THE TECHNICAL ADMINISTRATION OF ROADS OF THE CITY OF PRAGUE
Department of Transportation Engineering

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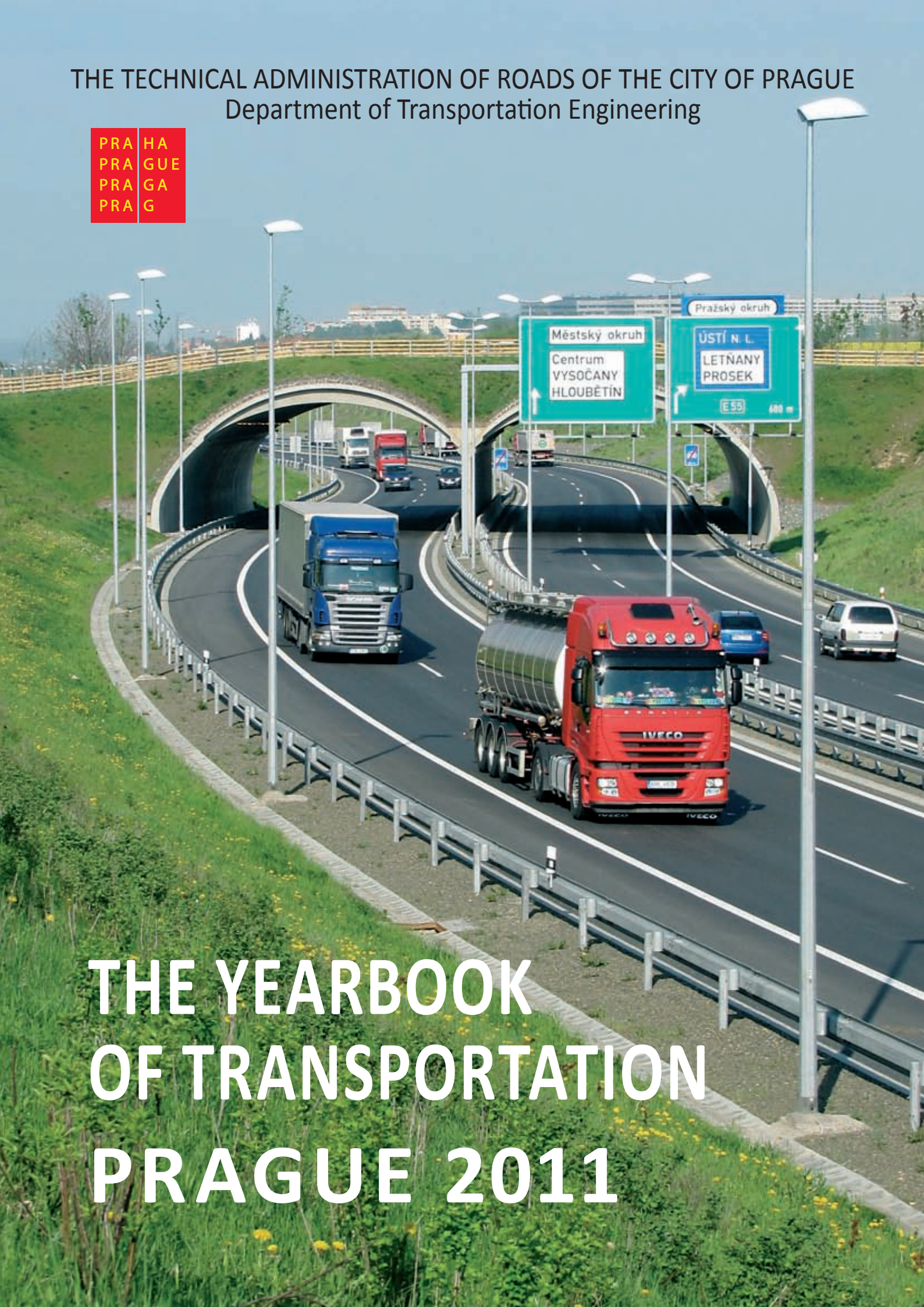
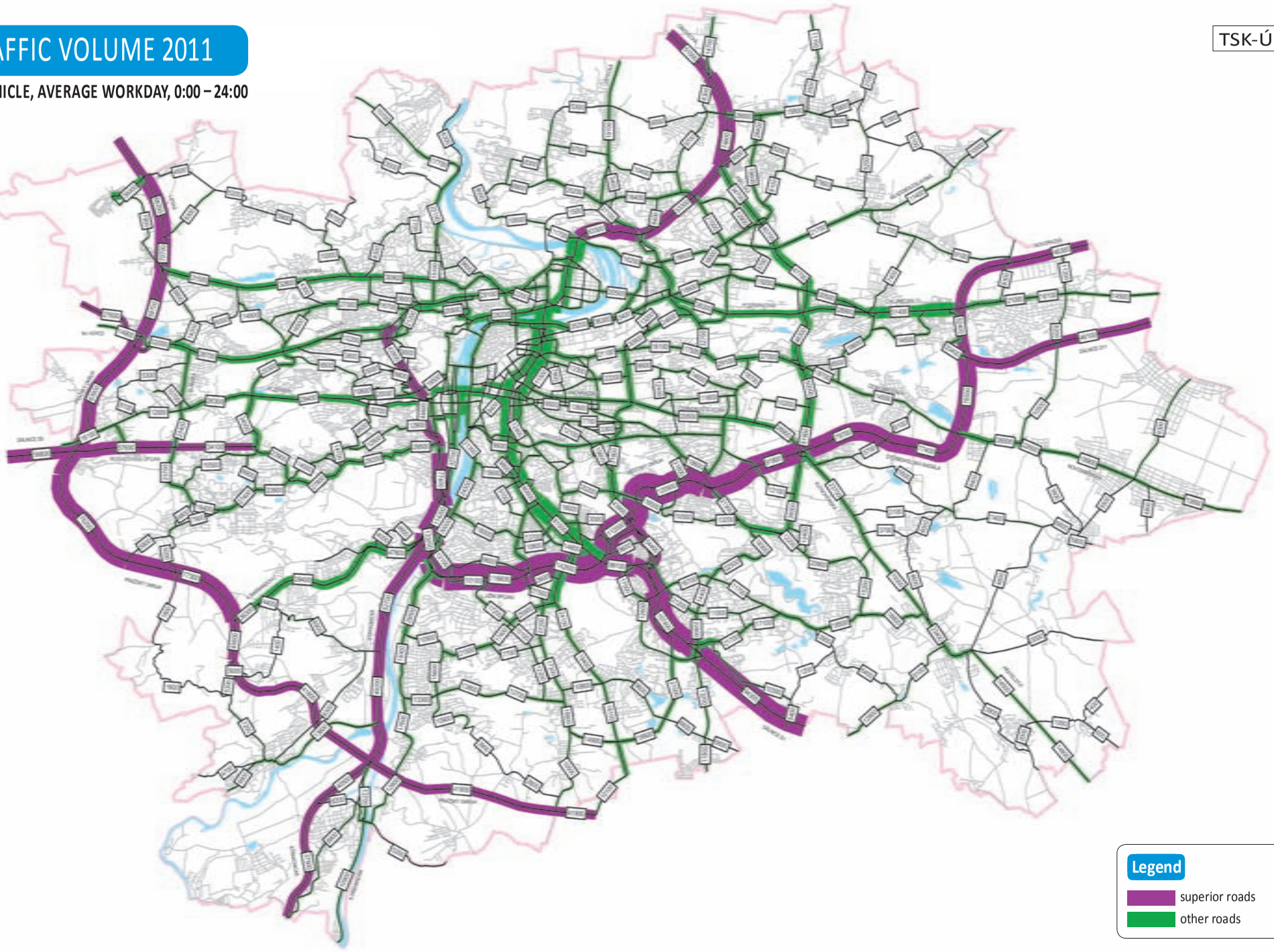


THE YEARBOOK OF TRANSPORTATION PRAGUE 2011

TRAFFIC VOLUME 2011

ALL VEHICLE, AVERAGE WORKDAY, 0:00 – 24:00

TSK-ÚDI



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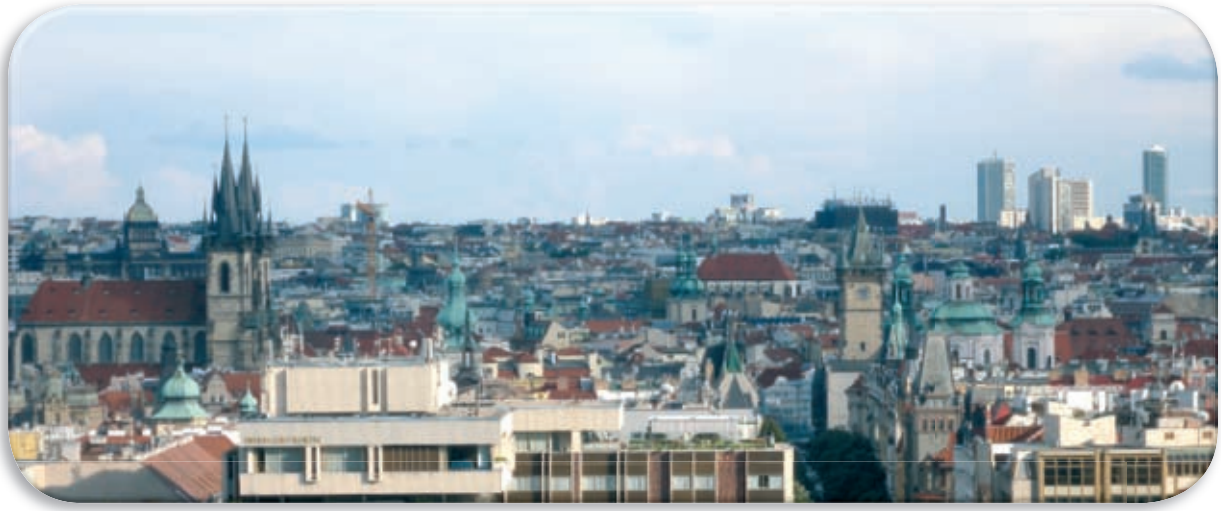


THE YEARBOOK OF TRANSPORTATION PRAGUE 2011

Dear readers,

I am delighted by your interest in transportation in Prague and that to satisfy this interest you have chosen the „2011 Prague Transportation Yearbook“, which the Department of Transportation Engineering at the Technical Administration of Roads of the City of Prague assembles and publishes every year. It was truly a far-sighted decision when, back in 1966, the City of Prague laid the foundations for creating a Department of Transportation Engineering, the main tasks of which include creating and maintaining records of transportation data, optimisation of traffic management and predicting and planning traffic developments in Prague. It is thanks to this hard work that a comprehensive and detailed document can be created every year drawing on the department‘s own resources along with contributions from other municipal and state organisations, a document laying out the current state of transportation in Prague, changes over the preceding year and long-term development trends. I hope that this study will be of use to you.

The key characteristic of 2011 was stagnation of transportation demands within the city limits. The volume of automobile traffic fell, although only by a negligible amount, as did the volume of passengers on city public transit. The number of inhabitants in the city also fell. What is evident from the data in the yearbook is that the ties between Prague and its surroundings continued to grow. The number of passengers on suburban train lines and Prague Integrated Public Transport buses rose, as did the number of passenger vehicles crossing the city boundaries. In reaction to this, changes were made to both the organisation and schedules of suburban transportation routes in December 2011.

An important step in 2011 was the reduction of planned expenditures in the City of Prague‘s budget. In transportation these cuts affected both current expenditures and especially capital expenditures. They affected mass transit to a lesser extent, with construction, repairs and maintenance bearing the brunt of the cuts. In spite of this austerity, work continued on the largest and most important projects for the city – the extension of the „A“ metro line, the northern segment of the City Ring Road and completing 5.6 km of the Vysočany Radial Road. Other transportation projects were also completed, for example increasing the capacity of the Štěrboholy Radial Road and extending the tram lines in Podbaba, while extensive refurbishment projects restricted and had a negative impact on the life of citizens in areas such as the Nuselský bridge, Smetanovo nábřeží, Podolské nábřeží and others. New and refurbished segments of road and tram track however help increase the quality of transportation, the comfort and satisfaction of passengers, as well as the environment in their surroundings, for example by reducing noise levels.

Both residents of Prague and visitors generally express satisfaction with the quality of public transport in polls that are carried out. What they are dissatisfied with is the parking situation, not only in the centre of the city but essentially everywhere. Unfortunately, the lack of space in the city means the only options are the financially demanding solutions of multi-story or underground parking garages, which the city is not currently capable of providing. At present it is not even able to further expand the park-and-ride lots at the edge of the city, which are still made full use of despite the scraping of the advantageous fare in 2011.

City inhabitants, users of public transport and drivers can all be satisfied with the information systems gradually being installed at public transport stops to inform about the next connections, on roads to inform about estimated trip times or extraordinary circumstances on the roads, as well as those installed on the web sites of the City of Prague, TSK, ROPID, DPP, the Traffic Information Centre and the DPP Information Centres. Also contributing to this satisfaction are the publications issued by these organisations and above all this yearbook. I hope that you too will be satisfied with its content.

Josef Nosek
Deputy Mayor of the City of Prague

In Prague, 30 April 2012

Dear readers,

We have prepared this 2011 Transportation Yearbook in order to inform you what has taken place over the past year in Prague‘s transportation. We have primarily made use of our own resources, but in order to form a comprehensive picture we have also requested further data from both municipal and state institutions and above all from the various carriers. These entities are listed at the end of the yearbook and we thank them all for the data provided.

Although we have slightly adjusted the structure of the yearbook in order to make it easier to navigate, it is still possible to compare the 2011 data with the data from previous years (where the yearbook text or tables do not compare them directly). We would like to take this opportunity to point out some of the more interesting comparisons and other facts related to TSK.

Despite the fact that the number of passenger automobiles registered in Prague continues to rise (by 3 % in 2011 over the preceding year), for the first time since 1990 a reduction in the volume of traffic on city roads was recorded (by 1 %). At the same time, the volume of automobile traffic at the entry points to the city continued to rise. This could therefore point to a positive effect from the Prague Outer Ring Road, which was put into operation in 2010 and which lies partly (approx. 12 km) outside the city boundaries.

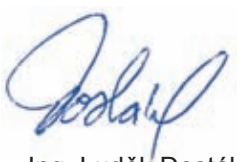
A comparison of the transportation volume in 2011 and 2010 shows an increase in external transport in all types of transportation, while intracity transport saw stagnation or a reduction (with the exception of bicycle transport and water transport including ferries).

In 2011 TSK completed work on the project „Urban Road Traffic Management and Regulation System for the City of Prague“, which was part of the Operational Programme Transport and which was 85 % funded by the EU Cohesion Fund. As a result, modern traffic management and information collection components were installed in 2011 and the preceding years, and there was a dramatic increase in priority for trams and buses at controlled intersections.

