

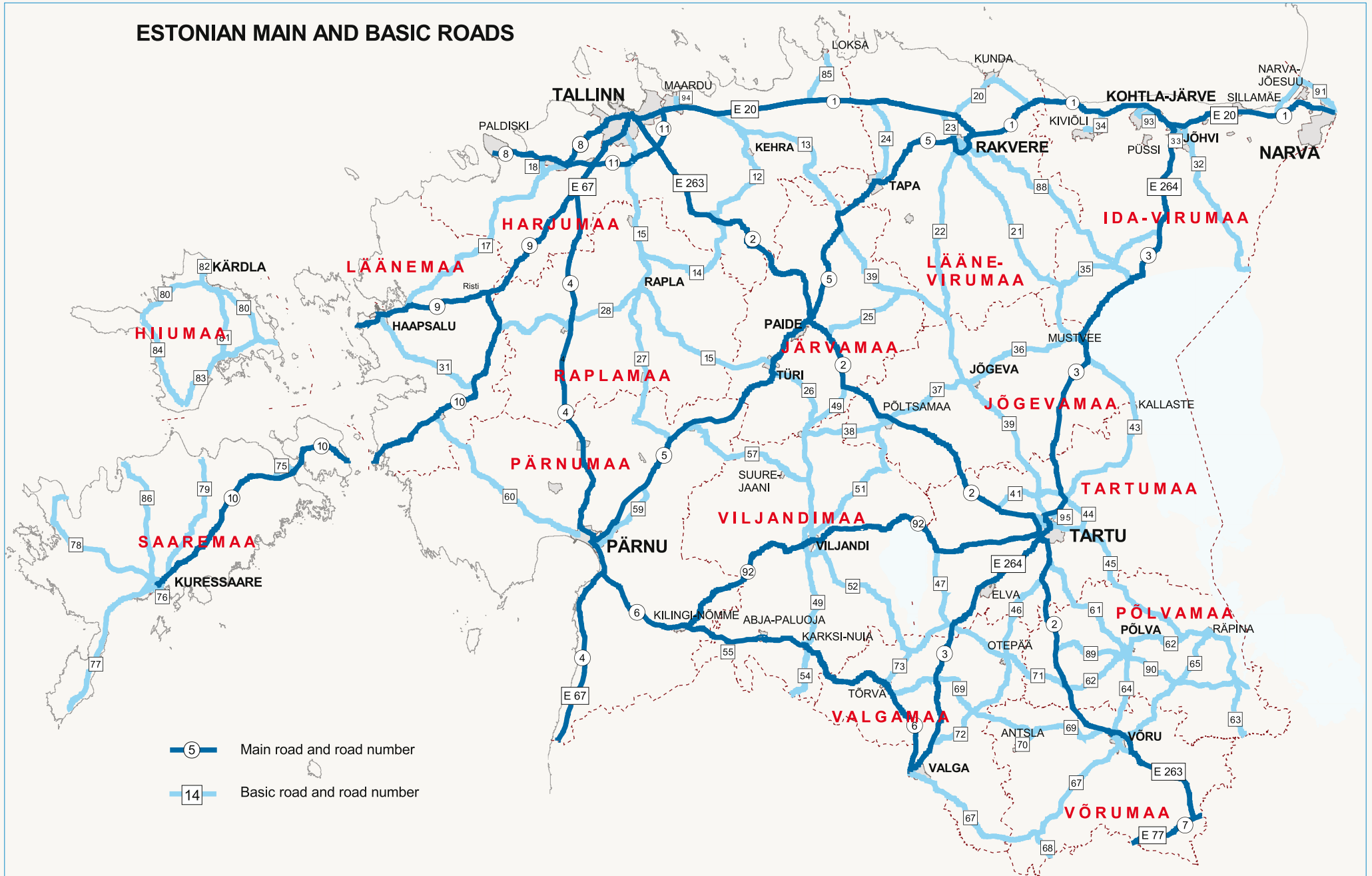


ESTONIAN  
ROAD ADMINISTRATION

{ Annual Report 2007 }



# ESTONIAN MAIN AND BASIC ROADS



- 5 Main road and road number
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## { Dear reader!

This is already the 20th Annual Report of the Road Administration. It has found itself a steady audience and, considering the print run, not by far just among the "road builders". This report is published in the year of the 90th jubilee of the Republic of Estonia and the Road Administration and is therefore released in a new format.

Browsing this report, you will get an overview of the 2007 developments in the areas of road operations, construction, repairs and traffic safety in the Estonian national road network.

As an introduction, we can say that our main indicators

have remained on the same level with those seen in the past two or three years. Increasing volume of pavements on gravel roads is a definite source of satisfaction, while the ageing asphalt surfaces on main connecting roads and secondary roads gives cause for concern.

Traffic safety figures indicate that the number of fatalities has decreased from 2006, but the situation is still worrying. We hope that the more efficient implementation of the Estonian National Traffic Safety Programme will help reduce the number of accidents. For this purpose, we have also made organisational changes in the structure of the Road Administration.

But the human being is and will be the key factor in traffic.

I hope that the annual report you are holding gives you a good overview of our achievements, offers food for thought and definitely some answers to readers interested in these issues.

Enjoy your reading!  
Yours respectfully,

Riho Sõrmus  
Director General

{ Estonian Road Administration }



## { Estonian Road Administration

Estonian Road Administration (ERA) is a government agency operating within the administrative area of the Ministry of Economic Affairs and Communications.

The area of activity of the ERA includes fulfilling the management and national supervision function within the scope of the duties prescribed by law, and applying enforcement powers of the state in the area of road management and traffic safety on the grounds and in the extent established by legislation.

The objective of the ERA's activities is to implement the state economic policy in the area of national road management and traffic safety.

ERA's mission: **WE SHALL CONNECT THE ESTONIAN PEOPLE WITH A MODERN ROAD NETWORK**

ERA's vision: **TO PAVE ESTONIA'S ROAD TO DEVELOPMENT**

The main functions of the Estonian Road Administration are:

> organising road management and creating conditions for safe traffic on the national roads;

> exercising state supervision over the compliance with the requirements established by legislation regulating the ERA's area of activity and, where necessary, applying enforcement powers of the state;

> participating in the development of the legislation regulating the ERA's area of activity and making recommendations for amending and supplementing legislation, including improving Estonian terminology;

> participating in the development of policies, strategies, and development plans in the ERA's area of activity; preparing and implementing projects in the ERA's area of activity, including participating in the preparation and implementation of international projects.



# Road Administration Agencies

**Estonian Road Administration administrates the following state agencies:**

Local agency of the NRA

> the Road Administration of Northern Region;

Offices under the administration of the National Road Administration:

- > Kagu Road Office;
- > Pärnu Road Office;
- > Saarte Road Office;
- > Tartu Road Office;
- > Viru Road Office

The area of activity of the Road Administration of

Northern Region includes fulfilling the management and national supervision function within the scope of the duties prescribed by law, and applying enforcement powers of the state in the area of road management and traffic safety on the grounds and in the extent established by legislation in Harju, Järva and Rapla counties. The Road Administration of Northern Region does not perform maintenance works, but acts as the contracting authority for such works.

Road offices operate as state agencies on the territory of the counties in their respective regions of activity. Road offices contract for road maintenance works, conduct maintenance in their respective areas of location and may perform any other works stated in their statutes.

The main functions of the agencies include:

- > management of national roads on the basis of the road management plan and the approved budget;
- > administration of national roads and other state property transferred into the possession of the road office;
- > creation of conditions required for safe traffic on national roads;
- > organisation of supervision over the management of national roads and over the creation of conditions required for safe traffic.

The Road Administration of Northern Region has departments in all the three counties comprising its area of activity while road offices have departments in the counties where an operator performs road maintenance. The Road Administration of Northern Region, road offices and their respective county departments issue permits, consents and approvals, perform owner surveillance on maintenance works and road management works not requiring a particular project, submit proposals for preparing road management plans, organise and coordinate activities related to traffic control and traffic safety on national roads, counsel the management of local roads and streets and private roads.

In addition to the above, the Kagu Road Office includes a Road Museum operating in the former Varbuse Post Station by the historic Tartu-Võru post road in Põlvamaa.





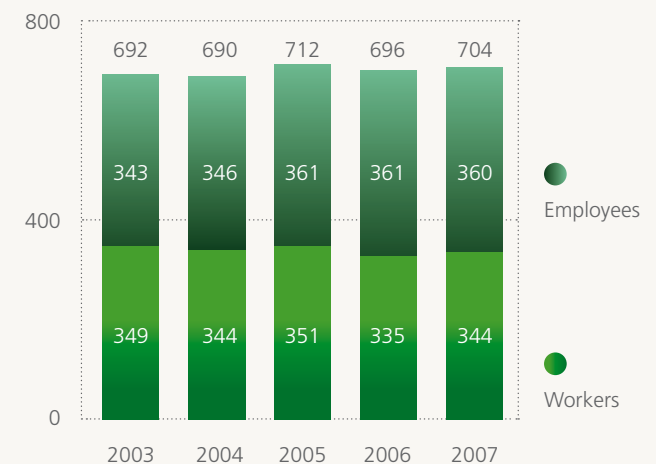
## { Personnel

The total number of employees in the agencies administrated by the Road Administration decreased by 60% in the course of the road maintenance organisation reform in 2000-2004 and now remains stable.

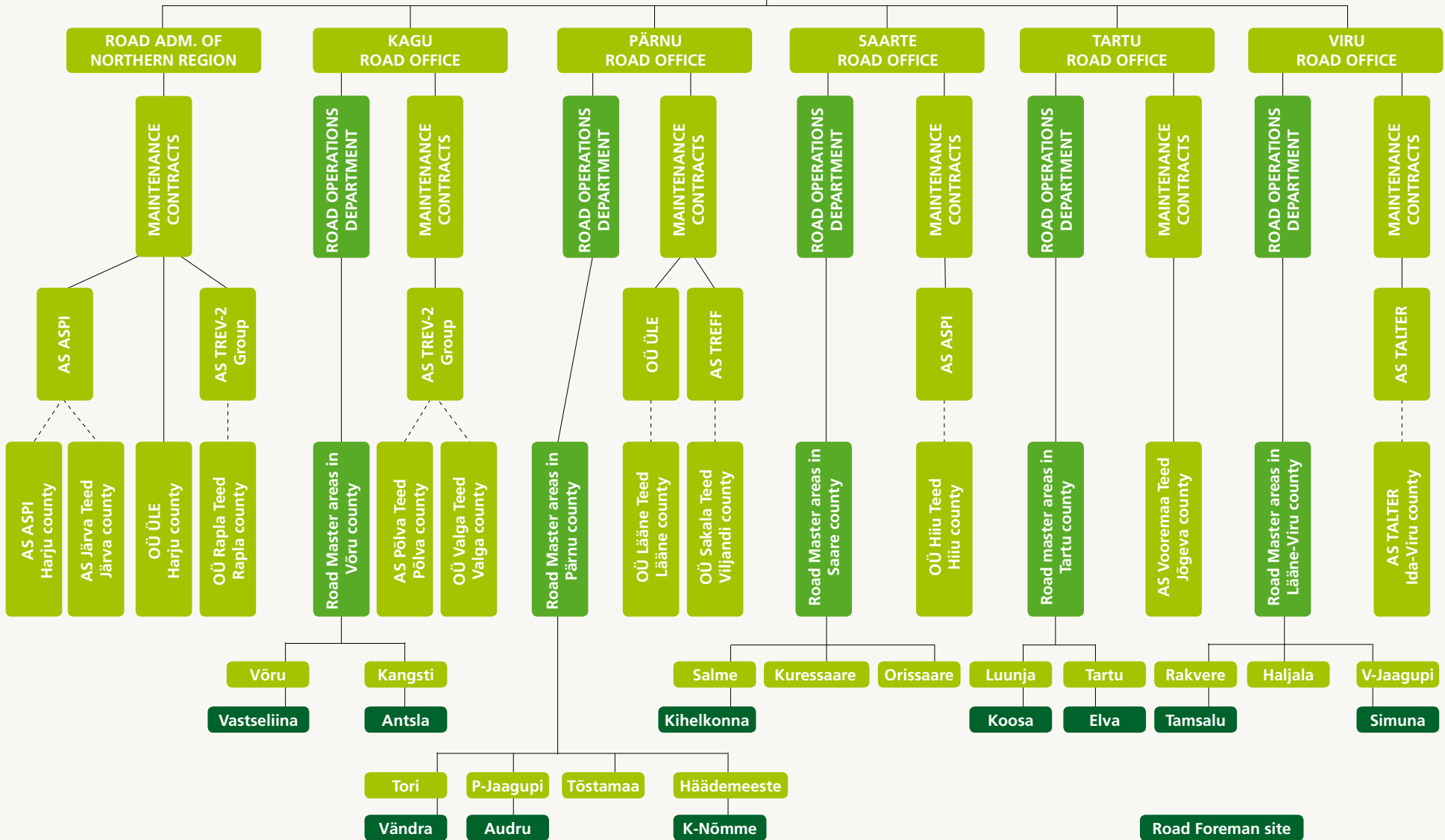
In 2006-2007, the number of employees in the Estonian Road Administration grew, due to an increase in the work volume and additional tasks related to using the European Union Structural Funds, while the number of employees in local agencies decreased proportionally. At the end of the year, the total number of personnel in the Road Administration and the administrated agencies

was 704 (including 99 employees in the ERA, 44 in the Road Administration of Northern Region and 561 in the road offices), of whom 344 (48.9%) were workers, 341 (48.4%) managers and specialists and 19 (2.7%) office clerks and support staff.

Of the managers and specialists, 90 (26.4%) are licensed as road and civil engineers, 37 (10.9%) as road and civil technicians, and 115 (33.7%) as licensed specialists of other professions, while 99 individuals (29.0%) have completed no specialised professional training.



# ESTONIAN ROAD ADMINISTRATION



## Foreign Relations

After Estonia's accession to the European Union in May 2004, the Estonian Road Administration was accepted as a member of the Conference of European Directors of Roads (CEDR), which expanded the opportunities to better study and apply EU legislation.

Estonia joined the Schengen visa room on 21 December 2007. It is the Road Administration's task now to reopen all the previously closed national roads crossing the southern border of Estonia.

In connection with using the funding from the EU Structural Funds for the works performed on national roads respective foreign assistance coordination staff of the Estonian Road Administration can take part in training programmes dealing with the implementation of EU projects and visit road objects financed from EU funds in other Member States.

The ERA is a member of the International Road Federation (IRF), the World Road Association (PIARC), and the Baltic Road Association (BRA).

The ERA is an active partner in PIARC, working in various technical committees: TC 3.4 (winter road service), TC 4.1 (database of roads) and TC 4.3 (road pavements) and is participating actively in HDM-4 related cooperation.

In 2007-2009, Latvia chairs the Baltic Road Association (BRA). The Road Administration has participated in the regular meetings of the BRA Council and other scheduled events organised in Latvia. The scope of cooperation related to the Via Baltica project is expanding due to more active joining of Poland.



The ERA continued cooperating with the programme "Partners for Roads" initiated by the Netherlands with the aim to provide further training and opportunities to develop knowledge to the road specialists of the new EU Member States. The most important Estonian event of this cooperation programme that the Dutch government has decided to run until 2010 was the International Conference of Databases and Road Registers held in Pärnu in May 2007.

The Road Administration continues its cooperation with the Standing International Road Weather Commission (SIRWEC), which Estonia joined in 2000.

The contacts with Nordic road specialists in the field of scientific and technical issues, training, etc. based on the Memorandum of Understanding between the Baltic Road Association (BRA) and the Nordic Road Association (NRA) and agreements concluded with the road administrations of Denmark, Norway, Sweden and Finland continue. In 2007, project NORDBALT included a joint seminar in Stockholm, where steel pipe culverts were discussed.

The Swedish and Finnish road administrations have helped train the personnel of the road weather station network. As a joint project between Finland, Estonia, Latvia, Lithuania and Russia, real-time road information is forwarded on the Internet. The Estonian Road Administration assumed the task of maintaining the web page of the joint project at [www.balticroads.net](http://www.balticroads.net) from the Finnish Road Administration.

The Road Administration's delegation represented Estonia at the annual meeting of PIARC in Paris. The delegation also took part in the 23rd regular Global Roads Congress of PIARC, where it presented a report and cooperated with other Baltic States as an exponent at a roads related exhibition.

The Estonian Road Administration represents Estonia in international projects related to the Pan-European Transport Corridor 1. On the basis of the joint application of the Estonian Road Administration and the Latvian Road Administration, the Jõhvi-Tartu-Valga-Valka-Valmiera-Incukalns Road was included in the network of E-roads under number E-264.

# Roads

The total length of national roads as at 1 January 2008 was 16,465 kilometres, i.e. 29.0% of the total length of the Estonian road network, which is 57,565 kilometres. The length of E-roads in Estonia is 935 km.

The total length of the national roads decreased by 13.9 kilometres.

Of the national roads, 1,601 km (9.7%) are main roads, 2,391 km (14.5%) basic roads, 12,425 km (75.5%) secondary roads and 49 km (0.3%) ramps and connecting roads included in junctions.

The length of paved roads increased by 311 km from last year and is currently 9,679 km, i.e. 58.8% of the total length of the national roads. The majority of this increase was on account of paving gravel roads.

