

EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT

IMPLEMENTING
SUSTAINABLE
URBAN TRAVEL
POLICIES

National Peer Review: The Netherlands



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EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT (ECMT)

The European Conference of Ministers of Transport (ECMT) is an inter-governmental organisation established by a Protocol signed in Brussels on 17 October 1953. It is a forum in which Ministers responsible for transport, and more specifically the inland transport sector, can co-operate on policy. Within this forum, Ministers can openly discuss current problems and agree upon joint approaches aimed at improving the utilisation and at ensuring the rational development of European transport systems of international importance.

At present, the ECMT's role primarily consists of:

- helping to create an integrated transport system throughout Europe that is economically and technically efficient, meets the highest possible safety and environmental standards and takes full account of the social dimension;
- helping also to build a bridge between the European Union and the rest of the continent at a political level.

The Council of the Conference comprises the Ministers of Transport of 40 full Member countries: Albania, Austria, Azerbaijan, Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, FYR Macedonia, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldova, Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom. There are six Associate member countries (Australia, Canada, Japan, New Zealand, Republic of Korea and the United States) and two Observer countries (Armenia and Morocco).

A Committee of Deputies, composed of senior civil servants representing Ministers, prepares proposals for consideration by the Council of Ministers. The Committee is assisted by working groups, each of which has a specific mandate.

The issues currently being studied – on which policy decisions by Ministers will be required – include the development and implementation of a pan-European transport policy; the integration of Central and Eastern European Countries into the European transport market; specific issues relating to transport by rail, road and waterway; combined transport; transport and the environment; the social costs of transport; trends in international transport and infrastructure needs; transport for people with mobility handicaps; road safety; traffic management; road traffic information and new communications technologies.

Statistical analyses of trends in traffic and investment are published regularly by the ECMT and provide a clear indication of the situation, on a trimestrial or annual basis, in the transport sector in different European countries.

As part of its research activities, the ECMT holds regular Symposia, Seminars and Round Tables on transport economics issues. Their conclusions serve as a basis for formulating proposals for policy decisions to be submitted to Ministers.

The ECMT's Documentation Service has extensive information available concerning the transport sector. This information is accessible on the ECMT Internet site.

For administrative purposes the ECMT's Secretariat is attached to the Organisation for Economic Co-operation and Development (OECD).

Further information about the ECMT is available on Internet at the following address:

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Foreword

In June 1999, a team of urban travel experts along with representatives of the European Conference of Ministers of Transport (ECMT) carried out an in-depth review of urban travel policy in the Netherlands including a three-day visit to the Netherlands.

The review was organised upon invitation of the Ministry of Transport, Public Works and Water Management (V&W) in the context of a project carried out by the ECMT in association with the OECD focusing on implementation of sustainable urban travel policies. Launched in 1998, this project is comprised of three principal parts: a series of workshops on particular topics; a survey of cities; and a series of in-depth national reviews of urban travel policy.¹

The review took place at a time when the Government of the Netherlands was preparing its National Traffic and Transport Plan (NVVP), scheduled for completion in 2000. Three peer experts, representing the governments of Switzerland, Sweden and the United Kingdom carried out the review. Two members of the ECMT secretariat also participated in the three-day visit.²

During the review visit, meetings were held with both the ministries of Transport, Public Works and Water Management, and Housing, Spatial Planning and Environment, as well as with municipal, regional and provincial representatives. The team also met with members of several stakeholder organisations. The scope of the review included traffic and transport, land-use and spatial planning and environmental issues.

This report brings together information on the policies and policy-making structures with the analysis of this team of experts to provide a picture of how urban travel policymaking is carried out in the Netherlands. The report attempts to point out where the Netherlands has demonstrated real leadership in pushing forward policies and practices to ensure sustainability in urban travel, and where policymaking could benefit from new organisation and approaches.

1. This project comes as a follow-up to previous joint work carried out in the early 1990s, which resulted in a report entitled *Urban Travel and Sustainable Development*. Following the publication of this report, Ministers of Transport asked the ECMT to go back to cities in several years time to review implementation of urban travel policies in light of the recommendations of the report. The current project responds to that Ministerial mandate.
2. These countries were selected by the Dutch Ministry of Transport, Public Works and Water Management based on their experience with urban transport issues of priority to the Ministry. A list of review team members is found in the Annex.

Acknowledgements

ECMT would like to express its sincere appreciation to the team of experts who participated in this in-depth peer review and contributed their expertise to the analysis of the study. Team members included Mr Peter McCarthy, DETR, UK; Mr Peter Güller, SYNERGO, Switzerland; and Mr Bo Peterson, Lund University, Sweden. ECMT extends as well its gratitude to the Governments of the three countries represented on the team for facilitating the participation of the experts.

ECMT is grateful to the Ministry of Transport, Public Works and Water Management of the Netherlands for their invitation to carry out this in-depth peer review. In particular, ECMT would like to thank Mr Pieter Boot, Director of the Mobility Management Unit of the Directorate General for Passenger Transport, and his team, notably Mr Bert Zinn and Mr Mark Driessen, for their preparation of the review visit in the Netherlands.

ECMT also wishes to thank Mr. Guido Kwikkers of Communicatie and Management Kwikkers in the Netherlands for assembling much of the very helpful background material for the review.

Mary Crass, consultant on environmental and urban issues to the ECMT, was the principal author of the review under the supervision of the ECMT Secretariat and the ECMT-OECD Steering Group on Sustainable Urban Travel.

Table of Contents

Chapter 1. Introduction	7
Chapter 2. Context	9
2.1. Physical and human contexts	9
2.2. Economic context	12
2.3. General trends in transport	13
Chapter 3. Key Trends and Sustainability Issues in Urban Travel	19
3.1. Urban travel	19
3.2. Land use	20
3.3. Environment	22
3.4. Safety	24
Chapter 4. Institutional Context for Sustainable Urban Travel	27
4.1. General administrative structure of the Netherlands	27
4.2. Transport planning	28
4.3. Land-use planning	32
4.4. Environment planning	33
Chapter 5. Policy Context for Sustainable Urban Travel	35
5.1. Urban transport policy	35
5.2. Spatial planning and land-use	51
5.3. Environment policy	54
5.4. Safety policy	56
Chapter 6. Analysis of Review Team	59
6.1. Context	59
6.2. Strategic plans for urban travel, land use and the environment	59
6.3. Administrative structure of transport policymaking and decentralisation	60
6.4. Urban traffic and transport policies and measures	63
6.5. Spatial planning and land use	71
6.6. Environment and Safety	74
6.7. Conclusions	75
Notes	77
Bibliography	79
Annex: The Peer Review Team	83

Chapter 1. Introduction

Transport specialists around the world have for many years looked to the urban transport experience of the Netherlands as exemplary. The Dutch have demonstrated strong and sustained commitment to integrating transport and land-use planning and policies to maximise use of public transport and cycling. Bolstered by a long-standing and highly respected planning culture, they have undertaken this in an institutional environment that favours consultation and consensus seeking among different sectors and stakeholders. Many early achievements have served as a model for other countries; to cite only a few: highly developed transport networks including an extensive railway system to serve the densely populated agglomeration of the Randstad; investment in urban public transportation with integrated ticketing; policies to maintain and improve upon the already highly integrated cycling culture, and the adoption of environmental standards to bring air quality problems due to transportation activity under control.

As in most countries around the world, however, the Netherlands has experienced increasing pressure from transport on the environment, with rising congestion in and around the urban areas – notably in the Randstad – noise disturbance and air pollution, and difficult issues related to international transit traffic. While strategic plans for transport, land use and the environment have set out a framework for dealing with these pressures, meeting the often ambitious goals and targets articulated in these plans has proven elusive in many cases. On a broader level, there would seem to be some unresolved tension between the environmental and economic goals for the transport sector: on the one hand, the Netherlands aspires to develop an integrated, sustainable transport system, and on the other, sees itself as a transport and distribution leader in Europe.

A new integrated transport strategy known as the National Traffic and Transport Plan (NVVP) is now under review within the government. This most recent policy framework, the fruit of many months of consensus-seeking among different branches of the government, is *inter alia* seeking to increase efficiency in transport policy and planning and thereby improve chances for implementing policy goals. As a result, the highly centralised policy and institutional framework for transport in the Netherlands is now moving toward a more decentralised approach, endowing the provincial, regional and municipal structures with greater

overall responsibility for urban transport. Efficiency considerations have also engendered greater openness to notions of deregulation and privatisation in the transport sector, notably in the provision of urban transport services. This will be a key factor in how structures for urban travel evolve in the Netherlands in the future.

In the context of this new proposed transport strategy, this report examines the principal urban travel issues now under consideration in the Netherlands with particular attention to their implementation. Following a preliminary description of the general geophysical aspects and economic context of the Netherlands, the paper will look at the trends in urban travel and land-use and go on to examine the institutional context for policy making related to sustainable urban travel as well as the policies themselves and their implementation status. The study will conclude with an evaluation of Dutch urban travel policy developed by the ECMT team of peer experts, which is based on the findings of their study visit to the Netherlands in June 1999.

Chapter 2. Context

2.1. Physical and human contexts

2.1.1. *Physical context*

Perhaps the most distinguishing geophysical characteristic of the Netherlands is its close relationship with water. Bordered by the North Sea along its North and West borders, and with three major international rivers – the Rhine, Meuse and Schelde – flowing downstream through the country to empty into the sea, the often delicate balance between land and water has been a key factor throughout centuries of the country's development. In the North and West, approximately 30% of the inland surface area lies below sea level, with dunes and man-made dykes holding back the water. In the East and South, the elevation is higher, but reaches only 321 metres at its highest point (OECD, 1995). Without the coastal dunes and dykes, approximately 40% of the country would be under water (Atlapedia, Web).

A centuries-long practice of wetland reclamation (marshes, lakes and tidal basins) expanded over time the total surface area of the Netherlands. Polders, as these reclaimed wetlands are called, are no longer being created, however. Today, approximately 65% of the land is devoted to agricultural activity; 12% is covered by forested and natural areas, 14% is occupied by urban areas and roads, and 9% is covered by water (OECD, 1995).

2.1.2. *Population and urbanisation*

With a population in 1999 of 15.7 million and an overall surface area of 41 526 km², the Netherlands is one of the most densely populated countries in the world (approximately 465 inhabitants per km²) (CBS). Most of the country's population is concentrated in the highly urbanised western section of the country known as the Randstad (950 inhabitants per km²), the ring of towns and cities extending from Dordrecht through Rotterdam, Delft, The Hague, Leiden, Haarlem, Amsterdam and Hilversum to Utrecht and its surroundings. Site of the cultural, economic and political capitals of the country, approximately 6 million people or roughly 40% of the Dutch population lives in the Randstad. Four million of these live in or near the cities.

At the centre of this dense, urbanised ring is a vast greenbelt area commonly known as the Green Heart of the Netherlands. In 1990, when the Government drew a firm borderline around the Green Heart, approximately 70% of its land was devoted to agriculture and 15% set aside for natural reserves. Rapid growth of the large cities of the Randstad, now virtually contiguous in some parts, along with ever-increasing demand for mobility has led to suburbanisation into the Green Heart area, particularly during the 1960s and 1970s.¹ Spanning three provinces and 70 municipalities, the majority of residential and industrial development has occurred in the six principal communities of the Green Heart. Population density in this region is now roughly equivalent to the national average (KNAG, Web).

The most sparsely populated area in the Netherlands is the North (190 inhabitants per km²); the South and East have about the average population density for the Netherlands as a whole, with the exception of the Zeeland, where density is only 200 inhabitants per km².

The percentage of the Dutch population living in cities of 100 000 or more inhabitants declined until 1984; since then it has been rising again.

Table 1. Population of the five principal cities of the Netherlands

City	Population
Amsterdam	727 095 ¹
Rotterdam	598 500
The Hague	445 300
Utrecht	234 100
Eindhoven	196 100

1. Amsterdam (Web), 1999.

Source: Atlapedia, 1994.

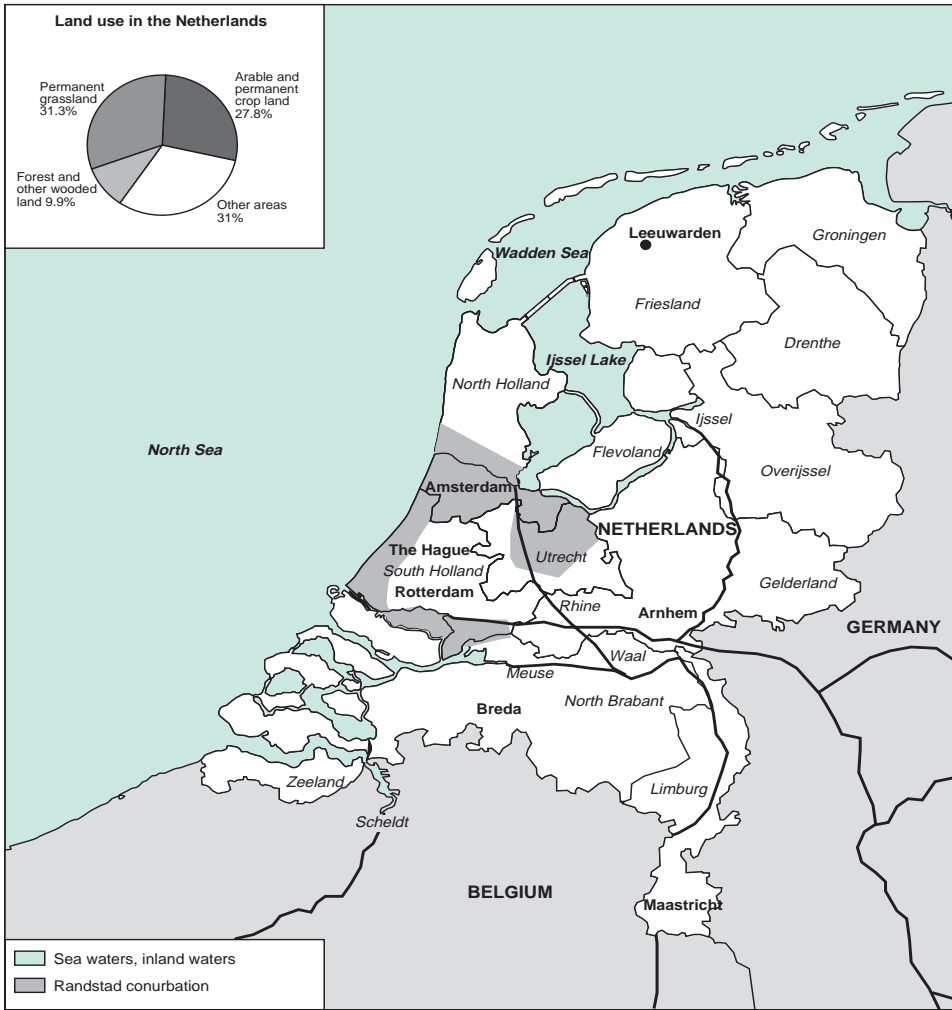
Table 2. Urbanisation of provinces

Province	Degree of urbanisation ¹	Per cent urbanised
Groningen	IN	74.0
Friesland	IN	58.2
Drenthe	IN	61.4
Overijssel	PU	85.3
Gelderland	PU	96.0
Flevoland	IN	66.4
Utrecht	PU	99.8
Noord-Holland	PU	97.5
Zuid-Holland	PU	98.5
Zeeland	IN	67.9
Noord-Brabant	PU	95.3
Limburg	PU	97.7

1. OECD key: PU: Predominantly urban; IN: Intermediate.

Source: OECD.

Figure 1. Map of the Netherlands



Source: OECD Environmental Performance Reviews, Netherlands, 1995.

2.2. Economic context

2.2.1. General

Since the end of World War II, the Dutch economy has undergone significant structural change brought about in part by high population growth and loss of its colonies. From a predominantly agrarian past, it has developed into an open, industrial economy and is now one of Europe's strongest, combining sustained GDP growth with falling unemployment and moderate inflation.

After roughly a decade of relatively weak economic performance in the 1970s and early 1980s characterised by what was known as the "Dutch Disease", the Netherlands embarked in 1982 on a sound macroeconomic, structural and regulatory policy reorientation that has over time earned it the more fortunate "Dutch Model" attribution today. Combining anti-inflationary monetary policy with fiscal consolidation and other factors such as wage moderation, output growth and job creation have exceeded the EU average without stimulating harmful inflationary pressures. The OECD has called the Netherlands a leader in structural and regulatory reform in Europe.

Currently in its sixth year of expansion, OECD figures show real GDP growth at approximately 3% in 1999 after averaging slightly over 3% per year from 1993 to 1997 and inching towards 4% in 1998. OECD projections foresee a moderate deceleration to around 2¾% in 2000-01. Unemployment based on national definitions dropped to approximately 3¼% in 1999, the lowest since the early 1970s (OECD, 2000).