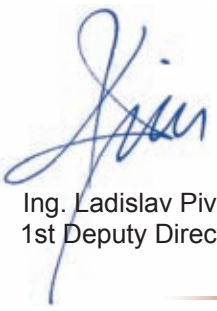
Transport telematics also recorded further expansion, particular in terms of the amount and level of digitalisation of monitoring system cameras, section and spot measurement of vehicle speed and documentation of the running of red lights.

The reduction of the City of Prague budget from 2010 to 2011 was felt in the reduced level of investment construction by TSK, as well as of road repairs and maintenance. In spite of this, work was completed on the south branch of the Štěrboholy Radial Road by the future intersection with the City Ring Road, the Kamýcká – Roztocká roundabout and several other smaller works. Including the contribution of the State Fund for Transport Infrastructure and municipal districts, over CZK 1.4 billion was spent on such projects, with another CZK 1.3 billion plus going to ongoing maintenance and targeted and routine road repairs. In 2011 TSK also performed standard winter maintenance, cleaning and other caretaking activities associated with its role as the Prague‘s road administrator.

You can find further and more detailed information on transportation in Prague in 2011 in the individual chapters of the yearbook. We hope that it will suit your needs and that you will be able to make use of it.



Ing. Luděk Dostál
Director of TSK



Ing. Ladislav Pivec
1st Deputy Director

In Prague, 30 April 2012

CONTENT

1 BASIC DATA

1.1 Selected data on the City of Prague as of 31 December 2011

Land area	**496**	**km²**	
Number of inhabitants	**1 241 273**		
Total length of road network	**3 932**	**km**	
of which motorways within the city	10	km	
other motor roads	93	km	
Number of bridge structures in the road network*	**600**		
of which bridge structures across the Vltava	27		
grade separated crossings	222		
underpasses	122		
Number of road tunnels (total length 8 530 m)	**10**		
Number of motor vehicles	**948 872**		
number of passenger automobiles	722 343		
Vehicle ownership			
vehicles per 1 000 inhabitants	765		
Automobile ownership			
passenger automobiles per 1 000 inhabitants	582		
Length of metro network	**59.1**	**km**	
Length of tram network	**142.4**	**km**	
dedicated track bed	52	%	
Length of public transport bus network within Prague	**695**	**km**	
Number of traffic signals	**594**		
separate pedestrian crossings	112		
Vehicle kilometres travelled (VKT) on whole road network			
average workday	21.9	m.	vozokm
annually	7.2	bn.	vozokm
Modal split – motor transport (by number of trips on city territory over the workday)			
public transport	57	%	
automobile transport	43	%	
Modal split – motor and non-motor transport (by number of trips on city territory over the workday)			
public transport	43	%	
automobile transport	33	%	
cyclists	1	%	
pedestrians	23	%	
Number of recorded traffic accidents	**16 572**		
Number of traffic accident injuries	**2 280**		
fatal	39		
serious	279		
minor	1 962		
Relative accident rate (number of accidents per 1 million VKT)	**2.3**		

** administered by the Technical Administration of Roads of the City of Prague*

1.2 Comparison of Prague and the Czech Republic

Comparison by area, population and level of vehicle and car ownership

		Prague	Czech Rep.	Prague/CZ (%)
Land area (km²)		496	78 864	0.6
Population (in millions)		1.241	10.504	11.8
	- of which economically active (mil.)	0.651	4.928	13.2
Number of motor vehicles (in thousands)		949	6 139	15.0
	- of which passenger cars (thousands)	722	4 577	15.8
Vehicle ownership	- motor vehicles per 1 000 persons	765	584	-
	- persons per 1 motor vehicle	1.3	1.7	-
Car ownership	- passenger cars per 1 000 persons	582	436	-
	- persons per 1 passenger car	1.7	2.3	-

Comparison of vehicle kilometres in the years 1990 – 2011 (millions of VKT/avg. workday, 0:00-24:00)

Year	Prague*	Czech Republic+
1990	7.3	80.9
2000	16.6	131.2
2005	19.9	148.5
2010	22.2	140.9
2011	21.9	139.4**
Index 2011/1990 (%)	300.8	172.0**
Index 2011/2010 (%)	98.8	99.0**

** whole road network ** preliminary data + motorways and class 1, 2 and 3 roads, including segments within Prague*

Comparison of number of registered vehicles in 1961 – 2011

Year	Prague					Czech Republic (until 1971 Czechoslovakia)				
	Pop.	Motor vehicles		Passenger cars		Pop.	Motor vehicles		Passenger cars	
	(000s)	total	%	total	%	(000s)	total	%	total	%
1961	1 007	93 106	22	44 891	13	13 746	1 326 801	-	291 680	-
1971	1 082	203 519	48	133 129	40	14 419	2 931 629	-	1 041 137	-
1981	1 183	367 007	86	284 756	85	10 306	3 449 300	85	1 872 694	79
1990	**1 215**	**428 769**	**100**	**336 037**	**100**	**10 365**	**4 039 606**	**100**	**2 411 297**	**100**
1995	1 210	641 590	150	535 805	159	10 321	4 728 859	117	3 113 476	129
2000	1 181	746 832	174	620 663	185	10 267	5 230 846	129	3 720 316	154
2005	1 180	749 786*	175*	602 339*	179*	10 247	5 401 917	134	3 954 769	164
2010	1 257	928 769	217	699 630	208	10 533	6 036 576	149	4 494 425	186
2011	**1 241**	**948 872**	**221**	**722 343**	**215**	**10 504**	**6 138 551**	**152**	**4 576 574**	**190**

100 % = 1990 ** Data for Prague distorted by an error in the registry, as explained in the note.*

Note: Up until 2001, data on the number of registered motor vehicles in Prague and the Czech Republic were taken from the Police of the Czech Republic. Since 2002 they have been taken from the new keepers of this data – for Prague the Prague City Hall Department of Transport Administration and for the Czech Republic the Transport Ministry's Department of Transport Administration.

From October 2003 until March 2008, the Prague administrator of these data used a different algorithm for calculating the number of vehicles operated, producing a result of 130 000 vehicles less than in the preceding period. As of 31 March 2008 a new version of the road vehicle registry program was installed, returning the calculation of vehicles to the original values from before 6 October 2003.

2 AUTOMOBILE TRANSPORT

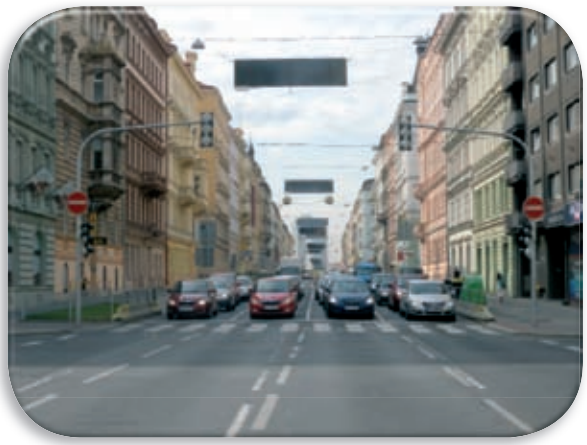
2.1 Development of vehicle and car ownership

The total number of motor vehicles registered within Prague increased dramatically up until 1999, after which the growth slowed somewhat. The number of passenger automobiles in Prague grew by 22 713 in 2011, while the number of other motor vehicles fell 2 610. Thus there was an overall increase of 20 103 registered motor vehicles. As of the end of 2011 there was one passenger car per 1.7 inhabitants.

Degree of vehicle and car ownership

Year	Prague				Czech Republic (until 1971 Czechoslovakia)			
	Motor vehicles		Passenger cars		Motor vehicles		Passenger cars	
	vehicles per 1 000 ppl	persons per 1 vehicle	cars per 1 000 ppl	ppl per 1 car	vehicles per 1 000 ppl	persons per 1 vehicle	cars per 1 000 ppl	ppl per 1 car
1961	92	10.8	45	22.4	97	10.4	21	47.1
1971	188	5.3	123	8.1	203	4.9	72	13.8
1981	310	3.2	241	4.2	335	3.0	182	5.5
1990	353	2.8	276	3.6	390	2.6	233	4.3
1995	530	1.9	443	2.3	458	2.2	302	3.3
2000	632	1.6	525	1.9	510	2.0	362	2.8
2005	635*	1.6*	510*	2.0*	527	1.9	386	2.6
2010	739	1.4	557	1.8	573	1.7	427	2.3
2011	765	1.3	582	1.7	584	1.7	436	2.3

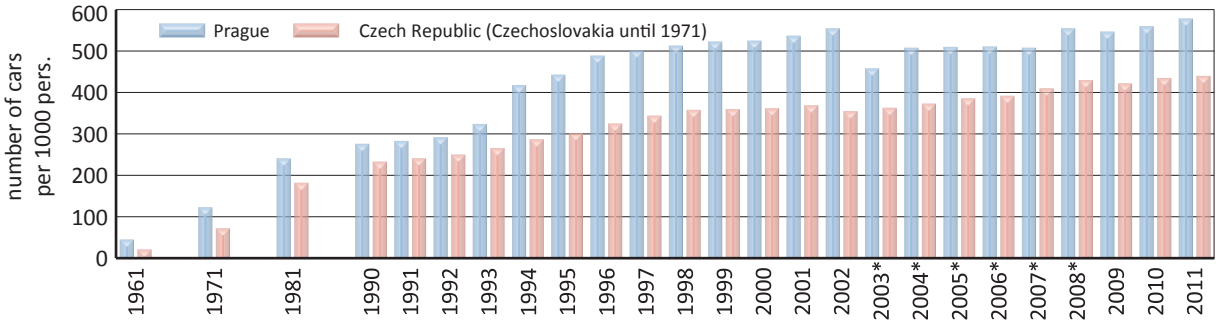
** Data for Prague affected by an error in the registry as explained in the note on the previous page.*



Intersection Legerova – Rumunská

Jižní spojka at the intersection with Průmyslová street

Development of car ownership (number of passenger automobiles per 1 000 inhabitants)



** Data for Prague for 2003 – 2008 affected by an error in the registry as explained in the note on the previous page.*

2.2 Volume of automobile traffic on workdays

The City of Prague occupies a unique position in automobile transportation in the Czech Republic, which manifests in the exceptionally high volume and vehicle kilometres travelled in comparison with other Czech cities or with motorways and roads in rural areas.

The base aggregated indicator for the development of automobile traffic in Prague is traffic volume (vehicle kilometres travelled) on the whole road network, which has been monitored since 1978. All data on traffic volume apply to the period from 0:00-24:00 of an average workday. All data on automobile traffic excludes city public transport buses.

Alongside this data, another method of determining trends in Prague's automobile traffic is "cordon monitoring", meaning periodic traffic counts at sites that form a connected cordon of important entrance roads into the designated zone. The development of inner-city traffic is monitored at the "central cordon", while peripheral traffic is monitored at the "outer cordon". Time data for both cordons are available back to 1961.

The traffic counts performed reveal that the annual growth in automobile traffic recorded within the city in the period following 1990 practically ceased in 2008 and 2009. Growth returned in 2010, followed by a slight drop-off in 2011.

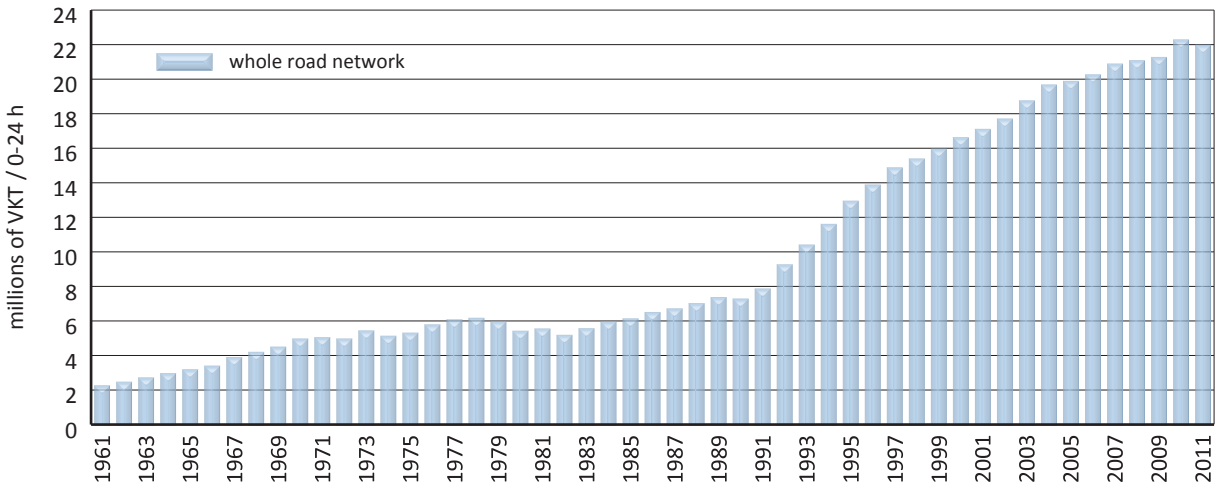
Overall, automobile traffic within the City of Prague, as measured by vehicle kilometres travelled on the whole road network, fell by 1.2 % on average in 2011 compared to the previous year. Broken down by vehicle type, passenger car traffic fell 1.0 % and bus and freight traffic by 2.8 %.

Automobile traffic volume in Prague (whole road network, avg. workday, 0:00-24:00)

Year	Motor vehicles total		Passenger automobiles		Passenger automobiles as percentage of total traffic volume
	millions of VKT	%	millions of VKT	%	
1961	2.273*	31	1.273*	23	56
1971	5.061*	69	3.543*	65	70
1981	5.562	76	4.338	79	78
1990	**7.293**	**100**	**5.848**	**100**	**80**
1995	12.961	178	11.509	197	89
2000	16.641	228	15.131	259	91
2005	19.899	273	18.023	308	91
2009	21.231	291	19.481	333	92
2010	22.205	304	20.435	349	92
2011	**21.936**	**301**	**20.221**	**346**	**92**

100 % = 1990 ** Estimate based on traffic volume trends at cordons (traffic volume in Prague only monitored since 1978).*

Development of automobile traffic volume in Prague (whole road network, avg. workday, 0:00-24:00)



In the period from 0:00-24:00 of an average workday, motor vehicles travelled a total of 21.936 million vehicle kilometres on the territory of Prague. Of this amount, passenger automobiles made up 20.221 million vehicle kilometres, or 92 %. Compared with the preceding year, this means that motor vehicles in Prague travelled 269 000 vehicle kilometres a day less in 2011.

