



**Economic and Social
Council**

Distr.
GENERAL

TRANS/WP.5/2003/7
7 July 2003

Original: ENGLISH

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Working Party on Transport Trends and Economics
(Sixteenth session, 24-26 September 2003,
agenda item 8)

FINANCING SCHEMES OF TRANSPORT INFRASTRUCTURE

Transmitted by the Governments of Canada, Denmark, Finland, Netherlands, Poland,
Slovenia, Sweden, Turkey and the United Kingdom

Note: Following the initiative of the Chairman and Vice-Chairman of the Working Party at its fourteenth session concerning its future activities, the Working Party, at its fifteenth session, identified several areas for consideration at its future sessions (TRANS/WP.5/32, para. 9). One of the issues identified at the session was “Financing schemes of transport infrastructure”. Following the request by the Working Party, the secretariat prepared a questionnaire (attached in the annex to the document) on the basis of the corresponding Polish Government report, and asked the member Governments to provide the relevant information. This document groups replies from member Governments in accordance with the structure of the questionnaire.

* * *

Question 1: Investment funding sources and instruments

CANADA

In Canada, infrastructure financing and the ownership are very different in each mode, and thus it is hard to arrive at generalizations. While highways are largely a provincial concern, infrastructure in other modes is largely provincial. Canada's largest ports and airports are federally owned, but operated and developed by not-for-profit private entities. Canada's railway infrastructure is largely private. Canadian highways are largely provincial, and directly funded by Government, from general revenues.

For more information regarding transport infrastructure financing in Canada, especially highways, you may wish to consult the final report of the recent legislated review of the Canada Transportation Act, at: <http://www.reviewcta-examenltc.gc.ca/english/pages/finalreport.htm>

Some of the research conducted in this context, particularly that of Mr. Fred Nix – “Alternative Road Financing Arrangements”, might also be considered and consulted at: <http://www.reviewcta-examenltc.gc.ca/english/pages/summaries.htm>

“Straight Ahead”, the federal Government's strategic plan for transportation, which was just released, could also be consulted at: <http://www.tc.gc.ca/aboutus/straightahead/menu.htm>

DENMARK

Due to the vague/lack of definition of infrastructure investment in the questionnaire and the fact that no accumulated figures differentiated on the above-mentioned categories, the table has not been filled out. However, the following information can be given:

In the period 1990 to 1998, investments in transport infrastructure averaged DKK 14 billions annually at 1990 prices (approximately € 2.25 billions at 2002 prices). This corresponds to 8% of Denmark's total fixed gross investments. About half of the investment expenditure was applied to the road network, and about one fourth to the construction of the fixed links across Great Belt and Øresund.

For new investments in road infrastructure, approximately 33% of expenditure is covered by the central Government budget, while regional authorities cover approximately 66%. For road maintenance, approximately 11% of costs are covered by the central Government budget while regional authorities cover approximately 89%.

Rail infrastructure investments are funded by the central Government budget. The maintenance expenses are partly covered by the infrastructure charges charged from rail operators (transport system users). Upgrading of rolling stock etc. is the responsibility of each rail operator but can be partly funded by the Government budget through inclusion in negotiated service contracts.

FINLAND

National funding originates mainly from central Government's budget. Public roads and railways are financed from central Government's budget and municipalities finance only their own streets.

International funding (for example EIB loans) has been used sometimes as an additional source of funding for major investment projects, mainly TEN-T projects.

The used financing source does not depend on the investment type (new investments, modernization, repair and maintenance and other improvements), but all investments are treated alike.

NETHERLANDS

	New investments	Modernization	Repair and maintenance	Other improvements
National funding				
(i) central Government budget	X	X	X	
(ii) national financial market				
(iii) regional authorities				
(iv) transport system users				
(v) taxpayers				
(vi) other _____				
International funding				
(i) loans from consortium banks	X			
(ii) international capital markets				
(iii) assistance and soft loans				
(iv) soft loans, grants and guarantees (WB, EBRD, EIB)	X			
(v) assistance (EC, UNDP, etc.)	X			
(vi) stand-by credits from IMF				
(vii) other _____				

National Funding:

- (i) National funding in the Netherlands is fully based on the central Government budget.
- (v) Taxpayers contribute to the central Government budget by way of Passenger Vehicle and Motorcycle Tax and Road Tax.

International Funding:

- (i) Only via innovative contracts with private parties (PPP's).
- (iv) For example, funds are received from EIB for the Dutch High Speed Line.
- (v) Especially via TEN budget for big projects.