2.2.2. Role of the transport sector

Transport has for centuries played a key role in the Dutch economy, in large part due to its strategic geographic position at the interface of the North Sea and the hinterland of Europe. Rotterdam is the largest port in the world, and roughly 30% of goods loaded or unloaded from ships in the EU pass through Dutch ports. With a centuries-old tradition of trading, the Netherlands is bordered by highly developed industrial economies and lies at the mouth of three major European rivers that form natural channels of communication with neighbouring economies. Dutch carriers are responsible for approximately half of the international transport by water in the EU, and for at least one-third of international road transport. Further, the density of registered road vehicles and roads in the Netherlands are both more than four times that of OECD Europe and roughly ten times that of the OECD at large. The transport sector has outpaced at roughly 4%, the 3% growth rate in National Income (Kwikkers, 1999 and OECD, 1995).

The largest regional contribution to GDP is from the Noord-Holland and Zuid Holland provinces, which comprise Amsterdam (Noord) and Rotterdam and The Hague (Zuid).

Table 3. Share of transport in GDP¹

	GDP (in million Gld) ² 1995 prices						
	1992	1993	1994	1995	1996	1997 ²	1998 ²
	626	630	651	666	686	712	738
	209	986	319	035	269	265	357
	Share of GDP (at factor costs) %						
	1992	1993	1994	1995	1996	1997	1998
Agriculture, hunting, forestry and fishing	3.3	3.4	3.5	3.6	3.5	3.4	3.2
Manufacturing	17.7	17.3	17.8	18.4	18.0	18.3	18.1
Construction	6.0	5.9	5.8	5.6	5.3	5.3	5.3
Trade, hotels, restaurants, repair	16.1	15.8	15.6	15.5	15.6	15.8	16.0
Transport, storage and communication	7.8	7.9	8.0	7.5	7.5	7.7	8.1
Government	11.5	11.6	11.3	12.6	12.4	12.2	12.0

1. Up to 1994, figures are based on the System of National Accounts 1968 (SNA 68) and from 1995 onwards, on the European System of National and Regional Accounts 1995 (ESA95).

2. Provisional.

Source: OECD (2000).

2.3. General trends in transport

The Netherlands has a highly developed transport system both for passenger and freight transport, with extensive road and rail networks, numerous waterways which are important to both domestic and cross-border goods transport, and the biggest port in the world at Rotterdam as well as a key transshipment centre in Amsterdam.

Growth in the transport sector has in recent years exceeded government projections² in virtually all transport modes. This substantial growth has taken place against the backdrop of a number of key demographic and economic developments; among them:

- a 19% increase in the Dutch population from 1970 to 1995 reaching over 15.4 million inhabitants, a level initially forecast to be attained in 2010;
- an increase of 38% in the 20-65 age group, considered to be the most mobile, from 1970 to 1995;
- a 59% rise in the number of households over the same period. A further 16 to 25% growth in household numbers is expected through 2030;
- a doubling of the number of women in paid employment over the last 20 years, a trend expected to continue;

Table 4. **Transport infrastructure in the Netherlands**

	Length in thousand kilometres				
	1994	1995	1996	1997	1998
Road network					
Paved roads	111.2	113.4	115.6	116.0	116.1
Outside built-up areas	57.6	58.2	58.8	58.8	–
Highways	2.2	2.2	2.2	2.2	2.2
Provincial roads	6.6	6.4	6.3	6.6	–
Inland waterways	4.6	4.6	4.6	4.6	4.6
Bicycle paths¹	18	18.3	18.9	19.3	19.7
of which:					
Urban	8.0	8.2	8.4	8.6	8.8
Non-urban	10.0	10.1	10.5	10.7	10.9
Rail network²	2.8	2.8	2.8	2.8	2.8

1. 1997 and 1998 figures are estimates.

2. 1998 figure is estimate.

Source: CBS (Web), V&W, 1999c and UN-ECE, 1999.

- a 45% increase over the last 25 years in average household income as a result of economic growth.

(V&W, *et al.* 1999a, and ECMT, 1998).

2.3.1. Car ownership

Largely due to these factors, car ownership has shot upward in the Netherlands, with car numbers increasing 130% between 1970 and 1995. Further growth in number of cars is expected between 1995 and 2030, with possibilities of as much as an 80% increase to almost 10 million cars over that period. Of the approximately 7 million households in the Netherlands, 25% do not have use of a car (V&W, *et al.* 1999a).

Traffic trends, particularly for passenger transport, also reflect these economic and demographic tendencies.

2.3.2. Passenger transport

Passenger traffic rose by 97% between 1970 and 1990 while GDP increased by 67% over that period. (OECD, 1995). From 1990 to 1995, the total number of kilometres travelled by private car (drivers and passengers) rose by 10%, with growth primarily concentrated in the trunk road network, where traffic has increased by 40% since 1986 (ECMT, 1998).

Table 5. Trends in private mobility

Mode	1986		1989		1992		1995		1998		1999	
	ppd ¹ (km)	Total ² (bill. p-km)	ppd ¹ (km)	Total ² (bill. p-km)	ppd ¹ (km)	Total ² (bill. p-km)	ppd ¹ (km)	Total ² (bill. p-km)	ppd ¹ (km)	Total ² (bill. p-km)	ppd ¹ (km)	Total ² (bill. p-km)
Car (driver)	15.8	69.1	17.1	76.0	17.6	80.8	17.5	81.5	18.1	85.5	18.6	88.5
Car (passenger)	8.5	49.9	8.8	51.7	7.9	50.5	8.2	52.0	7.6	51.6	7.7	53.1
Rail	2.1	9.5	2.3	10.5	3.3	15.1	2.9	13.5	3.2	15.2	3.2	15.4
Tram/bus/metro	1.6	7.1	1.4	6.5	1.8	8.4	1.6	7.3	1.5	7.2	1.5	7.4
Moped	0.3	1.3	0.2	0.9	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.7
Bicycle	2.6	12.4	2.8	13.4	2.7	13.2	2.7	13.5	2.5	12.8	2.5	13.3
Walking	0.7	4.2	0.8	4.5	0.7	4.5	0.8	4.7	0.7	4.4	0.6	4.3
Other	1.2	5.6	1.7	8.0	1.2	6.1	1.3	6.6	1.2	6.2	0.9	4.4
Total	32.8	159.1	34.3	171.5	35.4	179.4	35.2	179.9	35.0	183.7	35.2	187.1

1. Distance travelled per person per day.

2. Excluding mobility of persons in institutional households; including multiple journeys.

Source: V&W.

According to these data, overall passenger-kilometres by car (passenger and driver) have increased 18 per cent from 1986 to 1999. In comparison, tram, bus and metro passenger-kilometres combined dropped roughly 4 per cent over the period, and bicycle passenger-kilometres grew approximately 7 per cent. 1999 passenger modal split in passenger-kilometres represents as follows:

Table 6. **Modal share in passenger kilometres (1999)**

Mode	Modal share (% p-km)
Private cars	76
Public transport (bus, tram, subway and rail)	12
Bicycle	7
Walking	2
Other (includes mopeds)	3

2.3.3. Freight transport

Transport of goods by surface modes has seen substantial growth as well, increasing by approximately 50% from 1970 to 1990. During this period, road freight transport more than doubled against significant decreases in rail transport.

Trends in domestic freight transport show overall growth in road freight traffic of approximately 5% from 1993 to 1998. After slipping slightly in 1994, freight transport by rail remained relatively steady over the period, while inland waterways traffic grew approximately 10% from 1986 to 1997.

Table 7. **Domestic freight transport by Dutch companies**

	Million tonnes						
	1993	1994	1995	1996	1997	1998 ¹	1999 ²
Road	393.4	391.0	398.1	386.5	396.7	413.0	455
Rail	4.8	4.3	4.4	4.4	5.0	5.3	8
Inland shipping	90.9	97.7	88.7	89.4	96.6	100.0	–
Total	489.1	493.0	491.2	480.3	498.3	518.3	–

1. Provisional, CBS.

2. Provisional, ECMT.

Source: ECMT, 1998 and V&W, 1999c.

In international freight traffic, overall volumes are steadily increasing. Total road freight traffic increased by 7% between 1986 and 1994, reaching a total of 391.04 million tonnes, 104 million tonnes of which was from international traffic. After rising to 533 million tonnes in 1997,³ road freight volumes are expected to reach 810 million tonnes⁴ in 2010. Overall rail freight traffic is forecast to reach 65 million tonnes by 2010, more than half of it on the Betuwe rail line linking the ports of Rotterdam and Amsterdam and Schiphol airport and providing direct connections with the rest of Europe. Inland shipping, which plays a particularly strong role in freight traffic in the Netherlands, made progressive gains from 1986 to 1997, increasing 40% over the decade. Despite air transport's relatively small share of the freight carriage market, volumes handled at Schiphol airport increased by 42% between 1992 and 1995 (ECMT, 1998).

Table 8. **International freight transport by Dutch companies**
Million tonnes

	1993	1994	1995	1996	1997
Road ¹	86	91	112	112	112
Rail	12	14	15	16	18
Inland shipping	111	132	132	134	140
Total	210	237	259	262	270

1. Transport by light vans not included.

Source: CBS (Web).

Chapter 3. Key Trends and Sustainability Issues in Urban Travel

3.1. Urban travel

Dutch cities have for many years served as reference points for urban specialists and policy makers around the world as they seek ways to render more sustainable their urban transport systems. Indeed, the integrated policy framework of the Netherlands, which provides for investment in and development of urban public transport systems and promotes cycling and walking as means of personal mobility in and around urban settlements, has enabled the private vehicle to be successfully kept at bay in many parts of Dutch towns and cities.⁵ Travel by car, however, still holds the predominant share of passenger travel in virtually all urban areas.

3.1.1. *Modal share in towns and cities*

The most remarkable and well-known feature of urban travel in the Netherlands is without a doubt the predominant role that cycling plays in personal mobility. Responsible for approximately 7% of passenger-kilometres country-wide, cycling claims as much as 25-30% of the modal split in some urban areas. Public transport holds a moderate 12-14% of passenger-kilometres on a national level, but up to 50% of modal share in some metropolitan areas. Tight parking policies integrally linked to restrictive land use policies have limited car use in many parts of city centres and their peripheries.

Pressures from rapidly rising car ownership and use are, however, undermining the efficacy of some of these policy initiatives. As a result, congestion, both in and outside of cities, has been brought to the top of the transport priority list in the Netherlands.

3.1.2. *Car traffic and congestion*

Much of the Dutch population perceives congestion as one of the most important transport problems in the Netherlands. The number of traffic jams has risen by 160% since 1990, and there are now on average 1 300 traffic jams per month. Total

congestion on the arterial road network doubled in the period 1990 to 1997. About 30% of this congestion is attributable to about 20 notorious traffic bottlenecks.

An estimated 350 000 to 500 000 cars get caught in traffic jams on an average weekday out of 6 to 7 million car journeys on trunk roads. The overall cost to society of traffic jams and vehicles/hours lost has increased by 70% to 1.7 billion guilders since 1990, representing 0.3% of GNP.

According to government figures, personal car use will have increased by 45% in 2010 relative to 1986 levels and will have thus exceeded current targets by 10% (V&W, *et al.* 1999a).

3.1.3. Public transport trends

The share of public transport in the total number of passenger-kilometres countrywide has risen since 1986, an increase almost entirely attributable to more ridership on trains. Urban and district public transport has sustained an overall decline in use, with the exception of public transport use by students and rail traffic in large metropolitan areas.

Public transport is more competitive over longer distances and in dense traffic flow areas. As mentioned above, in the large cities of the Randstad and in traffic to and from city centres, public transport can attain as much as 50% of the modal share. In peripheral business and industrial zones, however, public transport performance tends to be less impressive, with longer connection times that increase overall passenger travel time and thereby weaken public transport's competitive position relative to the car. As cities continue to spread into peripheral areas, this niche will become of increasingly critical importance to public transport's market share (V&W, 1999a).

Table 9. Passenger-kilometres travelled on urban and inter-urban public transport¹
Millions

	1986	1989	1992	1995	1998	1999
Total public transport (p-km travelled)	16.6	17.0	23.5	20.8	22.4	22.8

1. Includes rail traffic.

Source: V&W.

3.2. Land use

Land use trends in the Netherlands are intrinsically linked with the country's geophysical and economic past. As much of the surface area of the land has been literally wrested from the sea and kept at bay by large dikes, land has always been scarce, and population density relatively high. Economic activity has developed

along the routes linking the country with the European interior – Germany, France, Belgium and beyond. The building of these links has entailed intensive infrastructure development, and the organisation of this activity relative to its planning, financing, and implementation and management has formed the basis for spatial planning practice in the Netherlands (Priemus, Hugo, *et al.*, 1997).

3.2.1. Recent trends

Spatial configuration of the Netherlands has remained much the same since the early post-war years: concentration of urban density in the Randstad region, large open green spaces such as the Green Heart, geographical delineation by the principal rivers and the North Sea coast, clustered urban development in the Gelderland and Noord-Brabant provinces and less urban density in the northern region. In recent years, highest growth is taking place in regions outside the Randstad, particularly in Brabant and Gelderland. In other regions, growth figures vary a great deal depending on the economic configuration of a particular area.

With rapid growth in car ownership and new prosperity in the 1960s, suburbs expanded significantly around the cities and growth centres as demand for new housing shot upward. Population drifted from cities into smaller towns, villages and rural areas, leading to greater travel distances from the cities and more diffuse trip patterns. At the same time, more jobs began to locate on the fringes of towns than in the centres.

With the movement away from cities came demand for new infrastructure, notably for transport. To meet this demand, the motorway network developed more rapidly than public transport, and as is often the case, has had a role in promoting further development on the urban fringes. Greater dispersion of home and work locations has subsequently increased travel distances in and around urban areas.

Recognition of the negative aspects of the runaway urban growth led to initiatives beginning in the 1970s to cool down the feverish pace at which urban areas were expanding and provide some protection for natural landscapes and green spaces.⁶ But continued rapid if somewhat sporadic growth of urban areas, along with accompanying demand for residential and industrial space has led to tensions over the future development of greenbelt areas, most notably the Green Heart (VROM, 1999 and Cheung and Hoen, 1996).

3.2.2. Demand for land space

Approximately 700 000 new homes are expected to be built between 1999 and 2010, half of these in the Randstad. If population growth stabilises and economic growth is modest, an additional 300 000 homes are projected to be required by 2030. However if population continues to increase and economic

growth accelerates, upwards of 900 000 additional new homes will be built. Demand both in quantity and quality terms will vary according to the region and individual desires, but is expected to be highest both in city centres and in sub-urban and rural green areas.

Demand for industrial space is expected to increase and become more varied with the expansion of the services sector, which is expected to claim 60% to 70% of the economy in 2020 to the detriment of the traditional industrial and agricultural sectors. 12 800 hectares are to be allocated to industrial development up to 2020, followed by an additional 9 000 to 12 000 hectares needed in part to upgrade existing industrial sites (VROM, 1999).

Urban land use (residential, work and traffic) now accounts for 15% of the space in the Netherlands.

3.3. Environment

Despite considerable progress over the last 20 years, particularly with regard to local air quality problems, the combination of strong economic growth and increasing mobility in the Netherlands is putting increasing strain on the environment.

3.3.1. Air emissions

CO₂

Energy consumption in the transport sector increased from 20.4% to 23.8% of total energy consumption from 1990 to 1997 (OECD, 1999). With growth in both the numbers of cars and their use, transport energy consumption is projected to continue to rise, especially given that cars being purchased tend to have more powerful engines, even if more economical.

The rise in energy consumption in transport does not bode well for emissions of carbon dioxide (CO₂). The upward trend in energy consumption has brought with it a corresponding rise in CO₂ emissions. For this reason CO₂ is one of the principal focal points for transport-related environmental policy at present.⁷ CO₂ emissions rose from 157 MT, of which 25.3 MT were from the transport sector in 1980, to 184 MT in 1997, with 40.5 MT from transport⁸ (OECD, 1999). This represents a 17% increase in total CO₂ emissions and a 60% increase in transport CO₂ emissions over the period. Road transport is responsible for approximately 90% of transport sector emissions, a majority of which is from freight transport.

Local air quality

Local air pollution in the Netherlands has significantly improved over the last couple of decades, largely due to improvements in automobile technology,

Table 10. Trends in road transport CO₂ emissions in the Netherlands

	CO ₂ -equivalents in million tonnes		
	1990	1995	2010 BAU ¹
Passenger cars	16.0	17.8	17.8
Other road transport	9.4	10.9	16.0
Non-road transport	3.2	3.3	4.0
Total	28.6	32	37.8

1. Business as usual scenario.

Source: RIVM in Annema *et al.* (1999).

notably the three-way catalytic converter. Since 1970, carbon monoxide (CO) emissions have fallen by more than half and emissions of ozone-precursor volatile organic compounds (VOCs) by roughly one-third, although this has had little impact on ozone levels. Nitrogen dioxide (NO₂) and partially combusted hydrocarbon emissions increased until 1989, but have been in steady decline since. Lead emissions have decreased sharply since the introduction of unleaded petrol. The decreasing trend in these emissions, particularly those of NO₂ may, however, slow and even start upward again because of the sustained growth in traffic volumes.