Compared to 1990, operation of motor vehicles in the city had increased by 201 % in 2011, meaning it has more than tripled. Compared to the growth in automobile traffic on the motorways and roads of the Czech Republic, the growth in Prague was 1.7 times higher over this period.

Tempo of growth in automobile traffic volume in Prague after 1981

Years	Average annual increase/decrease	Years	Average annual increase/decrease
1981 – 1990	year-on-year +192 000 VKT/day	2001 – 2005	year-on-year +652 000 VKT/day
1991 – 1995	year-on-year +1 134 000 VKT/day	2006 – 2010	year-on-year +461 000 VKT/day
1996 – 2000	year-on-year +736 000 VKT/day	2011	year-on-year -269 000 VKT/day

In the greater city centre, based on the counts made at the central cordon, which measures bidirectional traffic volume at the entry points to the greater city centre, delineated roughly at Petřín in the west, Letná in the north, Riegrovy sady in the east and Vyšehrad in the south (the Strahov and Mrázovka tunnels lie outside the central cordon), automobile traffic dropped by 2.7 % compared to the previous year.

Over the 24 hours of an average workday, 304 000 vehicles drove into the greater city centre, of which 291 000 were passenger automobiles. In comparison with 1990 this was roughly 27 % more vehicles. All growth can be attributed to passenger automobiles, as the number of freight vehicles and buses entering the central area has fallen by more than two thirds since 1990 (-70 %).

The volume of automobile traffic in the greater city centre increased every year up until 1998, when it reached its historic peak. Since then it has fallen slightly (by 12 % since the year 2000).

Palackého square

Malovanka grade-separated crossing

In the middle zone of the city, traffic increased constantly and markedly in the years 1990 – 2007, increasing as much as three or fourfold over 1990 levels on some roads. In 2011 levels fluctuated in the range of ±1 % compared to the previous year.

In the outer zone of the city (based on counts done at the outer cordon, which expresses the two-way volume of traffic at the entrances from the main arterial roads and motorways into the continually settled area of the city), the volume of automobile traffic rose by 1.6 % in 2011 compared to the previous year. Over the 24 hours of an average workday, 291 000 vehicles entered Prague across the boundary of the outer cordon, of which 259 000 were passenger cars.

Automobile traffic in the outer zone of the city rose steadily from 1990 until 2008. The year 2009 saw the first slight drop since 1991 (presumably under the influence of the economic crisis), of 1.2 %, with a return to slight growth in 2010 and 2011. In comparison with the base year of 1990, 3.8 times more vehicles (+277 %) entered Prague daily from its surroundings (from the suburban zone, from other parts of the country and from abroad). Passenger automobiles played the key role in this growth, their numbers having increased more than 4.6 times (+366 %).

Road segments with heaviest traffic on Prague road network in 2011

	Segment	Total vehicles per day (0:00-24:00)
1.	Jižní spojka between 5. května and Vídeňská	143 000
2.	Barrandovský bridge	133 000
3.	Jižní spojka between Chodovská and V Korytech	121 000
4.	Jižní spojka between Braník and Sulická	117 000
5.	Strakonická between Dobříšská and Barrandovský bridge	114 000

A total of 99 000 vehicles a day crossed the bridge over Masarykovo nádraží on Wilsonova street in 2011, and 87 000 a day on the same road by the main station Hlavní nádraží. A total of 83 000 vehicles crossed Nuselský bridge in 2011 on an average workday. As of 2011, data on traffic volumes on individual segments of the monitored City of Prague road network are available in table form on TSK's website under the section „Pro odborníky", then „Intenzity dopravy".

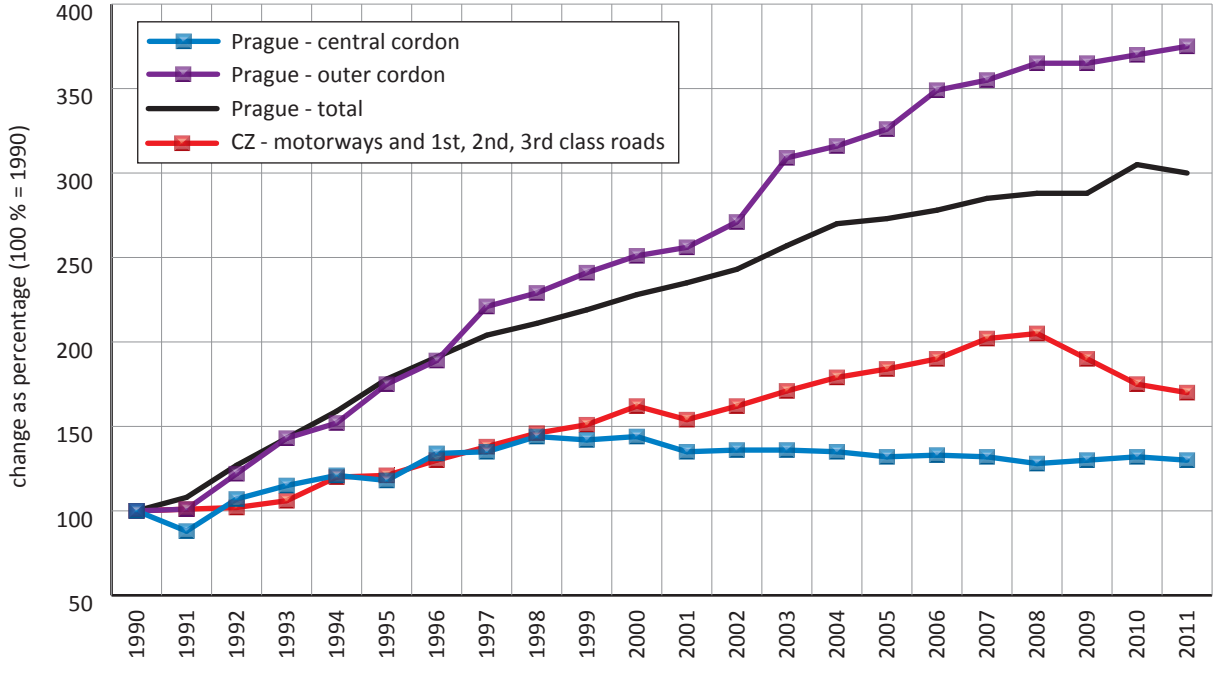
Grade-separated intersections with heaviest traffic on Prague road network in 2011

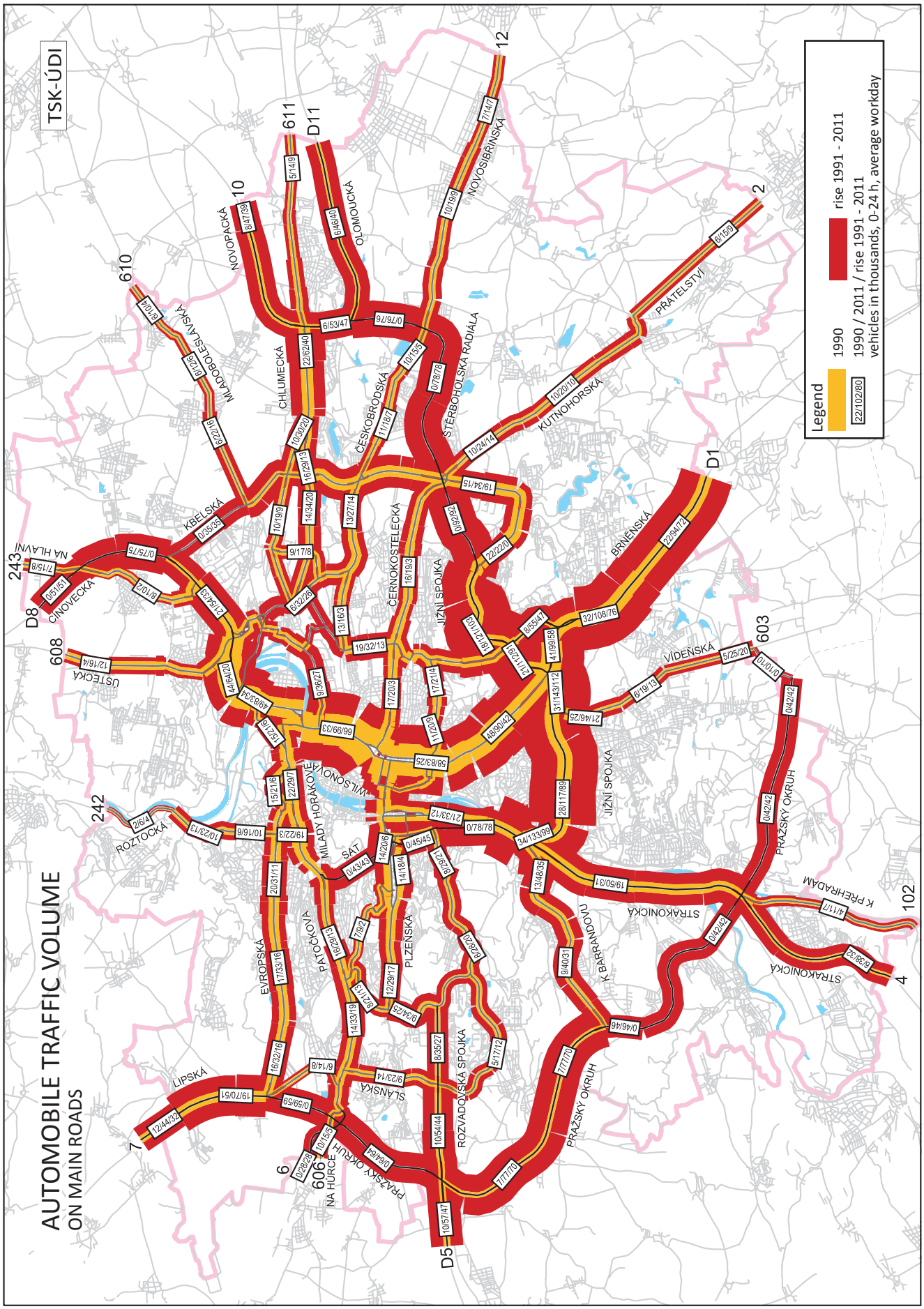
	Intersection	Total vehicles per day (0:00-24:00) at intersection
1.	5. května – Jižní spojka	222 000
2.	Strakonická – Barrandovský bridge	175 000
3.	Jižní spojka – Vídeňská	171 000
4.	Jižní spojka – Chodovská	166 000
5.	Jižní spojka – Průmyslová	151 000

Grade intersections with heaviest traffic on Prague road network in 2011

	Intersection	Total vehicles per day (0:00-24:00) at intersection
1.	Poděbradská – Kbelská	74 000
2.	Černokostelecká – Průmyslová	69 000
3.	Anglická – Legerova	68 000
4.	Argentinská – Plynární	67 000
5.	Kolbenova – Kbelská	67 000

Development of traffic volume in Prague and Czech Republic (average workday)




AUTOMOBILE TRAFFIC VOLUME
ON MAIN ROADS
TSK-ÚDI
Legend
1990
rise 1991 - 2011
1990 / 2011 / rise 1991 - 2011
vehicles in thousands, 0-24 h, average workday
22/102/80
D1
D5
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2
4
7
9
10
12
102
242
243
603
606
608
610
611
PRÁTELSTVÍ
KUTNOHORSKÁ
NOVOSIBŘINSKÁ
STŘEBOHOLSKÁ RADIÁLA
OLOMOUCKÁ
NOVOPACKÁ
MLADOBOLESLAVSKÁ
CHLUMECKÁ
ČESKOBRODSKÁ
ČERNOKOSTELECKÁ
JIŽNÍ SPOJKA
BRNĚNSKÁ
VÍDEŇSKÁ
PRAŽSKÝ OKRUH
K PŘEHRADĚ
STRAKONICKÁ
K BARRANDOVU
ROZVADOVSKÁ SPOJKA
PLZEŇSKÁ
SLANSKÁ
PATOČKOVA
EVROPSKÁ
LIPSKÁ
NA HURCE
SAT
MILADY HORÁKOVÉ
WILSONOVA
ROZTOCKÁ
USTECKÁ
CINOVECKÁ
NA HLAVNÍ
KBELSKÁ

Traffic volume at central and outer cordons in Prague (workday, both directions total, 0:00-24:00)

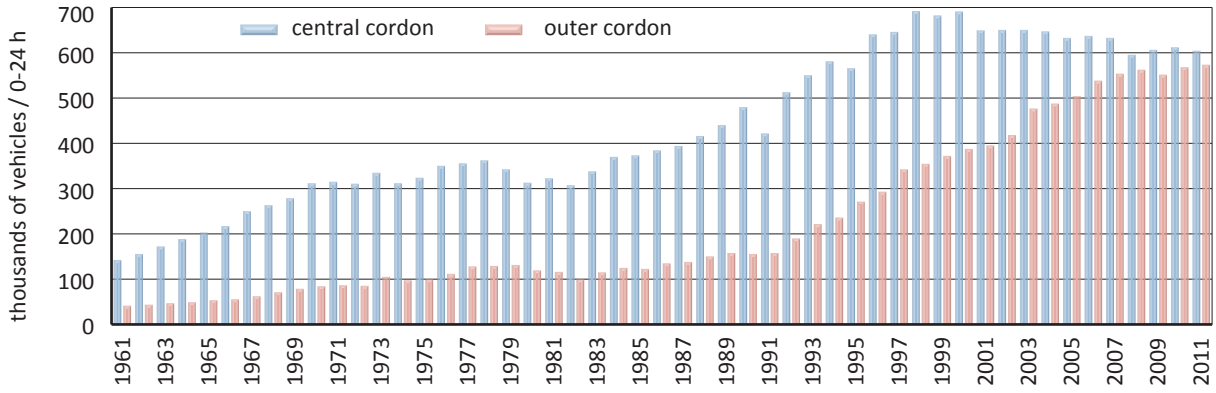
Year	Central cordon						Outer cordon					
	Passenger		Freight		Vehicles total		Passenger		Freight		Vehicles total	
	number	%	number	%	number	%	number	%	number	%	number	%
1961	76 000	18	35 000	81	141 000	29	15 000	14	15 000	41	40 000	26
1971	265 000	62	42 000	98	314 000	66	56 000	50	25 000	68	85 000	55
1981	272 000	64	43 000	100	321 000	67	74 000	67	34 000	92	114 000	74
1990	**424 000**	**100**	**43 000**	**100**	**479 000**	**100**	**111 000**	**100**	**37 000**	**100**	**154 000**	**100**
1995	521 000	123	34 000	79	564 000	118	224 000	202	40 000	108	270 000	175
2000	653 000	154	25 000	58	690 000	144	334 000	301	47 000	127	386 000	251
2005	602 000	142	19 000	44	631 000	132	433 000	390	62 000	168	503 000	327
2009	596 000	141	15 000	35	623 000	130	491 000	442	58 000	157	557 000	362
2010	598 000	141	14 000	33	625 000	130	505 000	455	58 000	157	572 000	371
2011	**582 000**	**137**	**13 000**	**30**	**608 000**	**127**	**517 000**	**466**	**54 000**	**146**	**581 000**	**377**

100 % = 1990

Sokolská street

New Kamýcká – Roztocká roundabout

Development of traffic volume at cordons in Prague (workday, both directions total, 0:00-24:00)



Average occupancy of passenger automobiles (persons per vehicle)

Year	Centre (central cordon)	Outer zone (outer cordon)	Prague total
1990	1.57	1.90	1.71
1995	1.45	1.60	1.50
2000	1.37	1.49	1.44
2005	1.35	1.42	1.40
2010	1.30	1.30	1.30
2011	**1.30**	**1.30**	**1.30**

2.3 Vehicle mode share and temporal traffic patterns

The mode share of traffic is dominated by passenger automobiles. In terms of territorial breakdown, the proportion of passenger vehicles increases toward the centre of the city. In 2011, this rate was 96 % at the central cordon, 89 % at the outer cordon and 92 % on average for the whole network.