The density of national roads is 379 km per 1,000 km<sup>2</sup> and the density of the entire registered road network is 1,325 km per 1,000 km<sup>2</sup>.

There are 920 bridges on national roads with the total length of 20,924 m, including 4 wooden bridges with the total length of 56 m.

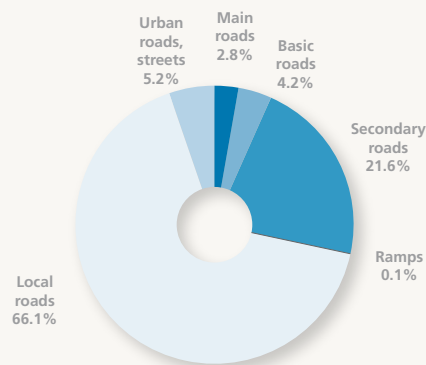
The national road register, providing information on both the national roads and other public roads, established with Regulation No 199 of the Government of the Republic of July 28, 2005 is publicly available to everyone.

The national road register is a web-based database, administered and processed under the authorisation of the Estonian Road Administration. Over 2004-2007, its software has been upgraded in order to encompass also the data of all other roads in the future.

As at January 1, 2008 the basic data on both the national and local roads has been entered in the new web-based road register. In cooperation with the Land Board, a new

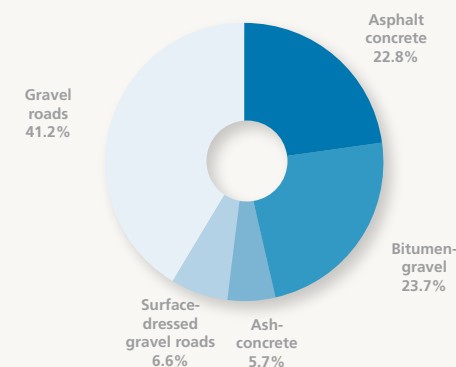
national roads layer based on the basic map of Estonia has been introduced for the purpose of updating the data and adding new data.

464 km of road land was entered into the land cadastre and 601 km of road land was entered into the state assets register in 2007, which means that the total of 93% of the national roads have been entered into the land cadastre and 90% into the state assets register.



## Road network

National roads		16 465 km
● Main roads	1 601 km	
● Basic roads	2 391 km	
● Secondary roads	12 425 km	
● Ramps and connecting roads	48 km	
<b>Local and private roads</b>		<b>38 078 km</b>
● Urban roads and streets	3 022 km	
<b>TOTAL:</b>		<b>57 565 km</b>

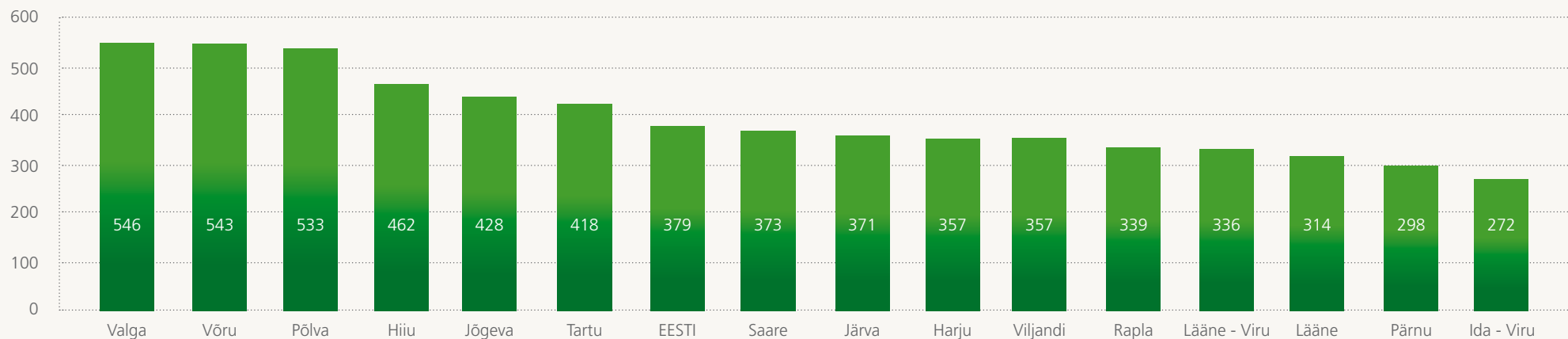


## Types of pavement on national roads

● Asphalt concrete	3 753 km
● Bitumen-gravel	3 906 km
● Ash concrete	936 km
● Surface-dressed gravel roads	1 084 km
● Gravel roads	6 786 km
<b>TOTAL:</b>	<b>16 465 km</b>

## Density of national roads by counties in 2007

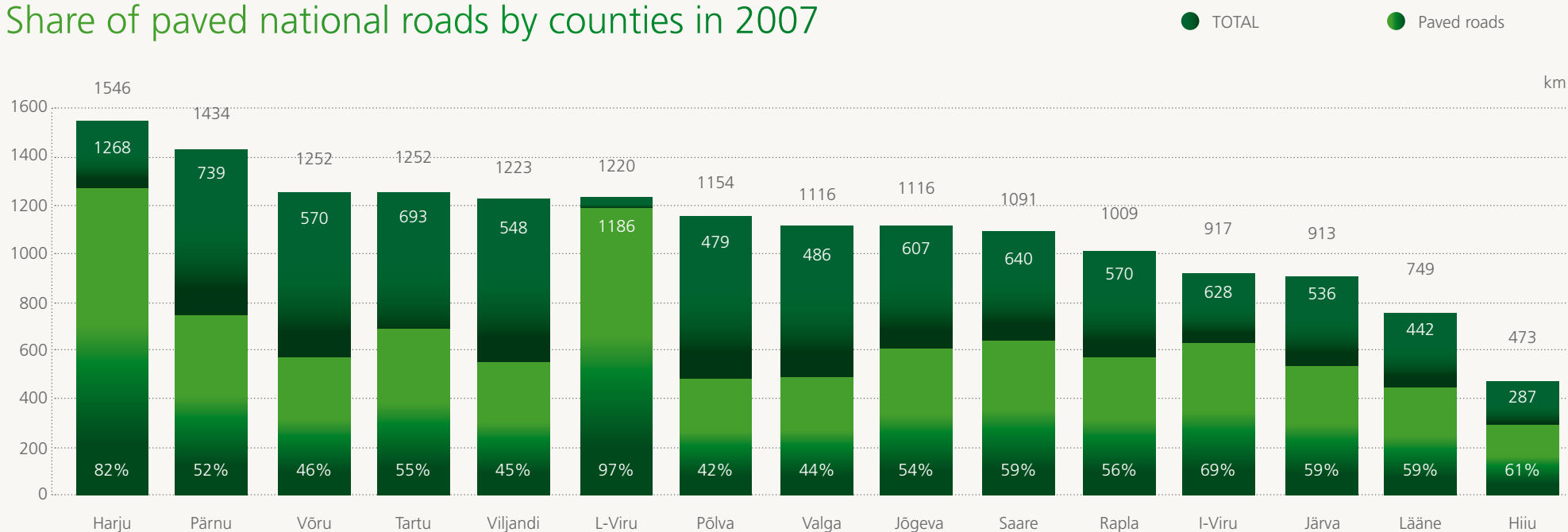
Density km/1000 km<sup>2</sup>



## Types of pavements on national roads in 2003-2007

in km-s and percentage										
Year	2003		2004		2005		2006		2007	
Pavement	km	%	km	%	km	%	km	%	km	%
Asphalt concrete	3354	20.4	3382	20.5	3482	21.1	3661	22.2	3753	22.8
Bitumen-gravel	3971	24.1	3962	24.1	3957	24.0	3906	23.7	3907	23.7
Ash-concrete	927	5.6	927	5.6	926	5.6	932	5.7	936	5.7
Surface-dressed gravel roads	345	2.1	423	2.6	663	4.0	869	5.3	1084	6.6
Total paved roads	8597	52.3	8694	52.8	9028	54.8	9368	56.8	9679	58.8
Gravel roads	7855	47.7	7765	47.2	7442	45.2	7111	43.2	6786	41.2
<b>TOTAL:</b>	<b>16452</b>	<b>100</b>	<b>16459</b>	<b>100</b>	<b>16470</b>	<b>100</b>	<b>16479</b>	<b>100</b>	<b>16465</b>	<b>100</b>

## Share of paved national roads by counties in 2007







# { Condition of Road Surfaces

Measurements of the road surface roughness index IRI (International Roughness Index) and inventorying of defects on paved roads have been performed since 1995. Load bearing capacity has been measured since 1996 and rut depth since 2001.

These four indicators of road surface condition and in addition the traffic volume on the roads are the main

indicators of PMS (Pavement Management System).

Upon studying the diagrams of changes in evenness, improvement can be observed on all road types, but still mainly on the main roads.

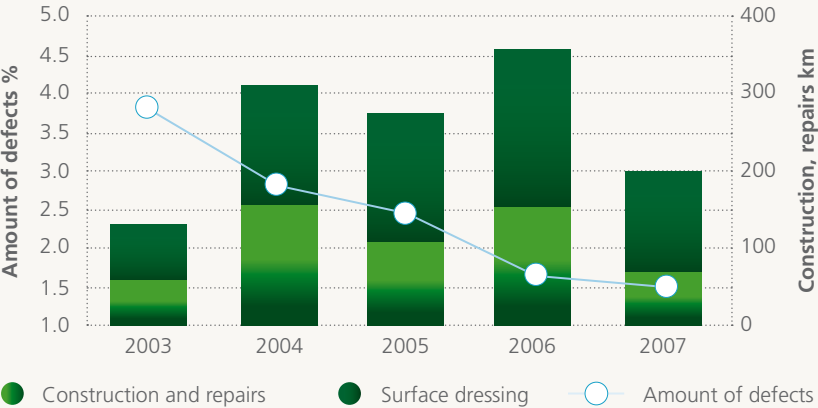
The average IRI value of the entire national roads network has improved in 2005-2007 as a result of a certain

increase in the funds allocated for the construction, repair and maintenance of pavements and the rational planning of repair objects. However, the improvement of the average evenness of basic roads and secondary roads is below the desirable level.

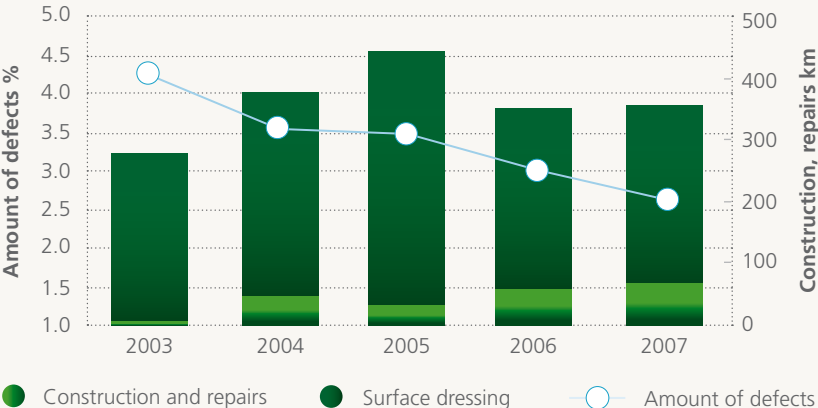


# Construction, repairs and surface dressing of pavements carried out in 2003-2007 and the change of the amount of defects proceeding from this

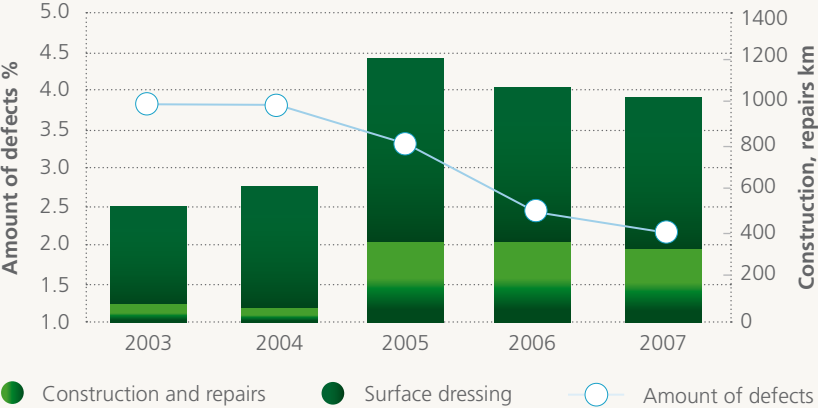
## Main roads



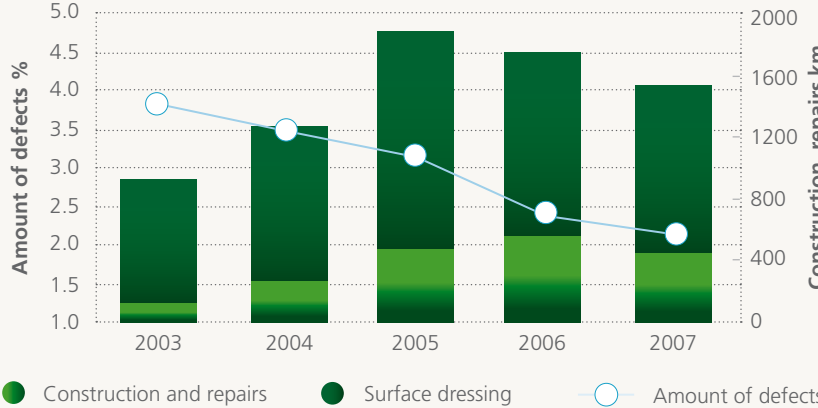
## Basic roads



## Secondary roads

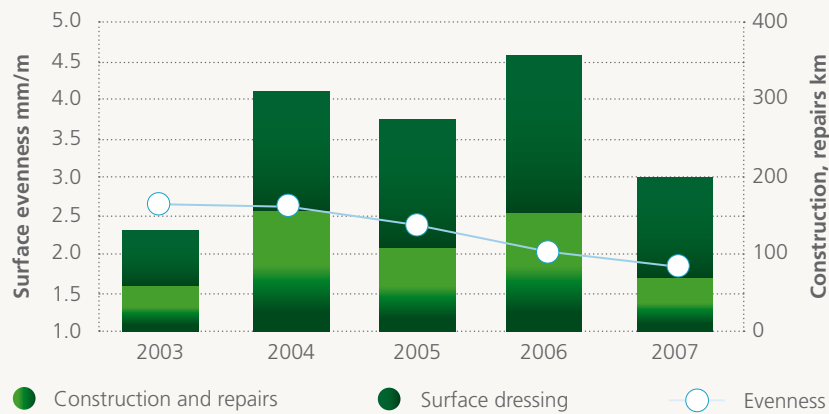


## Total



# Construction, repairs and surface dressing of pavements carried out in 2003-2007 and the change of the surface evenness proceeding from this

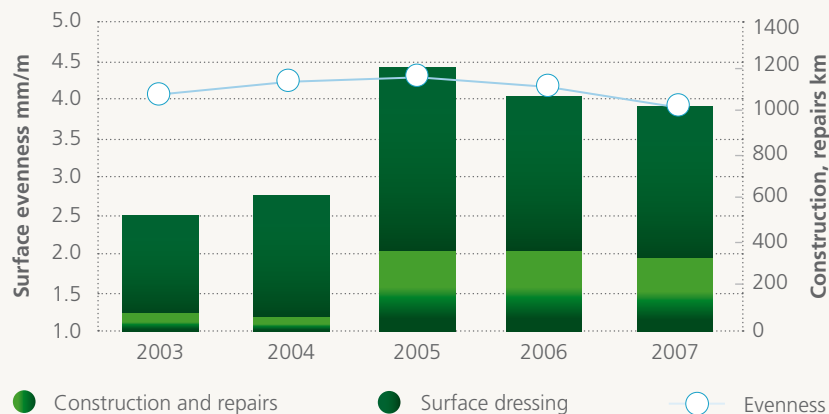
## Main roads



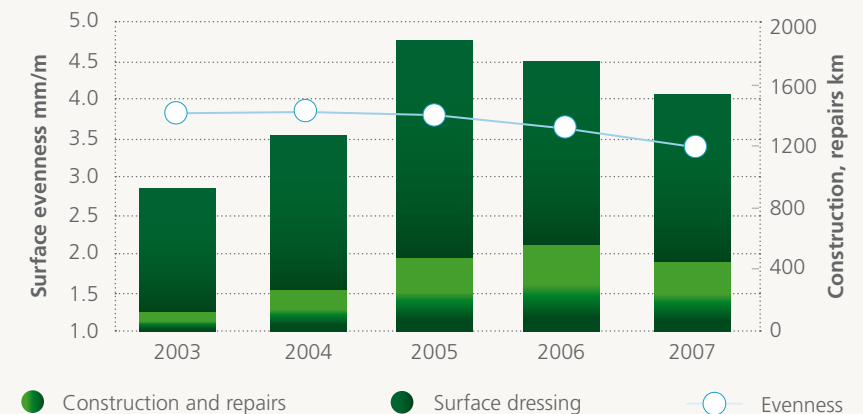
## Basic roads



## Secondary roads



## Total





income. Thus, the amount allocated to roads from fuel excise is the smaller the larger the proportion of foreign assistance.