POLAND

	New investments	Modernization	Repair and maintenance	Other improvements
National funding				
(i) central Government budget	X	X	X	X
(ii) national financial market				
(iii) regional authorities	X	X	X	X
(iv) transport system users				
(v) taxpayers				
(vi) others				
International funding				
(i) loans from consortium banks				
(ii) international capital markets				
(iii) assistance and soft loans				
(iv) soft loans, grants, guarantees (WB, EBRD, EIB)	X	X	X	
(v) assistance (EC, UNDP, etc.)	X	X		
(vi) stand-by credits from IMF				
(vii) other				

The use of the above sources varies from sector to sector and depends on the network. What is presented above is true for national importance transport infrastructures, where the share of financing would be approx. 50 % financed locally and 50 % from IFI's loans and EU grants. Virtually, all new investment schemes (national importance networks) have been financed with the assistance of either EU grants or IFI's loans. The advantage is, of course, the possibility to accelerate upgrading of transport infrastructures, but the risk (especially the EU assistance) is that the schemes may be of priority projects to the EU but may not be as efficient as other projects. Loans from IFIs give us a lot more flexibility in providing counterpart financing to EU grants and wherever the EU assistance is not available (beyond the TINA networks). The constraint is the capacity of the State/regional budgets to come up with other matching funds and typically low priority of the transport sector as a whole in allocation of budgets.

SLOVENIA

Investment funding sources and instruments for the period 1997-2002

Period/Sources	Investments in € 000			
	New investments	Modernization	Repair and maintenance	Other improvements
Year 1997	3,856.50	26,869.30	42,162.80	0.0
<i>National Funding</i>	3,856.50	7,244.20	42,162.80	0.0
- central Government budget	3,856.50	7,244.20	40,351.40	0.0
- syndicated loan from local banks	0.0	0.0	0.0	0.0
- regional authorities	0.0	0.0	370.6	0.0
- other	0.0	0.0	1,440.80	0.0
<i>International Funding</i>	0.0	19,625.10	0.0	0.0
- loans from consortium banks	0.0	0.0	0.0	0.0
- soft loans, grants and quaranties (EBRD,EIB)	0.0	19,625.10	0.0	0.0
- assistance EC (PHARE -LSIF, ISPA)	0.0	0.0	0.0	0.0
Year 1998	2,694.40	24,939.00	53,119.90	0.0
<i>National Funding</i>	2,694.40	17,335.80	53,119.90	0.0
- central Government budget	2,694.40	17,335.80	50,493.90	0.0
- syndicated loan from local banks	0.0	0.0	0.0	0.0
- regional authorities	0.0	0.0	952.3	0.0
- other	0.0	0.0	1,673.70	0.0
<i>International Funding</i>	0.0	7,603.20	0.0	0.0
- loans from consortium banks	0.0	0.0	0.0	0.0
- soft loans, grants and quaranties (EBRD,EIB)	0.0	7,603.20	0.0	0.0
- assistance EC (PHARE -LSIF,ISPA)	0.0	0.0	0.0	0.0
Year 1999	19,988.90.0	20,574.20	51,605.10	0.0
<i>National Funding</i>	19,988.90	11,159.60	51,605.10	0.0
- central Government budget	1,712.10	11,159.60	48,386.40	0.0
- syndicated loan from local banks	18,276.80	0.0	0.0	0.0
- regional authorities	0.0	0.0	1,471.20	0.0
- other	0.0	0.0	1,747.50	0.0
<i>International Funding</i>	0.0	9,414.60	0.0	0.0
- loans from consortium banks	0.0	4,077.80	0.0	0.0
- soft loans, grants and quaranties (EBRD,EIB)	0.0	5,336.90	0.0	0.0
- assistance EC (PHARE -LSIF,ISPA)	0.0	0.0	0.0	0.0

Year 2000	45,643.00	51,052.50	49,154.10	0.0
<i>National Funding</i>	45,643.00	13,115.80	49,154.10	0.0
- central Government budget	5,385.80	13,115.80	46,193.90	0.0
- syndicated loan from local banks	40,257.20	0.0	0.0	0.0
- regional authorities	0.0	0.0	1,192.90	0.0
- other			1,767.40	0.0
<i>International Funds</i>	0.0	37,936.60	0.0	0.0
- loans from consortium banks		26,266.70	0.0	0.0
- soft loans, grants and quaranties (EBRD,EIB)		11,670.00	0.0	0.0
- assistance EC (PHARE -LSIF,ISPA)		0.0	0.0	0.0
Year 2001	21,945.30	24,174.30	48,625.60	0.0
<i>National Funding</i>	21,945.30	7,276.40	48,625.60	0.0
- central Government budget		7,276.40	48,274.60	0.0
- syndicated loan from local banks	21,945.30	0.0	0.0	0.0
- regional authorities	0.0	0.0	350.0	0.0
- other	0.0	0.0	0.0	0.0
<i>International Funds</i>	0.0	16,897.90	0.0	0.0
- loans from consortium banks		8,458.00	0.0	0.0
- soft loans, grants and quaranties (EBRD,EIB)		0.0	0.0	0.0
- assistance EC (PHARE -LSIF,ISPA)			8,439.90	0.0
Year 2002*	5,324.20	17,503.00	45,320.8	0.0
<i>National Funding</i>	5,324.20	10,625.50	45,320.8	0.0
- central Government budget		10,625.50	44,809.50	0.0
- syndicated loan from local banks	5,324.20	0.0	0.0	0.0
- regional authorities		0.0	511.3	0.0
- other		0.0		0.0
<i>International Funds</i>	0.0	6,877.50	0.0	0.0
- loans from consortium banks		723.8	0.0	0.0
- soft loans, grants and quaranties (EBRD,EIB)	0.0	0.0	0.0	0.0
- assistance EC (PHARE -LSIF,ISPA)		6,153.70	0.0	0.0
TOTAL- 1997-2002	99,452.40	165,112.40	289,988.30	
<i>National Funding</i>	99,452.40	66,757.50	289,988.30	
- central Government budget	13,648.80	66,757.50	278,509.60	0.0
- syndicated loan from local banks	85,803.60	0.0	0.0	0.0
- regional authorities	0.0	0.0	4,849.20	0.0
- other	0.0	0.0	0.0	6,629.40