Statutory limit values for local air quality have been set for concentrations of SO₂, black smoke, suspended particulates, NO₂, CO, lead and benzene. Those values set for NO₂, CO and benzene in effect until 2000 in urban areas with heavy traffic are actually less severe than the overall limit values for the Netherlands. In 2000, however, the more severe values applied throughout the Netherlands will also become applicable in urban areas.

Concentrations of fine particulate matter, NO₂, ozone, benzo(a)pyrene, benzene and black smoke currently exceed statutory limit values. Although concentrations of fine particulate matter have dropped over the last decade as a result of policies to reduce acidification, 80% of the population is still exposed to concentrations in excess of current standards. The length of road along which standards for NO₂, benzene and benzo(a)pyrene are exceeded has stabilised in recent years after dropping several tens of per cent early in the last decade. Roadside levels of CO and lead no longer exceed standards (VROM, 1998).

3.3.2. Noise

Noise nuisance has seen notable improvements in recent years, with the percentage of the Dutch population suffering from noise disturbance levels over 50dB(A) on a decline. In 1990, approximately 50% of the Dutch population experienced severe noise; by 1996, this figure had dropped to 40% of the population.

Table 11. Selected air emissions from transport sources¹

Thousand tonnes per year

	NO _x		SO ₂		CO	
	Total	Transport	Total	Transport	Total	Transport
1985	588.0	342.8	258.2	26.0	1 357.2	973.8
1990	574.6	348.5	201.6	29.0	1 116.3	749.1
1995	495.7	313.1	143.9	29.9	868.2	557.1
1997	453.1	292.7	117.7	22.6	749.3	475.3
1998	440.8	283.2	113.1	23.2	722.8	437.8
2010	390	210	92	26	–	–
2020	414	241	97	29	–	–

1. 1985-1998 figures: RIVM. Milieubalans 99. 2010-2020. Emissions projections based on RIVM European Co-ordination scenario. Nationale Milieuverkenning 4 1997-2020.

Source: RIVM.

In urban areas, road traffic is a principal contributor to noise. Despite significant reductions in noise from road traffic over the last 10-15 years, 25% of the Dutch population reported suffering from road traffic-related noise in 1995, with road traffic the most important cause of noise disturbance in 1995 after noise from neighbours (VROM, 1998). The percentage of “quiet areas” in the Netherlands will decline (without policy adjustment) by almost 4% between 1995 and 2020 as a result of the noise nuisance from road traffic (Kwikkers, 1999).

Road traffic nuisance is expected to continue to drop up to 2010. At that time, along with noise nuisance from civil aviation, it is expected to rise again, although according to forecasts, the population suffering from road traffic noise nuisance is expected to remain below the 1995 level.

3.3.3. Fragmentation and biodiversity loss

Because of the Netherlands’ small surface area and the great density of its infrastructure and expanding road and railway networks, the flora and fauna of the Netherlands are threatened with fragmentation. The spreading of urban areas pushed along by demographic and economic trends is encroaching on rural lands with potentially serious implications for the existing countryside and its animal and plant populations.

3.4. Safety

Safety, like air quality, is an area that has seen real improvements in recent years in the Netherlands. The result of strong, sustained policy commitment to reducing the number of accidents on Dutch roads, traffic casualties and fatalities

have been on an overall decline since the 1960s. Whereas car traffic volumes have experienced substantial growth since that time, fatal accident numbers have dropped: from 1970 to 1990, car mileage increased by a factor of 2.5; during the same period, the number of traffic fatalities dropped correspondingly by a factor of 2.5. This decoupling of traffic volumes and fatal accidents has led to a decrease in risk expressed in number of fatalities per billion vehicle-km from an index of 100 to 15 in 20 years time (Schepel, 1999).

Whilst the number of fatal accidents dropped approximately 18% between 1985 and 1996, the total number of people injured in traffic accidents has not gone down significantly. The target established for 2010 – 40% fewer accidents requiring hospital treatment – will therefore most likely not be achieved. The annual cost of traffic accidents in the Netherlands is estimated at Gld 11.5 billion, or more than six times the cost of congestion (V&W *et al.*, 1999a).

Table 12. Road traffic fatalities and injuries

	1988	1990	1992	1994	1996	1998	1999
Fatalities (death within 30 days)	1 366	1 376	1 285	1 298	1 180	1 066	1 090
Severe injuries	13 644	13 652	11 654	11 735	11 966	11 733	12 388
Casualties (fatalities + injuries)	15 010	15 028	12 939	13 033	13 146	12 799	13 478
Number of accidents	13 360	13 247	11 364	11 469	11 561	11 124	11 599

Source: ECMT.

Chapter 4. Institutional Context for Sustainable Urban Travel

Policies impacting urban transport in the Netherlands are the product of an integrated, iterative process involving input from transport, environment and land use institutions on the central, provincial, regional⁹ and municipal levels of government. Following is a general description of how these different institutions design and implement urban travel policy.

4.1. General administrative structure of the Netherlands

The overall structure of the Dutch administrative system has remained essentially unchanged since the middle of the 19th century. In the 1848 constitution, developed by the liberal Dutch statesman Thorbecke, a “decentralised unitary state” was articulated for the Netherlands, providing for relative autonomy for local and provincial governments within a framework and conditions set by the central government.

Within this so-called “House of Thorbecke”, the Netherlands today is divided into 12 provinces and 538¹⁰ municipalities with local governments. Together with the central government, these bodies form a three-tiered, hierarchical system of administration for the country.

At the helm of the Central Government is the prime minister, who under the constitutional monarchy system heads a cabinet that is responsible to the Dutch legislature or States-General, of which there are two chambers. Of the 14 ministries conducting central government affairs, four are directly involved in policymaking that impacts urban travel: the ministries of Transport, Public Works and Water Management (V&W); Housing, Spatial Planning and Environment (VROM); Economic Affairs; and Finance.

The 12 provinces are each governed by a popularly elected legislature known as the Provincial States. From among its members, the Provincial States elect a day-to-day administration, known as the Deputised States. The Chairman of the Provincial and the Deputised States is the Queen’s Commissioner, appointed by the Crown.

The municipalities are headed by the Council of Municipalities under the chairmanship of a mayor, who is also appointed by the Crown. Together with the

aldermen (elected by and from the Council), the mayor handles the day-to-day administration of the Municipality.

Under this three-tiered administrative structure, the Central Government is responsible for setting national policy and defining policy frameworks that provide the overall parameters for action on the provincial and local levels. In this way, Central Government has a strong influence in policy making on a local level.

Provinces and Municipalities can in general terms take policy initiatives within their jurisdictions in all areas as long as there are no legal restrictions set by a higher-tier authority. These lower tiers of administration possess so-called “general competence” and are therefore not limited to only executing tasks prescribed by the Central Government. However, they have restricted resource-generating capacity: with limited power of taxation, they rely on Central Government resources for most of their finances : nearly 70% of the income of the Municipalities comes directly from the central budget; the remaining 30% from municipal income. As policy action is decided, Provinces exercise a primarily supervisory and co-ordinating role in implementation, whilst the Municipalities, inherently closer to the population, are in general terms charged with carrying out the tasks (Ruige et Malagardis, and Vergeer, 1998).

4.2. Transport planning

As set out in the Second Traffic and Transport Structure Scheme of 1990 (SVV2),¹¹ overall responsibility for urban transport planning resides with the Central Government. According to the SVV2, the overall objectives for traffic and transport planning are defined as “accessibility and quality of life”, the realisation of which is to be embodied in quantitative objectives and achieved through co-operation among the central, provincial and municipal governments under the overall direction of the Central Government.

Central Government responsibilities in transport planning include:

- Public transport:
 - Investment in the national rail network and local transport.
 - Control of operating deficits.
 - Improving provision of “collective transport”, *e.g.*, through promotion of employer provided transport.
- Road transport:
 - Infrastructure investments in motorways of national importance.
- Rail and waterway freight:
 - Infrastructure investment and promotion of combined transport.
- Land-use planning:
 - Definition of location policy for residential and industrial development.

¹¹ 28 (V&W *et al.*, 1989-90).

4.2.1. Ministry of Transport, Public Works and Water Management (V&W)

Central Government transport policy is defined and developed in the Ministry of Transport, Public Works and Water Management, one of the larger ministries with approximately 14 000 employees. The organisational structure of the Ministry consists of four directorates-general, several general departments and one agency, which carry out the principal functions of the Ministry.

The Directorates-General oversee:

- Public Works and Water Management.
- Freight Transport.
- Passenger Transport.
- Civil Aviation.
- Post and Telecommunications.

Other departments include Strategy and Co-ordination, The Royal Netherlands Meteorological Institute, and the Central Departments division, which supports the overall activities of the Ministry with its international relations and communications divisions.

As concerns transport, the primary functions of the Ministry consist of:

- Providing facilities for the control and supervision of mobility and telecommunications.
- Overseeing the safety of traffic and transport.
- Creating the “best possible conditions” for the transport and communication sectors.

The Strategy and Coordination Department (S&C) is in charge of implementation of the Ministry's strategic policy as a whole, including strategic development, co-ordination of administration and the Ministry's European policy.

The Directorate General for Passenger Transport (DGP) oversees most issues related to urban passenger transport. The aim of the DGP is to “achieve a durable and safe traffic and transport system with attention (to) the safety of the infrastructure, vehicles and users” and “a well-functioning passenger transport market for transport companies and users alike”. DGP is responsible for development of policies concerning personal mobility (land and water) and the traffic and transport system. It is divided into three policy divisions (1. Innovation, 2. Infrastructure, Traffic Safety and Vehicles, and 3. Mobility Market) and two (South and East) high-speed rail projects (V&W, Web).

The Directorate General for Freight Transport (DGG) handles all issues related to goods transport by land and by water. The primary objectives of the DGG involve improving the conditions of the goods transport system in general, strengthening the competitive position of transport companies, and guaranteeing transport safety.

4.2.2. Regions

On a regional level, the Provinces co-ordinate transport policy. However in some cases, the so-called Framework Act Regions handle in practice most of the second-tier responsibilities for transport policy as well as other areas.

These regional entities emerged in the early 1990s when Municipalities in the seven large urban areas of Amsterdam, Rotterdam, The Hague, Utrecht, Eindhoven, Arnhem-Nijmegen and Enschede-Hengelo) began to co-operate intensively on transport planning problems. As explained in SVV2, issues specific to large cities were perhaps not being effectively addressed in the existing administrative structure. Their co-operation was subsequently formalised on an official basis in the Framework Act of 1993, which mandates their existence until 2003.

As concerns transport, the principal tasks of the Regions are to co-ordinate with the other tiers of government in the preparation, programming and implementation of transport activities concerning:

- local and regional public transport;
- the road network;
- parking policy;
- road safety;
- cycling provision;
- freight transport, including distribution and delivery; and
- the link between transport and land-use planning in terms of the location of residential and industrial development and public facilities.

Policies in each of these areas are set forth in a regional transport plan, the elaboration of which is the responsibility of the region. While the principal policy focus of these plans is transport, they must take account of the other closely related policy areas of land-use planning, environmental protection, housing construction and economic development (V&W *et al.*, 1989-90).

Once the mandate of these Regions has expired in 2003, it is as yet uncertain exactly how these responsibilities will be attributed and to what levels of government. The plans to decentralise government responsibility for transport, articulated in the VERDI Accord of 1996 (please see next section) along with new decentralisation proposals outlined in the NVVP¹² endow the Provinces with a greater oversight on transport issues. As it stands at present, the Provinces generally play only a limited role in transport planning, particularly in areas where the Regions have a stronghold on policymaking – in essence, the large agglomerations where most of the pressing traffic problems and infrastructure issues occur.

The Municipalities generally implement the policy guidelines defined by national and regional authorities. Though they are not obliged to, most of the larger Municipalities also develop their own overall traffic and transport strategies. All

Municipalities submit their project and local infrastructure plans to the Provinces or Regions for consideration and funding approval.¹³ Under the NVVP, Municipalities will acquire increased authority to manage their own transport policy.

4.2.3. *Vertical co-ordination between levels of government*

Because of this combination of starting points in transport planning and administration – which can be loosely characterised as decentralised preparation and implementation coupled with a centralised taxation system – much consultation and co-ordination is required between the Central Government, the Provinces, the Regions and the Municipalities.

This consultation process was embodied in formal procedure on 29th March 1996 in the VERDI Accord, established between the Ministry of Transport, Public Works and Water Management, The Ministry of Home Affairs, the Inter-provincial Consultative Group and the Association of Dutch Municipalities. The parties involved jointly agreed that the realisation of traffic and transport policy requires co-ordinated efforts from the different layers of administration. To this end, national objectives are agreed in mutual consultation. Under the Accord, the Central Government, the Provinces, and the Municipalities, articulate these national objectives in integral traffic and transport plans. The different tiers of administration then enter into mutual administrative contracts agreeing implementation plans. Should the obligations not be met, the central authority can instruct the Provinces, which, in turn, can instruct the Municipalities to carry out the contractual agreement. In practice, consultation on implementation of national goals is often characterised by Central Government financial incentives to the lower tiers of administration in exchange for effective implementation by the Municipalities.

Implementing the procedural process outlined in the VERDI Accord has, however, been complicated by the fact that the Accord is between the Provinces and Municipalities and the Central Government and does not directly concern the Regions, which, as noted above, hold most of the responsibility for regional transport planning in the seven large urban areas in the Netherlands. From discussions with several of the Regions during the ECMT Peer Review, it appeared that regional authorities did not feel particularly impacted by decentralisation aspects of the VERDI agreement.

Co-ordination between government authorities in transport planning is not only *vertical*, but also *horizontal*. As noted earlier, reflecting the tradition of consensus-seeking in government decision-making, policy development concerning urban travel involves interaction between the transport authorities and those responsible for spatial planning and environmental affairs, as well as economic and fiscal concerns. Particularly in the development of national strategies such as the SVV2

or the forthcoming NVVP and the National Environmental Policy Plans (NMPs) or the national Spatial Planning Strategies,¹⁴ inter-ministerial consultation committees are set up to ensure agreement to sectoral objectives and plans that implicate other sector strategies. In this way the strategic plans established reflect commonly agreed objectives and targets.

It was the impression of the ECMT Review Team that most official institutional co-ordination and co-operation among different sectors took place on a national planning level, however. When discussing interaction among transport, environmental and land-use institutions on a provincial, regional or municipal level, it was less clear the extent to which systematic inter-sectoral consultation and co-ordination was taking place.

Following is a brief overview of institutional structures for spatial planning and the environment.

4.3. Land-use planning

Spatial planning policy is under the wing of the Ministry of Housing, Spatial Planning and the Environment (VROM). Land use has been considered an important instrument for environmental management in the Netherlands since the first Spatial Planning Act was elaborated in 1965, and has grown in importance as the economic and demographic evolutions in the Netherlands over the last 20 years have pushed land use to the forefront of sustainable policy development.

The institutional structure of this process is generally as follows: following interministerial consultation and public enquiry, the Central Government sets out guidelines for national spatial planning, and together with the municipal authorities submits the national plan to the Parliament.

The Provinces in turn draw up regional land use plans that also involve public consultation. The provincial authorities confer in this process with Central Government on the content of the plans, thereby allowing the Ministry to check for consistency with national guidelines. Whereas national guidelines are not legally binding, if the regional plans show inconsistencies with the national planning principles, the ministry can issue directives to the Provinces to ensure that national guidelines are respected on a regional level.

Local authorities establish municipal land use plans drawing on the parameters established in the regional plans and submit the plans to the Provinces for approval. The local plans are compulsory for rural areas but can also be elaborated for urban areas. The basis for building permits, all development plans having a potential impact on land use must conform to these municipal plans (OECD, 1995; and Galle and Modderman, 1997).

In addition to the land use plans described above, national structure schemes are required for all major decisions relating to land use or infrastructure development. These structure schemes exist for issues such as traffic and transport, water supply, agriculture and housing. Regional, and therefore local, development plans must take account of these decisions as well. Involving close consultation among the sectoral ministries concerned, the structure plans must go through specific approval procedures and are subject to the scrutiny of the Ministry for Housing, Spatial Planning and the Environment.

This long-standing cross-sectoral link in decision-making has been key to the integration of environmental considerations in, among others, transport infrastructure development. An example of this is the expansion of Schipol airport, which while under the competence of the Ministry for Transport, Public Works, and Water Management, is nonetheless subject to the imperatives of the Ministry for Housing Spatial Planning and the Environment because of the project's subordination to the traffic and transport structure scheme. Integrated institutional processes such as this, as well as cross-sectoral policy development are characteristic of the way in which the latest generation of policy strategy documents for transport, the environment and land use been developed in the Netherlands.¹⁵

4.4. Environment planning

On a national level, responsibility for environment policy is housed in VROM, which was established in 1982. VROM oversees general environmental policy and co-ordinates policy dealing with the environment in the other ministries. It has direct responsibility for laws concerning air, soil, waste, noise, radiation, and environmental impact assessment, among others. It sets out the national strategy for environmental planning in the National Environmental Policy Plan (NMP).