Owner's income reflects the services the road offices render to other institutions, which in essence is turnover. The difference between income and expenses incurred in order to receive income forms a profit, which the road offices use as an additional resource in road management works and for acquiring road management machinery and equipment.

Following Estonia's accession to the European Union we may apply for support for the development of the environment and transport infrastructure from the Cohesion Fund (CF) of the European Union.

This Fund is used to finance major transport and environment infrastructure projects with the value starting from 10 million euros. In the transport sector, support may be applied in the amount of up to 85% of the project value for those roads, which belong to the trans-European transport network TEN-T.

The basis for the utilisation of foreign assistance is the strategic plan "Projects financed by EU in 2002-2007" approved by the European Commission and the Ministry of Finance. In case of the utilisation of foreign assistance it is necessary to guarantee co-financing from the state budget.

Road management costs are divided into operating costs and investments. Operating costs (personnel and

## { Road Management Funds

Pursuant to the Roads Act, from 2003 a sum equivalent to 75% of the fuel excise duty (with the exception of fuels with fiscal marking) and 25% of the excise duty imposed on fuels with fiscal marking is earmarked for road management purposes. The funding allocated for road management (national roads and local roads) is determined under the Roads Act. In 2007, 10% of the

excise amount allocated for roads was assigned to local roads.

Since 2003, the calculated amount of funding for national roads is upon preparing the state budget considered to include all sources of financing – public revenue, European Union assistance and owner's

## Funds allocated for road management and their dynamics in 2002 - 2007

Million kroons

Year	Budget		Utilization				
	Total	Including loans and assistance	Total	From this			
				Operating costs	Investments		
					State budget	Loans and assistance	Domestic co-finance
2002	1239	525	1116	464	248	404	
2003	1511	641	1209	463	393	353	
2004	1966	576	1434	537	639	258	
2005	2312	501	2284	607	1193	484	
2006	2661	521	2752	680	1531	541	
2007	2597	357	2812	756	1666	387	3

management costs) cover road maintenance works, the aim of which is to ensure the required condition of the roads and to create convenient and safe traffic conditions for road users all year round.

Operating costs also include the expenses of maintaining the road management system. Investment funds are used for the development of the road network (the construction of new roads and bridges, the reconstruction of existing roads and bridges, the construction of grade separations etc) and for road repairs, aimed at restoring the road quality that has dropped due to wear and tear on and damages to single road elements.

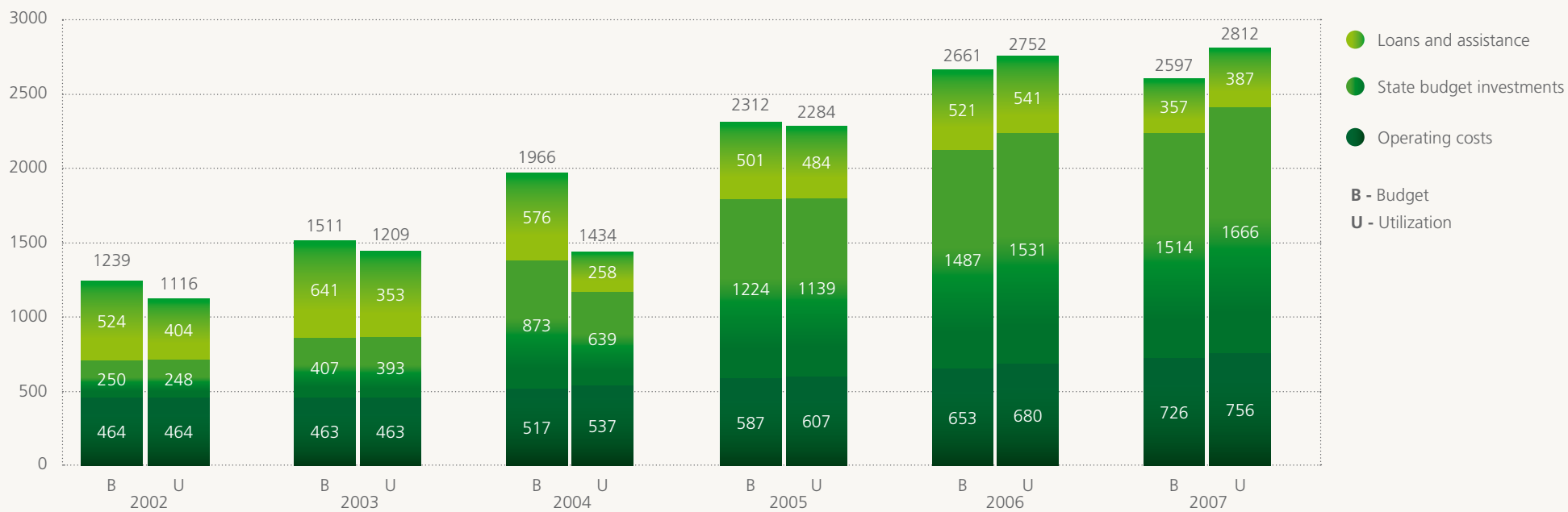
Together with the resources carried over from 2006 in the amount of 337.2 million kroons, the amounts available for road management totalled 2,934.6 million kroons in 2007, including owner's income 51.9 million kroons. The actual utilisation of funds (cash expense) was 2,812.8 million kroons, of which the European Union assistance formed 387.2 million kroons and owner's income 76.5 million kroons.

According to the principle of distributing road management resources, funds for financing large-scale road objects on TEN-T roads (with the engagement of EU assistance) and on other main roads were at the

disposal of the Road Administration in 2007. The repair of other main roads and main connecting roads was within the scope of competence of the road offices.

The funds allocated to the road offices from the 2007 budget for road management amounted to 1,981.2 million kroons (operating costs 618.6 million kroons, investments 1,327.5 million kroons, owner's income 32.7 million kroons and ad hoc allocation 2.4 million kroons), plus 67.8 million kroons carried over from 2006.

The total of 616.2 million kroons were allocated to the Road Administration from the 2007 budget (operating costs 77.8 million kroons, investments 537.1 million kroons and owner's income 1.3 million kroons), of which EU assistance formed 357.1 million kroons. This was complemented by the resources carried over from 2006 in the amount of 269.3 million kroons.



# Road management funds of 2007

thousand kroons

	Planned funds	Utilized funds (cash expenses)	%
<b>ASSIGNMENTS IN TOTAL</b>	<b>2,934,577.7</b>	<b>2,812,471.8</b>	<b>95.8</b>
<b>from the state budget of 2007</b>	<b>2,597,416.2</b>	<b>2,475,396.3</b>	<b>95.3</b>
<i>revenue of the state budget</i>	2,206,342.0	2,025,990.2	91.8
<i>owner's income</i>	34,000.0	58,564.1	172.2
<i>EU assistance</i>	357,074.2	387,231.2	108.4
<i>domestic co-finance</i>		3,610.8	
<b>- funds transferred from 2006</b>	<b>337,161.5</b>	<b>337,075.5</b>	<b>100.0</b>
<i>revenue of the state budget</i>	317,604.7	317,518.7	100.0
<i>owner's income</i>	17,883.1	17,883.1	100.0
<i>domestic co-finance</i>	1,673.7	1,673.7	100.0
<b>FOR THE EXPENDITURES IN TOTAL</b>	<b>2,934,577.7</b>	<b>2,812,471.8</b>	<b>95.8</b>
<b>1. In the use of ENRA state agencies in total</b>	<b>2,049,075.1</b>	<b>1,921,323.2</b>	<b>93.8</b>
1.1. From the state budget in total	1,981,223.2	1,853,557.3	93.6
- <i>staff costs</i>	137,806.0	137,806.0	100.0
- <i>administration costs</i>	480,746.5	480,537.6	100.0
- <i>investments</i>	1,327,543.4	1,175,057.1	88.5
<i>repairs of roads</i>	1,304,243.4	1,152,071.0	88.3
<i>acquisition of machinery and equipment</i>	22,550.0	22,303.0	98.9
<i>acquisition of information technology</i>	750.0	683.1	91.1
- <i>owner's income</i>	32,727.3	57,559.3	175.9
- <i>domestic co-finance</i>	2,400.0	2,597.3	108.2
1.1.1. State agencies in total	1,981,223.2	1,853,557.3	93.6
Road Administration of the Northern Region	531,152.5	493,961.6	93.0
Kagu Road Office	358,966.4	351,261.0	97.9
Pärnu Road Office	417,798.9	385,946.3	92.4
Saarte Road Office	169,524.8	148,719.8	87.7
Tartu Road Office	227,739.6	221,200.4	97.1
Viru Road Office	276,041.0	252,468.2	91.5
1.2. Funds transferred from 2006	67,851.9	67,765.9	99.9
<i>revenue of the state budget</i>	51,043.5	50,957.5	99.8
<i>owner's income</i>	16,808.4	16,808.4	100.0
<b>2. In the use of the ENRA's Central Office in total</b>	<b>885,502.6</b>	<b>891,148.6</b>	<b>100.6</b>
2.1. Investments in total	537,074.2	543,109.4	101.1
for the construction and reconstruction of roads	487,274.2	505,391.3	103.7
purchase of land	35,000.0	33,796.9	96.6
acquisition of IT software and hardware	1,700.0	1,572.7	92.5
acquisition of weather information system	11,800.0	1,048.5	8.9
acquisition of vehicles	1,300.0	1,300.0	100.0
2.2. Staff costs	37,585.4	37,585.4	100.0
2.3. Administration costs	39,940.7	39,819.4	99.7
2.4. Earmarking (membership fee)	320.0	320.0	100.0
2.5. Owner's income	1,272.7	1,004.8	79.0
2.6. Funds transferred from 2006	269,309.6	269,309.6	100.0
<i>for construction and reconstruction of roads</i>	259,404.7	259,404.7	100.0
<i>acquisition of IT software and hardware</i>	2,459.8	2,459.8	100.0
<i>owner's income for acquisition</i>	400.0	400.0	100.0
<i>for staff and administration costs</i>	3,231.5	3,231.5	100.0
<i>land consolidation</i>	2,139.9	2,139.9	100.0
- <i>domestic co-finance</i>	1,673.7	1,673.7	100.0

# Utilization of the funds allocated for the management of national roads

thousand kroons

	Funds in total			incl. Road Offices		
	Planned funds	Utilization	Share %	Planned funds	Utilization	Share %
<b>USED FUNDS IN TOTAL</b>	<b>2,934,577.7</b>	<b>2,809,963.1</b>	<b>100.0</b>	<b>2,049,075.1</b>	<b>1,914,373.0</b>	<b>100.0</b>
<b>1. ROADS</b>	<b>2,598,116.4</b>	<b>2,478,509.5</b>	<b>88.2</b>	<b>1,871,936.5</b>	<b>1,723,438.9</b>	<b>90.0</b>
<b>1.1. Road operations</b>	<b>525,544.9</b>	<b>506,253.9</b>	<b>18.0</b>	<b>525,544.9</b>	<b>506,253.9</b>	<b>26.4</b>
- summer service of paved roads		222,054.0			222,054.0	
- summer service of gravel roads		118,310.0			118,310.0	
- upkeep of road structures		5,829.6			5,829.6	
- winter service		160,060.3			160,060.3	
<b>1.2. Rehabilitation repairs</b>	<b>1,230,994</b>	<b>1,184,366</b>	<b>42.1</b>	<b>925,293</b>	<b>862,875</b>	<b>45.1</b>
- repairs of paved roads	942,271.0	870,288.1		655,330.4	567,320.1	
- surface re-dressing	202,208.9	211,619.1		184,208.9	193,856.6	
- repairs of gravel roads	48,169.9	60,165.5		48,169.9	60,165.5	
- repairs of road structures	38,343.7	42,293.1		37,583.7	41,533.1	
<b>1.3. Construction and reconstruction</b>	<b>841,578</b>	<b>787,890</b>	<b>28.0</b>	<b>421,099</b>	<b>354,310</b>	<b>18.5</b>
- roads	641,384.0	583,169.9		373,421.6	302,106.8	
- road structures	200,194.0	204,719.9		47,677.1	52,202.9	
<b>2. BUILDINGS</b>	<b>6,400.0</b>	<b>4,701.8</b>	<b>0.2</b>	<b>6,400.0</b>	<b>4,701.8</b>	<b>0.2</b>
- repairs in road master areas and central bureaus	1,700.0	3,083.7		1,700.0	3,083.7	
- construction and reconstruction	4,700.0	1,618.1		4,700.0	1,618.1	
<b>3. ACQUISITIONS</b>	<b>39,508.5</b>	<b>29,581.2</b>	<b>1.1</b>	<b>23,748.7</b>	<b>23,200.2</b>	<b>1.2</b>
- machinery and vehicles	24,031.9	23,682.4		22,831.9	22,482.4	
- information technology	15,076.6	5,487.8		616.8	406.8	
- inventories	400.0	411.0		300.0	311.0	
<b>4. PLANNING AND DESIGN</b>	<b>22,800.0</b>	<b>15,840.6</b>				
<b>5. LAND CONSOLIDATION</b>	<b>37,139.9</b>	<b>35,936.8</b>				
<b>6. TRAFFIC EDUCATION</b>	<b>10,363.0</b>	<b>10,385.1</b>		<b>1,298.0</b>	<b>1,297.6</b>	
<b>7. OTHER EXPENDITURE</b>	<b>165,880.7</b>	<b>156,159.1</b>		<b>93,670.1</b>	<b>84,965.0</b>	
(maintaining, designing, etc.)						
<b>8.FOR TRANSFER OF LAND FROM RESERVE</b>	<b>86.1</b>	<b>1.8</b>		<b>86.1</b>	<b>1.8</b>	
<b>FUND INTO STATE OWNERSHIP</b>						
<b>9. OWN FUNDS</b>	<b>51,883.1</b>	<b>76,447.2</b>		<b>49,535.7</b>	<b>74,367.7</b>	
<b>10. Domestic co-finance</b>	<b>2,400</b>	<b>2,400</b>		<b>2,400</b>	<b>2,400</b>	



## Road Management Works

In order to ensure safe and convenient traffic conditions for road users within the limits of the existing funds all the year round, road management works have been prioritised as follows:

- > road operations;
- > repairs of TEN-T roads – projects related to foreign assistance funds;
- > preservation of the existing pavements - surface dressing and repairs of gravel roads;
- > repairs of the asphalt pavements of basic roads and secondary roads and repairs of bridges;
- > construction of pavements on gravel roads.



## Road Operations

Road operations are conducted in accordance with the requirements for the state of roads approved with the regulation of the Minister of Economic Affairs and Communications (RTL1 2003, 1, 2; RTL 2005, 114, 1760). The regulation establishes requirements for the state of roads in terms of road surface, shoulders, road marking, side visibility and provision of public services and amenities and winter friction tests depending on the importance of the road and the traffic frequency.

The total of 503.3 million kroons (including 330.1 million kroons, or 65,2% by companies under road operations contracts) was used for road operations in 2007. Road operations costs per 1 road kilometre amounted to 30.7 thousand kroons (26.5 thousand kroons in 2006; 23.9 thousand kroons in 2005).

Road operations are performed by companies on 10,293.2 kilometres of roads (or 62.5% of the road network), which is divided between the companies as follows:

- > AS Teede REV-2, 3,281.1 km – 19,9%. Works are performed by subsidiaries OÜ Rapla Teed in Rapla County, AS Põlva Teed in Põlva County and OÜ Valga Teed in Valga County;
- > AS TALTER, 932,2 km – 5,7%. Works are performed by Virumaa department in Ida-Viru County,
- > AS TREF, 1,244.0 km – 7,5%. Works are performed by subsidiary OÜ Sakala Teed in Viljandi County;
- > AS ASPI, 2,127,9 km – 13,0%. Works are performed

by a department in Keila region in Harju County and by subsidiaries OÜ Hiiu Teed in Hiiu County and AS Järva Teed in Järva County;

- > AS Vooremaa Teed, 1,111.3 km – 6,7%. Performs works in Jõgeva County;
- > AS ÜLE, 1,596.7 km – 9,7%. Works are performed by the company in Kose and Kuusalu regions in Harju County and by subsidiary OÜ Lääne Teed in Lääne County.

New contracts were concluded with companies that won tenders in Lääne and Viljandi Counties (AS ÜLE and AS TREF, respectively) only at the beginning of 2008.

Road Offices carry out road operations on 6,172.2 kilometres of roads, which forms 37.5% of the road network, divided as follows:

- > Kagu Road Office, 1,248.5 km – 7.6%, in Võru County;
- > Pärnu Road Office, 1,432.8 km – 8.7%, in Pärnu County;
- > Saarte Road Office, 1,091.3 km – 6.6%, in Saare County;
- > Tartu Road Office, 1,251.4 km – 7.6%, in Tartu County;
- > Viru Road Office, 1,148.2 km – 7.0%, Lääne-Viru County.

The companies are the same as in the previous period, but the content of the road operations contracts is more thorough, with added preservation repairs and extended contract periods, which are now seven and eight years. The weather conditions allowed opening three ice roads operated by the Estonian Road Administration in winter/spring 2007: Haapsalu – Noarootsi, Rohuküla – Vormsi and Munalaiu – Kihnu in the operating area of the Pärnu Road Office.