Mode share 1961 – 2011 (workday, both directions, 0:00-24:00)

Year	Central cordon				Outer cordon			
	Passenger vehicles	Motorcycles	Freight vehicles	Buses (excl. pub. trans.)	Passenger vehicles	Motorcycles	Freight vehicles	Buses (excl. pub. trans.)
1961	53.7 %	19.4 %	29.4 %	2.0 %	38.6 %	22.1 %	34.4 %	4.9 %
1971	79.3 %	5.6 %	13.3 %	1.8 %	63.2 %	8.6 %	25.1 %	3.1 %
1981	84.3 %	0.4 %	13.2 %	2.0 %	65.1 %	0.6 %	30.3 %	4.0 %
1990	88.6 %	0.7 %	9.1 %	1.6 %	72.1 %	0.5 %	24.0 %	3.4 %
1995	92.4 %	0.3 %	6.0 %	1.3 %	83.4 %	0.2 %	14.7 %	1.7 %
2000	94.7 %	0.6 %	3.7 %	1.0 %	86.5 %	0.2 %	12.1 %	1.2 %
2005	95.4 %	0.7 %	2.9 %	1.0 %	86.2 %	0.4 %	12.2 %	1.2 %
2010	95.7 %	1.0 %	2.4 %	0.9 %	88.4 %	0.3 %	10.2 %	1.1 %
2011	**95.7 %**	**1.1 %**	**2.2 %**	**1.0 %**	**89.1 %**	**0.6 %**	**9.2 %**	**1.1 %**

Intersection Vinohradská – Jana Želivského

Kbelská street before opening of Vysočany Radial Road

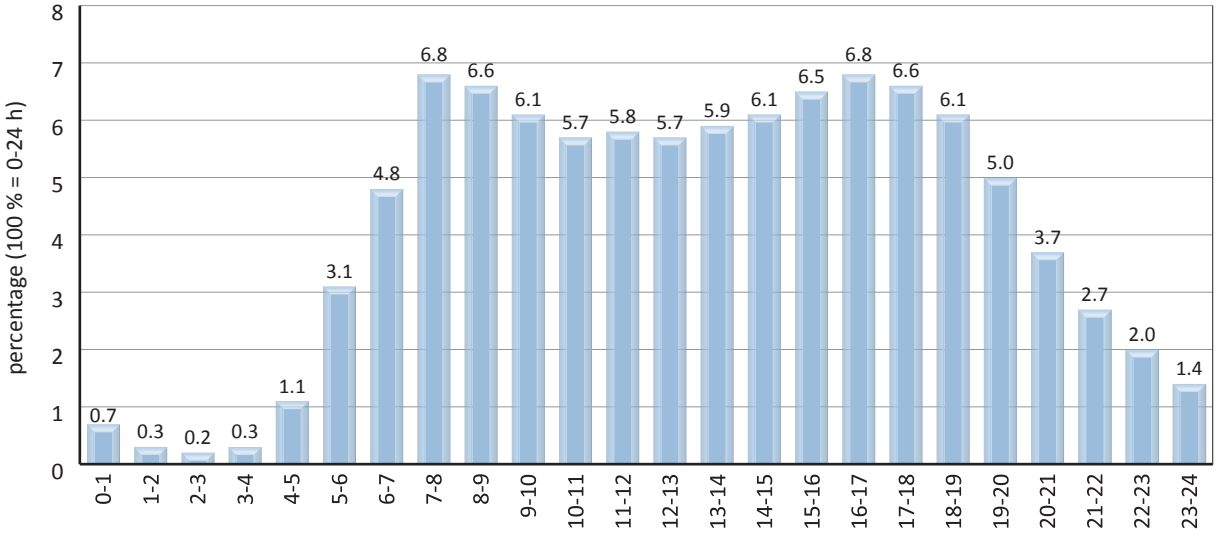
The basic characteristics of the daily variation of workday traffic volume in Prague:

- The majority of traffic volume for the whole day takes place during the daytime period (73 % for 6:00-18:00), with the period 6:00-22:00 accounting for approx. 91 %.
- After 18:00, traffic volume begins to drop off steeply and more or less uniformly.
- The morning peak is at 7:00-8:00; the afternoon peak is 16:00-17:00.
- The volume of the morning peak hour makes up 6.8 % of the total; the afternoon peak also accounts for 6.8 % (100 % = 0:00-24:00).
- The difference between the peak hours and the noon sag is not very pronounced. The noon hour (12:00-13:00) represents 5.7 % of the whole day.

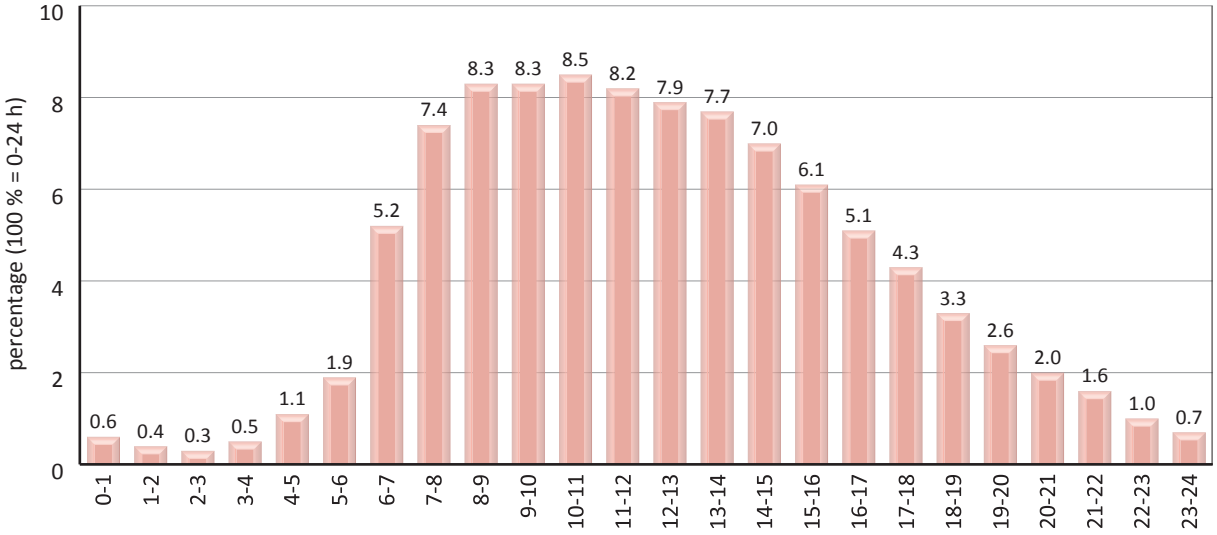
Significant changes to temporal traffic patterns from 1990 – 2011:

- Daily variation – The volume of the morning peak hour has fallen from its original 8 – 9 % to 6.8 % and has shifted from 6:00-7:00 to 7:00-8:00. The difference between the peak hours and the morning lull period has been reduced.
- Weekly variation – The volume for Friday, which used to be higher than other workdays, has fallen to the level of Monday through Thursday.
- Yearly variation – The share of January and February has increased in relation to the average for the year.

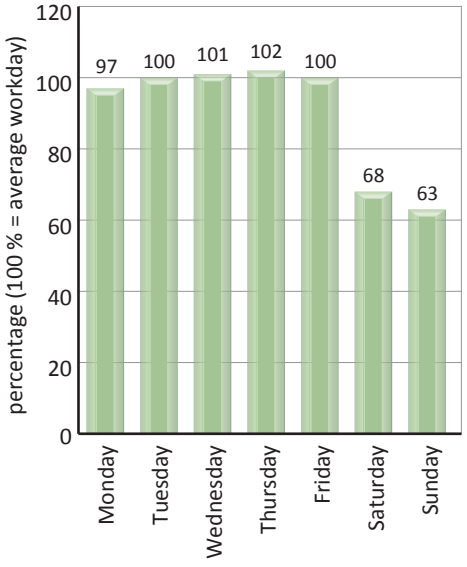
Daily variation of total automobile traffic (2011, Prague, whole network, workday)



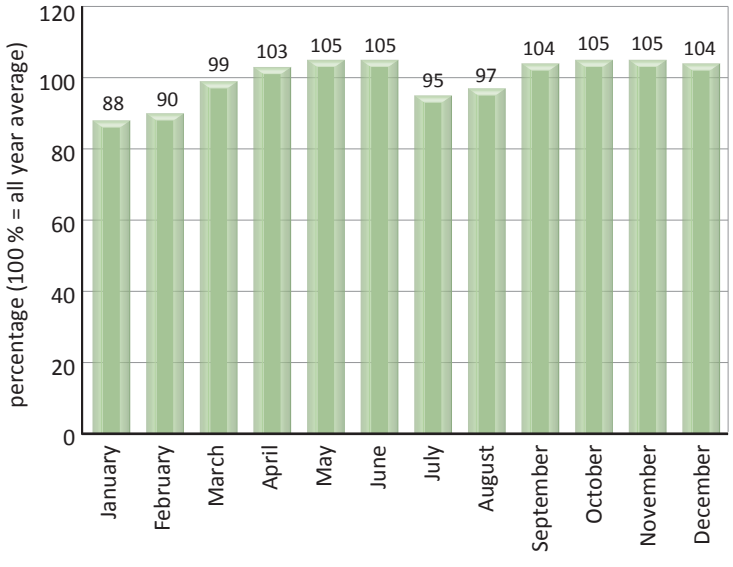
Daily variation of freight vehicles and buses, not including public transport (2011, Prague, whole network, workday)



Weekly variation (Prague, whole network, total vehicles)



Yearly variation (Prague, whole network, total vehicles)



2.4 Directional study of freight automobile transport

At the end of spring 2011, a study was carried out aimed primarily at enumerating the transit of freight vehicles with a maximum authorised mass (MAM) of over 3.5 t crossing the boundary of the area encompassing the whole territory of the City of Prague plus the area between the Prague Outer Ring Road and city boundaries in the south and the area between the D1 motorway and the border of Prague further to the east.

Categorisation of vehicles monitored:

- **light freight vehicles** (LNA) – two-axle vehicles with MAM of 3.5 – 20 t
- **heavy freight vehicles** (TNA) – three-axle vehicles with MAM of over 20 t (this category also includes special-purpose vehicles regardless of MAM and number of axles)
- **heavy freight vehicles with a trailer and semi-trailer unit** (NAV) – two or more axle vehicles with MAM over 10 t with a trailer and semi-trailer units
- **buses** (BO) – only vehicles not operated as part of public scheduled passenger transport

Intersection Kolbenova – Kbelská

Jižní spojka by Štěrboholy

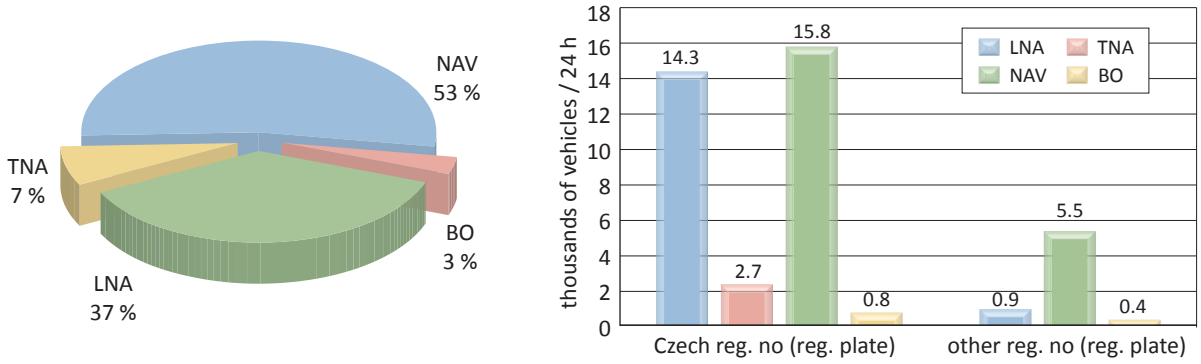
Essential conclusions resulting from the directional study of freight transport:

- ➢ Over 40 thousand freight vehicles and buses (not including public transport) with a MAM of over 3.5 t cross the boundary of the monitored area daily; of those more than 50 % are heavy freight vehicles with trailers and semi-trailer units.
- ➢ Transit across the city makes up about 60 % for the categories monitored, for the NAV category 70 % of all vehicles entering the city.
- ➢ Night traffic (22:00-6:00) for vehicles over 3.5 t accounts for an average of 7 % of the daily number of vehicles entering Prague and reaches nearly 19 % for the same period for the NAV category.
- ➢ The most frequented transit routes (around 3 200 vehicles in both directions per day) are between the motorways D1 and D5 and the D1 and D8.

