:23-23-24, OVA; *Motorveg gjennom Drammen. Utredning om bompengefinansiering*, Vegdirektoratet, Planavdelingen April 29th 1969, VDA; St. meld. nr. 107 (1972-73) *Om revidert Norsk Vegplan*:42-43, 80-87; Bjørn Fuhre, "Den nye Drammensbrua", *Vegen og Vi*, Vol. 14, No. 1, 1975:22-28; Hans Jacob Gisholt, "Om Norges største bompengesystem", *Vegen og Vi*, Vol. 14, No. 3, 1975:2-6.

¹¹⁵⁸ *Norge trenger motorveier*, Opplysningsrådet for Biltrafikken, publikation No. 60, Oslo June 1967; *Styrets beretning for 1967*, Opplysningsrådet for Biltrafikken, Oslo 1968:12-14, OVA.

¹¹⁵⁹ See for instance Knutsen (1998:70) about the 1960s' credit rationing and low interest policy, and how the low inveterest policy in practice ruled out financing through foreign loans unless use of foreign loans were permitted by the executive.

on the investments that crowded out less politically desirable projects with higher return on the investments.

Even the historian Per Østby studied the Road Plan Council, but concluded the Road Plan Committee interfered with the Ministry of Finance, the executive and Stortinget's domains when it questioned the available resources and tried to figure out alternatives to overcome the constraints.¹¹⁶⁰ Per Østby overlooked here clearly the resource constraints' road policy implications. Østby overlooked similarly the road policy implications of the Ministry of Finance's capture of the Road Plan Council. Tight resource constraints made soon the Norwegian road plan process a zero sum. The similar Danish and Swedish road plan processes resembled more variable sum games because the resource constraints had far less prominent positions in those discussions.

The so-called *DYPRI model* developed at Institute of Transport Economics allocated the road investments dynamically according to each road sections' return on the investments. DYPRI could omit upgrades of unprofitable road sections. Peter Kjeldseth Moe, member of the Road Plan Council and the Labor Party and Møre and Romsdal County's member of Stortinget's Standing Committee on Transport and Communications, questioned DYPRI's allocations in October 1967. Kjeldseth Moe required allocations according to "common sense" rather than through DYPRI that could omit road investments in peripheral and rural areas, because transport economy and regional policy were not always commensurable. It became also evident that major bridges, ferry quays and roads in urban areas were not included in DYPRI's allocations. Motorways and sections through urban areas had similarly to be calculated manually, according to the Road Plan Committee's Workgroup for Dimensioning and Costs. But nobody in the Road Plan Council questioned these omissions, and sanded thereby partly omission of roads in crowded areas from *Norwegian Road Plan*.¹¹⁶¹ These decisions explain also why the Norwegian road plan process soon deviated from fundamentally from similar processes in Denmark and Sweden.

The Road Plan Council agreed similarly in December 1967 excluding urban road sections from the Road Plan Committee's traffic forecasts.¹¹⁶² The Road Plan Committee furthered also planning of roads with "passable" rather than adequate standard from December 1967, after the Road Plan Council recognized there would not be sufficient resources for development of a road system with adequate standard on every road section.¹¹⁶³ Lack of financial resources became once again the bottleneck that hindered development of a modern and functional road system, similarly as in the 1920s, 1930s, 1940s, and 1950s. Lack of resources was clearly an example of path dependence that gave strong incentives for construction of many kilometers of narrow gauge roads rather than few kilometers of modern trunk roads

¹¹⁶⁰ Østby (1995:412-415).

¹¹⁶¹ *Norsk Vegplan Vegplanrådet ref 2/67:6-9; Vedlegg til Vegplanrådets protokoll 2/67, Status i vegplanarbeidet og revisjon av arbeidsplanene:4, VDA binder Norsk Vegplan, Vegplanrådets protokoller.*

¹¹⁶² *Norsk Vegplan Vegplanrådet Protokoll 3/67:3-4, 5-6; Norsk Vegplan Vegplanrådet Ska/LSo, Saksdokumenter til møte i Vegplanrådet torsdag 14. Desember 1967 kl. 1000, VDA binder Norsk Vegplan, Vegplanrådets protokoller.*

¹¹⁶³ *Norsk Vegplan Vegplanrådet Protokoll 3/67:6-8, VDA binder Norsk Vegplan, Vegplanrådets protokoller.*

and motorways due to Stortinget's power relations. The similarity with Norwegian 19th century legislators that prioritized construction of low budget narrow gauge railroads rather than trunk railroads with long lifespan such as in Sweden was striking.

Omitting the crowded areas from *Norwegian Road Plan* was one of the Road Plan Council's most consequential decisions, similarly as acceptance of the Ministry of Finance's primacy in November 1964. But the Ministry of Finance's deputy undersecretary Bjørn Larsen was not able to recall any debates in the Road Plan Council.¹¹⁶⁴ The Road Plan Council sanded thereby most of the Road Plan Committee's recommendations, most likely as expected by the Borten executive. The peripheral and rural areas' distributional coalition's capture was soon completed through salami tactics, slicing piece by piece at almost every of the Road Plan Committee and Road Plan Council's meetings.

Another very consequential decision was the Ministry of Finance's imposition of 10 percent discount rate for road investments in December 1967, combined with limiting the road investments' time horizon to 18 years.¹¹⁶⁵ Norges Bank's politically governed discount rate was 3,5 percent from February 1955 until September 1969.¹¹⁶⁶ The Road Plan Committee accepted 10 percent discount rate without discussions, according to secretary Chester Danielsen. The Public Roads Administrations' regular discount rate was then 5 percent, approximately the interest rate on long-term loans.¹¹⁶⁷ Neither the Ministry of Finance's deputy undersecretary Bjørn Larsen was able to recall any particular discussions in the Road Plan Council concerning the discount rate.¹¹⁶⁸ Chartered engineer Erik Brand Olimb, member of the Road Plan Committee and head of the Institute of Transport Economics until 1968, claimed it was the Ministry of Finance's permanent undersecretary Eivind Erichsen who imposed 10 percent discount rate.¹¹⁶⁹

Eivind Erichsen's imposition of 10 percent discount rate for road investments forces the question. Why? Did the Ministry of Finance act in 'self-defense' against irresponsible executive and irresponsible legislators? The Ministry of Finance's economists did not oppose road investments per se, according to deputy undersecretary Bjørn Larsen, but were highly skeptical to the counties' former fixed share of the annual road appropriations and to the counties' dispersion of the road appropriations to numerous minuscule and unprofitable projects.¹¹⁷⁰ However, the Directorate of Public Roads and the Ministry of Transport and Communications abandoned this policy already in the second half of the 1950s. Table 9 indicates clearly Stortinget's approval of the 1963 Road Act and the Labor Party modernists' road policy reformation changed the road investments' allocation fundamentally compared to the 1929 allocation key. It was thus very difficult to explain Eivind

¹¹⁶⁴ Larsen (2005 [Interview]).

¹¹⁶⁵ *Saksdokumenter til møte i Vegplanrådet torsdag 14. desember 1967 kl. 1000*, Norsk Vegplan Vegplanrådet Ska/LSo, December 9th 1967:1-2; Norsk Vegplan Vegplanrådet Protokoll 3/67:2, 3-6, VDA, binder Norsk Vegplan, Vegpanrådets protokoller.

¹¹⁶⁶ Norges Bank's discount rate [Online December 30th 2005] – URL: http://www.norges-bank.no/stat/historiske_data/no/diskonto/nbdiskonto.xls

¹¹⁶⁷ Danielsen (2002b [Interview]).

¹¹⁶⁸ Larsen (2005 [Interview]).

¹¹⁶⁹ Olimb (2005 [Interview]).

¹¹⁷⁰ Larsen (2005 [Interview]).

Erichsen and the Ministry of Finance imposition of 10 percent discount rate for road investments as a kind of ‘self-defense’ against an irresponsible executive or against irresponsible legislators, at least compared to the second half of the 1960s’ road policy. But the Road Plan Committee and Road Plan Council paved the way for a reversal of the second half of the 1960s’ established road policy towards the late 1940s and early 50s’ road policy based on construction of social roads in peripheral and rural areas – exactly what the Ministry of Finance opposed according to Bjørn Larsen. However, it was not possible to rule out that Eivind Erichsen imposed 10 percent discount rate to prevent overheating, because the Norwegian economy operated near full capacity during the second half of the 1960s. But this study has not been able to determine whether the Ministry of Finance imposed 10 percent discount rate on its own, or if the Borten executive had instructed Eivind Erichsen.

Arnljot Strømme Svendsen, Professor at Norwegian School of Economics and Business Administration in Bergen, which was University of Oslo’s competitor concerning education of economists, held a lecture February 21st 1968 in Oslo’s chapter of Norwegian Chartered Engineer’s Association, where he claimed investments in roads and other transport and communication infrastructures were exactly as other investments. Scarce resources had to be allocated to those projects with highest return on the investments, according to the “opportunity cost” principle if the aim was economic growth. Arnljot Strømme Svendsen referred to Gabriel Roth, a transport economist and adviser for British Road Federation, who questioned whether roads were social welfare or collective goods supposed financed by the community through taxes, or public utilities like electricity, water, sewage and garbage collection supposed financed by those who benefited from the utilities. Arnljot Strømme Svendsen, who clearly sympathized with Gabriel Roth’s views, claimed that if roads and bridges were perceived as public utilities, then financing through non-profit turnpike companies was perfectly acceptable, hereunder financing through foreign loans. Arnljot Strømme Svendsen used the Bergen areas’ three tunnels and three bridges and one road championed by among others the industrialist Fritz Rieber as examples of successful turnpike projects. But the main reason for turnpike financing according to Arnljot Strømme Svendsen was that most political parties desired reduced direct taxes. Turnpikes were the only realistic option, because the Norwegian economy operated on full capacity. Increased road investments would otherwise reduce other sectors’ investments.^{1171 1172} Professor Arnljot Strømme Svendsen, who seemingly belonged to the Conservative Party’s think tank, because of his personal endorsement on the manuscript and the references to Gabriel Roth in his lecture, used this opportunity to launch an alternative to the Ministry of Finance’s prevailing view. Arnljot Strømme Svendsen’s ideas had many similarities with those championed by Trygve Lie in 1956, Fritz Rieber in 1957, and Erik Brofoss and Robert F. Nordén in 1960. The

¹¹⁷¹ Arnljot Strømme Svendsen, *Bro- og veibygging i Norge – finansiert med lånemidler og betalt med bomavgifter – vurdert samfunnsøkonomisk*, lecture in Den Norske Ingeniørforening, Oslo avdeling, February 21st 1968, RA-HPA cassette Fn-0088.

¹¹⁷² For further information about Gabriel Roth who launched neo-liberal and NPM ideas at least a decade prior to the neo-liberal shift and the NPM’s breakthrough, see for instance Gabriel Roth’s homepage [Online December 6th 2005] – URL: <http://home.earthlink.net/~roths/cv.htm#G>. See also Gabriel Roth, “Combating Congestion With Cash”, *Urban Age*, fall 1999 edition [Online December 6th 2005] – URL: http://www.worldbank.org/html/fpd/urban/urb_age/fall99/roads.htm

Borten executive's four parties struggled obviously still internally about how to handle the voters' desire for new roads. The Conservative Party was clearly forced to adapt to the three middle parties' positions, because the forthcoming road plan diverged in many areas fundamentally from the *10 Years Plan for Transports and Communications* championed by Håkon Kyllingmark in 1957, even if there also were a number of common denominators.

Professor Arnljot Strømme Svendsen's lecture explained partly why the Ministry of Finance's permanent undersecretary Eivind Erichsen in December 1967 imposed 10 percent discount rate on road investments, because the economy operated near full capacity. But imposition of 10 percent discount rate disarmed in practice the minister of transport and communications prior to the executive's internal resource negotiations, because very few roads gave 10 percent return on the investments. 10 percent discount rate combined with the Ministry of Finance's opposition against turnpike financing, further credit rationing and restrictions on foreign loans ruled effectively out future investments in modern trunk roads, motorways and other costly projects with national collective good characteristics and long time horizon. 10 percent discount rate established also a ceiling on future road investments. The net beneficiaries were those who desired limited road investments and the peripheral and rural areas' distributional coalition, because high discount rate facilitated politically governed allocation of the minuscule road investments, and thereby maintenance of the Liberal Party's System which safeguarded the middle parties' interests.

Even Stortinget's Standing Committee on Transport and Communications engaged the fall 1968 in the forthcoming road plan, and required increased road appropriations, because adequate road construction required annual road appropriations at least equal to the motorists' payments of vehicle and fuel taxes. But the Standing Committee on Transport and Communications was not able to achieve increased road appropriations, and refused therefore future allocation of road investments according to cost/benefit calculations, because regional development was of great importance.¹¹⁷³ Stortinget's plenary rejected similarly December 10th 1968 allocation of road investments according to the cost/benefit principle.¹¹⁷⁴ These decisions were highly consequential. First because the Ministry of Finance's budget constraints prevailed, and second because Stortinget furthered its established practice with allocation of road investments according to a political rather than an economical logic, contrary to for instance in Denmark and Sweden. Stortinget's rejection of the cost/benefit principle upheld thereby the Liberal Party's System and weakened clearly Per Østby and others claims' about *Norwegian Road Plan* as governed by rational engineer logic. The road plan process was clearly governed by the executive and Stortinget's legislators, not by engineers and other professionals that subordinated themselves to the Ministry of Finance's budget constraints and the executive and Stortinget's political logic. The Road Plan Committee's forthcoming recommendations differed therefore already in 1968 fundamentally from the Danish and Swedish road and infrastructure plans made by the professionals and according to the professionals' norms and standards.

¹¹⁷³ Budsjett-innst. S. nr. 14 (1968-69) *Innstilling fra samferdselskomitéen om bevilgninger på statsbudsjettet for 1969* (St. prp. nr. 1 og St. prp. nr. 1, Tillegg nr. 11):2-4.

¹¹⁷⁴ *Stortingstidende* (1968-69):1603.

The financial issues and resource struggles dominated even the Road Plan Council's discussions during the Road Plan Committee's final spurt. An ad hoc work group representing the Ministry of Transport and Communications, the Ministry of Municipal Affairs and Labor and the Directorate of Public Roads was established to reconsider DYPRI's priorities of new road links. The counties' Chief County Road Officers were similarly authorized to adjust DYPRI's priorities within their counties. No counties would experience reduced road appropriations, according to the Ministry of Transport and Communications deputy undersecretary Robert F. Nordén.¹¹⁷⁵ The ministries' workgroup and the Chief County Road Officers' politically motivated adjustments of DYPRI's allocations reestablished seemingly more or less status quo, which was the geographical allocation of the road investments after Stortinget's approval of the 1963 Road Act. Robert F. Nordén's championing of the Borten executive's road policy in 1969 rather than his own economically motivated road policy outlined in 1960 illustrates clearly how the roles changed during the Borten executive's road policy counterreformation, because the ministers and legislators made the professionals spectators. The professionals abandoned their former positions motivated by professional norms and standards. The Borten executive's co-optation or capture of the Combined Road Administration, the Road Plan Committee and the Road Plan Council was almost completed.

The Road Plan Committee submitted its recommendations to Prime Minister Per Borten June 30th 1969.¹¹⁷⁶ The Ministry of Finance's budget constraints were 3.006 millions 1968 NOK in the first road plan period 1970-73, or approximately 1.673,7 millions 1990 PPP USD, and 3.812 millions 1968 NOK, or about 2.122,5 millions 1990 PPP USD, in the second road plan period 1974-77, a total of 6.818 millions 1968 NOK or approximately 3.796,17 millions 1990 PPP USD.¹¹⁷⁷ The Road Plan Committee recommended construction of highways or establishment of highway ferry services to every settlement with more than 750 inhabitants within 1977. The least crowded highways were similarly recommended upgraded to so-called passable standard with oil gravel paving and 8/12 tons capacity within 1977. Road projects omitted were proposed carried out as turnpikes. Saved road appropriations because of turnpike financing were supposed to benefit the concerned counties.¹¹⁷⁸ The Road Plan Committee postponed three tasks to the third road plan period between 1978 and 1989, namely construction of trunk roads, roads in urban and central areas, and new highway links.¹¹⁷⁹ The most profitable road investments were thus postponed at least 8 to 20 years, while the least profitable investments were accomplished first. Only 14 percent of *Norwegian Road Plan's* total investments were allocated according to DYPRI's recommendations.¹¹⁸⁰ 86 percent

¹¹⁷⁵ RFN/LSo, *Økonomiske rammer m.v. for vegplanen*, January 13th 1969, VDA binder Norsk Vegplan, Vegplanrådets protokoller.

¹¹⁷⁶ *Norsk Vegplan. Innstilling fra Vegplankomiteen 1*, June 30th 1969; Norsk Vegplan. Innstilling fra Vegplankomiteen 2, June 30th 1969, VDA.

¹¹⁷⁷ *Norsk Vegplan. Innstilling fra Vegplankomiteen 1*, Oslo June 30th 1969:2.10 Tabell 2.1, 2.11 Tabell IV, 2.12 Tabell IV, VDA.

¹¹⁷⁸ *Norsk Vegplan. Innstilling fra Vegplankomiteen 2*, Oslo June 30th 1969:12.11-12.13, VDA.

¹¹⁷⁹ *Norsk Vegplan. Innstilling fra Vegplankomiteen 2*, Oslo June 30th 1969:12.15-12.16, VDA.

¹¹⁸⁰ *Norsk Vegplan Uttalelse og rapport fra Vegplanrådet*, Oslo, January 1970:4, VDA binder Norsk Vegplan, Vegplanrådets protokoller.

were allocated according to political considerations, dictated by Stortinget's geographical and political balance of power, and the political logic prevailed on the economic and technocratic logic's expense.

The Road Plan Council and the Road Plan Committee had spent nearly four years and thousands of man-hours to produce a road plan governed by technic and economic rationality similarly as *Swedish Road Plan*, but submitted a road plan that more or less reproduced status quo with regard to high-level resource allocation, because 28,1 percent of the State road appropriations 1970-73 were recommended allocated to central counties, while 35,4 and 36,5 percent were recommended allocated to middle and peripheral counties.¹¹⁸¹ This was almost a blueprint of the actual allocation 1964-69. But the submitted *Norwegian Road Plan* differed fundamentally from its initial role model *Swedish Road Plan* that emphasized construction of national collective goods such as a modern trunk road system, and local collective goods such as high standard secondary roads all across Sweden. *Norwegian Road Plan* had been transformed by political pork barrel or universalism by the peripheral and rural areas' distributional coalition, because most constituencies received something, while others were almost omitted and supposed to finance the plan.

The Road Plan Council that kept quiet most of the time between 1964 and 1969 and sanded every decision that undermined the road policy's technical and economical rationality, blew the whistle in its final report submitted in January 1970, 6 months after the Road Plan Committee had submitted its recommendations to Prime Minister Per Borten. The Road Plan Council's final report complained namely about the Ministry of Finance's budget constraints, 6,8 billions 1968 NOK, or approximately 3,8 billions 1990 PPP USD, because the costs for 16.400 kilometers of highways with adequate standard were estimated to 13,5 billions 1968 NOK, approximately 7,5 billions 1990 PPP USD. Construction of 'narrow gauge' roads with passable rather than adequate standard gave significant short-term investment savings, but the Road Plan Committee's estimation models did not take the roads' carrying capacity, traffic density or accident costs into consideration such as the contemporary Swedish models did. Neither did roads with passable standard facilitate traffic differentiation, one of the most powerful road safety measures.¹¹⁸² The estimation models did not reflect the costs for building the same road sections several times. Neither did the Road Plan Committee's initial model for choice between four and two-lane roads include accident costs, such as for instance the Swedish National Road Administration's investment allocation models did.¹¹⁸³ The Borten executive reoriented thus *Norwegian Road Plan* almost 180 degrees compared to its starting point as a blueprint of *Swedish Road Plan*, and reestablished instead de facto the late 1940s and early 50s' road policy such as imposed by Stortinget's majority and the counties.

How about the forthcoming 1969 election? The Road Plan Committee submitted its recommendations only a few months prior to the election. Socialist

¹¹⁸¹ Calculated from St. meld. nr. 14 (1970-71) *Om Norsk Vegplan*:89.

¹¹⁸² *Norsk Vegplan Uttalelse og rapport fra Vegplanrådet*, Oslo, January 1970:3, VDA binder Norsk Vegplan, Vegplanrådets protokoller.

¹¹⁸³ *Norsk vegplan. Dimensjoneringsproblemer ved voksende behov. Et eksempel med valg mellom 2-feltsveg og 4-feltsveg*. Arb. dok. nr. 4. TØI, Slemdal December 1964, VDA binder Norsk vegplan Arb.dok 1-10.

Peoples' Party advocated a ban against use of private cars in the cities' central areas, and free public transports and construction of trunk roads that circumvent the city hubs instead of trunk roads through the city hubs. Socialist Peoples' Party was thereby the first party that linked environmental and road policies. Only the Labor, Liberal, Agrarian and Conservative Parties championed increased road appropriations for the forthcoming 1969-73 term. The Liberal, Christian Peoples' and Agrarian Parties – the peripheral and rural areas' distributional coalitions' core parties – advocated turnpike projects in crowded areas. Even the Conservative Party advocated turnpikes, but did not state where. The Borten executive's four parties agreed hence about turnpikes, but not where. The Socialist Peoples', Labor and Liberal Parties considered improved public transports an alternative to road construction and use of cars in crowded areas. The road safety issue revealed even in 1969 some interesting differences, because the Liberal Party emphasized a combination of road planning, road construction, education and police controls. The Christian Peoples' Party emphasized police controls only. The Agrarian Party emphasized a combination of road planning and law enforcement. The Conservative Party advocated construction of safe roads. The Agrarian Party championed also a national program for construction of roads and bridges in coastal areas that substituted ferries.¹¹⁸⁴ The 1969 manifestos linked road policy, road safety and environmental concerns for the first time, an indication of the late 1960s' shift when the political parties started to adopt green issues. The road safety issue divided the four governing non-socialist parties that barely won the 1969 election, because the voters went to bed with Trygve Bratteli and woke up with Per Borten. The Socialist Peoples' Party was voted out of Stortinget.

The peripheral and rural areas' politicians and newspapers were not satisfied with the Road Plan Committee's recommendations. Many considered *Norwegian Road Plan* a program for depopulating the peripheral and rural areas. The Labor and middle party newspapers were generally negative or very negative. The Conservative Party newspapers were somewhat more positive, according to Morten Thornquist's study, while the county councils' responses usually were somewhat more balanced.¹¹⁸⁵ Minister of transport and communications Håkon Kyllingmark submitted *Norwegian Road Plan* to Stortinget October 23rd 1970.¹¹⁸⁶ The Borten executive resigned in March 1971 because of internal struggles about the EEC issue.

Stortinget's plenary's deliberations about *Norwegian Road Plan* October 26th and 27th 1971 revealed that Reiulf Steen, minister of transport and communications in Trygve Bratteli's first executive that came to power in March 1971, was a quick learner with regard to road policy and road construction. The plenary discussions illustrated clearly the different parties and interest groups' positions with regard to road policy, and how the peripheral and rural areas' distributional coalition was organized and operated. The Standing Committee on Transport and

¹¹⁸⁴ "SF –Arbeidsprogram 1969-73":Distriktpolitikk, Bolig- og tomtepolitikk; "Politikk for en ny tid. Vekst – Trygghet – Trivsel. Arbeidsprogram for Det Norske Arbeiderparti 1970-1973":Utbygging og samordning av samferdselsen; "Venstre arbeidsprogram for stortingsperioden 1969-73":6 Samferdsle; "Valgprogram Kristelig Folkeparti 1969-1973":Kommunikasjoner; "Senterpartiets valgprogram 1969-1973":Samferdselsspørsmål; "Høyres hovedprogram og arbeidsprogram 1969-73":Samferdsel, all in *Vi vil..! Norske partiprogrammer 1884-2001*.

¹¹⁸⁵ Thornquist (1971: 170 Tab. 20; 173 Tab. 23,189-190).

¹¹⁸⁶ St. meld. nr. 14 (1970-71) *Om Norsk Vegplan*.

Communications' priority number one was "a minimum standard on the entire highway system and roads to desolate parishes", and limited use of turnpikes, because turnpikes could result in suboptimal allocation of the road appropriations.¹¹⁸⁷ The peripheral and rural areas' distributional coalition championed first and foremost construction of those roads that were not self-evident, and reasoned most likely that others would safeguard construction of the self-evident roads.

Legislators belonging to the peripheral and rural areas' distributional coalition initiated Stortinget's plenary debate with an attempt of evading and dividing *Norwegian Road Plan*, but this procedural discussion failed.¹¹⁸⁸ Minister of transport and communications Reiulf Steen was skeptical to introduction of turnpikes in central and urban areas to facilitate further transfers to the peripheral and rural areas, such as advocated by the Liberal Party's Ingvar Helle who represented Rogaland and the peripheral and rural areas' distributional coalition. Steen claimed the counties on Østlandet paid 58,5 percent of the vehicle and fuel taxes, but received only 35,5 percent of the gross investments. The counties on Vestlandet paid 11,1 percent of the vehicle and fuel taxes and received 17,8 percent of the gross investments. The counties in Nord-Norge paid similarly 7,4 percent of the vehicle and fuel taxes and received 19,5 percent of the gross investments.¹¹⁸⁹ The Conservative Party's Paul Thyness from Oslo supported Reiulf Steen and the Bratteli executive's position concerning turnpikes, because of Liberal Party's System's mismatch between payments of vehicle and fuel taxes and the allocation of road investments. Oslo's motorists paid six times more in vehicle and fuel taxes than they received in road appropriations according to Thyness, received zero State financing to the subway which then was under construction, and was also forced to co-finance the Norwegian State Railroads tunnel through Oslo.¹¹⁹⁰ The Conservative Party's Erling Norvik, who represented Finnmark, championed the Liberal Party's System's cross subsidization.¹¹⁹¹ Stortinget approved *Norwegian Road Plan* unanimously October 27th 1971.¹¹⁹² The Conservative Party was similarly as the Labor Party divided internally with regards to road policy and road construction, because that was distributive low-politics.

The middle parties' championing of turnpikes in central and urban areas was hardly surprising given their 1969-73 manifestos, because the Liberal Party's System's cross subsidization was their business idea. Many Labor and Conservative Party legislators representing the central constituencies opposed turnpikes in central and urban areas, but there were also Labor and Conservative Party legislators who belonged to the peripheral and rural areas' distributional coalition and supported the middle parties' position. Stortinget's debate demonstrated clearly that road policy was low politics. Many legislators were therefore more concerned with their constituencies than the party line and the national interests, similarly as in the early 1950s.

¹¹⁸⁷ Innst. S. nr. 256 (1970-71) *Innstilling frå samferdselsnemda om Norsk Vegplan* (St. meld. nr. 14):513, 519, 521-522; *Stortingstidende* (1971-72):371-490.

¹¹⁸⁸ *Stortingstidende* (1971-72):385-388.

¹¹⁸⁹ *Stortingstidende* (1971-72):410.

¹¹⁹⁰ *Stortingstidende* (1971-71):450.

¹¹⁹¹ *Stortingstidende* (1971-71):472-473.

¹¹⁹² *Stortingstidende* (1971-72):488.

Norwegian Road Plan's most important result was not reallocation of the State road appropriations, but rather partly punctuation of the 1851 Road Act's equilibrium where Stortinget individually approved each road project that received partial State financing. *Norwegian Road Plan* punctuated also the established practice where members of Stortinget's Standing Committee on Transport and Communications could introduce new road projects beneficial for their own constituencies during late night budget negotiations. *Norwegian Road Plan* instituted a new procedure where road projects were initiated locally, 'filtered' politically through the municipal and county councils, and similarly administratively through the Public Roads Administrations and Directorate of Public Roads, before they met in the Ministry of Transport and Communications that compiled the list of projects in each county in the quadrennial revisions of the road plan submitted to Stortinget. Stortinget's Standing Committee on Transport and Communications accepted from then the counties' rank ordered lists, and limited its own efforts to manipulation of the projects' order and financing when allocating the annual appropriations. *Norwegian Road Plan* introduced hence far more plan and predictability in the road policy processes.

The never-ending story - Oslo's congestion, accident and environmental problems

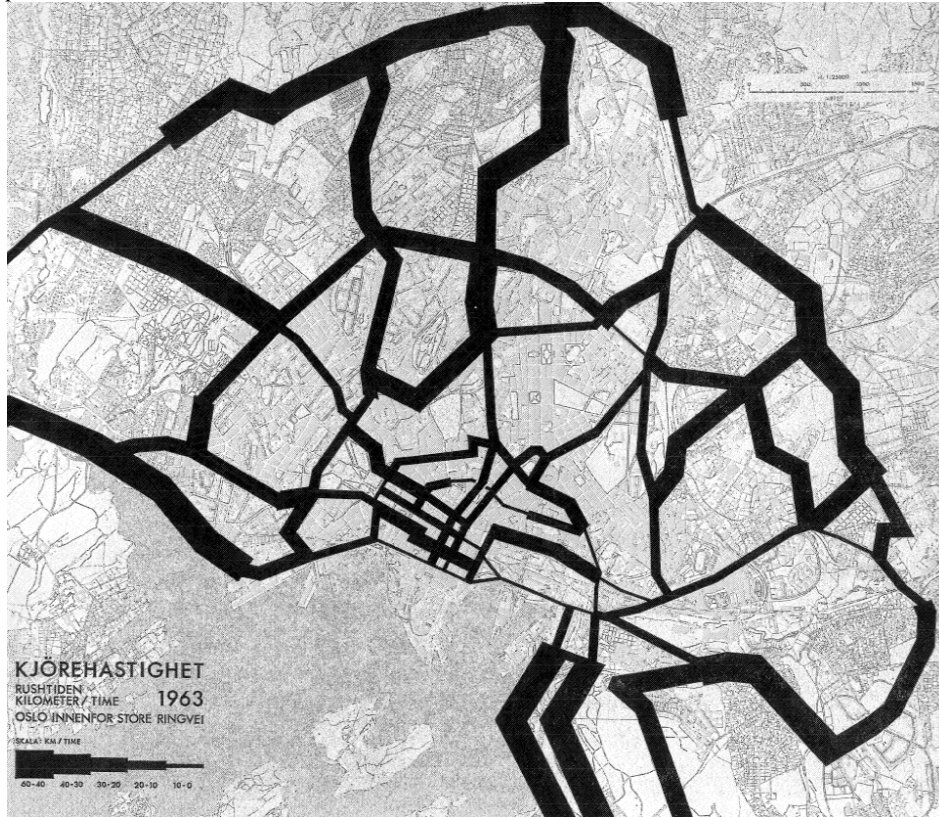
Norway's first modern road political initiative after World War Two was not national but local. County Governor Trygve Lie and Norges Bank's Governor Erik Brofoss' intraparty lobbying succeeded, because City of Oslo's aldermen appointed June 29th 1961 *The Commission for the Oslo-Area's Transport Analysis* (Utvalget for Oslo-området's transportanalyse), managed and staffed by *Oslo's Urban Planning Office* (Byplankontor) that submitted a seminal city development and road plan in 1965.¹¹⁹³ This plan included both bold moves and development of computerized tools for urban and traffic planning, hereunder use of operational analysis and statistical forecasts.¹¹⁹⁴ Alternative 3 was denoted *Maximum Balance* between settlement and employment and was The Commission for the Oslo-Area's Transport Analysis' recommended solution together with road plan alternative C, and is hereafter denoted *Maximum Balance*.¹¹⁹⁵

¹¹⁹³ The Commission for Oslo-area's Transport Analysis' professional advisory board consisted of among others Norwegian Institute of Technology's professor Ole D. Lærum, Bærum's technical deputy mayor and later Road Director Karl Olsen, the Directorate of Public Road's Arne J. Grotterød, the Ministry of Transport and Communication's assistant undersecretary Robert Nordén. Oslo's aldermen engaged also foreign experts as professional advisers. The most prominent were Professor Colin Buchanan from Imperial College in London, architect John Allpass from Copenhagen, chartered engineer Oluf Gunnarson from Chalmers Technical Institute who took part in development of the SCAFT paradigm, and the Swedish Road and Water Construction Administration's chartered engineer Stig Nordquist (*Transportanalysen for Osloområdet*, Oslo Byplankontor, Oslo 1965:2; *Styrets beretning for 1957*, Opplysningsrådet for Biltrafikken, Oslo 1958:25-27, OVA).

¹¹⁹⁴ Eckhoff (1969:66-76).

¹¹⁹⁵ *Transportanalysen for Osloområdet*, Oslo Byplankontor, Oslo 1965:49, 126.

Figure 20: Average traveling speed (km/h) through Oslo's central areas during the peak hours in 1963.



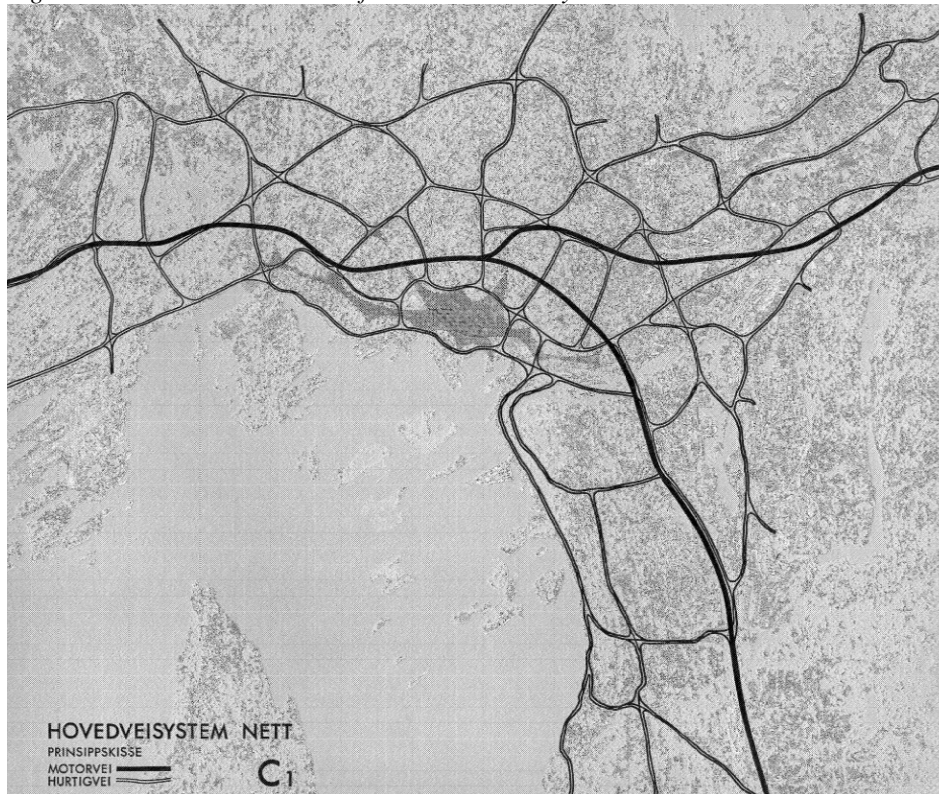
Source: *Transportanalysen for Oslo-området*, Oslo Byplankontor 1965:11.

Maximum Balance outlined construction of an expressway ring encircling Oslo's city hub, which in principle would be available only for public transports and occupational traffic when the expressway ring was completed. The average speed through Oslo's city hub in 1965 varied between 20 and 5 km per hour. The through traffic that congested Oslo's narrow city streets was supposed removed through construction of road plan alternative C's Y-shaped six-lane east-west urban motorway north of the expressway ring. This urban motorway was the road plan's novelty and the 'missing link' between Oslo's southeastern, northeastern and western entrance roads, which then were under construction. *Maximum Balance* was finally based on increased settlement in Oslo's central areas, to reduce the inhabitants' need for commuting.¹¹⁹⁶ Increased urban settlement was one of the few sustainable solutions if the aims were reduced road traffic, reduced air pollution and reduced inconveniences from mass motoring, in addition to reduced settlement in the entire Greater Oslo area, which was the peripheral and rural areas' distributional

¹¹⁹⁶ *Transportanalysen for Osloområdet*, Oslo Byplankontor, Oslo 1965:8, 69-70, 73-84, 87, 113-123, 126.

coalition's preferred solution. The estimated construction costs for the outlined motorways and expressways were 1.960 millions 1965 NOK or approximately 1.228,7 millions 1990 PPP USD included land purchase. *Maximum Balance* was supposed accomplished within 30 years. One of *Maximum Balance*'s most important premises was road construction from the city hub and outwards, to remedy the central urban areas' congestion problems.¹¹⁹⁷ The new entrance roads which then were under construction would namely within a few years pour traffic into Oslo's western and eastern residential areas and further into the narrow city streets not built for mass motoring. Oslo city council's majority approved *Maximum Balance* April 20th 1967, a few months prior to the local election.¹¹⁹⁸

Figure 21: Oslo's recommended future trunk road system.



Source: *Transportanalysen for Oslo-området*, Oslo Byplankontor 1965:68.

Oslo's city council elected in 1967, with the Socialist Peoples' Party in a pivotal position, questioned immediately *Maximum Balance* and particularly the urban motorway, and prioritized instead construction of Oslo' subway that had been approved by the city council already in 1954 and was financed entirely by City of

¹¹⁹⁷ *Transportanalysen for Osloområdet*, Oslo Byplankontor, Oslo 1965:122 Tabell 6.05, 126.

¹¹⁹⁸ Eckhoff (1969:78); Sæland (1993:33); Lund (2000:73). See for instance Tvedt et al. (2000:90) concerning Oslo city council's political seat allocation 1945-99.

Oslo.¹¹⁹⁹ Arne J. Grotterød questioned in January 1968, in a note to his friend Robert F. Nordén, whether *Maximum Balance* and other parts of the planned motorway system within and near Greater Oslo outlined in the *1962 Motorway Plan* that partly had been recommended by *The Oslo-Area's Regional Planning Committee* (Regionplankomiteen for Oslo-området) in February 1960 ever would be accomplished.¹²⁰⁰ The two major obstacles according to Grotterød were lack of financing and the numerous conflicting interests that surfaced when planning trunk roads in urban and densely populated areas. The 1963 Road Act's requirement for 50/100 percent local financing of highways and land purchase, and no State co-financing of the subway made it very costly for City of Oslo to solve the accelerating congestion, accident and environmental problems. The difference compared to Stockholm's financing model for trunk roads and public transports established through the 1964 Hörjel-agreement was striking.

The Socialist Peoples', Labor, Liberal and Agrarian Parties won the majority in Oslo city council even in the 1971 local election, with the Agrarian and Liberal Parties in pivotal positions.¹²⁰¹ Oslo's city council substituted in 1973 *Maximum Balance* with the far less ambitious *Street Utilization Plan* (Gatebruksplanen).¹²⁰² But remnants from Maximum Balance survived and prevented establishment of new jobs in Oslo's central areas. The result was moving of many enterprises from Oslo's central areas to the suburbs, which in turn increased the road traffic both to the suburbs and through the city hub in both directions because of poor public transports and many inhabitants living and working in different parts of the city.¹²⁰³ The *Street Utilization Plan* introduced many ideas from the British *Buchanan Report*, such as traffic reconstruction and emphasis on public transports, but omitted almost exclusively most planned trunk roads and motorways, hereunder the urban motorway that was supposed to link E6 from south and northeast and E18 from west and drain the through traffic from Oslo's congested city streets and residential areas.¹²⁰⁴ The *Street Utilization Plan* was most likely a result of local and popular protests against the very technocratic *Maximum Balance*, particularly protests from voters in the most congested residential areas combined with deteriorating municipal

¹¹⁹⁹ Erik Oluf Melvold, "Bymotorvei anno 1965", *St. Halvard*, Vol. 83, No. 4, 1998:16-23; Nyhamar (1990:55-59, 248-252); Tvedt et al. (2000:449-450).

¹²⁰⁰ Note from Arne Grotterød to the Ministry of Transport and Communication's deputy undersecretary Robert Nordén, January 12th 1968 Gr/LSN "Det framtidige hovedvegssystem i Oslo-området", VDA cassette 322 Grunnlinjen i Oslo 1960-1971. See for instance Arne Jacob Grotterød, *Fra vegstikking til vegplanlegging*, unpublished manuscript, 2001:3, VDA; *Årsberetning for 1951*, Opplysningsrådet for Biltrafikken, Oslo 1952:7; *Styrets beretning for 1955*, Opplysningsrådet for Biltrafikken, Oslo 1956:15; *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken, Oslo 1957:14; *Styrets beretning for 1957*, Opplysningsrådet for Biltrafikken, Oslo 1958:58. OVA; Thomassen (1997:350); Hegdalstrand (1988:59-60) about The Oslo-Area's Regional Planning Committee headed by Oslo and Akershus' County Governor Trygve Lie.

¹²⁰¹ See for instance Tvedt et al. (2000:90) about Oslo city council's political seat allocation.

¹²⁰² Sæland (1993:33); Lund (2000:73). See also miscellaneous documents in VDA cassette 322 Oslo 1976-1985 Pan concerning Oslo city council's abandoning of the formerly approved urban motorway.

¹²⁰³ See for instance Nielsen (2001a:84-85).

¹²⁰⁴ Arne J. Grotterød and Egil Tombre employed by Oslo's Urban Planning Office translated and summarized the *Buchanan Report*, about how to solve the urban areas' traffic problems, while maintaining the road traffic's conveyance and the inhabitants' well being after Professor Colin D. Buchanan from Imperial College in London lectured in Oslo in April 1964. The *Buchanan Report* was one of the 1960s' seminal works concerning urban road planning (*Buchanan-rapporten og norske byer*, Opplysningsrådet for Biltrafikken, publikasjon nr. 48, Oslo December 1964, OVA).

economy and political pressure from the Bratteli and Korvald executives, due to the peripheral and rural areas' legislators' complaints about depopulation and centralization.¹²⁰⁵

Reduced road investments constrained effectively Oslo's growth in the early 1970s, when Oslo lost thousands of inhabitants. Many from the middle class moved to the wealthy surrounding municipalities. This in turn increased the need for transports and aggravated Oslo's traffic problems because of congested roads and poor public transports. Oslo's city council did not prioritize construction of trunk roads in the 1970s.¹²⁰⁶ The city council's reduced ambition with regard to construction of the missing trunk roads was most likely a result of ideology, and because the city council's majority took Oslo's declining resources for granted. Oslo's co-financing for highways were reduced from 50 to 30 percent in 1975 and to 18 percent in 1977. The State financed land purchase in Oslo similarly as in the other counties from August 1978.¹²⁰⁷ Oslo became hence treated similarly as the other central counties concerning co-financing of highways from 1978, after the tax redistribution system had been changed because of the county reform.

It was many similarities between Oslo, Copenhagen and Stockholm's road policy and road construction during the second half of the 1960s and early 70s, because grand road plans were developed and approved but only partially accomplished. But there was one fundamental difference, the Danish and Swedish authorities managed to establish functional and competitive public transports in Copenhagen and Stockholm. This was definitely not the case all across Greater Oslo. The result was acute congestion and accident and environmental problems in Oslo's central areas, and near slum conditions in some eastern and western residential areas where the partly completed entrance roads joined the narrow city streets. Oslo suffered therefore, similarly as Norway's second and third largest cities Bergen and Trondheim, from severe traffic infarcts from the late 1970s and early 80s.

The 1970s - regional policy disguised as road and environmental policies

Road Director Karl Olsen initiated in June 1970 development of a particular road plan for those central and urban areas omitted from *Norwegian Road Plan*.¹²⁰⁸ But the former Road Plan Committee had already determined most of the new road plan's decisive terms. Minister of transport and communications Reiulf Steen appointed the *Road Plan Committee for Urban and Densely Populated Areas* (Uvalg for arbeid med vegplan for byer og tettsteder) January 28th 1972. Norway had then approximately 490 densely populated areas, hereunder 169 with more than 1.000 inhabitants. Road Director Karl Olsen headed even the Road Plan Committee for Urban and Densely Populated Areas, and Arne J. Grotterød took also part. The

¹²⁰⁵ St. meld. nr. 27 (1971-72) *Om regionalpolitikk og landsdelsplanleggingen*; LO/Arbeiderpartiet (1974:120-121); Lund (2000:82).

¹²⁰⁶ *Oslo kommuneplan 1976-1985. Fylkes- og generalplan. Administrasjonens forslag*. Oslo, December 4th 1975, VDA cassette 367 Fylkenes utbyggingsplaner – Samferdselsplaner Oslo 1976-1980.

¹²⁰⁷ Sæland (1993:40).

¹²⁰⁸ Letter from the Directorate of Public Roads to the Ministry of Transport and Communications, "Videreføring av vegplanarbeidet i tettstedene", June 30th 1970, VDA binder NVP II Arb. dok og møteref.

committee's other eight members changed during the course of planning, and represented among others the Ministry of Transport and Communications, the Ministry of Municipal Affairs and Labor, and the new Ministry of Environment established May 8th 1972.¹²⁰⁹ The new Ministry of Environment can be understood as the Bratteli executive's policy response to the early 1970s' so-called "green wave" when many championed zero growth and decentralized development.¹²¹⁰ The Ministry of Environment used this opportunity to get involved in urban planning, road planning and road policy.

The major political parties' road policy positions shifted fundamentally from the 1950s and 60s' emphasis on road construction to road safety and environmental concerns prior to the 1973 election. This shift largely explained the priorities in the forthcoming road plan for urban and densely populated areas. All parties except the rightwing populist Anders Lange's Party, which had no formulated road policy in the manifesto, championed public transports as an alternative to road construction in urban areas. None of the parties promised increased road investments. Only the Agrarian Party championed turnpike financing in central and urban areas 1973-77, and advocated also establishment of a State owned turnpike company.¹²¹¹ The political parties' road policy positions were largely unchanged 1977-81 compared to the 1973-77 manifestos.

Annemarie Lorentzen from Finnmark, minister of transport and communications in Trygve Bratteli's second minority executive that came to power after the 1973 earthquake election, abandoned further construction of motorways.¹²¹² Lorentzen liquidated thus formally the 1962 *Motorway Plan* that had been shelved by Håkon Kyllingmark in February 1966. Norway's only motorways completed in the 1970s were E18 between Oslo and Drammen in Oslo, Akershus and Buskerud Counties, sections of E6 in northeastern Oslo and Akershus County, and a few kilometers on E18 between Forus and downtown Stavanger in Rogaland County. The new road policy imposed by Annemarie Lorentzen was clearly part of the Labor Party's political reorientation, after the lost 1972 EEC referendum and 1973 election, when the Labor Party accommodated to the leftwing populists and the peripheral and rural areas' distributional coalition, to marginalize the new Socialist Election Alliance/Socialist Left Party to heal the wounds after the disruptive EEC struggles, and strengthened also Reiulf Steen and his followers within the Labor Party. The first oil price shock OPEC 1 1973-74 strengthened similarly the environmentalists, and weakened the modernists that had argued for further

¹²⁰⁹ *Tilråding Om mandat for og sammensetning av et utvalg for arbeid med vegplan for byer og tettsteder*. Godkjent ved Kronprinsregentens resolusjon 28. januar 1972. Foredratt av Reiulf Steen. Ref nr. 47/1971-72, VDA binder Norsk vegplan II Møtedokumenter 1/72-1/75 K. Olsen; NOU 1977:40A *Norsk Vegplan II Trafikk og bymiljø*:14-16; St. meld. nr. 9 (1978-79) *Om trafikk og bymiljø – Norsk Vegplan for byer og tettsteder*:5-6.

¹²¹⁰ See for instance Mjøset (1986:181-183) for further discussions about Norway's "green wave".

¹²¹¹ "Sosialistisk Folkeparti, Sosialistisk framtid, valgprogram 1973-77":H. By og boligpolitikk, L. Samferdselspolitikk; "SV – Sosialistisk Valgforbund 33 punkter 1973":25. Gratis lokaltrafikk; Trygghet for folket, "Det Norske Arbeiderpartis arbeidsprogram for perioden 1974-73":Samordnet samferdsel; "Venstres arbeidsprogram 1973-1977":VII Samferdsle; "Kristelig Folkeparti program for stortingsperioden 1973-77":Samferdsel; "Senterpartiet Program stortingsvalget 73":Samferdsel; "Høyres program stortingsvalget 1973":Samferdsel og trafikkmiljø; "Anders Langes Parti 1973, Vi er lei av å bli utbyttet av statskapitalismen", all in *Vi vil..! Norske partiprogrammer 1884-2001*.