Within the Ministry, the Directorate General for Environmental Protection has four divisions responsible for Environmental Quality and Emission Policy, Life-cycle and Environmental Management, and General Environmental Policy. The fourth division includes the Inspectorate for the Environment, whose staff at both central level and in nine regional inspectorates support a network of local and provincial officers charged with the enforcement of environmental laws and regulations.

The work related to environmental impacts of transport is housed primarily in the Noise and Traffic and the Air and Energy departments of the Environmental Quality and Emission Policy Division, the latter overseeing issues related to local air quality and the environmental impacts of urban travel (OECD, 1995).

Environmental legislation is mostly implemented at the provincial and municipal levels. The Provinces are responsible for implementing national environmental legislation in their territories, for granting licences in the context of the Environmental Management Act, and for waste water discharges into provincial

surface waters. The Provinces draw up an environmental policy plan and a water management plan every four years and oversee the implementation of environmental tasks by the Municipalities and water boards, which handle water management of the polders and in some cases water pollution in their jurisdictions.

Municipal authorities are charged with implementing a number of environmental laws under the Environmental Management Act, handling compliance issues relative to licenses for industry, and construction and maintenance of the sewer system as well as refuse collection (OECD, 1995).

Chapter 5. Policy Context for Sustainable Urban Travel

5.1. Urban transport policy

5.1.1. *The Second Traffic and Transport Structure Scheme (SVV2) 1990-2001*

Since 1990, transport in the Netherlands has been guided by the strategic principles and objectives laid down in the Second Traffic and Transport Structure Scheme of 1990. Developed in co-ordination with the strategic plans for the environment (NMPs 1-3) and land use sectors (VINEX) (discussed in the following sections) the SVV2 was designed with a view to setting transport policy on a path leading up to 2001 that would bring about accessibility while maintaining quality of life. Progress toward these goals is measured against quantitative targets.

From a policy integration perspective, the transport strategy is exemplary, in that it entwines quantified environmental and spatial planning objectives with transport sector development goals. From a procedural point of view, it, along with the two other strategy documents, reflect what was no doubt a difficult, but nevertheless relatively successful institutional co-operation. From a product standpoint, it resembles to a large extent what experts pushing integrated policymaking for sustainability would champion.

With an overall goal of “striking a balance between individual freedom, accessibility and environmental amenity” in the pursuit of “a sustainable society”, the strategy is structured around two principal areas of focus: on one end, *Environment and Amenity*, on the other end *Accessibility*. Five steps are then defined as the path to reaching these goals, including:

- *Tackling problems at their source*, including making vehicles as clean, safe and efficient as possible, curbing infrastructure expansion to limit demand for land, and reducing encroachment into natural areas by limiting vehicle access.
- *Managing and restraining mobility*, by reducing the number of kilometres travelled in both goods and passenger transport by, among others, limiting the distance between home and work via pricing and location policy.
- *Improving the alternatives to the private car*, including for passenger transport, improving cycling facilities and public transport and encouraging shared

use of vehicles; and for freight, improving rail and waterway facilities and encouraging combined transport.

- *Selective accessibility of the roads*, involving a more strategic, “case-by-case” evaluation of infrastructure expansion.

The policy tools to carry the strategy forward are defined in the context of four policy areas: Environment and Amenity, Managing Mobility, Accessibility and Support Measures. Within each of these areas, quantified targets were established in short-, medium- or long-term scenarios depending on the policy and problem. (V&W *et al.*, 1989-90).

The result is a tightly woven lattice of environmental and transport sector policies that together are designed to carry the Netherlands forward to its “sustainable society” objective.

Meeting the sectoral development aspirations while improving the environmental integrity of the sector has, however, proven elusive. The inherent complexity involved in implementing such an integrated policy strategy as SVV2, complicated further by the macroeconomic and demographic growth over the period, has contributed to what the Government itself has acknowledged to be an at best mixed result.

According to the Government’s Perspectives Memo, a document prepared to evaluate the effectiveness of the SVV2 and mould a framework for reflecting on the next generation of transport strategy for the Netherlands, there was insufficient co-ordination of the objectives and provision of the means to achieve them. Inadequate funds were allocated for the roads and railways programme, so that the quality criteria for infrastructure were not attainable. Actual costs went well beyond expected costs of realising these plans, and, as the Memo points out, it proved much more difficult than anticipated to realise modal switching from private cars to public transport, despite considerable investment. (V&W *et al.*, 1999a).

The Memo characterises the SVV2 period and its outcomes as follows:

- In general, mobility, congestion and emissions from traffic are all expected to exceed targets; CO₂ remains a major concern.
- Traffic volumes have risen more rapidly than forecast.
- Building of new infrastructure progressed more slowly than planned.
- Congestion increased.
- Pricing policy has shown promise, but has yet proven to be as effective as envisaged; fuel taxation is limited by cross-border price differences, and road pricing has met resistance.
- Environmental quality has not improved to the extent anticipated.

- Market liberalisation of public transport and taxis looks promising, but public transport remains at present insufficiently attractive to bring about a shift from car use; moreover, it is still heavily subsidised.
- Parking policy has shown signs of being an effective tool on a local level – over 50% of cities have policies for paid parking – but has limitations beyond the local scale.
- Road safety has improved, but the number and toll of road traffic accidents is still high, as measured in fatalities, injuries and financial damage (V&W *et al.*, 1999a).

As the SVV2 period comes to a close, questions have arisen as to how to capitalise on gains made during this time and further pursue the “sustainable society” goals set at the outset of the strategy 10 years ago. The Perspectives Memo articulates a number of broad areas where a policy dialogue has been undertaken to arrive at a new transport planning approach; they include:

- Shortage of capacity and how to best to evaluate the need for expansion.
- The environmental impact of traffic and transport and how best to meet goals for “quality of life”.
- When and under what circumstances should market forces be brought into play in transport, and in this context, what is the best role for the government to play in resolving tensions between supply, demand, scarcity and equity? Further, should government administration of the transport sector remain relatively centralised or should greater decision-making power be devolved to the Provinces and Municipalities?
- What sectoral goals and policies are of the national domain, and in turn, which are more appropriately placed on a European or international agenda?

5.1.2. *The National Masterplan for Traffic and Transport (NVVP)*

The NVVP, which has been under preparation for some time, will be sent to Parliament at the end of 2000. During the planning period, a new approach has been sought to traffic and transport policy that will take stock of the lessons learned during SVV2 and move the Netherlands toward a more efficient planning structure for the transport sector.

During the period of reflection and definition, a number of important policy approaches have been defined for the NVVP:

- *Quantified targets e.g.*, especially for traffic volumes will not be used to the extent they were under SVV2 to measure the efficacy of policies; the success of a particular policy or measure will be determined based on its impact in qualitative as well as quantitative terms.

- *Pricing policy* will continue to promote a shift away from fixed charges to greater variabilisation and differentiation of pricing in the transport sector. Tools include higher *fuel taxes* (although there is concern about the necessity for co-ordination with neighbouring countries) and a *kilometre charge* directly linking use of infrastructure and its price. Differentiation will focus on the implementation of a *road pricing system*.
- *Greater efficiency* will be sought in the use of the road system and in traffic management systems.
- The *private sector* will become more involved via the gradual introduction of competition in public transport and by encouraging public private partnerships in infrastructure provision.
- *Technological advances* will be key in meeting environment and safety goals.
- *Decentralisation of government responsibilities* will play an important role in setting the overall administrative context for greater efficiency in all aspects of transport and traffic planning.

5.1.3. Decentralisation of government responsibility for transport

As noted in Chapter 4, the Dutch system of administration has for well over a century been based on a highly centralised government structure with co-ordinated policy planning and implementation with the provincial, regional and municipal tiers. The SVV2 reflected this approach: objectives were to be realised through co-operation among the central, provincial and municipal governments mostly under the direction of the Central Government. In the assessment of the impact of SVV2, however, it was determined that there had been too little involvement and support from the lower tiers of government, the responsibility for the strategy falling entirely on the shoulders of the Central Government.

In an effort to increase efficiency in the administration of transport and traffic planning, and avoid the NVVP being known as a Ministry strategy only, the Central Government will under NVVP limit its authority to policies and projects of national and European importance. In this way, it will assume some powers from the other tiers as necessary, but more often, it will devolve authority to the Provinces, Regions, and Municipalities for policies and projects of specific concern to those levels. Provincial, regional and local governments will obtain greater responsibility, within agreed frameworks, for problems related to and investment in the operation of traffic and transport. They will be expected to conduct an integrated policy planning approach, considering not only transport aspects, but factors concerning the economy, the environment and spatial planning as well. The Central Government will most often not be involved in these deliberations. The range of financial instruments will also be increasingly at the disposal of the decentralised authorities, thereby empowering these lower-tiers of administration with real capacity to make and implement policy. In this way, the NVVP intends to complete the decentralisation process that the VERDI accord began in 1996.

5.1.4. Financing infrastructure and transport

Indicative of the centralised nature of the Dutch transport administration is the way in which urban transport infrastructure and activities are financed. Central Government revenues are allocated to Provinces and Municipalities for primarily two objectives: infrastructure development and support for cost recovery in public transport operations.

Financing local transport infrastructure

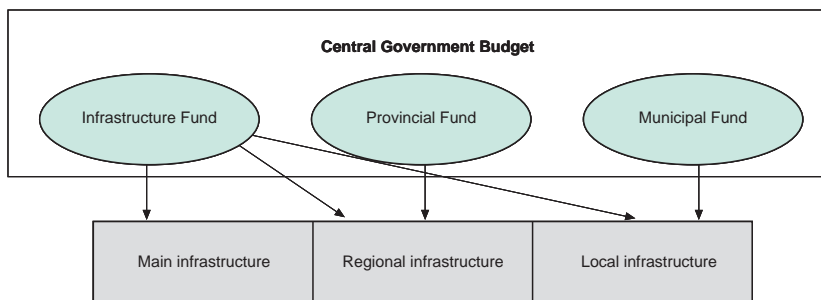
Development of local and regional transport infrastructure is primarily financed from Central Government funds/resources via three financing mechanisms: the Municipal Fund, the Provincial Fund and the Central Government's Infrastructure Fund. Special grant funding is also available for special projects.

In general terms, infrastructure development priorities are decided at a municipal, provincial, or as the case may be, regional level, and applications for central funding are then made through these sources.

Provincial and Municipal Funds

Managed by the Ministry of Finance and the Ministry of Interior Affairs, the Municipal Fund and the Provincial Fund are fed by general Central Government revenues from taxation. The Ministry then deliberates on how much resources will be allocated to each of the Provinces and Municipalities from the funds and for which purposes: decisions are made based on a variety of criteria related to the size, regional profile, and tax revenue-generating capacity of the Province or Municipality.

Figure 2. Financial streams for traffic and transport



As concerns the Provincial Fund, grants are provided to the Provinces for projects in five broad areas, notably:

- road and water;
- nature conservation;
- environment and rural planning;
- economics and tourism; and
- general administration, public order and safety.

The grant amounts per province are determined on the basis of a province's costs in each of the designated areas, taking into consideration the tax revenue-generating capacity of the province.

In similar fashion, Municipalities receive a grant each year from the Municipal Fund, the amount of which is based on the relative cost levels of a given municipality (determined by a calculation based on the number of inhabitants of the town or city, whether the Municipality has a role of particular importance in the Province or Region, etc.) and the tax revenue-generating capacity of the Municipality. In contrast to the Provincial Fund grants, Municipalities generally have greater power to decide on which services it will spend the grant money (MINFIN, Web).

In 1998, the Municipal Fund contained Gld 22.6 billion, approximately 32% of total municipal income. The other 68% of municipal revenues consisted of specific purpose grants (38%), from which some urban transport financing comes, and municipal own income, primarily real estate and parking tax income (30%) (Ruige and Malagardis, and Vergeer, 1998).

The volumes of the Municipal Fund and Provincial Fund are adjusted every year for inflation and for levels of Central Government expenditure.

Infrastructure Fund

The Infrastructure Fund is supplied from the return on the infrastructure surcharge on the motor vehicle tax, and from a portion, fixed annually by law, of the duties on motor fuels received in that calendar year, as well as from general tax resources. Provinces and Municipalities are eligible to receive grants from the Infrastructure Fund for investment in public transport, cycling facilities, environment and road safety projects, and for urban or regional road building and management. Construction, maintenance and capital costs of the national main infrastructure (road, water and rail) are paid from the Infrastructure Fund as well.

The Infrastructure Fund was created in the context of the SVV2 in order to provide a cohesive, integral structure for decision-making on traffic and transport infrastructure. Prior to the establishment of the fund, budget decisions regarding infrastructure were handled on a case-by-case basis, with financial and substantive issues handled separately in different divisions of the government; as a result, a strategic overview of how infrastructure decisions were being made was lacking.

Since that time, a Long Term Infrastructure and Transport Programme has been drawn up each year following consultation with the levels of government concerned. The Programme presents infrastructure development decisions for the national arterial road infrastructure, main waterways, the national rail infrastructure and regional infrastructure.

Contributions from the Fund can be made either for one large project, or for a bundle of smaller projects. In the latter case, the province or region has the authority to allocate the grant from the Fund to a number of small, unspecified transport measures. The Central Government will meet a maximum of 95% of public transport infrastructure costs and maximum 50% of road infrastructure costs. It is, in theory, possible for the Infrastructure Fund to borrow money on the capital markets, although this is not frequent.

All projects have to be coherent with national policy priorities for transport sector development. As a general matter of policy, it is assumed that maintaining existing infrastructure takes priority over the creation of new infrastructure. This priority has been reinforced in the NVVP, with accent placed on evaluating possibilities to use existing infrastructure resources more efficiently before expanding infrastructure provision.

5.1.5. Financing public transport

Another way in which the Central Government provides support to local transport activity is by financing cost recovery gaps in local public transport operations.¹⁶ Indeed most urban public transport operations in the Netherlands are not able to cover their costs with own revenues; the cost recovery percentage for urban and regional transport is about 35 to 40%. In order to more or less cover the deficit burden of these companies, the Central Government pays Gld 1.5 in support for every Gld 1 earned.

Efforts are afoot to bring the cost recovery ratio of urban and regional public transport to 50% (including maintenance). The injection of market dynamics into public transport provision is expected to help in reaching this cost recovery goal. Rail transport has now reached its 100% cost recovery objective (excluding infrastructure costs).

5.1.6. Pricing policies

As in most countries, the use of pricing as a transport policy tool in the Netherlands – be it via higher taxes on fuel, road pricing, or parking charges – has been a source of considerable contention. Reconsideration of the tax deduction for travel expenses even led to the fall of the government in 1989.

The potentially controversial nature of pricing measures notwithstanding, the Dutch Government has quite clearly embraced the idea that the external costs of travel should be internalised; in particular, that motorists should pay for the costs of using the road network. With the SVV2 and NVVP, pricing policy evolved from a focus on fixed pricing schemes to a concentration on charges that vary according to use, and that are differentiated based on the time of day and location of travel.

Fuel taxation (though limited by considerations of competitive pressure from neighbouring countries), parking charges, and an envisaged kilometre charge will – together with electronic road pricing – form the pillars of this pricing framework.

Certainly the most talked-about, if not the most important, part of Dutch pricing policy is electronic road pricing, a policy tool that has been on the table in the Netherlands for a number of years now. Whereas many countries have considered various forms of road or congestion pricing, few have taken the plans as far as has the Netherlands.

Road pricing

Given the persistent traffic volume and congestion problems of the Netherlands, the Central Government has held firm to plans to implement a road pricing scheme in one form or another, weathering often vehement opposition from Municipalities and regional authorities, interest groups and other stakeholders.

Several reasons have been given for the tenacity of the Dutch Government relative to road pricing:

- the particular severity of the congestion problem in the Randstad given that it is one of the most densely populated regions in the world;
- the importance placed on “accessibility” in the Netherlands due to the significance of trade, transport and logistics in the Dutch economy;
- the priority placed on environmental quality in the region, again, largely due to the density of the population and the role that pricing policies can play in bringing about environmental benefits;
- the relative openness of Dutch policy culture to innovation and experimentation in policy making. (Given the limited experience with implementation of road pricing policies, they remain somewhat experimental in nature.) (Boot *et al.*, 1999.)

The two most recent schemes that have been under consideration in the Netherlands are the *Rekeningrijden* cordon pricing plan, which was under negotiation and review at the time of the ECMT Peer Review visit,¹⁷ and the latest plan that has now replaced *Rekeningrijden* known as *Spitstarief*, a congestion pricing scheme presented to Parliament at the end of 2000.

Rekeningrijden – cordon pricing plan

First introduced in 1987 as part of the “Randstad Accessibility Plan”, *Rekeningrijden* was envisaged as a cordon pricing scheme based on toll points on ring roads surrounding the four big cities of the Randstad (Amsterdam, The Hague, Utrecht and Rotterdam). Designed to alleviate particularly severe peak-hour traffic congestion in these ring road areas, the plan was to apply to all users of the road network between 7 a.m. and 9 a.m. The rate assigned for access to these cities was Euro 3.2, with a Euro 1 discount for road users paying electronically instead of upon receipt of a bill to their homes. (Boot *et al.*, 1999.)