Breakdown of freight vehicles by category & trip type (2011, workday, boundary, direction from Prague)

Trip type		LNA	TNA	NAV	BO	TOTAL
Transit	Trips/day	6 500	1 100	15 000	500	**23 100**
	%	43.3 %	39.3 %	70.1 %	41.7 %	**57.2 %**
Other	Trips/day	8 500	1 700	6 400	700	**17 300**
	%	56.7 %	60.7 %	29.9 %	58.3 %	**42.8 %**
TOTAL	Trips/day	15 000	2 800	21 400	1 200	**40 400**
	%	100.0 %	100.0 %	100.0 %	100.0 %	**100.0 %**

Category of vehicles over 3.5 t and their nationality (2011, workday, boundary, direction from Prague)

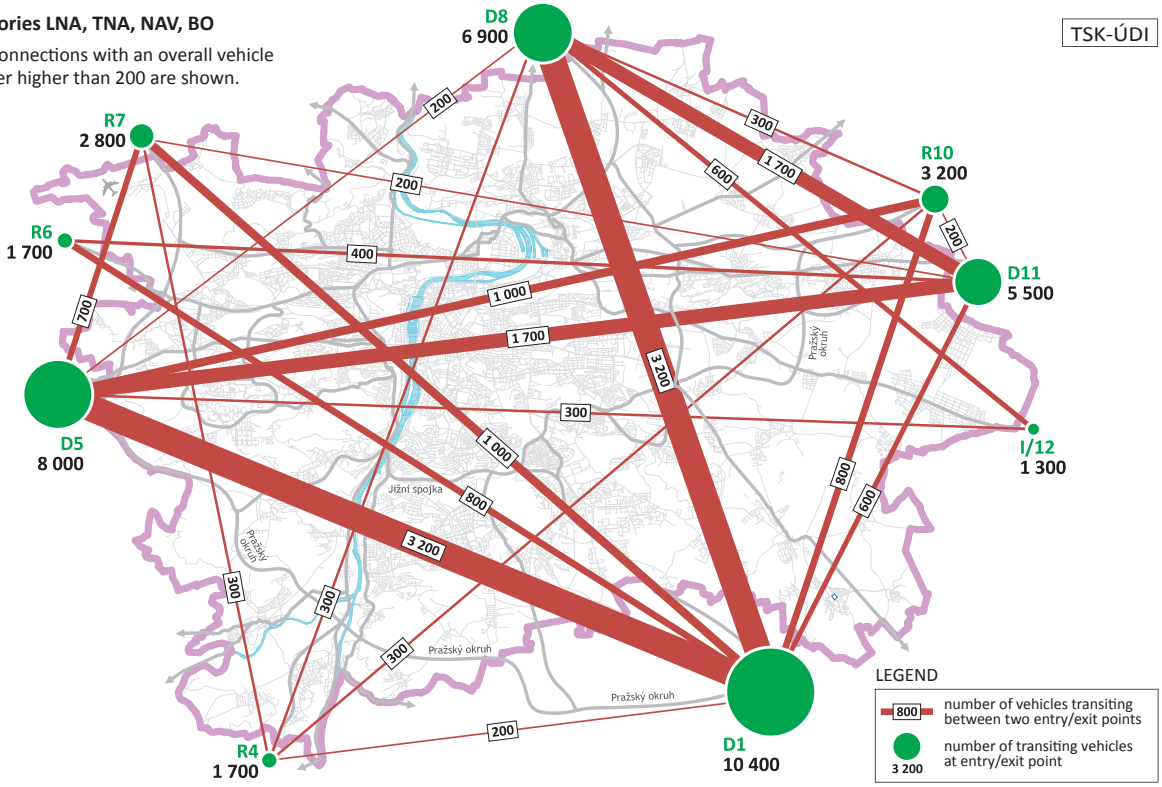


Transit freight and bus transport in Prague (24 hrs, both directions)

Categories LNA, TNA, NAV, BO

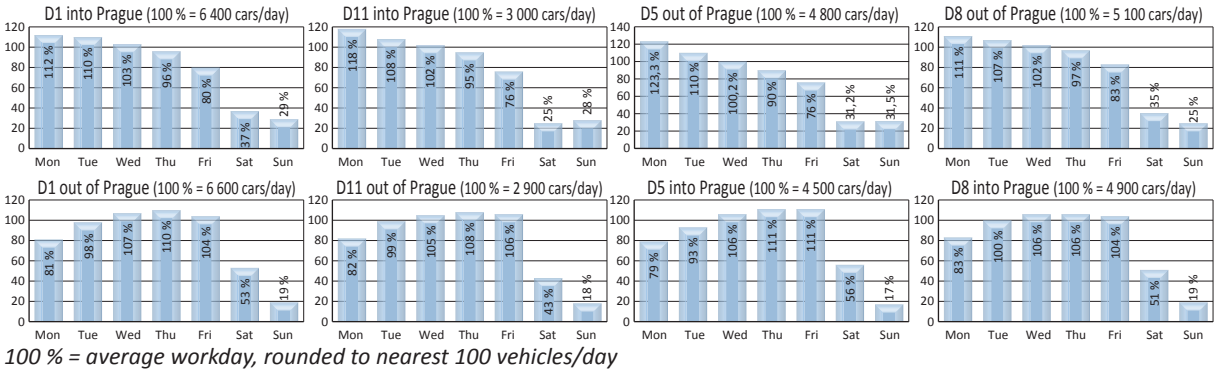
Only connections with an overall vehicle number higher than 200 are shown.

TSK-ÚDI



The long-term temporal traffic patterns of vehicles of over 3.5t MAM in the surroundings of Prague were acquired from the daily number of transactions at tolling stations around Prague acquired from the Road and Motorway Directorate of the Czech Republic (for the period from August 2010 until July 2011). In contrast to the above data, these numbers also include public transport buses.

Weekly variation of vehicles over 3.5 t at motorway entry/exit points in the surroundings of Prague (by direction)



100 % = average workday, rounded to nearest 100 vehicles/day

3 PUBLIC TRANSPORT

3.1 Basic information on Prague Integrated Public Transport (PID)

Prague Integrated Public Transport (PID) serves the whole City of Prague and part of the adjacent territory of the Central Bohemian Region. PID includes the metro, trams, urban and suburban bus lines, railways, ferries and the Petřín funicular. PID is coordinated by the publicly subsidised Regional Organiser of Prague Integrated Transport (ROPID), which was founded by the City of Prague in 1993.

The integrated system allows passengers to use a single ticket regardless of the mode of transport, thereby giving public transport a competitive edge over individual transport. On 1 June 1996 a zone-based fare system was introduced, and since then there has been steady growth in the scope of suburban bus routes, the territorial reach of the service, the number of municipalities included, and the number of tariff zones.

Development of PID system (suburban bus lines, municipalities served and railway stations)

Year	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2011
Number of PID suburban bus lines	2	6	31	48	89	130	147	158	152	150	**155**
Number of PID buses serving municipalities	2	7	55	83	159	251	299	299	299	299	**299**
Number of railway stations and stops under PID	23	43	181	181	181	219	211	207	223	225	**224***

** Of this number, 100 stations and stops are completely integrated into PID (equipped with ticket-stamping machines).*

The City of Prague and an array of other municipalities contribute to the operating costs for PID lines, as does the Central Bohemian Region. Some funding is also provided by other entities (shopping centres, large businesses and municipal districts).

A type 15T tram at the Hradčanská stop

An articulated bus on the 125 line at the receded Mikulova stop

Basic data on volume of Prague Integrated Public Transport

Year	2000	2005	2006	2007	2008	2009	2010	2011
Traffic volume of metro, trams and PID urban bus lines (mil. of VKT/year)	147.6	156.7	164.7	165	170	168.5	171.8	**168.8**
Traffic volume of PID suburban bus lines (mil. of VKT/year)	9.4	22.2	22.4	23.6	24.3	24.6	25.1	**25.9**
Traffic volume of PID railway lines* (mil. of VKT/year)	-	-	-	-	-	-	13.2	**13.9**

** No data available before 2010.*

Number of lines operated under PID

Mode of transport	Lines	Nature and numbering of lines
Metro	**3**	A, B and C
Tram	**34**	25 day lines (numbered 1-26 and 36), 9 night lines (numbered 51-59)
Urban buses with route only within City of Prague boundaries	**176**	134 day lines (numbered 100-297), 15 night lines (numbered 501-515), 24 school lines (numbered 551-574), 2 lines for persons with reduced mobility (H1 a H2) and the AE line
Suburban buses with route between city and region	**91**	80 day lines (numbered 301-398), 11 night lines (numbered 601-615)
Regional buses with route only in region	**64**	63 day lines (numbered 401-495), 1 seasonal cycle-bus
Railway 26 routes under PID, 11 routes entering the territory of Prague (incl. ML)	**33**	13 S lines btw. Prague and region (S1-S9, S20, S41, S65, S80), 3 R lines btw. Prague and region (R3, R4, R5), 14 S lines in region only (S11-S88), 2 seasonal lines (Prague and Podlipansko Motor Trains), 1 cycle-train
Ferries	**5**	Lines P1, P2, P3, P5 (seasonal), P6
Funicular	**1**	Újezd-Petřín Funicular

Trains on the S9 and S41 lines at the station Praha-Hostivař

The total number of carriers taking part in the provision of PID is 17. The primary carriers are the Prague Public Transport Company (Dopravní podnik hlavního města Prahy, a. s. – DPP), which operates the metro, trams, funicular and most of the bus lines within the city, and Czech Railways (České dráhy, a. s. – ČD), which operates the rail travel. A further 12 private carriers operate urban, suburban and regional bus lines under PID. Two companies operate ferries and one the Prague and Podlipansko Motor Trains.

At the end of 2011, the most bus lines within the city (152) were operated by the Prague Public Transport Company. Within the Central Bohemian Region the most lines were operated by Veolia Transport Praha s. r. o. (51 lines) and ČSAD Střední Čechy, a. s. (31 lines).

Operators of PID bus lines within the city and region*

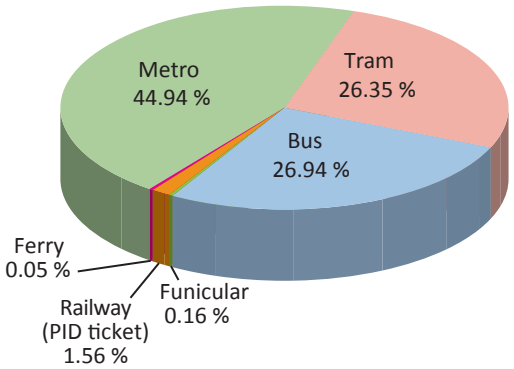
Operator	Urban lines	Suburban and regional lines
Prague Public Transport Company	152 (86 %)	17 (11 %)
Other operators	24 (14 %)	138 (89 %)
TOTAL	176 (100 %)	155 (100 %)

** Numbers include school lines, the AE lines and lines for persons with reduced mobility.*

PID ridership and share of total passengers within the City of Prague for 2011

Mode of transport (operator)	Persons/year
Metro (DPP)	530 493 000
Tram (DPP)	311 057 000
Bus (DPP)	267 357 000
Bus (private carriers)*	50 713 320
Railway (ČD with PID ticket)*	18 421 000
Funicular (DPP)*	1 841 450
Ferry (private carriers)*	641 730
TOTAL	**1 180 524 500**

** Data from count, other data are estimates.*



Composite data on PID operated by Prague Public Transport Company (DPP) in 2011

	metro	tram	bus	TOTAL
Operating length of network within Prague (km)	59.1	142.4	695	**896.5**
Percentage of network on dedicated track bed (%)	100	52	-	**-**
Operating length outside Prague (km)	-	-	145.0	**145.0**
Average distance between stations and stops (m)	1 094	534	628	**-**
Average travelling speed (km/h)	35.6	18.6	25.8	**-**
Annual VKT in Prague (in thousands)	54 962	48 205	66 639	**169 806**
Annual VKT outside Prague (in thousands)	-	-	1 647	**1 647**
Expenses per operational vehicle-km* (CZK)	105.52	59.76	47.61	**-**
Passengers transported annually in Prague (000s)	530 493	312 898**	267 357	**1 110 748**
Passengers transported annually outside Prague (000s)	-	-	12 223	**12 223**
Number of DPP employees	**10 743**			
Fare revenues (CZK millions)	**4 533**			
Total operating costs of DPP (CZK millions)	**16 476**			
Revenue to cost ratio for DPP (%)	**27.5**			

* *The calculation of the cost of 1 operational vehicle-km is derived from the costs directly associated with the service. It does not include the costs for building and maintaining infrastructure.*

** *including Petřín funicular*

Malostranská stop

Chilská street near Opatov

Development of basic characteristics of PID operated by DPP

Year	Operating length of network (km)+			Average travelling speed (km/h)			Number of vehicles deployed (workday morning peak/lull)		
	metro	tram	bus	metro	tram	bus	metro	tram	bus
1981	20.0	122.9	545.0	33.3	15.7	23.8	150/85	750/459	871/317
1990	38.5	130.5	607.3	34.6	18.7	23.7	322/158	699/423	918/317
1995	43.6	136.2	695.3	34.9	19.0	23.3	395/190	647/476	957/381
2000	49.8	136.4	812.4*	35.7	18.9	25.2*	345/180	676/530	968/418
2005	53.7	140.9	810.6*	34.6	18.7	25.9*	405/205	702/557	946/442
2010	59.1	141.6	823.0*	35.5	19.0	26.0*	448/245	665/513	904/505
2011	**59.1**	**142.4**	**840.0***	**35.6**	**18.6**	**25.8***	**457/244**	**663/514**	**923/510**

\+ *The operating length is the total length of regularly operated passenger routes. For the metro it is the sum of the track lengths between the centres of the end station waiting platforms, for trams it is measured along the track axis, for buses the street axis.*

* *Including PID suburban lines operated by DPP (with sections also beyond the boundaries of Prague)*

Overview of most important events in PID in 2011	
Month	**Description of event**
January	• Full-scale monitoring and evaluation of quality standards on PID bus lines launched.
March	• In connection with delivery of SOR buses, number of guaranteed low-floor connections on urban bus lines significantly increased; low-floor articulated buses also deployed on the 100 line.
April	• Free transportation of bicycles introduced on PID trains within Prague (only with PID ticket or pass).
June	• Due to a strike, on 16 June 2011 the Prague metro was out of operation for a full day for the first time in history. At the same time, only about a third of surface transport was in service.
July	• Modifications made to the PID fare (e.g. change of price and duration of single-ride tickets).
September	• Extended tram line to Podbaba opened. • Service around Holešovický přístav and Norbertov provided by midibus lines 156 and 216. • Suburban bus line 334 on route Smíchovské nádr. – Psáry launched, using the Prague Outer Ring Road. • Fines for riding without a valid ticket increased from CZK 700 to 800 and from CZK 950 to 1000. • ROPID opens the first PID infocentre at Prague's main train station Hlavní nádraží.
October	• 207 bus line on route Staroměstská – Ohrada launched and routes of lines 133, 155 a 175 modified. • Articulated buses deployed on express line 125.
December	• Reorganisation of bus lines in the areas Jihozápadní Město, Řepy, Zličín and Ruzyně. • Optimisation of bus lines in the areas Kyje, Dolní Počernice and Újezd nad Lesy. • New midibus lines 168, 260, 262 and 264 and new suburban night line 615 created. • Extension of some connections on the S9 train line to the station Praha-Horní Počernice and integration of all fast trains on the route Praha – Kralupy nad Vltavou into PID. • Process of marking train lines under PID with "S" symbol completed.