¹²¹² Danielsen (2002a [Plenary discussion]).

economic growth and construction of modern trunk roads and motorways, particularly in central and urban areas.

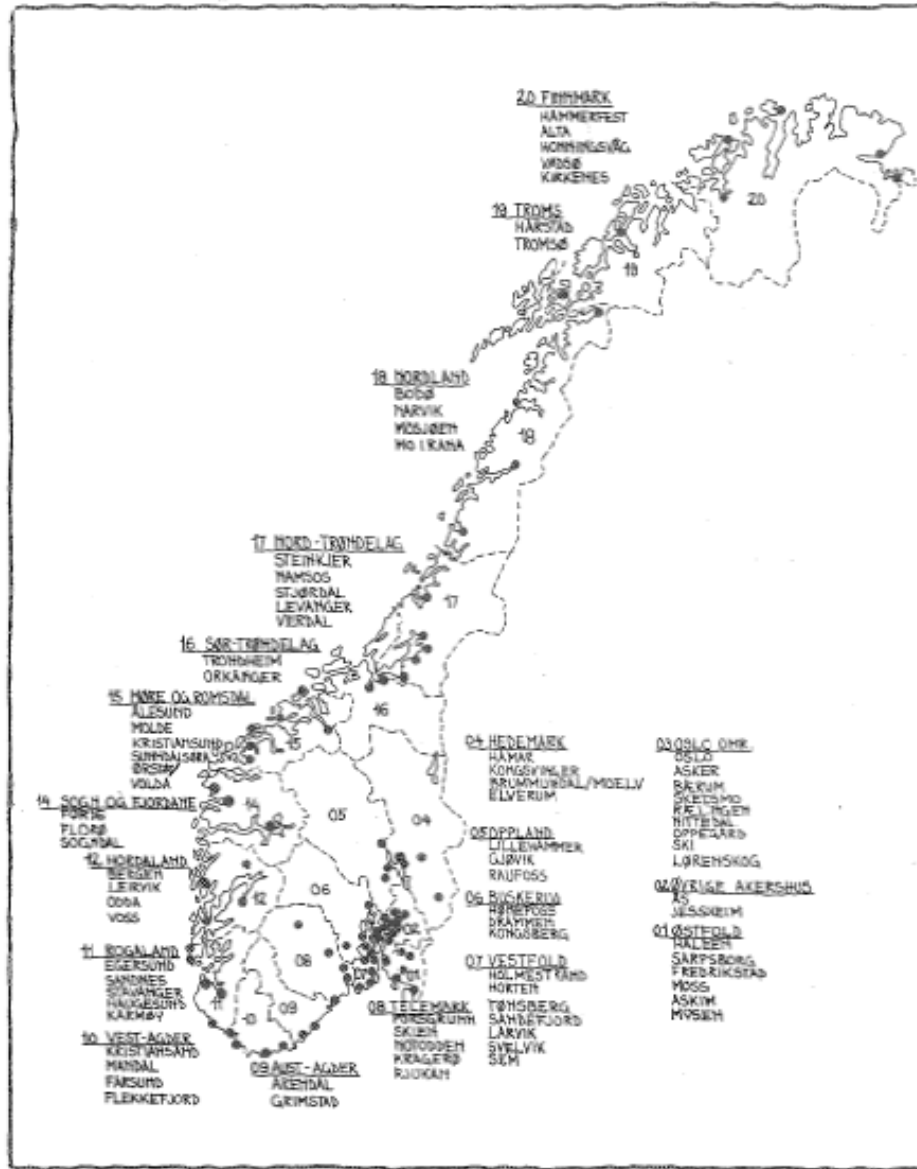
The 1976 *Transport and Communication Act* tightened further the 1964 *Transport and Communication Act's* regulations. Those engaged in commercial, unscheduled road transports needed a permit from the Ministry of Transport and Communications, and such permits were subject to an investigation of need. Vehicles heavier than 18 tons were not permitted to transport goods from more than one customer at a time. The only exception was agreements between a holder of a transport permit and a group of customers approved by the Ministry of Transport and Communications. The Labor Party executive's aim was among others reduced parallel traffic between roads and railroads in areas with heavy traffic. Many of the regulations imposed by the 1976 *Transport and Communication Act* were not tenable. The first concessions came in 1979 as result of the neo-liberal shift.¹²¹³ The 1976 *Transport and Communication Act's* regulations were not able to stem the tide, but were most likely concessions to the Labor Party's powerful railroad lobby, because increased road construction after Stortinget's approval of *Norwegian Road Plan* accelerated the shift from sea and railroad to road transports.

Almost every desolate area with more than 7-800 inhabitants was connected to the public road system in 1977, such as decided in *Norwegian Road Plan*. The only exceptions were in Finnmark. The accident rate had similarly been reduced almost 11 percent from 1972 to 1976, according to Road Director Karl Olsen. But approximately 50 percent of the accidents in 1976 took place on 5-10 percent of the highways, through densely populated areas with many exits. An increasing problem in the middle of the 1970s was unused road appropriations. Most unused road appropriations had been allocated to urban and densely populated areas. The main reasons for the unused road appropriations according to Karl Olsen were lack of planning capacity, delayed expropriations and an increasing number of delayed investment decisions, because county and municipal councils were not able to agree, or did not abide former decisions.¹²¹⁴ The urban and densely populated areas' congestion, accident and environmental problems were not only a result of lack of investments, but also result of local political processes. The early 1970s' green wave made it often very difficult to accomplish formerly agreed road projects, such as for instance in Oslo.

¹²¹³ Bjørnland (1989:224-227).

¹²¹⁴ *Vegvesenets årsberetning 1976*, Vegdirektoratet, Oslo 1977:2-3, VDA; *Vegvesenets årsberetning 1977*, Vegdirektoratet, Oslo 1978:2, VDA.

Figure 22: Norwegian Road Plan II – Traffic and Urban Environment.



Source: NOU 1977:40A Norsk Vegplan II Trafikk og bymiljø:17.

The Road Plan Committee for Urban and Densely Populated Areas submitted *Norwegian Road Plan II – Traffic and Urban Environment* (Norsk Vegplan II – trafikk og bymiljø) to minister of transport and communications Ragnar Christiansen May 31st 1977. The urban areas' road appropriations were here dispersed across 72 densely populated areas with more than 5.000 inhabitants all across Norway, with approximately 2,2 millions inhabitants, almost half the population. The investments

were not concentrated to those areas with the most acute congestion, accident and environmental problems. *Norwegian Road Plan II – Traffic and Urban Environment* emphasized also public transports, parking, traffic reconstruction and choking, bicycle and pedestrian roads instead of construction of trunk roads and motorways that drained through traffic from residential areas and narrow city streets, and championed similar ideas as Oslo's 1973 *Street Utilization Plan*. Oslo's future road investments were also reduced compared to *Norwegian Road Plan's* allocation.¹²¹⁵ The Road Plan Committee for Urban and Densely Populated Areas was hence captured by the peripheral and rural areas' distributional coalition, similarly as the Road Plan Committee 1964-69, but also by the emerging environmental protection lobby who utilized this window of opportunity to influence future road planning and road construction. But the planning procedures in urban and densely populated areas were far more complicated than the Combined Road Administration had been involved in earlier, according to Road Director Karl Olsen. One of the challenges was to establish functional interfaces between the Combined Road Administration, counties and municipals.¹²¹⁶ *Norwegian Road Plan II – Traffic and Urban Environment* became far more important for the road planning procedures than for substantial road investments, because it facilitated more decentralized road planning, hereunder increased local involvement and influence. The submitted *Norwegian Road Plan II – Traffic and Urban Environment* became also a textbook example of political pork barrel or universalism similarly as the first *Norwegian Road Plan*, because those areas with the most serious congestion, accident and environmental problems received hardly anything except the bill, because the available resources were spread thinly across 72 densely populated areas all across Norway. Comparing Figure 2, 4, 17, 18, 19, 20, 21, 22 and 26 is rather instructive, and provides Norwegian road policy and road construction in a nutshell.

The tax financed State road investments reached their all time high in 1978, but were thereafter significantly reduced because the Nordli executive abandoned its counter cyclic policy after the 1977 election when the Socialist Left Party had been marginalized. Minister of finance Per Kleppe warned the executive about forthcoming amendments of the long-term program at the budget conference January 30th and 31st 1978. The main reasons for this course change according to the Ministry of Finance's permanent undersecretary Eivind Erichsen, was the sum of development abroad, at home and in the oil sector. Asbjørn Jordahl from Møre and Romsdal who succeeded Ragnar Christiansen as minister of transport and communications January 11th 1978, accepted the Ministry of Finance's budget reductions, but warned that reduced road investments would lead to reduced employment. Road Director Karl Olsen recommended reducing the road investments only and maintaining the roads as planned. The Ministry of Transport and Communications endorsed this advice.¹²¹⁷ The Nordli executive devaluated the NOK unilaterally 8 percent in February 1978 to maintain the trade and industry's competitiveness. This was the third devaluation since 1977.¹²¹⁸ Minister of finance

¹²¹⁵ NOU 1977:40A *Norsk Vegplan II Trafikk og bymiljø*.

¹²¹⁶ *Vegvesenets årsberetning 1977*, Vegdirektoratet, Oslo 1978:2-3, VDA.

¹²¹⁷ "Regjeringskonferanse på Staur gård i Stange mandag 30. januar og tirsdag 31. januar 1989", No. 9, protocol Statsminister Odvar Nordli referater fra regjeringskonfer, RA-PMO-ON cassette 3.

¹²¹⁸ Erichsen (1999:113-114); Skånland (2004:14). See also Nordli (1985:174-182) and Steen (1986:224-230) concerning the Nordli executive's policy shift 1977-81.

Per Kleppe was early in 1978 not particularly concerned about reduced employment because of smaller road appropriations, and overlooked seemingly also new roads' effect on the domestic trade and industries' transaction costs, competitiveness and future investments opportunities.

Asbjørn Jordahl proposed early in June 1978 reallocating State road appropriations to urban areas, and to permit financing of local roads and rail infrastructures with State road appropriations. The Ministry of Finance questioned State financing of local tasks, but concluded reallocation of road appropriations from the peripheral and rural areas to urban areas and particularly Østlandet would lead to "increased exertion of pressure for increased total road appropriations", but decided not to oppose more "flexible utilization of the highway appropriations".¹²¹⁹ The Nordli executive's minister of municipalities and labor, Arne Nilsen, a railroad worker from Hordaland, stated at the executive's meeting June 5th that he would look further into the rules for utilization of the State road appropriations. Minister of finance Per Kleppe concluded the urban areas had been "put somewhat aside", but assumed the necessary resources were found "through reallocation within the budget constraints".¹²²⁰ Per Kleppe was thus not willing to provide extra road appropriations to solve the urban areas' congestion, accident and environmental problems, but pitted instead the central and urban constituencies against the middle and peripheral constituencies. Lack of resources aggravated the geographical distributional conflict, and the minister of finance was seemingly far more concerned with the short-term budget balance than by the long-term consequences of a dysfunctional road system. The central and urban constituencies were almost determined to lose this resource struggle by default, because of Stortinget's geographical seat allocation and the political median's support of the peripheral and rural areas. Minister of transport and communications Asbjørn Jordahl submitted *About Traffic and Urban Environment Norwegian Road Plan for Cities and Villages* (Om trafikk og bymiljø Norsk Vegplan for byer og tettsteder) to Stortinget June 16th 1978.¹²²¹

The Nordli executive imposed, on minister of Per Kleppe's initiative, a combined price and wage freeze September 15th.¹²²² The economic policy shifted hence almost 180 degrees after the 1977 election, from a counter cyclic to a contractive policy. The major urban areas' congestion, accident and environmental problems were seemingly used as means for constraining the activity level, because they were largely ignored by the executive.

Odvar Nordli reorganized his executive in October 1979 after the Labor Party lost control of many urban areas and even some former Labor Party strongholds in the local elections. This was clearly an attempt of reducing the intraparty conflicts. Former secretary Ronald Bye, as modernist from Oslo, replaced Asbjørn Jordahl as minister of transport and communications.¹²²³ But the State economic problems

¹²¹⁹ "Stortingsmelding om trafikk og bymiljø Norsk Vegplan for byer og tettsteder", note to the executive from the minister of transport and communications, June 2nd 1978, RA-PMO-ON cassette 21.

¹²²⁰ "Regjeringskonferanse mandag 5. juni 1978 kl. 1200 til 1400 i Regjeringens møterom", No. 50, protocol Prime Minister Odvar Nordli referater fra regjeringskonfer. Fra 30/3-78 – 8/6-78, RA-PMO-ON cassette 3.

¹²²¹ St. meld. nr. 9 (1978-79) *Om trafikk og bymiljø – Norsk Vegplan for byer og tettsteder*.

¹²²² Erichsen (1999:114-115); Skånland (2004:14-15).

¹²²³ Nyhamar (1990:336-344).

aggravated further when the second oil price shock OPEC 2 sent the world economy into a new recession. The demand for the export enclaves' products went down, even if increased oil prices reduced the Norwegian State's deficits.

Stortinget approved *Norwegian Road Plan for Cities and Villages* unanimously March 25th 1980. Stortinget's delayed approval of this road plan indicated clearly both the State economic problems and the controversy concerning the central and urban areas' congestion, accident and environmental problems. The Standing Committee on Transport and Communications required reduced subsidies for public transports, because these subsidies were substantial. Stortinget approved barely the Labor, Socialist Left and Liberal Parties' proposal for financing of public transport investments with road appropriations. The tax financed road investments were further reduced, and the major urban areas received very few or no fresh money compared to the formerly approved *Norwegian Road Plan*.¹²²⁴ *Norwegian Road Plan for Cities and Villages* furthered also many of the *Østlands Committee's* (Østlandskomiteen) 1969 recommendations about construction of a constrained road system near Oslo, to constrain the Oslo-area's growth, and was not able to solve the major cities' congestion, accident and environmental problems.¹²²⁵ The fact the public transports' relative prices increased almost twice as much as the relative prices on fuel and the consumer's price index 1979-1985, because of reduced public transport subsidies, did not improve the crowded areas' situation.¹²²⁶ It became often far cheaper to go by car than by public transports. This was the last straw. The major urban areas' roads were soon clogged, and traffic infarcts set in.

Table 9: The Norwegian tax financed State road investments' relative geographical allocation 1960-81.

Constituencies	Stortinget's 1929 allocation (%)	Actual allocation 1960-1963 (%)	Actual allocation 1964-1969 (%)	The Borten executive's recommended allocation 1970-1973 (%)	Actual allocation 1970-1973 (%)	Actual allocation 1974-1977 (%)	Actual allocation 1978-1981 (%)
Center	12,6	19,3	27,1	28,1	24,7	22,2	23,1
Middle	39,1	36,2	33,3	35,4	35,6	36,8	36,2
Periphery	48,3	44,0	39,6	36,5	39,4	40,8	40,1
Sum	100,0	99,5	100,0	100,0	99,6	99,8	99,4

Sources:¹²²⁷

Table 9 provides an overview of Stortinget's geographical allocation of road investments 1929-81. The central constituencies had 34,9 percent of the settlement in 1960 and 36 percent in 1980. The middle constituencies had 37,3 percent of the settlement in 1960 and 38,3 percent in 1980. The peripheral constituencies had 27,8

¹²²⁴ Innst. S. nr. 165 (1979-80) *Innstilling fra samferdselskomiteén om trafikk og bymiljø – Norsk Vegplan for byer og tettsteder*; *Stortingstidende* (1979-80):2581-2637. See also for instance Knutsen and Boge (2005:143-149, 154).

¹²²⁵ Cf. *Innstilling fra Østlandskomiteén*, Kommunal og Arbeidsdepartementet, Oslo 1969:58-60.

¹²²⁶ *Vegvesenets årsberetning 1985*, Statens vegvesen, Oslo 1986:2, VDA.

¹²²⁷ Stortinget's 1929 allocation key (Bjørnland 1989:158). The actual allocation 1960-81 is calculated from the Directorate of Public Roads' annual reports 1960-81. The Borten executive's recommended allocation 1970-73 is derived from St. meld. nr. 14 (1970-71) *Om Norsk Vegplan*:89. The columns for the actual allocations 1960-63, 1970-73, 1974-77 and 1987-81 do not always sum to 100 percent because some appropriations were allocated to the Directorate of Public Roads.

percent of the settlement in 1960 and 26,1 percent of the settlement in 1980.¹²²⁸ The actual allocation 1964-69 compared to Stortinget's 1929 allocation key and the actual 1960-63 allocation indicates clearly the Labor Party modernists' road policy reformation 1960-65. The actual allocation of the road investments 1970-81 indicate similarly the Borten executive and the entailing Labor and middle party executives' road policy counterreformation 1966-81, hereunder the Labor Party's peripheral and rural turn, and the first Bratteli executive's no to turnpikes in central and urban areas in October 1971.

The 1970s' reallocation of the road investments compared to 1964-69 reflected also Stortinget's new seat allocation after the 1973 election that made the middle and peripheral coastal constituencies from Rogaland to Finnmark an MWC. The changed allocation reflected also the leftwing and middle parties' and the middle and peripheral constituencies' hegemony in Stortinget's Standing Committee on Transport and Communications. The net result was construction of a road system in the peripheral and rural areas with many similarities with Norway's 19th century narrow gauge railroads. These 'narrow gauge' substandard social roads were usually acceptable for commuting with passenger cars, but constrained use of heavy vehicles. These roads became later obstacles against development of new trade and industries dependent of road transports, and harmed thereby the peripheral and rural areas' future development. The peripheral and rural areas' distributional coalition's road policy, based on quantity instead of quality, was at best shortsighted. Most lobbying efforts were directed towards local collective goods, construction of highways that usually were local roads, rather than towards national collective goods, construction or modernizing of trunk roads between the regions. But the 1960s and 70s Norwegian regional policy, hereunder the road policy imposed from 1965 was only able to delay the centralization and urbanization, not stop the tide.¹²²⁹ Maintenance of dispersed settlement, almost at any costs, has been one of Norwegian politics' sacred cows since the 1950s.

Road Director Karl Olsen retired in September 1980 and was succeeded by Eskild Jensen, Prime Minister Odvar Nordli's Parliamentary Secretary from January 1976 until January 1980. Minister of transport and communications Asbjørn Jordahl asked Eskild Jensen in 1979 if he would apply for the position as Road Director. Eskild Jensen applied when even the Prime Minister asked him.¹²³⁰

Karl Olsen was first and foremost a technocrat, but retired as a very disappointed man. Karl Olsen complained publicly about the Nordli executive's budget reductions after the all-time high in 1978, delayed political clarifications with regard to the major urban areas' traffic problems and whether the executive and legislators abided their former promises and decisions.¹²³¹ Karl Olsen's complaints prior to his resignation provide several reasons to question Rune Slagstad's frequently quoted claims about the road sector's predictability, "economic generosity", and transport and communication projects "beyond any social economic

¹²²⁸ See the Data Appendix Table 4.4.

¹²²⁹ See the Data Appendix' Table 4.2-4.4 for an overview of the settlement's development between 1950 and 2000.

¹²³⁰ Jensen (2003 [Interview]).

¹²³¹ *Vegvesenets årsberetning 1978*, Vegdirektoratet, Oslo 1979:2-3, VDA; *Vegvesenets årsberetning 1979*, Vegdirektoratet, Oslo 1980:2-3, VDA.

governance” almost except from public debates.¹²³² The discussions so far in this chapter indicate clearly that Rune Slagstad’s claims were not based on empirical research.

Eskild Jensen was economist and the first and so far only non-engineer Road Director. Eskild Jensen served as deputy undersecretary in the Ministry of Transport and Communication’s Elucidation Section from 1974 until he became Road Director, except during his tenure as the Prime Minister’s Parliamentary Secretary.^{1233 1234} Eskild Jensen was a politician and the first Road Director that undisguisedly challenged the counties’ hegemony concerning road policy and road construction, because he had his own power base within the Labor Party.

The two decades from 1960 to 1980 became Norway’s great leap forward concerning road construction, because the public road system’s length increased from 51.233 kilometers in 1960 to 81.717 kilometers in 1980, inclusive city streets. The trunk road and highway system’s length increased from 16.378 kilometers in 1960 to 25.282 kilometers in 1980.¹²³⁵ Only 4.066 kilometers public roads were paved in 1960, hereunder 2.861 kilometers trunk roads and highways, 616 kilometers county roads and 589 kilometers municipal roads. 44.472 kilometers public roads were paved in 1980, hereunder 21.169 kilometers trunk roads and highways, 13.437 kilometers county roads and 9.864 kilometers municipal roads.¹²³⁶ The highway system was expanded to almost every corner of Norway between 1960 and 1980, and most trunk roads and highways were paved. The total road system and the road system’s standard improved significantly 1960-80, even if this section questioned some aspects concerning Norwegian road policy and road construction 1960-80.

Conclusions

What about this chapter’s findings about the study’s four working hypotheses concerning the Norwegian case between 1960 and 1980? This study’s main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was clearly strengthened by the Labor Party modernists’ road policy reformation between 1960 and 1965 that prioritized construction of trunk roads between the regions and entrance road roads to the major cities, hereunder motorways, and Stortinget’s approval of the *1962 Motorway Plan*. But the Borten executive that came to power after the 1965 election launched a road policy counterreformation that clearly weakened this hypothesis. Minister of transport and communications

¹²³² Slagstad (1998:307).

¹²³³ Skari (1995:100-102); Jensen (2000:11-23);

¹²³⁴ GESTAPO arrested Eskild Jensen in April 1942, when he was 17 years old, for distributing illegal newspapers. Eskild Jensen was first sent to the Norwegian concentration camp Grini and thereafter to Sachsenhausen in Germany where he among others met Trygve Bratteli. Eskild Jensen was saved from Sachsenhausen March 18th 1945 by the Swedish Red Cross’ so-called white buses. Eskild Jensen was arrested as an upper class boy with conservative sympathies, but returned from Sachsenhausen as a convinced socialdemocrat. Eskild Jensen studied economics at University of Oslo after the liberation, and got a part time position at Prime Minister Einar Gerhardsen’s office during his studies and a full time position in the Ministry of Finance’s Economy Department after he had graduated (Jensen 2000:11-27).

¹²³⁵ *Historisk statistikk 1994*, Statistisk sentralbyrå, Oslo and Kongsvinger 1995:499 Tabell 20.30.

¹²³⁶ *Bil- og veistatistikk 2002*, Opplysningsrådet for Veitrafikken, Oslo 2002:67, OVA.

Håkon Kyllingmark shelved in February 1966 the *1962 Motorway Plan*. *Norwegian Road Plan* submitted by the Road Plan Committee in 1969 and approved by Stortinget in 1971 postponed construction of trunk roads between the regions and roads in urban areas at least until 1978-89, because Stortinget's majority chose quantity to quality and road safety. Minister of transport and communications Annemarie Lorentzen liquidated the *1962 Motorway Plan* in 1973, when she abandoned further construction of motorways. The result was lack of modern trunk roads between the regions and aggravated congestion, accident and environmental problems in the major urban areas.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was clearly strengthened by the Norwegian case between 1960 and 1980, because *Norwegian Road Plan* initiated in 1964 with *Swedish Road Plan* as role model changed character fundamentally 1965-69 after the Borten executive came to power. Both *Norwegian Road Plan* approved in 1971 and *Norwegian Road Plan for Cities and Villages* approved in 1980 were textbook examples of political pork barrel or universalism orchestrated by the peripheral and rural areas' distributional coalition, because both plans gave something to almost every constituency, except some central and urban constituencies that were supposed to finance the plans. The peripheral and middle constituencies' share of the annual State road appropriation increased significantly throughout the 1970s. Most road investments were allocated to substandard roads with local collective good characteristics. The road policy 1966-80 reflected clearly the peripheral and rural areas' distributional coalition's dominant position in Stortinget and in the Standing Committee on Transport and Communications that allocated most road investments until approval of *Norwegian Road Plan*. The 1970s' road policy reflected also Stortinget's revised seat allocation after the 1973 election that made the middle and peripheral coastal constituencies from Rogaland to Finnmark an MWC. The peripheral and rural constituencies' legislators perceived obviously road policy and road construction in zero sum terms 1960-80 rather than in variable sum terms, even if allocation of road appropriations according to cost/benefit calculations could have increased the economic growth and thereby facilitated further redistribution to the peripheral and rural constituencies. The Ministry of Finance's very tight budget constraints, given the voters' demand for roads, explained many of Stortinget's resource struggles.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was also clearly strengthened by the Norwegian case between 1960 and 1980. The Labor Party modernists' road policy reformation between 1960 and 1965 was partly accomplished despite internal resistance from the traditionalists and railroad lobby. The Labor Party' modernists advocated establishment of a Road Fund prior to the 1961 and 65 elections and introduction of turnpikes prior to the 1961 election, but the traditionalists and railroad lobby opposition these initiatives, and they were not introduced in the Labor Party's manifestos. The Labor Party's road policy preferences changed fundamentally during its 1965-71 and 1972-73 opposition, when the environmentalists, traditionalists, railroad lobby and anti-motorists achieved far more prominent positions. Per Borten's majority executive dominated by the three middle parties reversed the Labor Party modernists' road

policy reformation through the counterreformation between 1965 and 1971. This counterreformation was clearly part of the non-socialist parties' regional policy, because maintained settlement, almost at any cost, was one of their aims. The Ministry of Finance increased its power and influence during the Borten executive. Most political parties took the Ministry of Finance's resource constraints and sector allocations for granted from the second half of the 1960s. Almost every political party advocated public transports rather than road investments in central and urban areas from approximately 1973, but Stortinget's majority was not willing to invest in attractive and competitive public transports in the major population clusters such as for instance in Denmark and Sweden. The Norwegian public transport initiatives were usually symbol policy, to facilitate further transfers to the peripheral and rural areas, which held prominent positions within most parties.

This study's final working hypothesis about road policy and road construction governed by path dependence was also strengthened by the Norwegian case between 1960 and 1980. First, the 1963 Road Act punctuated both the 1912 Road Act's equilibrium that gave the urban areas 0 percent of the State road appropriations, and Stortinget's allocation key that had governed the counties' annual share of the State road appropriations since 1929. The result was increased road appropriations to the most crowded areas 1964-69. But the 1963 Road Act did not institute trunk roads and motorways with national collective good characteristics as a particular class of roads; they were only as a subset of highways that usually were local collective goods. Second, the development path established through the Labor Party modernists' 1960-65 road policy reformation was punctuated by the Borten executive's 1965-71 counterreformation, when quantity prevailed to quality and road safety. Third, *Norwegian Road Plan* approved 1971 punctuated largely the equilibrium where members of Stortinget's Standing Committee on Transport and Communications could introduce new road projects during late night budget negotiations, and established a far more rational and predictable procedure based on quadrennial road plan revisions. But the budget constraints for road investments were very tight given the voters' demand for roads. This was one of the results of the Ministry of Finance's decoupling the vehicle and fuel tax revenues from the road appropriations in the 1940s and 50s, and imposition of 10 percent discount rate for roads in December 1967. The tradition for tight budget constraints for road investments can be understood as a kind of path dependence. Fourth, minister of finance Per Kleppe pitted the central and urban areas against the peripheral and rural areas in 1978 when the Nordli executive significantly reduced the road investments, to maintain the budget constraints after abandoning the 1975-77 counter cyclic policy. The Ministry of Finance was obviously far more concerned with the short-term budget balance than the long-term effects of a dysfunctional road system. *Norwegian Road Plan for Cities and Villages* approved by Stortinget in March 1980 diverted the urban areas' road investments between 72 densely populated areas all across Norway, and emphasized similarly as Oslo's *Street Utilization Plan* traffic reconstruction, choking and public transports rather than construction of trunk roads. Stortinget's Standing Committee on Transport and Communications required similarly reduced subsidies for public transports. This was the straw that broke the camel's back. Finally, Karl Olsen retired in September 1980 as a disappointed man who questioned the executive and legislators' credibility with regard to road policy and road construction. Appointment of the economist and Labor Party politician

Eskild Jensen as new Road Director punctuated the chartered engineers' monopoly on the position as Road Director.

1981 – A nouveau riche State shifting its responsibility for provision of national collective goods to counties, municipals and private actors

Norwegian road policy and road construction since 1981 has clearly been influenced by the neo-liberal shift, NPM policy and public sector reforms, particularly abolition of the credit rationing in 1984, and can be understood as a more than 20 years regime change process. The Norwegian State became exceptionally wealthy from the 1980s because of the oil and gas revenues, but the Ministry of Finance, executive and Stortinget reduced the State's efforts in many policy areas. The responsibility for provision of national collective goods, such as modern trunk roads and motorways, was de facto shifted from the State to the counties, municipals and in some instances even private actors, even if trunk roads and highways were explicit State tasks according to the 1963 Road Act. More institutional reforms took place 1981 until approximately 2005 than since the 1890s, because a new road polity and new road policy equilibrium emerged from the second half of the 1990s. But the Ministry of Finance maintained its role as Norway's de facto Ministry of Transport and Communications.

The neo-liberal shift and transition to an oil economy

Gro Harlem Brundtland replaced Odvar Nordli as Prime Minister in February 1981, but lost the election. Gro Harlem Brundtland's Labor Party minority executive was succeeded by Kåre Willoch's Conservative Party minority executive, which was expanded to a majority coalition with the Christian Peoples' and Agrarian Parties in June 1983. This coalition became a minority executive after the 1985 election with the Progress Party in a pivotal position. Gro Harlem Brundtland's second minority executive came to power in May 1986 when the Progress Party refused supporting the Willoch executive's proposed fuel tax increase. A new Conservative, Christian and Agrarian minority executive headed by the Conservative Party's Jan P. Syse, came to power after the 1989 election, but dissolved from within in November 1990 because of the EEA-agreement. The non-socialist parties' disagreement paved the way for Gro Harlem Brundtland's third minority executive. The voters refused Norwegian membership in EU for the second time in the November 28th 1994 referendum, while Sweden, Finland and Austria joined EU January 1st 1995. The same interest groups that opposed Norwegian membership in EEC in 1972, an unholy alliance between the peripheral and rural areas' distributional coalition and urban radicals, rose again. Norway remained and outside country, even if the EEA agreement gave almost full access to EU's common market except for fish and agricultural products. Gro Harlem Brundtland resigned in October 1996 and handed over the power to Torbjørn Jagland who lost the 1997 election. A Christian Peoples', Agrarian and Liberal Parties minority executive headed by the Christian Peoples' Party's Kjell Magne Bondevik governed until March 2000, when a new minority Labor Party executive headed by Jens Stoltenberg came to power. Jens Stoltenberg lost the 2001 election and a new Christian Peoples', Conservative and

Liberal Party minority executive headed by Kjell Magne Bondevik came to power.¹²³⁷ A new red-green alliance consisting of the Labor, Socialist Left and Agrarian Parties won the September 2005 election, and established a three-party executive headed by Jens Stoltenberg, Norway's first majority executive since 1983-85, 1965-71 and 1945-61.

Stortinget approved the *Election Act* in 1985, which reintroduced electoral pacts that had been abolished since the 1945 election.¹²³⁸ Stortinget amended also the constitution in 1984, and the number of seats increased by 2 from the 1985 election, to 157. These 2 extra seats went to Akershus, which more than doubled its number of inhabitants between 1950 and 1980. These 2 seats shifted the geographical balance between the central and peripheral counties, because the coastal constituencies from Rogaland to Finnmark that had enjoyed half plus one seat 1973-85 and thereby established an MWC almost by default lost their majority.¹²³⁹ Norway's most populated counties and constituencies, those with major cities; Akershus, Oslo, Vest-Agder, Rogaland, Hordaland and Sør-Trøndelag increased their number of seats to 67. The 1985 constitutional reform shifted hence the political balance slightly in the central and most populated areas' direction, and can be understood as one of the first fractures in the Liberal Party's System and the peripheral and rural areas' distributional coalition.

Stortinget amended the election system even in 1988, after lengthy discussions. The final compromise became a ban of electoral pacts, 157 district seats, 8 equalization seats, and 4 percent limit for the equalization seats.¹²⁴⁰ The equalization seats went to the most populated constituencies, because they had usually most 'unused' votes. The 1988 election system came into power from the 1989 election and shifted the political balance further in the central and urban areas' direction, even if the peripheral areas still governed Stortinget's majority. But the 1988 reform deepened the fractures in the Liberal Party's System and the peripheral and rural areas' distributional coalition.

What about Stortinget's Standing Committee on Transports and Communications? The peripheral and middle constituencies dominated this committee even 1981-2005, but the middle constituencies governed the committee's majority 1993-97 during the EU struggles. The central constituencies increased their representation 1989-93 and 2001-05. The balance between the leftwing, middle and rightwing parties shifted considerably compared to 1945-81.¹²⁴¹ The early 1980s' so-called 'right-wave' weakened clearly the middle parties 1981-93.¹²⁴² The

¹²³⁷ Regjeringar, statsrådar, statssekretærar og politiske rådgjevarar 1945 - 2004 [Online December 1st 2004] – URL: <http://www.odin.dep.no/smk/norsk/regjeringen/p10000969/bu.html>. See See Nyhamar (1990:341-352) concerning Gro Harlem Brundtland's takeover as Prime Minister in 1981 and concerning the power struggles with Reiulf Steen, which also was discussed in the 1960-80 section. See for instance Skjeie (1999:42-47, 60-63, 74, 76, 89-92, 123-135, 136-146) and Brundtland (1998:106-132, 175-193, 247-271, 365-392) how Gro Harlem Brundtland first consolidated her power and thereafter struggled internally because of the EU issue. The Labor Party's internal struggles 1992-2002 that led to the massive loss of voters in the 2001 election is thoroughly discussed in Takvam (2002).

¹²³⁸ NOU 2001:3 *Velgere, valgordning, valgte*:Chapter 3.3.

¹²³⁹ Nordby (1985a:194-224). See also the Data Appendix' Table 4.1 and 4.7.

¹²⁴⁰ NOU 2001:3 *Velgere, valgordning, valgte*:Chapter 3.3. See also the Data Appendix' Table 4.6 and 4.7.

¹²⁴¹ See the Data Appendix Table 4.19-4.24.

¹²⁴² See for instance Mjøset (1986:182-183).

rightwing parties had until then first and foremost represented the central and urban constituencies, but increased from then their voter support even in the peripheral and middle constituencies. The left and rightwing parties held all the committee's formal positions 1981-85, while they were divided among the three blocks 1985-93 and 1997-2005. The rightwing parties lost all formal positions in the committee 1993-97 during the EU struggles. The middle parties' weakened representation in the Standing Committee on Transport and Communications 1981-2005, except during the third EU-struggle 1993-97, indicated clearly a weakening of the traditionalists and the peripheral areas' distributional coalitions, and can be understood as further fractures in the Liberal Party's System and the peripheral and rural areas' distributional coalition.

The neo-liberal shift became clearly evident after the 1981 election. The Labor Party or the new Civil Servant State was gradually replaced by what can be denoted the *Neo-Liberal State* with significantly reduced governance ambitions compared to the 1970s, when the Labor Party executives tightened the regulations prior to the neo-liberal shift and the postwar corporative negotiation system's collapse. The Willoch executive is often credited for this policy shift, but the neo-liberal shift started already after the 1977 election when Odvar Nordli's executive gave up the counter cyclic policy. But the Willoch executive was more candid about its intentions, and carried out visible NPM inspired public sector reforms. Gro Harlem Brundtland's second and third executives furthered the Willoch and Syse executives' NPM policies, and carried out some of Norway's most comprehensive public sector reforms, even if the wrapping and wording was somewhat different to prevent unnecessary conflicts with the National Federation of Labor.

The oil and gas economy made Norway one of the wealthiest countries in the world throughout the 1980s and 90s, even if the first years of the 1980s were characterized by an international recession because of the second oil price shock, OPEC 2. The sociologist Lars Mjøset claimed the Norwegian economy was "saved by Khomeiny" in 1979. The export enclaves' traditional smokestack industries and the coastal areas' shipyards were gradually crowded out by the oil industry during the 1980s. Norway had still a dual economy with export enclaves, included the oil industry, and a small group of emerging high-tech industries.¹²⁴³ Aquaculture achieved similarly a prominent position in many coastal peripheral and rural areas throughout the 1980s and 90s. The economist Øystein Noreng claimed the oil revenues 1978-83 were spent in an "economic counterrevolution" to amortize the State debt accumulated 1974-77 and to establish financial buffers.¹²⁴⁴ The NOK was devaluated twice in 1982, twice in 1984 and once in 1986, because of problems with the internal balance that gave far higher interest rates and inflation level in Norway than in many other countries throughout the 1970s and 80s, according to the Ministry of Finance's permanent undersecretary Eivind Erichsen.¹²⁴⁵ The Willoch executive abolished the credit rationing in January 1984, but maintained the low interest policy, which led to a credit financed real estate bubble. Market based interest rates on loans were first introduced in January 1987 by the second

¹²⁴³ Mjøset (1986:233-235).

¹²⁴⁴ Noreng (1987:77-78).

¹²⁴⁵ Erichsen (1999:135-138, 146-147, 148-149).

Brundtland executive.¹²⁴⁶ Parts of the oil revenues were spent on a private consumption spree 1984-86 after abolition of the credit rationing. The economist Øystein Noreng warned in 1987 about the State and the Norwegian economy's vulnerability because of the dependence of oil revenues, deteriorating balance of trade and reduced competitiveness, and recommended basing the future standard of living on non-oil sectors exposed to competition.¹²⁴⁷ Norway was hit by a new recession, banking crisis and rising unemployment in 1987, after the credit driven real estate boom, the 1986 dollar and oil price drop, and the 1987 stock exchange crash.¹²⁴⁸

Stortinget established in 1990 the *Petroleum Fund* governed by the Ministry of Finance and managed by Bank of Norway as a buffer against fluctuations in the State's annual oil and gas revenues and to insulate the economy from the oil revenues.¹²⁴⁹ The Petroleum Fund have since then transformed the State's oil and gas revenues to a broad based investment portfolio of international securities, among others as savings for future pensions. Establishment of the Petroleum Fund was largely results of lessons learned during the simultaneous oil price and US dollar drop 1986-87 that gave noticeable reductions in the State's revenues.

The Syse executive pegged the NOK unilaterally to the ECU October 22nd 1990, but the German Bundesbank carried out a tight monetary policy to counter the reunion of West and former East Germany's inflationary effects. The Norwegian monetary policy was tightened because the pegging of NOK to the ECU, which in turn aggravated the effects of the 1987-93 banking crisis. Norway's fixed exchange rate came under pressure from September 1992 when the Swedish Riksbank was forced to devaluate the SEK. Norges Bank defended the NOK until December 10th when it gave in and let the NOK float. The interest rates fell thereafter, and the economy gained soon momentum.¹²⁵⁰ The 1997-97 Asian, Latin American and Russian financial crises combined with a sudden drop in the oil prices and increased Norwegian interest rates created further economic turmoil in 1998.¹²⁵¹ This shaking increased the Ministry of Finance and the legislators' concerns for the fast growing public expenditures, due to the social welfare goods' fast growing costs, and facilitated a budget agreement between Kjell Magne Bondevik's Christian Peoples', Liberal and Agrarian Parties executive and the Conservative and Progress Parties that also had far reaching road policy implications.

Norges Bank's aim for the monetary policy 1994-2001 was stable exchange rate for the NOK, but the Stoltenberg executive introduced inflation targets in March 2001.¹²⁵² Stortinget decided similarly in 2001 to consume only the Petroleum Fund's expected annual real return on the investments, as further insurance against Dutch

1246 Erichsen (1999:140-142); Knutsen and Ecklund (2000:230, 236, 238); Skånland (2004:39-50, 122); Vale (2004:3-4); Steigum (2004:35-38, 44-46, 59-61).

1247 Noreng (1987:23-28).

1248 Erichsen (1999:142-147); Knutsen and Ecklund (2000:278-302, 319-331); Vale (2004:4-19); Steigum (2004:38-44)

1249 Norges Bank (2004:17-20); The Petroleum Fund [Online December 2nd 2005] – URL: http://www.norges-bank.no/english/petroleum_fund/; Background to the Establishment of the Fund [Online December 2nd 2005] – URL: http://www.norges-bank.no/english/petroleum_fund/about/background.html.

1250 Eichengreen (1998:170-181); Steigum (2004:55-59 Chart 15, Table 3); Skånland (2004:102-111).

1251 Eichengreen (1998:186-191); Kindleberger (2000:203-205, 232).

1252 Norges Bank (2004:91-99, 104-105).

Disease and future unemployment.¹²⁵³ The Norwegian State was hence in a fundamentally different financial position compared to the Danish and Swedish States after the turn of the 20th and 21st century. The Norwegian problem was not lack of financial resources, rather the opposite. This is probably why the executive and legislators tied themselves to the mast through introduction of inflation targets and limits on the annual spending of the oil revenues, even if the executives and legislators satisfied the inhabitants' hunger for oil revenues through priority of social welfare goods rather than investments in for instance research, development and infrastructures that facilitated future business opportunities.

How was Norway's economic ability during the 1980s and 1990s? Norway's GDP per capita measured in 1990 international Geary-Khamis dollars, was 15.222 dollars in 1981, 18.466 in 1990 and 24.364 in 2000. The average for the 12 West European countries was 14.045 dollars in 1981, 16.872 in 1990 and 19.806 in 2000.¹²⁵⁴ Norway went from the second wealthiest country in West Europe in 1981 and 1990, measured as GDP per capita, to the wealthiest in 2000. The Norwegian State became partly Europe's rentier and experienced a financial freedom during the second half of the 1990s and post 2000 that most others envied.

The New Norwegian System's emergence paved the way for the turnpike industrial complex

It was Gro Harlem Brundtland's first Labor Party executive that came to power in February 1981 that launched the road policy regime change process that came as a result of the neo-liberal shift, NPM-inspired public sector reforms and the major urban areas' acute congestion, accident and environmental problems. The car was namely no longer "a luxury item" but part of peoples "everyday life", according to the Labor Party's 1981 manifesto, even if the Labor Party still argued for constrained use of cars in urban areas. The Labor Party had until then opposed turnpikes principally, but 1981 became the turning point: "Important tasks, which have to be postponed or left out because of tight economic constraints, can be carried out by utilization of other and more untraditional means of financing."¹²⁵⁵ Minister of transport and communications Ronald Bye initiated already in 1975, before he resigned as Secretary, development of a new centrist doctrine. His aims were replacement of the 1969 leftwing doctrine, and recapturing the centrist voters.¹²⁵⁶ The Labor Party's new doctrine approved by the 1981 convention "sharpened the knives" for the forthcoming slaughter of sacred cows that gained momentum from 1987.¹²⁵⁷ Gro Harlem Brundtland's takeover was clearly noticed through a more centrist policy that soon gave the modernists a far more prominent position than during the 1970s.

¹²⁵³ Norges Bank (2004:20-23); Handlingsregelen [Online December 2nd 2005] – URL:

http://odin.dep.no/fin/norsk/tema/norsk_ekonomi/006071-990150/dok-bn.html

¹²⁵⁴ Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003: 65 Table 1c.

¹²⁵⁵ "Politikk for 1980-årene, Arbeiderpartiet arbeidsprogram 1982-85": Samferdsel, in *Vi vil..! Norske partiprogrammer 1884-2001*.

¹²⁵⁶ Bye (1975).

¹²⁵⁷ Nyhamar (1990:352-355, 523-527). See also Brundtland (1998:430-441) about some of the most fundamental policy reforms.

Ronald Bye elaborated further in his speech in Polytechnic Association September 7th 1981, where he claimed the State's budget was not flexible enough to provide sufficient investments in transports and communications at the right time and in the right amounts, and desired therefore alternatives as supplement to the tax financed road investments, because he would like to carry out profitable road investments that otherwise were politically impossible.¹²⁵⁸ Ronald Bye was forced to accept turnpikes or other alternative means of financing given the investment level, because Road Director Eskild Jensen claimed the “political meat weight” determined Stortinget's geographical allocation of the road investments.¹²⁵⁹ The first Bratteli executive's no to turnpikes in central and urban areas in October 1971 created an impasse, because the peripheral and rural areas' distributional coalition responded, as discussed in the previous section, with blocking increased road appropriations to densely populated constituencies and increased redistribution to sparsely populated peripheral and rural constituencies.

The Labor Party's acceptance and introduction of alternative road financing in the 1981 manifesto was according to William Engseth from Troms, who served as Gro Harlem Brundtland's minister of transport and communications 1988-89, a delicate compromise between the Labor Party's “road builders, environmentalists and anti-motorists”, because alternative road financing facilitated forced road construction. But turnpikes could also limit the traffic and shift the costs to the motorists, according to the Labor Party's environmentalists and anti-motorists.¹²⁶⁰ So-called alternative road financing, particularly turnpikes, gave something to everyone, given the Ministry of Finance's tight budget constraints and Stortinget's geographical seat allocation that made any attempts of reallocating the road appropriations a political impossibility.

Gro Harlem Brundtland and the Labor Party lost the 1981 election. The Conservative Party's Inger Koppernæs from Møre and Romsdal, who belonged to the peripheral areas' distributional coalition, became the first Willoch minority executive's minister of transport and communications. Inger Koppernæs supported obviously Ronald Bye's initiative, because one of the Ministry of Transport and Communication's assistant secretaries restated Ronald Bye's ideas about alternative road financing at Norwegian Institute of Technology's annual transport and communication conference (NTH-dagene) in January 1982. Inger Koppernæs conveyed also to the Directorate of Public Roads that counties that forced road construction through user financing, for instance turnpikes, would not be punished financially but instead be rewarded financially.¹²⁶¹ Inger Koppernæs' initiative changed partly the counties' equations concerning road policy and road construction, and modified thereby the political economy.

City of Bergen that merged with Hordaland County in 1972 was the first to utilize the window of opportunity created by Ronald Bye and Inger Koppernæs' turnpike initiatives. Several of Bergen's entrance roads planned in the 1960s was ready for construction in the 1970s, but most of these projects were canceled or postponed, because *Norwegian Road Plan* omitted the urban areas and postponed

¹²⁵⁸ Sørli (2000:6-7).

¹²⁵⁹ Jensen (2003 [Interview]).

¹²⁶⁰ Engseth (2004 [Telephone interview]).

¹²⁶¹ Sørli (2000:7).

construction of trunk roads at least until 1978-89, and *Norwegian Road Plan for Cities and Villages* did not as mentioned earlier encourage construction of new trunk roads.¹²⁶² Bergen received 30-40 percent of Hordaland's annual State road appropriations at the turn of the 1970s and 80s, but the gap between needed and available road investments was significant.¹²⁶³ The proposed road appropriations 1982-85 and 1986-89 covered only 25 percent of the necessary investments within 1990.¹²⁶⁴ Hordaland County's *Transport and Communication Committee* (Samferdselsnemnd), the former County Road Board's successor, decided therefore in December 1979 to investigate different kinds of user financing.¹²⁶⁵ The late 1970s and early 80s' traffic conditions gave the most densely populated counties and municipals few choices, because neither the executive nor Stortinget indicated political willingness to solve these areas' congestion, accident and environmental problems, rather the opposite. The State shifted de facto the responsibility to the counties and municipals, even if trunk roads and highways was an explicit State task.

Chartered engineer Arild Eggen, head of the Directorate of Public Road's *Motorway Department* (Motorvegavdelingen) then located in Bergen at Hordaland's Public Roads Administration conceived a "wild idea" in 1983. Why not do as they did in the Middle Ages, encircle Bergen with a city wall, where you had to pay to get inside?¹²⁶⁶ Bergen's inhabitants were used to ferry tickets and the industrialist Fritz Rieber's non-profit turnpikes at the city's bridges and tunnels built before Bergen merged with Hordaland.¹²⁶⁷ Hordaland's County Road Manager Josef Martinsen approved the idea.¹²⁶⁸ The 1963 Road Act required namely locally initiated turnpikes. Stortinget was not authorized to impose turnpikes unless they were initiated locally.

Hordaland's Public Roads Administration invited Bergen's three leading local politicians to a very informal meeting the fall 1983. The participants were the Labor Party's Gunnar Simonsvik, the Conservative Party's Henrik Liseth, the Christian People's Party's Arne Næss, Chief County Road Officer Josef Martinsen and Arild Eggen. The Labor, Conservative and Christian Peoples' Parties held the majority of seats in Bergen's city council. Arild Eggen outlined his idea, a turnpike ring encircling Bergen, rather than many uncoordinated turnpike projects scattered all across the Bergen-area, which made it possible to remedy Bergen's congestion, accident and environmental problems within 10 to 15 years, instead of 30-35 years given Bergen's annual State road appropriations. The three politicians accepted

¹²⁶² Rødland (2000:110).