International Funds	0.0	98,355.00	0.0	0.0
- loans from consortium banks	0.0	39,526.20	0.0	0.0
- soft loans, grants and quaranties (EBRD,EIB)	0.0	44,235.10	0.0	0.0
- assistance EC (PHARE -LSIF,ISPA	00	14,593.60	00	0.0

* Note: In 2002 no funds of DŽP for financing public railway infrastructure are shown under "repair and maintenance" (insurance premiums, track measurements, etc.)

The exchange rate in 1997 1 EUR=186,7 SIT, in 1998 1 EUR= 188,5 SIT, in 1999 1 EUR= 198,0 SIT, in 2000 1 EUR= 211,5 SIT, in 2001 1 EUR = 221,4 SIT, in 2002 1 EUR= 231,0 SIT.

SWEDEN

	New investments	Modernization	Repair and maintenance	Other improvements
National funding				
(i) central Government budget	X	X	X	X
(ii) national financial market	X	X		
(iii) regional authorities	X	X	X	X
(iv) transport system users	X	X	X	X
(v) taxpayers				
(vi) other _____	X	X	X	X
International funding				
(i) loans from consortium banks				
(ii) international capital markets	X	X		
(iii) assistance and soft loans				
(iv) soft loans, grants and guarantees (WB, EBRD, EIB)	X			
(v) assistance (EC, UNDP, etc.)	X			
(vi) stand-by credits from IMF				
(vii) other _____				

It is very difficult to provide an approximate share of each source used for financing infrastructure in Sweden, since the use of different sources has changed over the observed period (1997-2002). As far as road and railway is concerned, public funding by central Government budget and local municipality budgets (only road) is the dominating funding source for new investments, modernization, repair and maintenance as well as other improvements. In recent years the national financial market has been a funding source of growing importance both for road and railway investments (mainly new investments). In the end, this funding source, of course, occurs in the public budgets too, as interest rates and mortgage. In the aviation and maritime sectors, most transport infrastructure - new investments, modernization, repair and maintenance, as well as other improvements - is financed by fees from transport system users. If there has been a tendency in these sectors during the observed period, it is probably towards a greater share financed over public budgets.

Swedish transport policy guidelines impose that investments should, in principle, be planned and prioritized according to the results of socio-economic calculations. It has been considered to be easier to accomplish this through a system of public funding. A disadvantage with funding over public budgets is, however, that the budget levels may vary from year to year and make it difficult to follow the long term plans for the development of the infrastructure. On the other hand, there is also a fear that funding by loans is only a relief in the short perspective and that heavy mortgages might decrease the freedom of choice in the long run.

Rail transport

	New investments	Modernization	Repair and maintenance	Other improvements
National funding				
(i) central Government budget	X	X	X	X
(ii) national financial market	X	X		
(iii) regional authorities	X	X	X	X
(iv) transport system users	X1)	X1)	X1)	X1)
(v) taxpayers				
(vi) other _____	X2)	X2)	X2)	X2)
International funding				
(i) loans from consortium banks				
(ii) international capital markets	X3)			
(iii) assistance and soft loans				
(iv) soft loans, grants and guarantees (WB, EBRD, EIB)	X			
(v) assistance (EC, UNDP, etc.)	X4)			
(vi) stand-by credits from IMF				
(vii) other _____				

1) Train operators pay a fee for using the rail transport system, but this fee only covers a fraction of total costs (the fees are based on the calculated socio-economic marginal costs of the traffic). The railroad between Stockholm and Arlanda is a BOOT-project and the revenues from the passengers are intended to cover a substantial part of the costs for the operation of that railway.