The updating of the traffic count system was started in 2007. As the first step, a contract was concluded with AS Teede Tehnokeskus for the renovation of stationary counting points.

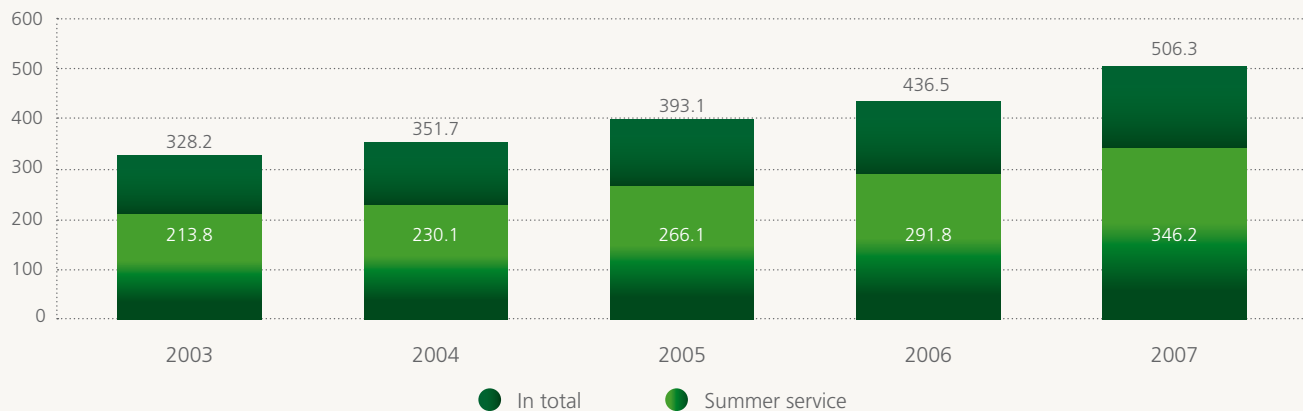
Draft requirements for road conditions were developed, scheduled to enter into force during the next winter period.

## Expenditures for road operations in 2003-2007

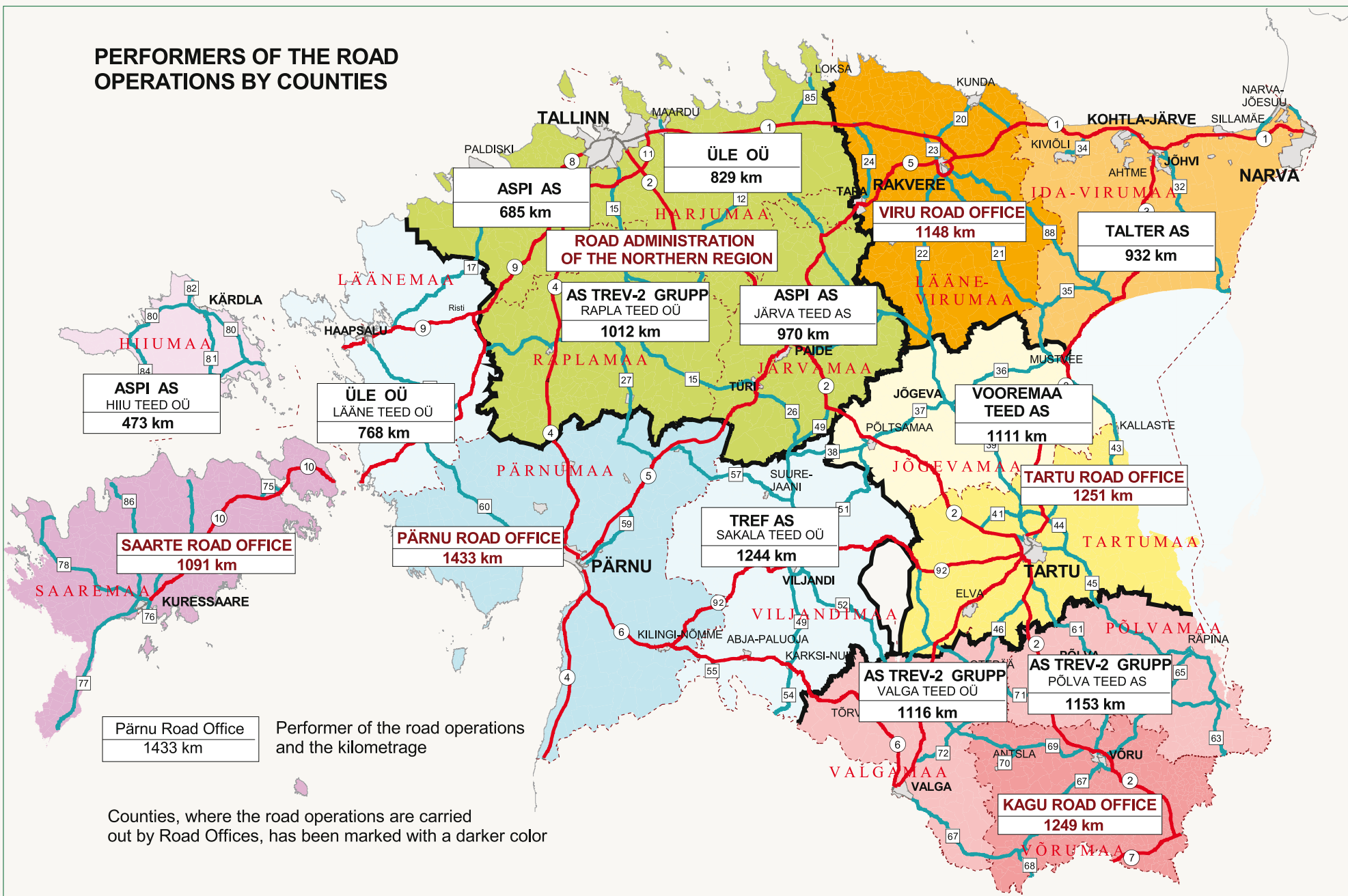
	Expenditures (million kroons)				
	2003	2004	2005	2006	2007
<b>In total</b>	<b>328.2</b>	<b>351.7</b>	<b>393.1</b>	<b>436.5</b>	<b>506.3</b>
Including:					
<b>Summer service</b>	<b>213.8</b>	<b>230.1</b>	<b>266.1</b>	<b>291.8</b>	<b>346.2</b>
million kroons	65.1	65.4	67.7	66.8	68.4
%					
<b>Winter service</b>	<b>114.4</b>	<b>121.6</b>	<b>127.0</b>	<b>144.7</b>	<b>160.1</b>
million kroons	34.9	34.6	32.3	33.2	31.6
%					

### Remark:

1. 65,2% or 330,1 million kroons from the total amount (506.3 million kroons) of road operations works in 2007 have been performed by contracts



# PERFORMERS OF THE ROAD OPERATIONS BY COUNTIES



Pärnu Road Office 1433 km Performer of the road operations and the kilometrage

Counties, where the road operations are carried out by Road Offices, has been marked with a darker color

# Repairs of TEN-T Roads

**The use of assistance from the European Union Cohesion Fund in the preparation and implementation of road construction projects.**

In 2007, the total of 455 million kroons was used for the preparation of construction projects, design and construction works on the E-roads and other main roads in the framework of the CF programme, with the CF assistance making up 349 million kroons (or 18%) of all the budgetary resources used for road construction and repairs.

The first stage of the construction of the Puurmani grade separated junction (incl. the new 68 m arch bridge across Pedja River) on the Tallinn-Tartu-Võru-Luhamaa Road was completed in autumn 2007. The reconstruction of the Vaida-Aruvalla road section at 20.0-26.6 km was started in the summer (cost 540 million kroons).

Within the framework of the Jõhvi-Tartu-Valga Road repair project, the construction of the new Tõlliste bridge was completed (started in 2006).

The preparation of technically complicated and large-scale road construction projects of the Kukruse-Jõhvi section at 155.9-163.2 km and the Vão-Maardu section at 9.0-17.4 km of the Tallinn-Narva Road continued in 2007 (incl. the transfer of land and the detailed plan of the Vão junction initiated by Tallinn City Government). The reconstruction of the Kukruse-Jõhvi road section is scheduled to start in 2008.

In the framework of CF assistance, engineering design works for the Tallinn ring road, the Tallinn-Paldiski Road,



the Pärnu and Tartu by-passes, the Tartu-Elva road section and the Aruvalla-Kose section of the Tallinn-Tartu Road were continued. The preparation of the preliminary project for the Kose-Mäo road section of the Tallinn-Tartu Road was started.

The preparation of the new EU structural funds programme for 2007-2013 started in 2007 and the description of the management and control systems of projects financed from the 2007-2013 structural funds of the Road Administration was completed.

In accordance with the 10 March 2006 Order of the Government of the Republic, preparations continued

for establishing a permanent connection to Saaremaa (a plan for the prospective organisation of the carriage of passengers and cargo across the Suur Strait and the strategic evaluation of the environmental impact arising from the implementation of that plan).

The Ministry of the Environment approved the programme for the strategic evaluation of environmental impact on 8 March 2007. A public procurement tender has been announced in order to find the contractor to prepare the plan and perform the strategic evaluation. The plan will be prepared in 2008.

# Repairs of Other Roads

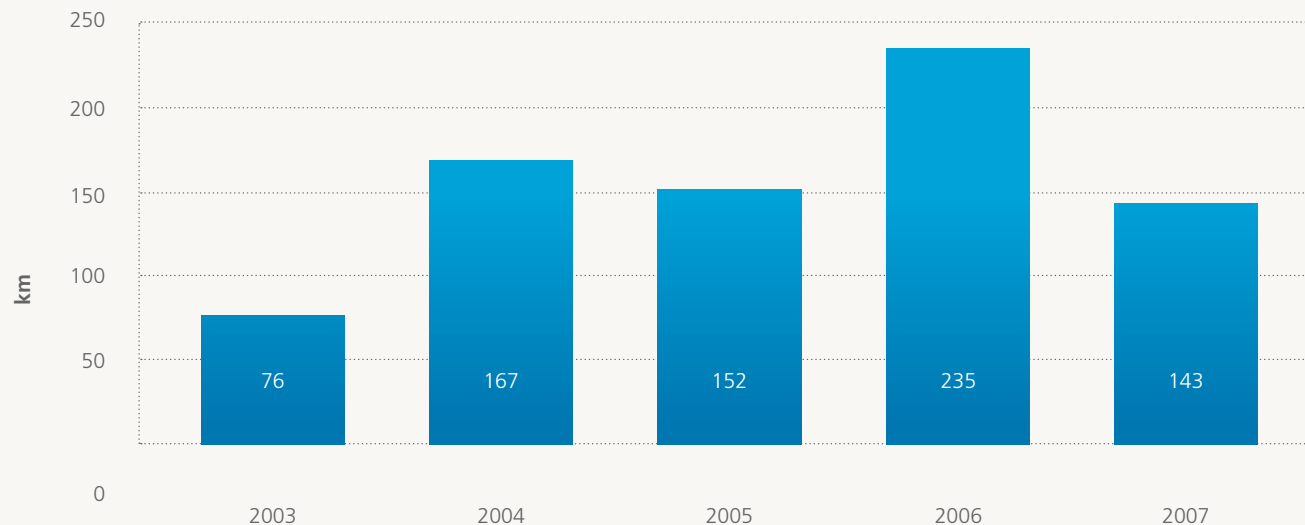
## The use of EU Regional Development Fund resources (ERDF projects)

The repairs of the pavement of the largest repair object co-financed with ERDF funds in Estonia so far – the Tartu-Tabivere section (at 0.0-5.13 km and 6.43-19.5 km) of the Tartu – Jõgeva – Aravete Road No 39 – were completed by 1 September 2007. The work involved the replacement of the entire pavement structure in the extent of 18.2 km. The existing wearing surface was milled, a 12-19 cm crushed aggregate sub-base was laid down and covered with an 8 cm pre-coated chippings layer, onto which a two-layered asphalt concrete was laid down (5 cm porous asphalt + 4 cm SMA).

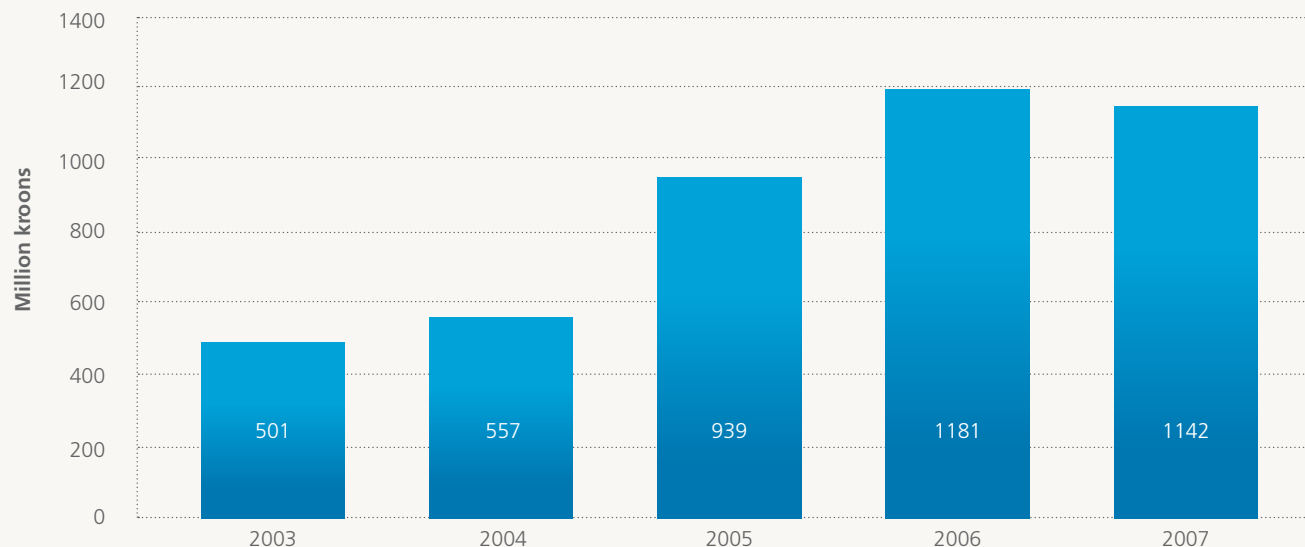
In order to improve traffic safety, 10.3 km of footways and cycleways were constructed in Tartu City and in and around the Võibla, Lääte and Tabivere settlements, and 150 new street lighting poles were installed on them. Particularly considering the interests of the students and teachers of the Lääte Upper Secondary School, a pedestrian tunnel was built at Lääte for the safe crossing of the road. As usual, this also included the installation of new traffic signs, direction signs, safety barriers and road marks. The final cost of the project amounted to 145,736,790.90 kroons, including 82,997,102.41 kroons (57%) from the state budget and 62,739,688.49 kroons (43%) from ERDF.

The crushed black rubble extracted upon removing the old pavement was used to build 40 km of light surfaces for the gravel roads in the area.

## Repairs of pavements: Volumes



## Repairs of pavements: Expenditures





## { Bridges

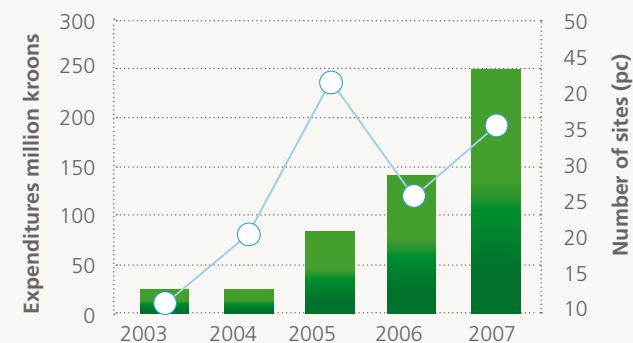
2007 saw the completion of the review and evaluation of all the bridges/viaducts on national roads (the total of 920, hereinafter: bridges) on the basis of the Bridge Management System (BMS) that AS Teede Tehnokeskus started already in 2004. The aim of the system used is to obtain a detailed overview of the condition of all the bridges managed by the Road Administration and of the need for investments. In the future the review will be conducted every three years and county by county.

In 2007, 204.7 million kroons worth of construction works and 42.3 million kroons worth of repairs were

performed on the bridges on national roads. The most remarkable ones of all the bridges construction projects were the Puurmani traffic junction and the new Tölliste.

The Puurmani traffic junction was supplemented by two new facilities – a formed concrete arch bridge (Photo 1) and a prefabricated concrete beam viaduct (Photo 2). The Tölliste bridge (Photo 3) has been built as a composite structure, where the main beams are made of steel and the bridge deck is made of reinforced concrete.