¹²⁶³ *Hordaland fylkeskommune Fylkesplan 1979. Sak 110 Norsk vegplan for åra 1982-85 og 1986-89. Fylkesvegplan for 1982-85. Norsk Samferdselsplan 1982-85:166, 168, IV, 234, VDA cassette 367 Fylkenes utbyggingsplaner – Samferdselsplaner Hordaland 1976-1989; Martinsen (2002 [Interview]).*

¹²⁶⁴ *Hordaland fylkeskommune Fylkesplan 1979. Sak 110 Norsk vegplan for åra 1982-85 og 1986-89. Fylkesvegplan for 1982-85. Norsk Samferdselsplan 1982-85:166, VDA cassette 367 Fylkenes utbyggingsplaner – Samferdselsplaner Hordaland 1976-1989.*

¹²⁶⁵ *Hordaland fylkeskommune Fylkesplan 1979. Sak 110 Norsk vegplan for åra 1982-85 og 1986-89. Fylkesvegplan for 1982-85. Norsk Samferdselsplan 1982-85: IV, VDA cassette 367 Fylkenes utbyggingsplaner – Samferdselsplaner Hordaland 1976-1989.*

¹²⁶⁶ Eggen (2003 [Telephone interview]).

¹²⁶⁷ Martinsen (2002 [Interview]).

¹²⁶⁸ Eggen (2003 [Telephone interview]).

finally the idea.¹²⁶⁹ This is how Chief County Road Officer Josef Martinsen and Arild Eggen bypassed Bergen's municipal administration, and the city council's minority parties that strongly opposed further road construction and/or user payments.

Arild Eggen interpreted Inger Koppernæs' initiative literally, and proposed a deal based on tit-for-tat, additional State road appropriations equal to the additional local co-financing provided through turnpikes.¹²⁷⁰ Arild Eggen's proposal established the role model for many later so-called urban packages. Bergen's city council and Hordaland's county council approved Arild Eggen's model in December 1983, April 1984, January and March 1985.¹²⁷¹ The Agrarian Party's leader Johan J. Jakobsen, who succeeded Inger Koppernæs as minister of transport and communications in June 1983 when the Willoch executive was expanded to a three party majority coalition, supported Bergen's plan, and offered 133 millions in extra road appropriations 1986-89, given establishment of the turnpike ring.¹²⁷² ¹²⁷³ Johan J. Jakobsen furthered hence Ronald Bye and Inger Koppernæs' turnpike policy, but Stortinget had the final say.

But let's look further into how and why the Norwegian road policy regime changed fundamentally from the early 1980s, after the tax financed State road investments had been reduced 11 percent in 1979, 22 percent in 1982 and 29 percent in 1985 measured in real terms compared to the 1978 all time high.¹²⁷⁴ The Liberal Party's System for resource allocation was not able to solve the major population clusters' accelerating congestion, accident and environmental problems, and lost gradually legitimacy, particularly among the central and urban constituencies' voters, taxpayers and motorists. But the Liberal Party's System lost also legitimacy among the coastal areas' inhabitants who desired mainland connections, bridges, sub sea road tunnels or combinations thereof, instead of ferries. Add the old common pool problem, because of absence of modern trunk roads between the regions and to the neighboring countries, because the peripheral and rural areas' distributional coalition had prioritized construction of roads with local collective rather than national collective good characteristics since the second half of the 1960s. The combination of Stortinget's geographical seat allocation and the Liberal Party's System prevented effectively reallocation of the State road appropriations to those areas where they were most urgently needed. The Liberal Party's System's failure coincided with the neo-liberal shift, the 'right-wave', NPM ideas about direct user financing to constrain the demand for publicly financed goods, and numerous local initiatives because the Combined Road Administration had not been able to provide the desired roads. But other actors were able and willing to provide the desired roads.

¹²⁶⁹ Eggen (2003 [Telephone interview]).

¹²⁷⁰ Eggen (2003 [Telephone interview]).

¹²⁷¹ *Fylkesplanen 1984-87*. Hordaland fylkeskommune, December 1983:174, VDA cassette 367 Fylkenes utbyggingplaner – Samferdselsplaner Hordaland 1976-1989; St. meld. nr. 58 (1984-85) *Om Norsk Vegplan 1986-89*:148.

¹²⁷² St. meld. nr. 58 (1984-85) *Om Norsk Vegplan 1986-89*:148-149.

¹²⁷³ For further discussions about how Bergen's congestion, accident and environmental problems were solved during the 1980s and 90s see for instance Knutsen and Boge (2005:261-269).

¹²⁷⁴ Calculations based on own database derived from the Directorate of Public Road's annual reports 1960-2000, VDA.

Turnpikes had long traditions in Norway. Turnpikes were frequently used prior to the neo-liberal shift. Many roads during the 18th and 19th century were financed through turnpikes. The same was several bridges in the 20th century.¹²⁷⁵ But the postwar Strategic Capitalism, low interest policy, credit rationing and restrictions on foreign loans made it difficult to finance roads through turnpikes after World War Two. But user payments through turnpikes matched one of the Conservative Party's favorite issues, namely reduced direct income taxes.¹²⁷⁶ Various actors had championed trunk roads during the Strategic Capitalism's heydays, but with limited success. These included among others Oslo and Akershus' County Governor Trygve Lie in the Party Commission for Transport and Communication Problems in 1956, the industrialist Fritz Rieber in 1957, all the non-socialist parties prior to the 1957 election, Norges Bank's Governor Erik Brofoss in 1960, the Labor Party's Transport and Communication Commission in 1960, the Liberal and Christian Peoples' Parties prior to the 1961 and 1965 elections, Norwegian Road Federation's turnpike campaign in 1967, Professor Arnljot Strømme Svendsen in 1968, all non-socialist parties prior to the 1969 election and the Agrarian Party prior to the 1973 election, such as mentioned earlier. The Directorate of Public Roads recommended in 1978 imposition of turnpikes in Oslo because of the revenue potential.¹²⁷⁷ But the time was obviously not yet ripe; neither were the traffic conditions bad enough to warrant such politically costly measures.

Only the Agrarian and Progress Parties advocated turnpike financing in their 1977-81 manifestos, even if the motivations were different. The Labor, Conservative and Progress Parties advocated turnpike financing prior to the 1981 election, while the Socialist Left, Liberal, Christian Peoples' and Agrarian Parties' manifestos were quiet about turnpike financing prior to the 1981 elections.¹²⁷⁸ The turnpikes' renaissance at the turn of the 1970s and 80s was most likely a result of the neo-liberal shift and influence from the emerging NPM ideas, because only parties with many modernists championed turnpike financing prior to the 1981 election. But the

¹²⁷⁵ See for instance Bompenger i Norge [Online August 19th 2004] – URL: <http://www.autopass.no>.

¹²⁷⁶ The Conservative Party championed turnpikes in its 1977-81, 1981-85, 1985-89, 1989-93 manifestos, and signaled a somewhat more restrictive position in the 1993-97 and 1997-2001 manifestos. The 2001-2005 manifesto opposed congestion fees or road pricing ("Høyres program perioden 1977-81": Samferdsel og trafikkmiljø; "Høyres program perioden 1981-85": Samferdsel og trafikkmiljø; "Høyres program 1985/89 – Frihet og fellesskap – Mulighetenes samfunn": Samferdsel og trafikkmiljø; "Ny vilje, ny fremgang. Høyres program perioden 1989-1993": 8.3.1 Samferdsel; "Norge trenger en ny giv. Høyres stortingsvalgsprogram 93": Vi bindes sammen på en helt annen måte enn før; "Fra statlig makt til personlig ansvar. Høyres program for stortingsperioden 1997-2001": Samferdsel/kommunikasjon; "Høyres stortingsvalgprogram 2001-2005": 6.2 Samferdsel, in *Vi vil...! Norske partiprogrammer 1884-2001*).

¹²⁷⁷ Letter from Directorate of Public Roads to the Ministry of Transport and Communications, signed by Arne Grotterød og Tor Norman Johansen, "Systemløsninger for Mosseveien med tilknytning til Strømsveien og Grunnlinjen – Spørsmål om innføring av bompenger", 10060/78 Bok Øks/AH Karl Øksnevad 232.2/322A 363A, December 20th 1978, VDA cassette 322A Grunnlinjen i Oslo 1974-1979.

¹²⁷⁸ "Senterpartiet 1977: Program – Stortingsvalget 77. Vekst er ikke å forbruke mer men å forvalte bedre!": Samferdsel, Veg og ferje; "Fremskrittspartiet 1977: Handlingsprogram for stortingsvalget 1977": Pkt. 11f, Veinettet; "Program for Sosialistisk Venstreparti arbeid i Stortinget 1977-1981": Kap. 13 Samferdsel; "Arbeidsprogram 1982-85 Arbeiderpartiet": Samferdsel; "Venstres arbeidsprogram 1981-1985: VIII Samferdsel; "Handlingsprogram for Kristelig Folkeparti stortingsperioden 1981-1985: 7.3 Samferdsel; "Høyres program perioden 1981-85": Samferdsel og trafikkmiljø; "Fremskrittspartiets program 1981-85": Pkt. 11 Fellesoppgaver - F. Samferdsel, Samferdselsnettet, all in *Vi vil...! Norske partiprogrammer 1884-2001*.

Willoch executive's liquidation of the credit rationing in January 1984 made turnpikes a feasible alternative or supplement to tax financed road investments, and became the second turning point after the Labor Party's course change in 1981. The new road policy and resource allocation regime that gradually emerged throughout the 1980s and 90s had many similarities with the 19th century's so-called Norwegian System where Stortinget pitted the different constituencies' projects against each other, in a kind of auctions, to weed out poorly founded projects and to safeguard local co-financing.

Stortinget amended the 1963 Road Act's § 21 in 1985 and introduced complete State financing of construction and maintenance of trunk roads and highways, because of an amendment of the counties and municipals' income transfer system.¹²⁷⁹ But completely State financed trunk roads and highways was only a formal, not a substantial provision, because what is here denoted the *New Norwegian System* instituted soon partly or fully substitution of State road appropriations with loans from private finance institutions amortized through direct user payments, even if the fiscal vehicle and fuel taxes were upheld. The New Norwegian System instituted also Stortinget's allocation of road investments to those constituencies most willing to accept turnpikes, similarly as the 19th century's Norwegian System allocated the road appropriations to those constituencies most willing to accept local co-financing through local taxes when there was no State income tax.

Turnpikes made it possible for the Ministry of Finance to maintain tight budget constraints for road appropriations during the 1980s, 90s and after the turn of the 20th and 21st century, and made it also possible for those constituencies willing to accept turnpikes to advance in the very long queue for road appropriations. Turnpikes saved the executive and legislators from politically costly reallocation of the road appropriations. Last but not least, turnpikes provided significant and almost risk free business opportunities for banks and other actors, because establishment of the New Norwegian System facilitated also establishment of what is here denoted the *turnpike industrial complex*.¹²⁸⁰ The turnpike industrial complex consisted of municipal and county politicians, legislators, consultants, private financial institutions, construction companies, local turnpike companies, and later also suppliers of electronic toll collection systems and service companies specializing in toll collection. The turnpike industrial complex consisted also of trade and industries dependent of road transports, because the Norwegian State had not been able or willing to provide a functional road system all across Norway. Many within the turnpike industrial complex had advocated turnpikes since the 1960s and 70s, when the turnpike projects' number and scale were very limited, because the credit rationing made it very difficult to obtain the necessary loans.

How about Oslo that struggled with Norway's most acute congestion, accident and environmental problems from the turn of the 1970s and 80s? These local problems became soon national because Oslo's central areas were Norway's largest crossroads because of the major trunk roads E6 and E18's intersection. These congestions delayed transports of passengers and particularly goods from the entire

¹²⁷⁹ Sæland (1993:40).

¹²⁸⁰ For an overview of the turnpike industrial complex see for instance: Hva er Norvegfinans?; Medlemsliste [Online December 3rd 2004] – URL: <http://www.norvegfinans.com>.

country. Oslo's city council managed finally to agree about construction of a tunnel through the city hub, after the formerly planned urban motorway supposed to link Oslo's southeastern (E6, E18); northeastern (E6) and western (E18) entrance roads that poured traffic into the narrow city streets had been rejected. Minister of transport and communications Asbjørn Jordahl supported in September 1978 construction of the E18 tunnel below Oslo's city hub from the fiscal year 1979, but minister of finance Per Kleppe and minister of municipal and labor Arne Nilsen had their objections at the executive's conference September 18th 1978. But Asbjørn Jordahl considered construction from 1979 the "substantial" question. The Nordli executive agreed finally about allocating 19 millions 1979 NOK or 4,65 millions 1990 PPP USD to construction of the tunnel in 1979.¹²⁸¹ This start-appropriation was only a fraction of the actual costs for the tunnel.

Ronald Bye succeeded Asbjørn Jordahl as minister of transport and communications October 10th 1979, and ordered November 20th full stop for Oslo's city council's attempts of accomplishing the E18 tunnel. The Ministry of Transport and Communications' official reason was that a road along Oslo's waterfront – an alternative rejected decades ago – would be sufficient. *Arbeiderbladet*, the Labor Party's official organ of speech, claimed the tunnel's excessive construction costs made no sense because of the global energy shortage.¹²⁸² But the real reason for the stop order was most likely struggles about Oslo's future airport. The Nordli executive shelved namely December 14th further planning of the partly approved airport in Hobøl southeast of Oslo, and advocated instead moderate development of the airport at Gardermoen northeast of Oslo.¹²⁸³ Prime Minister Odvar Nordli represented Hedmark County slightly north of Gardermoen, one of the Labor Party's strongholds. Accomplishment of the E18 tunnel through Oslo would improve the east west traffic conditions, and thereby increase Hobøl's likelihood of accomplishment. The Oslofjord area was the Conservative Party's stronghold. Road Director Karl Olsen was not happy with the executive's E18 tunnel flip-flop, which he considered a genuine breach of promise and absence of "willingness to abide former decisions".¹²⁸⁴ Oslo's municipal road administration prepared the fall 1979 invitation to competitive bidding. The Nordli executive's stop order brought Oslo almost back to square one, because *Norwegian Road Plan for Cities and Villages* approved by Stortinget in March 1980 gave Oslo minuscule road appropriations given the lack of road capacity. Oslo's inhabitants' and local politicians got thus no signals about future substantial measures against the accelerating congestion, accident and environmental problems.

Even Oslo's local politicians recognized minister of transport and communications Inger Koppnæs' signals in 1982 about financial rewards for

¹²⁸¹ "Grunnlinjen i Oslo – Forskottering ved Norges Bank", note from minister of transport and communications Asbjørn Jordahl to the executive's other ministers, September 4th 1978, RA-PMO-ON cassette 21; "Regjeringskonferanse mandag 18. september 1978 kl. 1200 til 1505 i Regjerings møterom", No. 72, RA-PMO-ON cassette 3.

¹²⁸² Letter from the Ministry of Transport and Communications signed by minister of transport and communications Ronald Bye and deputy undersecretary Steinar Killi to City of Oslo's mayor, "Grunnlinja", 7049/79 441.0/2 SKi/HeI, November 20th 1979, VDA cassette 322A Grunnlinjen i Oslo 1974-1979; "Ny vurdering av Grunnlinjen", editorial, *Arbeiderbladet*, November 20th 1979.

¹²⁸³ St. melding. Nr. 37 (1979-80) *Om norsk samferdselsplan*:56-58.

¹²⁸⁴ *Vegvesenets årsberetning 1979*, Vegdirektoratet, Oslo 1980:2, VDA.

counties that accepted turnpikes, but Oslo's city council struggled internally about how to finance the necessary trunk roads and which alternative that was supposed to solve the congestion, accident and environmental problems. These issues had to be settled within the spring 1985 to safeguard inclusion in *Norwegian Road Plan 1986-89*. The next road plan revision was scheduled four years later. Oslo Labor Party and its supporting parties in the city council championed a congestion fee not warranted by the 1963 Road Act. The Conservative and Progress Parties advocated traditional turnpikes based on arrears payment.¹²⁸⁵ The financial issue had clear national ramifications because of the forthcoming 1985 election. The political situation was somewhat delicate, because the Christian Peoples' Party governed in the Willoch executive together with the Conservative and Agrarian Parties, but supported the Labor Party in Oslo's city council. Oslo's traffic problems and financing issues was the Labor Party's opportunity to divide and conquer the Willoch executive.

Minister of transport and communications Johan J. Jakobsen invited in September 1984 Oslo to a similar deal as Bergen, and offered to solve the acute congestion, accident and environmental in Oslo's eastern residential areas Gamlebyen and Vålerenga, which were partly slumped because of E6' through traffic, if Oslo built the E18 tunnel through the city hub as a 100 percent turnpike financed project.¹²⁸⁶ But Oslo's city council turned down Jakobsen's offer in October and November 1984, because the majority voted twice for a congestion fee rather than traditional turnpikes.¹²⁸⁷ The congestion fee alternative required payments from all motorists within a defined area except from the trunk roads' through traffic that congested Oslo's city hub. Oslo's Christian Peoples' Party voted against the Conservative Party, its executive partner.¹²⁸⁸ The Ministry of Transport and Communication's immediate response was that Stortinget could first consider possible congestion fees during the spring 1986, after Stortinget had approved *Norwegian Road Plan 1986-89*.¹²⁸⁹ Minister of transport and communications Johan J. Jakobsen closed further discussion in Stortinget December 3rd 1984, when he

¹²⁸⁵ Sæland (1993:116).

¹²⁸⁶ Egil Wettre Johnsen, "Eksperimentering med ny avgiftsnorm og nye utredninger beklage Grunnlinjen blir utsatt og Oslo taper statlig støtte?", *Aftenposten* evening edition, September 28th 1984.

¹²⁸⁷ *Oslo samferdselsplan 1984, Bystyrets vedtak 17. oktober 1984*, finansrådmannen December 7th 1984, VDA cassette 367 Fylkenes utbyggingsplaner – Samferdselsplaner Oslo 1981-1985; *Aftenposten*, evening edition "Et begredelig vedtak", October 20th 1984; Morten Malmø, "Grunnlinjen blir sak for Stortinget", *Aftenposten* evening edition, October 31st 1984; *Aftenposten* morning edition "Vedtak om kjøreavgift ble anket", November 22nd 1984.

¹²⁸⁸ Egil Wettre Johnsen, "Eksperimentering med ny avgiftsnorm og nye utredninger. Beklager Grunnlinjen blir utsatt og Oslo taper statlig støtte?", *Aftenposten* evening edition, September 28th 1984; *Aftenposten* evening edition, "Kr.F. presser sine for å stoppe kjøreavgiften", November 10th; Egil Wettre Johnsen, "Kristelig Folkeparti uenig med seg selv om kjøreavgiften", *Aftenposten* evening edition, November 10th 1984; Egil Wettre Johnsen, "Åpen strid i Kr.F. om bompenger eller kjøreavgift", *Aftenposten* evening edition, December 18th 1984; Per Høybråten, Tor Holtan Hartwig og Robert Wright, "Kjørepenge bomavgift", *Aftenposten* evening edition, December 20th 1984.

¹²⁸⁹ Letter from the Ministry of Transport and Communications to City of Oslo's City Manager (Finansrådmannen), "Alternativ finansiering av hovedveisystemet i Oslo sentrum – statlig behandling", 5586/84-441.0/2 October 17th 1984) signed by Steinar Killi and Ivar Sørli, VDA cassette 322 Oslo 1976-1985 Pan; Egil Wettre Johnsen, "Staten frykter at Grunnlinjen forsinkes: Oslo må forklare seg", *Aftenposten* evening edition, November 8th 1984; Sørli (2000:15).

refused submitting any Road Act amendments permitting congestion fees.¹²⁹⁰ Jakobsen's decision increased the pressure on Oslo's Christian People's Party.

Johan J. Jakobsen encouraged February 9th 1985 Oslo's city council to reconsider the financial issue. Jakobsen would otherwise not submit the white paper about E18 through Oslo's city hub to Stortinget. The city council's majority gave finally in, and approved the Directorate of Public Roads' tunnel alternative against 18 votes. Financing with traditional turnpikes in arrears instead of congestion fees not warranted by the 1963 Road Act was similarly approved with 43 against 42 votes.¹²⁹¹ Johan J. Jakobsen submitted the white paper about E18 through Oslo's city hub to Stortinget in April 1985. The tunnel's estimated costs were 1.285 millions 1985 NOK or approximately 185,6 millions 1990 PPP USD included capital costs, slightly more than the earlier mentioned Nordli executive's planned 1979 kick-off appropriation.¹²⁹² But why was solving Oslo's congestion, accident and environmental problems far more tedious and complicated than solving the similar problems in Bergen? One reason was that Oslo's trunk roads and highways were managed by a municipal road administration subordinated Oslo's city council until 1991. Another reason was that City of Oslo was almost unmanageable before introduction of parliamentary rule in 1986. Oslo's old decision system made it possible to obstruct contested issues such as urban development and road construction almost ad infinitum. Some examples were *Maximum Balance*, the *Street Utilization Plan* and development of the Vaterland area near Oslo's Central Station that went on between the 1950s and 90s.

The entire Stortinget's Standing Committee on Transports and Communications, except the Socialist Left Party's Hanna Kvanmo representing Nordland, supported May 23rd 1985 construction of a new E18 in a tunnel through Oslo's city hub.¹²⁹³ The committee discussed also *Norwegian Road Plan 1986-89* and three projects in Møre and Romsdal County, namely the 100 percent user financed sub sea tunnels in Ålesund, Kristiansund and Frei's mainland connection (KRIFAST), and the Atlantic Road (Atlantehavsvegen). Hanna Kvanmo opposed also Bergen's toll ring, when the Standing Committee on Transport and Communications deliberated *Norwegian Road Plan 1986-89*. The Standing Committee on Transports and Communications deliberated Bergen's toll ring June 4th, one day prior to the plenary's final decision concerning Oslo, Møre and Romsdal's projects and *Norwegian Road Plan 1986-89*. These projects went together to the plenary June 5th 1985, at the Standing Committee on Transport and Communications' request. All projects were approved.¹²⁹⁴ However, Stortinget's

¹²⁹⁰ Einar Solvoll, "Sammenknytning E6 E18: Veisystemet i Oslo må høyprioriteres", *Aftenposten*, evening edition, December 4th 1984.

¹²⁹¹ Letter from the Directorate of Public Roads to the Ministry of Transport and Communications signed by traffic director Olav Søfteland, "Finansiering av E 18 gjennom Oslo sentrum", Ragnar H. Nilsen, -85/ Traf. Plan 322A, February 14th 1985, VDA cassette 322 Oslo 1976-1985 Pan; St. meld. nr. 78 (1984-85) *Om E18 gjennom Oslo*:5, 6; Sørli (2000:15); Egil Wettre Johnsen, "Trafikkmiljøplan for Oslo sentrum skal utarbeides: Fjellinje med bompenger", *Aftenposten* evening edition, February 28th 1985; *Aftenposten* morning edition, "Fjellinje og bompenger i Oslo anbefalt", January 28th 1985.

¹²⁹² St. meld. nr. 78 (1984-85) *Om E18 gjennom Oslo*:6.

¹²⁹³ Inst. S. nr. 231 (1984-85) *Innstilling fra samferdselskomiteen om E18 gjennom Oslo*:2-3.

¹²⁹⁴ Inst. S. nr. 232 (1984-85) *Innstilling fra samferdselskomiteen om prosjektet i Ålesund – Ellingsøy – Valderøy – Giske i Møre og Romsdal*; Inst. S. nr. 233 (1984-85) *Innstilling fra samferdselskomiteen om fastlandssamband til Kristiansund og Frei i Møre og Romsdal*; Inst. S. nr. 234 (1984-85) *Innstilling fra*

approval of *Norwegian Road Plan 1986-89* was not the formal approval of Bergen's turnpike ring, only formal approval of the tit-for-tat principle, extra road appropriations against turnpikes, and instituted what is here denoted the New Norwegian System. The plenary approved Bergen's turnpike ring formally June 20th 1985. Bergen's turnpike ring was operational already January 2nd 1986.¹²⁹⁵ Johan J. Jakobsen described June 5th 1985 as the climax during his three years as minister of transport and communications.¹²⁹⁶ June 5th 1985 became a turning point, similarly as the Danish Folketinget's June 1986 Great Belt deal.

Bergen's turnpike ring and the turnpike financed E18 in tunnel below Oslo's city hub were both major projects in urban areas. Their approval in Stortinget was most likely directly linked to approval of Møre and Romsdal's three projects and most likely even to other projects in middle and peripheral constituencies outlined in *Norwegian Road Plan 1986-89*. Stortinget's decisions June 5th 1985 can hence be understood as a major pork barrel deal, because it was few reasons for "regional riots" in 1985 or 1986, according to Johan J. Jakobsen.¹²⁹⁷ It seems hence reasonable to interpret the two mainland connections and the Atlantic Road in Møre and Romsdal County as direct contra entries to the Bergen package and the E18 tunnel through Oslo's city hub. But the Liberal Party's System for resource allocation was not dead, despite the New Norwegian System's birth June 5th 1985. The Christian People's Party's cooperation with the Labor Party in Oslo's city council may also have been deliberate moves in a high-level policy gamble, because: First, the Christian Peoples' Party's leader, minister of church and education Kjell Magne Bondevik, represented Møre and Romsdal in Stortinget. Few mastered the Liberal Party's System better than Kjell Magne Bondevik and Johan J. Jakobsen, who were two of the peripheral and rural areas' distributional coalition's leaders in the 1980s. Second, Kristiansund's mainland connection (KRIFAST) was mentioned explicitly in Christian Peoples' Party's 1981-85 manifesto.¹²⁹⁸ Finally, Oslo and Ålesund, and partly even Bergen, were the Conservative Party's turfs.

It may look somewhat paradoxical that Johan J. Jakobsen became the New Norwegian System's 'obstetrician', but Johan J. Jakobsen was not only a very skilled and cunning political horse trader who mastered the Liberal Party's System to perfection. He was also a political realist that understood the major urban areas' congestion accident and environmental problems had to be solved as soon as possible, because the Liberal Party's System's mismatch between contributions to the community and allocation of publicly financed investments undermined the

samferdselskomiteen om fastlandssamband Averøy – Eide, Atlanterhavsvegen i Møre og Romsdal; Inst. S. nr. 235 (1984-85) *Innstilling fra samferdselskomiteen om Norsk vegplan 1986-89*:27; *Stortingstidende* (1984-85):4423, 4424-4425.

¹²⁹⁵ St. prp. nr. 118 (1984-85) *Om forsert utbygging av riksvegnettet i Bergen*:1, 2; Inst. S. nr. 281 (1984-85): *Innstilling fra samferdselskomiteen om forsering av riksvegnettet i Bergen*:2; *Stortingstidende* (1984-85):5292, 5294-5295; Knutsen and Boge (2005:267).

¹²⁹⁶ Jakobsen (2000:132-133).

¹²⁹⁷ Jakobsen (2003 [Interview]).

¹²⁹⁸ "Handlingsprogram for Kristelig Folkeparti stortingsperioden 1981-1985":7.3 Samferdsel, in *Vi vil...! Norske partiprogrammer 1884-2001*.

entire political system's legitimacy. Johan J. Jakobsen's moves prior to June 5th 1985 had many similarities with President Nixon's visit to China or Prime Minister Ariel Sharon's withdrawal from the Gaza Strip, because Johan J. Jakobsen had sufficient credibility within the peripheral and rural areas' distributional coalition to challenge the Liberal Party's System without significant risk for underhand attacks. Johan J. Jakobsen reasoned most likely the Liberal Party's System's cross-subsidization had to be maintained, but with other means, and Stortinget's system for resource allocation had therefore to be reformed by the peripheral and rural areas' distributional coalition. Even the Ministry of Finance supported most likely Johan J. Jakobsen's development of the New Norwegian System, because turnpikes made it possible to maintain the road budgets' tight constraints and accomplish the most urgently needed road investments through voluntarily extra taxes from the motorists. The New Norwegian System could hence protect the State's new wealth against future demands for increased infrastructure investments.

The New Norwegian System differed fundamentally from those turnpike regimes established later in Denmark and Sweden, because the Norwegian Ministry of Finance refused in 1985 financing turnpike projects through foreign loans.¹²⁹⁹ The Ministry of Finance refused similarly State loan guarantees and financing through foreign loans in 1989, and required the affected counties or municipals as majority owners of the local non-profit turnpike companies.¹³⁰⁰ Turnpike companies without county or municipal loan guarantees were in 1993 permitted to borrow directly from the international capital markets, while turnpike companies with such guarantees were only permitted to borrow from Norwegian finance institutions, most likely because of the exchange rate risk. The counties or municipals were also obligated to finance the turnpike projects' possible deficits.¹³⁰¹ The Danish and later also Swedish turnpike models were based on State loan guarantees and financing through the international capital market. State loan guarantees and use of the international capital markets reduced the road users' interest costs significantly compared to the Norwegian model, but reduced also the domestic banks' business opportunities. The Norwegian real interest rates increased from approximately 2 percent in 1982 to approximately 10 percent in 1991.¹³⁰² The late 1980s' interest rate hike was clearly noticed by some Norwegian turnpike companies that also experienced reduced road traffic because of the 1987-93 recession.

Road Director Eskild Jensen was the first Road Director since Andreas Baalsrud and Arne Olai Korsbrekke who involved personally in the urban areas' congestion, accident and environmental problems. Eskild Jensen pulled some strings, among others to Oslo's advantage, even if he formally was prevented from doing so, because Oslo's trunk roads and highways were managed by Oslo's municipal road administration until 1991. But Eskild Jensen did his best to pilot the turnpike financed first *Oslo package* (Oslopakke 1) through Stortinget 1985-89 that solved Greater Oslo's most urgent traffic problems within 2000. The first Oslo package safeguarded construction of several new trunk roads, many in tunnels that

¹²⁹⁹ St. meld. nr. 58 (1984-85) *Om Norsk vegplan 1986-89*:31.

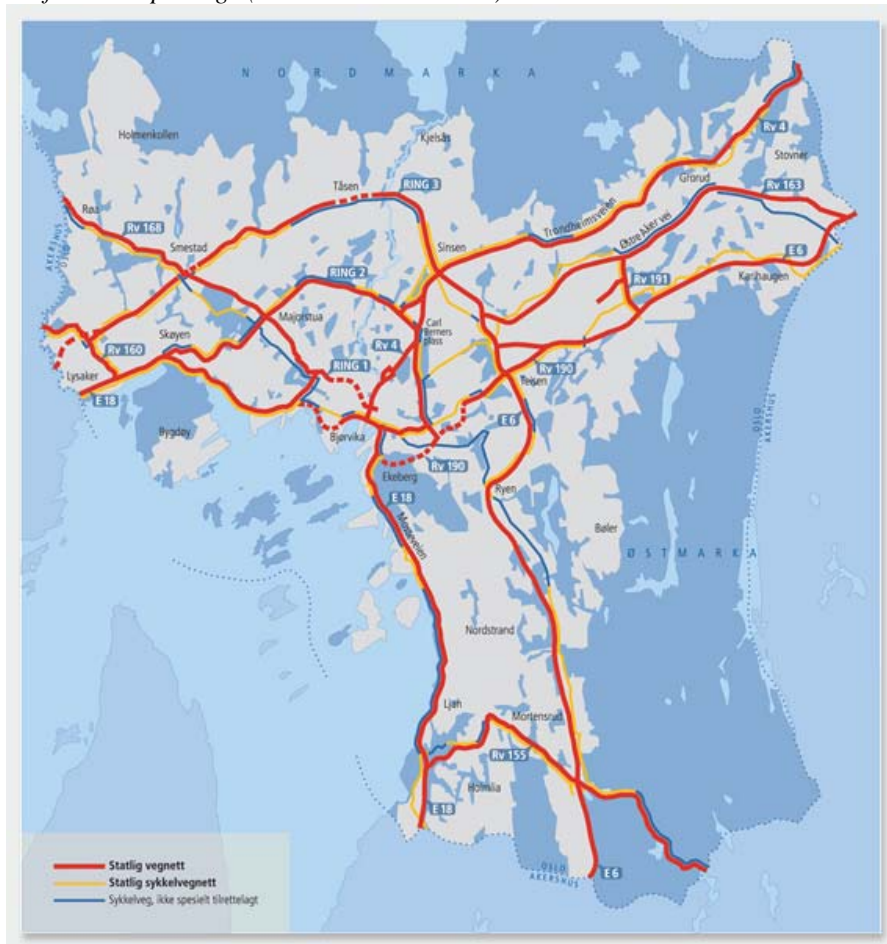
¹³⁰⁰ St. meld. nr. 32 (1988-89) *Norsk veg- og vegtrafikkplan 1990-93*:96-97.

¹³⁰¹ St. meld. nr. 34 (1992-93) *Norsk veg- og vegtrafikkplan 1994-97*:120-123.

¹³⁰² St. meld. nr. 34 (1992-93) *Norsk veg- og vegtrafikkplan 1994-97*:122.

drained through traffic from the central urban and residential areas.¹³⁰³ The first Oslo package together with the new airport at Gardermoen and the Olympic Winter Games at Lillehammer in 1994 facilitated also improvements of Greater Oslo's entrance roads. But many of Greater Oslo's planned trunk roads are still not completed, because the construction costs increased significantly, due to construction of many trunk roads with better environmental standards than initially planned. But these extra costs will hardly be noticed in the long run, because Greater Oslo's environmental conditions improved dramatically compared to the second half of the 1980s.

Figure 23: Oslo's new trunk road system approximately 2001 established through the first Oslo package (tunnels as dotted lines).



Source: Statens vegvesen Oslo, *Årsmelding 2001*, Oslo 2002 [Online December 30th 2005] – URL: <http://www.vegvesen.no>.

¹³⁰³ For further discussions about the first Oslo package see for instance Knutsen and Boge (2005:269-289).

Establishment of the New Norwegian System gave soon the major population clusters' congestion, accident and environmental problems a far more prominent position on the executive and the legislators' agenda, because all major population clusters in the second half of the 1980s had become bottlenecks in the trunk road system. It was usually not capacity problems on trunk roads and highways outside the major population clusters. However, the Willoch executive amended the 1976 Transport and Communication Act in 1982. The investigation of need for occupational transport permits and the permits' geographical limitations were abolished. The transport providers were also permitted to transport goods from up to three customers at the time on one vehicle involved in unscheduled transports. A second reform took place in June 1986 when the distinctions between scheduled and unscheduled transports were abolished.¹³⁰⁴ One result of the 1980s' deregulations was development of several new express bus services and accelerated shift from rail to road transports of passengers and goods, which in turn further increased the demand for functional roads in central and urban as well in peripheral and rural areas.

The 1990-93 road plan revision was renamed *Norwegian Road and Road Traffic Plan* to indicate the Ministry of Transport and Communications and the Combined Road Administration's emphasis had shifted from roads only to the road transport system. William Engseth from Troms, minister of transport and communications in Gro Harlem Brundtland's second minority executive proposed in March 1989 in *Norwegian Road and Road Traffic Plan 1990-93* development of integrated local road, urban planning, environment and public transport plans for Norway's ten major population clusters in diminishing order, Oslo, Bergen, Trondheim, Stavanger, Fredrikstad/Sarpsborg, Porsgrunn/Skien, Drammen, Kristiansand, Tønsberg and Tromsø with approximately 1,94 millions inhabitants. These plans were supposed developed in cooperation between the Ministry of Transport and Communications, Ministry of Environment, Directorate of Public Roads, the Public Roads Administrations and the concerned counties and municipals. William Engseth's initiative recognized that cars had become Norway's most important mean of transport, but introduced also several means for reducing the mass motoring's inconveniences, such as time differentiated turnpike fees in urban areas, use of road appropriations and turnpike revenues for investments in public transport infrastructures, and so on.¹³⁰⁵ The measures introduced by *Norwegian Road and Road Traffic Plan 1990-93* safeguarded substantial solutions of the major population clusters' congestion, accident and environmental problems compared to *Norwegian Road Plan for Cities and Villages* based on idealistic premises that only provided symbol policy measures, and in some instances even aggravated the problems. *Norwegian Road and Road Traffic Plan 1990-93* indicated also the Ministry of Environment had become part of the road polity. The 1986-89 Labor Party executive's road policy can be understood as reintroduction of many ideas introduced during the Labor Party modernists' 1960-65 road policy reformation, but discarded during the road policy counterreformation.

Eskild Jensen was the first Road Director that challenged the counties' hegemony, and siphoned 1986-89 off some of the counties' road appropriations to

¹³⁰⁴ Bjørnland (1989:227-229).

¹³⁰⁵ St. meld. nr. 32 (1988-89) *Norsk veg- og vegtrafikkplan 1990-93*:8-10, 45-56.

the Directorate of Public Roads and governed some trunk road investments centrally. Some legislators and county politicians understood this move was highly rational.¹³⁰⁶ Eskild Jensen outlined here a possible exit from the institutionalized local egoism that governed Norwegian road policy. Eskild Jensen retired in September 1992, and was succeeded by chartered engineer Olav Sjøfteland, who had spent his entire career in the Combined Road Administration.¹³⁰⁷ Eskild Jensen was a transitional leader between the Labor Party State and the Neo-liberal State and NPM reforms. Olav Sjøfteland took the neo-liberal shift and NPM for granted.

The 1990s and post 2000 – when the executives and legislators established a new road polity and tied themselves to the mast

Kjell Opseth from Sogn and Fjordane, a former business manager, became minister of transport and communications in Gro Harlem Brundtland's third minority executive that came to power November 3rd 1990. Kjell Opseth became the most powerful minister of transport and communications since Håkon Kyllingmark, and served until October 25th 1996. Opseth was fortunate with the circumstances, because his tenure started with a deep recession. But the business cycles shifted from 1993 when the interest rates went down after Norges Bank's floating of the NOK. Kjell Opseth piloted Oslo's new airport at Gardermoen through Stortinget's investment decision in 1992. This project had been in process since the second half of the 1960s, and included also feeder systems and services that led to major road and railroad investments in Greater Oslo.¹³⁰⁸ Kjell Opseth was very concerned about the executive and legislators' trustworthiness. The executive or Stortinget should, according to Opseth, have "very good reasons" to deviate from former promises or decisions, because many inhabitants based their future and/or invested according to the executive or Stortinget's decisions.¹³⁰⁹ Kjell Opseth was also one of the few ministers of transport and communications that managed to convince the Ministry of Finance that increased road investments was sensible both in the short run because of reduced unemployment, and in the long run through improved effectiveness and competitiveness for Norwegian trade and industry. But the Ministry of Finance had clearly problems distinguishing between consumption and durable investments.¹³¹⁰ The significantly increased tax financed road investments 1990-94 such as shown in Figure 24 illustrate how Kjell Opseth utilized the 1990-93 recession when Gro Harlem Brundtland's executive agreed about a counter cyclic policy, because the Combined Road Administration had plenty of plans but limited financial resources.

¹³⁰⁶ Westlie (2002 [Interview]); *Statens vegvesen. Årsberetning 1986*, Vegdirektoratet, Oslo 1987; *Statens vegvesen. Årsberetning '87*, Vegdirektoratet, Oslo 1988; *Statens vegvesen Årsberetning 1988*, Vegdirektoratet, Oslo 1989; *Statens vegvesen Årsberetning 1989*, Vegdirektoratet, Oslo 1990, VDA.

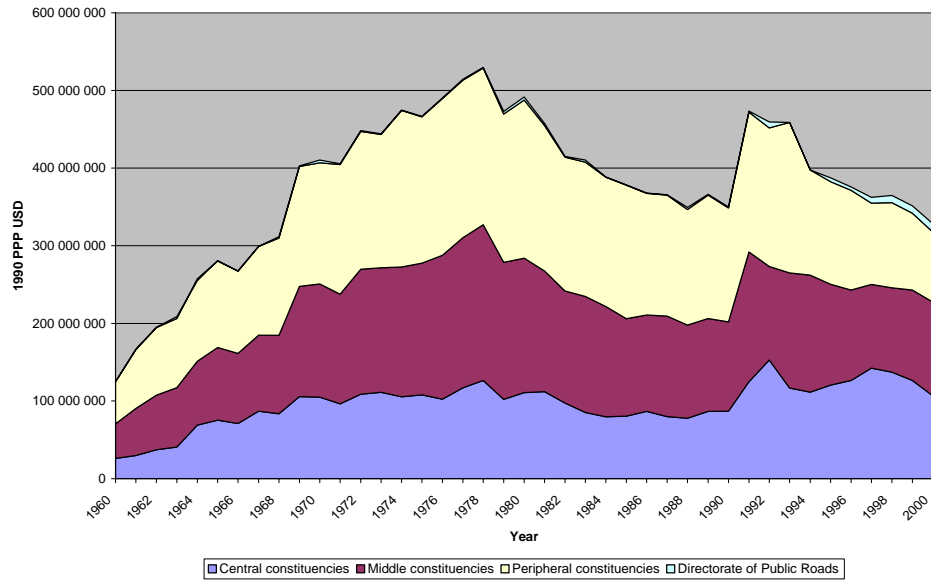
¹³⁰⁷ Knut Opeide, "Olav Sjøfteland ble ny vegdirektør: Flagget til topps", *Vegen og Vi*, Vol. 21, No. 5, 1992:4-5; Skari (1995:102); Sjøfteland (2004 [Interview]).

¹³⁰⁸ For further discussions about the planning and decision processes concerning the new airport at Gardermoen and its feeder systems and services see for instance Bøge (2000).

¹³⁰⁹ Opseth (2005 [Interview]); St. prp. nr. 47 (1992-93) *Om fastlandsforbindelse til Magerøya i Finnmark*:5.

¹³¹⁰ Opseth (2005 [Interview]).

Figure 24: Norwegian tax financed road investments' geographical allocation 1960-2000 (1990 PPP USD).



Source: Own database derived from Directorate of Public Roads' annual reports 1960-2000, VDA.

Road Director Olav Søfteland furthered Eskill Jensen's efforts targeting the major population clusters traffic problems. The same did minister of transport and communication Kjell Opseth. The ten major population clusters' transport plans developed 1989-92 differed fundamentally from the idealistic *Norwegian Road Plan II – Traffic and Urban Environment* because these new plans aimed at development of functional and integrated urban areas with transport systems that safeguarded effectiveness, conveyance, road safety and environmental requirements for all transport users.¹³¹¹ The New Norwegian System made it finally possible to finance such undertakings, even if the road users had to pay significant amounts through direct user payments in addition to substantial vehicle and fuel taxes that among others financed the Liberal Party's System cross subsidization of the peripheral and rural areas. The slight adjustments of Stortinget's seat allocation after the 1985 and 1989 elections improved the major population clusters' political representation somewhat, and explain also partly the development towards more realistic road, area development and transport plans. Add also the Labor Party's 1990-93 manifesto that made the major population clusters' congestion, accident and environmental problems to "national concerns".¹³¹² The political economy had shifted almost unnoticeable during the 1980s, and this shift paved the way for several forthcoming reforms with regard to road polity and road policy.

¹³¹¹ St. meld. nr. 34 (1992-93) *Norsk veg- og vegtrafikkplan 1994-97*:84-101.

¹³¹² "Krav til innsats for felles framtid. Arbeidsprogram for Det Norske Arbeiderparti 1990-1993": Samferdsel, Energi, in *Vi vil...! Norske partiprogrammer 1884-2001*.

An empirical study of the road appropriations' allocation 1990-93 indicated clearly the Liberal Party's system was still alive, because the road appropriations were only allocated according to cost/benefit calculations on Østlandet, particularly in densely populated areas. The study indicated also distributional coalitions and regional policy considerations, but these findings were not statistically significant. The study revealed finally the Public Roads Administrations' allocation of road appropriations was contingent local interest groups.¹³¹³ 1990-93 was clearly a transition period between the Liberal Party's System and the New Norwegian System. This study's finding inspired further studies of the road appropriations' allocation.

A statistical Box-Ljung test of the variations in the tax financed Norwegian State road investments' geographical allocation 1960-2000 revealed several interesting patterns; cf. Figure 24 and Table 16. First, the central constituencies' Akershus, Oslo and Buskerud, and the middle constituencies Aust-Agder, Rogaland and Sør-Trøndelag and the peripheral constituencies Hedmark, Oppland and Nord-Trøndelag's annual variations in the road appropriations were random, which indicates stable road political equilibriums. Second, the central constituency Østfold, the middle constituencies Telemark, Vest-Agder and Møre and Romsdal, and the peripheral constituencies Sogn and Fjordane and Finnmark's annual variations in the road appropriations were not random, which indicates unstable equilibriums with bargaining processes and zero-sum games, because high road appropriations in these constituencies were entailed by low road appropriations. Finally, the middle constituency Hordaland and the peripheral constituency Nordland with second most and most members in Stortinget's Standing Committee on Transport and Communications 1957-2001 had 4 and 2-years political business cycles respectively in their road appropriations' annual variations.¹³¹⁴ The Norwegian constituencies' total road investments and total road investments per capita 1960-2000 were usually positively correlated with the constituencies' representation in Stortinget' Standing Committee on Transport and Communications during the same period.¹³¹⁵ Statistical tests of 41 years time series were thus not able to refute the impressions that many Norwegian legislators have perceived the road investments' budget constraints and geographical allocation in zero sum terms. This study revealed also that representation in the Standing Committee on Transport and Communications usually paid off, which clearly is in accordance with Figure 24 and 25 and the Data Appendix' Table 4.10-4.24. And yes, there have been distributional coalitions in Stortinget 1960-2000, at least concerning road policy.

Bergen, Oslo, Trondheim, Tromsø and other major population clusters' urban packages had usually peripheral and rural contra entries such as established through Stortinget's pork barrel deal June 5th 1985. Many of these were so-called mainland connections consisting of sub sea road tunnels, bridges or combinations thereof. The Combined Road Administration completed 23 sub sea road tunnels 1982-2002 that substituted ferries or long detours around the fjords. Representatives from local trade and industry, particularly within fisheries, aquaculture and tourism initiated many of these mainland connections. The same did other actors within the turnpike industrial

¹³¹³ Lund et al. (1995:34-35, 49, 64).

¹³¹⁴ Boge (2002a:4 Table 1, 21 Table 4, 24-26).

¹³¹⁵ Boge (2002b:91 Tabell 6).

complex specialized in financing, planning and construction of mainland connections and urban packages.¹³¹⁶ The coastal areas' inhabitants and legislators could not loose on these turnpike projects for a defined number of years, because their alternative was eternal payments on the ferries. The mainland connections' increased flexibility, effectiveness and freedom were bonuses. Table 10 provides an overview of Norwegian sub sea road tunnels. 2 of these were located in the central constituencies, 12 in the middle and 9 in the peripheral constituencies.

Table 10: Norwegian sub sea road tunnels completed 1983-2002

Completed	Tunnel (Road no.)	County (C, M, P)	Length (km)	Maximum depth below the seabed (m)	Average number of vehicles per day
1983	Vardø (E75)	Finnmark (P)	2.9	-88	670
1987	Ellingsøy (Rv658)	Møre and Romsdal (M)	3.5	-140	2.700
1987	Valderøy (Rv658)	Møre and Romsdal (M)	4.2	-145	2.250
1988	Kvalsund (Rv863)	Troms (P)	1.6	-56	500
1989	Godøy (Rv658)	Møre and Romsdal (M)	3.8	-153	725
1989	Flekkerøy (Rv457)	Vest-Agder (M)	2,3	-101	1.100
1989	Hvaler (Rv108)	Østfold (C)	3,7	-120	1.300
1990	Nappstraumen (E10)	Nordland (P)	1.8	-60	600
1990	Fannefjord (Rv64)	Møre and Romsdal (M)	2.7	-100	1.150
1991	Mausund (Rv866)	Troms (P)	2.1	-92,5	600
1992	Freifjord (Rv70)	Møre and Romsdal (M)	5.1	-132	1.850
1992	Mastrafjord (E39)	Rogaland (M)	4.4	-132	3.000
1992	Byfjord (E39)	Rogaland (M)	5.8	-223	2.800
1994	Tromsøysund (E8)	Troms (P)	3.4	-101	6.730
1994	Hitra (Rv714)	Sør-Trøndelag (M)	5.6	-264	635
1996	Bjørøy (Fv207)	Hordaland (M)	2	-85	350
1997	Sløverfjord (E10)	Nordland (P)	3.2	-100	100
1999	Nordkapp (FATIMA) (E69)	Finnmark (P)	6.8	-212	300
2000	Frøya (Rv714)	Sør-Trøndelag (M)	5.3	-164	530
2000	Oslofjord (Rv23)	Akershus/Buskerud (C)	7,2	-134	4.300
2000	Ibestad (Rv848)	Troms (P)	3.4	-112	400
2000	Bømlafjord (E39)	Hordaland (M)	7.9	-262	2.500
2002	Skatestraumen (Rv616)	Sogn and Fjordane (P)	1,9	-80	250

Source: Kjell Wold, "Kostbart direktiv", *Vegen og vi*, Vol. 2, 2003, No. 3:12-13.