3.2 Metro

The metro forms the backbone of the public transportation network in Prague. During one workday an average of 1 900 train connections are dispatched in the Prague metro, carrying approximately 1 210 000 passengers.

Basic data on the metro network in Prague		
Operator	**Number of lines**	**Operating length**
Prague Public Transport Company	3 (A, B, C)	59.1 km
Number of stations	**Average distance btw. stations**	**Average travelling speed**
57 (transfer stations counted twice)	1 094 m	35.6 km/h
Ridership and share of persons transported in 2011		**Operating time**
530 493 000	44.94 %	daily from approx. 5:00–24:00 (Friday and Saturday 5:00–1:00)

Type 81-71M trains at the Hostivař depot

New diagonal lift at Háje metro station

Barrier-free access via passenger elevator, stair lift platform or direct barrier-free entrance from pedestrian pathways (Vyšehrad station) is possible at 34 of the 57 stations on the Prague metro network (60 %). Barrier-free transfer between lines is possible at the stations Muzeum and Florenc.

Metro stations with barrier-free access in Prague

A line (5 stations of 13)	B Line (14 stations of 24)	C Line (15 stations of 20)
Dejvická, Muzeum, Strašnická, Skalka, Depo Hostivař	Zličín, Stodůlky, Luka, Lužiny, Hůrka, Nové Butovice, Smíchovské nádraží, Národní třída, Florenc, Vysočanská, Kolbenova, Hloubětín, Rajská zahrada, Černý bridge	Letňany, Prosek, Střížkov, Ládví, Kobylisy, Nádraží Holešovice, Vltavská, Florenc, Hlavní nádraží, Muzeum, Vyšehrad, Budějovická, Pankrác, Chodov, Háje

In February 2011 a diagonal elevator was installed in the escalator tunnel of the eastern entrance hall at the Háje station on the C line. In March 2011, barrier-free access was added to the Národní třída metro station on the B line with a passenger elevator leading onto Magdaleny Rettigové street (near the Lazarská tram stops).

Interesting facts about metro lines, sections and stations

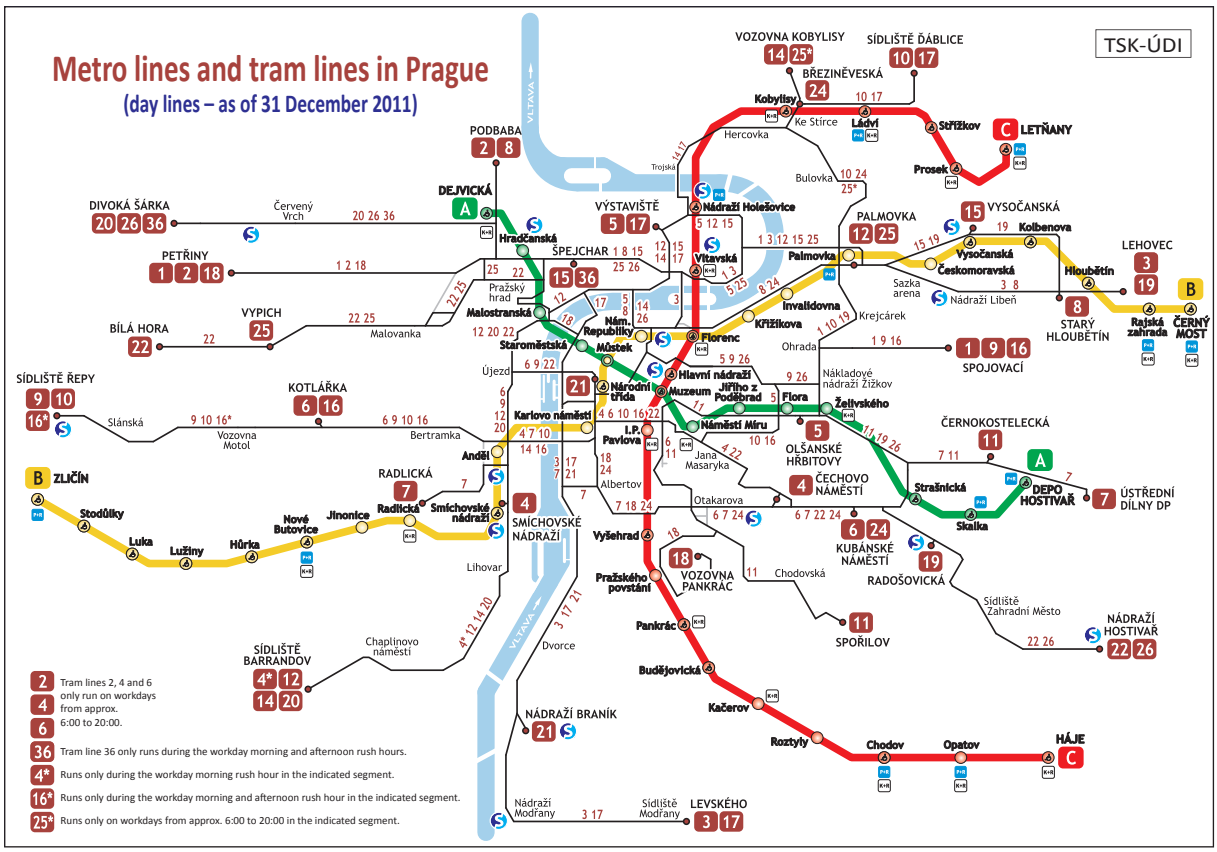
Longest line	Most connections on a line	Most passengers transported*
B line (25.7 km)	C line (760 connections/day)	C line (523 600 persons/day)
Segment with most passengers*	**Station with highest turnover***	**Shortest interval at peak**
I. P. Pavlova – Vyšehrad (C) 291 700 ppl/day in both directions	Můstek (A)** – 188 000 ppl/day I. P. Pavlova (C) – 119 000 ppl/day	C line (1.83 min)

* *Data from most recent "Comprehensive Metro Transportation Study" carried out in November 2008.*

** *Highest turnover at transfer station (including entry, exit and transfer to B line).*

Number of trains designated for individual lines of the Prague metro

A line (type 81 – 71M)	B line (type 81 – 71M)	C line (type M1)
17 trains running at morning peak	38 trains running at morning peak	37 trains running at morning peak
41 trains designated for the line	52 trains designated for the line	53 trains designated for the line



3.3 Trams

Trams form a complementary network to the metro. Tram lines have both a radial and a tangential function, also serving as feeders for metro stations. Over the course of one workday an average of 6 300 connections are dispatched on the Prague tram network (including night trams), transporting approximately 1 130 000 passengers.

Basic data on the tram network in Prague

Operator	Number of lines	Operating length
Prague Public Transport Company	34 (25 day, 9 night)	142.4 km (52% dedicated track bed)
Total length of tram lines	**Average distance between stops**	**Average travelling speed**
549 km	534 m	18.6 km/h
Ridership and share of persons transported in 2011		**Operating time (:00)**
311 057 000	26.35 %	day 4–24(1), night 0(1)–4

On 1 September 2011 construction was completed on the tram track extension from the original Podbaba tram loop to the future Praha-Podbaba railway station on track 091. The project included the construction of a 260-metre segment of new track plus the laying of around 290 metres of track in the new tram loop. Two new stops were also constructed, Zelená and Podbaba. At the same time, approximately 900 metres of track between Vítězné square and Čínská street was refurbished.

New tram tracks to Podbaba

Špejchar turn-around

Changes in tram routing

Lines	Description of change
2, 8	Extended to new Podbaba loop during daily service.
15	Route shortened to Vysočanská (Nádraží Vysočany) – Špejchar.
16	Between Kotlářka and Sídliště Řepy operated during workday morning and afternoon peaks.
36	Introduced during the morning and afternoon peaks on route Špejchar – Dejvická – Divoká Šárka.

Significant reconstruction projects also took place in 2011 on the right bank of the Vltava in the sections Staroměstská – Národní divadlo, Národní divadlo – Myslíkova (carrying over into 2012) and Výtoň – Sídliště Modřany. Phase I of the reconstruction of Zenklova street (Palmovka – Elsnicovo nám.) was also carried out.

Interesting facts on day tram lines, sections and stops

Longest line	Most connections on a line	Most persons transported*
Line 3 (23.15 km)	Line 22 (455 connections/day)	Line 22 (127 000 ppl/day)
Segment with most passengers*	**Stops with highest turnover***	**Shortest interval at peak**
I. P. Pavlova – Štěpánská 86 300 ppl/day both directions	Anděl – 87 680 ppl/day I. P. Pavlova – 69 550 ppl/day	Lines 9, 17 and 22 (4 minutes)

** Data from "Comprehensive Tram Transportation Study" carried out in May 2011 for the period from 6:00-23:00.*

Load daily tram network
Examining Values - May 2011
number of persons
workday 6:00 - 23:00

TSK-ÚDI

Number lines total	25
Number persons total	1 078 920

3 the most busy lines

	Line	Number of pers.
22	Bílá Hora - Nádraží Hostivař	127 056
9	Sídliště Řepy - Spojovací	110 117
10	Sídliště Řepy - Sídliště Ďáblice	67 743

3 the most busy sections

	Section	Number of pers.
1	I. P. Pavlova - Štěpánská	43 886
2	Národní třída - Lazarská/Spálená	43 196
3	Štěpánská - Karlovo náměstí	43 012

3.4 PID buses

Urban and suburban bus transport is operated within the city as part of PID. **Urban bus transport** forms a supplementary network to the metro and trams, also providing blanket service in some areas and many important tangential connections, particularly in the outlying areas of the city. Suburban bus transport connects the city with the surrounding region.

During a single workday an average of 23 730 PID bus connections are dispatched within the city, transporting approx. 1.12 million passengers. Of this number, 19 930 are urban connections (the 100, 200 and 500 series) and 3 800 are suburban connections (the 300 and 600 series). Nine carriers operated urban bus lines, with DPP accounting for 152 of those (82 %) and eight private carriers the remaining 24 (14 %)

Basic data on the PID bus network in Prague

Operators of urban lines	Number of urban lines (100-297)	Operating length in Prague
9 (86 % DPP* and 14 % private)	149 (134 day and 15 night)	695.0 km**
Length of urban bus lines	**Avg. distance btw. urban bus stops**	**Avg. travelling speed of urban buses**
1 779 km	580 m	24.6 km/h
Ridership and share of persons transported in Prague in 2011		**Operating time (:00)**
318 070 320 (urban + suburban lines)	26.94 % (urban + suburban lines)	day 4–24(1), night 0(1)–4

** DPP = Prague Public Transport Company ** Only including bus network operated by DPP*

On an average workday, 80 day and 11 night **suburban bus lines** (the 300 and 600 series) crossed the boundaries of Prague in both directions with around 3 800 connections, carrying approximately 87 920 passengers across the city limits. These lines were operated by a total of 11 carriers, with private carriers operating 74 lines (81 %) and DPP the remaining 17 (19 %).

The 180 line on the street Jugoslávských partyzánů

Suburban line 341 at the turn-around on Obchodní square

The network of PID bus lines is also supplemented by **regional lines** that are operated only out of the territory of Prague. At the end of 2011 there were 63 of these in operation (the 400 series) and they carried approximately 21 100 passengers per workday. These are all operated by private carriers (a total of 8).

Interesting data on day bus lines, segments and stops within Prague

Longest urban line	Most connections on a line	Most passengers transported*
Line 177 (27.85 km)	Line 200 (427 connections/day)	Line 177 (40 000 ppl/day)
Segment with most passengers*	**Stops with highest turnover***	**Shortest interval at peak**
Michelský les – Kačerov 77 000 ppl/day both directions	Dejvická – approx. 59 700 ppl/day Kačerov – approx. 55 500 ppl/day	Line 107 (2 minutes)

** Data from sectional transportation studies of PID buses carried out in 2009-2011 for the period 6:00-20:00.*

In 2011, urban and suburban bus lines had a total of 1 093 stops available to them within Prague (number calculated from stop names). The most lines (26) and connections (around 2 660) of urban and suburban buses left from the stop Nemocnice Krč. PID suburban bus transport used a total of 22 locations in Prague as terminal stops for serving the outlying areas.

Most important terminals for PID suburban bus transport (workday)

Bus terminals	Lines	Connections (approx.)	Turnover (persons)
Dejvická	8	470	11 400
Zličín	13	500	11 300
Černý Most	8	350	10 430
Opatov	7	380	9 640
Smíchovské nádraží	9	340	9 300
Budějovická	8	320	8 700
Letňany	7	450	7 600

The year's most significant changes in the organisation of bus lines took place in December 2011 in the areas of Jihozápadní Město, Řepy, Zličín and Ruzyně. The changes affected 11 urban lines and one suburban line, with 5 lines being scrapped or combined with others and 4 new lines being created, of those two midibus lines (168 and 264), one school line (566) and one standard line (214).

During the same period, the routing of PID buses in the eastern part of Prague around Dolní Počernice and Újezd nad Lesy was optimised, with changes to 10 urban lines and one suburban line, cancellation of one line (208) and two new midibus lines created (260 and 262).

The number of lines exclusively serviced by low-capacity buses continued to rise in 2011. These vehicles were first used in Prague in places where the operation of a standard bus would not be possible due to space restrictions, and were subsequently deployed to serve hospital premises. Recently midibuses have also begun to be used on lines where standard buses would be under-occupied and smaller vehicles can therefore meet the demand at a lower cost.

The first such bus line was the 291 line, which was introduced in 2003 as part of the European project Trendsetter (a midibus connected the stops I. P. Pavlova and Karlovo náměstí with the nearby hospital grounds). In the following years a further eight such lines were added, numbered 128, 236, 292, 293, 295, 296, 297 and H2 (a special line for the physically handicapped). In the past year the number of exclusively low-capacity bus lines increased by a further six.

Low-capacity vehicles have also gradually been deployed on weekends on other bus lines with reduced demand as well as on workdays for individual connections of day and night lines. The introduction of midibus lines contributes significantly to the growing number of guaranteed barrier-free connections on PID lines.

Following a trial year, 2011 was the first year of full-fledged monitoring and evaluation of quality standards for bus transport. The PID quality standards establish a single level of quality for the services provided and are based on the recommendations of the European standard ČSN EN 13 816.

Midibus line 260 at the stop Nádraží Klánovice

The greatest number of guaranteed low-floor connections was offered by the Prague Public Transport Company in 2011. After receiving an order of new SOR-type buses, as of the last day of April the largest Prague carrier guaranteed 372 low-floor vehicles deployed at the workday morning peak (292 standard, 61 articulated, 17 midibuses and 2 electrobuses). On Saturday and Sunday the total was 229 vehicles. The number of low-floor buses has gradually increased on the lines of other carriers as well; this type of vehicle makes up about a fifth of their fleet.