## Bridges



# Surface Re-dressing of Pavements and Repairs on Gravel Roads

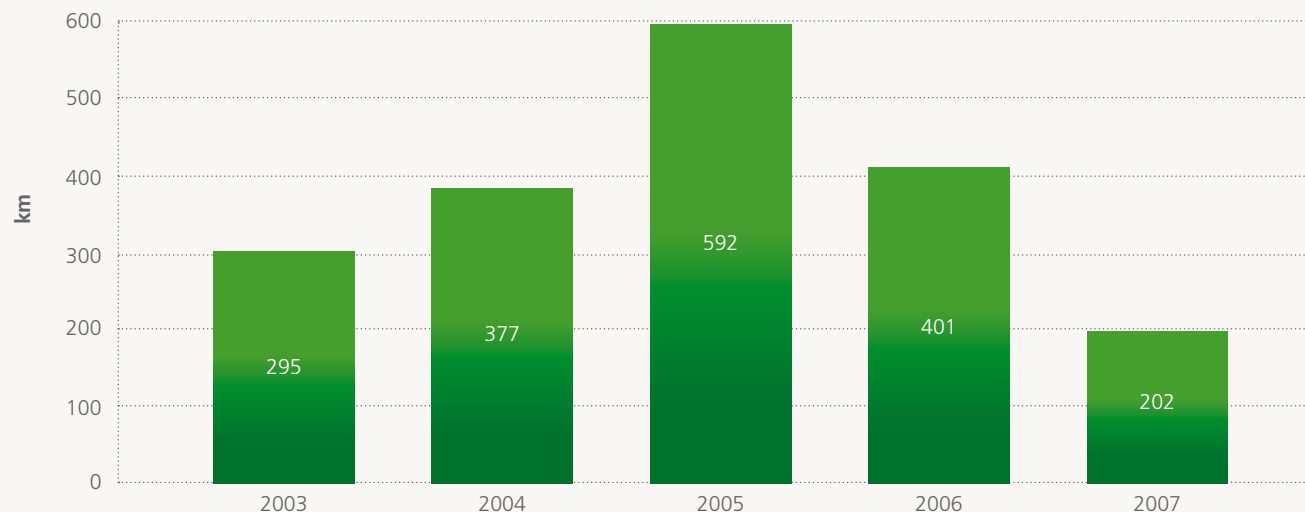
Although more funds were allocated for surface dressing and the repairs of gravel roads from the 2007 state budget, less work was performed compared to the previous year, as the increase of the prices of materials drove up the unit cost.

Surface dressing was carried out on the total of 1,108.9 km of pavements.

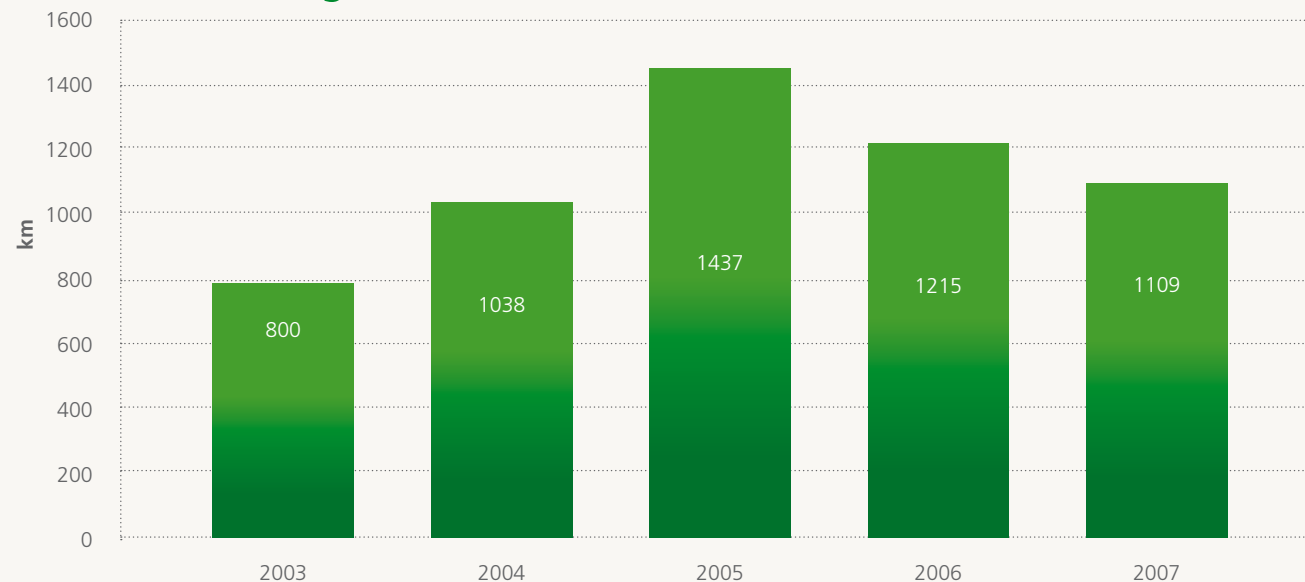
The total of 202.4 km of gravel roads were repaired. The scope of repairs performed was rather modest by kilometres, but a lot more extensive by volume.

The completion of some objects was postponed to 2008.

## Repairs of gravel roads 2003-2007



## Surface dressing 2003-2007



## Pavements on Gravel Roads

The total of 314.7 km (i.e. 19 km less than in 2006) of road sections were paved on roads between settlements and other roads with considerable traffic load. The focus in paving works was on secondary roads and less on basic roads. Light and cheap solutions were mostly used (crushed black rubble obtained from repair works and double surface dressing of gravel roads).

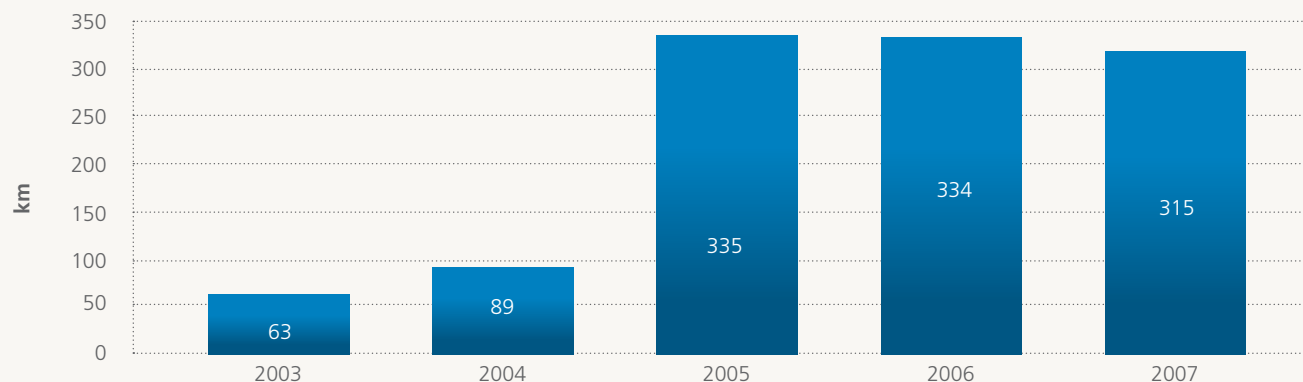
5.2 km of the largest object, the 18.6km section of the basic road of Rakvere – Rannapungerja, the construction of which started already in 2005, was completed in 2007 and the work continues. A 16.1 km section of the Kilingi-Nõmme – Tali – Laiksaare Road in Pärnu County was covered with asphalt concrete. 8.9 km of bitumen-gravel pavement was constructed on the Audru-Tõstamaa-Nurmsi Road. The largest crushed black rubble construction in Harju County was the 11.9 km Kolu-Habaja section.

In total, 30.5 km of asphalt concrete pavement, 200.5 km of mixed-in-site pavements (incl. 162.0 km of crushed black rubble pavement) and 83.7 km of double surface dressing were laid down.

The majority of crushed black rubble pavements were laid down in Tartu, Jõgeva, Järva and Harju counties, near major repair objects on the Tallinn – Tartu – Võru – Luhamaa Road and the Tartu – Jõgeva – Aravete Road.

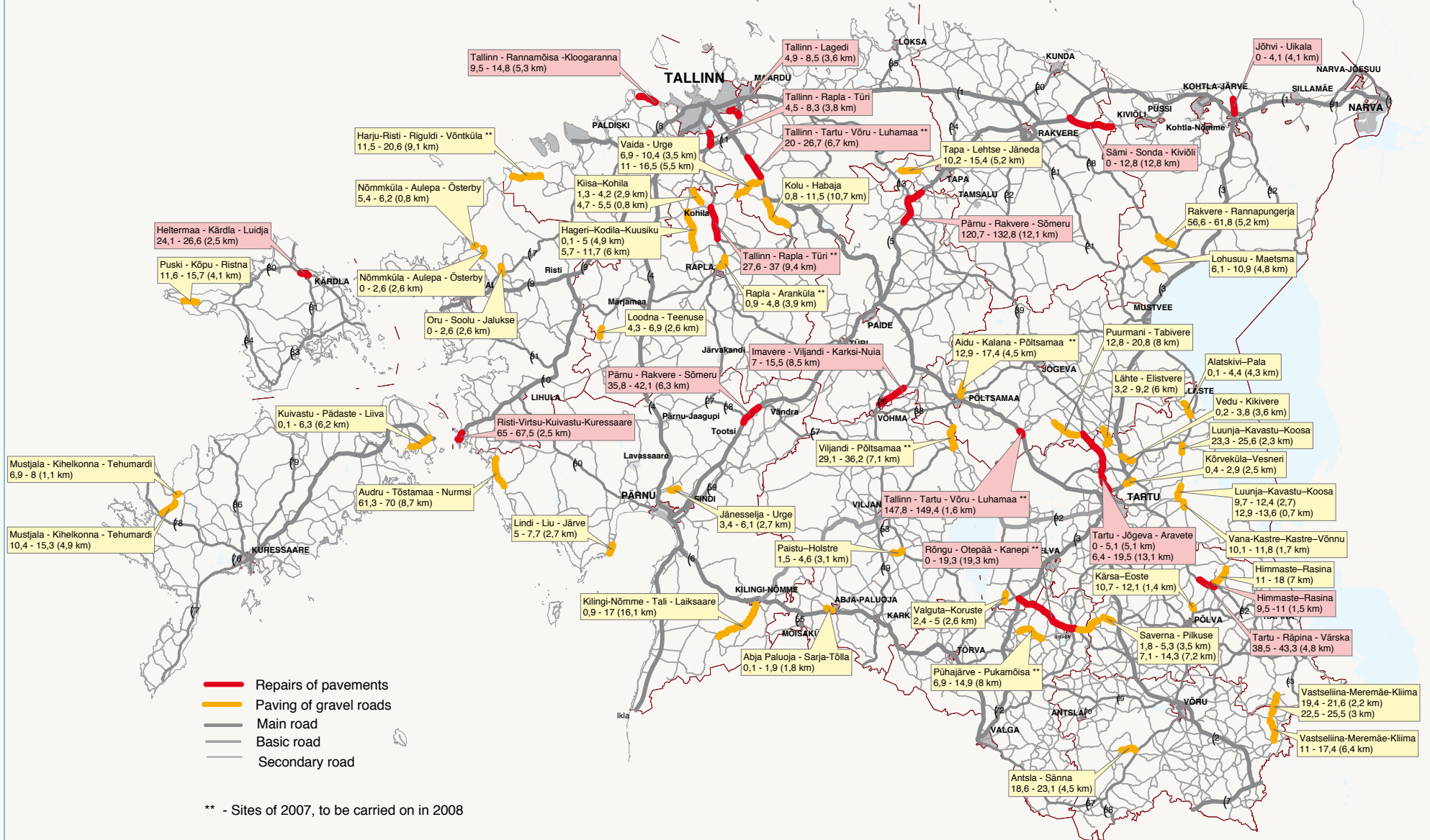


### Paving of gravel roads





# SECTIONS OF CONSTRUCTION AND REPAIRS IN 2007



## Road construction, repairs and operations on national roads in total

Activities	Unit	Volume in total	Including		
			Main roads	Basic roads	Secondary roads
<b>1. Road construction</b>	<b>th.of kroons</b>	<b>583,169.8</b>	<b>313,594.7</b>	<b>43,567.4</b>	<b>226,007.7</b>
Including:					
<b>a) Construction of paved roads</b>	<b>th.of kroons</b>	<b>581,756.8</b>	<b>313,594.7</b>	<b>43,567.4</b>	<b>224,594.7</b>
	km	319.7	-	7.4	312.3
- asphalt concrete	th.of kroons	434,324.7	313,594.7	40,927.8	79,802.2
	km	34.6	-	5.2	29.4
- mix in plant and place	th.of kroons	109,120.3		2,011.9	107,108.4
	km	200.5	-	-	200.5
- surface dressing of gravel roads	th.of kroons	38,311.8	-	627.7	37,684.1
	km	84.6	-	2.2	82.4
<b>b) Construction of gravel roads</b>	<b>th.of kroons</b>	<b>1,413.0</b>	<b>-</b>	<b>-</b>	<b>1,413.0</b>
	km	10.9	-	-	-
<b>2. Construction and reconstruction of bridges</b>	<b>th.of kroons</b>	<b>204,719.9</b>	<b>151,635.6</b>	<b>9,074.9</b>	<b>44,009.4</b>
- reconstructed bridges	pc/m	20/445,8	4/145,9	3/54,4	13/245,5
- reconstructed overpasses	pc/m	3/123,0	2/103	1/20	-
<b>3. Repairs of roads</b>	<b>th.of kroons</b>	<b>1,142,072.8</b>	<b>301,366.5</b>	<b>525,690.5</b>	<b>315,015.8</b>
<b>a) repairs of pavements</b>	<b>th.of kroons</b>	<b>870,288.2</b>	<b>267,563.3</b>	<b>457,294.6</b>	<b>145,430.3</b>
	km	143.0	67.7	59.9	15.4
- asphalt concrete overlays	th.of kroons	834,477.7	267,563.3	433,782.1	133,132.3
	km	130.3	67.7	57.2	5.4
- mix in plant and place (bitumen-gravel, stabilization, macadam)	th.of kroons	35,810.5		23,512.5	12,298.0
	km	12.7	-	2.7	10.0
<b>b) repairs of gravel roads</b>	<b>th.of kroons</b>	<b>60,165.6</b>	<b>-</b>	<b>1,042.7</b>	<b>59,122.9</b>
	km		-	-	202.4
<b>c) surface dressing</b>	<b>th.of kroons</b>	<b>211,619.0</b>	<b>33,803.2</b>	<b>67,353.2</b>	<b>110,462.6</b>
	km	1108.8	123.4	294.0	691.4
<b>4. Repairs of bridges</b>	<b>th.of kroons</b>	<b>42,293.1</b>	<b>3,782.0</b>	<b>11,710.2</b>	<b>26,800.9</b>
- repaired bridges	pc/m	15/286,6	1/11,7	3/32	11/242,9
- repaired overpasses	pc/m	1/110,9	1/110,9	-	-
<b>5. Road operations</b>	<b>th.of kroons</b>	<b>506,253.9</b>	<b>135,253.0</b>	<b>114,654.8</b>	<b>256,346.1</b>
- summer service	th.of kroons	346,193.7	82,514.9	72,080.4	191,598.4
- winter service	th.of kroons	160,060.2	52,738.1	42,574.4	64,747.7
<b>Road construction, repairs and operations in total</b>	<b>th.of kroons</b>	<b>2,478,509.5</b>	<b>905,631.8</b>	<b>704,697.8</b>	<b>868,179.9</b>
<b>Repairs of buildings</b>	<b>th.of kroons</b>	<b>4,701.8</b>	<b>219.3</b>	<b>2,115.2</b>	<b>2,367.3</b>
<b>Construction, repairs and operations in total</b>	<b>th.of kroons</b>	<b>2,483,211.3</b>	<b>905,851.1</b>	<b>706,813.0</b>	<b>870,547.2</b>

## Road construction, repairs and operations in 2003-2007

Activities	Expenditures thousands of kroons					Construction and repairs of roads - km bridges - pc/m				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
<b>1.Road construction</b>	<b>129,720</b>	<b>118,254</b>	<b>297,031</b>	<b>419,994</b>	<b>583,170</b>					
<b>a) construction of paved roads</b>	<b>117,268</b>	<b>129,631</b>	<b>296,920</b>	<b>416,416</b>	<b>581,757</b>	<b>34.9</b>	<b>63.2</b>	<b>334.9</b>	<b>333.9</b>	<b>319.7</b>
From this by the types of surfaces:										
- asphalt concrete	111,980	34,199	146,468	213,453	434,325	14.8	3.3	28.4	20.5	34.6
- mix in plant an place	5,769	70,605	96,648	143,481	109,120	7.5	48.9	181.4	208.1	200.5
- surface dressing of gravel roads	11,882	13,450	53,804	59,482	38,312	40.9	37.2	125.1	105.3	84.6
<b>b) construction of gravel roads</b>	<b>89</b>		<b>111</b>	<b>3,578</b>	<b>1,413</b>	-	-	-	<b>10.9</b>	
<b>2.Construction and reconstruction of bridges</b>	<b>19,151</b>	<b>19,600</b>	<b>43,760</b>	<b>95,494</b>	<b>204,720</b>					
- reconstructed bridges						6/90.5	15/380.2	10/209.6	11/166.2	20/445.8
- reconstructed overpasses									3/15.0	3/123
<b>3. Repairs of roads</b>	<b>598,958</b>	<b>741,320</b>	<b>1,210,429</b>	<b>1,476,715</b>	<b>1,142,073</b>					
<b>a) repairs of pavements</b>	<b>501,192</b>	<b>557,094</b>	<b>939,337</b>	<b>1,180,620</b>	<b>870,288</b>	<b>76.0</b>	<b>167.3</b>	<b>152.0</b>	<b>235.2</b>	<b>143.0</b>
- asphalt concrete	495,554	547,904	925,696	1,177,326	834,478	75.0	167.3	146.1	235.0	130.3
- mix in plant and place	5,638	9,190	13,641	3,294	35,810	1.0		5.9	0.2	12.7
<b>b) repairs of gravel roads</b>	<b>21,045</b>	<b>75,637</b>	<b>98,717</b>	<b>76,301</b>	<b>60,166</b>	<b>294.5</b>	<b>377.4</b>	<b>591.8</b>	<b>401.2</b>	<b>202.4</b>
<b>c) surface dressing</b>	<b>76,721</b>	<b>108,589</b>	<b>172,375</b>	<b>219,794</b>	<b>211,619</b>	<b>799.9</b>	<b>1038.1</b>	<b>1436.7</b>	<b>1215.0</b>	<b>1108.8</b>
<b>4.Repairs of bridges and overpasses</b>	<b>4,395</b>	<b>3,501</b>	<b>39,350</b>	<b>44,088</b>	<b>42,293</b>					
- repaired bridges						5/127.0	6/95.7	21/587.4	12/536.5	15/286.6
- repaired overpasses								11/432.4		1/111
<b>5.Road operations</b>	<b>328,187</b>	<b>351,680</b>	<b>393,051</b>	<b>436,468</b>	<b>506,254</b>					
- summer service	213,812	230,071	266,093	291,748	346,194					
- winter service	114,375	121,609	126,958	144,720	160,060					
<b>Construction, repairs and operations in total</b>	<b>1,080,412</b>	<b>1,234,355</b>	<b>1,983,621</b>	<b>2,472,759</b>	<b>2,478,510</b>					

# Environmental Measures

The Road Administration evaluates the noise background emanating from the roads and affecting the surrounding residential areas in the process of evaluating the environmental impact of all of its major construction and repair projects. The environmental impact evaluation report addresses both the existing and the potential noise situation and offers alleviating measures to improve noise levels exceeding the allowed norms. This principle was first applied to build a 65 metre long and 3 metre high concrete noise barrier screen to protect the Kivita farm in Patika village on the Tallinn-Tartu-Võru-Luhamaa Road in 1988. Thereafter noise barrier screens were built in 2005 in three places on the Maardu-Valgejõe section (17.4-62.4 km) of the Tallinn Narva Road: at Jõelähtme (229 m), Kiiu (298 m) and Kuusalu (395 m). This was the first more extensive implementation of anti-noise measures in Estonia.