The mainland connections' emergence from the 1980s may be symptomatic both for the rightwing parties' increased support in the peripheral and rural areas and for the rightwing parties' increased representation in the Standing Committee on

¹³¹⁶ See for instance Knutsen and Ecklund (2000:288 ff.); Letter from Sunnmørsbanken v/ O. Balsnes og M. Molver, February 20th 1987, VDA cassette Vegsambandet Godøy – Giske i Møre og Romsdal; *Fastlandsforbindelse til Magerøya Nordkapp kommune, Finnmark. Konsekvensanalyse*, Bruer IKB/FATIMA AS, Drammen 1985, VDA cassette Finnmark Rv. 95 FATIMA – Bilag: "Notat om forhåndsinnkreving av bompenger til Hardangerbrua og Trekantsambandet Sveio – Stord – Bømlø", Directorate of Public Roads JA/AF December 16th 1991, VDA cassette Rv. 7 Hardangerbrua Vallavik-Bu 1988-1991 88/2733; "Bergens utfordring", *Bergens Tidende*, morning edition, December 27th 2000, ATEKST; *Informasjonskompendie for trekantsambandet Bømlø - Stord – Sveio, Sunnhordaland bru- og tunnelselskap*, July 15th 1987, VDA cassette Hordaland, Trekantsambandet; Note "Risiko ved finansiering av bompengeprojekter – Trekantsambandet i Sunnhordland", from Jan Senneseth, Den Norske Bank, to county manager (fylkesrådmann) Harry Herstad, January 19th 1994, VDA cassette Rv. 7 Hardangerbrua Vallavik- Bu 1992-1995 88/2733.

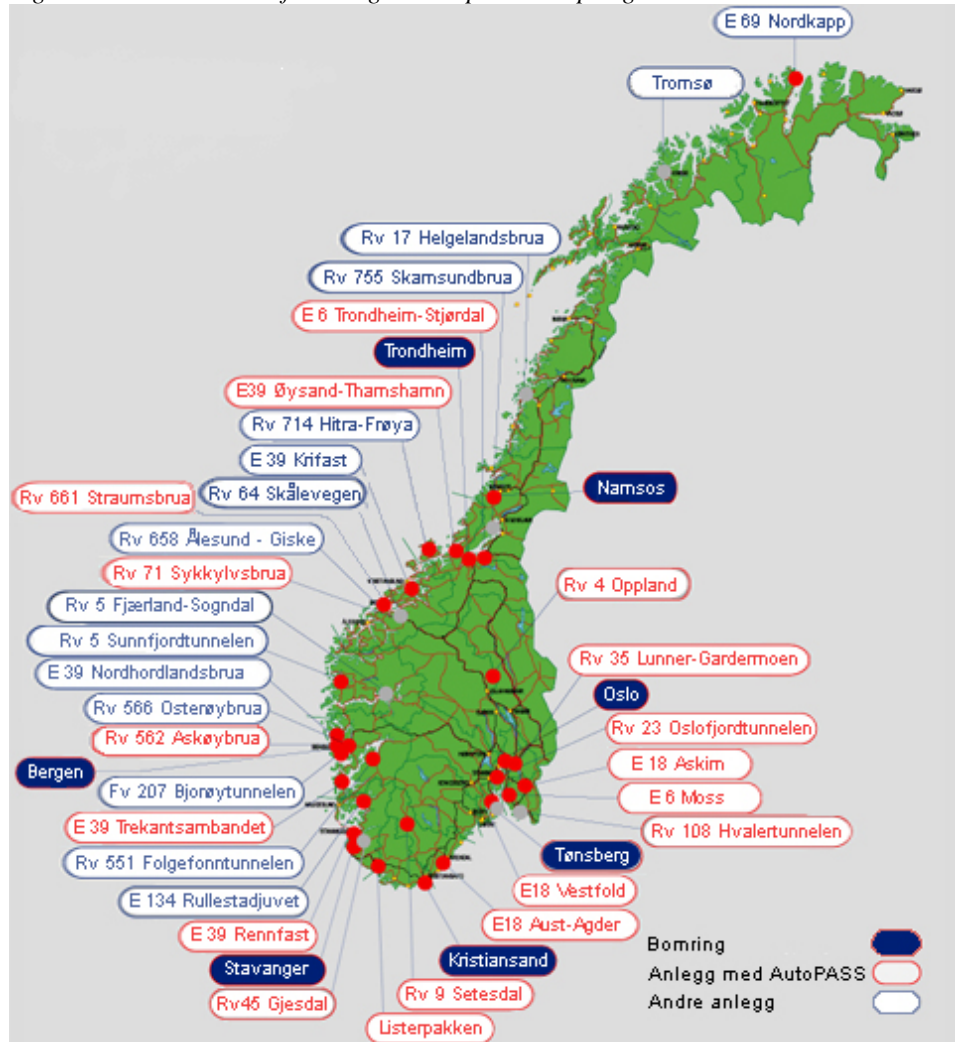
Transports and Communications. The rightwing parties' legislators pursued often a more trade and industry friendly road policy than the middle party legislators. Norway's first sub sea road tunnel, to Vardø in Finnmark, was completed 1982/83. Most sub sea road tunnels, except the tunnel to Vardø, were organized as partly or fully user financed turnpike projects, usually according to the New Norwegian System's economic logic.¹³¹⁷ But there were also examples of sub sea road tunnels organized as turnpikes, but created according to the Liberal Party's System's political logic, with minuscule user payments because of limited revenues due to the projects' geographical location. The most prominent example is FATIMA, the sub sea road tunnel on E69 to Magerøya and North Cape in Finnmark. FATIMA was approved by Stortinget in 1993 and completed in 1999.¹³¹⁸ The total costs were approximately 1,1 billions 1993 NOK or approximately 107 millions 1990 PPP USD, with a cost overrun of about 63 percent. FATIMA serves about 3.500 inhabitants plus tourists, and had an average traffic of approximately 300 vehicles per day in 2003.¹³¹⁹

¹³¹⁷ See for instance Knutsen and Boge (2005:173-185, 215-258) for further discussions about bridges, subsea road tunnels and mainland connections.

¹³¹⁸ St. prp. nr. 47 (1992-93) *Om fastlandsforbindelse til Magerøya i Finnmark*; Innst. S. nr. 177 (1992-93) *Innstilling fra samferdselskomiteen om fastlandsforbindelsen til Magerøya i Finnmark*; *Stortingstidende* (1992-93):4040. See also Knutsen and Boge (2005:231-243) for further details about a project characterized by rent seeking.

¹³¹⁹ Innst. S. nr 205 (1999-2000) *Innstilling fra kontroll- og konstitusjonskomiteen om Riksrevisjonens antegnelser til statsregnskapet for 1998 – FATIMA-prosjektet*:12; Kjell Wold, "Kostbart direktiv", *Vegen og Vi*, Vol. 2, No. 3, 2003:12-13.

Figure 25: An overview of Norwegian turnpikes the spring 2005.



Source: Kart bompengeanlegg [Online March 3rd 2005] – URL:<http://www.norvegfinans.com>

The common denominator between the central areas' urban packages and the peripheral and rural areas' mainland connections since the middle of the 1980s has been organizing and financing through non-profit joint stock turnpike companies owned by the counties, and in some instances even municipals or private interests.¹³²⁰ Most countries that finance road construction through turnpikes have

¹³²⁰ Formål og historikk [Online 7. mars 2003] – URL: <http://www.fjellinjen.no>; Vedtekter for A/S Fjellinjen.; "Avtale mellom Samferdselsdepartementet og A/S Fjellinjen om bompenger på E18 Fjellinjen i Oslo", February 18th and April 3rd 1987; "Avtale mellom Samferdselsdepartementet og A/S Fjellinjen", October 11th and 20th 1988, VDA case Vegdirektoratets avd. Osloplan 20 Drift av ringen, binder A/S Hovedvegfinans Oslo /Akershus.

usually had low vehicle and fuel taxes, low general tax levels or executives with few degrees of financial freedom. But this was not the case in Norway during the 1980s, 90s and post 2000. The Norwegian turnpike projects became an extra tax for the central urban and the most densely populated coastal areas' inhabitants, to maintain the Liberal Party's System and the peripheral and rural areas' distributional coalition. The turnpike financing peaked 1990-93 when minister of transport and communications Kjell Opseth carried out a counter cyclic road policy, and 2002-2005 during the second Bondevik executive, that carried out a neo-liberal road policy compared to former executives.

Table 11: Norwegian turnpike financed road investments and their relative geographical allocation 1986-2005.

Geographical allocation / Road plan period	1986-1989 (actual)	1990-1993 (actual)	1994-1997 (proposed)	1998-2001, highways (proposed)	1998-2001, trunk roads (proposed)	2002-2005, Highways (proposed)	2002-2005, trunk roads (proposed)
Central constituencies (%)	39,4	27,1	54,5	39,3	NA	61,7	NA
Middle constituencies (%)	51,7	64,7	32,8	40,7	NA	31,9	NA
Peripheral constituencies (%)	8,9	8,2	12,7	20,0	NA	6,4	NA
Grand total turnpike financing (millions 1990 PPP USD)	589,23	700,95	408,63	235,13	215,76	392,52	292,30
Turnpike financing's share of total investments (%)	30,3	28,8	19,6	23,1	24,4	34,7	31,2

Source: ¹³²¹

The counties' proposals for the quadrennial road plan revisions originated usually from the Public Roads Administrations, and had been through the municipal and county councils' political processing that created numerous constraints. The Directorate of Public Roads transferred an increasing number of major road projects from the counties' allocations to the Directorate of Public Road's, according to Road Director Olav Søfteland, to overcome these constraints, and to improve major projects' likelihood of approval and completion.¹³²² Kjell Opseth's most important move, as minister of transport and communications, was introduction of the Combined Road Administration's new governance system, because this reform destabilized and punctuated the road policy equilibrium established since 1893. The result was first development of new road policy and thereafter a fundamentally new road polity, which in turn established a new road policy equilibrium. Four institutional changes were decisive for this regime change that took place from 1991 until 2003.

¹³²¹ St. meld. nr. 32 (1988-89) *Norsk veg- og vegtrafikkplan 1990-93*:105 Tabell 8.1; St. meld. nr. 34 (1992-93) *Norsk veg- og vegtrafikkplan 1994-97*:162, 166, 173, 179, 182, 184, 189, 194, 198, 201, 205, 208, 215, 220, 224, 231, 234, 239, 241; St. meld. nr. 37 (1996-97) *Norsk veg- og vegtrafikkplan 1998-2007*:100-116, 117 Tabell 7.4 og 118-125; St. meld. nr. 46 (1999-2000) *Nasjonal transportplan 2002-2011*:230 Tabell 14.7, 249 Tabell 14.8.

¹³²² Søfteland (2004 [Interview]).

The first institutional change started in June 1991 when Kjell Opseth appointed the so-called *Holler Commission*, headed by Kjell Holler, the Labor Party's former minister of industry and head of the Norwegian Telephone and Telegraph Board, because the established system was ripe for reforms.¹³²³ The Holler Commission recommended in June 1993 that Stortinget approved investment strategies, instead of individual projects. The proposed “conveyance”, “environment”, “road safety” and “regional development” strategies were linked to the Combined Road Administration's budget and high-level governance system. Governing according to strategies instead of micro managing each project was clearly influenced by those days' governing NPM ideas. The conveyance strategy gave highest net present value on the investments, but would reorient the road policy fundamentally from investments in the peripheral and rural areas' local roads to the crowded areas' trunk roads, and deviated clearly from the road policy established in 1971 through *Norwegian Road Plan*. A second recommendation was 10 years instead of 4 years road plans, because of the road investments' long time-horizon and need for predictability. A third recommendation was to reduce the counties' and the Standing Committee on Transport and Communication's influence on the road policy. The Holler Commission's ideal was a Swedish style governance system, where the legislators established goals, provided necessary financing and left implementation to the Combined Road Administration's professionals.¹³²⁴ The Holler Commission explained the increasing turnpike financing as a result of too tight budget constraints and the “rigid county allocation” that lead to suboptimal allocation of the road investments.¹³²⁵ The Holler Commission advised also against organizing new trunk roads as turnpikes, because construction and financing of trunk roads was a State responsibility according to the 1963 Road Act.¹³²⁶ Many of the Holler Commission's recommendations aimed directly at the Liberal Party's System, and challenged several established ‘truths’ that had governed Norwegian road policy for decades.

Kjell Opseth did not support the Holler-Commission's proposed transfer of responsibility for planning of trunk roads from the counties' Public Roads Administrations to the Directorate of Public Roads, because the Ministry of Transport and Communications argued for the counties' right to utter about construction of trunk roads, similarly as for other highways, but Opseth was well aware the existing system had to be reformed.¹³²⁷ The Holler Commission's recommendations led obviously to internal struggles between the Labor Party modernists, traditionalists and members of the peripheral and rural areas' distributional coalition. But the Standing Committee on Transport and Communications' majority consisting of the Labor and Conservative Parties agreed to establish formal distinctions between trunk roads and other highways, where the Directorate of Public Roads allocated the trunk road investments within the given budget constraints according to the professionals' standards. The Standing

¹³²³ NOU 1993:23 *Nytt overordnet styringssystem for Statens vegvesen*:8-9; Opseth (2005 [Interview]).

¹³²⁴ NOU 1993:23 *Nytt overordnet styringssystem for Statens vegvesen*:3, 11-12, 55-56, 82-83, 85-89, 92; Sjøfteland (2004 [Interview]).

¹³²⁵ NOU 1993:23 *Nytt overordnet styringssystem for Statens vegvesen*:132.

¹³²⁶ NOU 1993:23 *Nytt overordnet styringssystem for Statens vegvesen*:133.

¹³²⁷ St. meld. nr. 41 (1993-94) *Nytt overordnet styringssystem for Statens vegvesen*:20; Opseth (2005 [Interview]).

Committee on Transport and Communications' minority, the Socialist Left, Christian Peoples' and Agrarian Parties would rather strengthen the counties' control of the Combined Road Administration.¹³²⁸ The two major parties' modernists used obviously this opportunity to reduce the peripheral and rural areas' distributional coalition's influence, and to further weaken the Liberal Party's System. Stortinget agreed finally June 15th 1994 to transfer management of the trunk road investments to the Directorate of Public Roads, which for the first time since 1965 was permitted to operate according to the professionals' norms and standards. Management of the other highways was transferred to the counties' Public Roads Administrations and the county councils. This new governance system had many similarities with the 1928 regime that instituted the Directorate of Public Roads' centralized management of the trunk roads.

Stortinget approved also the Holler-commission's proposed reorganizing of the Directorate of Public Roads and the counties' Public Roads Administrations according to a purchaser-provider split, but the production units remained within the Combined Road Administration, even if the Conservative Party desired a separation.¹³²⁹ The new governance system may have been one of the Brundtland executive's adaptations to a possible Norwegian membership in EU, but was most likely also the Labor Party and Conservative Party modernists' attempt of tying the legislators to the mast, because construction of roads with national collective good characteristics had been subject to almost unconstrained local egoism since 1971. The purchaser/provider split was in fashion according to those days' NPM ideas.

Stortinget's introduction of a new governance system for the Combined Road Administration from 1995 combined with Stortinget's institution of the New Norwegian System June 5th 1985 facilitated the second institutional change, namely establishment of a road policy hybrid regime where two opposing logics coexisted or cohabitated. The Directorate of Public Roads managed trunk roads – national collective goods – centrally and according to professional norms standards, such as the investments' profitability, effect on road safety, environmental conditions or industrial necessity. Stortinget's resource allocation to trunk roads was governed by the New Norwegian System's economic logic. Most new trunk roads were turnpike projects. The county councils and the counties' Public Roads Administrations managed locally the other highways, which were local collective goods. Stortinget's resource allocation to these roads was governed by the Liberal Party's System's political logic. Which logic that dominated this new hybrid regime depended on the political economy; i.e. which executive was in position, Stortinget's power relations, and last but not least the Standing Committee on Transport and Communication's balance of power between the central, middle and peripheral constituencies and the three political blocks.¹³³⁰ This first part of the road policy regime change was largely facilitated by the 1989 revised election system, the New Norwegian System, the

¹³²⁸ Innst. S. nr. 184 (1993-94) *Innstilling fra samferdselskomiteen om nytt overordnet styringssystem for Statens vegvesen*: Chapter 2.

¹³²⁹ Innst. S. nr. 184 (1993-94) *Innstilling fra samferdselskomiteen om nytt overordnet styringssystem for Statens vegvesen*: Chapter 3; *Årsmelding 1995 Statens vegvesen Vegdirektoratet*, Vegdirektoratet, Oslo 1996:5, VDA.

¹³³⁰ See the Data Appendix' Table 4.6-4.9 and 4.19-4.24 for an overview of the changing geographical and political balance of power 1981-2005.

turnpike industrial complex and the Labor Party's slaughtering of sacred political cows in 1981 and since 1987.

The 1980s' deregulations of the transport and communication sector that led to increased road transport of passengers and goods increased also the executive and legislators' awareness of the road system's significance for the society. The challenge in March 1996, according to the Ministry of Transport and Communications, was to safeguard "the population and the trade and industry's conveyance given concerns for the environment and a high degree of road safety".¹³³¹ This can be read as a critique of the road policy since 1965 – or a concession – the road policy since 1965 had partly been a failure. The Ministry of Transport and Communications introduced also new standards for trunk roads.¹³³² The trunk roads' relative share of the tax financed road investments recommended by the Ministry of Transport and Communications increased from 7,2 percent 1982-85 to 45,8 percent 1994-97.¹³³³ The effect of *Norwegian Road Plan's* postponement of investments in trunk roads at least until 1978-89 was hence clearly evident. The Jagland executive concluded similarly in *Norwegian Road and Road Traffic Plan 1998-2007* submitted April 18th 1997 the central areas' road investments had been downgraded, and this policy harmed the peripheral and rural areas.¹³³⁴ Even this statement could be read as a critique of the road policy instituted in 1971 through *Norwegian Road Plan*, and a second concession. These signals led to construction of new motorways, an activity that ceased in 1973. *Norwegian Road and Road Traffic Plan 1998-2007* divided also the trunk road system into 18 trunk road routes between the regions and to the export markets, and 47 percent of the total road investments 1998-2001 were proposed allocated to trunk roads.¹³³⁵ The second half of the 1990s can thus be understood as a new road policy reformation and reintroduction of ideas about transport economy and traffic engineering championed by the Labor Party modernists 1960-65. Because the executive and legislators sobered up from the late 1960s and 70s' regional policy spree during the second half of the 1990s and recognized the road system's shortcomings and instituted a less idealistic and far more realistic road policy, 30-40 years delayed compared to for instance Denmark and Sweden.

Not only the executive reconsidered the road policy at the turn of the 20th and 21st century. Even some county politicians and Public Roads Administration employees recognized that trunk roads were necessary for development of competitive and viable trade and industry in the peripheral and rural areas. Some county politicians discovered even it could be in their own best interest to increase the neighboring counties' trunk road investments, to reduce their own county's trade and industry's transportation costs.¹³³⁶ Most legislators, county politicians and Chief County Road Officers had until then struggled for maximum appropriations to their

¹³³¹ St. meld. nr. 32 (1995-96) *Om grunnlaget for samferdselspolitikken*:Introduction.

¹³³² St. prp. nr. 44 (1995-96) *Stamvegnettets omfang mm.*

¹³³³ St. meld. nr. 80 (1980-81) *Om Norsk Vegplan 1982-85*:76; St. meld. nr. 34 (1992-93) *Norsk veg- og vegtrafikkplan 1994-97*:161 Tabell 7.1.

¹³³⁴ St. meld. nr. 37 (1996-97) *Norsk veg- og vegtrafikkplan 1998 – 2007*:57.

¹³³⁵ St. meld. nr. 37 (1996-97) *Norsk veg- og vegtrafikkplan 1998-2007*:98 Tabell 7.1, 100-116, 117 Tabell 7.4, 118-125.

¹³³⁶ Westlie (2002 [Interview]).

own constituency or county, almost no matter the consequences for their own trade and industry' transportation costs.

The third institutional change started in 1997 when Stortinget required development of a common plan for roads, railroads, coastal navigation and air traffic infrastructures. The Combined Road Administration became secretariat. *National Transport Plan* (Nasjonal transportplan) replaced *Norwegian Road and Road Traffic Plan*.¹³³⁷ *National Transport Plan 2002-2011* submitted September 29th 2000 by the Stoltenberg executive's minister of transport and communications Terje Moe Gustavsen furthered the road policy shift introduced in *Norwegian Road and Road Traffic Plan 1998-2007*, and emphasized road construction in the most crowded areas.¹³³⁸ Stortinget approved *National Transport Plan 2002-2011* February 15th 2001.¹³³⁹ Similar ideas were furthered in *National Transport Plan 2006-2015* submitted by the second Bondevik executive's minister of transport and communications Torild Skogsholm March 12th 2004.¹³⁴⁰

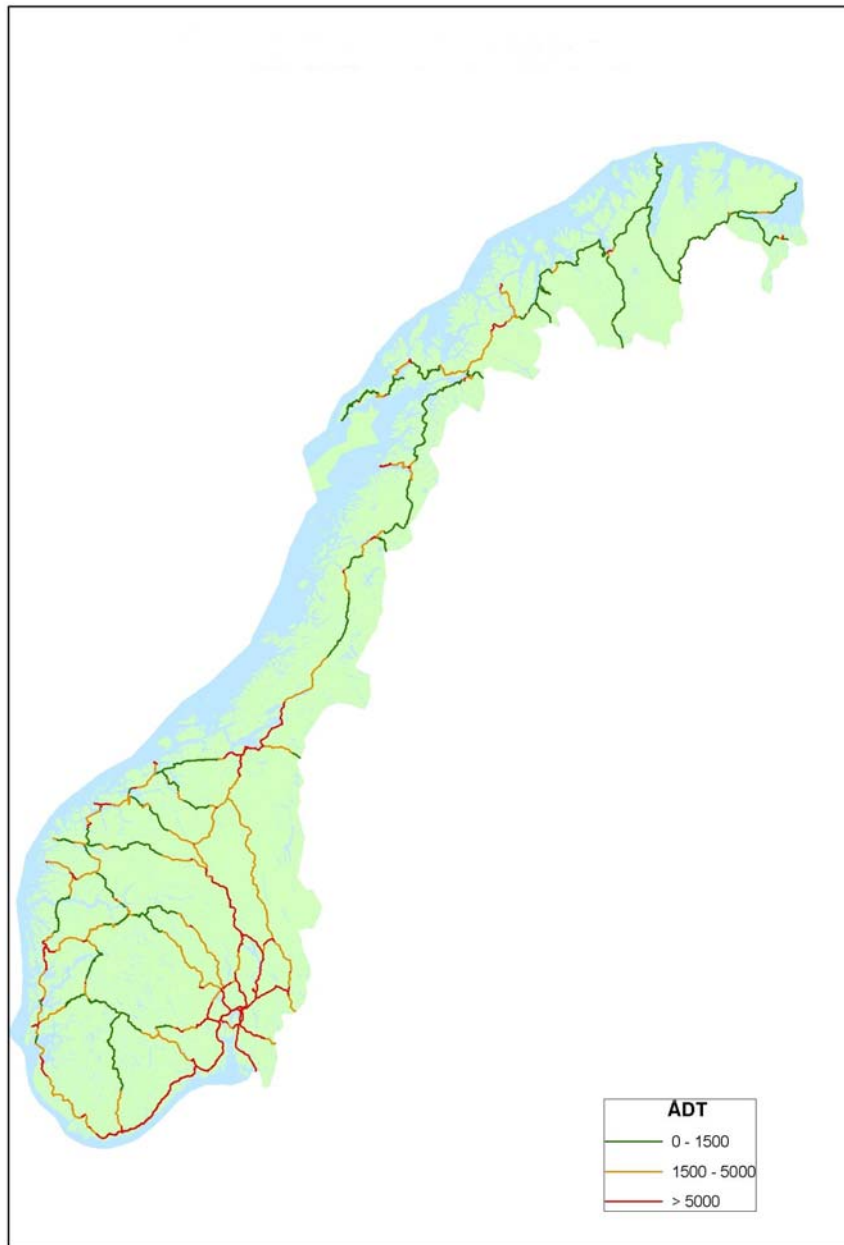
¹³³⁷ *Årsmelding 1998 for Statens vegvesen*, Vegdirektoratet, Oslo 1999:23, VDA; Knut Opeide, "Nå skal vi lage Nasjonal transportplan: - Dette blir travelt". *Vegen og Vi*, Vol. 37, No. 3, 1998:4-5.

¹³³⁸ St. meld. nr. 46 (1999-2000) *Nasjonal Transportplan 2002-2011*.

¹³³⁹ *Stortingstidende* (1999-2000):1989.

¹³⁴⁰ St. meld. nr. 24 (2003-2004) *Nasjonal transportplan 2006-2015*:9-14, 36-41.

Figure 26: Norwegian trunk roads approximately 2005 with average traffic per day.



Source: Directorate of Public Roads, National Road Data Base.

National Transport Plan 2002-2011 can be understood as a turning point similarly as the first *Norwegian Road Plan* approved in 1971, because *National Transport Plan 2002-2011* emphasized coordination between the different means of transport and communications' infrastructure plans, and instituted transport economy as one of its guiding principles and furthered the thinking established through *Norwegian Road and Road Traffic Plan 1990-93* about development of integrated and functional transport systems, but this time on a national level not only in the major population clusters. Coordinated, efficient and sustainable transport systems became an explicit stated goal. The trunk roads were now merged into 8 national "transport corridors", instead of *Norwegian Road and Road Traffic Plan 1998-2007's* 18 trunk road routes. One of *National Transport Plan 2002-2011's* aims was reducing the Norwegian trade and industry's time and distance handicaps, compared to its European competitors, and reduced further the legislators' opportunities to micro manage the road policy. 45 percent of the total road investments 2002-05 were proposed allocated to trunk roads.¹³⁴¹ The legislators maintained the responsibility for the high level governance and financing of the infrastructures, but left implementation and detailed planning to the respective infrastructure administrations' professionals. *National Transport Plan 2002-2011* can thus be understood as the legislators' second attempt of tying themselves to the mast with regard to road policy and road construction, and entrenched many principles introduced by the Holler Commission in 1993 and approved by Stortinget in 1994. *National Transport Plan 2002-2011* was clearly also an attempt of making the Norwegian road policy governance system more similar the Swedish system.

The fourth institutional chance started in January 1998 when Odd Einar Dørum, the first Bondevik executive's Liberal Party minister of transport and communications initiated reclassification and restructuring of the public road system. Dørum's intention was most likely a small State managed trunk road system, such as in Denmark. Odd Einar Dørum tried to hand over the responsibility for the secondary highways and county roads to the counties.¹³⁴² A de facto two-tier road system had almost been established from 1995 because of Kjell Opseth's governance system reform. But the Directorate of Public Roads opposed Dørum's initiative. Two of the arguments were some counties' small size and ailing economy.¹³⁴³ Road Director Olav Sjøfteland and the Directorate of Public Roads defended status quo, most likely to maintain the Combined Road Administration and to safeguard the secondary road system's standard because that was of utmost importance for the trade and industries dependent of road transports.

But Odd Einar Dørum did not deflect, and questioned in September 1998 the Combined Road Administration's purchaser/provider split introduced through the

¹³⁴¹ St. meld. nr. 46 (1999-2000) *Nasjonal transportplan 2002-2011*:69-86, 230 Tabell 14.7, 249 Tabell 14.8.

¹³⁴² Letter from the Ministry of Transport and Communications to the Directorate of Public Roads, "Riksveger", Anders Martin Fon 98/60, January 16th 1998, enclosed a note to the minister "Omklassifisering av riksvegnettet", Samferdselsdepartementet Avdeling for miljø, kollektivtransport og veg, Vegseksjonen, Anders Martin Fon, January 9th 1998. VDA.

¹³⁴³ Letter to the Ministry of Transport and Communications from the Directorate of Public Roads, "Riksveger", Kjell Knudsen/Hilde Nygaard 98/00526-2 711, February 20th 1998. VDA.

1995 reform.¹³⁴⁴ Dørum was also well aware the road investments were insufficient given the road users' demand for roads, and invited those who desired new roads to a "Dutch treat". New roads meant thereafter usually turnpikes. Road Director Olav Sjøfteland understood that Dørum meant business, and claimed in September 1998 the 1995 purchaser/provider split had made the Combined Road Administration too bureaucratic and increased the transaction costs. Sweden had only 7 regional road administrations; Norway had 19 Public Roads Administrations. Several studies questioned the 1995 reform and the purchaser/provider split after Dørum and Sjøfteland's initiatives.¹³⁴⁵ Odd Einar Dørum's January and September 1998 initiatives indicated clearly the 1995 reform had not established a new and stable equilibrium, but rather destabilized the 1893 equilibrium and the Combined Road Administration.

Road Director Olav Sjøfteland signaled in January 2001 his support for regionalization of the Combined Road Administration. He was then aware Jens Stoltenberg's Labor Party executive favored transfer of the Public Roads Administrations to the counties, such as initiated by Odd Einar Dørum. The Stoltenberg executive planned also downsizing the remaining parts of the Combined Road Administration. Sjøfteland pulled the strings to avoid ending up with trunk roads only, such as the Danish Directorate of Public Roads.¹³⁴⁶ The Stoltenberg executive accepted the Ministry of Transport and Communication's deputy undersecretary Knut Rønning's proposal, reorganizing the Combined Road Administration from 19 counties to 5-8 regions transcending the counties and constituencies with 30 local offices, instead of the Ministry of Local Government and Regional Development's proposed transfer of the Public Roads Administrations to the counties.¹³⁴⁷ The Stoltenberg executive would also maintain the production units as a division within the Combined Road Administration, similarly as in the Swedish Road Administration, and ignored thereby Statskonsult's recommendation; to spin out the production units to a State owned Joint Stock Company. Road Director Olav Sjøfteland preferred a division rather than spinning out the production units.¹³⁴⁸

But Jens Stoltenberg lost the 2001 election. Kjell Magne Bondevik's second executive, a coalition between the Christian Peoples', Liberal and Conservative Parties, had other plans than Jens Stoltenberg's former Labor Party executive. The 19 Public Roads Administrations were January 1st 2003 merged in 5 regions transcending the county and constituency borders, similarly as approved by the Stoltenberg executive, but the Liberal Party's minister of transport and

¹³⁴⁴ Ann Karin Midtgaard, "Om konkurransedyktighet, egenproduksjon og framtida". *Vegen og Vi*, Vol. 37, No. 5, 1998:10-11.

¹³⁴⁵ Lisa Sundstrøm, "Vegvesenets framtid: Vegbygging basert på spleiselag med ikke-kvalifisert arbeidskraft og færre vegkontor?". *Vegen og Vi*, Vol. 37, No. 5, 1998:12-13; Steinar Gullvåg, "Dommen over omorganiseringen i 1995: Noen brikker mangler fortsatt". *Vegen og Vi*, Vol. 38, No. 2, 1999:6-7; Steinar Gullvåg, "TØIs dom over Det ny Vegvesenet: - Dette tar vi alvorlig!". *Vegen og Vi*, Vol. 38, No. 2, 1999:8-9. See also Siri Legernes, "Puls på organisasjonen". *Samtaler med 29 medarbeidere i etaten*, Guide Consulting AS, October 1999, VDA

¹³⁴⁶ Sjøfteland (2004 [Interview]).

¹³⁴⁷ Sjøfteland (2004 [Interview]).

¹³⁴⁸ "Blir produksjon statseid selskap?", *Vegen og Vi*, Vol. 40, No. 2, 2001:4-5; "Hvis Stortinget ikke vil noe annet: Produksjon opp en divisjon", *Vegen og Vi*, Vol. 39, No. 6, 2000:4-5; Sjøfteland (2004 [Interview]).

communications Torild Skogsholm located the five regional offices in small towns rather than in the regions' major cities, such as proposed by the Directorate of Public Roads. The Public Roads Administrations' production units that had built and maintained roads in direct competition with private construction companies since the 1995 reform were similarly January 1st 2003 spun out to a new joint stock company, MESTA, owned by the Ministry of Transport and Communications. Only the planners and managers remained in the Directorate of Public Roads. The new regionalized Public Roads Administrations retained also their motor vehicle inspectors.¹³⁴⁹ The Directorate of Public Roads and the new regionalized road administrations bought from January 1st 2003 all construction and maintenance services in the market, similarly as the Danish Directorate of Public Roads.

It was hence the Liberal Party's minister of transport and communications Torild Skogsholm that liquidated the Combined Road Administration established by the Liberal Party in 1893, and punctuated thereby a 110 years old equilibrium. This reform had at least two profound implications. Establishment of regions transcending the county and constituency borders disrupted the traditionally very close ties between the Chief County Road Officers, the county politicians and the legislators, because the new Chief Regional Road Officers interacted with several county councils. This move strengthened the regional Public Roads Administrations as well as the Directorate of Public Roads' professional autonomy towards the county politicians and legislators, and established fundamentally new rules of the game. Spinning out the Directorate of Public Roads and Public Roads Administrations' production units disrupted similarly the traditionally close ties between the Combined Road Administration and the trade unions. The new joint stock construction company MESTA had to compete on equal terms with private construction companies. The result was a fundamentally new road polity from January 2003 and significantly reduced road maintenance costs.

The fifth institutional change started with the 1998 budget compromise between Kjell Magne Bondevik's middle party executive and the Conservative and Progress Parties, and paved the way for introduction of PPP-projects in Norway. The initiator was Oddvard Nilsen from Hordaland, the Conservative Party's leader of the Standing Committee on Transport and Communications.¹³⁵⁰ PPP or Public Private Partnership means outsourcing of planning, financing, construction, maintenance and operations of roads from the Directorate of Roads to private consortiums on long-term contracts. The title to the roads is handed over to the State at the contracts' expiration, because the roads serve as collateral for the PPP-consortiums' loans. The Christian Peoples' Party's minister of transport and communications Jostein Fjærvold ordered studies about PPP-projects which then were popular among

¹³⁴⁹ Statens vegvesens fem regioner [Online March 21st 2004] – URL: http://www.vegvesen.no/1042188916620/vegvesen-Page-SVVsubSideInnholdMal_1043322812622.html; Inger Lise Sagmo, "Aksjeselskap så raskt som mulig", *Vegen og Vi*, Vol. 40, No. 6, 2001:4-5; St.prp. nr. 1 (2001-2002) for budsjetterminen 2002. *Utgiftskapitler: 1300-1380 og 2450. Inntektskapitler: 4300-4380, 5450, 5612, 5618-5619, 5623 og 5671*: Chapter 4.2.2; St.prp. nr. 1 Tillegg nr. 4 (2001-2002) for budsjetterminen 2002 *Om endring av St.prp. nr. 1 om statsbudsjettet medregnet folketrygden 2002*:Chapter 3.4.11.

¹³⁵⁰ B.innst. S. nr. 13 (1998-99) *Innstilling fra samferdselskomiteen om bevilgninger på statsbudsjettet for 1999 vedkommende rammeområde 18, Fiskeridepartementet og Samferdselsdepartementet*: Chapter 2.7.

the EU countries, because they could reduce the budget deficits, one of the obstacles against introduction of EU's common currency.

But budget deficits were definitely not a concern in Norway in 1999, because the Norwegian State operated with significant surpluses. Hardly any could borrow money cheaper on the international capital markets than the Norwegian State, but the Norwegian State could also finance most road projects directly through the budget surpluses because of the oil and gas revenues. The Norwegian arguments for PPP-projects were more efficient accomplishment of the road projects and reduced financial risk for the State, even if few were better equipped to handle financial risks than the Norwegian State at the turn of the 20th and 21st century.¹³⁵¹ PPP-projects passed a new veto point in 2000 when Terje Moe Gustavsen, the Stoltenberg executive's minister of transport and communications traded trials with PPP-projects against a temporary halt in the discussions about privatizing the Public Roads Administrations' production units.¹³⁵² Stortinget's approval of trials with PPP-projects in 2000 was de facto approval of binding long-term road budgets, because the Directorate of Public Roads' PPP-contracts got 25 years period of currency.¹³⁵³ Introduction of PPP-projects made financial engineering almost equally important as more traditional engineering skills in the Directorate of Public Roads.

The Directorate of Public Roads signed the first PPP-contract in April 2003 with Orkdalsvegen AS, a consortium owned 50/50 by Laing Roads Ltd, a British road investment corporation, and Skanska BOT AB (Build Operate Transfer), for construction and operation of E39 in Trøndelag, a section of the so-called coastal trunk road.¹³⁵⁴ PPP-projects had the spring 2004 almost halved the planning and construction period compared to traditional road projects managed by Combined Road Administration. The Directorate of Public Road's annual payments to E39 Orkdalsvegen AS consist of State road appropriations and revenues from the intermunicipal turnpike company Bomvegselskapet E39 Øysand-Thamshavn AS, which is owned and operated independently of the PPP-consortium E39 Orkdalsvegen AS.¹³⁵⁵

How to explain introduction of PPP-projects in the nouveau riche Norway? The Norwegian State did not struggle with budget deficits such as many EU member countries, rather the opposite. PPP-projects are also rather costly compared to traditionally tax financed road projects because PPP-projects mean purchase of roads through installment plans with significant capital costs. But the PPP-projects' time spent on planning and construction seems to be significantly reduced compared to road projects managed by the Public Roads Administrations, particularly if the Public Roads Administration's cash flow is constrained by Stortinget's annual

¹³⁵¹ Knut Opeide, "Nå utredes privatfinansierte veger: A/S E6 & Co?". *Vegen og Vi*, Vol. 38, No. 2, 1999:4-5.

¹³⁵² Steinar Gullvåg, "OPS på prøve". *Vegen og Vi*, Vol. 39, No. 4, 2000:4-5; Knut Opeide, "Nå starter OPS-eventyret", *Vegen og Vi*, Vol. 40, No. 5, 2001:8-9; Billehaug (2004 [Interview]).

¹³⁵³ Bjørvig (2004 [Interview]); Billehaug (2004 [Interview]).

¹³⁵⁴ OPS-prosjekt E39 Klett-Bårdshaug/PPP-project E39 Klett-Bårdshaug [Online May 21st 2004] – URL: http://www.vegvesen.no/vegvesen-SVVartikkel-SVVartNoRelatedRight_1049191705923.html; Orkdalsvegen AS [Online May 21st 2004] – URL: <http://www.orkdalsvegen.no/>.

¹³⁵⁵ Billehaug (2004 [Interview]); Finansiering og bompenger [Online May 21st 2004] - <http://www.orkdalsvegen.no/>; St. meld. nr. 24 (2003-2004) *Nasjonal transportplan 2006-2015*:61-62.

appropriations which in turn delays the construction and the society's utilization of the roads' benefits.

The most likely explanation of introduction of PPP-projects in Norway is Stortinget that has struggled with development of a functional road system since 1851. PPP-projects can be understood as a third attempt from the legislators to tie themselves to the mast to overcome the institutionalized local egoism, protect themselves against special interest groups and safeguard development of a functional trunk road system. PPP-projects are costly, but many legislators reasoned most likely the costs for a dysfunctional trunk road system was far higher. PPP-projects provided also low-risk business opportunities for many actors within the turnpike industrial complex. Some of these had close ties to some political parties. Introduction of PPP projects in Norway was also most likely a result of neo-liberal ideology. The Swedish solution, forced construction of trunk roads and motorways through State loans to Swedish Road Administration amortized through the annual tax financed road appropriations was far more cost efficient for the taxpayers and road users than partly turnpike financed PPP-projects, such as introduced in Norway.

The Norwegian public road system's length increased from 81.818 kilometers in 1981 to 91.919 kilometers in 2003, but the trunk roads and highways' length increased only from 25.282 kilometers in 1981 to 27.132 kilometers in 2003. 21.849 kilometers trunk roads and highways were paved in 1981; 26.554 kilometers were paved in 2000.¹³⁵⁶ Most trunk road and highway investments since 1981 were spent on standard improvements and updates of existing roads to improve the conveyance, road safety and environmental conditions. The road system's width and technical standard increased far more than its length compared to 1960-80, when the road system's length increased far more than its width.

The Norwegian road policy and road polity changed fundamentally between 1985 and 2005. The most important institutional changes were establishment of the New Norwegian System from 1985 that also facilitated establishment of the turnpike industrial complex, because the Norwegian State was not able or willing to provide those roads demanded, and the market actors were more than willing to fill the void created by the State's withdrawal. Substitution of *Norwegian Road Plan* with *Norwegian Road and Road Traffic Plan* in 1989 expanded the Public Roads Administration's horizon from roads to the road transport system. Introduction of the Combined Road Administration's new governance system in 1995 terminated Stortinget's micro management of the road construction since 1851. Introduction of *National Transport Plan* in 2000 improved the coordination between the different transport infrastructures and gave transport economy, road safety and environmental questions a more prominent position. Liquidation of the Combined Road Administration January 1st 2003 through regionalization of the Public Roads Administrations and spinning out the production units to a State owned joint stock company together with approval of the first PPP-contract the spring 2003 completed the transformation from one road policy equilibrium to another. The sum of these reforms and institutional development was a window of opportunity to catch-up

¹³⁵⁶ *Bil- og veistatistikk 2002*, Opplysningsrådet for Veitrafikken, Oslo 2002:64, 67, OVA; *Årsmelding for 2003* [www.vegvesen.no nokkeltall](http://www.vegvesen.no/nokkeltall) 2003:15 [Online January 10th 2005] – URL: <http://www.vegvesen.no>.

Norway's lack of modern trunk roads and motorways between the regions and to the most important export markets.

However, the Ministry of Finance had other plans, and imposed 8 percent discount rate the spring 2003, based on 3,5 percent risk free interest rate and 4,5 percent risk premium for road investments. Norges Bank's key rate was reduced from 6,50 percent December 12th 2002 to 4,00 percent June 26th 2003, and went further down. The Ministry of Finance's increased discount rate for road investments was strongly criticized by leading transport economists such as Professor Arild Hervik.¹³⁵⁷ The Ministry of Finance's move in 2003 had many similarities with imposition of 10 percent discount rate in December 1967 prior to the Road Plan Committee's final spurt. The increased discount rate indicated clearly the Norwegian Ministry of Finance had a very short time horizon concerning infrastructure investments compared to most other countries that usually planned infrastructure investments with 30-50 years time horizon.

The increased discount rate made Norwegian road investments highly unprofitable, compared to similar projects in Germany and Sweden that used 3 percent discount rate, Netherlands that used 4 percent, and Finland and France that used 5 percent. The Danish executive discussed the spring 2003 reducing the discount rate for road investments from 6 to 4 percent. The British executive discussed similarly reducing the discount rate from 6 to 3 percent. But the Norwegian Ministry of Finance reasoned fundamentally different.¹³⁵⁸ However, the Norwegian Ministry of Finance ignored the critique, because *National Transport Plan 2006-2015* submitted March 12th 2004 by minister of transport and communications Torild Skogsholm maintained 8 percent discount rate for road investments – and argued for the risk premium for long-term infrastructure investments – even if Norges Bank the same day reduced its key rate from 2,0 to 1,75 percent.¹³⁵⁹ The Ministry of Finance was still Norway's de facto Ministry of Transport and Communications even after the turn of the 20th and 21st century, despite a fundamentally changed road polity.

The current situation is somewhat paradoxical. Norway was in 2002 OECD's third wealthiest country measured as GDP per capita in current prices PPP USD. Only Luxembourg and USA were wealthier. Norway was barely behind USA.¹³⁶⁰ But the Norwegian trunk road and motorway system in 2005 lagged 30 to 60 years after those in many western industrialized countries. Denmark and Sweden that struggled with serious State economic problems in the 1980s and early 90s borrowed from the international capital markets after the neo-liberal shift to complete their trunk road and motorway infrastructures. The Danish and Swedish motorway systems are currently more or less completed, almost without turnpike financing. The Danish and Swedish executives and legislators reasoned obviously that investments in modern infrastructures were sensible pension savings, because functional trunk roads and motorways safeguarded their trade and industry's future

¹³⁵⁷ Norges Bank's key rate [Online December 30th 2005] – URL: http://www.norges-bank.no/english/monetary_policy/key_rate/; Wormnes (2003a; 2003b).

¹³⁵⁸ Odeck (2003).

¹³⁵⁹ St. meld. nr. 24 (2003-2004) *Nasjonal transportplan 2006-2015*:24-25; Norges Bank's key rate [Online December 30th 2005] – URL: http://www.norges-bank.no/english/monetary_policy/key_rate/.

¹³⁶⁰ *OECD factbook*: Macroeconomic trends: GDP per capita [Online January 9th 2006] – URL: <http://puck.sourceoecd.org/v1=49239/cl=40/nw=1/rpsv/factbook/02-01-01-t02.xls>.

competitiveness and thereby future tax revenues and standard of living. The Norwegian State has since 1990 invested most of its oil fortune abroad, on the international capital markets through the Petroleum Fund. Many of the Petroleum Fund's investments are in State bonds that provide far less return on the investment than construction of modern trunk roads and motorways in mainland Norway. The Norwegian Ministry of Finance question seemingly mainland Norway's future prospects, through investing most of the community's fortune in other countries' trade, industry and infrastructures, as savings for the Norwegians' future pensions. This policy maintains Norway's dependence of raw material, semi finished goods and energy exports.

Conclusions

What about this chapter's findings about the study's four working hypotheses concerning the Norwegian case from 1985 until about 2005? This study's main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was strengthened significantly by the Norwegian case from 1985, because the major population clusters' congestion, accident and environmental problems came on the agenda, due to the early 1980s' road policy debacle. Construction of mainland connections provided similarly ferry free trunk road connections in many coastal areas. Construction of modern trunk roads and even motorways between the regions was firmly established on the agenda from the second half of the 1990s, when the executive questioned and fundamentally reoriented the trunk road policy since 1965. The 1990s' *Norwegian Road and Road Traffic Plans* and from 2001 *National Transport Plan* replaced partly the 1970s and early 80s' universalism or political pork barrel with emphasis on national collective goods.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was clearly weakened by the Norwegian case from the second half of the 1980s, even if establishment of the New Norwegian System took place through a major pork barrel deal linking projects in Oslo and Bergen with projects in Møre and Romsdal. The numerous mainland connections and sub sea road tunnels were clearly contra entries to the 1980s and 90s' urban packages. A statistical test of the road appropriations' allocation 1990-93 did not find significant support for the hypothetical distributional coalitions, but a statistical test of the tax financed State road appropriations' allocation 1960-2000 found significant support for distributional coalitions, hereunder the peripheral and rural areas' distributional coalition's governing of the road investments' allocation. The Combined Road Administration's new governance system established in 1995 reduced the constituencies' resource struggles because Stortinget abandoned its micro management of the road policy. This reform reduced thus the Standing Committee on Transport and Communication's direct influence on road policy details, but increased on the other hand the committee's opportunities to govern the road policy's general direction.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was somewhat weakened by the Norwegian case between 1981 and

about 2005, because the political parties' road policy preferences changed fundamentally 1981-2005. The rightwing parties achieved a far more prominent position from the early 1980s. The neo-liberal shift, rightwing parties and NPM-inspired ideas such as common turnpike financing shifted the road policy in a more trade and industry friendly direction. The middle parties recognized similarly from the second half of the 1980s' the needs for solving the major population clusters' congestion, accident and environmental problems. The pivotal middle parties recognized also the need for construction of modern trunk roads between the regions from the 1990s. Stortinget's conflict level concerning road policy and road construction was significantly reduced from the middle of the 1980s, compared to the 1950s, 60s and 70s, even if turnpikes and road pricing became an issue in the late 1990s because the voters questioned turnpikes. The conflict level between the road and motorist lobby and the railroad and anti-motorist lobby was gradually reduced, because the major political parties recognized the need for functional transport systems for passengers and goods to maintain Norwegian trade and industry's competitiveness and to reduce the environmental problems caused by transport of passengers and goods. The 1990s can thus be understood as a renaissance for many ideas developed during the Labor Party modernists' road policy reformation from approximately 1960 to 1965 that were discarded during the Borten executive's road policy counterreformation.