3.5 PID railway transport

Railway transport has been under development under PID since 1992. In 2007 the process of labelling suburban lines with “S” or “R” was begun, with emphasis on regular intervals and easy-to-remember times. Recent efforts have focused on offering connections that pass through Prague in some directions.

A total of 798 trains (including 38 express trains) were dispatched daily under PID on workdays in 2011, carrying approximately 96 480 passengers a day.

Basic data on the PID rail network within Prague

Operator	Number of lines and tracks	Operating length
Czech Railways (České dráhy, a.s.)	16 S and R lines, 11 tracks (incl. ML)	160.0 km
Number of stations and stops	**Average distance btw. stops**	**Avg. speed of PID local trains**
44	3 800 m	45.2 km/h
Ridership and share of persons transported in 2011		**Operating time**
18 421 000	1.56 %	daily from approx. 4:00–1:00

Since 2010 all 11 railway tracks within Prague have been fully integrated into PID, meaning that in addition to time-based passes it is also possible to use individual PID tickets (all stations and stops are equipped with yellow ticket-stamping machines).

New boarding platform at station Praha-Horní Počernice

Weekend service of S41 line at station Praha-Hostivař

On the day of state-wide changes to the train schedules (11 December 2011), several adjustments were also made on the S and R lines entering the City of Prague. During the workday rush hours, some of the **S9** connections coming from Benešov were extended from the station Praha-Vysočany to the station Praha-Horní Počernice, where a new island boarding platform was built as part of modernisation on the Praha-Vysočany – Lysá nad Labem track section.

All trains on the **S65** line (including weekends) continue on to the stop Praha-Smíchov, Na Knížecí. All express trains under PID (**R4** line) now ride between Praha hl. n. and Kralupy nad Vltavou. In December 2011, in order to unify the information on PID trains, the process of labelling train lines with the letter „S“ was completed. The existing 17 S lines were joined by a further 13 in the areas of Čelákovice, Lysá nad Labem, Kralupy nad Vltavou, Kladno, Beroun and Čerčany.

Rail lines newly marked „S“ operated under PID outside the City of Prague

S11: Pečky – Bošice – Kouřim, **S23**: Čelákovice – Brandýs nad Labem – Neratovice, **S32**: Lysá nad Labem – Stará Boleslav – Všetaty – Štětí*, **S40**: Kralupy nad Vltavou – Podlešín – Slaný*, **S43**: Kralupy nad Vltavou – Neratovice, **S44**: Kralupy nad Vltavou – Velvary, **S45**: Kralupy nad Vltavou – Zákolany – Kladno-Ostrovec – Kladno, **S50**: Kladno – Kamenné Žehrovice – Rakovník*, **S60**: Beroun – Králův Dvůr-Popovice – Březnice*, **S70**: Beroun – Králův Dvůr-Popovice – Hořovice*, **S75**: Beroun – Beroun-Závodí – Rakovník*, **S76**: Zadní Třebaň – Všeradice – Lochovice*, **S88**: Čerčany – Sázava-Černé Budy

** Station located outside PID tariff zones.*

PID railway lines (S and R) entering the City of Prague

Line	Track	Route
S1	011	**Praha Masarykovo nádraží** – *Praha-Klánovice* – **Český Brod** – Poříčany – Pečky – **Kolín**
S2	231	**Praha Masarykovo nádraží** – *Praha-Horní Počernice* – Lysá nad Labem – Stratov – **Nymburk – Kolín**
S3	070	**Praha-Vršovice** – *Praha hlavní nádraží – Praha-Čakovice* – Neratovice – **Všetaty – Mladá Boleslav**
S4	091+090	**Praha Masarykovo nádraží** – *Praha-Sedlec* – Roztoky u Prahy – **Kralupy nad Vltavou** – Vraňany – **Hněvice**
S5	120	**Praha Masarykovo nádraží** – *Praha-Ruzyně* – Hostivice – **Kladno – Kladno-Ostrovec**
S6	173	**Praha-Smíchov** – *Praha-Řeporyje* – Rudná u Prahy – **Nučice – Beroun**
S7	011+171	**Úvaly** – *Praha-Klánovice* – **Praha hlavní nádraží** – ***Praha-Radotín*** – **Řevnice – Karlštejn – Beroun**
S8	210	**Praha hlavní nádraží** – *Praha-Zbraslav* – Vrané nad Vltavou – **Čerčany**
S9	221	**Praha-Horní Počernice – Praha hlavní nádraží – Praha-Kolovraty – Strančice** – Čerčany – **Benešov u Prahy**
S20	231+232	**Praha Masarykovo nádraží** – *Praha-Horní Počernice* – Lysá nad Labem – **Milovice**
S41	ML	**Praha-Hostivař** – *Praha-Libeň* – Praha-Holešovice – **Praha-Sedlec – Roztoky u Prahy**
S65	122	**Praha-Smíchov, Na Knížecí** – *Praha-Zličín* – **Hostivice – Rudná u Prahy**
S80	210	**Praha hlavní nádraží** – *Praha-Zbraslav* – Vrané nad Vltavou – **Dobříš**
R3	070	**Praha-Vršovice** – Praha hlavní nádraží – ***Praha-Čakovice*** – **Neratovice** – Všetaty – **Mladá Boleslav**
R4	091+090	**Praha hlavní nádraží** – *Praha-Holešovice* – Kralupy nad Vltavou – **Hněvice**
R5	120	**Praha Masarykovo nádraží** – *Praha-Veleslavín* – Hostivice – **Kladno** – **Rakovník**

*Note: Stations marked in **bold** are initial/final stops on the line. Stations marked in italics are the first/last stops on the territory of the City of Prague. Stations marked in colour are stations where integration under PID ends.*

With the introduction of regular intervals on S lines and the offer of new connections (for example passing through the territory of Prague) railway transport is becoming more attractive for passengers. On the most important tracks the travel time from the first stop within the city limits to the centre of the city does not exceed 20 to 30 minutes and the intervals between connections during peak hours generally range between 15 and 30 minutes.

Transport data on most important railway segments in Prague

Section (line)	Average peak frequency	Average trip time	Length
Praha-Klánovice – Praha Masarykovo nádraží/Praha hl. n. (S1,S7)	15 min	23 min	18 km
Praha-Kolovraty – Praha hlavní nádraží (S9)	15 min	23 min	17 km
Praha-Radotín – Praha hlavní nádraží (S7)	10 min / 15 min*	17 min	13 km
Praha-Sedlec – Praha Masarykovo nádraží (S4)	30 min	14 min	9 km
Praha-Horní Počernice – Praha Masarykovo nádraží (S2, S9, S20)	20 min / 30 min*	16 min	15 km
Praha-Ruzyně – Praha Masarykovo nádraží (S5)	30 min / 60 min*	25 min	13 km

** morning / afternoon peak*

From Praha-Klánovice to the centre in 23 minutes

The hall of Masarykovo nádraží, renovated in 2011

Number of persons transported by rail in Prague under PID per year (trips made using PID ticket)

Year	2000	2005	2006	2007	2008	2009	2010	2011
Persons	10 048 000	16 584 000	16 531 000	17 192 000	17 278 000	17 751 000	18 126 000	**18 421 000**

According to a state-wide frequency study carried out by Czech Railways in 2011, the most heavily trafficked railway within Prague is track 171, which connects the capital with the Beroun region (on average 18 970 persons transported per workday) and the least trafficked was track 122 (Praha hlavní nádraží – Praha-Zličín – Hostivice – Rudná u Prahy) with an average of 340 persons transported per workday.

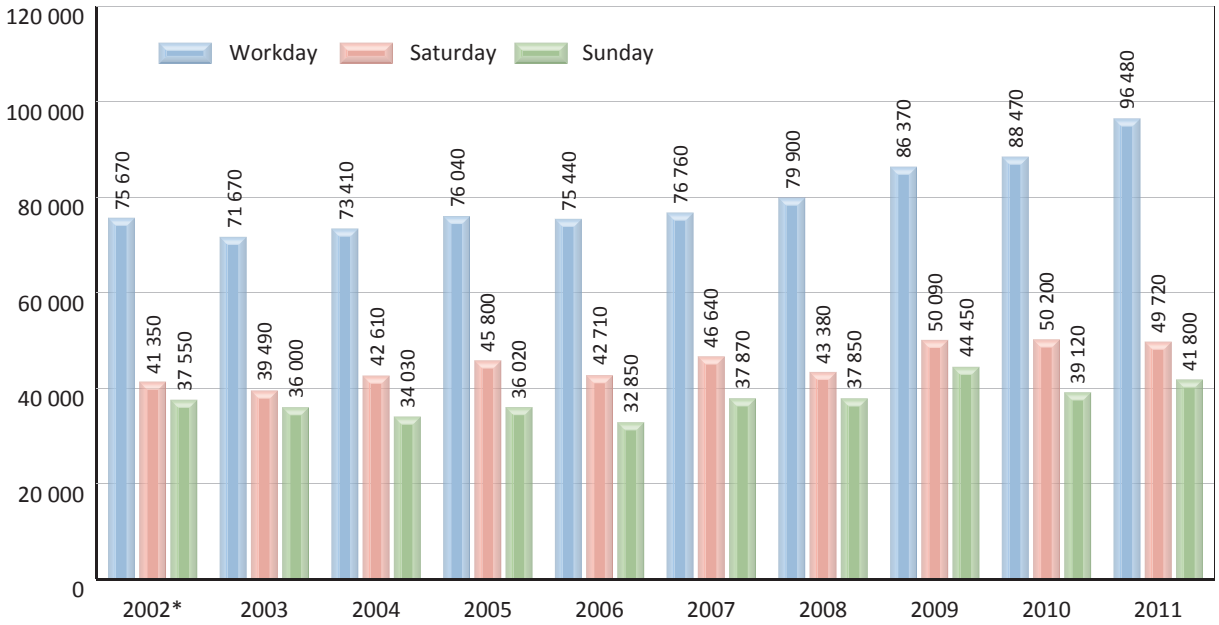
Number of persons transported by rail in Prague as part of PID (average workday*)

Track	Line	2001	2005	2006	2007	2008	2009	2010	2011
011	**S1 (S7)**	17 510	18 270	19 040	17 120	17 580	18 120	17 570	**19 340**
070	**S3, R3**	1 950	1 790	1 740	2 190	2 260	2 540	2 380	**2 890**
091	**S4, R4**	9 120	9 100	9 700	9 410	10 030	7 830	8 210	**10 030**
120	**S5, R5**	5 010	4 520	4 500	3 920	4 310	5 620	5 270	**4 960**
122	**S65**	200	240	190	210	200	230	340	**390**
171	**S7**	14 500	14 230	14 230	15 740	16 450	18 530	18 970	**20 470**
173	**S6**	420	350	390	420	510	690	790	**880**
210	**S8, S80**	2 820	2 200	2 070	2 090	1 830	1 950	1 860	**1 560**
221	**S9**	16 490	14 390	12 420	12 810	13 780	15 650	16 940	**18 950**
231	**S2, S20 (S9)**	8 580	9 880	10 040	10 480	11 060	12 730	13 640	**14 490**
ML	**S41**	0	1 070	1 120	1 750	1 890	2 480	2 500	**2 520**
TOTAL		**76 600**	**76 040**	**75 440**	**76 140**	**79 900**	**86 370**	**88 470**	**96 480**

** Average value for both directions from two studies carried out in spring and autumn of every year.*

On an average Saturday in 2011, PID trains within Prague transported 52 % of the amount of passengers carried on an average workday. On an average Sunday PID trains within Prague transported only 43 % of the passengers carried on a workday.

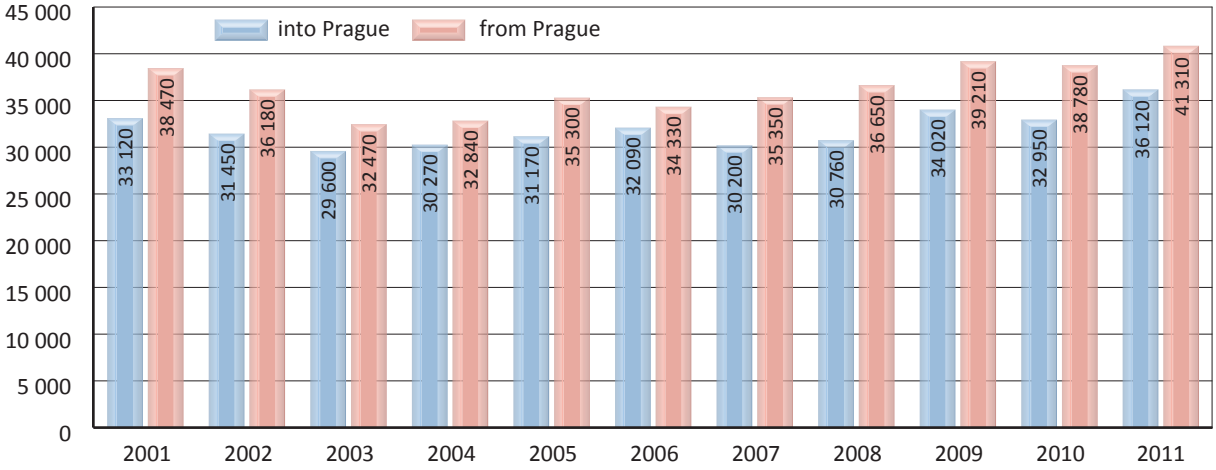
Number of persons transported by PID trains within Prague by day of the week **



** Data for 2002 do not include temporary rail shuttle transport operated due to floods.*

*** Average value from two studies carried out in spring and autumn of each year.*

Number of persons crossing the city limits on PID trains in an average workday*



** Average value from two studies carried out in spring and autumn of each year.*

S41 line by the new Podbaba tram loop

The north mouth of the Praha-Smíchov train station

Taking PID buses and trains together, around 165 350 persons cross the border of Prague on an average workday, with PID trains accounting for 47 % of this number and PID buses 53 %.

Most and least frequented PID train entry points at boundary of Prague over 24-hour period*

Most frequented segments	Line and track	Total persons/day
1. Černošice – Praha-Radotín	S7, track 171	14 121
2. Zeleneč – Praha-Horní Počernice	S2, S20, track 231	14 102
3. Úvaly – Praha-Klánovice	S1 (S7), track 011	13 585
Least frequented segments	**Line and track**	**Total persons/day**
1. Hostivice – Praha-Zličín	S65, track 122	398
2. Zbuzany – Praha-Řeporyje	S6, track 173	700

** data for both directions according to a study from October 2011*

Most and least frequented PID train segments within Prague over 24-hour period*

Most frequented segments	Line and track	Total persons/day
1. Praha-Velká Chuchle – Praha-Smíchov	S7, track 171	19 241
2. Praha-Kyje – Praha-Libeň	S1 (S7), track 011	18 261
3. Praha-Horní Měcholupy – Praha-Hostivař	S9, track 221	15 964
Least frequented segments	**Line and track**	**Total persons/day**
1. Praha-Stodůlky – Praha-Cibulka	S65, track122	319
2. Zbuzany – Praha-Řeporyje	S6, track 173	700

** data for both directions according to a study from October 2011*

At all 44 railway stations and stops within Prague, a total of 127 860 passengers enter and exit PID trains on an average workday.