In 2007, the Pildiküla noise barrier wall on the Tallinn-Tartu-Võru-Luhamaa Road in Rae municipality was completed as a separate noise alleviation project. The need for the Pildiküla noise barrier wall arose due to the traffic noise spreading to the Pildiküla residential area from the high embankment exceeding the allowed norms. In order to determine the noise situation, EstKONSULT OÜ prepared a noise situation evaluation and noise barrier wall project in 2005. The noise was modelled in the study both for describing the existing levels and in consideration of the estimated traffic volumes in 2035. Noise barrier wall models were built for both scenarios.

The construction of the prefabricated reinforced concrete noise barrier wall on formed concrete foundations started in 2006 and was finally completed in April 2007. The noise barrier wall is 504 m long and stands 3 metres above the road surface. The final construction costs amounted to 6.1 million kroons.



*The Pildiküla noise barrier wall, completed in 2007.*

In 2007, work was started to rebuild the Vaida-Aruvalla sections (at 20.0-26.2 km) of the Tallinn-Tartu-Võru-Luhamaa Road into a 4-lane road. The project also includes extensive measures to solve the noise problems affecting the settlement of Vaida – the total of 2,412 metres of noise barrier screen standing on special earthwork will be erected near the rebuilt road section.

In the coming years, a number of construction and repair projects will be implemented on main roads and all of these projects include noise alleviation measures in the form of noise barriers, screens or earthworks.

In addition, the Road Administration's strategy approved in 2007 includes an objective to erect noise barrier screens on roads with high traffic volumes as stand-alone projects at the pace of 1 object a year. These should alleviate the situation in places where no road construction and repair are planned in the nearest future.

The Road Administration is also committed to fulfil the obligations established for it under the Ambient Air Protection Act in preparing a strategic map of ambient air and plan of action for reduction of ambient noise.



## About traffic count

In order to learn about the number of cars driving on roads and the content of traffic, Road Management arranges oftentimes traffic counts. On the basis of traffic counts it is possible to prepare long-term road building and renovation plans and determine the necessary service level for every single road. Also, the information of traffic count is helpful when applying various road safety measures. For example, a comprehensive analysis on the amount and content of traffic on Tallinn-Tartu road preceded the limitation of long heavy goods vehicles on the mentioned road validated on Friday.

In 2007 traffic count was carried out by AS Technical Centre of Estonian Roads on main roads and basic roads and by road engineering, AS Teekaru or AS Technical Centre of Estonian Roads on secondary roads according to the region.

Traffic counts are carried out by stationary counting devices installed in the road cover, about half a hundred

in number, and by portable counting devices (hose detectors). Stationary counting devices count the traffic continuously; portable counting devices are installed on roads for two to five days and nights. With portable devices traffic is counted on the same road section once in every three years. It might seem as seldom, but it is sufficient to find precise enough traffic flows section by section for all national roads on the basis of the data of stationary points and the system of coefficients worked out by the researchers of Tallinn University of Technology.

Counters classify the vehicles into different types, theoretically a very wide selection of types can be used, but while making conclusions the vehicles are divided into three types: passenger cars/vans, lorries/busses and road trains.

In comparison with 2006, traffic flow on main roads increased 12.8% which is the largest increase in the

last years. On basic roads, where no hose counting was carried out in 2007, the estimated increase is 9.4% and in secondary roads accordingly 10.3%.

The „prize“ of the road section of most traffic, belongs in 2007 continuously to the road section on Tallinn-Narva road starting from the border of Tallinn and stretching to Saha-Loo with the average annual traffic flow of 36,433 vehicles per 24 hours.

As the system of traffic counting devices that has been used so far has aged in the last ten years both morally and physically, it will be renewed in the coming years. The existing counting devices will be modernized and new contemporary ones will be installed, which will help gather information through computers. The devices themselves will enable classification of a wider selection of vehicles; the data will be more precise. With the increasing number of devices it will also become possible to apply traffic modelling.

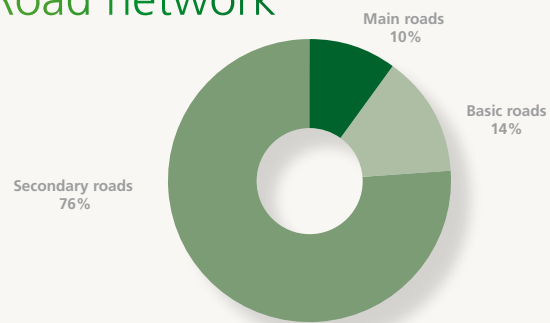
# { Road traffic

## Average traffic flow and overall traffic performance on national roads in 1998-2007

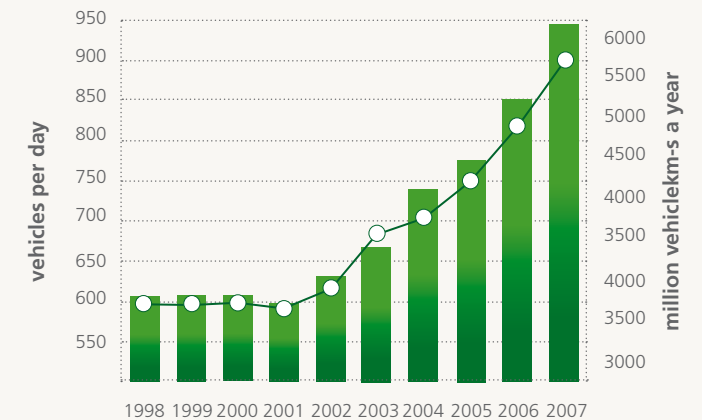
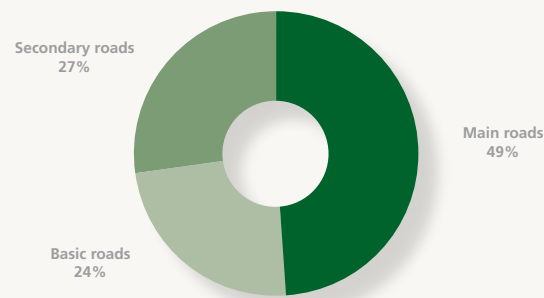
Year	Traffic flow (vehicles per day)				Performance
	Main roads	Basic roads	Secondary roads	National roads on average	Million vehicle km-s a year
1998	2,811	1,187	254	606	3,638
1999	2,866	1,142	253	608	3,644
2000	2,965	1,096	251	608	3,648
2001	2,888	1,082	237	598	3,593
2002	3,062	1,182	241	632	3,790
2003	3,229	1,156	250	669	4,219
2004	3,534	1,238	277	740	4,372
2005	3,808	1,279	291	776	4,663
2006	4,190	1,440	303	850	5,113
2007	4,741	1,589	334	945	5,676

## Traffic performance on national roads in 2007

### Road network



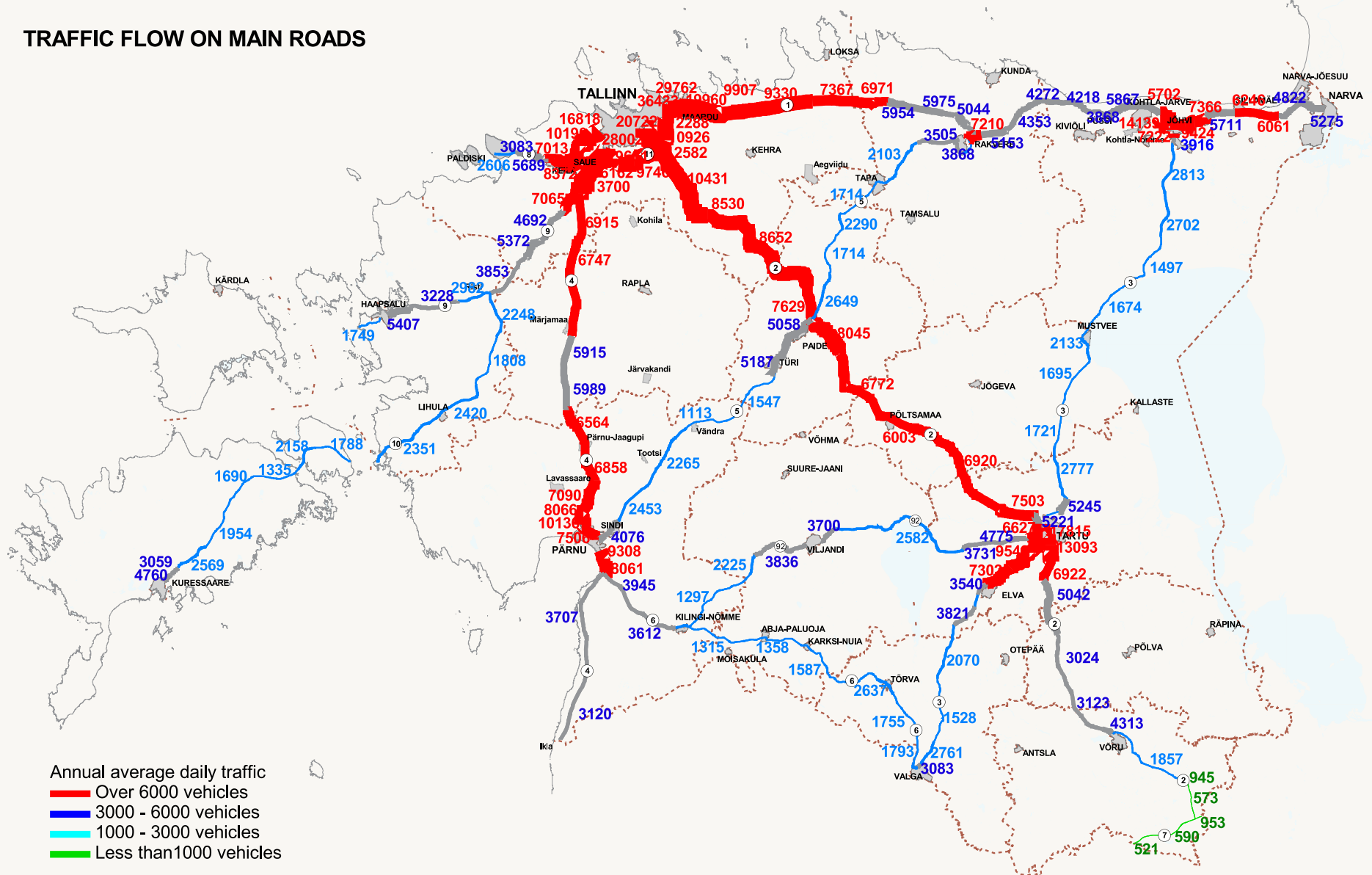
### Traffic performance



## Number of vehicles

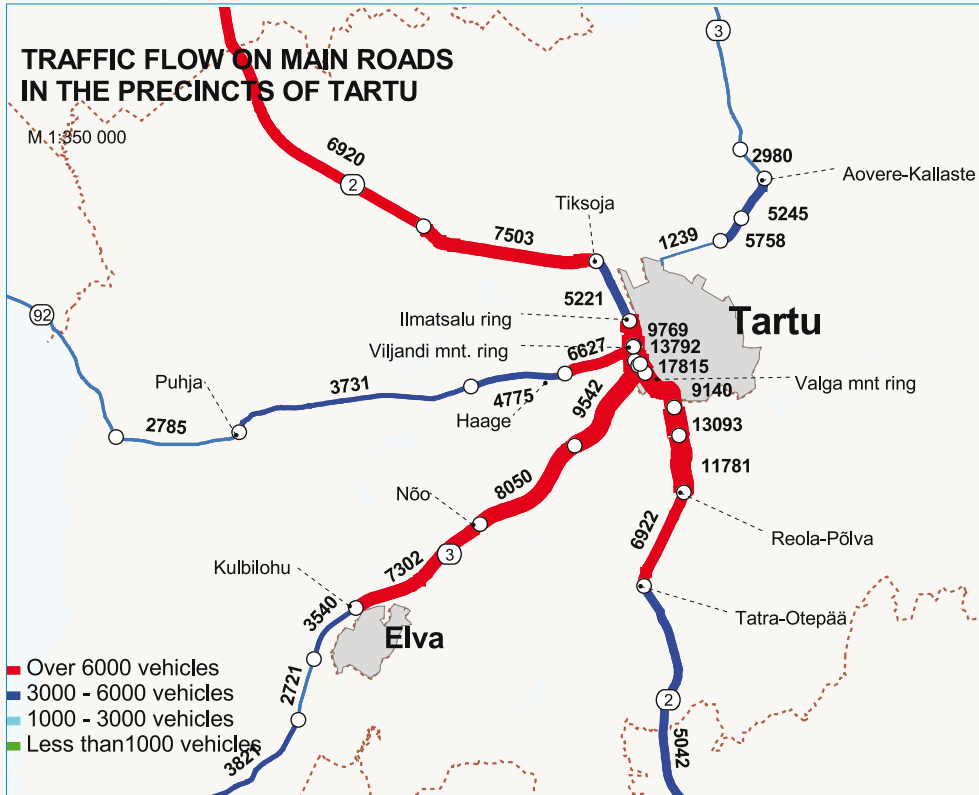
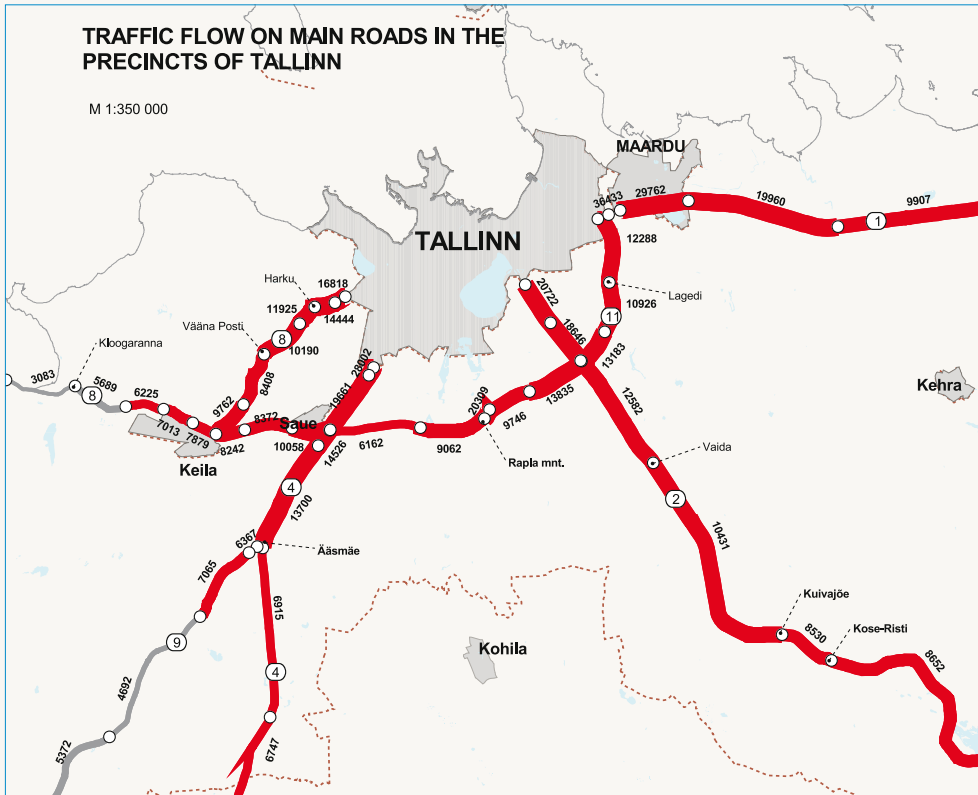
Year	Number in total	Including			Vehicles per 1000 inhabitants	
		Lorries	Buses	Cars	Vehicles in total	Cars
1991	328,591	58,877	8,628	261,086	211	168
1992	354,606	62,728	8,409	283,469	235	188
1993	389,059	62,971	8,663	317,425	263	215
1994	440,198	61,124	6,918	372,156	304	257
1995	456,051	65,598	7,009	383,444	320	269
1996	484,731	71,304	6,829	406,598	345	289
1997	510,740	76,605	6,457	427,678	367	307
1998	537,877	80,617	6,306	450,954	390	327
1999	545,926	81,030	6,196	458,700	398	334
2000	552,061	82,119	6,059	463,883	404	339
2001	493,349	80,535	5,542	407,272	362	299
2002	486,182	80,179	5,306	400,697	359	295
2003	522,776	83,430	5,364	433,982	387	321
2004	562,199	85,732	5,284	471,183	417	350
2005	585,175	86,201	5,194	493,780	435	367
2006	652,250	92,860	5,378	554,012	486	413
2007	608,356	80,280	4,310	523,766	454	391

# TRAFFIC FLOW ON MAIN ROADS



Annual average daily traffic  
 Over 6000 vehicles  
 3000 - 6000 vehicles  
 1000 - 3000 vehicles  
 Less than 1000 vehicles





# Traffic accidents

For eight years the activities of the Estonian Road Administration in the field of traffic safety management have been conducted in accordance with the Estonian National Traffic Safety Programme and its priorities until 2015.