This study's final working hypothesis about road policy and road construction governed by path dependence was also strengthened by the Norwegian case from 1981 until about 2005. First, the corporative Labor Party State was replaced by the Neo-Liberal State from approximately 1981. The Neo-Liberal State withdrew from many tasks that earlier had been considered as State responsibilities. This regime change paved the way for numerous NPM public sector reforms. The result was often more market and/or a fundamentally different public sector. Second, the New Norwegian System established June 5th 1985 by the Agrarian Party's minister of transport and communications Johan J. Jakobsen weakened the Liberal Party's System for resource allocation, but maintained also the Liberal Party's System through introduction of turnpikes as an extra tax in the most populated areas. The New Norwegian System paved the way for the turnpike industrial complex, because the Neo-Liberal State was not always able or willing to provide the desired trunk roads and highways, but shifted instead the responsibility to counties, municipals and even private actors, even if trunk roads and highways were explicit State responsibilities according to the 1963 Road Act. Local public and private sector actors were able and willing to fill the vacuum created by the State's withdrawal, and utilized this window of opportunity for local initiative and private profits. Third, Stortinget's introduction of a new governance system for the Combined Road Administration in 1995 initiated by the Labor Party's minister of transport and communications Kjell Opseth abolished Stortinget's micro management of the road policy instituted by the 1851 Road Act, and instituted a system where the Directorate of Public Roads' professionals managed trunk roads – national collective goods – centrally, according to the professionals' norms and standards, financed according to the New Norwegian System's economic logic. The new governance system instituted also the county councils and the Public Roads Administrations' local management of other highways – local collective goods – usually financed according to the Liberal Party's System's political logic. The 1995 reform tied partly

the legislators to the mast, because they were forced to concentrate on the major issues and providing necessary financing similarly as in Sweden. The 1995 reform had also many similarities with the road policy regime instituted from 1928 when the Directorate of Public Roads centrally managed the trunk roads. Fourth, introduction of *National Transport Plan* in 2000, a common plan for all transport and communication infrastructures, increased Stortinget’s emphasis on the major issues instead of details and pork barrel deals. Fifth, the Liberal Party’s minister of transport and communication’s Torild Skogsholm’s liquidation of the Combined Road Administration January 1st 2003 punctuated the road policy equilibrium since 1893 through spinning out the construction units to a State owned joint stock company, MESTA, and merging the 19 counties’ Public Roads Administrations to 5 regions transcending the county borders. Sixth, the Directorate of Public Roads’ approval of the first PPP-contract in 2003 established de facto 25 years binding road budgets. PPP-contracts gave increasing returns to the turnpike industrial complex and tied the legislators further to the mast. The net result of the 1985-2003 reforms was a new road polity, a new road policy equilibrium and fundamentally new rules of the game. Finally, something hardly changes. The Ministry of Finance imposed the spring 2003 8 percent discount rates for road investments, and slammed the window of opportunity created by the new road polity and road policy equilibrium. The Ministry of Finance maintained thereby its position as Norway’s de facto Ministry of Transport and Communications. The Ministry of Finance’s difficulties with distinguishing between long-term investments, consumption and the short-term budget balance were almost a textbook example of path dependence established by the so-called Oslo School of Economics after World War Two.

Summary and conclusions

What about this chapter’s findings about the study’s four working hypotheses concerning the Norwegian case? Table 12 provides an overview of the empirical findings from the Norwegian case concerning the study’s four working hypotheses.

Table 12: Empirical findings from the Norwegian case concerning the four working hypotheses.

Period/Hypothesis	Road policy and road construction governed by politicians pursuing the common good	Road policy and road construction governed by the constituencies’ resource struggles	Road policy and road construction governed by the political parties’ rivalry	Road policy and road construction governed by path dependence
Prior to 1945	-/+	+	+	+
1945-1959	-/+	+	+/-	+
1960-1980	+/-	+	+	+
1981-2005	+	+/-	-	+

First, this study’s main hypothesis or benchmark, roads perceived as national collective goods with road policy and road construction governed by politicians pursuing the common good was more weakened than strengthened by the Norwegian case. National concerns and common good concerning road policy were clearly secondary from 1893 until the 1928 reform that made trunk roads the Directorate of Public Roads’ task and gave national concerns and common good more prominent positions. This pattern was upheld until after World War Two when

Stortinget's majority and the counties at the turn of the 1940s and 50s did their best to weaken the 1928 equilibrium through allocation of most road appropriations to local roads in peripheral and rural areas. But the Ministry of Transport and Communications and the Directorate of Public Roads managed to consolidate the road investments to trunk roads during the second half of the 1950s, despite minuscule road appropriations. The Labor Party technocrats' road policy reformation between 1960 and 1965 emphasized particularly construction of trunk roads and even motorways after abolition of the car rationing in October 1960. But the Borten executive's 1965-71 road policy counterreformation reestablished the early 1950s' road policy. Stortinget approved *Norwegian Road Plan* in 1971, which started as a blueprint of *Swedish Road Plan* but materialized as a program for construction of substandard secondary highways to desolate areas. Construction of roads in central and urban areas were omitted, and construction of modern trunk roads between the regions was postponed at least until between 1978 and 1989. The major cities' traffic infarct at the turn of the 1970s and 80s was thus result of a deliberate policy, because local egoism prevailed on the national interests and the common goods' expense. The executive and legislators rediscovered roads with national collective good characteristics from approximately 1985 when Stortinget linked turnpike financed urban packages to mainland connections in coastal areas. The emphasis on construction of roads with national collective good characteristics increased further in the 1990s. The executive and legislators recognized then the dysfunctional trunk road system that harmed the trade and industry's competitiveness, and gave poor road safety in the most crowded areas.

This study's second working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the constituencies' resource struggles was clearly strengthened by the Norwegian case, because Stortinget approved individually each road project with partial State financing after the 1851 Road Act came into power. These rules of the game gave the Standing Committee on Transport and Communications and its predecessors a powerful position, because Stortinget's geographical resource allocation took usually place in the committees, often through pork barrel deals. The Standing Committee on Transport and Communications 1949-2005 was completely dominated by legislators representing the middle and peripheral constituencies, and prioritized usually road projects with local collective good characteristics beneficial for their own constituencies. Most road investments were allocated to sparsely populated middle and peripheral rural constituencies, even if most cars were located in densely populated central and urban constituencies. *Norwegian Road Plan* approved in 1971 and *Norwegian Road Plan for Cities and Villages* approved in 1980 were both textbook examples of universalism or political pork barrel orchestrated by the peripheral and rural areas' distributional coalition, because these plans gave something to almost every constituency but shifted most of the costs to a few constituencies almost excluded from the deals. These plans established many of the premises when the mass motoring had its second break-through in Norway. However, *Norwegian Road Plan* introduced more plan, rationality and predictability compared to the former system dominated by the legislators' pork barrel deals, because road policy was low-politics where most legislators voted geographically rather than according to the party line. The constituencies' influence on the road policy was further reduced in 1995 when the Combined Road Administration's new

governance system came into power, because Stortinget governed through choice between investment strategies rather than individual road projects. The Directorate of Public Roads' professionals governed from then allocation of investments in trunk roads with national collective good characteristics, while the county councils and counties' Public Roads Administrations governed allocation of investments in other highways with local collective good characteristics. The constituencies' power and influence concerning road policy was even further reduced in 2003 when the Combined Road Administration was liquidated and replaced by regional Public Roads Administrations transcending the constituency borders, and similarly through introduction of PPP-projects that established de facto 25 years binding road budgets.

This study's third working hypothesis about roads perceived as local collective or private goods with road policy and road construction governed by the political parties' rivalry was clearly strengthened by the Norwegian case. Establishment of parliamentary rule from 1884 together with formal political parties facilitated Stortinget's allocation of road investments according to party tactical considerations. The interwar years were characterized by protracted struggles between road and railroad proponents. The Labor Party differed somewhat from the Danish and Swedish Social Democratic Parties, because the Labor Party was a national coalition of divergent interests, such as self employed rural small holders and fishermen, industrial workers in the urban areas and the peripheral and rural areas' export enclaves, urban civil servants and public sector employees all across Norway. The parliamentary democracy was suspended 1940-45 because of the German occupation. The traditional view has been the majority Labor Party executives 1945-61 decoupled road, trade and industry policies, among others through the car rationing imposed in 1947, while the non-socialist opposition parties advocated a more active road policy and abolition of the car rationing. But this study found that road and motoring policies were far more contested within the governing Labor Party than what has been taken for granted so far, even if the Labor Party modernists lost the 1950s' power struggles with the anti-motorists, traditionalists and railroad lobby. The Labor Party executive's liquidation of the car rationing in October 1960 was the Labor Party modernists' window of opportunity that paved the way for a road policy reformation between 1960 and 1965 based on transport economic considerations and traffic engineering. But the Borten executive dominated by the middle parties and peripheral and rural interests governing from 1965 until 1971 discarded transport economic and traffic engineering considerations, and instituted a road policy counterreformation. This counterreformation propped up these parties' regional policy. The Labor Party leftwing, anti-motorists, traditionalists, environmentalists and railroad lobby strengthened their position during the 1965-71 opposition. Stortinget; i.e. the peripheral and rural areas' distributional coalition, strengthened also its position within the Labor Party after Trygve Bratteli in 1965 succeeded Einar Gerhardsen as party leader. The 1970s' minority Labor Party executives furthered the Borten executive's road policy counterreformation until 1981 when the modernists regained their power through Gro Harlem Brundtland. The early 1980s' Conservative Party executive shifted the road policy in a somewhat more trade and industry friendly direction. Even the middle parties that became part of the Willoch executive in 1983 recognized the dysfunctional road system. The 1986-1989 and 1990-97 minority Labor Party executives' road policy had many similarities with the Labor Party modernists' 1960-65 road policy reformation. The

1997-2000 and 2001-05 minority non-socialist executives and the 2000-01 minority Labor Party executive largely furthered this policy where transport economy and traffic engineering once again achieved far more prominent positions, 30-60 years delayed compared to Denmark and Sweden.

This study's final working hypothesis about road policy and road construction governed by path dependence was clearly strengthened by the Norwegian case. First, the 1814 Constitution gave the rural constituencies 2/3 of Stortinget's seats. The 1859 Farmer's Paragraph froze Stortinget's geographical seat allocation, and facilitated establishment of the peripheral and rural areas' distributional coalition in Stortinget prior to establishment of formal political parties. The peripheral and rural areas' distributional coalition was upheld by the 1905, 1921, 1953, 1972 election systems, and partly even by the 1985 and 1989 election systems, even if the Farmer's Paragraph was abolished formally prior to the 1953 election. Norway has never had a national election system based on one person – one vote. The election system's malapportionment of middle and peripheral constituencies, and the peripheral and rural areas' distributional coalition were both examples of path dependence, because of increasing returns to the sparsely populated middle and peripheral constituencies' inhabitants. Second, the Norwegian System governed Stortinget's allocation of investments to among others roads from the second half of the 1840s. The Norwegian System safeguarded allocation to efficient projects, because requirements for the constituencies' local co-financing weeded out inefficient projects, but prevented also construction of necessary but costly public goods in those constituencies opposing local taxes. Introduction of parliamentary rule from 1884, establishment of formal political parties and reintroduction of State taxes from 1892 that gave Stortinget increased opportunities for redistribution, and punctuated the former Civil Servant State and the Norwegian System. The Liberal Party State replaced the Civil Servant State. Stortinget's allocation of State road investments was from the 1890s governed by what is here denoted the Liberal Party's System that facilitated party tactical considerations and redistribution rather than economic effectiveness. The Liberal Party's System instituted the central and urban constituencies' cross-subsidization of peripheral and rural constituencies. The German occupation 1940-45 punctuated the Liberal Party State. Reestablishment of the prewar election system in 1945, when the Labor Party or New Civil Servant State replaced the Quisling regime, became a renaissance for the Liberal Party's System and the peripheral and rural areas' distributional coalition despite the Labor Party's majority 1945-61. The Liberal Party's System gave increasing returns to the middle and peripheral constituencies' inhabitants, and was a textbook example of path dependence. Third, the Liberal Party State and The Liberal Party's System facilitated establishment of the Combined Road Administration through the 1893 Road Act Amendment and the 1912 Road Act. The Combined Road Administration instituted local management and partly State financing of most roads. The 1912 Road Act blocked State road appropriations to urban constituencies. Stortinget's 1929 allocation key froze the rural constituencies' share of the annual State road appropriations until 1964 when the 1963 Road Act came into power. The 1963 road Act upheld largely status quo, but made the urban areas partly eligible for State road appropriations but increased also the State financed road system's length 50 percent. Even the Combined Road Administration was an example of path dependence, because of increasing returns to the middle and peripheral constituencies. Fourth, the

Labor Party modernists' road policy reformation between 1960 and 1965 challenged the Liberal Party's System and the Combined Road Administration, but was rebuffed by the Borten executive's road policy counterreformation between 1965 and 1971 that made road policy an instrument for maintaining the dispersed settlement. The road policy counterreformation was partly instituted through *Norwegian Road Plan* approved in 1971 and *Norwegian Road Plan for Cities and Villages* approved in 1980. Fifth, what is here denoted the New Norwegian System was established June 5th 1985, when Stortinget linked turnpike financed trunk road projects in Oslo and Bergen with turnpike financed mainland connections in Møre and Romsdal. The New Norwegian System auctioned de facto road investments to those constituencies most eager to accept turnpikes, almost as the 19th century Norwegian System, but made it possible to circumvent Stortinget's geographical seat allocation that prevented reallocation of road investments to those constituencies with the most serious congestion, accident and environmental problems. The neo-liberal shift, NPM ideas and the non-socialist Willoch executive's abolition of the credit rationing facilitated the New Norwegian System that gave increasing returns to those constituencies with congestion, accident and environmental problems, despite the turnpikes, because the alternative was often far worse. Sixth, the Norwegian State withdrew from many tasks after the neo-liberal shift, among others road construction, because the Ministry of Finance was far more concerned with the short-term budget balance than for instance the long-term consequences of a dysfunctional road system. The New Norwegian System paved the way for what is here denoted the turnpike industrial complex, consisting of local public and private actors able and willing to provide the demanded roads not supplied by the State, given local acceptance of turnpikes. The New Norwegian System created significant business opportunities and increasing returns for the turnpike industrial complex. Seventh, the 1989 election system reform, together with the New Norwegian System, weakened the peripheral and rural areas' distributional coalition, and paved the way for the Combined Road Administration's new governance system in 1995 that distinguished between roads with national collective good characteristics, financed through the New Norwegian System based on an economic logic, and roads with local collective good characteristics, financed through the Liberal Party's System based on a political logic. The 1995 reform terminated also Stortinget's micro management of the road investments' allocation since the 1851 Road Act came into power, and destabilized the equilibrium since establishment of the Combined Road Administration in 1893. The non-socialist executive's 2003 reform established 5 regional instead of 19 county Public Roads Administration and spun out the Directorate of Public Roads and the Public Roads Administrations' construction units to a State owned joint stock company. Approval of the first PPP-contract in 2003 introduced similarly de facto 25 years binding road budgets. The 2003 reforms established a new and stable equilibrium with a fundamentally altered road polity and complete new rules of the game, a window of opportunity to catch-up Norway's lag concerning modern trunk roads between the regions. Finally, the Ministry of Finance had other plans, and imposed 8 percent discount rate for road investments in 2003 when many other countries reduced the discount rate for infrastructure investments. The high discount rates constrained effectively the total road investments, and gave increasing returns to those everybody opposing road investments.

Chapter 5 – Votes count but the number of seats decides

This final chapter's forthcoming sections are all attempts of explaining the puzzles that triggered this study. Why have three wealthy and otherwise seemingly similar countries carried out different road policies and developed very different road systems? And why have Norwegian road policy been contrary to those in most other western, industrialized countries? This study's main findings is that the Danes and Swedes safeguarded a rational road policy, efficient resource allocation and construction of a functional road system through insulating road policy and road construction from the legislators, and partly even from the Ministry of Finance's annual budget constraints. This was definitely not the case in Norway.

The first section examines and compares the empirical findings concerning the main working hypothesis, trunk roads as national collective goods governed by legislators who pursue the common good. The second section examines and compares the findings concerning the hypothesis about roads as local collective or private goods, with road policy and road construction governed by the constituencies' resource struggles. The third section examines and compares the findings concerning the hypothesis about roads as local collective or private goods and road policy, with road policy and road construction governed by the political parties' rivalry. The fourth section examines and compares the finding concerning the final working hypothesis about path dependence as feedback mechanism maintaining the road polity, road policy and road construction until sudden breakdown. The fifth section summarizes the empirical and theoretical findings and discusses why Norway became the deviant case with regard to road policy and road construction. The final section discusses some questions and implications for further research.

Has trunk roads been considered as national collective goods?

This study's primary working hypothesis has been trunk roads perceived as national collective goods, and road policy and road construction governed by legislators who pursue the common good. This section presents and discusses the empirical findings concerning the four research implications deduced in chapter 1 that have been examined through time in the Danish, Swedish and Norwegian cases in chapter 2, 3 and 4. Table 13 provides an overview of the empirical findings concerning the first working hypothesis in Denmark, Sweden and Norway during time.

Table 13: Empirical findings concerning the national collective good hypothesis.

Period/Country	Denmark	Sweden	Norway
Prior to 1945	+/-	-	-/+
1945-1959	+	+	-/+
1960-1980	+	+	+/-
1981-2005	+	+	+

Are there well-developed modern trunk roads all across the country?

Denmark had well-developed modern trunk roads and motorways all across the country in 2005, because the motorway H was completed about 2000. Almost every community in Denmark's peripheral and rural areas was connected to the major population clusters and mainland Europe via modern trunk roads and motorways in 2005. The Danish executive imported ideas about development of a national trunk road system from France in the second half of the 18th century. Rightwing nationalists championed construction of national motorway systems in among others Italy, Germany and Denmark during the interwar years. The Social Democratic Parties in Denmark and Sweden adopted these ideas after World War Two, but hardly so in Norway, except between the late 1950s and 1965. Even Sweden had well-developed modern trunk roads and motorways all across the country in 2005, except some 'missing links' within and near the capital Stockholm, and between Stockholm and Gothenburg and Stockholm and Malmö. Swedish civil servants imported ideas about construction of national transport and communication infrastructures from mainland Europe in the first half of the 19th century. The Swedish executive and legislators considered modern trunk roads as national collective goods after World War Two, similarly as the trunk railroads built by the Swedish State during the second half of the 19th century. Most of Sweden's peripheral and rural communities were linked to the major population clusters and neighboring countries via modern trunk roads and motorways in 2005 similarly as in Denmark.

Norway lagged in 2005 30 to 60 years after most comparable countries with regard to construction of modern trunk road and motorways between the regions and to the export markets. Few Norwegian peripheral and rural areas were connected to the major population clusters or neighboring countries via modern trunk roads and motorways. Norway's peripheral and rural areas remained satellites or desolate islands unlike most such similar areas in Denmark and Sweden. Many major Norwegian population clusters still struggle with congestion, accident and environmental problems. Norwegian trade and industry dependent of road transports struggle with far higher transport costs and longer transports times than Danish and Swedish competitors. Many East European former communist countries have passed wealthy Norway with regards to construction of motorways. An important shift took place in 1994 when the majority of legislators formally recognized that modern trunk roads and motorways were national collective goods. But the entailing catch-up has been very slow because of small road investments given the Norwegian State's financial leverage. The Ministry of Finance's re-imposition of a very high discount rate for road investments in 2003 further delayed this catch-up. Some Norwegian interest groups that lobbied for liquidation of the car rationing and for construction of modern trunk roads in the 1950s established a new lobby campaign for construction of modern trunk roads and motorways prior to the 2005 election.¹³⁶¹ But this new campaign seems to cast its lot with the 1950s and 1960s' campaigns for construction of modern roads.

¹³⁶¹ See the website Veivalg 2005 [Online June 19th 2005] – URL: <http://www.veivalg2005.no>

Both the Danish and Swedish cases provide strong support for John A. Hird and David Soherr-Hadwiger's claims about politicians pursuing the common good, because of these countries' national trunk road and motorway systems.¹³⁶² The Norwegian case does not support the idea about politicians pursuing the common good with regard to road policy and road construction similarly as the Danish and Swedish cases because of far less developed national trunk road and motorway systems.

Have the road appropriations been allocated to efficient projects?

Danish and Swedish executives, legislators and road administrators allocated most road investments to efficient projects from the second half of the 1950s because cost/benefit calculations or other scientific or professional principles for rational utilization of the available resources governed allocation of most road investments. The Swedish executives and legislators considered it almost irrational not to household strictly with the community's common pool of resources.¹³⁶³ State reason seems to have governed the Danish and Swedish executives' road policy and road construction during most of the 20th century.

Norwegian executives and legislators reasoned obviously different, because the road investments were usually allocated to economically inefficient projects until the second half of the 1990s when the executive and majority of Norwegian legislators rediscovered trunk roads as national collective goods. Norwegian legislators have traditionally been far more concerned with political and than economic cost/benefit calculations. The *1947 Trunk Road Plan* approved by Stortinget in 1949 for paving the most crowded trunk roads was never completed. The first edition of *Norwegian Road Plan*, approved by Stortinget in 1971, did not include significant road investments within and near the major population clusters, allocated 86 percent of the road investments to economically inefficient projects and postponed investment in modern trunk roads between the regions and to the export markets at least until between 1978 and 1989.

Most of Denmark and Sweden's modern trunk roads and motorways were built from the major population clusters, radiating from the city hubs towards more sparsely populated areas. This was a logical consequence of allocating the road investments according to cost/benefit calculations. Norwegian highways and trunk roads have generally been built from the sparsely populated areas towards the major population clusters, usually with numerous missing links or substandard sections with regard to capacity, road safety and/or environmental standard. Many missing links were near or within the major cities. This road policy was similarly a logical consequence of Stortinget's explicit rejection of the cost/benefit principle in 1968, ignoring the most profitable projects and prevalence of an almost hostile policy against the major urban areas from the second half of the 1960s until the 1990s. The Norwegian case indicates that road policy and road construction in Norway has been more characterized by pork barrel politics and rent seeking than by concerns for adequate supply of national collective goods.¹³⁶⁴

¹³⁶² Cf. Hird (1991) and Soherr-Hadwiger (1998).

¹³⁶³ See for instance Hultcrantz and Nilsson (2004:15).

¹³⁶⁴ For further discussions about pork barrel politics vs. national collective goods see for instance Shepsle and Weingast (1981); Weingast et. al. (1981); Moe (1984).

Road safety and accident costs were introduced as arguments for construction of motorways in Denmark already in the interwar years. Road safety and accident costs became similarly parameters for Swedish road planning immediately after World War Two. Road safety and accident costs were also parameters in the Germans and the Quisling regime's motorway plans for Oslo and southern Norway developed during the German occupation, but these plans were shelved immediately after the liberation. Danish and Swedish road engineers imported and utilized US ideas about traffic engineering immediately after World War Two, and Danish and Swedish executives and legislators endorsed this knowledge's road political implications almost immediately. Norwegian road engineers attempted also to import US ideas about traffic engineering in the 1950s, but many Norwegian legislators and even some executives opposed this knowledge's road political implications except 1960-65, when road safety and accident costs temporarily reemerged as road planning parameters and materialized in the *1962 Motorway Plan*. Håkon Kyllingmark, the Conservative Party's minister of transport and communications 1965-71, promised in 1966 construction of expressways rather than more costly motorways. Norwegian executives and legislators substituted construction of safe motorways in the most crowded areas with police controls from the second half of the 1960s. The Labor Party's minister of transport and communications 1973-76 Annemarie Lorentzen abandoned further construction of motorways. Substantial measures for improved road safety and reduced accident costs on Norway's most crowded trunk roads did not reemerge until the second half of the 1980s and in the 1990s. Ideas from traffic engineering that had been common knowledge among road engineers in most countries since the interwar years was first commonly accepted by Norwegian executives and the majority of the legislators in the second half of the 1990s. Symbol policy was obviously cheaper than substantial policy, at least in the short run.

Have the legislators perceived road policy and road construction in variable sum terms?

Most Danish and Swedish legislators understood that well developed trunk roads and motorways all across the countries made everybody better off in the long run given political approval of mass motoring. Road policy and road construction became also tightly intertwined with Danish and Swedish postwar trade, industry and economic policies. The Danish and Swedish Social Democratic postwar executives and legislators understood also that modern trunk roads and motorways would increase the size of pie, because spillovers such as the trade and industry's improved effectiveness and competitiveness would facilitate future redistribution to their core voters. Danish and Swedish legislators perceived thus usually road policy and construction of modern trunk roads and motorways in variable sum terms after World War Two.

Norwegian legislators perceived usually road policy and construction of trunk roads in zero sum terms. The new Labor Party executive that came to power after the liberation in 1945 emphasized forced modernization through politically governed investments in hydroelectric power plants and in the export enclaves' smokestack industries, rather than further development of mainland Norway's traditional trade and industries dependent of road transports. These moves decoupled

road policy and road construction from Norwegian trade, industry and economic policies, and made road policy and road construction a part of the regional policy. This is the traditional perception of the postwar period. However, this study uncovered fundamental internal disagreements between 1955 and 1965 between the Labor Party modernists that advocated construction of modern trunk roads between the regions, and the Labor Party traditionalists and railroad lobby that opposed construction modern trunk roads. The small Norwegian postwar road investments, given the voters' demand for roads, led to fierce resource struggles among the legislators and constituencies, and entrenched the idea about road policy and construction of trunk roads as a zero sum game. Many Norwegian legislators in the 1960s and 1970s reasoned that construction of modern trunk roads and motorways in some constituencies would leave other constituencies behind. Modern trunk roads and motorways challenged thus many legislators' norm about equality. Many Norwegian legislators reasoned thus completely opposite their Danish and Swedish colleagues who often perceived construction of modern trunk roads and motorways in variable sum terms.

Has the road policy been stable and predictable despite the legislature's changing political balance?

The Danish road policy and road construction has been very stable, predictable and consistent since the second half of the 18th century. Folketinget's changing majorities since 1953 has not affected the road policy's direction. Swedish road policy and road construction has similarly been very stable, predictable and consistent since the 1950s, despite Riksdagen's changing majorities after the 1976 election. The only exceptions in Denmark and Sweden were some deviations during the second half of the 1970s and early 1980s because of the State economic problems entailing the oil price shocks OPEC 1 and OPEC 2.

Norwegian road policy and road construction has undergone several shifts prior to and after World War Two, but has still been consistent and predictable, because roads with local collective or private goods characteristics have generally prevailed instead of roads with national collective goods characteristics. However, few Norwegian road policy shifts have been results of Stortinget's changing majorities, except 1965-71, but were first and foremost results of the Labor Party's flip-flops.

The 1935-40 prewar Labor Party executive started to modernize some of the 19th century trunk roads built for horse and cart. This policy was furthered by the civil servant rule, the commissarian minister rule and the Quisling regime under the German occupation. The new Labor Party majority executive that came to power after the liberation in 1945 reduced the road investments to a minimum until the second half of the 1950s, and imposed car rationing in 1947, which was upheld until October 1960, most likely of intraparty reasons. But the number of cars grew rapidly from the second half of the 1950s despite the car rationing. The Ministry of Transport and Communications championed a road policy governed by the Directorate of Public Roads' professionals' norms and standards, but Stortinget's majority, the County Road Boards and the Public Roads Administrations dispersed the road appropriations to hundreds of construction sites on local roads in the peripheral and rural constituencies in the second half of the 1940s and first half of

the 1950s. The Ministry of Transport and Communications and the Directorate of Public Roads managed to consolidate the road investments in the second half of the 1950s. Most road investments were then allocated to trunk roads, but the road appropriations were only a fraction of those demanded by the voters. This policy was furthered between 1960 and 1965 after abolition of the car rationing. The road investments were then significantly increased, and the Labor Party minority executives after the 1961 election did their best to emulate the contemporary Danish and Swedish road policies. The Labor Party modernists had partly the upper hand towards the traditionalists and railroad lobby between 1960 and 1965 and abandoned its anti-motoring policy established after World War Two. The non-socialist majority executive that governed between 1965 and 1971 reintroduced the road policy from the second half of the 1940s and early 1950s emphasizing construction of local roads in peripheral and rural areas. The Labor Party returned partly to its postwar anti motoring policy, when it regained the power 1971-72 and after the 1973 election. The Labor Party executives that governed from 1986 and later reestablished partly the road policy introduced between 1960 and 1965 when the professionals' norms and standards partly governed the road policy and road construction. Kjell Opseth, the Labor Party's very powerful minister of transport and communications 1990-96, championed construction of modern trunk roads in peripheral and rural as well in central and urban areas. Kjell Opseth understood that modern trunk roads and even motorways were necessary to maintain competitive and viable trade and industries, to safeguard employment and added value all across Norway, and not only in the export enclaves and within the oil industry that had become part of the export enclaves since the neo-liberal shift.

Denmark joined EC in 1973. Sweden joined EU in 1995. The Norwegian voters rejected membership in EC in the 1972 referendum and similarly membership in EU in the 1994 referendum. Denmark and Sweden underwent significant State economic problems prior to and after the neo-liberal shift. But the Danish and Swedish executives and legislators prioritized further investments in national collective goods such as the most economically important trunk roads and motorways instead of publicly financed private goods, to overcome the 1980s and 90s' economic crisis. The Danish and later also the Swedish road policies have been harmonized with EU's road and infrastructure policies that emphasize removal of bottlenecks. Norway is largely disconnected from EU's efforts for improving the European transport and communication infrastructures, where construction of modern trunk roads and railroads has prominent positions.

Norway became a wealthy oil producer after the neo-liberal shift, and experienced never anything like Denmark and Sweden's State economic problems, despite some reasons for concerns at the turn of the 1970s and 80s because of increasing State debt combined with low oil prices. But the Norwegian executives and legislators did not utilize the State's new financial leverage throughout the 1980s and 90s to catch up the lag concerning modern trunk roads and motorways and to improve mainland Norway's effectiveness and competitiveness. Redistribution was obviously more important for the executives and legislators than facilitating future added value, because they prioritized new publicly financed private goods and cash transfers to pivotal voter groups rather than investments in national collective goods such as modern trunk roads and motorways. Norway's surplus oil and gas revenues were from 1990 allocated to the Petroleum Fund's

portfolio investments on the international capital markets as savings for future pensions. This policy made the Norwegians Europe’s rentiers after the turn of the 20th and 21st century, almost like the Saudis and Kuwaitis, but less modern land based transport and communication infrastructures such as trunk roads, motorways, high-speed railroads and gas pipelines to the remaining heavy industries.

Roads as local collective or private goods and road policy and road construction governed by the constituencies’ resource struggles?

This study’ second working hypothesis is roads perceived as local collective or private goods, and the road policy and road construction governed by the constituencies’ resource struggles. This section presents and discusses the empirical findings concerning the five research implications deduced in chapter 1 that have been examined through time in the Danish, Swedish and Norwegian cases in chapter 2, 3 and 4. Table 14 provides an overview of the empirical findings concerning the second working hypothesis in Denmark, Sweden and Norway during time.

Table 14: Empirical findings concerning the constituencies’ resource struggle hypothesis.

Period/Country	Denmark	Sweden	Norway
Prior to 1945	+	-	+
1945-1959	-	-	+
1960-1980	-/+	-	+
1981-2005	+	-	+/-

Excellent roads in those constituencies participating in the distributional coalitions and congestion, accidents and environmental problems, and/or turnpikes in those constituencies omitted from the distributional coalitions?

Most constituencies participating in Rigsdagen’s distributional coalition had excellent highways and local roads already prior to World War Two, because 5/6 of the Danish Road Fund’s reimbursements were dedicated to roads in rural constituencies. Most cars were then located in urban constituencies, but the peripheral and rural constituencies controlled Rigsdagen’ sanctioning body, Landstinget.¹³⁶⁵

The Danish allocation of road investments changed slowly after introduction of the unicameral system in 1953, because the 1953 Constitution introduced a new election system based on one person – one vote that soon weakened Denmark’s peripheral and rural areas’ distributional coalition.¹³⁶⁶ The Danish case prior to 1953 strengthens thus Mancur Olson’s ideas about distributional coalitions, particularly geographical distributional coalitions.¹³⁶⁷ But Folketinget’s legislators became first directly involved in road policy and construction of motorways in 1972. Roads considered as local collective or private goods remained the counties and

¹³⁶⁵ See the Data Appendix’ Table 2.6 and 2.9.

¹³⁶⁶ See the Data Appendix’ table 2.5, 2.7 and 2.8.

¹³⁶⁷ Cf. Olson (1965/71; 1982).

municipals' responsibility and had to be financed locally after the 1972 abolition of the Road Fund. The Danish case prior to 1972 indicated also universalism or political pork barrel, such as discussed by among others Rick K. Wilson and Melissa P. Collie, where some constituencies were excluded from the deals.¹³⁶⁸ Denmark developed a balanced road system all across the country throughout the 1960s and 70s, even if the crowded Copenhagen area still struggles with some congestion problems, but never anything near those within and near the major Norwegian cities throughout the 1960s, 70s, 80s and 90s. Danish executives and legislators emphasized early development of attractive and competitive public transports within and near the major population clusters.

The Swedish public roads were the municipals' responsibility 1895-1943. Sweden's bicameral system safeguarded development of a balanced road system all across the country after the State became responsible for management of most public roads in 1944, because common suffrage and the bicameral system effectively disarmed many of Riksdagen's geographical distributional coalitions. The indirectly elected First Chamber representing the County and Municipal Councils, and the directly elected Second Chamber representing the constituencies, had to agree about investment and budget matters, and this arrangement checked most local egoists. The bicameral Riksdagen's election system was largely based on the principle one person – one vote after introduction of common suffrage in 1921, despite the indirectly elected First Chamber.¹³⁶⁹ The bicameral system's legislators were usually not directly engaged in road political details, such as the members of Stortinget, but delegated instead responsibility for policy design and implementation to the executive, which in turn delegated the tasks further to the Road and Water Construction Administration and later to Swedish National Road Administration. The bicameral Riksdagen's standing committees were organized according to the constitutional principle, usually responsible for several policy areas and emphasized goals and principles rather than details. Stortinget's Standing Committee on Transport and Communications micromanaged the road policy until 1971, and maintained its interest for details rather than goals and principles until 1994. The Swedish bicameral system weakened thus Mancur Olson's idea about distributional coalitions, at least geographical distributional coalitions.¹³⁷⁰

Introduction of Sweden's unicameral system after the 1970 election, hereunder a new election system based on the principle one person – one vote with a highly proportional seat allocation, increased Riksdagen's geographical distributional coalitions' influence on the road policy and road construction significantly, because the bicameral system's requirement for agreement between the two chambers was abolished. But Sweden's most economically and industrially important road investments were then accomplished. Riksdagen's new Traffic Committee worked almost as Stortinget's Standing Committee on Transport and Communications, but the Traffic Committee reflected Riksdagen's geographical balance.¹³⁷¹ But Riksdagen's Traffic Committee furthered the established tradition with road policy

¹³⁶⁸ Cf. Wilson (1986); Collie (1988).

¹³⁶⁹ See the Data Appendix' table 3.5 and 3.6.

¹³⁷⁰ Cf. Olson (1965/71; 1982).

¹³⁷¹ See the Data Appendix' table 3.8-3.10 and 3.17-3.27.

as national rather than local matters.¹³⁷² Sweden's crowded middle constituencies dominated Riksdagen, similarly as the Norwegian middle constituencies dominated Stortinget, and dominated also Riksdagen's Traffic Committee. The Swedish road investments were still allocated to crowded areas, even if the major cities' road investments were reduced somewhat after introduction of the unicameral system and establishment of the Traffic Committee. The executives and legislators' eagerness to centralize Sweden became also significantly reduced after introduction of the unicameral system. But introduction of the unicameral Riksdagen did not alter the Swedish road policy fundamentally such as after Denmark's introduction of its unicameral system.

Table 15: Aggregated geographical and political representation in Riksdagen's Traffic Committee 1971-2006 and Sweden's relative geographical settlement in 2000.

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum	%	Relative settlement in 2000 (%)
Central	18	11	10	39	22,5	32,7
Middle	32	25	24	81	46,8	46,1
Peripheral	37	13	3	53	30,7	21,2
Sum	87	49	37	173	100	100
%	50,3	28,3	21,4	100		

Sources: Data derived from the Data Appendix' Table 3.4, 3.17-3.27.

Table 15 provides an overview of the aggregated representation in Riksdagen's Traffic Committee 1971-2006 and Sweden's relative geographical settlement in 2000. The central constituencies have clearly been strongly underrepresented given the settlement structure. The peripheral constituencies have similarly been strongly overrepresented. The middle constituencies have dominated the committee. But Sweden's central constituencies has not been particularly poorly treated with regard to road investments compared to for instance the central Norwegian constituencies, despite weak representation in Riksdagen's Traffic Committee. The Traffic Committee cannot have been crucial for allocation of the road investments such as in Norway. The geographical distributional coalition hypothesis is thus weakened in the Swedish case even after introduction of the unicameral system. There must be other mechanisms or institutions that have safeguarded the major Swedish urban areas' road appropriations than representation in the Traffic Committee. The Swedish case after introduction of the unicameral system weakened thus Mancur Olson's idea about distributional coalitions, at least geographical distributional coalitions.¹³⁷³ Mancur Olson claimed distributional coalitions are mainly negative, because they lead to rigidity and prevent policy and institutional adjustments.¹³⁷⁴ But Mancur Olson was clearly wrong with regard to Swedish road policy and road construction, because Sweden had political rather than geographical distributional coalitions, even if they affected the road policy somewhat different than for instance the Norwegian distributional coalitions. Mancur Olson was hence wrong that distributional coalitions are negative only. They may actually safeguard rational and efficient policies, such as in the Swedish

¹³⁷² Cf. Wockelberg (2004).

¹³⁷³ Cf. Olson (1965/71; 1982).

¹³⁷⁴ Olson (1982).

case with regard to road policy and road construction. Because the Swedish case did not support the idea about universalism or political pork barrel, such as discussed by among others Rick K. Wilson and Melissa P. Collie, because there were not established broad deals that excluded some constituencies and included others, such as for instance in Denmark under the bicameral system or in Norway in the 1960s and 1970s.¹³⁷⁵

Table 16: Aggregated geographical and political representation in Stortinget's Standing Road and Railroad Committee 1946-1949 and the Standing Committee on Transport and Communications 1950-2005, and Norway's relative geographical settlement in 2000.

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum	%	Relative settlement in 2000 (%)
Central	17	1	16	34	16,7	37,3
Middle	45	28	15	88	43,3	38,8
Peripheral	39	23	19	81	39,9	23,9
Sum	101	52	50	203	100	100
%	49,8	25,6	24,6	100		

Sources: Data derived from the Data Appendix' Table 4.4, 4.10-4.24.

Table 16 provides an overview of the aggregated representation in Stortinget's Standing Road and Railroad Committee 1946-1949, the Standing Committee on Transport and Communications 1950-2005 and Norway's relative geographical settlement in 2000. The peripheral constituencies have been strongly over represented, and the central constituencies have similarly been strongly underrepresented. But the Norwegian allocation of the road investments has largely reflected the representation in the Standing Road and Railroad Committee or the Standing Committee on Transport and Communications. The Norwegian case strengthens thus the constituencies' resource struggle hypothesis because of the strong correlation between representation in the committees and the actual allocation of the road investments. Norway is a textbook example of excellent roads in those constituencies taking part in the legislature's distributional coalitions, and congestion, accident and environmental problems and/or turnpikes in those constituencies omitted from the legislature's distributional coalitions, and indicate clearly establishment of universalism or political pork barrel such as discussed by among others Rick K. Wilson and Melissa P. Collie.¹³⁷⁶ Some constituencies have often been excluded from the deals, but the coalitions are usually larger than MWC or MNCs. The Norwegian legislators' priority of local collective or private goods such as highways and local roads in sparsely populated constituencies rather than national collective goods such as modern trunk roads and motorways were particularly pronounced 1945-57 and 1965-85. *Norwegian Road Plan* approved in 1971 and *Norwegian Road Plan for Cities and Villages* approved in 1980 can thus both be understood as textbook examples of universalism or political pork barrel with far reaching implications for future road policy and road construction. Many Norwegian roads with local collective or private goods characteristics were also textbook examples of pork barrel politics and rent seeking. One of the most

¹³⁷⁵ Cf. Wilson (1986); Collie (1988).

¹³⁷⁶ Cf. Wilson (1986); Collie (1988).

prominent examples is FATIMA, the sub sea road tunnel to Magerøya and North Cape.

Congestion and traffic leaks to the residential areas at the turn of the 1970s and 80s paralyzed Norway's major population clusters, because few or any modern trunk roads and motorways drained through traffic from the city hubs and residential areas, or bypassed the city hubs. Norway's road policy failure was a fact. The contemporary Danish and Swedish population clusters had then well-developed trunk roads and motorway systems that drained through traffic from the city hubs and residential areas, and/or trunk roads and motorways that bypassed the city hubs and residential areas. The major Danish and Swedish population clusters had also usually attractive and competitive public transports.

Stortinget remedied Norway's road policy failure through imposition of common turnpike financing in 1985, rather than through fundamental reallocations of the annual tax financed road appropriations, because that would have reduced the sparsely populated peripheral and middle constituencies' road investments. Fundamental reallocations were also a political impossibility given Stortinget's seat allocation and geographical balance of power. A turnpike ring encircled from 1986 Norway's second largest city Bergen. Oslo was similarly encircled in 1990. Norway's third major city, Trondheim, was encircled in 1991. The motorists in Tromsø had to pay an extra local fuel tax instead of a turnpike ring. Turnpike rings later encircled also Stavanger, Kristiansand, Namsos and Tønsberg. The Norwegian case strengthened clearly Mancur Olson's idea about distributional coalitions, particularly geographical distributional coalitions working across the party lines.¹³⁷⁷

Norway's road and transport policy failure was largely a result of national election systems that never have been based on one person – one vote.¹³⁷⁸ These election systems gave significant malapportionment of peripheral and sparsely populated middle constituencies. Legislators representing the peripheral and middle constituencies were usually part of the peripheral and rural areas' distributional coalition, and dominated the Standing Committee on Transport and Communications and its preceding committees that governed allocation of the road appropriations at least until 1994.¹³⁷⁹ These committees divided the spoils, and the Norwegian road polity and election system facilitated thus some constituencies' rent seeking.

Significant variations in the constituencies' tax prices for roads?

The Danish constituencies' tax price for roads varied significantly under the bicameral system, but became more equal after introduction of the unicameral system because Folketinget's middle and central constituencies' number of seats balanced the peripheral constituencies number of seats.¹³⁸⁰ The election system was thus decisive for the Danish constituencies' tax prices for roads. The Swedish constituencies' tax prices for roads became more equal after the State takeover, despite significant variations prior to 1944 because of the municipals' varying

¹³⁷⁷ Cf. Olson (1965/71; 1982).

¹³⁷⁸ See the Data Appendix' table 4.5-4.7.

¹³⁷⁹ See the Data Appendix' table 4.10-4.24.

¹³⁸⁰ See the Data Appendix' table 2.1-2.4 and 2.5-2.9.

willingness to impose local road taxes to finance investments in the road infrastructure.

The Norwegian constituencies' tax prices for roads have always varied significantly, with far higher tax prices for roads in the most populated constituencies than in sparsely populated constituencies. There were almost inverse relations between payments of vehicle, fuel taxes and turnpike fees and Stortinget's geographical allocation of road investments since the turn of the 19th and 20th century. The 1912 and 1963 Road Acts instituted different tax prices for roads. Central and urban constituencies faced usually far higher tax prices than peripheral and sparsely populated middle constituencies. Stortinget's approval of *Norwegian Road Plan* in 1971 and *Norwegian Road Plan for Cities and Villages* in 1980 can similarly as mentioned earlier be understood as textbook examples of universalism or political pork barrel, because even these national road plans instituted highly varying tax prices for roads in the different constituencies, and furthered the established cross subsidization. Stortinget's introduction of common turnpike financing in 1985 did not alter these political and economical fundamentals, because the most costly turnpike projects were located in the crowded and urban constituencies. The Oslo-area's motorists pay currently about 1/3-1/2 of the annual Norwegian turnpike revenues. The significant Norwegian vehicle and fuel taxes were upheld after introduction of common turnpike financing. The constituencies' varying tax price for roads reflected clearly Stortinget's geographical seat allocation, and which constituencies that have been represented in Stortinget's Standing Committee on Transport and Communications at least until the second half of the 1990s.¹³⁸¹ The road polity and election system governed thus clearly even the Norwegian constituencies' tax prices for roads. This is clearly evident after comparison with Denmark and Sweden, because the Danish constituencies' tax price for roads changed gradually after introduction of the unicameral system in 1953. The Swedish constituencies' tax prices for roads changed after the State's takeover of the responsibility for most public roads in 1944, when the executive desired uniform supply of roads all across Sweden, with a road system differentiated according to the road traffic and the desired road safety. Even these observations about the roads' tax price indicate support of the ideas about universalism or political pork barrel in Denmark prior to 1972, and in Norway most of the time, but not in Sweden.¹³⁸² The significant differences in the Norwegian constituencies' tax prices for roads indicate establishment of MWCs, such as discussed by among others William H. Riker, Steven J. Brahms, David P. Baron, Barry R. Weingast and John A. Ferejohn or MNCs discussed by Clifford J. Carruba and Craig Volden.¹³⁸³ The Danish case later than 1953 and the Swedish case do not provide similar support to establishment of MWCs or MNCs in the legislatures because of more equal tax price for roads in the different constituencies than in Norway. However, Stortinget's reliance on open rules rather than closed rules may indicate the constituencies' different tax prices for roads are more result of universalism or political pork barrel

¹³⁸¹ See the Data Appendix' table 4.2-4.7 and 4.10-4.24.

¹³⁸² Cf. Wilson (1986); Collie (1988). See also Weingast (1979).

¹³⁸³ Cf. Riker (1962); Baron (1991); Riker and Brahms (1973); Weingast (1979); Baron and Ferejohn (1989); Carruba and Volden (2000).

than MWCs according to David P. Baron and John A. Ferejohn.¹³⁸⁴ But these differences have to be investigated further through use of formal models rather than by case studies.

Alessandro Lizzeri and Nicola Persico claimed proportional election systems split the spoils among the legislators according to their share of the votes, while winner-take-all systems concentrate the spoils of office to the winners.¹³⁸⁵ Norway, Denmark and Sweden have all proportional election systems, but Norway had, judged by the constituencies' tax price for roads, many similarities with a winner-take-all system, compared to Denmark and Sweden which have far more equal tax prices for roads. This difference is most likely explained by the Norwegian election system's malapportionment, because the election system is decisive for the legislature's geographical resource allocation. The strategic test for this claim is Denmark's introduction of a new election system in 1953. Denmark's new election system based on one person – one vote gave soon a fundamentally different resource allocation with regard to road policy and road construction.

More pronounced geographical distributional conflicts in Norway than in Denmark and Sweden?

The political scientists Henry Valen, Hanne Marte Narud and Olafur Hardarson claimed that Denmark and Sweden had few territorial conflicts while Norway had more pronounced territorial conflicts between center and periphery, because Norway was a new nation state while Denmark and Sweden were old and established nation states.¹³⁸⁶ There are reasons to question Valen, Narud and Hardarson's interpretations of their empirical findings, because they explained the geographical conflicts through nation building theories. Valen, Narud and Hardarson found institutional differences in Denmark, Sweden and Norway, but explained these differences as a result of the nation states' age. Why not explain territorial conflicts as a result of the resource allocation, and entailing resource struggles, caused by the institutional arrangements, rather than result of the nation states' age?

Denmark, which was an old and well-established unitary state, had a very unfair geographical allocation of road investments under the bicameral system. Introduction of the unicameral system in 1953 with an election system based on one person – one vote led soon to a more just allocation of among others road investments.¹³⁸⁷ The 1953 Constitution weakened thus Denmark's peripheral and rural areas' distributional coalition; made Danish road policy less contested and reduced thereby some of Denmark's geographical distributional conflicts.

Even the Swedes established a fairly reasonably geographical resource allocation after the State became responsible for management of most public roads in 1944. Sweden experienced few distributional conflicts between the constituencies about the road investments' allocation, because of the bicameral system's requirement about agreements between the First and Second Chamber concerning investment and budget matters. Introduction of common suffrage in 1921 to Riksdagen's Second Chamber and in local elections gave the constituencies a fairly

¹³⁸⁴ Cf. Baron and Ferejohn (1989).

¹³⁸⁵ Lizzeri and Persico (2001:226 ff.).