A part of the Law on Electronic Road Pricing, the plan was also conceived as a tax law, which provided that revenue generated from the scheme would be funnelled back into Central Government coffers to be redistributed throughout the country as a means of offsetting other taxes. The rationale was that revenue should be neutral and benefit inhabitants of all regions in the Netherlands. However, the flow of revenue streams away from the local areas involved in the scheme was, in fact, a main reason why the scheme was unable to secure support from the cities, in spite of the financial incentives that were eventually offered to these cities in the hope that a pilot scheme could be tested.

As *Rekeningrijden* faltered in late 1999-early 2000, a revised scheme known as *Spitstarief* was conceived. As its name suggested, *Spitstarief* is a “rush hour” congestion-pricing scheme that will eventually concern the whole country and not just the Randstad.

Spitstarief – congestion pricing scheme

A part of the Draft Proposal on Accessibility and Mobility to be presented to Parliament at the end of 2000, *Spitstarief* is the first of three types of mobility tariffs that under the Proposal will be phased in from 2002 to 2006. *Spitstarief* builds on *Rekeningrijden* in that the technology, tariff rate, charging times etc., will be the same. The scheme will begin in the Randstad with 11 toll stations on motorways around the four major cities in the region and is designed to relieve congestion on access routes to these cities.

Following a two-year pilot testing phase and evaluation of *Spitstarief*, the possibility for toll “lanes” and “toll roads” will be determined via a further series of pilot tests. During this trial phase, evaluation of, among others, the scheme’s impact on driver behaviour and technology performance will be conducted.

A notable difference relative to *Rekeningrijden* concerns the flow of revenues from the scheme. Whereas the central tax office will handle the financial aspects of the scheme, the revenues themselves from the congestion pricing and toll experiments will be funnelled into newly created Regional Mobility Funds, the structure

of which is to be determined jointly by the Regions, Provinces and Municipalities, who will have complete jurisdiction over the use of the funds, as long as the projects have a relationship with transport/mobility problems.

An interesting aspect of Spitstarief is the incentives provided to bring the concerned Municipalities, Provinces and Regions on board. In May 2000, the "Offensive Strategy towards Accessibility of the Randstad Region" (BOR) was sent to Parliament, providing Randstad Cities and Provinces with additional money for infrastructure development as well as money for the Regional Funds (the Ministry will double the earnings from the Spitstarief with allocations from Central funds within maximum limits) in exchange for approval of the Spitstarief. Contracts between the Central Government and the Regions of Amsterdam, The Hague, and Rotterdam were signed at the end of 2000. An eventual signing with Utrecht has been postponed until beginning of 2001.

With Spitstarief it therefore appears clear that despite the difficulties encountered with Rekeningrijden, road pricing is still very much a policy commitment of the Dutch government.

Parking policies

A second aspect of Dutch pricing policy is that of parking. Up until the preparation of SVV2, parking policy in the Netherlands was primarily focussed on meeting demand, thereby accommodating growth in traffic. Quite the opposite of the policy at present, office and commercial developments were required to provide often extensive parking facilities at their business sites based on a required minimum provision approach to parking supply. Car traffic levels increased and congestion worsened partially as a result of this policy.

With SVV2 came recognition that parking could, in fact, be a very efficient demand management tool. The minimum parking approach was rejected in favour of maximum parking supply ceilings for business and commercial sites.

Following the shift in thinking outlined in SVV2, the 1991 Parking Policy Implementation Paper set forth a pro-active policy framework for parking provision focusing primarily on commuter traffic in the urban centres and new employment areas. Central to this re-focused parking approach were two principal arguments:

- A restrictive parking policy could contribute significantly to relieving bottlenecks in accessibility and improving quality of life in urban areas.
- With three parking spaces available for every car, land space valued at roughly Gld 47 billion was being taken up by parking, and only a portion of this sum was being directly charged to the car user through parking tariffs.

The principal tenets of the policy were two-fold:

1. All municipalities with more than 30 000 inhabitants should pursue a pro-active parking policy by 2010.
2. In conjunction with spatial planning policy,¹⁸ as of 1995, businesses and public facilities were to be held to the following parking restrictions:
 - at A-locations (locations with good accessibility by public transport), a norm of 10 parking spaces per 100 employees was to be applied in the Randstad and 20 spaces per 100 employees elsewhere;
 - at B-locations (locations with good accessibility by public transport and reasonable accessibility by car) 20 and 40 spaces were to be allotted per 100 employees respectively.

In parallel to the introduction of the parking policy, the “Law on Municipal Parking Tax” was introduced, making it possible for Municipalities to levy parking charges as a form of taxation. In 1995, 50% of municipalities with more than 30 000 inhabitants had implemented a pro-active parking policy.

Since the implementation of the 1991 policy, experience has revealed a number of areas in which the policy could be improved:

- while most Municipalities have introduced parking policies, co-ordination on a provincial/regional level which would take into account impacts of parking policy outside municipal boundaries has perhaps not been given enough consideration, particularly in smaller Municipalities;
- competitive pressure among Municipalities over the establishment of business and commercial entities in their jurisdictions can lead to waiving of the parking restrictions as a means of attracting a business. A strong regional layer of administration could offer a solution to this. A greater regional approach to the policy would help this;
- the parking norm is often considered more of a long-term goal than a stringent standard by some Municipalities; and
- it is difficult to apply the parking restrictions to sites having received their building permits prior to SVV2. For this reason, it may take a long time before the policy effects are fully felt.

(V&W, *et al.*, 1989-90 and Kwikkers).

Though not without its difficulties, the Dutch experience over the last 10 years in defining a new framework for parking policy demonstrates how Central Government can provide a forward-thinking, proactive policy framework for an area of policy development that is fundamentally local in nature.

Fuel taxation

Both SVV2 and the Perspectives Memo cite the importance that fuel-pricing policies can play as a way of internalising external costs of transport and thereby having potentially strong impacts on car use. Fuel tax measures can be a particularly effective tool in strategies to limit CO₂ emissions, which as noted in Chapter 3.3 is of particular concern to the Netherlands.

The SVV2 recognises the benefit of offsetting increases in fuel prices with decreases in fixed prices such as the annual vehicle tax in order to avoid distortions. It specifies, however, that this should be done in the context of the European framework, this to avoid competitive pressures from neighbouring countries. Excise tax on petrol is at present approximately 50% of the price per litre.

Given the commitment to a fuel pricing strategy in both the SVV2 and the forthcoming NVVP, policy will most likely evolve in this area in the near future. However, it may be limited by political and economic considerations in the European context.

Public transport pricing

Public transport pricing has also been a key element of pricing strategy in the Netherlands. In order to maximise the competitive position of public transport relative to the car, SVV2 calls for preventing public transport fare levels from increasing above the variable costs of car use. According to current policy, however, fares can be adjusted relative to wage and industry cost levels, in order to keep operating deficits in “manageable bounds”. The operating subsidy evoked earlier in Section 5.1.4 has also been a major factor in keeping the operating deficits under control.

5.1.7. Urban public transport development

The Dutch government has long considered public transport an essential part of urban and regional travel. Promoting and maintaining public transport's competitive position relative to the car has been a priority of Dutch transport policy, and for this reason, the government has provided substantial support – both in terms of investment and operations – to help the sector resist pressures on modal split from the car.

This strong government backing for public transport is no doubt responsible for the highly developed, well-integrated public transport system in the Netherlands today. However, the predominant government presence in public transport development and operations has also engendered inefficiencies that are at the origin of current policy to expose the public transport sector – albeit with care – to market dynamics.

Urban public transport since SVV2

In SVV2, the importance of a high-quality public transport system in safeguarding “amenity and sustainability” is stressed, as is its combined role with spatial planning policy in limiting urbanisation and enabling “compact cities” to function well. The principal objective is to offer a real alternative to the private car, and improve quality of life, protect the environment and enhance road safety. To reach these goals, SVV2 calls for “massive investment” in capacity and quality. Focus is on increasing public transport use in commuter travel, improving integration with the European network of high-speed trains, and maximising speed and comfort in inter-city travel (V&W, *et al.*, 1989-90).

Despite this strong government commitment to promote and support public transport – which has led to some very commendable initiatives such as, among others, an integrated ticketing system, a combined train-taxi fare, and the successful integration of railways into urban transport systems – its impact on modal split has been less than hoped.

According to a 1997 Policy Effect Report, the impact on car use of improvement in provision of public transport services was less than 1% overall, and 3% in specific corridors (V&W, *et al.*, 1999a). As noted in Section 3, increases in the total number of passenger-kilometres since 1986 are entirely attributable to train traffic. And as the Perspectives Memo points out, the approximately Gld 4 billion paid by taxpayers each year for public transport¹⁹ along with the additional billions for infrastructure expansion constitute half of the budget of the Ministry of Transport, Public Works and Water Management, but relate to only 10% of passenger-kilometres (V&W, *et al.*, 1999a).

A new framework for public transport: introduction of market dynamics

In the lead-up to preparation of the NVVP, there has been a change in the approach to public transport policy. The goals for higher quality in public transport service provision along with an increased modal share for public transport and a reduction in traffic congestion remain. However, there has been new recognition that opportunities for reaching these goals will be significantly enhanced by improving the efficiency and the financial self-sufficiency of the public transport sector. This will principally entail further decentralisation of public transport authority to the Provinces/Regions and Municipalities, introduction of competition in public transport provision, and privatisation of public transport organisations.

The decentralisation process has already begun under the VERDI accord, with greater responsibility for public transport, notably bus operations, already shifted to Municipalities. Alongside the VERDI agreement, the recently approved Passenger Transport Act will set the necessary legal framework for the introduction of competitive tendering in public transport.

The main aspects of the Dutch Government's approach to tendering include the following:

- First, there must be a climate of "genuine competition" for concessions to be granted by decentralised authorities.
- A concession will provide a company with the temporary (six years maximum) exclusive right of public transport operations in a certain area.
- Central Government set in law the conditions that such concessions must satisfy regarding announcement of timetables, prices and conditions of transport.
- The granting of concessions will be introduced gradually. The objective is that one third of the turnover in urban and district transport throughout the country as a whole is contracted out by 2003. In 2003, an evaluation will be carried out, after which a decision will be made as to further introduction of market forces in urban and district transport.
- Regional rail transport (including urban sections of the rail network) will be decentralised and added to the budget for urban and district transport between 2000 and 2008. A minimum one-third of the budget must be put out to tender by 2003.

This new, more market-oriented approach to public transport, brings with it what the Perspectives Memo characterises as a shift from "supply-oriented" to "client-oriented" thinking on the part of authorities and transport companies; indeed "public transport" is becoming "collective transport". Focal points of this new frame of mind include:

- *Linked mobility*: visualising a journey as a combination of bicycle, taxi, public transport, hired car, as the case may be.
- *Higher standards for quality* characterised by promptness and reliability.
- *Individualised collective transport*: demand-led, on-call, with door-to-door service if necessary.
- *Integrated regular transport*, with integrated tickets and tariffs.
- *Innovation*, including state-of-the-art information systems for journeys.
- *Co-operation* between authorities, businesses and transport companies.
- *An integral approach* to road traffic, collective transport, urbanisation and land-use planning.

(V&W *et al.*, 1999a).

At this time, one of the principal challenges for policy makers is to capitalise on the benefits of market liberalisation to correct current inefficiencies in public transport, while maintaining the strong features of the Dutch public transport system such as the integrated ticketing and fare system acquired through years of pro-active government policy in this area.

Light rail

With a view to better integrating municipal and regional transport, particularly in the Randstad, several light rail projects have been developed that could provide more flexible, faster passenger service in and around the region. Various ideas have been developed recently, perhaps the most advanced of which is RandstadRail, which would integrate the existing public transport systems of The Hague, Rotterdam and Zoetermeer, making as much use as possible of existing infrastructure.

The plan is for RandstadRail to be fully operational by 2003 using existing rail connections from The Hague to Rotterdam and from The Hague to Zoetermeer. It is expected that the first part of the rail link between Zoetermeer and Rotterdam will then also be ready.

Necessary investment to build RandstadRail is estimated at more than Gld 1 billion through 2003. Projected cost recovery ratio is estimated at over 50%, taking into consideration a projected 15% population growth in the area from 1993 to 2010, and a doubling of the number of journeys by public transport in the same period (Kwikkers, 1999).

Taxi transport

With the new focus in Dutch transport policy on “linked” mobility, involving different modes of individual and collective transport, the role of taxi services will be of increasing importance to urban travel dynamics. The “*trein-taxi*” programme, which offers a special train-taxi fare package for rail passengers, has already proven successful in linking these forms of travel.

The taxi sector was opened to competition in 1999 with the expectation that taxis will as a result become more attractive in terms of price, service, and quality and thereby play a greater role in public transport, notably as a link in the chain of public transport services. The market must be totally open in 2002: in the interim, taxi company licences will be issued on a national basis; maximum fares will be set by law; geographical limits of particular taxi services will be abolished; and all taxis will be equipped with an on-board computer to facilitate supervision and control.

Public transport by water

As a measure to improve accessibility in and around urban areas, public transport by water is now under consideration and in trial phase in several locations. The numerous Dutch waterways have significant capacity to accommodate large numbers of passengers. Connections by water have recently been established or planned on an experimental level between Amsterdam and IJmuiden and between Amsterdam, Almere and Lelystad. It remains to be seen whether these initiatives can survive in the long term.

A second trial is underway involving a rapid ferry between Dordrecht and Rotterdam. This service, which uses modern catamarans, will compete with road connections between the two cities. The Municipalities around Dordrecht that are adjacent to water are to simultaneously bring a connecting Waterbus into service, with links to the rest of the public transport system.

5.1.8. Cycling policy

Since the early 1900s, bicycle use has been one of the most popular modes of transport for the Dutch. Thanks to long-term, supportive government policy and helped along by the relatively flat topography of the Netherlands, the bicycle today is one of the principal means of travel both in and around Dutch cities.

Whereas the overall share of cycling in countrywide passenger-km is roughly 7%, the Dutch use their bicycles for approximately 25% of their journeys. The number of cycling journeys for distances of up to seven kilometres is the highest in Europe.

The SVV2 sets out a policy framework for cycling that identifies the bicycle as the “ideal mode of transport” for journeys of up to 5 to 10 kilometres. It goes on, however, to highlight some of the key factors that are impeding the further development of cycling in modal share. These issues are the focal points of cycling policy at present. They include among others:

- the need for direct, attractive and safe cycle routes linking homes with places of work, shops and schools;
- the need for more safe cycle parks in shopping centres, workplaces and other public facilities as well as in older residential areas in cities;
- the problem of bicycle theft;
- risks of accidents.

The VERDI agreement transferred greater responsibility for bicycle policy in urban areas to the Provinces and Municipalities, however cycling remained, and will no doubt continue to be a priority in transport policy at a national level.

In order to provide a framework for its commitment in SVV2 to help municipal and provincial authorities to ensure safe and attractive cycle routes and facilities, the government developed the Dutch Bicycle Master Plan (BMP) (1990-1997). Comprising 112 projects over the period, including 31 research projects and 41 pilot projects, the BMP focused on the following areas:

- Opportunities to promote:
 - switching from the car to the bicycle;
 - switching from car to combined use of public transport and the bicycle.
- Safety for cyclists.
- Bicycle parking facilities and theft prevention.

Over the seven-year period, Gld 303.6 million were expended on the Central Government's activities under the Plan. In addition to this expenditure, about 271 million guilders were channelled from the Central Government to the Municipalities and Provinces for their cycling projects in the context of the BMP (Kwikkers, 1999).

Since the time of the BMP, an additional Gld 460 million has been funded for the period 2000-2007 for improvements to bicycle parking facilities at railway stations.

Among the findings of the BMP were the following:

- Bicycle policy alone is not sufficient to increase bicycle use and curb an increase in car use; this is consistent with the conclusions of the SVV2. Likewise, public transport along with traffic policy as a whole will determine modal switching to combined use of public transport and bicycle from the car.
- A decline in number of fatalities and accidents among cyclists is highly dependent on total traffic safety policy.
- The police and judicial authorities have an important role to play in ensuring a reduction in the number of bicycle thefts (V&W, 1999b).

These findings will be instrumental in developing measures under NVVP to promote bicycle travel. This will be a factor in the success of the NVVP's linked mobility objective.

5.2. Spatial planning and land-use

The environmental and social consequences of the rapid growth of the Randstad, suburbanisation and increasing traffic volumes in the 1960s and 1970s prompted a new examination of spatial planning in the Netherlands in the 1980s and 1990s. A general concern arose that high growth rates in urban areas needed to be contained in a policy framework that would constrain sprawl and provide a structure for residential and commercial development that would account for not only social concerns related to housing, but also impacts of development on green spaces outside of urban areas. Moreover, scarcity of suitable land space for residential and commercial development was leading to the general feeling that the Netherlands was becoming "full" (VROM, 1999).

It was in this context that the current spatial planning policy for the Netherlands was defined.