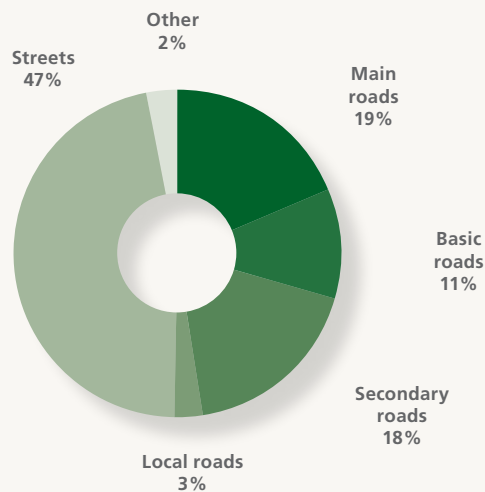
When in 2003-2005 we could state that the number of traffic fatalities remained at the lowest level in the last decades, then in the last two years the number of traffic victims exceeded the limits fixed in the National Traffic Safety Programme (the 2007 expected limit was 189 fatalities).

In total, 2,437 (2,585 in 2006) traffic accidents with casualties were registered in 2007, with 196 (204) people killed and 3,247 (3,508) people injured.

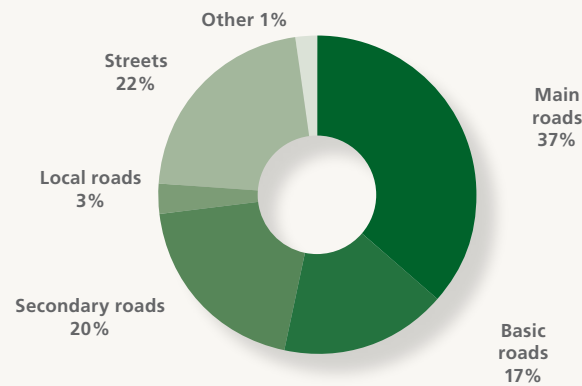
In year-on-year comparison, the number of motor vehicles on our roads grew by over 80 thousand and the data indicate a continued rapid increase of traffic volumes, particularly on the main roads.

While the general car fleet run on Estonian roads has grown by 46% over the past 10 years, the annual growth in the past few years is already at the level of 8-10%.

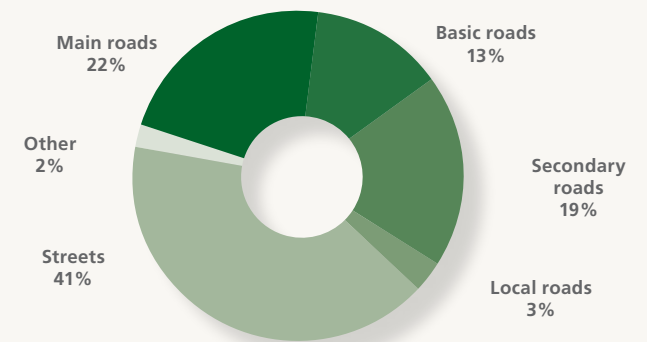
## Traffic accidents



## Fatalities



## Casualties





## { Children and young people in traffic

211 (214 in 2006) up to 15-year-old pedestrians and drivers of vehicles were involved in traffic accidents, 127 (126 in 2006) of them caused the accidents themselves. 4 (3 in 2006) children were killed and 192 (196 in 2006) children were injured as independent road users.

Nearly three fourths of all the traffic accidents involving children occurred in towns, 30% in Tallinn. In smaller settlements and on roads outside settlements 2/3 of the children involved in accidents are driving a vehicle, mainly bicycles or mopeds. The number of cyclists,

moped drivers, motorbike drivers and car drivers who are underage for participating in traffic are increasingly more often involved in traffic accidents.

In 2007, the total of 28 children and young people under the age of 15 were involved in traffic accidents, with the youngest ones being 5-year-old cyclists.

It is worth noting that of the 7 drivers aged under 16 (the youngest 13 years old) 5 had been consuming alcohol before the accident. The total of 8 (8 in 2006) children

under the age of 15 were killed and 381 (404) injured in traffic accidents. The traffic safety of children in their early teens has considerably deteriorated over the past 10 years. While in 1997, 7 of every 10,000 kids aged 10-14 were involved in traffic accidents as independent road users, then in 2007 the figure had risen to 15.

Compared to 2002, the number of up to 25-year-old young car drivers involved in accidents had grown by ~40%. If we added young motorbike drivers, this would mean that every third traffic accident with casualties and

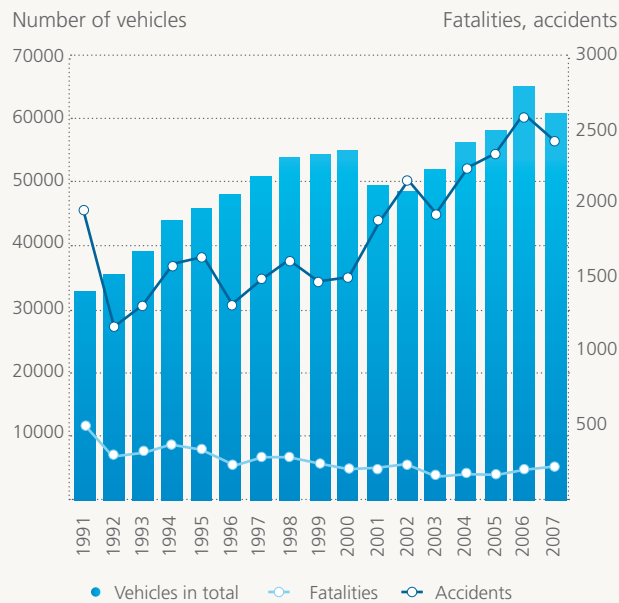
## Number of vehicles, traffic accidents and fatalities

every third fatal accident involves an up to 25-year-old motor vehicle driver, while young people aged 15...24 make up only 15% of our total population.

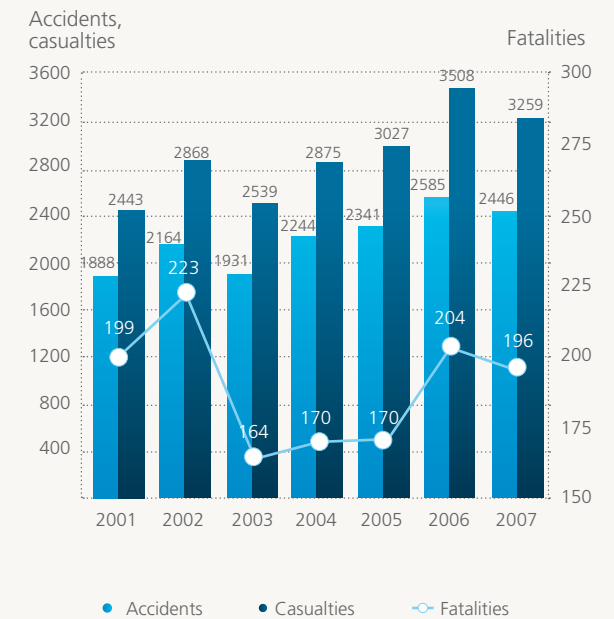
It is harder for young and inexperienced drivers to choose the suitable driving speed and to adequately assess their abilities, especially in road traffic and winter conditions.

Compared to other age groups, it is namely the young drivers and passengers, especially teenagers, who fasten their seatbelt in passenger cars considerably less frequently despite their lack of driving experience.

In total, 126 (116 in 2006) people were killed and 2,101 (2,343 in 2006) injured in passenger cars or vans, and 32 (26 of the former and 1,114 (1,097) of the latter had fastened their seatbelts as required.

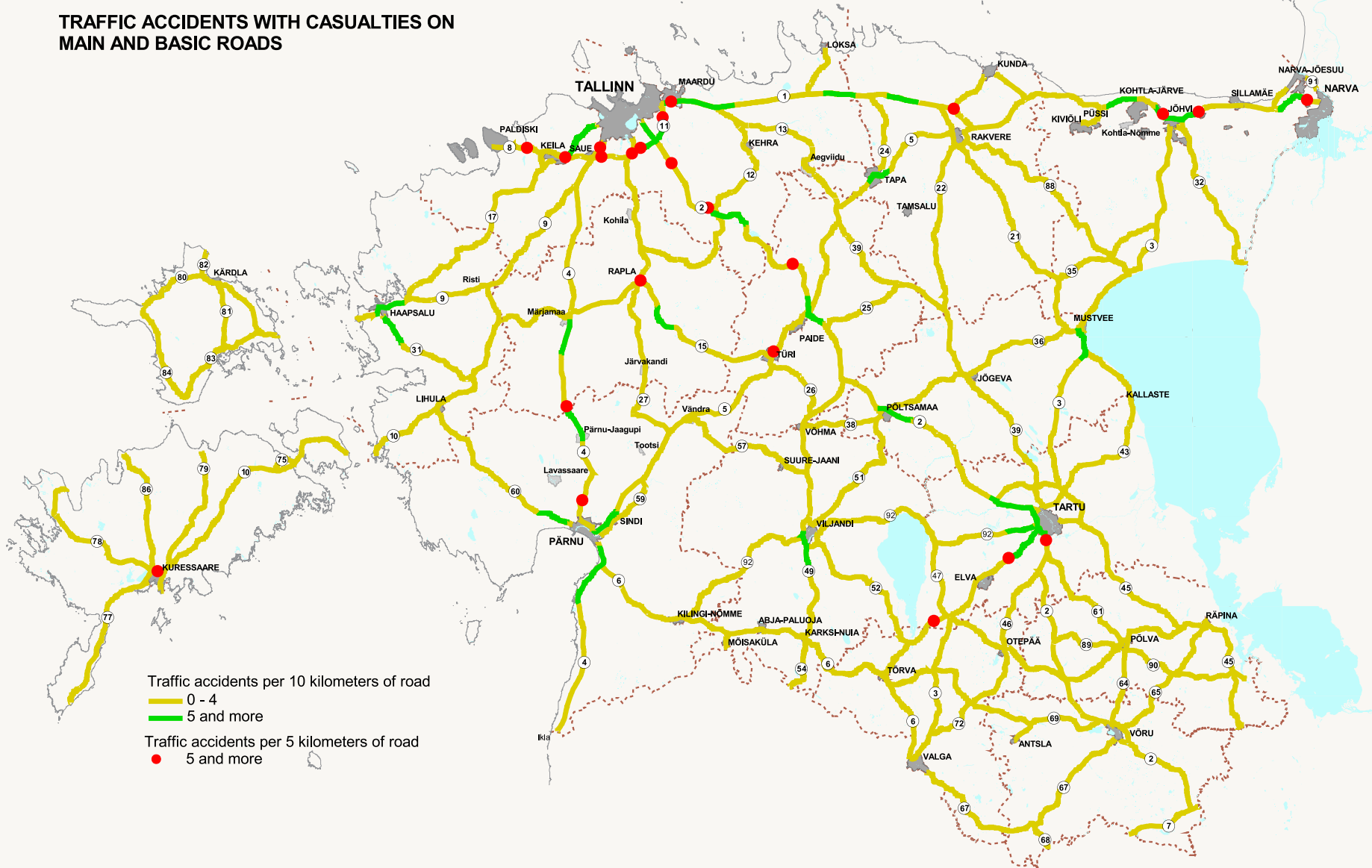


## Traffic accidents in 2001 - 2007



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total traffic accidents	1490	1613	1472	1504	1888	2164	1931	2244	2341	2585	2446
1996=100%	100.0	108.26	98.79	100.94	126.71	145.23	129.6	150.6	157.11	173.49	164.2
Traffic accidents per 10 000 vehicles	29.2	30.0	27.0	27.2	38.3	44.5	36.9	39.9	40.0	39.6	40.2
Traffic accidents per 100 000 inhabitants	107.0	116.9	107.3	110.0	138.7	159.6	142.9	166.5	174.1	192.6	182.5
Fatalities	279	284	232	204	199	223	164	170	170	204	196
1996=100%	100.0	101.8	83.2	73.1	71.3	79.9	58.8	60.9	60.9	73.1	70.3
Fatalities per 10 000 vehicles	5.5	5.3	4.2	3.7	4.0	4.6	3.1	3.0	2.9	3.1	3.2
Fatalities per 100 000 inhabitants	20.0	20.6	16.9	14.9	14.6	16.4	12.1	12.6	12.6	15.2	14.6
Fatalities per 100 accidents	18.7	17.6	15.8	13.6	10.5	10.3	8.5	7.6	7.3	7.9	8.0
Fatalities per 100 injuries	15.2	14.3	13.7	11.1	8.1	7.8	6.5	5.9	5.6	5.8	6.0
Casualties	1835	1990	1691	1843	2443	2868	2539	2875	3027	3508	3259
1996=100%	100.0	108.4	92.2	100.4	133.1	156.3	138.4	156.7	165.0	191.2	177.6
Traffic accidents caused by drunken drivers	379	423	322	318	393	495	394	398	432	516	507
1996=100%	100.0	111.6	85.0	83.9	103.7	130.6	104.0	105.0	114.0	136.1	133.8

**TRAFFIC ACCIDENTS WITH CASUALTIES ON MAIN AND BASIC ROADS**





## { Types of traffic accidents

The number of traffic victims has in 2007 decreased most on account of pedestrian accidents. While the number of pedestrians killed on roads inside settlements did not change significantly, the number of pedestrians killed on roads outside settlements decreased by 23 from last year. The main decrease was on account of accidents taking place in the dark.

The total of 12 pedestrians were killed on roads outside settlements in the dark hours (28 in 2006). The majority of the victims are still killed while moving on main roads with high traffic volumes. Of all the 15 pedestrians killed in the dark on unlit roads, only 1 victim wore a reflector – a road worker setting up a traffic sign. Nearly 60% of all the killed pedestrians were aged 65 or older.

The number of collisions between motor vehicles also decreased. The situation started to improve since September. From September to the end of the year, only 13 fatalities were recorded in such accidents, which is 16 less than a year ago. The overall number of accidents decreased equally on roads both inside and outside

settlements, but the number of accidents involving fatalities only decreased on roads outside settlements.

Like before, nearly 30% of all the traffic accidents with casualties involved only one vehicle. The number of fatalities in these accidents grew most. The first six months were especially tragic, with 17 more people killed in such accidents than in the first half of 2006.

But the situation improved in the last months of the year – from September to the end of the year, when traffic supervision was strengthened, there were 100 accidents and 9 fatalities less than a year earlier. The main problem is still excessive speed and overestimating one's abilities. Although three fourths of fatal one-vehicle accidents still take place on roads outside settlements, the number of fatalities grew primarily on roads inside settlements compared to 2006. Beginners and inexperienced drivers are most often involved in accidents. 45% of drivers who drove off the road had been consuming alcohol.

Cyclists or moped drivers were involved in 300 (274

in 2006) accidents, 17 (20) of the cyclists were killed. Cyclist accidents are still a problem primarily among up to 15-year-old children, who made up nearly 30% of all the injured cyclists. 73% of all the bicycle accidents were registered on roads inside settlements. The main mistakes made by cyclists are neglecting to give the required signal before manoeuvres, and mistakes on crossings.