¹³⁸⁶ Valen et al. (1998:62-64, 86-87).

¹³⁸⁷ See the Data Appendix' Table 2.1-2.4 and 2.5-2.9.

equal number of inhabitants per seat in Riksdagen, and reduced the geographical distributional conflicts in Sweden.¹³⁸⁸ These principles, hereunder an election system based on one person – one vote, were furthered under the unicameral system established after the 1970 election.

Norway's national election systems have always had a high degree of malapportionment, and usually favored the peripheral and sparsely populated middle constituencies on the more populated central and middle constituencies' expense.¹³⁸⁹ No other Scandinavian country has experienced more distributional conflicts concerning allocation of road investments and other publicly financed goods than Norway. Not only because of the election system, but because Norwegian legislators have been far more directly involved in road policy than their legislator colleagues in Denmark and Sweden.

A majority exploiting a large minority or a minority exploiting a majority seems thus to be a stronger explanation of geographical distributional conflicts than the nation state's age, such as claimed by Valen, Narud and Hardarson. Norway has still very poor match between how much each constituency contributes economically to the community and how much publicly financed goods each constituency receives from the community, compared to Denmark and Sweden which have different balances between the constituencies' contributions to the community and allocation of publicly financed investments. The election systems' degree of malapportionment and the legislature's geographical seat allocation largely explain the geographical conflicts or absence of such in Denmark, Sweden and Norway, not the nation State's age, such as claimed by Valen, Narud and Hardarson.

Do the legislators perceive the road investments' budget constraints and geographical allocation in zero-sum terms?

Danish legislators were not directly involved in road policy and road construction until 1972, but affected the road policy and road construction indirectly through the Road Fund's allocation key. The Danish legislators perceived partly the resource allocation in zero sum terms under the bicameral system, but the budget constraints for road investments were determined by the motorists' payments of vehicle and fuel taxes since 1927, and kept largely the road investments' budget constraints outside Riksdagen and Folketinget until 1972. The linking of the road investments to the motorists' annual payments of vehicle and fuel taxes was slightly adjusted at the turn of the 1950s and 60s, to facilitate increased and forced road investments because of the rapidly increasing number of cars. The minister of public works governed the Road Fund's reimbursements and negotiated with the counties and municipalities. Road considered local collective or private goods remained the Danish counties and municipalities' responsibility even after 1972.

Neither the Swedish legislators were directly involved in road policy and road construction until introduction of the unicameral system after the 1970 election. Parts of the Swedish road appropriations were linked to the motorists' payments of vehicle and fuel taxes similarly as in Denmark until 1980, and thus partly decoupled

¹³⁸⁸ See the Data Appendix' table 3.1-3.4 and 3.5-3.10.

¹³⁸⁹ See the Data Appendix' table 4.1-4.4 and 4.5-4.7.

from Riksdagen's budget processes. The Swedish executive's doubling of the vehicle taxes in 1951 led to significantly increased budget constraints for the Road and Water Construction Administration from 1952. The Swedish legislators perceived usually the road investments' budget constraints and allocation in variable sum terms until introduction of the unicameral system.

Most Norwegian legislators have perceived road policy, road construction, and the budget constraints and resource allocation in zero sum terms since the second half of the 19th century. The postwar Labor Party executive's decoupling of road policy and road construction from the trade and industry policy, and the Ministry of Finance's decoupling of the motorists' annual payments of vehicle and fuel taxes from the road investments' budget constraints in the late 1940s and in the 1950s, maintained roads as the legislators' bargaining chips. Roads with local collective or private good characteristics became soon goodies the legislators could hand out to their constituencies to safeguard reelection. A statistical test of the variations in Norwegian highway and trunk road appropriations' geographical allocation 1960-2000 was not able to refute the hypothesis that many Norwegian legislators have perceived the road investments' budget constraints and geographical allocation in zero sum terms.¹³⁹⁰

Tight budget constraints for road investments?

The Danish and Swedish budget constraints for roads that were local collective or private goods were usually more generous than the similar Norwegian budget constraints, even if most Norwegian road investments went to roads considered local collective or private goods. The linking of Danish and Swedish motorists' payments of vehicle and fuel taxes to the road investments until 1972 and 1980 safeguarded road investments that kept up with the fast increasing number of cars from the 1950s, and kept also partly the budget constraints on arms length distance from the legislators. The Danish Ministry Finance was seriously weakened after the 1894 compromise that led to the Estrup regime's resignation, and may explain Denmark's relatively generous budget constraints for road investments. The Danish Ministry of Finance remained namely relatively weak until the Schlüter executive's finance policy reforms almost 90 years later. The Norwegian Ministry of Finance decoupled the motorists' payments of vehicle and fuel taxes from the road investments 1949-63. Stortinget had similarly governed the Norwegian road investments' budget constraints since the 19th century. That made it very difficult for the Norwegian road investments to keep up with the fast growing number of vehicles after abolition of the car rationing in 1960.

The Danish and Swedish Ministries of Finance and Ministries of Economy considered usually roads as investments and/or industrial necessities. The Norwegian postwar Ministry of Finance was skeptical to road investments, particularly investments in roads with local collective or private good characteristics, and considered usually such roads as expenses and not as investments. The Ministry of Finance maintained therefore tight budget constraints for roads, for instance through imposition of particularly high discount rates for roads such as in 1967 and 2003, compared to other publicly financed goods.

¹³⁹⁰ Cf. Boge (2002a).

Stortinget’s distributional coalitions, particularly within the Standing Committee on Transport and Communications, had far more influence on the road investments’ geographical allocation than their opposite numbers in Folketinget and Riksdagen until the 1970s, but took usually the Ministry of Finance’s budget constraints and sector allocations for granted. Neither saw Stortinget’s distributional coalitions any reasons for increased budget constraint for road investments when they had financed their own desired roads with local collective or private good characteristics, because that meant less to other pet projects in other policy areas.

Roads as local collective or private goods and road policy and road construction governed by the political parties’ rivalry?

This study’ third working hypothesis is roads perceived as local collective or private goods, and that the road policy and road construction has been governed by the political parties’ rivalry. This section presents and discusses the empirical findings concerning the four research implications deduced in chapter 1 that have been examined through time in the Danish, Swedish and Norwegian cases in chapter 2, 3 and 4. Table 17 provides an overview of the empirical findings concerning the third working hypothesis in Denmark, Sweden and Norway during time.

Table 17: Empirical findings concerning the party competition hypothesis.

Period/Country	Denmark	Sweden	Norway
Prior to 1945	+	-	+
1945-1959	+	-	+/-
1960-1980	+	+	+
1981-2005	+	+	-

Has the road policy and road construction been biased towards those interests represented by the legislature’s pivotal party and within the executive?

Donald Wittman’s hypothesis about political competition between political parties leading to efficient institutions and resource allocation was strengthened by the Danish and Swedish cases but almost refuted by the Norwegian case, particularly prior to the middle of the 1990s.¹³⁹¹ How to explain these differences between three seeming similar countries? The political parties’ rivalry has namely been decisive for the road policy and road construction in Denmark, Sweden and Norway, and the road policy and road construction has clearly been biased towards those interests represented by the executives and legislatures’ pivotal parties in all three countries.

The Social Democratic Party governed Denmark either alone or in coalitions 1924-26, 1929-43, 1945, 1947-50, 1953-68, 1971-73, 1975-82 and 1993-2001. The Danish Social Democratic Party represented first and foremost the urban areas’ industrial workers, their trade unions and later also public sector employees. The Radical Party that had been the Social Democratic Party’s coalition partner since the 1920s represented initially rural smallholders, but became later the teachers and urban intellectuals’ party. The Liberal and Conservative Parties controlled Riksdagen’s sanctioning body, Landstinget, until 1936. The Liberal Party

¹³⁹¹ Cf. Wittman (1989).

represented initially the rural and agricultural interests, but shifted gradually its attention towards urban voters after abolition of the bicameral system in 1953, and became a modern liberalistic party after the neo-liberal shift. Denmark's modern Conservative Party represented the urban middle class and white-collar workers. It was thus no coincidence that Danish road policy shifted towards increased road construction in within and near the major population clusters after introduction of the unicameral system in 1953.

All of Rigsdagen and from 1953 Folketinget's committees, except the Finance Committee, were ad hoc until 1972. But Folketinget's standing Traffic Committee strengthened the political parties' position on the constituencies' expense, because the new standing committees were reshuffled annually. This institutional arrangement gave the party bosses plenty of opportunities to discipline the common legislators, and prevented also development of sector specialists and enthusiasts. Most Danish legislators remained therefore all round politicians who understood how linkages between different policy areas affected the economy's total output.

The Swedish Social Democratic Party governed uninterrupted 1932-76, 1982-91 and after the 1994 election. The Swedish Social Democratic Party represented first and foremost the densely populated areas' industrial workers, their trade unions and later also many public sector employees, but had also many followers in sparsely populated areas. It was thus no coincidence that Swedish road policy and road construction from the second half of the 1950s prioritized the most crowded areas and safeguarded the trade and industry's need for flexible and cost efficient transports. Appointment Gustav Vahlberg as the Road and Water Construction Administration's Director General in late 1957 placed de facto Sweden's Federation of Trade Unions and particularly the Metal Workers' Union in the road policy driver's seat. Gustav Vahlberg was one of the Swedish corporative system's most influential persons. This was a fundamental difference compared to Norway because Norwegian trade unions did not champion construction of modern roads in the 1950s.

Riksdagen's new Traffic Committee reflected largely Riksdagen politically and geographically. This is clearly evident from Table 15 that provides an overview of the Traffic Committee's political and geographical representation 1971-2005. The leftwing parties dominated the Traffic Committee 1970-73, 1982-91 and after 1994. Only the leftwing parties represented the central constituencies 1970-76. That may explain the reductions in the major cities' road investments throughout the 1970s.¹³⁹² The members of Riksdagen's Traffic Committee have usually served more than one term, similarly as in Stortinget's Standing Committee on Transport and Communications, and developed gradually into sector specialists and enthusiasts, similarly as members of Stortinget's Standing Committee on Transport and Communications. But the Swedish legislators maintained the national perspective.

The Norwegian Labor Party governed alone 1935-40, 1945-65 except for a few weeks in 1963, and 1971-72, 1973-81, 1986-89, 1990-97, 2000-01, and through a formal coalition since the 2005 election. All Labor Party executives except 1945-61 and since the 2005 election were minority executives. The Labor Party is an alliance between rural and peripheral smallholders and fishermen, and industrial

¹³⁹² See the Data Appendix' table 3.17-3.27.

workers, public sector employees, hereunder civil servants, and their trade unions in central, middle and peripheral constituencies. The Labor Party's peripheral and rural interest groups have usually had the final say since the 1930s, despite changing intraparty alliances and a leadership that often originated from Oslo. The power industrial complex dominated the Labor Party and the National Federation of Labor 1945-77, but public sector employees and others thriving on the oil and gas exports' surplus have since then dominated the party and later also the National Federation of Labor. All Norwegian executives since 1961, except the 1965-71 four party non-socialist coalition, the 1983-85 three party non-socialist coalition and the current red green coalition, have been minority executives that facilitated legislator governance. The minority executives gave usually Norway's middle parties, the Liberal, Agrarian and Christian People's Parties pivotal positions. The middle parties have first and foremost represented the rural areas' interests and the peripheral and sparsely populated middle constituencies, even if the Liberal and Christian People's Parties also had urban followers. It was thus no coincidence that Norway's postwar road policy and road construction usually favored the sparsely peripheral and rural areas' interests on the crowded central and urban areas' expense.

Table 15 and 16 that provides overviews of Riksdagen's Traffic Committee's aggregate representation 1970-2006 and Stortinget's Standing Road and Railroad Committee and the Standing Committee on Transport and Communications' aggregated representation 1945-2005 indicate opposite patterns in Norway and Sweden. The leftwing parties dominated Sweden's peripheral constituencies, and the middle and rightwing parties the middle constituencies. The Norwegian leftwing and middle parties dominated the middle constituencies, while the rightwing parties dominated the peripheral constituencies. Stortinget's Standing Road and Railroad Committee was dominated by the leftwing and middle parties 1946-49, which first and foremost represented the middle and peripheral constituencies.¹³⁹³ This pattern persisted in the Standing Committee on Transport and Communications until the 2005 election, despite the rightwing parties' increased representation from the second half of the 1970s.¹³⁹⁴ The Standing Road and Railroad and from 1949 the Standing Committee on Transport and Communications' political representation explains largely Norwegian road policy and road construction since 1945, because the peripheral and rural areas' interests were decisive both within the leftwing and middle parties that usually have governed Stortinget's pivotal position since 1945. The leftwing and middle parties' transport and communication policy reflected clearly Stortinget's power relations, and considered road investments highly desirable in peripheral and rural areas but not in crowded and urban areas. This study has revealed significant internal Labor Party struggles between modernists championing investments in trunk roads and motorways, traditionalists championing investments in local roads and the railroad lobby opposing cars and road investments per se, particularly 1955-65, but even in the 1970s. Most members of Stortinget's Standing Committee on Transport and Communications served many terms. Many became sector specialists and enthusiasts, but maintained usually a parochial perspective on transport and communication policy.

¹³⁹³ See the Data Appendix' table 4.10.

¹³⁹⁴ See the Data Appendix' table 4.11-4.24.

The social democratic parties were thus decisive for road policy and road construction in Denmark, Sweden and Norway since the interwar years, but the Norwegian Labor Party was far more heterogeneous than its Danish and Swedish sister parties. The Labor Party's internal struggles and changing alliances between different geographical areas, sector interests and political wings explain most of the Norwegian executives and legislators' road policy flip-flops since the interwar years. The Danish, Swedish and Norwegian cases support all support Kåre Strøm, Jørn Y. Leipart's findings that the interests represented by the legislature's pivotal median party serve as a focal point that coordinate the road policies, such as suggested by Thomas Schelling's studies about negotiations and tacit policy coordination.¹³⁹⁵

Have the committee leaders used pork barrel deals to strengthen their own position and to maintain party cohesion and discipline?

The Danish, Swedish and Norwegian legislatures' committee leaders have hardly used pork barrel deals to strengthen their own position, such as indicated by Joel A. Thompson's study of North Carolina's State legislature.¹³⁹⁶ But pork barrel deals have been used to maintain the party cohesion, particularly within the social democratic parties that are broad alliances of divergent interest groups. Pork barrel deals have also been common among the Danish and Norwegian legislatures' distributional coalitions.

Olof Palme confronted the leftwing populists and environmentalists in the 1970s, and managed largely to renew the Swedish Social Democratic Party without abandoning to populism such as the Danish and Norwegian sister parties partly did. The Swedish Social Democratic Party maintained therefore largely the voters' confidence and its political power after the neo-liberal shift, because the Swedish Social Democratic Party was able and willing to carry out unpopular but economically necessary decisions that served most of their voters' best interests in the long run. Olof Palme, Ingvar Carlsson and Göran Persson were also good at playing the leftwing populists' tunes, while pursuing realistic and economically rational policies. The Danish Social Democratic Party and the Norwegian Labor Party's bosses turned the same trick concerning national security and foreign policy after World War Two, but were not always able or willing to do the same with regard to low-politics such as road policy. The leftwing populists and traditionalists held prominent positions within the Norwegian Labor Party between 1965 and 1981, when the modernists achieved a more prominent position.

The Green and Left Parties became Riksdagen's pivotal parties after the 1998 and 2002 elections. Their support to the Social Democratic executive was among others contingent linking further construction of modern trunk roads and motorways with construction of modern railroads. Some of these railroads' profitability is questionable at least in the short run. The Swedish case since the 1998 election provides strong support to Kåre Strøm, Jørn Y. Leipart's findings that the interests represented by the legislature's pivotal median party serve as a focal point that

¹³⁹⁵ Cf. Strøm and Leipart (1993) and Schelling (1960/80). See also Downs (1957) about the median voter theorem.

¹³⁹⁶ Cf. Thompson (1986).

coordinates the road policies, such as suggested by Thomas Schelling's studies about negotiations and tacit policy coordination.¹³⁹⁷ The Green and Left Parties have almost been able to dictate the Persson executive's road and railroad policies since 1998.

Have the political parties' allocations of the road investments been contingent the election system?

The political parties' allocation of the road investments was clearly contingent the election systems, because the political parties have usually allocated the road investments to those constituencies where each DKK, SEK or NOK bought most seats, all other things equal. Because votes counts but the number of seats decides. Denmark's 1953 Constitution introduced an election system based on one person – one vote that made it very costly for the political parties to overlook the crowded and urban areas' congestion, accident and environmental problems such as under the bicameral system.¹³⁹⁸ Sweden's election systems were based on one person – one vote during most of the 20th century. The 1952 reform improved the Second Chamber's election system's political proportionality, but did not fundamentally alter the geographical representation. The new election system introduced from the 1970 election established the principle one person – one vote for the entire unicameral Riksdagen.¹³⁹⁹ Even Sweden's post 1921 election systems made it very costly for the political parties to overlook the crowded constituencies' voters.

Norway's 1921-49 election system established a high degree of malapportionment. The central urban constituency Oslo had 62.007 inhabitants per seat in 1950. The peripheral urban constituencies in Hedmark and Oppland had 8.793 inhabitants per seat. The other urban constituencies' number of inhabitants varied between 11.509 in central Vestfold to 22.569 in the middle constituency Bergen. The middle constituency Aust-Agder's rural areas had only 14.195 inhabitants per seat, while the middle constituency Rogaland's rural areas had 32.680 inhabitants per seat. The other rural constituencies varied between 14.706 inhabitants per seat in peripheral Finnmark to 25.740 inhabitants per seat in central constituency Akershus. The 1950 national average was 21.857 inhabitants per seat.¹⁴⁰⁰ This election system made it very costly for the political parties to take the major cities' voters into consideration.

Norway's new election system introduced from the 1953 election, with common constituencies for urban and rural municipals, improved the most crowded constituencies' inhabitants' political representation somewhat. Oslo had 36.589 inhabitants per seat in 1960; Finnmark had 18.026. The national average in 1960 was 23.965 inhabitants per seat. Akershus, with Norway's fastest growing population since the 1950s, had 46.341 inhabitants per seat in 1970; Finnmark had 19.078. The national average in 1970 was 25.919 inhabitants per seat.¹⁴⁰¹ Stortinget's geographical allocation of the tax financed road investments reflected clearly the 1953 election system's malapportionment, because those constituencies

¹³⁹⁷ Cf. Strøm and Leipart (1993) and Schelling (1960/80).

¹³⁹⁸ See the Data Appendix' table 2.5-2.7.

¹³⁹⁹ See the Data Appendix' table 3.5-3.7.

¹⁴⁰⁰ See the Data Appendix' table 4.5.

¹⁴⁰¹ See the Data Appendix table 4.6.

with most inhabitants per seat received generally least tax financed road investments per inhabitant.¹⁴⁰² The 1989 election system that introduced 8 supplementary seats improved the most populated constituencies' political representation somewhat and paved thereby way for the 1990s' road political shift towards a more realistic policy.¹⁴⁰³ The political parties could no longer afford to overlook the most populated constituencies' voters, even if the most populated constituencies still had significantly more inhabitants per seat than the more sparsely populated constituencies.

The Norwegian case provides strong support to Frances E. Lee's findings in the US Senate that that senators representing populous but not the most populated states could establish deals that excluded the most populated states.¹⁴⁰⁴ A similar pattern has been common in Stortinget, because some constituencies were obviously more coalitionfähig than others, and established deals that excluded the most populated constituencies or with most inhabitants per seat. Because there are reasons to assume that political parties spend the appropriations where each DKK, SEK or NOK buys most seats, all other things equal.

Have the political parties allocated the road investments strategically?

The Danish, Swedish and Norwegian political parties have clearly used road investments strategically either to maintain their voters' support, to achieve support from new voter groups or to maintain the party cohesion. The Danish and Swedish Social Democratic Parties' executives used road investments strategically during the interwar years to fight unemployment among their core voters. The Danish and Swedish annual road investments, measured as share of GDP peaked during the interwar years.¹⁴⁰⁵ Denmark invested also in several major bridges prior to World War Two.

The Danish executives utilized the 1957 and 1963 Road Acts and the 1958 Road Reimbursement Act to shift the road policy and road construction's center of gravity towards the Social Democratic Party's heartland. However, it is questionable whether the Danish Social Democratic Party used road policy and road construction strategically during the 1970s, because the decision in 1975 about reducing the formerly approved motorway H to a motorway h with no further construction of motorways north of Århus, harmed northern Jutland, one of the Social Democratic Party's strongholds. The motorway h was motivated by Denmark's State economic problems, the Social Democratic Party's kneeling for the urban leftwing populists and environmentalists and the Ministry of Finance and the Ministry of Public Work's forecasts indicating significantly reduced road traffic. But the Social Democratic Party's members of Folketinget representing northern Jutland cooperated eagerly with their fellow non-socialist legislators and championed further construction of motorways after the neo-liberal shift when the Social Democratic Party was voted out of office. This cooperation led ultimately to Folketinget's 1986 pork barrel deal that linked the Great Belt Connection with

¹⁴⁰² See Boge (2002b:91 tabell 6).

¹⁴⁰³ See the Data Appendix' Table 4.6.

¹⁴⁰⁴ Cf. Lee (2000).

¹⁴⁰⁵ See chapters 2's section about the interwar years and the Data Appendix Table 2.15 and 3.28.

further construction of motorways on northern Jutland, and reestablished the motorway H.

Sweden's Social Democratic Party executives allocated plenty of road investments to the most crowded constituencies during the 1950s and early 1960s, but shifted gradually the investments throughout the late 1960s and early 1970s towards less crowded middle constituencies. Some of the investments were also reallocated from trunk roads and motorways to highways. This shift was most likely a countermove against the Agrarian Party that went after Social Democratic Party voters from the early 1960s. The middle and rightwing parties that governed Sweden 1976-82 furthered this policy. However, the Social Democratic Party returned to its former high-growth road policy after the 1982 election, when construction of modern trunk roads and motorways were some of the Palme and Carlsson executives' means for jumpstarting the ailing Swedish economy.

Norway's postwar road policy and road construction was largely dictated by the Labor Party's internal conflicts and changing alliance patterns, because road policy and road construction was obviously used strategically by the party bosses to maintain the party cohesion. The second half of the 1940s and the 50s car rationing and very limited road investments were results of an unholy alliance between Labor Party legislators representing peripheral and sparsely populated middle constituencies, the power industrial complex, the Railroad Worker's Union and the Ministry of Finance's economists. Most of the road investments prior to 1960 were allocated to the rural constituencies even if more than 2/3 of the cars were located in urban constituencies that struggled with congestion, accident and environmental problems. The 1963 Road Act provided significantly increased State road appropriations to the central and urban areas, particularly 1964-69.

Norwegian legislators representing the central and urban constituencies and the leftwing and middle parties pursued generally a far more idealistic, ideologically and less fact based road policy than their Danish and Swedish opposite numbers, particularly from the second half of the 1960s. This policy paved the way for Norway's road policy failure after the Labor Party executive's anti-urban policy peaked between 1976 and 1981, when Odvar Nordli, head of the Labor Party's phalanx within the peripheral and rural areas' distributional coalition served as Prime Minister, and Reiulf Steen, head of the Labor Party's leftwing populists served as party leader. Many Norwegian leftwing populists opposed economic growth per se in the 1960s and 1970s, and opposed also mobility, because mobility fueled economic growth. The Danish and Swedish executives and legislatures established realistic and functional urban policies already in the second half of the 19th or early in the 20th century. Norwegian executives and legislators were not able or willing to establish realistic and functional urban policies until the 1990s, after Stortinget's introduction of common turnpike financing in 1985 and the 1989 election system reform significantly improved the most crowded constituencies' inhabitants' political representation. These differences between Denmark, Sweden and Norway were most likely a result of the political parties' strategic allocation of the road investments, given the election systems' seat allocation mechanisms, in addition to ideological differences between the political parties.

Has path dependence reproduced the road polity’s power relations and resource allocation?

This study’s final working hypothesis has been that path dependence has governed the road policy and road construction. This section presents and discusses the empirical findings concerning the five research implications deduced in chapter 1 that have been examined through time in the Danish, Swedish and Norwegian cases in chapter 2, 3 and 4. Table 18 provides an overview of the empirical findings concerning the final working hypothesis in Denmark, Sweden and Norway during time.

Table 18: Empirical findings concerning the path dependence hypothesis.

Period/Country	Denmark	Sweden	Norway
Prior to 1945	+	+	+
1945-1959	+	+	+
1960-1980	+	+	+
1981-2005	+	+	+

Have the constitution’s status quo bias and the election system reproduced or maintained the road polity’s power relations and established resource allocation?

The constitutions’ status quo bias and the national election systems have been decisive for the road polities’ power relations and the high-level resource allocation in Denmark, Sweden and Norway. But the Danish case prior to 1953, and particularly the Norwegian case prior to the second half of the 1990s, weakens Donald Wittman’s claim about party competition leading to efficient institutions and resource allocation.¹⁴⁰⁶

Denmark’s 1849 Constitution established Rigsdagen with two equal chambers, the directly elected Folketinget and the indirectly elected Landstinget, and instituted also minister rule similarly as in Germany and France. The landowner regime’s 1866 Constitution gave Landstinget veto power and some members appointed by the King. The 1866 Constitution gave first the Conservative Party and from 1894 the Liberal Party increasing returns. The King approved introduction of parliamentary rule in 1901 based on the directly elected Folketinget, and upheld the minister rule. Denmark had well-established political parties prior to introduction of parliamentary rule. The 1915 Constitution introduced common suffrage. The 1920 Constitutional Amendment introduced proportional representation in the directly elected Folketinget and strengthened the Social Democratic Party’s position. However, the Liberal and Conservative Parties maintained their increasing returns until 1936 because they governed Rigsdagen’s sanctioning body, Landstinget. The Conservative and parts of the Liberal Parties championed a new constitution when they lost control of Landstinget, to avoid being excluded from position for decades, even if there were factions within the Liberal Party that defended status quo and the bicameral system. The 1953 Constitution established the unicameral Folketinget

¹⁴⁰⁶ Cf. Wittman (1989).

with an election system based on one person – one vote and reshaped Denmark's political landscape fundamentally. The 1953 Constitution's new political equilibrium gave the Social Democratic Party increasing returns until the second half of the 1960s, when the Social Democratic Party bosses embraced the leftwing populists while most voters' preferences remained centrist. Some claim also the voters were tired of the Social Democratic Party that had governed Denmark most of the time since 1929.

Sweden's bicameral system approved by the nobility and clergy in 1865 that came into force from 1867 established a new political equilibrium that gave the emerging middle class increasing returns. The Social Democratic Party achieved control of the directly elected Second Chamber from 1915, after the 1909 reform extended the vote. The Swedish King approved introduction of parliamentary rule in 1917 based on Riksdagen's both chambers, but Axel Oxenstierna's autonomous boards and public administrations established since the 17th century persisted. The result was a unique polity with a strong executive, a strong legislature and autonomous boards and public administrations governed by the professionals according to the deeply rooted norm about State reason. Even Sweden had well-established political parties prior to introduction of parliamentary rule. Introduction of common suffrage in local and national elections from 1921 paved the way for the Social Democratic Party's takeover. The Social Democratic Party controlled the indirectly elected First Chamber's majority from 1941, and achieved increasing returns until abolition of the bicameral Riksdagen in 1970 and governed Sweden uninterrupted 1932-76. The bicameral system was exceptionally stable because of the First Chamber's lag and successive replacement. The Social Democratic Party defended the bicameral system, but changed its mind after the poor 1966 local election. The unicameral system reshaped even the Swedish political landscape similarly as in Denmark, and established a far more volatile political equilibrium after abolition of the First Chamber's lag and successive replacement. But the unicameral system reduced the political parties' risk significantly, because they were not kept away from power for decades on national level in case of poor local elections. The non-socialist parties governed Sweden 1976-82 and 1991-94.

Norway's 1814 Constitution instituted a strong status quo bias and an election system with a high degree of malapportionment. The major cities and small towns had about 10 percent of the population in 1814, but got 1/3 of Stortinget' seats. Stortinget is a hybrid, because the election systems have never distinguished between the two chambers. The 1859 Farmer's Paragraph fixed the rural areas' representation to 2/3 of Stortinget's seats, despite increasing urbanization and centralization. The Farmer's Paragraph gave the peripheral and rural areas' inhabitants increasing returns through most of the 20th century. Stortinget introduced parliamentary rule in 1884 after the impeachment court's verdict that confirmed Stortinget's supremacy, but the Constitution was not amended to reflect this regime change. The first formal political party was established immediately prior to the impeachment court's verdict, the other political parties were established after introduction of parliamentary rule. Weak executives, an exceptionally strong legislature with strong subject matter committees, strong County Councils, have often characterized Norwegian parliamentary rule and public administrations with close relations to the County Councils that often had close relations with Stortinget's subject matter committees. Stortinget introduced common suffrage from 1913, but

the 1905 direct majoritarian election system gave the Liberal and Conservative Parties increasing returns, similarly as the former indirect election system. The 1921 proportional election system gave the Labor Party increasing returns, because d'Hondt's method for seat allocation favored large parties. The Farmer's Paragraph governed Stortinget's seat allocation until the 1953 election, when it was abolished formally but not substantially. The 1972 election system increased Stortinget's peripheral and rural bias, but adjustments of the election system prior to the 1985 and 1989 elections reduced it somewhat. The 1989 election system shifted the political balance slightly through improved political representation for the most crowded constituencies' inhabitants. But the principle one person – one vote, such as in Denmark and Sweden, was not introduced in Norway. But the peripheral and middle constituencies inhabitants' increasing returns were somewhat reduced. However, it is highly questionable whether the Norwegian election system's geographical seat allocation will change within foreseeable future. First because it is almost a textbook example of path dependence, second because it is those who benefits from the malapportionment who have strategic control and power to modify the political system.

The three cases have thus provided strong support for the hypothesis about path dependence, such as advocated by among others Paul A. David, W. Brian Arthur, Douglass C. North, Kathleen Thelen, Sven Steinmo, Paul Pierson, Margaret Levi, Peter A. Hall and Ellen Immergut, at least with regard to how the constitutions and election systems have maintained the road polity's power relations and resource allocation through the increasing returns mechanism.¹⁴⁰⁷

Have institutional conditions within the road polity reproduced the road polity's power relations, road policy and road construction?

The Danish executive governed the road policy and construction of roads with national collective good characteristics 1761-1867. The 1793 Road Act made roads with local collective or private goods characteristics the counties and municipals' responsibility. The landowners' 1867 Road Act redefined trunk roads to highways; wound up the military centralized State road administration and made road policy and construction the counties and municipals' responsibility. The executive had then accomplished Denmark's first national trunk road system, and prioritized instead State financed investments in railroads and harbors. The Danish Ministry of Finance was significantly weakened after the 1894 compromise between the Liberal and Conservative Parties' that led to replacement of the almost totalitarian Estrup regime that had governed through provisory laws approved by Landstinget. The Danish Ministry of Finance did not regain its former position until the Schlüter executive fundamentally altered the finance policy approximately 90 years later.

Rigsdagen dedicated in 1910 the vehicle and fuel taxes to road construction and Copenhagen abolished its turnpikes in 1915. The Road Fund was completed in 1927 when the revenues were dedicated to construction of highways. The minister of public works, who governed the reimbursement to the counties and municipals, paved the way for individual applications for reimbursements from the Road Fund in

¹⁴⁰⁷ Cf. David (1985); Arthur et. al. (1987); Arthur (1989; 1990; 1994); North (1990); Thelen and Steinmo (1992); Pierson (1993; 2000; 2004); Levi (1997); Hall (2003); Thelen (2003).

1931. The Danish minister of public works' strong position was clearly a result of the relatively weak Ministry of Finance. The counties and municipals built first and foremost roads with local collective or private good characteristics, but the executive desired construction of modern trunk roads and motorways with national collective good characteristics, particularly when road transports of passengers and goods substituted railroad transports. The executive established a new State road administration in 1949, the Directorate of Public Roads. Its first official task was management of the Road Fund's reimbursements.

Folketinget reintroduced trunk roads in 1957, and authorized the minister of public roads to order construction or updates of particular roads and approved also construction of Denmark's second national trunk road system, the motorway H. Folketinget gave similarly in 1958 the counties and municipals financial incentives to construction of motorways. The 1963 Road Acts made construction of trunk roads and motorways the Directorate of Public Road's task, with full State financing, and authorized similarly the minister of public works to govern the road policy and construction of trunk roads and motorways. This was clearly in accordance with the Danish tradition for minister rule established in 1849.

Danish legislators became first directly engaged in road policy and construction of motorways in 1972, because the 1971 Road Act reintroduced from 1972 the 1793 Road Act's principles where each administrative level managed and financed its own roads. Folketinget established also a standing Traffic Committee in 1972. The 1971 Road Act abolished the Road Fund and instituted thus a new governance and financing system for the road sector where Folketinget approved the annual road appropriations and governed construction of motorways, where the minister of public works governed construction of all other trunk roads given Folketinget's budget constraints, and where the counties and municipals governed construction of highways and local roads. The Danish State withdrew partly from road policy and road construction in 1998 when the 1997 Road Act came into power, similarly as under the 1867 Road Act, when the motorway H was almost completed.

Swedish traditionalists and localists opposed establishment of a State road administration from the 1880s, while the modernists and centralists desired a State road administration. The municipals managed Sweden's public roads from 1895 until 1944, when the State became responsible for managing and financing of most public roads, both those with national collective good characteristics and most roads with local collective good characteristics. The reform within the road sector was largely a result of the strong Swedish minister of finance's desire for a municipal tax reform.

Sweden's bicameral system established a road polity with a clearly defined division of labor, where Riksdagen's legislators established the road political goals and provided lump sum allocations. The executive outlined the policies for how to achieve Riksdagen's goals and delegated the policy implementation to an autonomous public administration. This was clearly in line with principles established by Chancellor Axel Oxenstierna in the 17th century. The Road and Water Construction Administration, which in 1967 became Sweden's National Road Administration and later only Swedish Road Administration, has since 1944 governed Swedish road policy, road planning and road construction according to the professionals' scientific and professional standards, with the executive as a court of

appeals. The bicameral Riksdagen's committees were organized according to the constitutional principle similarly as in the former four-cameral Riksdagen. The committees were usually responsible for several policy areas and emphasized goals and principles rather than details. Riksdagen has never micro managed the road policy and road construction similarly as Stortinget, even after introduction of the unicameral system with its standing Traffic Committee.

Norway's 1824 Road Act wound up the former Danish centralized State road administration and made the County Governors responsible for road policy and road construction. The 1837 Local Government Act established the Norwegian municipal and county councils, and made road policy and construction of roads with local collective or private goods characteristics the municipal and county councils' tasks. The 1851 Road Act established the principle that Stortinget approved individually each road project eligible for partly State financing. Stortinget established similarly its first Standing Road Committee in 1854 and the Directorate of Public Roads in 1864 to manage roads with partly State financing. The Standing Road Committee with succeeding committees became the place where the legislators and constituencies divided the spoils.

Legislators representing peripheral rural and small town constituencies fearing strong central institutions established the Combined Road Administration in 1893, a merger of the counties' Public Roads Administration that managed locally financed roads with local collective or private good characteristics and the State's Directorate of Public Roads that managed partly State financed roads with national collective good characteristics. There were usually close ties between the County Road Board members and each county's legislators. They were often able to circumvent the executive and Directorate of Public Roads responsible for coordinating the road policy and road construction.

The Quisling regime reorganized the Combined Road Administration to a partly centralized and autonomous German style road administration, but these reforms were nullified after the liberation in May 1945. The Ministry of Finance became the executive's coordinating body after the liberation, and became also Norway's de facto Ministry of Transport and Communications through its governing of the budget constraints and sector allocations. The 1963 Road Act maintained the Combined Road Administration, but did not institute trunk roads a particular class of roads but a subset of highways. Neither did the 1963 Road Act provide financial incentives for construction of modern trunk roads, such as in Denmark and Sweden, rather the opposite.

Stortinget approved each road project eligible for partly State financing individually until 1971, when Stortinget approved the first quadrennial *Norwegian Road Plan* that changed Stortinget's governance objects from individual road projects to lists of road projects in each constituency every fourth year. Stortinget introduced common turnpike financing of trunk roads in 1985. The legislators and particularly the members of Stortinget's Standing Committee on Transport and Communications achieved increasing returns until 1994, when the Labor Party executive supported by the Conservative Party introduced the road sector's new governance system. Stortinget has since then only approved the quadrennial and later ten-year road plans, chosen between different investment strategies, approved the annual appropriations and left allocation of the trunk road investments to the Directorate of Public Road's professionals and allocation of other highway

investments to each county's County Council and Public Roads Administration. The Norwegian road policy and road construction prior to 1995 differed fundamentally from Norway's health care system, because the executives and legislators kept their hands off and delegated development of the health care policy, diagnosis and treatment of patients to the medical doctors, similarly as the Swedish executives and legislators delegated road policy and road construction to the road administration's professionals.¹⁴⁰⁸ Norway had world-class public health services in 1994, except for some queues because the executive and legislators gave the hospitals few financial incentives for treating patients. The increasing returns mechanism explains clearly how the Norwegian road polity's power relations, road policy and road construction was reproduced.¹⁴⁰⁹

The Norwegian County Councils' influence on the road policy and road construction was largely punctuated in 2003 when the non-socialist executive liquidated the Combined Road Administration that had managed most public roads since 1893.¹⁴¹⁰ The 19 counties' Public Roads Administrations were merged into 5 regional road administration transcending county borders, similarly as the Swedish Road Administration. The maintenance and production units were spun out to a State owned joint stock construction company, MESTA. Norway's 2003 road administration resembled thus also Denmark's Directorate of Public Roads, without maintenance and construction units that bought all construction and maintenance services in the market. Approval of the first PPP-contract in 2003 that outsourced planning, financing, construction, operation and maintenance of a trunk road section to a private consortium for 25 years can be understood as the legislators' attempt of tying themselves to the mast. The legislators had then demonstrated vividly through 150 years they were not able or willing to keep their hands off and leave road policy and road construction to the professionals, even if they had delegated most medical matters to the professionals. The executive and Stortinget's moves since 1985 established a fundamentally new NPM inspired road polity that increased the professionals' autonomy, and punctuated the former equilibrium that had been upheld by path dependence since the middle of the 19th century. Norway's 2003 reform can be interpreted as empirical support for Donald Wittman's claim that competition between political parties and self-interest result in efficient institutions.¹⁴¹¹ But the Norwegian reform process was unusually protracted and irksome compared to Denmark and Sweden, but this delay was clearly a result of path dependence, institutional rigidities and the economic interests involved.

The Danish, Swedish and Norwegian development paths with regard to the road polities' organizing and power relations gave thus three fundamentally different systems that largely explain the different emphasis on construction of roads with national collective or local collective good characteristics in Denmark, Sweden and Norway.

¹⁴⁰⁸ See for instance Nordby (1989) about development of the Norwegian postwar public health services.

¹⁴⁰⁹ Cf. Arthur et. al. (1987:40-47); Arthur (1989; 1990; 1994); North (1990); Pierson (1993; 2004).

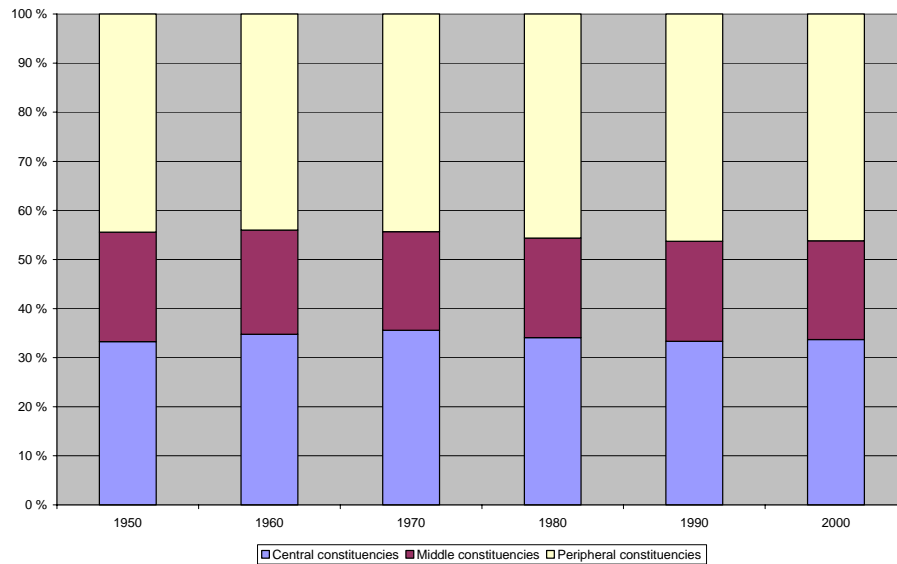
¹⁴¹⁰ Cf. Krasner (1984) about punctuated equilibriums.

¹⁴¹¹ Wittman (1989)

Have there been feedback loops via settlement, trade and industry structure that have reproduced the road polity’s power relations and resource allocation?

Denmark’s settlement structure has been remarkably stable between 1950 and 2000, except for the peripheral counties’ increased share of the settlement since the 1980s.¹⁴¹² Denmark’s shift from almost unilateral dependence of export agriculture to other trade and industries during the 1950s and 60s affected clearly the road polity’s power relations and resource allocation, because the Danish executives prioritized investments in modern trunk roads and motorways within and near the major cities from the early 1960s, rather than further investments in rural highways and local roads, which had been the rule since the 1920s.

Figure 27: Denmark’s relative settlement structure 1950-2000 in central, middle and peripheral constituencies.



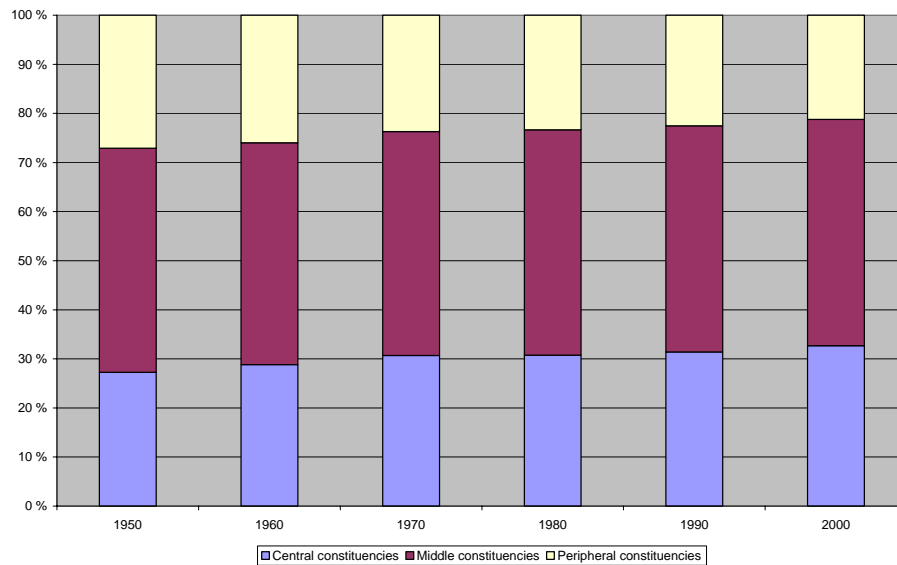
Source: Data Appendix Table 2.1.

The motorway H with the Great Belt and Øresund Connections made Denmark smaller because of significantly reduced transport times and transport costs, and integrated Denmark’s eastern, western, northern and southern regions. Construction of the motorway H facilitated similarly modernization of Denmark’s industries developed from the 1850s until the outbreak of World War Two, which in turn reduced Denmark’s one-sided dependence of agricultural exports. The Øresund connection linked Denmark to the Scandinavian Peninsula, or rather Scandinavia to mainland Europe, and made Denmark the Scandinavian road system’s hub. Both Denmark’s prewar road system and the motorway H maintained and reproduced thus Denmark’s settlement, trade and industry structures, but facilitated also changes and development because the motorway H increased significantly the Danish

¹⁴¹² See the Data Appendix’ Table 2.1, 2.2 and 2.4.

peripheral constituencies' attractiveness as location for trade and industry. The motorway H maintained thereby the Danish peripheral constituencies' settlement, despite increasing centralization in most other industrialized countries.

Figure 28: Sweden's relative settlement structure 1950-2000 in central, middle and peripheral constituencies.



Source: Data Appendix Table 3.1.

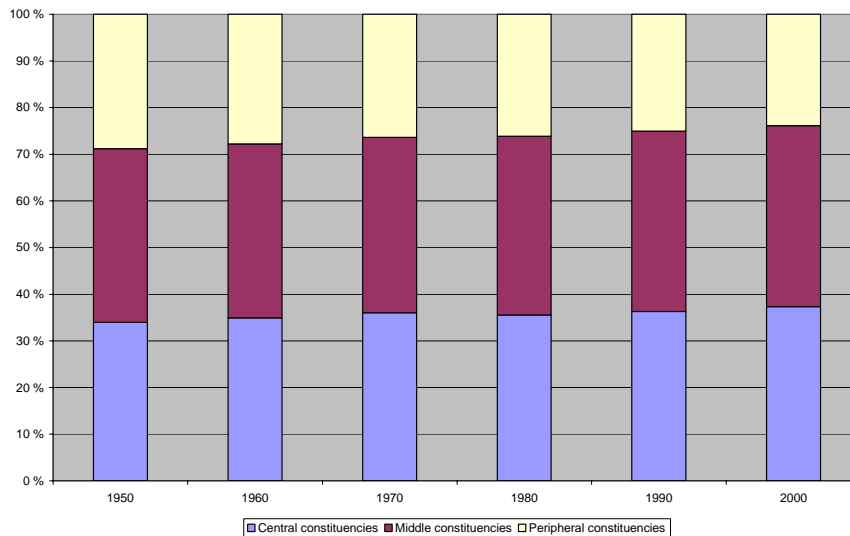
Sweden's settlement structure became more centralized between 1950 and 2000. The peripheral counties' relative share of the settlement went down from 27 to 21 percent. The middle counties' relative share of the settlement remained 46 percent. The central counties' relative share of the settlement increased from 27 to 33 percent.¹⁴¹³ The Swedish executive initiated this centralization process already during the interwar years. The postwar road investments went largely to construction of modern trunk roads, motorways and the economically most important highways and county roads, and propped up the desired centralization and urbanization, and had thus an opposite effect of that in Denmark, where the road policy maintained a decentralized development. The Swedish road policy and road construction supported also the executive's efforts to further the trade and industries' lead established during World War Two and the early 1950s. Trade unions within business sectors dependent of road transports held prominent positions within Sweden's National Federation of Labor; the same was largely the case with regard to the employer and business sector organizations. The Swedish executive's aim was efficient and flexible harvesting of raw materials and other natural resources, efficient transport to the processing and manufacturing facilities and thereafter efficient and safe distribution to domestic and foreign customers. The road policy

¹⁴¹³ See the Data Appendix' Table 3.1, 3.2, 3.4.

facilitated also efficient, safe, flexible and environmental friendly transport of passengers in rural as well as urban areas. The resource allocation outlined in the 1950s and formalized through *Swedish Road Plan* governed Sweden’s road political great leap forwards until the early 1970s.

Norway’s 19th century elites were often engaged in export businesses such as fisheries, lumbering or shipping services, but were not particularly concerned with domestic economic integration or development of a national market. Those regions engaged in the export businesses developed usually local or regional economic systems. These were often more economically integrated with their export markets than other Norwegian local or regional economic systems. This was also the case for the particular Norwegian export enclaves that emerged during the second industrial revolution from the 1890s until the 1930s, similarly as in southern China from the 1980s, and which were further developed by the Labor Party executive’s Strategic Capitalism after World War Two. The Norwegian export enclaves’ enterprises were often owned by foreign investors, and produced usually commodities or semi-finished goods for the international markets. This pattern persisted during most of the 20th century. Norway developed therefore almost a colonial trade and industry structure compared to Denmark and Sweden. The export enclaves and other areas with dominant export industries had also almost colonial transport and communication infrastructures, because most roads and railroads immediately after World War Two radiated from the inland raw material sources towards the nearest export harbor. Norway’s economically most significant transports went by ship. No executives or legislators interfered with the sea transports, which were left entirely to the market, except for the contract stop imposed against the ship owners after the 1947 currency crisis. The sea transports were too important for political interventions and symbol political initiatives.

Figure 29: Norway’s relative settlement structure 1950-2000 in central, middle and peripheral constituencies.



Source: Data Appendix Table 4.1.