5.2.1. *Supplement to the Fourth National Policy Document on Spatial Planning, VINEX*

Guided by a "compact cities" vision for land-use planning, the Supplement to the Fourth National Policy Document on Spatial Planning or VINEX was adopted

in 1993 as the policy framework for spatial planning in the Netherlands through 2001. Compelled by the land use, economic and social pressures noted above, policy makers proposed in VINEX a compact urban structure based on objectives of:

- reducing growth of personal mobility by car;
- generating a broader social and economic resource base for urban amenities, and thereby creating “vital urban areas”;
- protecting the remaining open areas.

In order to advance toward these goals, the “compact cities” strategy was structured around three key development principles:

- Each region would provide for its own housing and industrial development needs; this represents a commitment to keeping the population distribution over the country stable, with no “overflows” from the Randstad into the neighbouring regions.
- New urban developments would be concentrated within urban areas, and rural areas are preserved via a restrictive development policy.
- New housing, work and recreational areas would be concentrated near city-centres with public transport connections.

(Galle and Modderman, 1997).

In order to carry the “compact cities” strategy from idea to implementation, several policy tools were developed, among them, the so-called “VINEX contracts” and the “ABC policy”.

VINEX contracts

Central, regional, and local authorities entered into a series of voluntary agreements designed to address the urban development criteria defined in VINEX. The fruit of several years of difficult negotiation, these contracts, initially effective from 1995 to 2005 and now prolonged to 2010, contain agreements on development sites that meet VINEX imperatives, the number of houses to be built, government funding for the purchase of land, site preparation, infrastructure provision (including for public transport) and soil remediation.

Since 1995, the Government has been closely monitoring the timely implementation of the VINEX agreements. It is expected that the national housing construction targets for the period 1995-2000 will be achieved. This means that about 425 000 new dwellings will have been built according to VINEX criteria in this period.

ABC Policy

A second policy tool designed to carry out VINEX is the ABC location policy for business and other commercial sites. Under the slogan “the right business in the right place” ABC is an innovative planning tool that uses restrictive parking policy as a driver for development constraints for businesses and services. This rather pioneering policy approach has attracted the attention of urban and transport planners from around the world.

As its name suggests, ABC is a three-tiered location structure based on the following tenets:

- Businesses with a higher-than-average number of employees and visitors should locate on sites with good access to public transport routes, such as in city centres near the central railway stations (*A sites*) or near a peripheral public transport node (*B sites*).
- *C locations* or those sites that are easily accessible by road should be designated for companies that are primarily dependent on road transport in their business.

It is the parking restrictions assigned to each of these location categories that represent the real power behind the policy. Picking up the parking restriction categories introduced in SVV2:²⁰

- A sites are allotted 10 or 20 parking spaces per 100 employees.
- B sites: 20 or 40 parking lots per 100 employees.

ABC policy has now been adopted in provincial and local spatial plans. The Provinces, supported by the national planning inspectorate, are in charge of its implementation, and under NVVP, responsibilities for the ABC policy are expected to be further decentralised.

Since its implementation, ABC has been generally accepted. However, the highly restrictive nature of the parking limits, along with the economic pressures facing local and provincial authorities relative to business locations in their jurisdictions, have led to a certain relaxation of the parking restrictions in some regions.

5.2.2. Fifth National Policy Document on Spatial Planning

As the VINEX period of “compact cities” moves forward to 2001, the next generation of spatial planning strategy will be defined in the Fifth National Policy Document on Spatial Planning, which will set out land use policy for the Netherlands for the period 2001-2020. Elements of this new strategic plan for land use include:

- Development of vibrant, multi-nodal “network cities” that function as single housing and job markets, supported by integrated regional transport systems.

- A strategy for a robust countryside, maintaining and reinforcing natural and cultural landscapes and open spaces, while creating opportunities for new economic activities to support rural life.
- Clustered development outside the Randstad along transport corridors linking the most important urban centres.

Prepared in parallel with the NVVP, the new spatial planning strategy will reflect as factors in future spatial planning a number of the transport policy priorities to be articulated in NVVP, notably, the emphasis on use of existing infrastructure networks to the extent possible.

5.3. Environment policy

5.3.1. Overview

Beginning in the late 1970s – much earlier than in most industrialised economies – environmental policy-making in the Netherlands has become increasingly integrated, both with policy development in other sectors, and among the different environmental media (air, water, soil, etc.). Due to its relatively small size, high population density and heavy degree of industrialisation, the Netherlands was among the first industrialised countries to recognise that sector-focused environment policy (*i.e.*, air, water, soil, etc.) was not effective in reducing pollution for the following reasons:

- Solutions defined for one problem often generated new problems in other environmental sectors or geographic regions.
- Lack of co-ordination among policy-makers in dealing with environmental problems related to other sectors created policy discrepancies leading to cost inefficiencies and credibility problems for the environment as a policy issue.
- Environmental legislation divided by sector caused confusion for industry (*e.g.*, in licensing procedures) and inspection and enforcement problems for government.

The recognition that all economic and industrial sectors need to be integrally tied to environmental policy making led to the development of the National Environmental Policy Plan (NMP) strategy, which focuses both on *effects*, defined as quality objectives for environmental themes and regions, and *sources*, the actors responsible for environmental degradation through their economic activities (NETH-EMB, Web).

Transport is one of the target groups for environmental policy. As such, cross-fertilisation of transport and environmental goals occurs in the development of the strategic plans and goals for both the transport sector and the environment.

Now in its third version, the NMP, which aims to achieve sustainability by the year 2010, sets quality objectives defined in terms of emission reduction targets for nine different environmental “themes”, several of which are of particular concern to transport: climate change, acidification, and local nuisance (*e.g.*, noise and local air pollution). Emissions reduction targets from the transport sector are aligned with the SVV2 targets.

Whereas it is expected that NMP objectives will in large part be achieved via measures set out in NMP 3, it is unlikely that targets will be reached for a number of areas that implicate the transport sector: notably CO₂ and climate change, noise nuisance and NO_x and hydrocarbon emissions.

5.3.2. CO₂

As in many countries, CO₂ targets have been difficult to meet in the Netherlands. The targets initially set in the NMP and SVV2 for fuel consumption and CO₂ emissions (stabilisation of emissions in 2000 and a reduction of 10% in 2010 based on 1986 levels) have been replaced by projections of a 40% overall increase during the period, according to VROM. Underestimation of growth in traffic volume, and perhaps over-estimation of fuel efficiency improvements and the impact of pricing mechanisms appear to be at the root of the miscalculation.

Under the Kyoto Protocol, the Netherlands has committed itself to reducing greenhouse gas emissions by 6% of their 1990 levels between 2008-2012. Half of the necessary reductions to meet this target will depend on international measures (*e.g.*, emissions trading); and half (25 MT) are to be found in the Netherlands according to the policy options outlined in the Climate Policy Implementation Plan, released in June 1999. The package includes *inter alia*: increased vehicle fuel efficiency via the 1998 agreement between the European Union and the European vehicle industry represented by ACEA;²¹ fuel efficiency labelling of new cars (also in the context of EU-agreed measures); higher fuel prices; a “feebate” differentiated vehicle tax scheme for purchases of new cars; increased speed limit enforcement; road pricing; and promotion of on-board instruments to monitor driving behaviour. The programme known as “*Het Nieuwe Rijden*” or “the new way of driving” is expected to decrease fuel consumption and CO₂ emissions from passenger cars by 10%. Other measures include fiscal incentives to discourage car-based commuting and increased tire pressure.

5.3.3. Noise

Despite significant improvements in noise from road traffic over the last 10-15 years, the NMP3 notes that 25% of the Dutch population reported suffering from road traffic-related noise in 1995. As mentioned above, city representatives during the Review also cited noise disturbance as perhaps the principal environmental concern in their municipalities.

Both the SVV2 and NMPs set limits for noise disturbance. For urban areas, SVV2 targets a 50% reduction in the number of homes with external walls exposed to traffic-related noise levels over 55dB(A). NMP3 calls for a more general stabilisation of total noise (including non-traffic-related noise) at 1985 levels in 2000 and that all severe noise nuisance should be eliminated by 2010 (all noise sources considered).²²

Measures designed to address the noise problem in cities include: lowering maximum speed limits; introducing low-noise asphalt in city centres; and encouragement of better traffic management in urban areas, including discouraging car use in city centres and promoting “environmentally friendly” distribution systems. Evaluation of the implementation status of these measures will be important in ensuring future progress on the noise issue.

5.3.4. NO_x and hydrocarbons

As concerns NO_x and hydrocarbons, targeted for reductions of 75% in 2010, a successful tax incentive (1986) supporting the introduction of three-way catalytic converters²³ has been effective in reducing levels of these pollutants, along with emissions of VOCs and CO.²⁴ According to VROM, with the implementation of the forthcoming Euro 3 and 4 standards, NO_x emissions for passenger traffic are expected to continue to fall from 2005 through 2020, surpassing the target.

The impact of higher-than-expected freight traffic volumes on the overall NO_x target remains uncertain. However, according to VROM, the NO_x target may still be met, as the additional reductions on the passenger transport side may serve to compensate in part the excess emissions from freight.

5.4. Safety policy

Safety has held an important place in Dutch transport policy for decades. From the 1950s up to SVV2 in 1990, policy-making targeted the key factors impacting safety (*e.g.*, legislation and regulation, engineering, protective devices, road user behaviour). During this period, despite tremendous growth in car traffic volumes, overall traffic-related fatalities fell substantially.

SVV2 took policy-making one step further, setting specific targets for reduction in traffic fatalities and serious injury: fatalities are to drop 50% and injuries 40% in 2010 based on 1986 numbers. Prompted by a short-term reversal in the overall downward trend, which showed an increase in traffic deaths on motorways during 1988-89 largely attributed to speed, the SVV2 set forth a series of measures intensifying speed limit enforcement and driver behaviour among others. Although it is uncertain at this point whether the targets of SVV2 will be met, progress in lowering traffic fatalities and morbidity appears to continue.

The recently begun “Permanently Safe” programme (1997-2001) has introduced the notion of sustainability to road safety policy in the Netherlands. With an emphasis on risk minimisation, this innovative strategy disaggregates the variety of elements impacting safety in traffic planning, road engineering, education, enforcement and vehicles, to improve the effectiveness of policies, and better influence driver behaviour in the long term.

Permanently Safe contains 24 agreements between the Central Government and regional and local authorities on measures for the period 1998 to 2001 that should make traffic structurally safer. The programme is based on the idea that in a “permanently safe” traffic and transport system, the infrastructure is adapted in such a way that the road user almost automatically acts in a safe manner.

As concerns policies dealing with urban travel in particular, the programme calls *inter alia* for the extension of 30 km/hour and 60 km/hour zones, priority for cyclists on the right, and education (Schepel, 1999).

The total costs for the Programme are estimated at Gld 400 million. Central Government's contribution to this is Gld 200 million. The remaining Gld 200 million is borne by the decentralised authorities (Kwikkers, 1999).

Chapter 6. Analysis of Review Team

6.1. Context

This chapter presents the analysis of the ECMT peer review team concerning urban travel policy making and implementation in the Netherlands. It is based on their discussions with urban travel professionals both within and outside of government during their three-day visit to the Netherlands in June 1999 as well as on background information documents provided in advance of and during the visit.

Prepared separately from the previous five chapters of this paper, it should be read as both the conclusions to this review report, and as a stand-alone assessment of the ECMT team concerning integrated policies for sustainable urban travel in the Netherlands.

The current analysis is organised as follows: Section 6.2 examines strategic plans involving urban travel, land use and the environment in the Netherlands. Section 6.3 considers administrative structures for transport policy in the Netherlands and how they impact urban travel policy-making, notably the decentralisation of government responsibility in this process. Section 6.4 looks at the principal aspects of urban traffic and transport policy. Section 6.5 reflects on the wide range of issues concerning land-use and spatial planning. And Section 6.6 takes up some of the principal environmental and safety policy issues in the Netherlands at this time. Section 6.7 proposes the general findings and conclusions of the team.

6.2. Strategic plans for urban travel, land use and the environment

The Netherlands has a laudable history of developing integrated, comprehensive policy strategies that set forth plans for the development of a particular policy area. The sectors under consideration in this policy review – transport, land-use and the environment – are exemplary of this approach. Indeed, the strategic planning practised in the Netherlands articulates much of what policy analysts working on sustainable development recommend: upstream, intersectoral, comprehensive policy planning that considers all of the key economic and environmental factors of a particular policy area. Current ECMT and OECD work on sustainable urban travel is encouraging this integrated, “package” approach to policy making, as recommended in the 1995 report *Urban Travel and Sustainable Development*.

The long-standing tradition of strategic transport planning in the Netherlands, which began with the First National Traffic Survey in 1907, has led to the development of the Second Traffic and Transport Structure Scheme of 1990 (SVV2), which is to guide transport policy development through 2001, and its offspring now under preparation, the National Masterplan for Transport and Traffic (NVVP). Similarly, strategic policy for spatial planning and land use in the Netherlands from 1990 to 2015 is articulated in the Supplement to the Fourth National Policy Document on Spatial Planning (VINEX). And development of environmental policy has since 1982 been set forth in a series of environmental programmes, which became National Environmental Policy Plans or NMPs in 1989. The third NMP was released in early 1998. These strategic plans have provided a solid framework for orienting policy-making to reflect the priorities of a given time.

While the practice of strategic planning in the Netherlands is globally recognised as commendable, implementation has, in certain cases such as the SVV2, run into difficulty. The Dutch government itself recognises that the transport plan has borne less than the results targeted, and for this reason, the government has taken a different tack in developing the NVVP.

As expressed in the Perspectives Memo, the SVV2, which sets out to improve accessibility while balancing individual mobility with environmental concerns, established specific targets for a number of priority policy areas, including Environment and Amenity, Managing Mobility, Accessibility and Support Measures. Projections for progress in several of these areas were, as the Memo points out, overly optimistic. It would appear at least in part that, an underestimation of the evolution of external factors – notably growth in traffic volume – and an over-reliance on the success of certain policy mechanisms (*e.g.*, pricing) as well as political considerations have made the implementation of SVV2 and the attainment of the projected results more complex than anticipated (*e.g.*, an overall drop in road traffic and a reduction in vehicle emissions – CO₂ in particular – and noise).

It now seems that a less prescriptive approach has been taken in the development of the NVVP. While this is understandable given the difficulty in meeting the specific targets under SVV2, there may be a risk that, unless the new plan gives full consideration to the difficult issues such as pricing policy and investment needs, it will not be effective in tackling the transport challenges facing the Netherlands today. The emphasis being placed on a number of key areas, including introduction of market dynamics in public transport and decentralisation of the institutional procedures for decision-making among others, should help to improve the chances for successful implementation of NVVP as long as key aspects of these policy and administrative factors are carefully examined and analysed.

6.3. Administrative structure of transport policymaking and decentralisation

As presently structured, Dutch transport policy seems to be heavily centralised compared to most other western European countries, notably in terms of the

allocation of resources to local public transport and involvement in urban travel policy-making. Given the geographic configuration of urban areas in the Netherlands, with 20 of the country's major cities of more than 100 000 inhabitants and approximately 40% of the population located in the western Randstad region, it is perhaps necessary that there be a certain degree of national-level co-ordination of the activities in that part of the country. National co-ordination is also important in this region given the intensive interaction among the cities of the Randstad, as well as the presence of the port of Rotterdam and Schiphol Airport. Centralised decision-making may offer other advantages as well: it has, for example, enabled the provision of integrated public transport ticketing throughout the Netherlands.

A heavily centralised system such as that of the Netherlands may have its drawbacks, however. It can limit the scope for local initiative and acceptance of local responsibility for policy making and implementation, especially given the current funding structures for public transport. It may also incite competition between central and provincial/regional levels of government for transport investments, leading to absorption of national funds for "mega-projects". Similarly, Municipalities may find themselves in permanent competition with each other for Central Government funding, in addition to competing with each other over issues of general economic development. The very centralised nature of the system may also have been a partial reason for the difficulties in implementing policy objectives laid out in the SVV2.

Decentralisation appears then to be a beneficial path for the Netherlands to take as regards transport policy making and implementation. The risk to implementation of a strongly centralised system was, in fact, recognised in the SVV2, which points out in its chapter on Implementation that "the Ministry of Transport cannot do the job alone". In 1996, the VERDI agreement articulated the limitations of a centralised system and sought to transfer, where appropriate, decision-making responsibility for transport policy to the Provinces and Municipalities. With its commitment to co-operative working between the different tiers of government and greater decentralisation by Central Government, the VERDI accord was therefore clearly a significant development, as was the discretion given to lower tiers of government in the allocation of some resources from the Infrastructure Fund.²⁵

The evidence presented during the Review suggests that decentralisation is welcomed by Municipalities that are well-placed to take advantage of the greater opportunity and scope for local initiative (*e.g.*, Leiden's limited deregulation of taxis). Decentralisation should probably then be pursued, while recognising the importance of maintaining certain positive elements of the centralised system – *e.g.*, integrated ticketing and the ability to take a strategic view of the transport problems of the Randstad – which cannot be managed on a devolved basis.