2) Additional funding from private interests (i.e companies) to facilitate rail investments takes place to a limited extent (tracks to plants, etc). One railway in the inner of northern Sweden (Inlandsbanan) is operated by a company owned mainly by the surrounding municipalities. It is, however, to a substantial extent financed by grants from the central Government budget.

3) The BOOT-project mentioned above.

4) Mainly TEN, but also other EC-funding (regional development to a total sum of 240 MSEK 1997-2001).

National funding from central Government budget is considered to be simple and uncomplicated by the National railway administration. Another advantage mentioned is that central Government funding is closer connected to national transport policy guidelines. A disadvantage with central Government funding is that it is unreliable and that the investment levels can change with short notice (from one fiscal year to another).

Loans from the national financial market, and especially from Riksgäldskontoret (central Government institution), are considered to have the advantage of less administration and lower interest rates compared to loans from the international market.

Mixed funding from central Government budgets and regional authorities is considered to have positive effects since the regional authorities become more committed to the projects and make it is easier to finish the projects as planned.

Funding with assistance from EC is considered favourable by the National railway administration since it adds money to the investment budgets.

Road Transport

	New investments	Modernization	Repair and maintenance	Other improvements
National funding				
(i) central Government budget	X	X	X	X
(ii) national financial market	X			
(iii) regional authorities	X	X	X	X
(iv) transport system users	X1)	X1)	X1)	X1)
(v) taxpayers				
(vi) other _____	X2)	X2)	X2)	X2)
International funding				
(i) loans from consortium banks				
(ii) international capital markets				
(iii) assistance and soft loans				
(iv) soft loans, grants and guarantees (WB, EBRD, EIB)	X (EIB)			
(v) assistance (EC, UNDP, etc.)	X3)			
(vi) stand-by credits from IMF				
(vii) other _____				

1) Used to a very limited extent and currently only for the bridge and tunnel between Sweden and Denmark.

2) Additional funding from private interests (i.e. companies) to facilitate public road investments takes place to a limited extent. Small local roads and streets are often owned and operated in cooperation by members of the local community. These roads are partly financed by grants from the central Government budget.

3) TEN.

TURKEY

Until now, most of the Port sector projects have been implemented by using central Government budget sources. However, these funds were scarce and caused delays in timely completion of the infrastructure projects. For some projects, assistance and soft loans from foreign Governments under bilateral agreements as well as soft loans, grants and guarantees from international financial institutions were also utilized.

	New investments	Modernization	Repair and maintenance	Other improvements
National funding				
(i) central Government budget	(a) % 60	% 60	% 100	% 100
(ii) national financial market				
(iii) regional authorities				
(iv) transport system users				
(v) taxpayers				
(vi) other				
International funding				
(i) loans from consortium banks	(b) % 20	% 20		
(ii) international capital market				
(iii) assistance and soft loans	(c) % 8	% 8	-	-
(iv) soft loans, grants and guarantees (WB, EBRD, EIB)	(d) % 12	% 12	-	-
(v) assistance (EC, UNDP, etc.)				
(vi) stand-by credit from IMF				
(vii) other				

(a) Easy to find and expand. No disadvantages.

(b) Easy to find and expend, but very expensive.

(c), (d) It is difficult to find the loan, to appraise, negotiate the project and sign the Loan Agreement. Cost of the Loan is acceptable. It requires 80% of futile paperwork and tedious work for preparation of the Implementation Completion Reports, etc.

UNITED KINGDOM

During the period 1997-2002 Railtrack plc owned the railway network in Great Britain. This private company was responsible for new investments, modernization of the existing transport infrastructure, repair and maintenance and other improvements.

The following funding sources were utilized:

National funds:

- (b) National financial markets.
- (c) Regional authorities.¹
- (d) Transport system users (in terms of access charges paid by the train operating companies to use the rail network).

International funding:

- (a) Loans in hard currencies from foreign consortium banks.
- (b) Recourse to international capital markets.
- (d) Soft loans, grants and guarantees from international financial institutions.

Railtrack issued its Annual Report and Accounts for each of the years considered. Using the information provided, it is not possible to distinguish the different uses of the funding sources. The following table reports the amount of funding at the end of each reporting year. Please note that some of the figures simply reflect the change in value of the instruments used and, therefore, cannot be considered cumulatively.

	(£ millions)				
	1997	1998	1999	2000	2001
National funding					
- National financial markets	279	127	451	758	865
- Regional authorities (PTE)	7	6	5	5	5
- Transport system users (cash inflow from operating activities)	608	362	988	1123	718
International funding					
- Loans from consortium banks	-	-	150	150	250
- International capital markets	236	531	773	1121	1122
- Soft loans, grants and guarantees (EIB)	-	200	300	600	800

¹ In Great Britain, there are seven passenger Transport Executives (PTEs). These are transport regional authorities for the seven major metropolitan areas. Under section 20 of the Transport Act 1968 they pay grants to the rail industry to secure passenger rail services in their respective areas.