Norway's settlement structure changed somewhat between 1950 and 2000. The peripheral counties' relative settlement went down from 29 to 24 percent. The middle counties' relative settlement increased from 37 to 39 percent, and the central counties' relative settlement increased from 34 to 37 percent.¹⁴¹⁴ Even Norway's trade and industry structure changed fundamentally between 1930 and 2000, such as shown in Table 19.

Table 19: Structural changes in Norwegian economy 1930-2000.

Trade and industry/Year	1930	1950	1990	2000
Agriculture, forestry and fishery (% of GDP)	16,7	9,0	3,1	2,0
Mining and oil production (% of GDP)	0,9	0,8	13,4	25,0
Manufacturing (% of GDP)	23,0	21,3	13,7	11,0
Electricity, gas and water supply and construction (% of GDP)	6,5	10,3	8,5	6,0
Wholesale and retail trade, hotels, restaurants, and transports and communication (% of GDP)	27,8	35,4	21,1	10,0
Other services (% of GDP)	25,1	23,1	40,2	46,0

Sources: *Historisk statistikk 1994*, Statistisk sentralbyrå, Oslo og Kongsvinger 1995:530 Figur 22.2; *Statistisk årbok 2003*:Tabell 327 [Online May 12th 2004] – URL: <http://www.ssb.no/aarbok/tab/t-0901-327.html>.

The agriculture, forestry and fishery's share of the Norwegian GDP was significantly reduced between 1930 and 2000. Mining and oil production's share of GDP increased dramatically from the 1990s. The manufacturing's share of GDP was halved between 1930 and 2000. Electricity, gas, water supply and construction's share of GDP increased after World War Two, but returned to approximately the 1930 level in 2000. Wholesale and retail trade, hotels, restaurants, transport and communications' share of the GDP was significantly reduced from 1930 to 2000, while other serviced almost doubled during the same period. The Norwegian economy changed thus fundamentally character from 1930 to 2000. The most significant structural changes took place at the turn of the 1970s and 1980s, approximately at the neo-liberal shift, when the Norwegian economy transformed from emphasis on the traditional smokestack industries located in the export enclaves to offshore production of oil and gas.

The Norwegian road polity's power relations and resource allocation did not keep up with these structural changes, but reflected first and foremost the settlement and trade and industry structures prior to World War Two. Norway's National Federation of Labor was dominated by trade unions organizing employees within the power industrial complex and public sector after World War Two. Trade unions organizing employees within sectors dependent of road transports had not prominent positions. The power industrial complex dominated similarly Norway's employer and business sector organizations after World War Two.

The Norwegian postwar executives and legislators did not emphasize road investments in counties with many inhabitants and/or fast growing population, even if most future economic activities in mainland Norway outside the export enclaves would take place in these areas, whether the executives and legislators liked it or not. Norway's 19th century road system was not able to handle the home market trade and industries' growth prior to and immediately after World War Two. The

¹⁴¹⁴ See the Data Appendix' Table 4.1, 4.2 and 4.4.

postwar Labor Party executive considered these industries inferior compared to the export enclaves' smokestack industries. Neither was Norway's modern 'narrow gauge' road system built from 1966 until about 1985 able to handle the transformation after the neo-liberal shift from smokestack export industries based on sea transport, to aquaculture, manufacturing, detail and retail trade dependent of fast and flexible road transports. The Norwegian economy's transformation from a smokestack to an oil and gas economy after the neo-liberal shift prevented most likely the road political catch-up, because the oil and gas exports gave the executives and legislators plenty of slack resources, compared to Denmark and Sweden that struggled economically. The Norwegian executives and legislators were thus not forced to prioritize construction of economically vital trunk roads and motorways such as the Danish and Swedish executives and legislators were after the neo-liberal shift, to safeguard the Welfare State's future.

Norway's postwar road policy and road construction was also clearly affected by the Ministry of Finance's economists that considered transport and communication infrastructures costs rather than investments in future capacity, competitiveness and opportunities, and constrained road investments and further investments in the telephone system, the obsolete railroads and civilian airports. This idea, equilibrium or delusion originated from the so-called Oslo School of Economics, and distinguished clearly Norway from most other advanced and industrialized countries. The Oslo School of Economics' ideas conflicted also with endogenous growth theory and most other advanced and industrialized countries' postwar economic policies. Both Sweden and Norway had strong Ministries of Finance after World War Two, but the Swedish Ministry of Finance did not constrain the road investments such as the Norwegian Ministry of Finance.¹⁴¹⁵ Cognitive maps or taken-for-grantedness instituted through the Oslo School of Economics may explain why the Norwegian Ministry of Finance has constrained road and other transport and communication infrastructure investments and seemingly perceived such investments as costs, while the Swedish Ministry of Finance seemingly has perceived development of modern transport and communication infrastructures as investments in future opportunities.

Have the physical road infrastructure equaled facts on the ground or non-renegotiable agreements, and reproduced the settlement and industry structure that maintains the road polity's power relations and resource allocation?

Most of Denmark's highways and local roads were completed prior to 1940, because of generous budget constraints, and because mechanized road construction was used as relief works during the interwar years. These highways and local roads were usually paved within 1960, and had in some instances better standard than Norway's 'narrow gauge' road system built 1965-85. The Danish public road system's structure in 2005 was 2,2 percent trunk roads managed by the State, 13,4 percent highways managed by the counties and 84,3 percent local roads managed by the municipals. 61 percent of Denmark's trunk roads and 1,4 percent of the total public

¹⁴¹⁵ See Table 1 and the Data Appendix' Table 2.15, 3.26 and 4.25 for an overview of the investment levels and the road investments' share of the GDP.

roads were motorways in 2005.¹⁴¹⁶ The prewar highways, local roads and the motorway H established firm facts on the ground, and reduced the time and distance handicaps all across Denmark and safeguarded the settlement structure.

Sweden's public road system in 1944 when the State became responsible for most public roads was in almost similar condition as the contemporary Norwegian road system. Sweden's modern road system built from the second half of the 1950s established clearly facts on the ground. Because the Road and Water Construction Administration built excellent roads in existing densely populated areas, areas planned as densely populated by the executive or were of importance for the future trade and industry or for harvesting of raw materials or other natural resources. The road investments allocated through *Swedish Road Plan* and succeeding national road plans funneled literally the trade, industry and settlement to those areas desired by the executive and Riksdagen. This in turn furthered and consolidated the structural changes initiated by the Swedish executive prior to and immediately after World War Two. Sweden's modern road system established thus firm facts on the ground.

The Swedish public road system's structure in 2005 was 71 percent managed by the State and 29 percent managed by the municipals. The State managed roads were in 2005 divided into 5 percent trunk roads, 10,6 percent highways and 84,4 percent county roads. 34 percent of the Swedish trunk roads and 1,2 percent of the public roads in 2005 were motorways.¹⁴¹⁷ The trunk roads' share of the total public road system was about 3,6 percent, the highways' about 7,6 percent and the county roads' about 60,1 percent. The rest was municipal roads.

Norway's 1960 public road system, when the car rationing was abolished, was almost similar to the prewar road system, but often in worse condition, because of wear, tear and lack of investments since 1945. The economically rational road policy after liquidating the car rationing would have been construction of modern trunk roads and motorways in crowded areas or areas where the executive desired increased settlement, similarly as in Sweden, and to compensate economically those living in the backwards areas, such as indicated in the theory discussion in chapter 1. This was partly the Labor Party executive's policy between 1960 and 1965, but explains also why the Labor Party lost the 1965 election. Because particularly the Agrarian Party desired full menu of publicly financed goods in every Norwegian municipal, whether they were sustainable or not, and implemented this policy when the party was in office 1965-71 and 1972-73 and when it held Stortinget's pivotal position between the 1969 and 2001 elections.

Many inhabitants in Norway's peripheral, rural and desolate areas feared the Labor Party executive planned similar centralization throughout the 1960s as the Swedish executive had carried out throughout the 1940s and 50s. Norway's modern

¹⁴¹⁶ Vejlelængder fordelt på vejbestyrelser [Online May 11th 2005] – URL: http://webapp.vd.dk/interstat/isPrint.asp?PAGE_ID=757&THEME_ID=1&subjectFilter1=&viewID1=&displayAs1=Table.

¹⁴¹⁷ *Statistisk årsbok för Sverige 2004*, Statistiska centralbyrån, Stockholm 2003:212 Tabell 227 [Online May 11th] – URL: http://www.scb.se/statistik/AA/OV0904/2004A01/OV0904_2004A01_BR_SV_A01SA0401.pdf (municipal roads); Information om "Väggkategori" på det statliga vägnätet. Aktuellt per 050331 [Online May 11th 2005] – URL: <http://www20.vv.se/vdb/webb-sidor/vagkategori.htm>; Table 1.1 chapter 1; Information om "Väggtyp" på det statliga vägnätet. Aktuellt per 050331 [Online May 11th 2005] – URL: <http://www20.vv.se/vdb/webb-sidor/vagtyp.htm>.

‘narrow gauge’ road system built between 1966 and 1985 gave increasing returns to the peripheral, rural and desolate areas’ inhabitants and to their legislators until the neo-liberal shift when aquaculture emerged as a very important business in the peripheral, rural and desolate areas. Håkon Kyllingmark, the Conservative Party’s minister of transport and communications between 1965 and 1971, was the modern narrow gauge road system’s political architect and orchestrator. This road system was almost a blueprint of the Conservative Party’s plan for transport and communications outlined prior to the 1957 election by Kyllingmark, who represented Nordland and the peripheral and rural areas’ distributional coalition, and had been member of Stortinget’s Standing Committee on Transport and Communications since 1954. This narrow gauge road system was also in accordance with the Liberal, Agrarian and Christian People’s Parties preferences. Construction of the narrow gauge road system instead of modern trunk roads and motorways such as in Denmark and Sweden did at best delay the centralization, in worst case rule out future development of viable trade and industries dependent of road transports in Norway’s peripheral, rural and desolate areas. Many new or updated roads had to be upgraded or built once more after the neo-liberal shift to facilitate use of heavy trailer trucks, almost similarly as Norway’s narrow gauge railroads had to be rebuilt to normal gauge early in the 20th century because they were completely obsolete with regard to carrying capacity and speed. Norway’s modern narrow gauge road system was thus an example of path dependence.

The Combined Road Administration was not able to catch up Norway’s lag concerning modern trunk roads and motorways because of reduced road investments after the Nordli executive gave up its counter cyclic policy after the 1977 election and after the Brundtland executive gave up its counter cyclic policy when the bank crisis ended about 1993. Norway’s relative settlement in the peripheral counties was in 2000 barely above that in Sweden, and far below that in Denmark, even if the starting points and terrain conditions were different.¹⁴¹⁸ The Norwegian postwar road policy constrained also the major cities’ development until the 1990s, even if the major cities were mainland Norway less the export enclaves’ economic locomotives. The emerging oil revenues and slack resources may explain this road policy from the second half of the 1970s, but not during the 1950s and 1960s and first half of the 1970s.

Construction of Norway’s modern narrow gauge road system can be understood as a deliberate attempt from legislators and county politicians representing the peripheral and middle constituencies and counties of creating irreversible or non-renegotiable agreements in the 1960s and 70s. Because this road system establish firm facts on the ground in the peripheral and sparsely populated middle constituencies, almost as the Israeli roads, walls, checkpoints and settlements on the occupied West Bank and Gaza Strip. Cash transfers or other kinds of economic compensation to Norway’s peripheral, rural and desolate areas could very easily be reversed or abandoned by Stortinget, but completed roads are costly to remove and safeguarded future public spending, and create literary path dependence. Construction of Norway’s modern narrow gauge road system created thus firm facts on the ground or non-renegotiable agreements, beneficial for the peripheral and sparsely populated middle constituencies, at least in the short run.

¹⁴¹⁸ Cf. the Data Appendix’ Table 2.4, 3.4 and 4.4.

The Norwegian public road system's structure in 2004 was 29,5 percent highways managed and financed by the State, 29,4 percent county roads managed by the State and financed by the counties and 41 percent municipal roads managed and financed by the municipals.¹⁴¹⁹ About 32 percent of the Norwegian highways or 9,4 percent of the public roads were defined as trunk roads in 2005.¹⁴²⁰ About 2,5 percent of the trunk roads and only 0,2 percent of the public roads were motorways in 2004.

Have the road polity, road policy and established resource allocation been maintained until sudden breakdown and establishment of new equilibria?

Denmark's road polity, road policy and resource allocation established by the 1793 Road Act persisted until the landowner's 1866 Constitution punctuated the equilibrium. The 1867 Road Act facilitated the Danish State's withdrawal from road policy and road construction after completion of Denmark's first national trunk road system, when railroads and steamships became the most important means of long distance transports. The 1953 Constitution and the mass motoring's break through punctuated the 1867 Road Act's road polity, road policy and resource allocation. Denmark's new 1957-63 road polity, road policy and resource allocation made the Danish State responsible for the high-level road policy and construction of Denmark's second national trunk road system, the motorway H. The 1957-63 equilibrium was partly shaken by Folketinget's direct involvement from 1972 in construction of motorways and appropriations to other trunk roads. The 1957-63 equilibrium persisted until 1998, when the Danish State once again withdrew and handed over many tasks concerning road policy and road construction to the counties and municipals. The motorway H was then almost completed. The 1997 Road Act reestablished thus almost the 1867 Road Act's equilibrium, after the State had accomplished the second-generation high-level road infrastructure all across Denmark.

Sweden's localist road polity, road policy and resource allocation established from 1895 punctuated in 1941 when the Social Democratic Party won the majority in Riksdagen's First Chamber. This shift safeguarded strategic control that paved the way for State management of most public roads in 1944. Road transports were often far more flexible and cost efficient than railroad transports. The transition from railroad to road transports was well in advance prior to the outbreak of World War Two. The new road polity established from 1944 created a very robust equilibrium with regard to road policy and resource allocation that worked according to the bicameral system's logic of delegation to autonomous public administrations governed by professionals. This equilibrium survived largely introduction of the unicameral system after the 1970 election and Sweden's State economic problems in the 1970s, 80s and 90s, even if the executive and later also Riksdagen got a more prominent position with regard to road policy and resource allocation after introduction of the unicameral system. This was clearly a result of path dependence. The Swedish counties and municipals established also their own expertise within

¹⁴¹⁹ Nøkkeltall. Årsmelding for 2003:15 [Online May 11th 2005] – URL: <http://www.vegvesen.no/SVVvedlegg/Nokkeltallbrosjyre2003.0.pdf>.

¹⁴²⁰ Statens vegvesen, Forslag til handlingsprogram for investeringer på stamvegnettet 2006-2015, Februry 2005:5 [Online May 11th 2005] – URL: http://www.vegvesen.no/hprog/hp_stamv/1-16.pdf.

area, traffic and environmental planning from the 1970s that gradually reduced Swedish Road Administration's power and influence, but the most important roads were then completed, and the established equilibrium has largely persisted.

Introduction of parliamentary rule in 1884 punctuated the civil servants' rule established from 1814 and the Norwegian System that had governed Stortinget's allocation of State financed goods approximately from approximately the late 1840s according to an economic logic. The Liberal Party's System that emerged from the 1890s governed Stortinget's allocation of State financed goods throughout most of the 20th century, and worked according to a political logic, based on redistribution of tax revenues. Parliamentary rule, establishment of political parties and the Liberal Party's System paved the way for the Combined Road Administration in 1893 that established a new road polity, road policy and resource allocation that facilitated partly local governance of roads with national and local collective goods characteristics combined with State financing.

The Liberal Party's System and the Combined Road Administration was temporarily punctuated by the German occupation 1940-45, but reemerged after the liberation. The road policy failure at the turn of the 1970s and 1980s because of the major population clusters' congestion, accident and environmental problems punctuated almost the Liberal Party's System. But the Liberal Party's System was supplemented with what is here denoted as the New Norwegian System in 1985, based on auctioning of turnpike projects to those constituencies most willing to accept direct user payments, almost as under the 19th century's Norwegian System. The New Norwegian System became soon an example of institutional layering.¹⁴²¹ Because the New Norwegian System coexisted with the established Liberal Party's System that still governed Stortinget's allocation of tax financed road investments in peripheral and sparsely populated middle constituencies. The New Norwegian System paved also the way for the turnpike industrial complex that filled the void because of the State's abandoning of an active road policy when the Nordli executive gave up its counter cyclic policy in 1978. Private and municipal actors were able and willing to provide those roads not supplied by the State, even if trunk road and highways were explicit State responsibilities according to the 1963 Road Act. But Norwegian counties and municipals had also financed State roads in advance in the 1950s. The State's shifting of its responsibility to the counties and municipals was therefore not a novelty; it was rather the active road policy between 1960 and 1978 that was an exception. Norway's road polity established since 1893 punctuated completely in 2003 when the Combined Road Administration was regionalized, downsized and through approval of the first long-term PPP-contract that outsourced planning, financing, construction, operation and maintenance of a trunk road section for 25 years to a private consortium.

The Danish, Swedish and Norwegian cases included all punctuated equilibriums, such as discussed by among others Stephen D. Krasner.¹⁴²² One of the most important shifts or punctuated equilibriums was the neo-liberal shift that led to road political regime changes in Denmark, Sweden and Norway, but the timing, reasons and reform content varied significantly. Denmark and Sweden underwent significant State economic problems; the Norwegian State had an abundance of

¹⁴²¹ Cf. Thelen (2003) and Pierson (2004) concerning the concept of institutional layering.

¹⁴²² Cf. Krasner (1984).

financial resources because of the oil revenues. The Danish and Swedish NPM arrangements for road financing reduced or maintained the motorists and/or taxpayers tax prices for roads. The Norwegian NPM arrangements for road financing increased usually the motorists and/or taxpayers' tax prices for roads.

The Danish NPM road-financing model established by the Schlüter executive in 1987 for financing the Great Belt Connection came in addition to the established tax financing of other road investments and was thus an example of institutional layering.¹⁴²³ The Great Belt Connection was built, owned and operated by a non-profit State owned joint stock company that borrowed the necessary amounts directly on the international capital markets. State loan guarantees safeguarded the best possible terms. The interest payments and loan amortization was financed by the bridge users' direct payments in the turnpikes. The Danish NPM road-financing model facilitated even construction of the Øresund Connection, a part of ScanLink and a joint venture with the Swedish State. The Danish NPM road-financing model was also in 2004 agreed used for financing construction of the planned Fehmarn Belt Connection, a joint venture with the German Federal State. The Danish NPM road-financing model gave thus the taxpayers and road users increasing returns because it prevented tax increases to finance construction of the Great Belt and Øresund Connections, which were mega projects.

Even the Swedish NPM road-financing model for forced construction of trunk roads and motorways came in addition to the ordinary tax financed road investments, and was also an example of institutional layering.¹⁴²⁴ The Swedish NPM road-financing model was based on loans to the public administrations from Sweden's National Debt Office that borrowed for the Swedish State from the international capital markets with State loan guarantees. Swedish Road Administration and its subsidiaries' interest payments and loan amortization was financed by Riksdagen's annual road appropriations. The motorists and taxpayers did not notice any difference compared to ordinary tax financing, except swift completion of many modern trunk roads and motorways. The Swedish NPM road-financing model was initially established 1986-87 by the Carlsson executive to safeguard construction of sections on ScanLink between Stenungsund and Uddevalla. The Persson executive reintroduced it in 1997 prior to the 1998 election, after abandoning the Bildt executive's not yet implemented turnpikes in Stockholm and Gothenburg that had been approved in 1992. These turnpikes were very unpopular among the voters that had been used to tax financed road investments since 1895, and was abolished well in advance of the 1998 election. The Swedish NPM road-financing model established a win-win situation with increasing returns for the taxpayers, motorists, trade and industry, as well for the executive and most legislators that could abandon or avoid unpopular turnpikes.

The Norwegian NPM road-financing model differed fundamentally from the Danish and Swedish models, because the Norwegian turnpike projects were organized through local non-profit joint stock companies owned by the counties, municipalities and/or private actors where each project was located, not by State owned joint stock companies such as in Denmark and Sweden. Each turnpike project had to be initiated locally according to the 1963 Road Act, and not centrally such as in

¹⁴²³ Cf. Thelen (2003) and Pierson (2004).

¹⁴²⁴ Cf. Thelen (2003) and Pierson (2004).

Denmark and Sweden, and was usually local responses to far too small State road appropriations. Turnpikes were usually considered as necessary evils and an extra tax. Only the leftwing populists, railroad champions and environmentalists applauded turnpikes.

The Norwegian Ministry of Finance refused the local turnpike companies to borrow directly from the international capital markets until 1993, and refused also State loan guarantees. The turnpike companies were instead forced to borrow through Norwegian finance institutions that often were among the turnpike projects' initiators and champions. The Ministry of Finance reduced the Norwegian tax financed road investments measured in real term after the neo-liberal shift. Turnpikes financed about 1/3 of the Norwegian road investments in 2004. Norway had about 40 operational turnpike projects in April 2005.¹⁴²⁵ 8 of these were turnpike rings encircling cities, 14 were trunk roads and motorways, and 6 were mainland connections with sub sea tunnels and/or bridges that substituted partly user financed highway ferries. The Norwegian NPM road financing model and the New Norwegian System gave first and foremost the turnpike industrial complex increasing returns through almost risk free business opportunities, but maintained also the Ministry of Finance's de facto control of the road policy and road construction, except for the geographical allocation of the road investments.

The Danish, Swedish and Norwegian road policies and road construction after the neo-liberal shift have disclosed fundamentally divergent views about the State's role and function in the three countries. The Danish and Swedish States and civil servants acted as if they were the citizens' and the national trade and industry's servants, and instruments for safeguarding the national interests and common good. Because the Danish and Swedish State utilized their credit worthiness and financial leverage to their own citizens' and trade and industry's advantage, among others to facilitate swift and cost efficient construction of modern trunk road and motorway infrastructures that improved the trade and industry's competitiveness as well as the road safety. The Norwegian State and its civil servants acted as if the citizens and the trade and industry were the State and the civil servants' servants and instruments for safeguarding the State assets and the civil servants' interests, and not the opposite such as in Denmark and Sweden where national interests and the citizens' common good prevailed. The Norwegian Ministry of Finance refused also utilizing the State's new financial leverage to catch up Norway's lag with regard to modern trunk roads and motorways that harmed the trade and industry's competitiveness and led to poor road safety and unnecessarily high accident costs in the most crowded areas.

Why became Norway the deviant case concerning road policy and road construction?

Table 20 summarizes the empirical findings in the Danish, Swedish and Norwegian cases with regard to this study's four working hypotheses.

¹⁴²⁵ Cf. Kart bompenganelegg [Online April 21st 2005] – URL: <http://www.norvegfinans.com>. Norvegfinans is the turnpike companies' business sector and lobby organization.

Table 20: The four working hypotheses' status after testing against empirical data.

Hypothesis/Country	Denmark	Sweden	Norway
Road policy and road construction governed by politicians pursuing the common good	+	+	-/+
Road policy and road construction governed by the constituencies' resource struggles	+/-	-	+
Road policy and road construction governed by the political parties rivalry	+	+	+/-
Road policy and road construction governed by path dependence	+	+	+

It is finally possible to provide some answers to the big questions, why became Norway the deviant case with regard to road policy and road construction? Why was Denmark and Sweden able to carry out rational road policies, achieve efficient resource allocation and safeguard construction of functional road system? Why did local egoism prevail in Norway but barely in Denmark and Sweden? And why was this seemingly dysfunctional Norwegian road policy upheld until approximately 1995?

The answers to these questions are found in the political systems as such and the three countries' different political economies. Denmark's minister rule established in 1849 meant that appointment of a new executive and a new minister of public works in principle facilitated a fundamentally new road policy, because the political parties' rivalry kept the ministers and political parties in check and safeguarded a rational road policy, efficient resource allocation and construction of a functional road system. The Danish road financing was decoupled from the Ministry of Finance's direct control and insulated from the budget constraints from approximately World War One until 1972. The legislators were similarly kept on arms length distance from direct involvement in the road policy until 1972, when many of the most important roads were approved or completed. Neither the Ministry of Finance nor the legislators were thus able to interfere directly in the road policy and road construction during the mass motoring's formative phase and breakthrough. Road policy was then a matter for the minister of public works and the counties and municipals. Introduction of the unicameral system and an election system based on one person – one vote in 1953 facilitated gradually reallocation of the Road Fund's reimbursements and introduction of a road policy beneficial even for the urban areas, and not only the rural areas such as under the bicameral system.

The Swedes choose a fundamentally different approach when the State in 1944 became responsible for managing most public roads, which also safeguarded a rational road policy, efficient resource allocation and construction of a functional road system similarly as in Denmark. The bicameral Riksdagen delegated the responsibility for road policy and road construction to the executive, which in turn delegated this responsibility further to the autonomous Road and Water Construction Administration that operated according to the road engineers' professional norms and standards – and according to the norms about State reason that had governed Sweden's autonomous boards since Chancellor Axel Oxenstierna established the first autonomous boards and the 1634 Constitution. The requirement for agreement between Riksdagen's two chambers in budget and investment issues, combined with election systems for each chamber based on one person – one vote, checked local egoism and safeguarded the national interests' prevalence with regard to road policy and road construction. Linking the motorists' payments of vehicle and fuel taxes to road appropriations the early 1920s until 1980 safeguarded similarly swift construction of new and functional roads when the number of cars increased. The

1944 reform's principles were largely upheld even after instruction of the unicameral Riksdagen. Delegation to professionals safeguarded thus a rational road policy, efficient resource allocation and construction of a functional road system almost no matter the political situation, and furthered Axel Oxenstierna's principles based on autonomous boards staffed by professionals governed by State reason. The Swedish executive and the political parties achieved a more prominent position with regard to road policy and road construction after the neo-liberal shift, but furthered construction of roads facilitating efficient, flexible, safe and environmental friendly transports of passengers and goods, such as instituted since 1944.

Norway established a third model, which was not able to safeguard a rational road policy, efficient resource allocation and construction of a functional road system. Norwegian counties and constituencies achieved prominent positions with regard to road policy and road construction already in the 19th century. Road policy and road construction was thus not partly or completely insulated from the legislators such as in Denmark and Sweden during most of the periods studied. The 1851 Road Act instituted Stortinget's approval of each individual road project with partly State financing. Geographical distributional coalitions developed in Stortinget in the 19th century prior to development of formal political parties, and these distributional coalitions transcended later the party lines. A tradition for legislator rule and weak executives developed also in the 19th century, and was upheld during most of the 20th century. The election systems with a high degree of malapportionment favored gradually the peripheral and sparsely populated middle constituencies. Significant factions within the governing postwar Labor Party opposed mass motoring at least until 1960. The Ministry of Finance became Norway's de facto Ministry of Transport and Communications after World War Two, and decoupled the road appropriations from the motorists' annual payments of vehicle and fuel taxes. The Combined Road Administration's engineers were in many instances not able to carry out a road policy according to their professional norms and standards, because Stortinget's majority questioned mass motoring, traffic engineering and transport economics until the 1980s and 1990s. Stortinget's majority instituted road policy as universalism or political pork barrel through *Norwegian Road Plan* approved in 1971 and *Norwegian Road Plan for Cities and Villages* approved in 1980. The constituencies' direct involvement in road policy and road construction was gradually reduced after approval of *Norwegian Road Plan* in 1971, introduction of common turnpike financing in 1985, introduction of the Combined Road Administration's new governance system in 1994, and establishment of a fundamentally new road polity in 2003. Norway's pre 2003 road polity, which was upheld by election systems not based on the principle one person – one vote such as in Denmark and Sweden since 1953 and 1921, had not been able to provide those roads required by the voters and motorists, and had not been able to safeguard a rational road policy, efficient resource allocation and construction of a functional road system. Replacement of the Norwegian executive did usually not alter the road policy and road construction, because Norway is the only parliamentary democracy with completely fixed terms. Neither the Prime Minister nor the head of State is authorized to call for new elections. Minority executives were common during the 20th century. The Norwegian case's bottom line with regard to road policy and road construction was therefore; to reformulate Stein Rokkan's well-known adage, votes count but the number of seats decides.

Questions for further research

This study has not been able to determine whether the Norwegian Ministry of Finance itself or the Borten executive's instructions imposed 10 percent discount rate for road investments in 1967. Norges Bank's discount rate was then 3,5 percent. Neither has this study been able to determine whether the Norwegian Ministry of Finance's imposition of 8 percent discount rate for road investments in 2003, was initiated by the Ministry of Finance or result of instructions from the second Bondevik executive, because the Ministry of Finance imposed then a significant risk premium for long-term infrastructure investments. Norges Bank reduced its key rate from 2,0 to 1,75 percent March 12th 2004 when the Ministry of Transport and Communications published its *National Transport Plan 2006-2015* that maintained 8 percent discount rate for road investments – and argued for risk premium for long-term infrastructure investments. Was the 1967 discount rate increase imposed to maintain the budget constraints, the regional policy or to maintain the peripheral and rural areas' distributional coalition's power and influence in Stortinget? Was the 2003/2004 discount rate increase for road investments imposed to protect the ministers and legislators pet sectors from budget reallocations, to protect the Petroleum Fund from future demands for increased transport and communication infrastructure investments, or simply to maintain the turnpike industrial complex' future business opportunities, or combinations thereof?

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Data appendix

Table 2.1: The Danish counties' settlement 1950-1960.

County	1950	1950%	1960	1960%	C, M, P
Københavns Borough	765.580	17,9	721.381	15,7	C
Fredriksberg Borough	119.382	2,8	114.285	2,5	C
Københavns County	390.382	9,1	576.476	12,6	C
Frederiksborg County	147.695	3,5	181.663	4,0	C
Holbæk County	126.162	2,9	127.747	2,8	M
Sorø County	125.884	2,9	129.580	2,8	M
Præstø County	122.955	2,9	121.976	2,7	M
Bornholm County	48.134	1,1	48.373	1,1	M
Maribo County	135.337	3,2	131.699	2,9	M
Svendborg County	149.671	3,5	149.163	3,3	M
Odense County	245.864	5,7	264.745	5,8	M
Vejle County	201.113	4,7	213.705	4,7	P
Skanderborg County	134.133	3,1	137.865	3,0	P
Aarhus County	198.267	4,6	221.895	4,8	P
Randers County	167.335	3,9	170.231	3,7	P
Aalborg County	225.394	5,3	239.041	5,2	P
Hjørring County	169.688	4,0	177.778	3,9	P
Thisted County	88.091	2,1	84.955	1,9	P
Viborg County	155.628	3,6	161.232	3,5	P
Ringkøbing County	186.841	4,4	205.772	4,5	P
Ribe County	170.448	4,0	185.048	4,0	P
Haderslev County	69.118	1,6	72.153	1,6	P
Aabenraa-Sønderborg County	94.051	2,2	106.036	2,3	P
Tønder County	41.998	1,0	42.457	0,9	P
Sum	4.279.151	100,0	4.585.256	100,0	

Sources: *Statistisk årbog 1951*, Det Statistiske Departement, Copenhagen 1951:6-7 Tabel 7; *Statistisk årbog 1961*, Det Statistiske Departement, Copenhagen 1961:1 Tabel 1.

Data Appendix

Table 2.2: The Danish counties' settlement and area 1970-2000.

County	1970	1970%	1980	1980%	1990	1990%	2000	2000%	Area (km ²)	C, M, P
København Borough	634.500	12,9	498.850	9,7	466.723	9,1	495.699	9,3	88,25	C
Fredriksberg Borough	102.751	2,1	88.287	1,7	85.611	1,7	90.327	1,7	8,77	C
København County	609.469	12,4	627.245	12,2	600.889	11,7	613.444	11,5	525,95	C
Fredriksborg County	252.557	5,1	329.141	6,4	341.067	6,6	365.306	6,9	1347,42	C
Roskilde County	147.434	3,0	202.017	3,9	216.964	4,2	231.559	4,3	891,44	C
Vestsjælland County	256.997	5,2	277.833	5,4	283.641	5,5	295.086	5,5	2983,77	M
Storstrøms County	251.815	5,1	260.081	5,1	256.912	5,0	259.106	4,9	3398,02	M
Bornholm County	47.405	1,0	47.780	0,9	45.900	0,9	44.337	0,8	588,53	M
Fyn County	430.958	8,8	452.965	8,8	459.354	8,9	471.974	8,9	3485,84	M
Sønderjylland County	237.270	4,8	249.949	4,9	250.612	4,9	253.482	4,8	3939,12	P
Ribe County	196.894	4,0	212.624	4,2	218.582	4,3	224.345	4,2	3131,61	P
Vejle County	304.358	6,2	325.774	6,4	330.398	6,4	347.542	6,5	2996,64	P
Ringkøbing County	240.014	4,9	262.751	5,1	267.295	5,2	272.857	5,1	4853,94	P
Århus County	525.167	10,7	573.916	11,2	597.143	11,6	637.122	12,0	4560,73	P
Viborg County	220.214	4,5	231.517	4,5	229.775	4,5	233.681	4,4	4122,48	P
Nordjylland County	455.062	9,3	481.335	9,4	484.543	9,4	494.153	9,3	6173,37	P
Sum	4.912.865	100,0	5.122.065	100,0	5.135.409	100,0	5.330.020	100,0	43.095,88	

Sources: *Statistisk årbog 1971*, Danmarks statistik, Copenhagen 1971:1 Tabel 1; *Statistisk årbog 1981*, Danmarks statistik, Copenhagen 1981:1 Tabel 1; *Statistisk årbog 1991*, Danmarks statistik, Copenhagen 1991:19 Tabel 1; *Statistisk årbog 2000*, Danmarks statistik, Copenhagen 2000:17 Tabel 1.

Table 2.3: Denmark's absolute settlement and area 1950-2000, center, middle and periphery.

Partition	1950	1960	1970	1980	1990	2000	Area (km ²)
Center	1.423.039	1.593.805	1.746.711	1.745.540	1.711.254	1.796.335	2861,83
Middle	954.007	973.283	987.175	1.038.659	1.045.807	1.070.503	10.456,16
Periphery	1.902.105	2.018.168	2.178.979	2.337.866	2.378.348	2.463.182	29.777,89
Sum	4.279.151	4.585.256	4.912.865	5.122.065	5.135.409	5.330.020	43.095,88

Table 2.4: Denmark's relative settlement and area 1950-2000, center, middle and periphery.

Partition	1950 %	1960 %	1970 %	1980 %	1990 %	2000 %	Area %
Center	33,26	34,76	35,55	34,08	33,32	33,70	6,64
Middle	22,29	21,23	20,09	20,28	20,36	20,08	24,26
Periphery	44,45	44,01	44,35	45,64	46,31	46,21	69,10
Sum	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Data Appendix

Table 2.5: Folketinget's geographical representation 1950-1970.

Constituency	1950	Inhabitants per seat 1950	1960	Inhabitants per seat 1960	1970	C, M, P
Søndre storkreds	6		7		7	C
Østre storkreds	13		16		14	C
Vestre storkreds	9	31.606 *	9	26.115 *	8	C
København County	12	32.532	18	32.026	20	C
Frederiksborg County	4	36.924	5	36.333	8	C
Hobæk County	3	42.054	5	25.549	5	M
Sorø County	4	31.471	4	32.395	5	M
Præstø County	4	30.739	4	30.494	5	M
Bornholm County	2	24.067	2	24.187	2	M
Maribo County	6	22.556	6	21.950	5	M
Odense County	8	30.733	10	26.475	9	M
Svendborg County	7	21.382	6	24.861	5	M
Hjørring County	7	24.241	6	29.630	7	P
Thisted County	4	22.023	4	21.239	4	P
Aalborg County	8	28.174	8	29.880	11	P
Viborg County	5	31.126	7	23.033	6	P
Randers County	4	41.834	7	24.319	7	P
Aarhus County	9	22.030	9	24.655	11	P
Skanderborg County	4	33.533	6	22.978	5	P
Vejle County	8	25.139	10	21.371	10	P
Ringkøbing County	8	23.355	9	22.864	7	P
Ribe County	7	24.350	8	23.131	6	P
Haderslev County	7	29.310	9	24.516	8	P
Sum/National average of inhabitants per seat	149	28.719	175	26.201	175	

Source: *Statistisk årbog 1951*, Det Statistiske Departement, Copenhagen 1951:234-237 Tabel 240 (1950); *Statistisk årbog 1961*, Det Statistiske Departement, Copenhagen 1962:306-309 Tabel 250 (1960); *Statistisk årbog 1971*, Danmarks Statistik, Copenhagen 1971:367 Tabel 297 (1968). * Average for Copenhagen and Frederiksberg Boroughs.

Table 2.6: Landstinget's geographical representation 1947-1951.

Constituency	Seats	C, M, P	Number of inhabitants per seat 1950
The capital	10	C	127.534
Sjælland, Lolland and Falster (1951)	12	M	54.836
Bornholm (1951)	1	M	48.134
Fyn (1947)	6	M	65.923
Sønderjylland (1951)	15	P	73.065
Nordjylland (1947)	12	P	67.178
Faeroes (1951)	1	P	
Sum constituencies (1947-51)/National average of inhabitants per district seat 1950	(57) 56		76.413
Elected by the parties (1951)	19		
Total number of seats/ National average of inhabitants per seat 1950	76		56.305

Source: *Statistisk årbog 1951*, Det Statistiske Departement, Copenhagen 1951:2 Tabel 2, 238-241 Tabel 241, 242 Tabel 243.

Data Appendix

Table 2.7: Folketinget's geographical representation 1980-2000.

Constituency	1980	Inhabitants per seat 1980	1990	Inhabitants per seat 1990	2000	Inhabitants per seat 2000	C, M, P
Søndre storkreds	6		4		3		C
Østre storkreds	12		10		10		C
Vestre storkreds	6	24.464 *	4	30.685 *	5	32.557 *	C
København County	19	33.013	19	31.626	20	30.672	C
Frederiksborg County	10	32.914	12	28.422	12	30.442	C
Roskilde County	4	50.504	8	27.121	7	33.080	C
Vestsjælland County	9	30.870	10	28.364	9	32.787	M
Storstrøm County	8	32.510	7	36.702	8	32.388	M
Bornholm County	2	23.890	2	22.950	2	22.169	M
Fyn County	18	25.165	15	30.624	15	31.465	M
Sønderjylland County	7	35.707	8	31.327	8	31.685	P
Ribe County	6	35.437	7	31.226	6	37.391	P
Vejle County	12	27.148	13	25.415	12	28.962	P
Ringkøbing County	9	29.195	11	24.300	10	27.286	P
Århus County	19	30.206	21	28.435	22	28.960	P
Viborg County	9	25.724	7	32.825	8	29.210	P
Nordjylland County	19	25.333	17	28.503	18	27.453	P
Sum/ National average of inhabitants per seat	175	29.269	175	29.345	175	30.457	

Source: *Statistisk årbog 1981*, Danmarks Statistik, Copenhagen 1981:377 Tabel 342 (1979); *Statistisk årbog 1991*, Danmarks Statistik, Copenhagen 1991:82 Tabel 85 (1990); *Statistisk årbog 2000*, Danmarks Statistik, Copenhagen 2000:83 Tabel 71 (1998). * Average for Copenhagen and Frederiksberg Borroughs.

Table 2.8: Folketinget's absolute and relative geographical representation 1950-2000, center, middle and periphery.

Partition	1950	%	1960	%	1970	%	1980	%	1990	%	2000	%
Center	44	29,53	55	31,43	57	32,57	57	32,57	57	32,57	57	32,57
Middle	34	22,82	37	21,14	36	20,57	37	21,14	34	19,43	34	19,43
Periphery	71	47,65	83	47,43	82	46,86	81	46,29	84	48,00	84	48,00
Sum	149	100,00	175	100,00	175	100,00	175	100,00	175	100,00	175	100,00

Table 2.9: Landstinget's absolute and relative geographical representation 1947-1951, center, middle and periphery.

District seats	Seats	%
Center	10	18
Middle	19	34
Periphery	27	48
Sum	56	100

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Table 2.10: Folketinget's political representation 1950-2000.

Party	1950	1960	1970	1980	1990	2000	L, M, R
Communist Party	7						L
Left Socialists			4	6			L
Unity List						5	L
Socialist People's Party		11	11	11	15	13	L
Social Democratic Party	59	76	62	68	69	63	L
Radical Party	12	11	27	10	7	7	M
Center Democrats				6	9	8	M
Christian People's Party				5	4	4	M
Justice Party	12			5			M
Conservative Party	27	32	37	22	30	16	R
Liberal Party	32	38	34	22	29	42	R
Progress Party				20	12	4	R
Danish People's Party						13	R
Slesvig Party		1					R
Others		6					R
Sum	149	175	175	175	175	175	

Source: *Statistisk årbog 1951*, Det Statistiske Departement, Copenhagen 1951:234-237 Tabel 240 (1950); *Statistisk årbog 1961*, Det Statistiske Departement, Copenhagen 1962:306-309 Tabel 250 (1960); *Statistisk årbog 1971*, Danmarks Statistik, Copenhagen 1971:367 Tabel 297 (1968); *Statistisk årbog 1981*, Danmarks statistik, Copenhagen 1981:370-371 Tabel 341 (1979); *Statistisk årbog 1991*, Danmarks statistik, Copenhagen 1991:82 Tabel 85 (1990); *Statistisk årbog 2000*, Danmarks statistik, Copenhagen 2000:83 Tabel 71 (1998).

Table 2.11: Folketinget's absolute political balance 1950-2000.

Parties	1950	1960	1970	1980	1990	2000
Leftwing parties	66	87	77	85	84	81
Middle parties	24	11	27	26	20	19
Rightwing parties	59	77	71	64	71	75
Sum	149	175	175	175	175	175

Table 2.12: Folketinget's relative political balance 1950-2000.

Parties	1950	1960	1970	1980	1990	2000
Leftwing parties	44,30	49,71	44,00	48,57	48,00	46,29
Middle parties	16,11	6,29	15,43	14,86	11,43	10,86
Rightwing parties	39,60	44,00	40,57	36,57	40,57	42,86
Sum	100,00	100,00	100,00	100,00	100,00	100,00

Table 2.13: Landstinget's political representation 1951.

Party	1951	L, R, M
Communist Party	1	L
Social Democrats	33	L
Radical Party	6	M
Liberal Party	22	R
Justice Party	1	R
Conservative Party	12	R
Faeroes	1	M
Sum	76	

Source: *Statistisk årbog 1951*, Det Statistiske Departement, Copenhagen 1951:242 Tabel 243.

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Table 2.14: Landstinget's absolute and relative political balance 1951.

Party	1951	%
Leftwing parties	34	45
Middle parties	7	9
Rightwing parties	35	46
Sum	76	100

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Table 2.15: Approximate tax financed Danish road investments 1950-2000.

Year	Road investments millions DKK, all categories roads	Road investments millions 1990 DKK	Road inv mill 1990 PPP USD	GDP millions 1990 Geary-Khamis dollars	Tax financed road investments as % of GDP
1950/51	772	809,1	92,89	29 852	0,31
1951/52	719	753,5	86,51	30 144	0,29
1952/53	954	999,8	114,79	31 859	0,36
1953/54	1483	1554,2	178,44	32 478	0,55
1954/55	1338	1402,2	160,99	32 828	0,49
1955/56	1390	1456,7	167,25	33 225	0,50
1956/57	1606	1683,1	193,24	35 746	0,54
1957/58	1488	1559,4	179,04	36 551	0,49
1958/59	1498	1569,9	180,24	39 270	0,46
1959/60	1661	1740,7	199,85	40 367	0,50
1960/61	1740	1823,5	209,36	42 926	0,49
1961/62	1684	1764,8	202,62	45 295	0,45
1962/63	1588	1664,2	191,07	45 579	0,42
1963/64	1689	1770,1	203,22	49 843	0,41
1964/65	2216	2322,4	266,63	52 117	0,51
1965/66	3247	3402,9	390,68	53 539	0,73
1966/67	3264	3420,7	392,73	55 339	0,71
1967/68	3606	3779,1	433,88	57 613	0,75
1968/69	4308	4514,8	518,34	61 283	0,85
1969/70	4058	4252,8	488,26	62 524	0,78
1970/71	4737	4964,4	569,96	64 191	0,89
1971/72	5280	5533,4	635,30	67 578	0,94
1972/73	1209	4731,5	543,22	70 032	0,78
1973/74	1071	3834,8	440,27	69 379	0,63
1974/75	1295	4021,5	461,71	68 921	0,67
1975/76	1704	4828,2	554,32	73 382	0,76
1976/77	1657	4307,3	494,53	74 573	0,66
1977/78	2012	4707,6	540,48	75 674	0,71
1978	2027	4742,7	544,51	75 674	0,69
1979	2194	4666,8	535,79	78 356	0,69
1980	2242	4351,1	499,56	78 010	0,65
1981	1912	3304,3	379,37	77 316	0,48
1982	2018	3122,2	358,46	79 650	0,44
1983	1954	2745,8	315,25	81 656	0,37
1984	1916	2518,6	289,17	85 241	0,33
1985	2097	2593,2	297,73	88 897	0,32
1986	1972	2329,1	267,41	92 135	0,29
1987	1807	2058,1	236,29	92 406	0,25
1988	1866	2043,6	234,62	93 482	0,25
1989	1780	1865,4	214,17	93 728	0,23
1990	1419	1419,0	162,92	94 863	0,17
1991	1358	1326,2	152,26	96 184	0,16

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1992	1488	1423,2	163,40	97 413	0,17
1993	1762	1663,7	191,01	98 232	0,18
1994	2218	2053,2	235,73	103 884	0,22
1995	2578	2337,3	268,35	107 713	0,24
1996	2971	2638,2	302,90	110 406	0,27
1997	2990	2598,0	298,27	113 745	0,26
1998	2908	2482,0	284,96	116 545	0,24
1999	3119	2597,2	298,19	119 238	0,24
2000	3800	3075,1	353,05	122 793	0,28

Sources: 1950/51-1971/72 (1989 millions DKK), Trafikministeriet, Planlægningsafdelingen in Jørgensen (2001:433 Tabell V.3); 1972/73-2003 Vejdirektoratet, Vejudgifter [Online June 3rd 2005] – URL: <http://www.vejdirektoratet.dk/dokument.asp?page=document&objno=79746>; 1999-2000, *Virksomhedsregnskab 2000*, Vejdirektoratet København 2001:21; GDP figures are from Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:50-52 Table 1b.

The conversions to 1990 DKK and 1990 PPP in the years with fiscal years deviating from the calendar years are simplified and based on the last year, because these calculations are only approximations to indicate the investment level.

Data Appendix

Table 3.1: The Swedish counties' settlement and area 1950-2000.

County	1950	1960	1970	1980	1990	2000	Area (km ²)	C, M, P
Stockholm County	1.101.017	1.271.014	1.478.012	1.528.200	1.641.669	1.823.210	6519,3	C
Uppsala County	154.660	167.722	217.730	243.585	268.835	294.196	7036,7	C
Södermanland County	214.012	227.807	248.413	252.536	255.636	256.033	6103,1	C
Östergötland County	347.537	357.601	382.674	392.789	403.011	411.345	10.604,6	M
Jönköping County	271.443	285.348	306.648	303.156	308.290	311.180	10.495,4	M
Kronoberg County	157.638	158.867	166.736	173.691	177.882	176.639	8467,3	M
Kalmar County	236.774	235.612	241.026	241.581	241.102	235.391	11.219,1	P
Gotland County	58.995	54.196	53.723	55.346	57.108	57.313	3151,4	P
Blekinge County	146.090	144.466	153.585	153.542	150.564	150.392	2946,7	P
Skåne County	841.067	882.481	983.767	1.023.479	1.068.587	1.129.424	11035,4	M
Halland County	163.455	169.995	193.108	230.924	254.725	275.004	5461,6	M
Västra Götaland County	1.164.175	1.250.301	1.376.298	1.406.377	1.458.166	1.511.290	23.956,1	M
Värmland County	281.396	291.074	284.688	284.070	283.110	275.003	17.591,3	P
Örebro County	246.950	262.321	276.798	274.356	272.513	273.615	8546,3	C
Västmanland County	203.553	232.973	260.293	259.538	258.487	256.889	6317,9	C
Dalarna County	267.081	286.047	277.057	286.968	289.067	278.259	28.195,6	M
Gävleborg County	284.934	293.246	293.458	294.020	289.294	279.262	18.200,1	P
Västernorrland County	283.750	285.676	273.456	267.935	261.155	246.903	21.684,5	P
Jämtland County	144.063	139.799	125.243	134.934	135.726	129.566	49.343,1	P
Västerbotten County	231.750	239.619	233.134	243.856	251.968	255.640	55.189,7	P
Norrbottn County	241.489	261.802	255.369	267.054	263.735	256.238	98.249	P
Sum	7.041.829	7.497.967	8.081.216	8.317.937	8.590.630	8.882.792	410.335,4	

Source: Folkmängd efter region och tid [Online April 14th 2005] – URL: <http://www.ssd.scb.se/databaser/makro/temp/tmp20054141005228BE010IE1.xls> (Settlement); *Statistisk årsbok för Sverige 2004*, Statistisk centralbyrå, Stockholm 2003:13-17 (area).