For the objectives of decentralisation in the VERDI accord to be met, however, several issues should be examined closely: notably, *the need to rationalise financial streams* relative to responsibility for urban transport policy; and secondly, the need for increased transparency with regard to the *roles and powers of the Regions and cities* relative to the Provinces. During the Review, this latter issue was recognised at all levels of government as needing clarification.

The financing and funding discussion will be taken up in some detail in Section 6.4 below. For the purposes of the present chapter, it should be noted that while it is true that policy decisions regarding urban travel are not exclusively a Central Government responsibility, but, in general, the result of intensive negotiations among the Central Government, the Provinces and Municipalities; and that some urban regions, such as Amsterdam, Rotterdam and The Hague dispose of their own administrative and research capacities to prepare decisions, the Central Government is nevertheless quite powerful financially as a result of the centralised taxation system, especially with regard to infrastructure investments. Backed by this financial strength, the Central Government can thus take on a relatively “authoritarian” stature, exercising considerable influence on investment decisions at various levels, *e.g.*, not only as concerns national or international issues, but also relating to elements of transport policy which other countries may allocate to regions or municipalities (*e.g.*, local public transport, and to some extent bicycle traffic or parking policy).

6.3.1. Framework Act Regions

Prior to the emergence of the so-called Framework Act Regions in the early 1990s, the administrative structure of the Netherlands for transport policy-making was not well-suited to the urban travel concerns of large agglomerations. This was primarily due to the large number of small municipalities and the historical provincial boundaries. The emergence of Regions seemed a pragmatic response to this problem, allowing the larger cities to have a stronger say and more direct access (through a kind of “city province status”) to the national government.

The role of the Regions has caused a certain degree of confusion, however, relative to that of the Provinces. The Regions appear to be considerably more powerful than the Provinces, despite the stipulations provided for the Provinces in the VERDI accord. They are responsible for traffic and transport planning, management of urban and inter-urban public transport and infrastructure plans. It is perhaps somewhat incongruous that the Provinces – which are “*presque sans portefeuille*” in terms of transport investments in urban regions –, are nonetheless more “democratic” entities in that they provide more direct representation of the people in political decision making than the Regions.

During the Review, it was apparent that there was clearly unresolved tension between the various administrative entities, and, in particular, uncertainty over the future role of the Regions; indeed, the Framework Act of the early 1990s, which brought them into existence, expires in 2003. This ambiguity could render policy-making and decision-taking more difficult than it need be.

In spite of the lack of clarity with regard to the roles and responsibilities of Provinces and Regions in particular, it must be noted that the general impression given during the Review was one of co-operation and mutual understanding among the various authorities encountered.

It would clearly not be appropriate to expect major changes to the Dutch system of local government in order to accommodate the needs of transport policy. But the more that can be done to encourage co-operation and resolve uncertainties about the roles of the various tiers of government, the easier it will be to implement policies, particularly those which might be unpopular with some of the electorate.

6.4. Urban traffic and transport policies and measures

6.4.1. Systems for financing infrastructure and transport

The centralised nature of transport policy is reflected in the systems for allocation of finances for transport investments and in the funding of public transport operations and maintenance. Indeed, transport in the Netherlands appears to be generously funded by Central Government.

Infrastructure

A particular feature of the Dutch system is the unified funding of road and public transport infrastructure from the Infrastructure Fund. Fed by the infrastructure surcharge on the motor vehicle tax as well as from a portion of motor fuel taxes and general fiscal resources, this funding structure provides, in principle, a very sturdy foundation on which the Netherlands can pursue the development of its public transport system on all levels.

On a more hesitant note, the State's willingness to meet up to 95% of the costs of transport infrastructure clearly generates significant demand for projects from Regions and Municipalities and creates problems of prioritisation for Central Government. It may act as a disincentive to local authorities to adopt more modest, cost-effective transport solutions or to bring in private developers or partners for their projects. There would seem to be significant scope for attracting greater private sector investment into the transport system either in conjunction with the tendering out of public transport services or in securing contributions from developers or businesses likely to benefit from particular infrastructure developments.

Whereas it is important that the Central Government and/or Regions have control over transport infrastructure projects in order to maximise co-ordination of resources, it is equally essential that Municipalities be involved in the planning process and take responsibility for implementation. In a small country such as the Netherlands, which is dependent on good transport facilities, there must be solid co-operation among the different authorities on the three administrative levels.

The link between investments and operational costs is very clear when it comes to public transport – even a small investment in the infrastructure, *e.g.*, a short, bus-only road – can reduce the operational costs substantially. Therefore, effective co-ordination is necessary among the administrative authorities overseeing investments and operations if they are not one and the same.

Maintenance and operational costs

Costs for maintenance and operations should ideally be covered by local road and public transport users (*e.g.*, the local tax payers) when revenues are insufficient. At present, the cost recovery rate for urban and regional transport of 35% to 40% is quite low relative to that of other countries in Europe, as are fare levels, which could possibly be raised to reduce the deficit.

With this in mind, Central Government subsidies for public transport operating costs seem particularly high, with 1.5 guilders of subsidy for every 1 guilder in fares. This scheme certainly provides an incentive for revenue generation, but seems to provide less of an impetus for cost efficiency. It was clear that steps were being taken through the proposed programme of contracting out public transport services to try to make public transport more efficient and therefore to reduce this bill. The present target of contracting out a third of services by 2003 seemed relatively unambitious, however, and it should be possible to make more rapid progress in reducing the public transport deficit without adversely affecting quality.²⁶

As concerns public transport, it is important that regional and local authorities that oversee land-use regulations, parking policies, traffic signal operations etc., are involved in discussions surrounding the operations costs of the public transport system.

6.4.2. Pricing policies

Pricing policy is likely to be a key component of an effective transport strategy. In particular, increasing the price of car usage relative to public transport would seem to be necessary in the Netherlands, as elsewhere, if car usage is to be reduced. Public transport fares already seem to be relatively low in the Netherlands – indeed it may be necessary for them to rise if the efficiency of the public transport market is to be improved. The scope for fuel price increases, limited until recently by the geographical position of the Netherlands and its

exposure to competition from other EU states, has recently opened up, as Germany has announced its intentions to increase its fuel duty. Increases of this nature should be encouraged in order to provide incentives for use of public transport/ non-motorised modes of transport. Effectively targeted increases in the cost of car usage therefore seem an essential element of Dutch transport strategy.

The SVV2 of 1990 cites raising the variable costs of car use relative to the fixed costs as a means to better address traffic restraint. This approach is echoed in the 1999 Perspectives Paper, which points out that a stricter application of “the user pays” principle will be necessary in order to more effectively manage and restrain traffic growth.

As concerns pricing issues, discussions during the Review centred primarily around options for implementing an electronic road pricing scheme, parking policy, and public transport pricing.²⁷

Road pricing

Few countries have taken the very difficult issue of road pricing as far and in such a systematic way as the Netherlands. The progress made in structuring this concept and in addressing key issues of road pricing is certainly commendable and will no doubt further understanding of this complicated pricing mechanism for other countries interested in undertaking such a pricing policy.

Successful implementation of road pricing has eluded the Netherlands for quite some time, however, despite several attempts at its introduction. Most recently, at the beginning of 1999, initial hopes that car users might be willing to accept the latest initiative were dashed when an organised consumer-based resistance managed to capitalise on some of the thornier aspects of the policy to dampen potential support.

With objectives to improve the accessibility of cities and better manage road capacity, especially during the peak hour, Rekeningrijden,²⁸ the current policy of road pricing in the Netherlands, is more an “entrance fee” or cordon pricing concept than an instrument for financing heavy investment.

The implementation difficulties that this latest initiative has encountered seem to be primarily linked to the structural aspects of the proposed law, rather than to the idea of road pricing itself. Foremost among the reasons for public resistance appears to be the question of where the revenues from the scheme will actually go. Originally conceived as a tax law, the revenue generated from entrances to a particular city are to flow into a central fiscal pool, to then be re-distributed equally throughout the country as a means of offsetting other taxes. The Government’s argument that this scheme is therefore transparent and revenue neutral holds true in principal. However, the potential penalty to economic activity in the city concerned – whether perceived or real – is compelling enough

for cities to demand that revenues generated be looped directly back into the local economy, rather than being funnelled through a more circuitous path via central coffers. It appeared that this condition, were it met, might have been at least partially sufficient to keep Amsterdam at the table in June 1999 for discussions on its being the first pilot city to undergo the pricing scheme. As a means of addressing this revenue question, a proposal for financial compensation to the city equivalent to the amount of tax revenue generated by the road pricing scheme for the Central Government was also being discussed at the time.

The latest proposals for peak hour cordon pricing around the four main centres of the Randstad were at the time of the review relatively advanced, although it was still uncertain that they would be successfully introduced as planned.

In a separate initiative, the city of Rotterdam has proposed a pricing scheme which would involve toll lanes designed to manage heavy port-related traffic. Planned as a charge, rather than a tax, the revenues from the toll lanes would be funnelled back into the project to defray the capital costs of increasing road capacity to accommodate the lanes. There may be some advantages in the Rotterdam proposal in that road users would have the choice to either use the pay lanes and perhaps save time, or use the free lanes and save money. This may help in garnering public approval for the project.

It seemed unfortunate that the details of Rekeningrijden needed to be fixed in legislation; as a result, subsequent changes (if, for example, the charges need to be modified at some point to optimise the effectiveness of the scheme) would require further, possibly controversial, legislation. Nevertheless this seemed an inevitable consequence of the fact that road pricing was regarded as a tax for legislative purposes.

Greater flexibility in the road pricing mechanism, with the possibility for incremental improvements to the scheme as experience accumulates, may improve chances for successful implementation of a road pricing strategy. The very introduction of road pricing would be a significant development in policy terms, not only for the Netherlands, but also for fellow countries around the world looking to this policy mechanism as a potential means to manage the persistently confounding problem of urban congestion. If successful, it would no doubt lead to further understanding of ways to design and apply road pricing, which would be a tremendous benefit for policy makers on all levels of government both in and outside of the Netherlands.

Parking policies

Parking policy is another area in which the Netherlands has demonstrated admirable ability to develop comprehensive policy plans. As set forth in the 1991

Parking Policy Implementation Paper, policies that tightly restrict parking in city centres and limit parking availability in others areas based on accessibility to public transport (as articulated in the ABC scheme)²⁹ have been cited as exemplary in many countries for their design. With this policy plan, the assumption behind parking policy became “demand follows parking” instead of the contrary. This approach has enabled parking policy to become an effective demand management tool in Dutch cities.

As evidenced by the Review discussions in Leiden and Amsterdam, most Dutch cities have implemented tight paid parking schemes in city centres. Leiden, for example, has 16 guilder per day parking passes, and fees of 4 guilders/ hour in the tariff zone and 2.5 guilders/hour outside of the tariff zone. It is also laudable that over 50% of Dutch cities have policies to reduce the amount of on-street parking and to extend the areas where it applies. And based on the “*Binnenste beter*” or “better inner cities” doctrine, which is at the heart of the policy, car-restricted town centres are growing in number.

As in many other countries, incorporating private parking lots into restrictive pricing schemes is difficult. Under several mobility management initiatives in the Netherlands, private firms, public transport operators and local governments have reached agreements on ways to achieve this.

Bottlenecks in the parking regulatory system have nevertheless arisen, which has perhaps limited the overall efficacy of these policies. Experience, for example, in Leiden showed that tough parking restrictions in the city centre have caused some high-quality shops to retreat from the centre to outlying areas leading to some loss of economic activity in the centre. There have also been signs of “commuter traffic” building up in the outer areas, as visitors bypass the expensive city centre parking by seeking cheaper space outside of the centre. In Dutch cities, as elsewhere, parking restrictions are therefore likely to extend out from the centre over time as the pressures caused by traffic growth shift. However, concerns about the impact of restrictive parking policies on the economic competitiveness of towns *vis-à-vis* their neighbours can make authorities reluctant to introduce such policies. This points to the need for a strong regional policy on parking to ensure a level playing field.

Future reflection on parking policy will need to centre around finding ways to minimise the undesirable effects of restricted parking policies and therefore more effectively implement parking schemes. This may be important in evaluating the impact of parking policies in the NVVP.

6.4.3. Urban public transport enhancement and development

As a densely populated country, with relatively short distances between centres and significant congestion on its roads, the Netherlands has what might be

considered an ideal configuration for a well-developed public transport system. For several decades from 1960 onward, the Netherlands was renowned for its modern and extensive public transport network: the interchanges between different modes of transport were famous; the devices for giving priority to vehicles at traffic signals were widely acclaimed, as were the forward-thinking policies combining promotion of bicycles and public transport.

It would appear, however, that the Netherlands has perhaps not kept pace with the need for improvements to its urban public transport services in recent years – especially with regard to quality. The introduction of new technologies, *e.g.*, smart card use in ticketing, has been slow, as has been the opening to competition. As a result, modal share and the overall financial health of the public transport system has suffered.

Despite initiatives taken since the SVV2 to improve public transport – which include an increase in investment, initiatives to decentralise responsibility and limited openings to competition – public transport retains a relatively low modal share and is burdened with high costs and low cost-recovery rates relative to international experience. This is in spite of the 4 billion guilders of tax revenue earmarked each year for public transport operations and additional billions for infrastructure, which as the Perspectives Memo points out, account for half the budget of V&W but benefit less than 10% of passenger/kilometres.

Moreover, the Perspectives Memo refers to a 1997 Policy Effect Report that states that improvements of the supply of public transport services have brought only marginal reductions in car use levels.³⁰ And urban and “district” transport has seen a steady decline in use overall, with the exception of student passengers.

The Central Government has made improving public transport a priority in the NVVP. According to the Perspectives Paper, the NVVP signals a “shift in thinking” with regard to public transport: further decentralisation is being encouraged via the VERDI Accord, which will no doubt help in ensuring improvements to quality and thereby facilitate increases in public transport’s share of the modal split. Opening the door to private entities will most likely lead to an improved cost-recovery ratio for public transport and better financial health overall for the sector. And general improvements in all aspects of public transport brought about by these initiatives will create the right environment for actions to reduce traffic congestion, a key goal in Dutch transport policy.

In developing policies to impact public transport’s market share, it will be necessary to take into account the particularly large cycling community in the Netherlands. The target population for modal switching should be carefully identified in order to bring about a reduction in the number of cars on the road; car usage will not be impacted if new public transport passengers come from the cycling or pedestrian populations in cities.

As mentioned earlier, modal integration and interchange, exemplified by the extensive cycle parking at stations and initiatives such as “*trein taxi*”, remains a particularly strong feature of Dutch transport policy. Park and Ride “*transferia*” sites, such as those in Leiden and Amsterdam, appeared to have had less success up to now, however, which suggests that attention needs to be given to the design and location of such sites and, in particular, to supporting measures such as bus priority systems and perhaps town centre parking restrictions and charges, which are needed to make park and ride attractive to car users.

Introduction of competition in public transport

Given the objectives for improvements to public transport described above, and the need for greater overall efficiency in the system in order to meet these goals, the introduction of market dynamics in public transport seems quite appropriate for the Netherlands at this time. Competitive tendering will no doubt bring with it opportunities for improved cost recovery (and therefore a reduced subsidy burden), a greater sense of initiative on the municipal level, and possibilities for an injection of innovative thinking into the system – outcomes which would serve well the objectives set forth by the Central Government.

As recognised by Dutch authorities, however, the introduction of competitive tendering will not address the entirety of challenges facing public transport in the Netherlands. Care must be taken by the government to establish a regulatory environment that will ensure high standards of quality (*e.g.*, promptness and reliability) and safety, with emphasis on integration of ticketing and tariffs to the extent possible and interconnection between transport modes. The Netherlands has a head-start in the latter areas and should ensure that those positive aspects of the system are maintained.

The success of competitive tendering will depend on a number of factors, among them, the effectiveness of the tendering procedure itself. The formulation of the tender, the evaluation of bids, and the writing of contracts are complicated tasks, the effective completion of which is indispensable to the process as a whole. It is therefore necessary to engage the competence of professionals in four particular fields: public transport planning, public transport operations, business economics/finance, and law.

As mentioned in Section 6.4.1, the conservative time frame established for the opening of tendering in urban and “district” transport – one-third of services contracted out by 2003, followed by an assessment of experience before further steps are taken – seems excessively cautious. While it does take time to re-orient policy directions and change perspectives among public transport authorities and operators, the time period allotted for this adaptation may in fact be counter-productive to the changes in sector dynamics and efficiency desired. Experience

in neighbouring countries in Europe shows that market forces can be effectively and expediently introduced into public transport in considerably less time, with potentially greater benefits as a result. There may be useful lessons to take from these experiences with regard to tendering in regional rail transport, proposals for which are now awaiting decision in Parliament.

6.4.4. *Cycling policy*

Cycling holds a unique, privileged status among modes of transport in the Netherlands. It has for decades enjoyed an exceptionally high share in the modal split, and has managed to hold onto its share – in some cities as much as 30% of trips – despite growth in car usage. This quite remarkable record would suggest that support over many years for cycling, in terms of both policy and infrastructure provision, has been effective.