Question 2: Funding techniques

DENMARK

Due to the vague/lack of definition of infrastructure investment in the questionnaire and the fact that no accumulated figures differentiated on the above-mentioned categories the table has not been filled out.

Public funding continues to be the main source for infrastructure investments, modernization and repair and maintenance. However, the Government, in its new investment plan for the next 10 years, mixed funding through Public-Private-Partnerships which is envisaged to become a more used financing instrument.

So far the instrument of Public-Private-Partnerships has only been used for 3 very large infrastructure investments, the Great Belt Fixed Link (opened 1997/8), the Øresund Fixed Link (opened 2000), and the Copenhagen Metro. In all three cases, semi-public companies were established. The fixed links are financed by loans on the international financial market covered by State-guarantees. Due to the State-guarantees, the companies have very low financing costs. The Copenhagen Metro is financed by development/sale of land. Experiences from these projects have been positive.

FINLAND

Public funding is used as the main financing technique for all investment types (new investments, modernization, repair and maintenance and other improvements).

Other investment techniques have been used only occasionally, the latest example is Järvenpää – Lahti motorway project, for which mixed funding (BOOT) was applied.

Advantages related to traditional public funding are:

- Commitments are made only on an annual basis, which leaves “space” for future decisions.
- Level of budget remains almost constant, therefore the planning of future budgets is easier.

Disadvantages related to traditional public funding are:

- Budgets of new and ongoing projects have to be forced within the annual overall budget, which does not allow for the most economical implementation procedure for all projects (projects will have to be delayed etc.).
- Major investment projects will have to be contracted out in smaller units (uneconomical).
- Several development investments are usually active simultaneously, which means that the available budget financing is insufficient for the most economical implementation process (timetable).

- It is difficult to forecast the available funding for development projects, because the decision is made on annual basis and allocated for specified projects only. This makes the long term programming of the future activities very difficult.

Advantages related to BOOT funding are:

- Scale benefits related to the implementation of large investments' projects can be fully utilized, which will cause savings of some 10-15% in construction costs. The timetable can usually also be tightened, which will increase socio-economic savings and decrease the disturbance caused for the traffic during the construction period.
- The fast implementation period decreases the principal costs during the construction phase.
- The impacts on the budget are transferred for the future years after opening for the traffic. Financing risks can be outsourced to the commissioned company.
- If maintenance is included in the concession, it will encourage the life-cycle thinking procedure, which improves quality and transfers the quality risk to the constructor.

Disadvantages related to BOOT funding are:

- Commitments are made for the future. Payments are steady but go on for a long time.
- The final cost is available only at the end of the concession period (but cannot exceed the limit defined in the concession agreement).
- The project company acquires its own financing. However, it is likely that Government could arrange the financing with better terms.
- The financing costs (interests) will have to be paid from the development budget framework, but if the State organizes the financing, the financing costs are paid from the Ministry of Finance's budget. This kind of procedure leads to the situation where the available budget for new development is less than planned.

NETHERLANDS

	New investments	Modernization	Repair and maintenance	Other improvements
Public funding	x	x	x	
Wholly private funding	-			
Mixed funding – PPP	x			
(i) special funds				
(ii) semi-public companies				
(iii) Build-Own-Transfer (BOT)				
(iv) Build-Own-Operate-Transfer (BOOT)	x			
(v) Build-Own-Operate (BOO)				

(vi) Build-Own-Operate-Subsidize-Transfer (BOOST)				
(vii) Build-lease-Transfer (BLT)				
(viii) Other _____				

Public funding: see reply to question 1.

Wholly private funding: there is no wholly private funding in the Netherlands.

Mixed funding- PPP: in the Netherlands these are called DBFM contracts (Design, Build, Finance, Maintain).

POLAND

	New Investments	Modernization	Repair and maintenance	Other improvements
Public funding	X	X	X	X
Wholly private funding				
Mixed funding – PPP				
(i) special funds				
(ii) semi-public companies				
(iii) Build-Own-Transfer (BOT)				
(iv) Build-Own-Operate-Transfer (BOOT)	X (1)			
(v) Build-Own-Operate (BOO)				
(vi) Build-Own-Operate-Subsidise-Transfer (BOOST)				
(vii) Build-Lease-Transfer (BLT)				
(viii) Other			X (2)	

- (1) a single BOT project of motorway construction and operation.
- (2) a single private maintenance concession project

Apart from the above projects it is all traditional funding. The two PPP projects taught Poland valuable lessons and other projects of a similar nature will be pursued especially with traditional construction and private maintenance.

Disadvantages are long preparation, lack of adequate legislation and procedures, limited applicability (practically only roads).