Table 3.2: The Swedish counties' relative settlement and area 1950-2000.

County	1950 %	1960 %	1970 %	1980 %	1990 %	2000 %	Area %	C, M, P
Stockholm County	15,64	16,95	18,29	18,37	19,11	20,53	1,59	C
Uppsala County	2,20	2,24	2,69	2,93	3,13	3,31	1,71	C
Södermanland County	3,04	3,04	3,07	3,04	2,98	2,88	1,49	C
Östergötland County	4,94	4,77	4,74	4,72	4,69	4,63	2,58	M
Jönköping County	3,85	3,81	3,79	3,64	3,59	3,50	2,56	M
Kronoberg County	2,24	2,12	2,06	2,09	2,07	1,99	2,06	M
Kalmar County	3,36	3,14	2,98	2,90	2,81	2,65	2,73	P
Gotland County	0,84	0,72	0,66	0,67	0,66	0,65	0,77	P
Blekinge County	2,07	1,93	1,90	1,85	1,75	1,69	0,72	P
Skåne County	11,94	11,77	12,17	12,30	12,44	12,71	2,69	M
Halland County	2,32	2,27	2,39	2,78	2,97	3,10	1,33	M
Västra Götaland County	16,53	16,68	17,03	16,91	16,97	17,01	5,84	M
Värmland County	4,00	3,88	3,52	3,42	3,30	3,10	4,29	P
Örebro County	3,51	3,50	3,43	3,30	3,17	3,08	2,08	C
Västmanland County	2,89	3,11	3,22	3,12	3,01	2,89	1,54	C
Dalarna County	3,79	3,81	3,43	3,45	3,36	3,13	6,87	M
Gävleborg County	4,05	3,91	3,63	3,53	3,37	3,14	4,44	P
Västernorrland County	4,03	3,81	3,38	3,22	3,04	2,78	5,28	P
Jämtland County	2,05	1,86	1,55	1,62	1,58	1,46	12,03	P
Västerbotten County	3,29	3,20	2,88	2,93	2,93	2,88	13,45	P
Norrbottn County	3,43	3,49	3,16	3,21	3,07	2,88	23,94	P
Sum	100,00	100,00	100,00	100,00	100,00	100,00	100,0	

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Table 3.3: Sweden's settlement and area 1950-2000, center, middle and periphery.

Partition	1950	1960	1970	1980	1990	2000	Area (km ²)
Center	1.920.192	2.161.837	2.481.246	2.558.215	2.697.140	2.903.943	34 523,3
Middle	3.212.396	3.390.640	3.686.288	3.817.384	3.959.728	4.093.141	98 216
Periphery	1.909.241	1.945.490	1.913.682	1.942.338	1.933.762	1.885.708	277 574,9
Sum	7.041.829	7.497.967	8.081.216	8.317.937	8.590.630	8.882.792	410 335,4

Table 3.4: Sweden's relative settlement and area 1950-2000, center, middle and periphery.

Partition	1950 %	1960 %	1970 %	1980 %	1990 %	2000 %	Area %
Center	27,27	28,83	30,70	30,76	31,40	32,69	8,41
Middle	45,62	45,22	45,62	45,89	46,09	46,08	23,94
Periphery	27,11	25,95	23,68	23,35	22,51	21,23	67,65
Sum	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Table 3.5: Riksdagen's First Chamber's geographical representation 1950-1970.

Constituency/Seats	1950	Inhabitants per seat 1950	1960	Inhabitants per seat 1960	1970	Inhabitants per seat 1970	C, M, P
Stockholm City	14	53.153	16	50.518	16		C
Stockholm County and Uppsala County	10	51.153	11	57.313	13	58.474 **	C
Södermanland County and Västmanland County	9	46.396	9	51.198	9	56.523	C
Östergötland County and Norrköping City	7	49.648	7	51.086	7	54.668	M
Jönköping County	6	45.241	6	47.558	6	51.108	M
Kronoberg County and Halland County	7	45.870	7	50.282	7	51.406	M
Kalmar County and Gotland County	7	42.253	6	48.301	6	49.125	P
Blekinge County and Kristianstad County	9	44.980	9	44.540	8	52.219	P
Malmöhus County with Malmö City and Helsingborg City	12	48.528	12	52.174	13	55.354	M
Gothenburg City	7		8		8		M
Gothenburg and Bohus County	5	46.400 *	5	48.128 *	5	55.022 *	M
Älvsborg County	8	44.874	8	46.835	7	57.673	M
Skaraborg County	6	41.398	5	49.990	5	51.460	M
Värmland County	6	46.899	6	48.512	6	47.448	P
Örebro County	5	49.390	5	52.464	5	55.360	C
Kopparberg County	6	44.514	6	47.675	6	46.176	M
Gävleborg County and Gävle City	6	47.489	6	48.874	6	48.910	P
Västernorrland County and Jämtland County	10	42.781	9	45.658	8	51.148	P
Västerbotten County and Norrbotten County	10	47.324	10	50.142	10	48.850	P
Sum/National average inhabitants per seat	150	46.946	151	49.655	151	53.518	

Sources: *Riksdagsmatrikel 1950*, Stockholm 1950; *Riksdagsmatrikel 1960*, Stockholm 1960; *Riksdagsmatrikel 1970*, Stockholm 1970. * Included Gothenburg City. ** Included Stockholm City.

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Table 3.6: Riksdagen's Second Chamber's geographical representation 1950-1970.

Constituency/Seats	1950	Inhabitants per seat 1950	1960	Inhabitants per seat 1960	1970	Inhabitants per seat 1970	C, M, P
Stockholm City	24	31.006	25	32.332	22		C
Stockholm County	12	29.740	14	33.051	19	36.049 ****	C
Uppsala County	5	30.932	5	33.544	6	36.288	C
Södermanlän County	7	30.573	7	32.544	7	35.488	C
Östergötland County	11	31.594	11	32.509	11	34.789	M
Jönköping County	9	30.160	9	31.705	9	34.072	M
Kronoberg County	5	31.528	5	31.773	5	33.347	M
Kalmar County	8	29.597	7	33.659	7	34.432	P
Gotland County	3	19.665	3	18.065	3	17.908	P
Blekinge County	5	29.218	5	28.893	5	30.717	P
Kristianstad County	9	28.748	8	32.049	8	33.021	M
Malmö, Helsingborg, Landskrona and Lund Cities	10		11		12		M
Malmöhus County	9	30.649 *	8	32.952 *	8	35.980 *	M
Halland County	5	32.691	5	33.999	5	38.622	M
Gothenburg City	11		12		13		M
Gothenburg and Bohus County	7	30.933 **	7	32.930 **	7	35.764 **	M
Älvsborg County, northern constituency	6		6		6		M
Älvsborg County, southern constituency	5	32.635 ***	5	34.062 ***	5	36.701 ***	M
Skaraborg County	8	31.049	8	31.244	7	36.757	M
Värmland County	9	31.266	9	32.342	8	35.586	P
Örebro County	8	30.869	8	32.790	8	34.600	C
Västmanland County	6	33.926	7	33.282	7	37.185	C
Kopparberg County	9	29.676	9	31.783	8	34.632	M
Gävleborg County	9	31.659	9	32.583	9	32.606	P
Västernorrland County	9	31.528	9	31.742	8	34.182	P
Jämtland County	5	28.813	5	27.960	5	25.049	P
Västerbotten County	8	28.969	7	34.231	7	33.305	P
Norrbotten County	8	30.186	8	32.725	8	31.921	P
Sum/ National average inhabitants per seat	230	30.617	232	32.319	233	34.683	

Sources: *Riksdagsmannavalen åren 1945-1948*, Sveriges officiella statistik Allmänna val, Statistiska Centralbyrån, Stockholm 1949:6-7 Tab. 3; *Riksdagsmannavalen åren 1959-1960 I*, Sveriges officiella statistik Allmänna val, Statistiska Centralbyrån, Stockholm 1960:12-13 Tab. 2, 14-19 Tab. 3; *Riksdagsmannavalen åren 1965-1968 Del I. Andrakammarvalen 1968, huvudresultatet*, Sveriges officiella statistik Allmänna val, Statistiska Centralbyrån, Sthl 1969:20 Tabell 5. * included the three-city constituency. ** included Gothenburg City. *** both Älvsborg County's constituencies. **** included Stockholm City.

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Table 3.7: The unicameral Riksdagen's geographical representation 1970-2000.

Constituency/Seats	1970	Inhabitants per seat 1970	1980	Inhabitants per seat 1980	1990	Inhabitants per seat 1990	2000	Inhabitants per seat 2000	C, M, P
Stockholm City	36		31		30		28		C
Stockholm County	28	23.094 *	33	23.878 *	37	24.503 *	38	27.624 *	C
Uppsala County	8	27.216	10	24.359	12	22.403	12	24.516	C
Södermanlän County	11	22.583	11	22.958	9	28.404	10	25.603	C
Östergötland County	17	22.510	17	23.105	17	23.707	17	24.197	M
Jönköping County	13	23.588	13	23.320	11	28.026	13	23.937	M
Kronoberg County	7	23.819	7	24.813	6	29.647	7	25.234	M
Kalmar County	11	21.911	10	24.158	10	24.110	9	26.155	P
Gotland County	2	26.862	2	27.673	2	28.554	2	28.657	P
Blekinge County	6	25.598	6	25.590	6	25.094	6	25.065	P
Kristianstad County	12	22.014	11	25.472	12	24.107	12	24.121	M
Malmö, Helsingborg, Landskrona and Lund Cities	21		21		20		18		M
Malmöhus County	11	22.487 **	11	23.228 **	13	23.615 **	13	27.096 **	M
Halland County	8	24.139	10	23.092	11	23.157	12	22.917	M
Göteborgs City	20		19		19		17		M
Göteborg and Bohus County	10	23.843 ***	11	23.707 ***	12	23.869 ***	13	26.439 ***	M
Älvsborg County, northern constituency	9		9		11		12		M
Älvsborg County, southern constituency	7	25.232 ****	8	25.027 ****	6	25.964 ****	6	24.818 ****	M
Skaraborg County	11	23.391	10	26.973	11	25.166	10	27.141	M
Värmland County	14	20.335	12	23.673	12	23.593	12	22.917	P
Örebro County	12	23.067	12	22.863	11	24.774	13	21.047	C
Västmanland County	11	23.663	11	23.594	10	25.849	10	25.689	C
Kopparberg County	12	23.088	13	22.074	12	24.089	11	25.296	M
Gävleborg County	13	22.574	13	22.617	12	24.108	12	23.272	P
Västernorrland County	13	21.035	12	22.328	12	21.763	10	24.690	P
Jämtland County	5	25.049	5	26.987	5	27.145	5	25.913	P
Västerbotten County	10	23.313	10	24.386	10	25.197	12	21.303	P
Norrbottn County	12	21.281	11	24.278	10	26.374	9	28.471	P
Sum/ National average inhabitants per seat	350	23.089	349	23.834	349	24.615	349	25.452	

Source: *Allmänna valen 1970, Del 1. Riksdagsvalet den 20 september 1970*, Sveriges officiella statistik, Statistisk centralbyrå, Stockholm 1971:24 Tabell 6; Riksdagsledamöter efter region, parti, kön och tid [Online June 14th 2004] – URL:

<http://www.ssd.scb.se/databaser/makro/temp/tmp20046141555618ME0104A6.xls> (1979);

Riksdagsledamöter efter region, parti, kön och tid [Online June 14th 2004] – URL:

<http://www.ssd.scb.se/databaser/makro/temp/tmp200461415105587ME0104A6.xls> (1988);

Riksdagsledamöter efter region, parti, kön och tid [Online June 14th 2004] – URL:

<http://www.ssd.scb.se/databaser/makro/temp/tmp200461415144094ME0104A6.xls> (1998). 1988 dataset supplementet with NSD's sve88.por and sve88.txt files because of 1 missing member of Riksdagen (Environmental Party, Kristianstad County). * included Stockholm City. ** included the three-city constituency. *** included Gothenburg City. **** both Älvsborg County's constituencies.

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Table 3.8: Riksdagen's First Chamber's absolute and relative geographical representation 1950-1970, center, middle and periphery.

Partition	1950	%	1960	%	1970	%
Center	38	25,33	41	27,15	43	28,48
Middle	64	42,67	64	42,38	64	42,38
Periphery	48	32,00	46	30,46	44	29,14
Sum	150	100,00	151	100,00	151	100,00

Table 3.9: Riksdagen's Second Chamber's absolute and relative geographical representation 1950-1970, center, middle and periphery.

Partition	1950	%	1960	%	1970	%
Center	62	26,96	66	28,45	69	29,61
Middle	104	45,22	104	44,83	104	44,64
Periphery	64	27,83	62	26,72	60	25,75
Sum	230	100,00	232	100,00	233	100,00

Table 3.10: The unicameral Riksdagen's absolute and relative geographical representation 1970-2000, center, middle and periphery.

Partition	1970	%	1980	%	1990	%	2000	%
Center	106	30,29	108	30,95	109	31,23	111	31,81
Middle	158	45,14	160	45,85	161	46,13	161	46,13
Periphery	86	24,57	81	23,21	79	22,64	77	22,06
Sum	350	100,00	349	100,00	349	100,00	349	100,00

Table 3.11: Riksdagen's First Chamber's political representation 1950-1970.

Party	1950	1960	1970	L, M, R
Communist Party	3	2	1	L
Social Democratic Party	81	78	79	L
Liberal Party	19	32	27	M
Agrarian Party	24	22	21	M
Conservative Party	23	17	23	R
Sum	150	151	151	

Sources: *Riksdagsmatrikel 1950*, Stockholm 1950; *Riksdagsmatrikel 1960*, Stockholm 1960; *Riksdagsmatrikel 1970*, Stockholm 1970.

Table 3.12: Riksdagen's First Chamber's absolute and relative political balance 1950-1970.

Parties	1950	%	1960	%	1970	%
Left parties	84	56,00	80	52,98	80	52,98
Middle parties	43	28,67	54	35,76	48	31,79
Right parties	23	14,33	17	11,26	23	15,23
Sum	150	100,00	151	100,00	151	100,00

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Table 3.13: Riksdagen's Second Chamber's political representation 1950-1970.

Party	1950	1960	1970	L, M, R
Communist Party	8	5	3	L
Social Democratic Party	112	111	125	L
Liberal Party	57	38	34	M
Agrarian Party	30	32	39	M
Conservative Party	23	45	32	R
Sum	230	231	233	

Source: *Riksdagamannavalen åren 1949-52*, Sveriges officiella statistik allmänna val, Statistiska centralbyrån, Stockholm 1953:74-75 Tab 3 (1948); *Riksdagamannavalen åren 1957-58 I*, Sveriges officiella statistik allmänna val, Statistiska centralbyrån, Stockholm 1958:10-11 Tab 2 (1958); *Riksdagsmannavalen 1965-1968. Del 1. Andrakammarvalet 1968, huvudresultat*, Statistiska centralbyrån, Stockholm 1969:20 Tabell 5 (1968); Riksdagens sammansättning 1929-2002 [Online April 18th 2005] - URL: <http://www.scb.se>; *Riksdagsmatrikel 1969*, Stockholm 1969.

Table 3.14: Riksdagen's Second Chamber's absolute and relative political balance 1950-1970.

Parties	1950	%	1960	%	1970	%
Left parties	120	52,17	116	50,22	128	54,94
Middle parties	87	37,83	70	30,30	73	31,33
Right parties	23	10,00	45	19,48	32	13,73
Sum	230	100,00	231	100,00	233	100,00

Table 3.15: The unicameral Riksdagen's political representation 1970-2000.

Party	1970	1980	1990	2000	L, M, R
Communist/Left Party	17	20	21	43	L
Social Democratic Party	163	154	156	131	L
Green Party			20	16	M
Liberal Party	58	38	44	17	M
Christian Party				42	M
Agrarian Party	71	64	42	18	M
Conservative Party	41	73	66	82	R
Sum	350	349	349	349	

Source: Riksdagens sammansättning 1929-2002 [Online April 18th 2005] - URL: <http://www.scb.se>.

Table 3.16: The unicameral Riksdagen's absolute and relative political balance 1970-2000.

Parties	1970	%	1980	%	1990	%	2000	%
Leftwing parties	180	51,43	174	49,86	177	50,72	174	49,86
Middle parties	129	36,86	102	29,23	106	30,37	93	26,65
Rightwing parties	41	11,71	73	20,92	66	18,91	82	23,50
Sum	350	100,00	349	100,00	349	100,00	349	100,00

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Table 3.17: Riksdagen's Standing Traffic Committee 1970-1973, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	2			2
Middle	3, DL	4, L	2	9
Periphery	3	1		4
Sum	8	5	2	15

Sources: *Förteckning över Riksdagens utskott m.fl. 1971*, Riksdagen, Stockholm 1971:34-35; *Allmänna valen 1970, Del 1. Riksdagsvalet den 20 september 1970*, Sveriges officiella statistik, Statistisk centralbyrå, Stockholm 1971:24 Tabell 6.

Table 3.18: Riksdagen's Standing Traffic Committee 1973-1976, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	2			2
Middle	2, DL	4, L	2	8
Periphery	3	2		5
Sum	7	6	2	15

Sources: *Förteckning över Riksdagens utskott m.fl. 1974*, Riksdagen, Stockholm 1974:34-35; Riksdagsledamöter efter region, parti, kön och tid [Online June 14th 2004] – URL: <http://www.ssd.scb.se/databaser/makro/temp/tmp20046141515287ME0104A6.xls>

Table 3.19: Riksdagen's Standing Traffic Committee 1976-1979, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	3	1		4
Middle	2, L	3	3, DL	8
Periphery	2	1		3
Sum	7	5	3	15

Sources: *Förteckning över Riksdagens utskott m.fl. 1978/79*, Riksdagen, Stockholm 1978:34-35; Riksdagsledamöter efter region, parti, kön och tid [Online June 14th 2004] – URL: <http://www.ssd.scb.se/databaser/makro/temp/tmp20046141543411ME0104A6.xls>; SCB's dataset has been corrected through NSD's dataset "elswe45.por" because of one Agrarian representative too many in Västerbotten County (350 rather than 349 seats).

Table 3.20: Riksdagen's Standing Traffic Committee 1979-1982, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	3, L		1	4
Middle	2	2	2, DL	6
Periphery	2	3		5
Sum	7	5	3	15

Sources: *Förteckning över Riksdagens ledamöter Riksdagens utskott m.fl. 1979/80*, Riksdagen, Stockholm 1980:62; *Riksdagen 1981/82. Uppgifter om ledamöter och riksdagsorgan*, Riksdagen, Stockholm 1981:60; Riksdagsledamöter efter region, parti, kön och tid [Online June 14th 2004] – URL: <http://www.ssd.scb.se/databaser/makro/temp/tmp20046141555618ME0104A6.xls>

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Table 3.21: Riksdagen's Standing Traffic Committee 1982-1985, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	2	3, DL	2	7
Middle	2		2	4
Periphery	4, L			4
Sum	8	3	4	15

Sources: *Riksdagen 1982/83. Uppgifter om ledamöter och riksdagsorgan*, Riksdagen, Stockholm 1982:96; Riksdagsledamöter efter region, parti, kön och tid [Online June 14th 2004] – URL: <http://www.ssd.scb.se/databaser/makro/temp/tmp20046141574534ME0104A6.xls>

Table 3.22: Riksdagen's Standing Traffic Committee 1985-1988, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	1	1	1	3
Middle	4, L	1	2, DL	7
Periphery	3	2		5
Sum	8	4	3	15

Source: Riksdagens förvaltningskontor, *Fakta om folkvalda. Riksdagen 1985-1988*, Liber Allmänna Förlaget, Stockholm 1986:330.

Table 3.23: Riksdagen's Standing Traffic Committee 1988-1991, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center		1	1	2
Middle	6	3	2, DL	11
Periphery	3, L		1	4
Sum	9	4	4	17

Source: Riksdagen, *Fakta om folkvalda. Riksdagen 1988-1991*, Liber Allmänna Förlaget, Stockholm 1989:336.

Table 3.24: Riksdagen's Standing Traffic Committee 1991-1994, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	1	1	1	3
Middle	3	2	4, DL	9
Periphery	3, L			3
Sum	7	3	5	15

Source: Riksdagens förvaltningskontor, *Fakta om folkvalda. Riksdagen 1991-1994*, Sveriges Riksdag, Stockholm 1992:343.

Table 3.25: Riksdagen's Standing Traffic Committee 1994-1998, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	2	1	2	5
Middle	2	1	2, DL	5
Periphery	6, L	1		7
Sum	10	3	4	17

Source: Riksdagens förvaltningskontor, *Fakta om folkvalda. Riksdagen 1994-1998*, Stockholm 1995:383.

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Table 3.26: Riksdagen's Standing Traffic Committee 1998-2002, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	1	1	1	3
Middle	2	3, DL	2	7
Periphery	5, L	1	1	7
Sum	8	5	4	17

Source: Riksdagens förvaltningskontor, *Fakta om folkvalda. Riksdagen 1998-2002*, Stockholm 1999:402.

Table 3.27: Riksdagen's Standing Traffic Committee 2002-2006, geographical and political representation.

Constituencies/Parties	Leftwing parties	Middle parties	Rightwing parties	Sum
Center	1, 1 st DL	2	1	4
Middle	4	2, L,	1, 2 nd DL	7
Periphery	3	2	1	6
Sum	8	6	3	17

Source: Riksdagens förvaltningskontor, *Fakta om folkvalda. Riksdagen 2002-2006*, Stockholm 2003:313.

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Table 3.28: Approximate Swedish tax financed road investments 1936-2000.

Year	Road investments, millions current SEK	Road investments 1990 millions SEK	Road investments 1990 millions PPP USD	GDP millions 1990 Geary-Khamis dollars	Tax financed State road investments as % of GDP
1936	338,1	3 844,80	435,42	27 949	1,56
1937	270	3 070,38	347,72	29 272	1,19
1938	287,6	3 270,53	370,39	29 759	1,24
1939	264,4	3 006,70	340,51	31 813	1,07
1940	169	1 921,83	217,65	30 873	0,70
1941	157,1	1 786,51	202,32	31 395	0,64
1942	152,6	1 735,33	196,53	33 309	0,59
1943	146	1 660,28	188,03	34 789	0,54
1944	141,3	1 606,83	181,97	35 972	0,51
1945	138,7	1 577,27	178,63	36 947	0,48
1946	140,6	1 598,87	181,07	41 001	0,44
1947	176,3	2 004,85	227,05	42 011	0,54
1948	220,5	2 507,48	283,97	43 316	0,66
1949	NA	NA	NA	44 900	NA
1950	160	1 712,89	193,99	47 269	0,41
1951	233	2 455,11	278,04	49 148	0,57
1952	346	3 118,73	353,20	49 845	0,71
1953	450	3 783,72	428,51	51 237	0,84
1954	400	3 343,25	378,62	53 395	0,71
1955	451	3 735,89	423,09	54 944	0,77
1956	509	4 117,51	466,31	57 032	0,82
1957	577	4 445,33	503,43	59 591	0,84
1958	655	4 828,95	546,88	59 887	0,91
1959	883	6 241,48	706,85	61 714	1,15
1960	920	6 451,41	730,62	64 986	1,12
1961	930	6 264,68	709,48	68 710	1,03
1962	1012	6 670,30	755,41	71 599	1,06
1963	1293	8 132,09	920,96	75 411	1,22
1964	1457	8 896,64	1 007,55	80 562	1,25
1965	1536	9 097,02	1 030,24	83 643	1,23
1966	1605	9 035,81	1 023,31	85 383	1,20
1967	1788	9 442,84	1 069,40	88 272	1,21
1968	1803	9 155,82	1 036,90	91 475	1,13
1969	1903	9 474,15	1 072,95	96 056	1,12
1970	1987	9 632,27	1 090,86	102 275	1,07
1971	1983	8 992,41	1 018,39	103 241	0,99
1972	2234	9 432,62	1 068,25	105 564	1,01
1973	2151	8 568,08	970,34	109 794	0,88
1974	2338	8 728,17	988,47	113 306	0,87
1975	2489	8 454,85	957,51	116 198	0,82
1976	2626	8 124,07	920,05	117 428	0,78
1977	2613	7 322,33	829,26	115 553	0,72
1978	3029	7 626,30	863,68	117 577	0,73
1979	3229	7 384,06	836,25	122 092	0,68
1980	3273	6 981,98	790,71	124 130	0,64
1981	2943	5 526,42	625,87	124 113	0,50
1982	2973	4 980,16	564,00	125 358	0,45
1983	3651	5 636,77	638,37	127 555	0,50
1984	3818	5 412,86	613,01	132 717	0,46
1985	3145	4 128,46	467,55	135 277	0,35

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1986	3119	3 812,22	431,74	138 381	0,31
1987	3393	3 979,96	450,73	142 733	0,32
1988	3853	4 337,37	491,21	145 946	0,34
1989	4872	5 183,81	587,07	149 415	0,39
1990	5500	5 500,00	622,88	151 451	0,41
1991	NA	NA	NA	149 760	NA
1992	3979,1	3 558,68	403,02	147 631	0,27
1993	5621,9	4 802,20	543,85	144 353	0,38
1994	8410,8	7 029,82	796,13	150 296	0,53
1995	8949,6	7 297,71	826,47	155 843	0,53
1996	7329	5 946,50	673,44	157 557	0,43
1997	6509	5 254,91	595,12	160 830	0,37
1998	7417	5 999,96	679,50	166 596	0,41
1999	6398	5 149,89	583,23	174 077	0,34
2000	5696	4 539,44	514,09	180 310	0,29

Sources: 1936-1948 (1948 SEK), *Kungliga Väg och Vattenbyggnadsstyrelsen bilagt Bilindustriföreningens protokoll 27. Mars 1950* in Blomkvist (2001:244 Tabell 1); 1950-1990, SCB in Larsson (1993:242 Tabell 6); 1992-93, *Vägverkets årsredovisning 1993*, Borlänge 1994:I:5; 1994-95, *Vägverkets Årsredovisning 98*, Borlänge 1999:27; 1996-2000, *Vägverkets årsredovisning 2000*, Borlänge 2001:29; GDP figures are from Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:51-53 Table 1b.

Data Appendix

Table 4.1: The Norwegian counties' settlement and area 1950-2000.

County	1950	1960	1970	1980	1990	2000	Area (km ²)	C, M, P
Østfold	185.492	202.751	221.386	233 301	238.345	248.217	3889	C
Akershus	183.116	234.323	324 390	369 193	418.114	467.052	4587	C
Oslo	434.365	475.663	481.548	452 023	461.644	507.467	427	C
Hedmark	173.167	177.324	179.204	187 223	187.314	187.103	26.120	P
Oppland	160.496	166.303	172.479	180 765	182.593	182.701	23.827	P
Buskerud	156.220	168.351	198.852	214 571	225.261	236.811	13.856	C
Vestfold	154.670	174.382	175.402	186 691	198.354	212.775	2140	C
Telemark	136.519	149.943	156.778	162 050	162.869	165.038	14.186	M
Aust-Agder	75.811	77.066	80.389	90 629	97.314	102.178	8485	M
Vest-Agder	96.942	109.083	124.171	136 718	145.091	155.691	6817	M
Rogaland	211.512	239.052	268.684	305 490	337.906	373.210	8553	M
Hordaland incl. Bergen	311.132	341.303	373.843	391 463	411.022	435.219	14.962	M
Sogn and Fjordane	97.714	99.957	100.933	105 924	106.614	107.589	17.864	P
Møre and Romsdal	19.1621	213.286	223.709	236 062	238.278	243.158	14.596	M
Sør-Trøndelag	197.687	211.819	234.022	244 760	251.076	262.852	17.839	M
Nord-Trøndelag	109.948	116.760	117.988	125 835	127.226	127.108	20.777	P
Nordland	221.809	237.530	240.951	244 493	239.403	239.109	36.434	P
Troms	117.564	127.771	136.805	146 818	146.816	151.160	25.015	P
Finnmark	64.511	72.104	76.311	78 331	74.590	74.059	45.879	P
Sum	3.280.296	3.594.771	3.887.845	4 092 340	4.249.830	4.478.497	306.253	

Source: *Statistisk årbok 1970*, Statistisk sentralbyrå, Oslo 1970:6 Tabell 6; *Statistisk årbok 1993*, Statistisk sentralbyrå, Oslo and Kongsvinger, 1993:38 Tabell 15; *Statistisk årbok 2000*, Statistisk sentralbyrå, Oslo and Kongsvinger, 2000:69.

Table 4.2: The Norwegian counties' relative settlement and area 1950-2000.

County	1950 %	1960 %	1970 %	1980 %	1990 %	2000 %	Area %	C, M, P
Østfold	5,65	5,64	5,69	5,70	5,61	5,54	1,27	C
Akershus	5,58	6,52	8,34	9,02	9,84	10,43	1,50	C
Oslo	13,24	13,23	12,39	11,05	10,86	11,33	0,14	C
Hedmark	5,28	4,93	4,61	4,57	4,41	4,18	8,53	P
Oppland	4,89	4,63	4,44	4,42	4,30	4,08	7,78	P
Buskerud	4,76	4,68	5,11	5,24	5,30	5,29	4,52	C
Vestfold	4,72	4,85	4,51	4,56	4,67	4,75	0,70	C
Telemark	4,16	4,17	4,03	3,96	3,83	3,69	4,63	M
Aust-Agder	2,31	2,14	2,07	2,21	2,29	2,28	2,77	M
Vest-Agder	2,96	3,03	3,19	3,34	3,41	3,48	2,23	M
Rogaland	6,45	6,65	6,91	7,46	7,95	8,33	2,79	M
Hordaland incl. Bergen	9,48	9,49	9,62	9,57	9,67	9,72	4,89	M
Sogn and Fjordane	2,98	2,78	2,60	2,59	2,51	2,40	5,83	P
Møre and Romsdal	5,84	5,93	5,75	5,77	5,61	5,43	4,77	M
Sør-Trøndelag	6,03	5,89	6,02	5,98	5,91	5,87	5,82	M
Nord-Trøndelag	3,35	3,25	3,03	3,07	2,99	2,84	6,78	P
Nordland	6,76	6,61	6,20	5,97	5,63	5,34	11,90	P
Troms	3,58	3,55	3,52	3,59	3,45	3,38	8,17	P
Finnmark	1,97	2,01	1,96	1,91	1,76	1,65	14,98	P
Tot	100,00	100,00	100,00	100,00	100,00	100,00	100,00	

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Table 4.3: Norway's settlement and area 1950-2000, center, middle and periphery.

Partition	1950	1960	1970	1980	1990	2000	Area km2
Center	1.113.863	1.255.470	1.401.578	1.455.779	1.541.718	1.672.322	24.899
Middle	1.221.224	1.341.552	1.461.596	1.567.172	1.643.556	1.737.346	85.438
Periphery	945.209	997.749	1.024.671	1.069.389	1.064.556	1.068.829	195.916
Sum	3.280.296	3.594.771	3.887.845	4.092.340	4.249.830	4.478.497	306.253

Table 4.4: Norway's relative settlement and area 1950-2000, center, middle and periphery.

Partition	1950 %	1960 %	1970 %	1980 %	1990 %	2000 %	Area %
Center	33,96	34,92	36,05	35,57	36,28	37,34	8,13
Middle	37,23	37,32	37,59	38,30	38,67	38,79	27,90
Periphery	28,81	27,76	26,36	26,13	25,05	23,87	63,97
Sum	100,00	100,00	100,00	100,00	100,00	100,00	100,00

Table 4.5: Stortinget's geographical representation 1950.

Constituency	Seats	Total no of seats per county *	Inhabitants per seat per constituency 1950	Inhabitants 1950
Østfold, rural areas	6	8	21.572	129.431
Akershus, rural areas	7	9	25.740	180.177
Hedmark, rural areas	7	8,5	22.772	159.403
Opland, rural areas	6	7,5	24.618	147.707
Buskerud, rural areas	5	8	23.308	116.538
Vestfold, rural areas	4	8	27.137	108.548
Telemark, rural areas	5	7,5	19.121	95.605
Aust-Agder, rural areas	4	6,5	14.195	56.781
Vest-Agder, rural areas	4	7,5	15.489	61.957
Rogaland, rural areas	4	8,5	32.680	130.719
Hordaland, rural areas	8	8	24.756	198.047
Sogn and Fjordane	5	5	19.536	97.680
Møre and Romsdal, rural areas	7	10	22.026	154.183
Sør-Trøndelag, rural areas	6	8,5	23.515	141.089
Nord-Trøndelag, rural areas	5	7,5	20.046	100.230
Nordland, rural areas	8	10	23.828	190.626
Troms, rural areas	5	6	20.464	102.320
Finnmark, rural areas	3	4	18.160	54.481
Cities in Østfold and Akershus	4		14.706	58.822
Oslo	7	7	62.007	434.047
Cities in Hedmark and Opland	3		8.793	26.378
Cities in Buskerud	3		13.221	39.662
Cities in Vestfold	4		11.509	46.034
Cities in Telemark and Aust-Agder	5		11.955	59.773
Cities in Vest-Agder and Rogaland	7		16.523	115.662
Bergen	5	5	22.569	112.845
Cities in Møre- and Romsdal	3		12.418	37.255
Cities in Sør-Trøndelag and Nord-Trøndelag	5		13.260	66.299
Cities in Nordland, Troms and Finnmark	4		14.062	56.247
Sum/National average inhabitants per seat	150	150	21.857	3.278.546

Source: Nordby (1985a:145-157) (seat allocation); *Statistisk årbok for Norge 1960*, Norges offisielle statistikk XII 24, Statistisk sentralbyrå, Oslo 1960:6 Tabell 5 (settlement).

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Table 4.6 Stortingets' geographical representation 1960-2000.

Constituency/Seats	1960	Inhabitants per seat 1960	1970	Inhabitants per seat 1970	1980	Inhabitants per seat 1980	1990	Inhabitants per seat 1990	2000	Inhabitants per seat 2000	C, M, P
Østfold County	8	25.344	8	27.673	8	29.163	9	26.483	8	31.027	C
Akershus County	7	33.475	7	46.341	10	36.919	15	27.874	14	33.361	C
Oslo County	13	36.589	13	37.042	15	30.135	16	28.853	17	29.851	C
Hedmark County	8	22.166	8	22.401	8	23.403	8	23.414	9	20.789	P
Opland County	7	23.758	7	24.640	7	25.824	7	26.085	7	26.100	P
Buskerud County	7	24.050	7	28.407	7	30.653	7	32.180	7	33.830	C
Vestfold County	7	24.912	7	25.057	7	26.670	7	28.336	7	30.396	C
Telemark County	6	24.991	6	26.130	6	27.008	6	27.145	6	27.506	M
Aust-Agder County	4	19.267	4	20.097	4	22.657	4	24.329	4	25.545	M
Vest-Agder County	5	21.817	5	24.834	5	27.344	5	29.018	5	31.138	M
Rogaland County	10	23.905	10	26.868	10	30.549	12	28.159	12	31.101	M
Hordaland County	10	22.531	10	25.543	15	26.098 *	16	25.689 *	16	27.201 *	M
Bergen County (merged with Hordaland)	5	23.076	5	25.118	-	-	-	-	-	-	M
Sogn and Fjordane County	5	19.991	5	20.187	5	21.185	5	21.323	5	21.518	P
Møre and Romsdal County	10	21.329	10	22.371	10	23.606	10	23.828	10	24.316	M
Sør-Trøndelag County	10	21.182	10	23.402	10	24.476	10	25.108	10	26.285	M
Nord-Trøndelag County	6	19.460	6	19.665	6	20.973	6	21.204	6	21.185	P
Nordland County	12	19.794	12	20.079	12	20.374	12	19.950	12	19.926	P
Troms County	6	21.295	6	22.801	6	24.470	6	24.469	6	25.193	P
Finnmark County	4	18.026	4	19.078	4	19.583	4	18.648	4	18.515	P
Sum/National average inhabitants per seat	150	23.965	150	25.919	155	26.402	165	25.757	165	27.142	

Sources: Nordby (1985a:179-188, 212-221, 265-274); Torg (1990:200-235); Figved and Østbø (1998:208-250). * included Bergen.

Table 4.7: Stortinget's absolute and relative geographical representation 1950-2000, center, middle and periphery.

Partition	1950	%	1960	%	1970	%	1980	%	1990	%	2000	%
Center	40	26,67	42	28,00	42	28,00	47	30,32	54	32,73	53	32,12
Middle	64	42,67	60	40,00	60	40,00	60	38,71	63	38,18	63	38,18
Periphery	46	30,67	48	32,00	48	32,00	48	30,97	48	29,09	49	29,70
Sum	150	100,00	150	100,00	150	100,00	155	100,00	165	100,00	165	100,00

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Table 4.8: Stortinget's political representation 1950-2000.

Party	1950	1960	1970	1980	1990	2000	L, M, R
Communist Party		1					L
Socialist Left Party				2	16	9	L
Labor Party	85	78	74	76	63	65	D
Agrarian Party	12	15	20	12	11	11	D
Liberal Party	21	15	13	2		6	D
Christian People's Party	9	12	14	22	14	25	D
Conservative Party	22	29	29	41	38	23	R
Progress Party					22	25	R
Others	1				1	1	
Sum	150	150	150	155	165	165	

Sources: Nordby (1985a:147-157, 179-188, 229-238, 265-274); Torp (1990:200-235); Figved and Østbø (1998:208-250).

Table 4.9: Stortinget's absolute and relative political balance 1950-2000.

Parties	1950	%	1960	%	1970	%	1980	%	1990	%	2000	%
Leftwing parties	85	56,67	79	52,67	74	49,33	78	50,32	80	48,48	74	44,85
Middle parties	42	28,00	42	28,00	47	31,33	36	23,23	25	15,15	42	25,45
Rightwing parties	23	15,33	29	19,33	29	19,33	41	26,45	60	36,36	49	29,70
Sum	150	100,00	150	100,00	150	100,00	155	100,00	165	100,00	165	100,00

Table 4.10: Stortinget's Standing Road and Railroad Committee 1946-1949, geographical and political representation.

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center			1	1
Middle	3, L	2		5
Periphery	3, DL	1, S	1	5
Sum	6	3	2	11

Source: Nordby (1985a:132-138, 141, 145).

Table 4.11: Stortinget's Standing Committee on Transport and Communications 1950-1953, geographical and political representation.

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center			2	2
Middle	4, DL	3, S		7
Periphery	3	1, L		4
Sum	7	4	2	13

Source: Nordby (1985a:147-153, 155-156, 160).

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Table 4.12: *Stortinget's Standing Committee on Transport and Communications 1954-1957, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1, (DL)			1
Middle	4, DL, (L), S	2	1	7
Periphery	2	2, L	1	5
Sum	7	4	2	13

Source: Nordby (1985a:163-170, 175).

Table 4.13: *Stortinget's Standing Committee on Transport and Communications 1958-1961, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1, DL			1
Middle	4	3, L	1	8
Periphery	2, S	1	1	4
Sum	7	4	2	13

Source: Nordby (1985a:179-187, 191).

Table 4.14: *Stortinget's Standing Committee on Transport and Communications 1961-1965, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1		1	2
Middle	4, DL, (S)	2		6
Periphery	2, S	2, L	1	5
Sum	7	4	2	13

Source: Nordby (1985a: 196-197, 200-202, 208).

Table 4.15: *Stortinget's Standing Committee on Transport and Communications 1965-1969, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1		1	2
Middle	3	1, S		4
Periphery	2, L	4, DL	1	7
Sum	6	5	2	13

Source: Nordby (1985a:212-214, 218, 220, 224).

Table 4.16: *Stortinget's Standing Committee on Transport and Communications 1969-1973, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1		1	2
Middle	4, (L)	3, S		7
Periphery	1(2), L	1, DL	1 (2)	3 (5)
Sum	6 (7)	4	2 (3)	12 (14)

Source: Nordby (1985a:229, 232-233, 235-237, 242).

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Table 4.17: *Stortinget's Standing Committee on Transport and Communications 1973-1977, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1		1	2
Middle	2, DL	2, L	1, S	5
Periphery	4	2	1	7
Sum	7	4	3	14

Source: Nordby (1985a:248-249, 254, 256, 260).

Table 4.18: *Stortinget's Standing Committee on Transport and Communications 1977-1981, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1		1	2
Middle	3, DL	2, L	1, S	6
Periphery	3	1	2	6
Sum	7	3	4	14

Source: Nordby (1985a:265, 269-270, 272-274, 278).

Table 4.19: *Stortinget's Standing Committee on Transport and Communications 1981-1985, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1		1	2
Middle	2	1	2, S	5
Periphery	3, L	1	2, DL	6
Sum	6	2	5	13

Source: Nordby (1985a:283, 286, 288, 290-291, 297).

Table 4.20: *Stortinget's Standing Committee on Transport and Communications 1985-1989, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1		1	2
Middle	3	1	1	5
Periphery	3, L	1, S	3, DL	7
Sum	7	2	5	14

Source: Torp (1986:32-33,40-41,49-50, 54-55, 92, 95-96, 98-99, 107, 111-112, 122-123, 127-128, 141, 146-148, 187):

Table 4.21: *Stortinget's Standing Committee on Transport and Communications 1989-1993, geographical and political representation.*

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	2		3	5
Middle	2	2, L	2	6
Periphery	4, S		1, DL	5
Sum	8	2	6	16

Source: Torp (1990:74-76, 89, 94-95, 111-112, 115, 117, 123-125, 129, 130, 134, 138, 143-144, 150-151, 180).

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Table 4.22: Stortinget's Standing Committee on Transport and Communications 1993-1997, geographical and political representation.

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	1, S		1	2
Middle	4	3, L	2	9
Periphery	2, DL	1		3
Sum	7	4	3	14

Source: Torp (1994:26-27, 34, 38, 60-61, 66, 111-112, 117, 126-128, 137, 143, 147, 172).

Table 4.23: Stortinget's Standing Committee on Transport and Communications 1997-2001, geographical and political representation.

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	2		1	3
Middle	2, (DL)	1, S	2, L	5
Periphery	3, DL	3	1	7
Sum	7	4	4	15

Source: Figved og Østbø (1998:184); Komiteenes medlemmer". [Online, September 13th 2001]. URL: <http://www.stortinget.no/representantene/komiteer.html#SAMFERD>.

Table 4.24: Stortinget's Standing Committee on Transport and Communications 2001-2005, geographical and political representation.

Constituencies/Parties	Leftwing	Middle	Rightwing	Sum
Center	3	1	1	5
Middle	1		2, L	3
Periphery	2, 2 nd DL	2, 1 st DL	3	7
Sum	6	3	6	15

Source: Samferdselskomiteen 2001-2005 [Online June 28th 2005] – URL: <http://www.stortinget.no>

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Table 4.25: Approximate Norwegian tax financed road investments 1934/35-2000

Year	Tax financed State road investments current millions NOK	Approximately millions 1990 NOK	Approximately millions 1990 PPP USD	GDP, millions 1990 Geary-Khamis dollars	Tax financed road investment's % of GDP
1934/35	12,3	253,6	26,69	11 302	0,24
1936/36	19,7	406,1	42,75	11 993	0,36
1936/37	21,5	432,2	45,49	12 422	0,37
1937/38	20	374,0	39,36	12 734	0,31
1938/39	25,8	461,0	48,52	13 339	0,36
1939/40	28,7	512,8	53,98	12 152	0,44
1940/41	48,5	749,9	78,94	12 446	0,63
1941/42	32,3	418,9	44,09	11 963	0,37
1942/43	45,2	559,1	58,85	11 724	0,50
1943/44	46,3	555,6	58,48	11 112	0,53
1944/45	30,6	361,8	38,08	12 452	0,31
1945/46	32,1	374,0	39,37	13 786	0,29
1946/47	42,8	484,7	51,02	15 365	0,33
1947/48	43,7	494,9	52,09	16 589	0,31
1948/49	40,8	468,6	49,33	16 913	0,29
1949/50	44,928	508,8	53,55	17 838	0,30
1950/51	32,616	354,4	37,30	18 665	0,20
1951/52	39,164	366,1	38,54	19 332	0,20
1952/53	66,533	569,1	59,90	20 225	0,30
1953/54	83,164	696,5	73,32	21 229	0,35
1954/55	72,5	582,9	61,36	21 639	0,28
1955/56	85,453	680,2	71,60	22 771	0,31
1956/57	126,339	967,4	101,83	23 432	0,43
1957/58	148,583	1106,1	116,43	23 218	0,50
1958/59	216,687	1541,7	162,29	24 411	0,66
1959/60	223,669	1550,3	163,19	25 813	0,63
1961	228,584	1584,3	166,77	27 377	0,61
1962	274,267	1853,0	195,06	28 159	0,69
1963	308,269	1982,8	208,71	29 254	0,71
1964	385,602	2422,1	254,95	30 662	0,83
1965	447,933	2667,7	280,81	32 305	0,87
1966	445,187	2538,5	267,21	33 556	0,80
1967	516,037	2841,7	299,13	35 690	0,84
1968	559,384	2958,8	311,46	36 498	0,85
1969	752,272	3828,0	402,95	38 140	1,06
1970	785,425	3898,0	410,32	38 902	1,05
1971	857,760	3852,7	405,55	40 683	1,00
1972	1011,931	4259,6	448,38	42 785	1,05
1973	1070,609	4219,5	444,15	44 544	1,00
1974	1233,710	4508,6	474,59	46 858	1,01
1975	1323,440	4433,5	466,69	48 811	0,96
1976	1552,706	4658,1	490,33	52 135	0,94
1977	1781,472	4888,4	514,57	54 002	0,95
1978	2003,252	5033,2	529,81	56 453	0,94
1979	1934,229	4494,6	473,11	58 894	0,80
1980	2102,655	4670,0	491,58	61 811	0,80
1981	2173,821	4347,6	457,65	62 406	0,73
1982	2235,934	3942,3	414,98	62 514	0,66
1983	2463,243	3898,5	410,37	64 729	0,63
1984	2529,656	3691,2	388,55	68 530	0,57
1985	2620,923	3595,9	378,52	72 105	0,52
1986	2690,657	3494,8	367,87	74 687	0,49
1987	2863,900	3473,0	365,58	76 203	0,48

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1988	2976,600	3319,3	349,40	76 117	0,46
1989	3326,700	3478,1	366,12	76 818	0,48
1990	3324,000	3324,0	349,89	78 333	0,45
1991	4652,600	4496,8	473,35	80 774	0,59
1992	4620,500	4365,0	459,47	83 413	0,55
1993	4717,300	4358,0	458,74	85 694	0,54
1994	4148,300	3778,2	397,70	90 400	0,44
1995	4143,691	3681,8	387,56	93 879	0,41
1996	4062,050	3567,6	375,54	98 479	0,38
1997	4021,347	3441,6	362,27	103 079	0,35
1998	4140,400	3465,5	364,79	105 614	0,35
1999	4080,000	3338,1	351,38	106 740	0,33
2000	3934,000	3121,2	328,54	109 181	0,30

Sources: 1934/35-1945/46, Bjørnland (1989:360); 1946/47-1948/49, *Statistisk bilag til Årsrapport for 1950 fra Opplysningsrådet for Biltrafikken pr. 10/4-51 (Ajouført pr. 10/5 1951)*, Opplysningsrådet for Biltrafikken Oslo 1951:6 OVA; 1949/50-1953/54, *Styrets beretning for 1956*, Opplysningsrådet for Biltrafikken Oslo 1957:47 OVA; 1954-55, *Styrets beretning for 1954*, Opplysningsrådet for Biltrafikken Oslo 1955:39 OVA; 1955/56 – 1959/60, *Bil- og veistatistikk 1962*, Opplysningsrådet for Biltrafikken Oslo mai 1962:89, OVA; 1960-2000 own database derived from Directorate of Public Roads' annual reports, VDA; GDP figures are from Angus Maddison, *The World Economy: Historical Statistics*, OECD, Paris, 2003:51-53 Table 1b.

The conversions to 1990 NOK and 1990 PPP in the years with fiscal years deviating from the calendar years are simplified and based on the last year, because these calculations are only approximations to indicate the investment level.