Indeed, due to the sheer numbers of bicycle users in urban areas, the Netherlands has for decades had to establish sound policies for the better integration of bicycles into road traffic and safety. Most recently, the SVV2 provided for a series of measures to encourage bicycle use for trips of 5 to 10 kilometres. These include provisions for the improvement of bicycle routes, safety, and parking conditions in and around public areas as well as the reduction of theft. In addition, SVV2 sets out objectives for modal switching from car to bicycle use and from car to public transport and bicycle use.

Acknowledging the pressure from car use on cycling, the government – via the Bicycle Master Plan (1990-1997) undertook a significant investment in the improvement of facilities and conditions for bicycling to support the objectives laid out in SVV2. With the VERDI agreement, greater responsibility for urban bicycle policy was shifted to the Provinces and Municipalities. This decentralisation of policy notwithstanding, the importance of cycling throughout the country will no doubt keep it on the Central Government's transport agenda as well.

Persistent growth in car traffic has continued to put pressure on bicycle traffic, however, and insodoing has heightened the safety risk to cyclists. Moreover, theft of bicycles, which has always been a concern in the Netherlands, remains an important issue, as does parking availability and security, notably at stations. Cycling will surely hold a key place, therefore, in the policy provisions currently under development in the NVVP.

In the definition of this future policy, it may be important to carefully consider the issue of targeting increases in the bicycle's share of the modal split relative to targets for other forms of public transport. As mentioned earlier, increases in public transport's share in urban travel should not be promoted at the expense of the exceptional cycling base. There is, it would seem therefore, a rather delicate balance to strike in setting objectives for modal split.

With car traffic continuing to rise in the Netherlands, the key policy challenge for cycling in the years to come remains finding ways to not only maintain, but also expand cycling activity in urban areas. This will necessarily entail, as the government recognises, careful attention to the safety and security issues associated with cycling in cities. It will also require consideration of how cycling fits in with the whole range of urban travel objectives on the table in the Netherlands right now.

Many countries around the world are looking for ways to promote cycling as a means of working towards sustainability in cities. There is much that these countries can learn from the targeted and concerted support of cycling in Dutch transport policy, which has helped to create and sustain this somewhat singular relationship that the Dutch have had with the bicycle for over a century now.

6.5. Spatial planning and land use

Spatial planning doctrine in the Netherlands is without a doubt one of the finest examples of the cross-sectoral, multi-level policy planning embodied in the principles of urban sustainability. It is not surprising that the Dutch land-use model is held up as exemplary around the world. Much can be learned from their bold adoption of integrated objectives for the environment, personal mobility and land use in spatial planning, as well as their use of innovative policy mechanisms to articulate those goals.

It is equally commendable that spatial planning policy has been implemented to the extent that it has with success, given the often divergent economic and political interests of those impacted by the policies. In fact, one of the most compelling lessons to be learned from the Dutch experience might be how difficult it really is – once the integrated, cross-sectoral, “sustainable” policies are developed – to effectively translate these strategies into action.

6.5.1. VINEX

The current spatial planning scheme for the Netherlands, articulated in the Supplement to the Fourth National Policy Document on Spatial Planning or VINEX, provides a unique framework for integrated land-use planning in terms of both the philosophy on which the planning doctrine is based and its organisation.

Guided by a Compact Cities principle, VINEX sets out to achieve the concentration of urban development for housing, work and recreational sites necessary to minimise the need to travel and promote public transport use, cycling and walking. It also calls for the preservation of rural areas.

The innovative, multilevel planning approach in VINEX is based on co-operative voluntary agreements between central, regional and municipal levels of government on a variety of issues including: housing development, public

transport projects, and location of businesses among others. The level of Central Government funding of these development sites is also a subject of negotiation. The relative success to date of this planning process is evidenced by the extension of its effective end-date from 2005 through 2010.

The successor to VINEX, the Fifth Spatial Planning Strategy, which is set to begin in 2001, will retain the Compact Cities concept, and carry it further to address the evolution of polycentric or “network” cities. From both organisational and conceptual points of view, therefore, VINEX appears to be a robust policy tool.

Given the complexity of the VINEX framework, which involves the juxtaposition of different administrative levels, cross-sectoral agendas, and co-operation between private and public entities, it is not surprising that implementation to date has been difficult, though it has not been without successful results. Harmonising the schedule of housing development schemes and public transport accessibility; reconciling the interests of private developers with the strategic objectives of the plan, maintaining specific quantitative targets for housing development in a changing economic environment are perhaps just several of the hurdles this strategy may encounter. The Fifth Spatial Planning Strategy will no doubt carry forward and build on the VINEX experience to further improve opportunities for its successful implementation.

6.5.2. ABC Policy

Set forth in the VINEX plan as the location policy for businesses and facilities, the so-called ABC policy has been the subject of much attention and debate both in and outside of the Dutch borders. Widely applauded in terms of its conceptual development, it also has been hampered by many of the difficulties inherent to implementing strategic plans that involve and impact a variety of different administrative levels, economic sectors and interests.

The ABC policy is a national land-use planning concept. Its implementation, however rests entirely with the cities. Conceptually, it is bold and innovative. The use of parking availability as a mechanism to drive business and commercial development in urban areas provides, in principle, a solid link between urban travel objectives and spatial planning. The incentives theoretically are on target; in practice, however, they appear to fall prey to economic pressures, which find loopholes, weakening the impact of the strategy overall.

The success of ABC appears to be primarily impeded by a number of key weaknesses in the policy, among them:

- The regulation applies only for building permits requested since the ABC policy came into effect in 1990. Land under development prior to that time is not affected.

- Whereas responsibility for implementation of the policy resides at the local level, Municipalities are not obliged to apply the ABC restrictions. Given that the strict parking norms, especially as concerns the A locations, present a disincentive to some companies to locate in those areas, Municipalities seem to be buckling under pressure to attract business, applying the ABC-policy in a less stringent way or not at all, in order to compete with each other. Indeed only 20% of the municipalities make use of this demand management tool. As a result, A-locations are very often the site of public service activities instead of private enterprises.

As an alternative or complement to this regulatory approach, it might be interesting to see whether a more consensus-seeking tack – which has successfully brought local governments and businesses together in the past for large development schemes – would lead to more effective development of A-locations. The “Incentives Programme for the Intensive Use of Space” might support such endeavours. It might also be worth considering linking the ABC framework with a parking charge policy or area access fee policy involving all large producers of traffic.

6.5.3. The Green Heart

In spite of the spatial planning context that favours a concentrated, activity-intense use of space for residential and business development, the demand for more dispersed forms of single family housing and for living in attractive landscapes is nevertheless ever-present, notably as concerns the rural heartland of the Randstadt, the so-called Green Heart. Living in this Green Heart is particularly appealing to many inhabitants of the area because it provides easy accessibility to any city in the Randstad.

The status and future of this region has been widely debated over the last few decades, both in terms of its geographical designation and as concerns policies for its development. Indeed, the Central Government, Parliament and the Dutch population itself remain deeply divided on how to treat the Green Heart: some groups oppose any development at all; others see benefit in its development; and still other “pragmatists” find themselves somewhere between the two poles. It would seem, therefore, that there exists a certain degree of indecision and ambiguity about what approach to take relative to the Green Heart, despite the current policy for its development which was articulated in 1990.

Recent approval of national investment financing into a high-speed train traversing the Green Heart may demonstrate that current spatial planning policy concerning the region is perhaps not strong enough to withstand pressure for development of infrastructure projects to increase accessibility to the region. Alphen is a case in point here: local desire to increase accessibility by car to the city was so strong that national funding was recently acquired for two highway projects linking Alphen with Amsterdam and Leiden. These infrastructure projects then naturally facilitate further urban development in the region.

Given the unique nature of the Green Heart, and in order to ensure a sustainable path for its future, it would seem beneficial to pursue ongoing efforts to clarify the long-term spatial planning framework for the region, taking better into account the existing pressures to develop the region around existing infrastructure, and the desires of the region's inhabitants for better accessibility.

6.6. Environment and Safety

6.6.1. Environment

The Netherlands has a long-standing history of concern for the environment and environmental activism. Since the first environmental legislation dating to 1950s and 1960s, the establishment of VROM in 1982, and the preparation of the first National Environmental Policy Plan (NMP) in 1989, the Netherlands has developed an increasingly more comprehensive and integrated environmental regulatory structure involving all sectors of the economy. As concerns transport, the ongoing growth in traffic volumes is putting increasing pressure on the environment, notably in urban areas. As a result, traffic-related environmental problems are of persistent concern to both transport and environmental policy makers in the Netherlands.

The SVV2 highlights a number of areas of focus for “environment and amenity” in transport policy, among them: reductions in NO_x and unburned hydrocarbons, CO_2 , noise, and fragmentation of rural areas, as well as safety.³¹ The specific targets set forth in the SVV2 for improvement in these areas are generally in line with those outlined for traffic and transport policy in the National Environmental Policy Plan of 1989 and NMP 2 (1994).³²

A third NMP has recently been published (beginning of 1999), which will guide environmental strategy in the Netherlands through 2003. Given the inter-ministerial co-operation currently in place in the development of NVVP, it is assumed that there will be close synergy in the recommendations set forth in each of these documents as concerns the impact of *inter alia* urban travel on the environment.

During the Review, environmental problems were less of a focus in discussions than issues of transport and land use policy. This may have been the case because local air quality, a preoccupation in urban travel policy development in many other countries, was considered less of a direct factor in urban travel policy in the municipalities and regions visited. The impression given during the Review was that environmental legislation over the last couple of decades has effectively addressed local air pollution problems.³³ Noise from urban traffic was cited as an environmental concern for local authorities. And the overall impact of traffic and travel activity on CO_2 targets was a key issue on the national level, but was seen as only a minimal factor in policy making on a local level.

As regards the transport sector's contribution to CO₂, the Climate Policy Implementation Plan appears to be quite comprehensive. Its successful implementation will, however, no doubt depend on the legislative approval of a number of the measures, among them, the road pricing scheme, and the overall impact in the Netherlands of the EU-Commission – ACEA agreement, which remains a question for all countries relying on this measure in the context of the national climate change plans.

Because the NVVP will be focusing in part on “quality of life”, it can be assumed that noise disturbance might figure among the priorities in the development of the policy plan. Costs of implementing some of the more technical measures (*e.g.*, introduction of quieter road surfacing) may be an issue for review, as perhaps are the complexities involved in using decibel levels as targets in urban areas, as is the case in SVV2, given the potential impact on location policy.

6.6.2. Safety

As evidenced by their impressive road safety record over the last decade, the Netherlands has clearly committed itself to reducing traffic-related accidents, and assuring overall road safety in the long term. Traffic injuries and fatalities have dropped substantially over this period ; as a result, the Netherlands has one of the most favourable safety records in Europe. The Dutch government has not stopped with these positive results, however. Policy-makers are further pushing to integrate the notion of sustainability in safety policy, and insodoing, assuring a sustained minimisation of risk in road transport. This forward-thinking, long-term approach to safety is particularly commendable.

The Permanently Safe programme (1997-2001) is bold in that it appears to break down existing policy structures to better integrate the notion of safety. Its implementation will therefore no doubt be complex, and will require the co-operation and support of transport administrations and authorities on all levels of government. Based on a series of agreements between Central Government and regional and local authorities, and preceded by demonstration projects designed to garner support for the idea, the strategy seems to be structured in such a way, however, that chances for consensus and co-ordination may be quite favourable, especially given that the interest of safety and security on the roads is an interest common to all parties. It is quite clear in any case that the Permanently Safe strategy demonstrates the commitment of the Netherlands to sustained improvements in road safety over the long term. Given its already admirable safety record, this is particularly commendable.

6.7. Conclusions

In this important time for transport policy development in the Netherlands, policy makers have the benefit of a long-standing, widely acclaimed history of

strategic planning to build on. Indeed, the Dutch experience shows an exemplary institutional ability to pull together the variety of sectors and levels of government in a common effort to develop innovative, integrated policy strategies. Though certainly not without difficulties, it appears that policy planning in the Netherlands is based on relatively open discussions among institutions and stakeholders and efforts for good communication and transparency. Indeed in the recent period of evaluation of the SVV2, the Dutch appear to have examined with objectivity and clarity the problems of existing policy, and demonstrated admirable ability to adjust and adapt policy approaches to steer transport developments in more sustainable directions.

The impressive Dutch tradition of consensus building in policy making has enabled the definition of sound policy strategies; it has also played a significant role in making these policies more difficult to implement. Preparation of the NVVP seems to be based on lucid thinking with regard to sources of implementation difficulties, and desire to address these challenges in this next round of policy development.

The following general findings of the Review team might be considered in this process:

- Striking the right balance in decentralisation will be essential to the success of future transport policy. While maintaining overall planning authority for the Randstad at a national level, decentralisation of financial streams in addition to planning for urban transport should be pursued.
- Greater clarity and transparency with regard to the relative roles of the Regions and Provinces would be helpful to urban travel policy-making in general.
- The involvement of market forces in public transport should be encouraged, and an accelerated time frame for competitive tendering considered. This, along with more-targeted incentive mechanisms, should go a long way toward improving the efficiency of the public transport system.
- While recognising the political difficulties involved in implementation, development of a sound pricing strategy should continue to be pursued as an important instrument for reducing congestion and containing further traffic growth.
- To continue the progress made in reducing the negative environmental impacts of traffic and transport in cities, further efforts should focus on noise and CO₂ abatement.

With these perspectives considered, and with the strong Dutch planning tradition as a base, policy makers can trace an economically sound and environmentally healthy future for urban travel in the Netherlands.

Notes

1. Please see Chapter 6.5.3 for further discussion of the Green Heart.
2. The forthcoming NVVP for the Netherlands is founded on revised growth scenarios in these areas. Please see Chapter 5 for further discussion of the plan.
3. Transport by light vans is not included in this figure.
4. European Renaissance Scenario, which predicts economic recovery in Europe accompanied by successful European integration.
5. Please see Chapter 5 for discussion of policies and measures.
6. Please see Chapter 5.2 for discussion of land use policies.
7. Please see Chapter 5.3 for discussion of environmental policies.
8. Includes transport in the industry sector and covers road, railway, air, internal navigation, pipeline transport, and non-specified transport.
9. The regional authority is specifically involved in transport policy and planning.
10. The exact number of municipalities varies somewhat according to the source. 538 is the official number at the time of the Peer Review in June 1999.
11. Please see Chapter 5.1 for further discussion of the SVV2.
12. Please see Chapter 5.1.3 for further examination of decentralisation plans under the forthcoming NVVP.
13. Please see Chapter 5.1.4 for discussion of financing and funding procedures.
14. These are examined in Chapters 5.1-5.3.
15. Chapter 5 examines policy development in these areas, with emphasis on the ways in which sectoral priorities and objectives intersect in strategic plans and work their way down into individual policies and measures.
16. Please see the following section as well as Chapter 5.1.7 for an examination of efficiency initiatives and introduction of market forces in public transport.
17. The analysis of the ECMT peer experts related to road pricing that are found in Chapter 6.4 of this report, were prepared prior to the replacement of *Rekeningrijden* with *Spitstarief*.
18. Further discussion of the “ABC Policy” will be undertaken in Chapter 5.2.
19. Including 1.5 billion for rail infrastructure maintenance and 2.5 billion in subsidies for public transport operational costs.
20. Please see Chapter 5.1.6 for discussion of parking policy under SVV2.

21. The European Commission and the European Automobile Manufacturers Association (ACEA) signed an agreement in 1998 in which ACEA commits itself to, among others, reaching average CO₂ emissions of 140 g/km by 2008 for all new cars sold in the European Union. This would reduce new car fuel consumption by 25% compared with 1995 levels.
22. NMP3 cites plans for a revised objective for severe noise nuisance for the period 2020-2030. According to V&W, discussions on this are ongoing.
23. According to VROM, approximately 80% of the fleet is now equipped with catalytic converters.
24. A side effect of the introduction of catalytic converters has been a doubling of N₂O emissions. In the new Climate Policy Implementation Plan, a provision has been made to address this increase.
25. Please see Section 6.4.1 for a discussion of financing of infrastructure and transport.
26. Please refer to Section 6.4.3 for consideration of tendering issues in public transport.
27. Discussion of public transport financing is covered in Section 6.4.1 and more generally in Section 6.4.3.
28. The ECMT team visit to the Netherlands and the preparation of this analysis took place when the Rekeningrijden road pricing scheme was still under consideration. It thus preceded the subsequent replacement of Rekeningrijden with the Spitztarief scheme, discussed briefly in Chapter 5.1 of this report.
29. Please see Section 6.5 for consideration of the spatial planning aspects of ABC.
30. This is not necessarily unusual. There is wide consensus that improvements to public transport alone do not, in general, suffice for significant reductions in car use.
31. NO_x, CO₂, noise and safety are considered in this Review.
32. NMP2 confirmed the objectives for 2000 set in the first Plan and proposed new policy mechanisms to reach those targets.
33. There may be regional differentiation on this issue. Climatic conditions and type of economic activity may play a role in determining the importance of local air quality in a city or region.

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