SWEDEN

	New investments	Modernization	Repair and maintenance	Other improvements
Public funding	X	X	X	X
Wholly private funding	X	X	X	X
Mixed funding – PPP				
(i) special funds				
(ii) semi-public companies	X	X	X	X
(iii) Build-Own-Transfer (BOT)				
(iv) Build-Own-Operate-Transfer (BOOT)	X			
(v) Build-Own-Operate (BOO)				
(vi) Build-Own-Operate-Subsidize-Transfer (BOOST)				
(vii) Build-lease-Transfer (BLT)				
(viii) Other _____	X			

Traditional public funding (tax payers and users) is totally dominating in Sweden for all types of investments and improvements. Mixed funding has been used only for a few single projects.

As mentioned above, public funding has been considered to be more in consistence with the infrastructure planning principles used in Sweden than private or mixed funding. In recent years, however, the interest for mixed funding techniques has grown. Initially, interest was very much focused on the possibilities to ease the public budgets through these kinds of solutions. At present, interest is more focused on the possibilities to use mixed funding techniques in order to make investments and repair and maintenance more cost-effective. Partly, this is perceived to be a result of increased efficiency in handling of different risks associated with infrastructure investments.

A governmental inquiry, published a few years ago, recommended that PPP should be tried and evaluated for a limited number of road and railway projects. The present political majority in Parliament have, however, been rather reluctant to try PPP-solutions.

Rail transport

	New investments	Modernization	Repair and maintenance	Other improvements
Public funding	X	X	X	X
Wholly private funding	X1)	X1)	X1)	X1)
Mixed funding – PPP				
(i) special funds				
(ii) semi-public companies				
(iii) Build-Own-Transfer (BOT)				
(iv) Build-Own-Operate-Transfer (BOOT)	X			
(v) Build-Own-Operate (BOO)				
(vi) Build-Own-Operate-Subsidize-Transfer (BOOST)				
(vii) Build-lease-Transfer (BLT)				
(viii) Other _____				

1) Only small extensions to individual plants, etc.

Since almost all major railways in Sweden are operated by the State (National railway administration) or by regional authorities, public funding is the predominating funding technique. As already mentioned above, the railway-link between Arlanda airport and Stockholm city is funded according to a Build-Own-Operate-Transfer-Model.

Since most railways in Sweden are funded by public budgets (State or regional), the experience of different funding techniques are limited. The only experience from PPP is the railway-link between Arlanda airport and Stockholm city mentioned above. A private consortium has been responsible for planning, building, financing and operating that railway. This funding technique was probably a prerequisite to get the link in operation fast, since public funds were dedicated to other projects. On the other hand, this funding technique made the project more complicated in different respects. Since the BOOT-solution involves a concession that implies certain restrictions on competing traffic, it has been more difficult to integrate the traffic in the national and regional transport systems.

The Swedish Railway Administration considers the possibilities of spreading the risks to be an advantage of PPP-projects. At the same time, they stress that PPP-solutions should not be allowed to change the priorities that result from socio-economic evaluation.

Road transport

	New investments	Modernization	Repair and maintenance	Other improvements
Public funding	X	X	X	X
Wholly private funding	X1)	X1)	X1)	X1)
Mixed funding – PPP				
(i) special funds				
(ii) semi-public companies	X2)			
(iii) Build-Own-Transfer (BOT)				
(iv) Build-Own-Operate-Transfer (BOOT)				
(v) Build-Own-Operate (BOO)				
(vi) Build-Own-Operate-Subsidize-Transfer (BOOST)				
(vii) Build-lease-Transfer (BLT)				
(viii) Other _____				

- 1) Only small roads and streets in the local neighbourhood owned and operated in cooperation by members of the local community.
- 2) The link between Sweden and Denmark (road and rail) is owned by a company controlled by the two Governments and funded through the private capital market.

Since all major roads in Sweden are operated by the State (National road administration) or by the municipalities, public funding is the predominating funding technique.

TURKEY

The Public Private Partnership concept has been introduced as an alternative financing method. For new priority investments, the Build-Operate-Transfer system has been preferred. Complete Operate-Transfer or Lease-Operate-Transfer systems are considered to be a choice for projects where the infrastructure already exists. The legal background for these systems have recently been formulated, but needs some improvements.

Examples of a big transport infrastructure investment are: Gebze-Halkali Commuter Rail Improvement and Bosphorus Rail Tube Crossing Marmaray. The Ministry of Transport approves the projects in terms of technical criteria and passenger volumes/system efficiency, but is not responsible for investments of urban railway transit system projects for which municipalities are free to choose the financing scheme and carry out competitive bidding. In the case of the above-mentioned project, it is partly a new investment and partly a modernization in terms of investment type, while funding is ensured through an international soft loan. The advantage of this system is the lower interest rate and longer maturity of the loan.

<i>Question 3: Road infrastructure financing</i>

DENMARK

Measures of the type b), c), d) are employed in Denmark. However the revenues from these measures are not earmarked for road infrastructure but are included in the overall Government incomes on the State budget.