In overall statistics, the role of motorbike drivers in traffic accidents still remains in the shadow of car drivers, but the growth rate of the number of motorbike accidents in recent years is beyond comparison with any other type of vehicles.

In 2007, the total of 159 motorbike drivers were involved in traffic accidents with severe casualties, which is twice as many as in 2003. 12 people were killed and 168 injured in these accidents. Every other motorbike driver involved in an accident was aged 20-30 years. Motorbike drivers involved in accidents often only have a car driving licence or have no licence at all.

## Traffic accidents by types

	Traffic accidents					Fatalities					Casualties				
	Total	Including				Total	Including				Total	Including			
		National roads	Local roads	Streets	Other places		National roads	Local roads	Streets	Other places		National roads	Local roads	Streets	Other places
TOTAL	2446	1166	64	1154	62	196	145	5	43	3	3259	1753	95	1339	72
incl. in daytime	1696	793	50	816	37	120	89	3	27	1	2243	1192	77	931	43
at night	750	373	14	338	25	76	56	2	16	2	1016	561	18	408	29
By types															
Collision of motor vehicles with moving vehicles	1024	436	24	556	8	67	57	0	10	0	1438	696	40	690	12
incl. with motor vehicle	722	336	14	371	1	50	41	0	9	0	1115	594	25	494	2
with motor/bicycle	302	100	10	185	7	17	16	0	1	0	323	102	15	196	10
Collision of motor vehicles with obstacle	78	47	2	27	2	5	5	0	0	0	98	62	2	32	2
incl. with standing vehicle	29	10	0	18	1	1	1	0	0	0	40	16	0	23	1
Collision with pedestrian	513	77	3	398	35	35	17	0	18	0	507	71	6	394	36
One-vehicle accident	756	586	33	124	13	80	62	3	13	2	1123	893	46	168	16
Other accidents	75	20	2	49	4	9	4	2	2	1	93	31	1	55	6

## Places of accidents

19% of the accidents were registered and 37% of all the victims of traffic accidents were killed on main roads, which form just 3% of the Estonian road network. The total of 453 (505 in 2006) traffic accidents took place, with 72 (83) people killed and 713 (783) injured. As the number of vehicles and the driving speed increases, pedestrians and cyclists travelling on roads are becoming increasingly endangered. Although they were involved only in 11% of the registered accidents, every fourth person killed on the main roads was a pedestrian or a cyclist. The numbers of traffic accidents and fatalities are the largest on the Tallinn-Narva Road and the Tallinn-

Tartu-Võru-Luhamaa Road, where the total of 190 traffic accidents proved fatal for 30 people. Considering the length and traffic flow of roads, the Tallinn ring road and the Tallinn-Paldiski Road are the most dangerous for road users. The number of fatalities on the latter road was 17.4 per 100 kilometres, which is 3 times more than on the Tallinn-Tartu-Võru-Luhamaa Road.

The overall traffic safety situation can be observed to be improving in Ida-Viru County, particularly in Narva, as well as in Viljandi and Võru counties. The number of fatalities increased considerably in Lääne-Viru County.

Rather than any places, the road users themselves – their skills, abilities and health conditions – influence the occurrence of traffic accidents. Of the 196 people killed in traffic during the year, 135 (i.e. over 2/3) were killed due to their own mistake or negligence either by direct violation of traffic rules or knowingly travelling in a car with a drunken driver. Traffic accidents are somewhat more frequent on weekends, from Friday to Sunday. The likelihood of being involved in an accident on these days is higher by nearly a third than on the first days of the week. About 45% of drivers and pedestrians involved in weekend accidents are drunk.

# { Drunken drivers

The proportion of drunken drivers is growing again. While in 2006 such accidents proved fatal for 57 people, then in 2007 the number of fatalities was 69.

In the past 10 years, only 1998 was as tragic.

The total of 513 (516 in 2006) drunken drivers were involved in traffic accidents, with the youngest driver being 13 years old. 44% of drunken motor vehicle drivers involved in accidents were up to 25 years old.

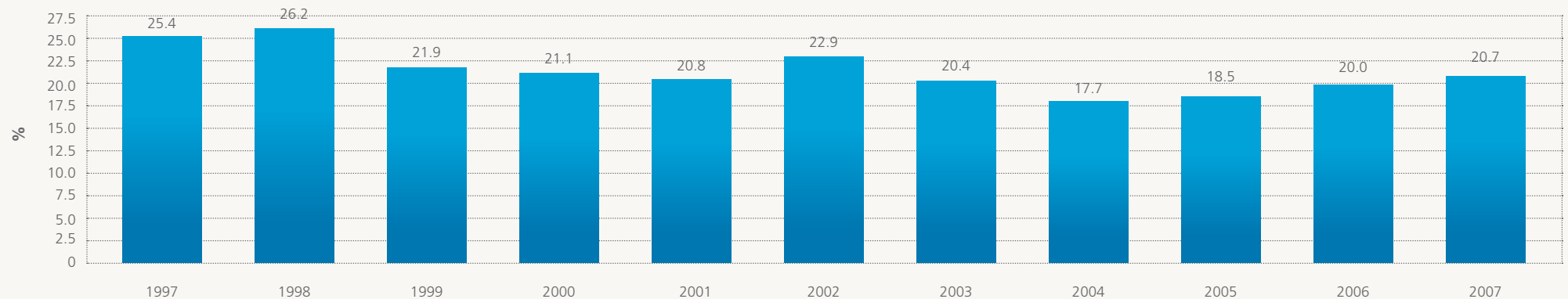
Drunken minors caused 18 traffic accidents with casualties while driving motor vehicles and 2 young drunken drivers caused their own death. In total,

drunken drivers caused 21% of all the traffic accidents with casualties and a third of all the fatal accidents.

If we add drunken pedestrians, cyclists and moped drivers to these data, we have to admit that 42% of all the fatalities in traffic are the victims of alcohol. 27 passenger car drivers, 5 motorbike drivers, 2 ATV drivers, 5 cyclists and 1 moped driver killed themselves in accidents while drunk.

26 passengers lost their lives travelling in a car with a drunken driver and 9 people were killed in a car hit by a vehicle with a drunken driver. 7 of the killed pedestrians were also drunk.

## Traffic accidents caused by drunken drivers (% from traffic accidents with casualties)





## Traffic safety research

In the area of traffic safety research, an evaluation of traffic safety activities in 2004-2006 was completed.

A future plan of action was prepared for 2007-2011, on the basis of which the Government of the Republic approved the implementation plan for the National Traffic Safety Programme for 2008-2011. The use of seatbelts, reflectors and cycling helmets among the population and the road users' attitudes towards zebra crossings were assessed.

The development of possible automatic speed checks the introduction of automatic speed supervision continued. The expert committee for determining the causes of traffic accidents with severe consequences also continued work. The joint work group of the Road Administration and the Police Board studied the impact of traffic volumes and the actual driving speeds on the occurrence of traffic accidents.

The further development of the new programme for processing traffic accident data continued, with the aim to launch a national data processing system covering all the traffic accidents.



## Traffic education

The focus of traffic education remained on activities influencing the development of the road users' attitudes and behaviour.

Traffic safety campaigns were organised to increase the use of seatbelts and children's safety equipment, to promote the use of helmets among cyclists and reflectors among pedestrians and to prevent drunk driving.

The further training programme in traffic safety for kindergarten and general education schools continued all

through the year and children's institutions are supplied with various traffic safety teaching materials that the teachers can order from the traffic education catalogue posted on the Road Administration's homepage.

The studies have focussed on three main areas: the use of reflectors by pedestrians, the use of seatbelts and children's safety equipment while driving and giving way to pedestrians on non-regulated crossings. In the past two years, the use of cycling helmets has been studied and the number and proportion of drunk drivers

or drivers with alcohol traces has been monitored on the basis of the data from the “everyone blows” raids forwarded by the Police.

The sufficient visibility of the campaigns has been stable at around 70% which that traffic safety campaigns stand out in the everyday commercial advertising flow and are noticed by target groups.

Traffic safety campaigns have been studied for efficiency since 2000. Eight years of observation data shows a clear positive trend in the attitudes and behaviour, which is a necessary precondition to a decrease in the number of traffic accidents and the severity of the consequences of accidents.

The changes have been most significant in the use of pedestrian reflectors and this primarily among the adult population.

While the level of reflector use among children has been stable at high level across the years (reaching 80% according to surveys), then the number of adults wearing a reflector regularly and often has nearly doubled over the past eight years, from 33% to 63%. At the same time the number of people claiming to never use a reflector has decreased by half.

Traffic safety campaigns to increase the use of reflectors have been performed every autumn since 1996.

## Noticeability of the reflector campaign

(% of all respondents)



Source: The use of pedestrian reflectors by people, TNS Emor 2000-2007

## Noticeability of the seatbelt campaign

(% of all respondents)



Source: The use of seatbelts by people, TNS Emor 2000-2007

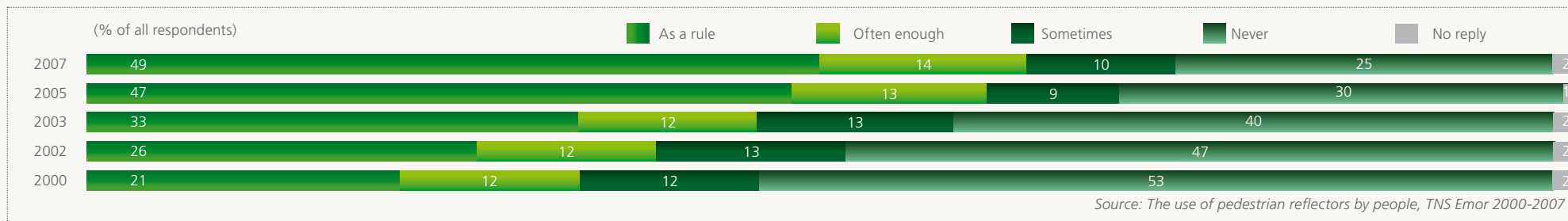
## Noticeability of the zebra crossing campaign

(% of all respondents)



Source: Road users' attitudes towards zebra crossings, TNS Emor 2001-2007

## Use of reflectors in the dark among adults



Outdoor advertisement of the 2007 reflector campaign

The obligation to use children's safety equipment was enforced in Estonia in 1996 and systematic studies into the use of seatbelts and children's safety equipment have been conducted since 1999.

In recent years the results have improved significantly in this area. The changes were especially drastic in the second half of 2007, when the traffic safety media campaigns were augmented by the Ministry of Internal Affairs and the Police Board considerably strengthening the supervision over the use of seatbelts, by giving the people relevant notice and making the supervision activities more visible and felt.

Traffic safety campaigns to increase the use of seatbelts have been conducted every spring since 1996.

## Use of seatbelts and children's safety equipment

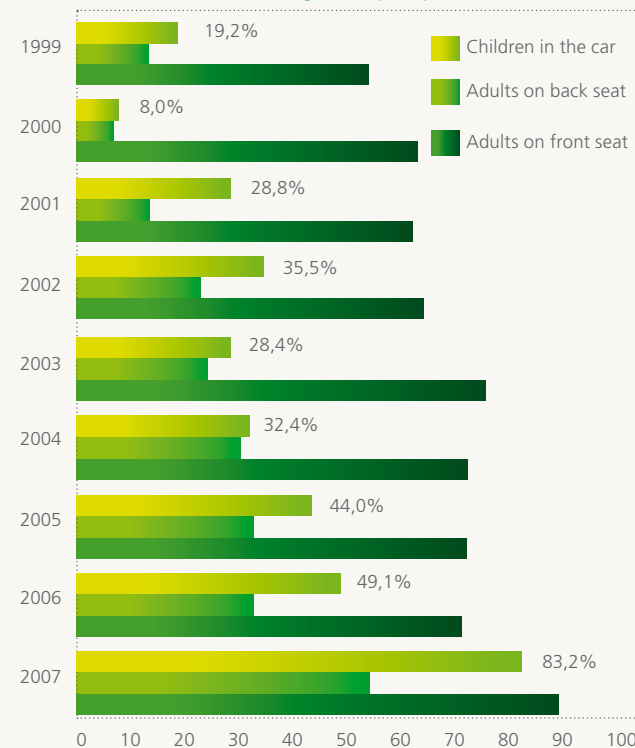


Diagram of the observation study concerning the use of seatbelts by adults and children in 1999-2007

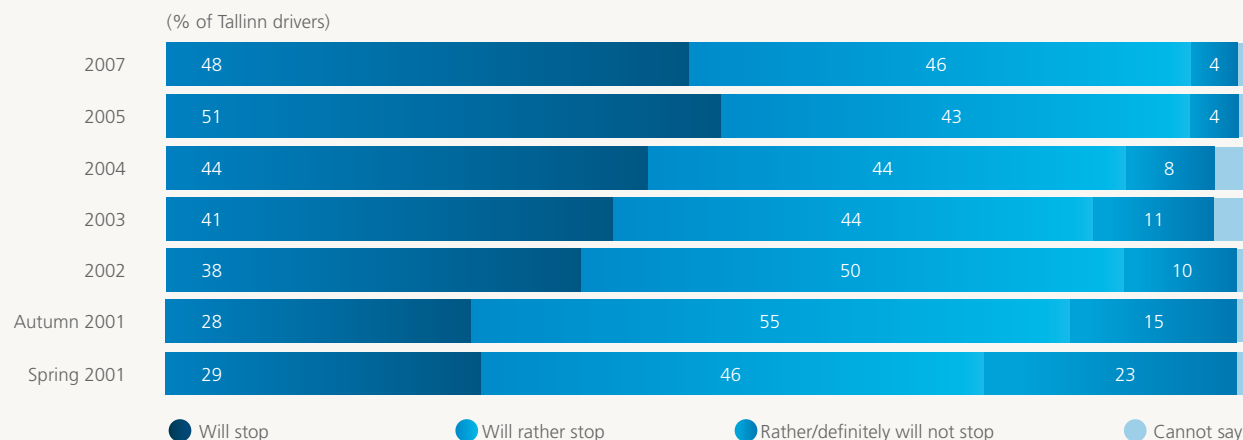
The primary cause of the traffic accidents involving pedestrians is the inappropriately high actual driving speed in a traffic environment inside settlements and dangerously long pedestrian crossings that run across several lanes and are poorly lit.

At the same time, the majority of crossings are not equipped with safety islands or other traffic constructional or organisational solutions to improve the safety of pedestrians.

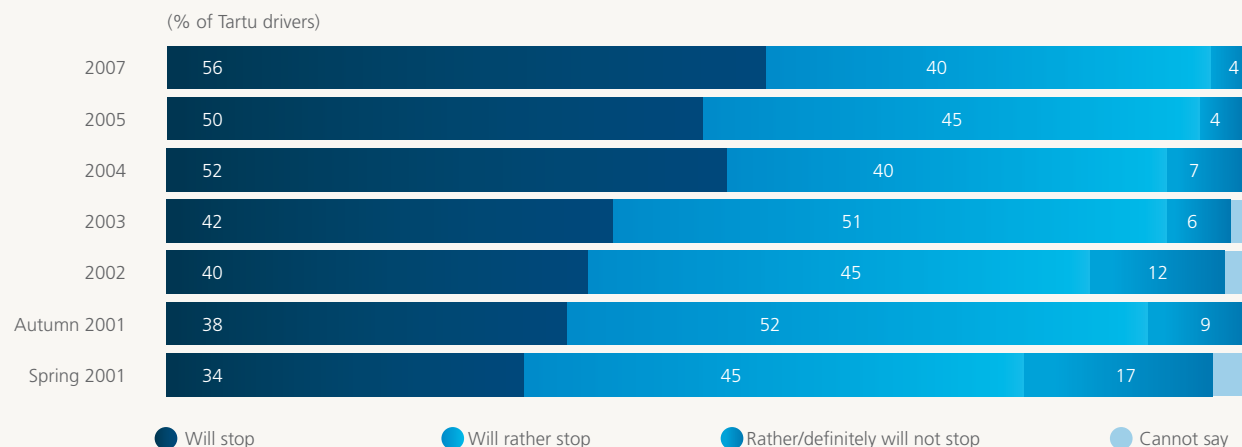
Several projects have been implemented in 2002-2007 to reconstruct dangerous pedestrian crossings. Still traffic safety campaigns must be and have been continued in order to warn drivers against driving at excessive speeds and endangering pedestrians on crossings.

The data provided below show that pedestrians have better chances of crossing the road in smaller cities and in the conditions of relatively lower traffic intensity. Traffic safety campaigns to promote giving way to pedestrians on crossings have been conducted in connection with the beginning of the school year every autumn since 2000.

## Behaviour of Tallinn drivers on crossings, with one person waiting to cross



## Behaviour of Tartu drivers on crossings, with one person waiting to cross



Diagrams of surveys concerning the giving of way to pedestrians on crossings in Tallinn and Tartu in 2000-2007

The efficiency of all the traffic safety work is amplified by close cooperation in various areas (traffic education, awareness-increasing, traffic supervision, updating traffic related laws and eliminating hazards in the traffic environment), the main future directions and measures of which have been set forth in the implementation plan for the National Traffic Safety Programme for 2008-2011 as approved by the Government of the Republic.



*Outdoor advertisement of the traffic safety campaign conducted at the beginning of the 2007 school year*