Road user charges are only employed on the fixed links (see question 2) – where the charges are collected by the semi-public fixed link companies and are used to pay back the loans obtained for construction of the links.

FINLAND

In Finland, all financing originates from public funds. All transport payments and taxes are of a fiscal nature and earmarking is not applied for road transport financing. All investment decisions are subject to Government budget decisions. Road user charges are not used either.

Incurred road infrastructure financing during 1997 –2002 has been as follows (€ millions):

Year	New investments and modernization	Repair and maintenance and other investments	Total
1997	182	543	725
1998	208	531	739
1999	192	516	707
2000	180	528	708
2001	151	540	691
2002	150	603	753
Average	177	544	721

National funding

See section 2 for details concerning advantages and disadvantages related to the used financing sources (traditional public budget based funding and BOOT model).

Regional authorities:

Advantages:

- speeds up the important regional projects.
- can be used for smoothening the variation of the annual financing needs (from the Government point of view), which may sometimes cause problems at the Government budget level.

Disadvantages:

- Increases the debts at the State level.
 - Unequal opportunities and treatment of rich and poor municipalities.
- Loans offered by regional authorities are not necessarily the cheapest alternatives available.

Transport system users:

Advantages:

- follows the user pays principle.
- improves efficiency by guiding users to make right decisions.

Disadvantages:

- collection costs at least in road transport are high.
- increases the overall payment burden unless the whole tax and payment structure is revised.
- Does not increase the available financing unless some kind of ear-marking is applied.

Taxpayers:

See point 2.

International funding

TEN support:

Advantages:

- additional funding, less national funds are needed.
- Finland's transport network can be integrated to European networks.

Disadvantages:

- Management is very bureaucratic and requires lots of resources.
- Required national funding is 90%, the TEN support may lead to the changes in implementation priorities.

Structural funds and programmes:

Advantages:

- Additional funding, less national funds are needed.

Disadvantages:

- Management is even more bureaucratic than with TEN support and requires therefore lots of resources.
- Lots of small project at relatively large area, which makes the management and controlling very demanding. Support is lost if it is not used.
- Budgetary procedures between various actors in very stiff and complicated, decision making at the parliament level when changes are expected.
- Conflict in decision-making at national and regional level.
- May promote projects, which are not necessarily socio-economically viable.

EIB loans

Advantages:

- Alleviates loan management at State level.
- TEN-T interest rebates can be applied for interest costs.

Disadvantages:

- Increase of bureaucracy if both EIB loan and TEN-T interest rebates are allocated for same projects.
- Increases the debts at the State level.

NETHERLANDS

In the Netherlands, the following sources for financing road infrastructure are used:

- eurovignette for freight traffic
- fuel taxes
- Passenger Vehicle and Motorcycle Tax, Road Tax and VAT
- import and registration fees for cars.

Road user taxes like tolls are rare in the Netherlands.

POLAND

- (b) fuel taxes (excise duty; VAT).
- (e) road user charges (motorway tolls, heavy goods vignette, charges to non-standard vehicles, charges to international transport, charges to domestic transport – licences/permits)

- (b) A certain percentage of fuel excise revenues is annually allocated by the State budget to the road sector. This is the only allocation from the State budget, apart from the IFI's loans taken by the State. The loans are considered earmarked State budget support with separate mechanism of the transfer of funds.

- (e) Tolls are collected on two sections of motorways (they are kept by the private concessionaires), charges to non-standard vehicles, international and domestic transport are collected and kept by the national road administration.
Revenues from vignettes on heavy good traffic are collected and kept by the national road administration.
No other national sources are used for financing of road infrastructure.

SWEDEN

In Sweden, there are no direct links between financing of road infrastructure and the sources of revenue mentioned above, with the exception of road user charges (tolls) used for the Öresund link between Sweden and Denmark. (A similar solution will also be implemented for a bridge between Sweden and Norway). Fuel taxes (both excise duty and VAT), vehicle taxation (annual excise duty and VAT), registration fees for vehicles and heavy goods vignette (Eurovignette) are all revenues used in Sweden but they are treated as a general income to the central Government budget. Road infrastructure investments and improvements are financed as traditional public funding over Government and municipal budgets.

It has recently been decided that a system of congestion charges should be implemented in central Stockholm. This source of revenue, however, falls outside the observed period, since it is not yet implemented (and it is also a highly controversial political issue).

Except for the limited use of road user charges, the various revenues mentioned above have never really been considered as a source for financing road infrastructure in Sweden (even though the motorist organizations and the road builders association have argued for such

solutions). The discussion has been more focused on the issue to what extent the various measures should be used for fiscal or transport policy reasons. For the latter reason, the possibilities to adjust the taxes and fees to the estimated marginal socio-economic costs have been debated a lot.

Road transport

In Sweden, there are no direct links between financing of road infrastructure and the sources of revenue mentioned above, with the exception of road user charges (tolls) used for the Öresund link between Sweden and Denmark. (A similar solution will also be implemented for a bridge between Sweden and Norway). Fuel taxes (both excise duty and VAT), vehicle taxation (annual excise duty and VAT), registration fees for vehicles and heavy goods vignette (Eurovignette) are all revenues used in Sweden but they are treated as a general income to the central Government budget. Road infrastructure investments and improvements are financed as traditional public funding over Government and municipal budgets.

It has recently been decided that a system of congestion charges should be implemented in central Stockholm. This source of revenue however falls outside the observed period, since it is not yet implemented (and it is also a highly controversial political issue).

Annex

Questionnaire on financing of transport infrastructure

The objective of this questionnaire is to compile the information on financial schemes used to meet funding requirements for: (i) new investments, (ii) modernization of existing transport infrastructure, (iii) repair and maintenance, and (iv) other improvements.

The reply should refer to the **period 1997-2002 (if possible)**. Since Governments may have changed their funding sources and instruments over the course of several years, the coverage of the five-year period was taken as appropriate to reflect the major financing option as well as combination of several options that had been most prominently used in the observed period.

The first two questions relate to investment funding sources and instruments as well as funding techniques for transport infrastructure in general; the third question relates to road infrastructure in particular.

Question 1 Investment funding sources and instruments

- (i) National funds
 - (a) central Government budget
 - (b) national financial markets
 - (c) regional authorities
 - (d) transport system users
 - (e) taxpayers

- (ii) International funding
 - (a) loans in hard currencies from foreign consortium banks
 - (b) recourse to international capital markets
 - (c) assistance and soft loans from foreign Governments under bilateral agreements
 - (d) soft loans, grants and guarantees from international financial institutions (World Bank, EBRD, EIB, etc.)
 - (e) assistance provided by international organizations: European Commission (PHARE, ISPA, CARDS), UNDP, etc.
 - (f) stand-by credit issued by the International Monetary Fund

In your reply, please distinguish in the answer according to the funding sources used for (i) new investments, (ii) modernization of existing transport infrastructure, (iii) repair and maintenance, and (iv) other improvements in the observed period. If multiple funding sources were used, please provide the approximate share of each source used for financing.

	New investments	Modernization	Repair and maintenance	Other improvements
National funding				
(i) central Government budget				
(ii) national financial market				
(iii) regional authorities				
(iv) transport system users				
(v) taxpayers				
(vi) other _____				
International funding				
(i) loans from consortium banks				
(ii) international capital markets				
(iii) assistance and soft loans				
(iv) soft loans, grants and guarantees (WB, EBRD, EIB)				
(v) assistance (EC, UNDP, etc.)				
(vi) stand-by credits from IMF				
(vii) other _____				

Based on your experience, please provide a brief evaluation of advantages and disadvantages of funding sources and instruments mentioned above:

Question 2. Funding techniques

- (i) traditional public funding (tax payers and users)
- (ii) wholly private funding
- (iii) mixed funding techniques – Private–Public–Partnership (special funds; semi-public companies or State-controlled public bodies using private capital; private undertaking build and may operate but the owner of infrastructure is public; funding is private but guaranteed by the State; financed and built entirely by private sector but operated by a public body (BOT, BOOT, BOO, BOOST, BLT); etc.)

In your reply, please provide information on average participation of public, private and mixed funding sources used for new investments, modernization of existing transport infrastructure, repair and maintenance, and other improvements in the observed period.

	New investments	Modernization	Repair and maintenance	Other improvements
Public funding				
Wholly private funding				
Mixed funding – PPP				
(i) special funds				
(ii) semi-public companies				
(iii) Build-Own-Transfer (BOT)				
(iv) Build-Own-Operate-Transfer (BOOT)				
(v) Build-Own-Operate (BOO)				
(vi) Build-Own-Operate-Subsidize-Transfer (BOOST)				
(vii) Build-lease-Transfer (BLT)				
(viii) Other _____				

Based on your experience, please provide a brief evaluation of advantages and disadvantages of funding techniques mentioned above:

Question 3. Road infrastructure financing

In addition to the above-mentioned sources and techniques, financing of new, modernization of existing and repair and maintenance, and other improvements of road infrastructure may have different sources of revenues. Mentioned below are some most commonly used national sources of revenues for financing of road infrastructure.

- (a) vignette or similar system (coverage; types)
- (b) fuel taxes (excise duty, VAT)
- (c) vehicle taxation (annual, excise duty, customs duty, VAT)
- (d) import and registration fees for vehicles
- (e) road user charges (motorway tolls, heavy goods vignette, charges to non-standard vehicles, charges to international transport, charges to domestic transport – licenses/ permits)

In your reply, please provide the answer on sources used for financing road infrastructure in the observed period. Based on your experience, please provide a brief evaluation of advantages and disadvantages of various sources of funding mentioned above.