Daily passenger turnover on PID trains at most frequented railway stations in Prague

Station	PID lines passing through	Boarding, de-boarding and transfer (total ppl/day)
1. Praha Masarykovo nádraží	S1, S2, S20, S4, S5, R5	31 187 (PID accounts for 100 % of total daily turnover)
2. Praha hlavní nádraží	S3, R3, R4, S7, S8, S80, S9	28 762 (PID accounts for 40 % of total daily turnover)
3. Praha-Smíchov	S6, S7	11 766 (PID accounts for 90 % of total daily turnover)

With the number of S and R lines growing each year, so too does the percentage of passengers using PID single tickets or time-based passes on PID train connections. In 2011 this number exceeded 70 %.

Percentage of travel documents used by passengers on PID trains within Prague

Year	1994	1996	1998	2000	2002	2004	2005	2006	2007	2008	2009	2010	2011
PID document* (%)	17.4	29.1	32.5	39.2	52.1	57.7	59.7	60.4	63.3	63.8	66.6	68.7	**70.3**
– individual PID tickets (%)	-	-	-	-	7.2	10.6	7.0	7.5	8.2	5.6	7.3	8.5	**5.4**
ČD document or free (%)	82.6	70.9	67.5	60.8	47.9	42.3	40.3	39.6	36.7	36.2	33.4	31.3	**29.7**

** including individual PID tickets*

3.6 Funicular and ferries

The funicular is part of PID and provides a connection between Újezd, Nebozízek and Petřín. Every day it transports an average of 5 000 passengers. In 2011 it carried a total of 1 841 450 passengers and accounted for 0.16 % of the overall number of persons transported by PID within the city that year. The funicular consists of two cable cars with a capacity of 100 persons moving along a 510 m long track at an average speed of 6.12 km/h, covering a height of 130.45 m. The cars are suspended on an electrically powered cable with a diameter of 35.4 mm.

In 2010 the transportation of bicycles was permitted on the Petřín funicular on a trial basis. On 2 January 2011 this was made permanent and ensconced in the official PID Terms and Conditions.

Intermediate stop on Petřín funicular Nebozízek

P6 ferry in Modřany

River ferries across the Vltava have been an element of PID since 2005 and are becoming a more and more commonplace component of public transport in the city. Over the seven years this form of transport has been in place it has transported approximately 2.1 million passengers. In 2011 there were 6 ferries in operation, carrying 641 730 passengers and accounting for 0.05 % of the total number of passengers transported under PID within Prague. Use of the ferries grew by 30 % over 2010.

The operator of the P3 ferry is Vittus group s. r. o., while the other ferries are run by První Všeobecná Člunovací Společnost s. r. o. All ferries are served by boats with a capacity of 11 persons with the exception of P5, which offers a boat with a capacity of 50 persons. A second boat is added to P2 on a seasonal basis.

Changes in ferry operation

Line	Description of change
P2	As of March 2011, workday service begins at 5:30 and allows better connection between Bohnice and Prague 6.
P3	Dock continues to be relocated from Žluté lázně (restricted entry to premises) to Veslařský ostrov.
P4	Ferry scrapped after end of season as it was used primarily for tourist rides not suited for PID.
P5	Service on original route ended in December 2011. Shorter route and seasonal operation proposed for 2012.

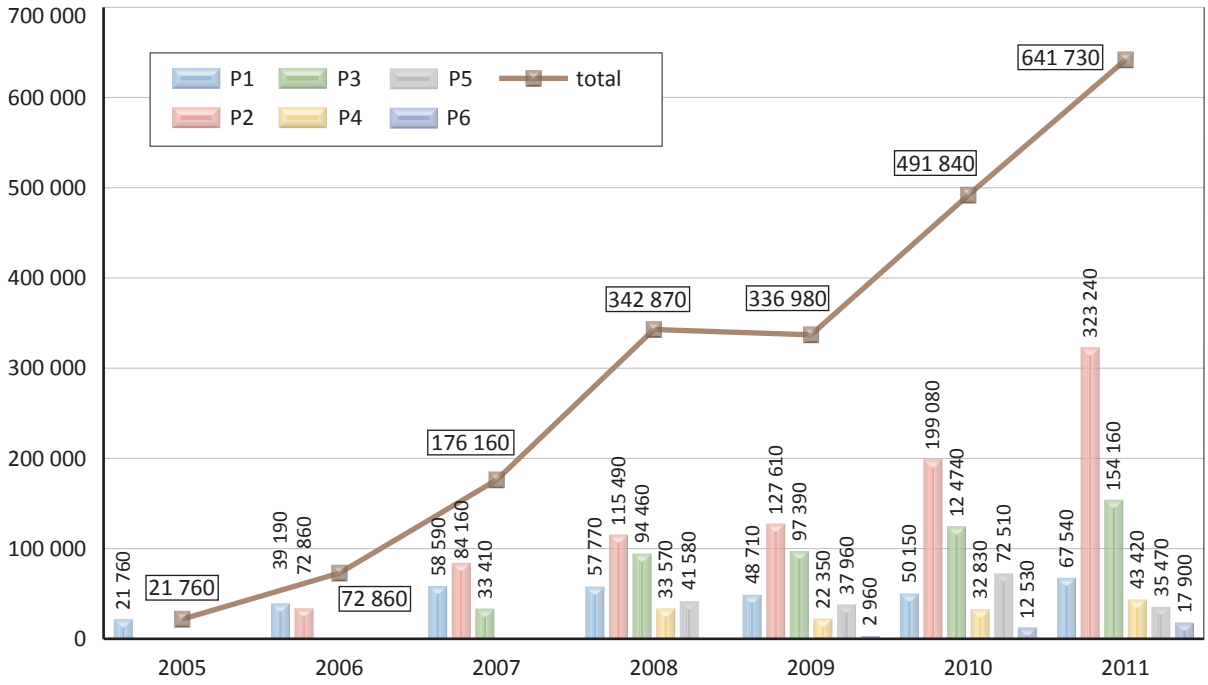
The most heavily used ferries in terms of total number of passengers transported in 2011 were ferries P2 and P3, which together ferried approximately 477 000 people (74 % of the total).

Overview of Prague ferries operated in 2011 and selected operating parameters

Line	Route	Beginning (and end) of operation	Season	Persons transported per day*	Persons transported in 2011	Persons transported total**
P1	Sedlec – Zámky	1.7.2005	year-round	196	67 540	344 790
P2	V Podbabě – Podhoří	1.7.2006	year-round	937	323 240	883 250
P3	Lihovar – Veslařský ostrov	17.7.2007	year-round	431	154 160	512 160
P4	Národní divadlo (Hollar) – Střelecký ostrov – Slovanský ostrov (Žofín) – Dětský ostrov	from 1.8.2008 to 11.12.2011	seasonal (IV. – X.)	209	43 420	133 470
P5	Jiráskovo náměstí – Botel Admirál – Výtoň – Císařská louka	from 1.8.2008 to 11.12.2011	year-round	104	35 470	187 800
P6	Nádraží Modřany – Lahovičky	19.9.2009	year-round	52	17 900	33 390

** average number of persons transported per day in 2011 ** since being first launched*

History of number of persons transported by PID ferries in 2005 – 2011



During daily service in 2011 on ferries P1 and P6, trips could also be made outside those listed on the schedule as long as it would not disrupt the scheduled connections.

Ferries P2 and P3 were operated according to the schedule; during periods of high demand the ferries could be operated continuously (meaning the schedule might not be followed precisely). Due to the length of the route, ferries P4 and P5 only operated at the times indicated on the schedule.

3.7 PID carrier fleets

Metro fleet

Type	Inventory	Operational
Historical trains Ečs and 81 – 71	8	0
81 – 71M	465	445
M1, M1D	265	240
TOTAL	738	685

81-71M

M1

In 2011 the Prague Public Transport Company (DPP) completed its metro fleet renewal. In February Škoda Transportation, a. s. delivered the last batch of trains modernised from the 81-71 type to 81-71M (a total of 93 trains were modernised starting in 1999). At the end of June DPP also received the last 53 new M1 trains, which the company Siemens has been providing since 2000.

Tram fleet

Type	Inventory	Operational
Standard (T3, T3M, T3SU, T3R, T3R.PV, T6)	788	748
Low-floor (T3R.PLF)	33	33
Standard articulated bidirectional (KT8D5)	12	9
Low-floor articulated bidirectional (KT8D5.RN2P)	35	35
Low-floor articulated unidirectional (14T, 15T)	104	104
TOTAL	972	929

T3

T6

T3R.PLF

KT8D5.RN2P

14T

15T

In 2011, 43 new 15T type cars were delivered and by the beginning of February they were already ready to be included in regular service with passengers. The plan is for further 15T trams to be delivered in the coming years at a rate of 32 per year. Five KT8D5 trams were refurbished into KT8D5.RN2P trams with a low-floor section in the middle. As a result of the new tram cars, four completely original T3 cars were sent out with passengers for their last ride in December.

Bus fleet

Type	Prague Public Transport Company		Private carriers
	Inventory	Operational	Operational
Standard	341	315	417
Articulated	225	190	36
Standard low-floor	490	490	78
Articulated low-floor	199	201	20
Midibus low-floor*	28	28	35
Minibus**	0	0	6
TOTAL	**1 283**	**1 224**	**592**

** Types SOR B(C)N8.5, Ikarus E91, Zeus M200E (electric), Mercedes-Benz O616 ** Peugeot, Iveco Daily, Mercedes-Benz Vario*

standard

articulated

low-floor

articulated low-floor

midibus Ikarus E91

midibus SOR BN 8,5

Czech Railways fleet used for suburban rail transport in Prague and surroundings

Car series	Vehicle car	Accessibility	Year of manufacture*	Number in regular rotation	Number on record
451, 452	electric train unit	low-floor	1964 – 1973	14	31
471	electric train unit	low-floor	2000 – 2009	52	65
714	motor locomotive	-	1992 – 1997	3	8
810	motor car	standard	1975 – 1982	6	8
010, 012	connecting car	standard	1975 – 1982	19	24
854	motor car	standard	1997 – 2006	11	14
054	connecting car	standard	2005 – 2009	11	15
056	connecting car	standard	1998	2	2
954	steering car	standard	2006 – 2009	2	3
814	motor train unit	low-floor	2005 – 2009	12	12
TOTAL	-	-	-	**132**	**182**

* *For car series 814 and 854 the year of manufacture is the year of modernisation.*

451, 452

471

714

810 +010/012

854+054 +056+954

814

3.8 Non-PID public transport in Prague

Mass passenger transport outside the PID system is operated for specific purposes and various events. As this is special purpose transportation, these lines have special fares, which can by symbolic or even free.

Bus lines serving large shopping or multifunctional centres operated in a special regime. Transportation to these centres, which are generally located at the edge of the city or in hard-to-access areas, tends to be free for passengers from public transport terminals. The operation of such lines is usually paid for by the centres being served.

Free lines to shopping and multifunctional centres within Prague

Shopping centre	Number of lines	Approx. operating time	Number of connections		
			Workdays	Saturday	Sunday, holidays
BB CENTRUM Brumlovka (as of 8 December 2011)	2	7:00 – 19:00	100	-	-
IKEA + TESCO Zličín	1	5:00 – 23:30	114	139	110
GLOBUS Zličín	1	8:00 – 23:00	81	75	75
TESCO Letňany	3	9:00 – 20:00	25	48	48
OC Letňany	1	10:00 – 22:00	48	48	48
IKEA Černý Most	1	8:00 – 23:00	57	62	62
OUTLET CENTRUM Štěrboholy	1	9:00 – 21:00	24	24	24

Free supplementary public transport lines were also operated for important cultural, social and sporting events in 2011 – for example the 758 line providing a connection between the C metro line and events organised at the Letňany exhibition grounds or the nine special lines that were operated from 18:30 until 1:15 during the Prague Museum Night in June 2011.

Under the slogan “Zoobus for a crown”, a special line to the Prague ZOO was operated on weekends and holidays from the end of March until September 2011, supporting the regular PID 112 line from Nádraží Holešovice to the Prague ZOO at ten-minute intervals.

A special service for holders of ZTP and ZTP-P cards (people with physical handicaps) has been put in place whereby they can order an assistant-staffed microbus by telephone. The service is also accessible beyond the boundaries of Prague within the first PID tariff zone.

3.9 Mass transport between Prague and external territory

Public mass transport between the capital and other areas in the region and the country as a whole is provided by a number of carriers. Prague is an important hub for regional, domestic and international rail travel as well as a point of departure, destination and transit stop for many long-distance Czech and international bus lines.

Non-PID rail transportation

A total of 1 094 train connections started, ended or stopped within Prague on an average workday in 2011, carrying around 128 400 passengers across the city limits. 27 % (296) of these were non-PID connections, while the remaining 73 % (798) were incorporated under PID.

The operation of (non-PID) long-distance passenger rail transportation is provided by Czech Railways, joined in 2011 by the company RegioJet. The infrastructure for transportation is provided by the state organisation the Railway Infrastructure Administration (Správa železniční dopravní cesty).

In terms of volume, the most important train station in Prague for external rail transport has long been the station Praha hlavní nádraží. A total of 657 train connections pass through this station daily, of which 45 % are non-PID connections.

Train volume at most important railway stations in Prague*

Station	Praha hlavní nádraží	Praha Masarykovo nádraží	Praha-Smíchov	Praha-Vršovice	Praha-Libeň	Praha-Vysočany	Praha-Holešovice	Praha-Radotín
Trains per year	225 073	98 589	84 058	82 713	86 715	65 264	38 167	41 232
Trains per day**	657	291	259	247	259	212	115	128
– PID	361	291	179	210	172	181	69	128
– non-PID	296	0	80	37	87	31	46	0

** number of trains starting, ending or stopping ** average work day*

The new operator RegioJet company

Praha-Hostivař

Development of total number of trains starting and ending at Prague stations per year (all trains)

Year		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
of trains	starting	162 578	170 706	159 681	159 524	161 193	160 360	174 615	215 189	217 472	217 481
	ending	162 990	170 324	160 888	160 731	163 510	160 665	174 947	215 598	217 886	217 895
	TOTAL	**325 598**	**341 030**	**320 569**	**320 255**	**324 703**	**321 025**	**349 562**	**430 787**	**435 358**	**435 376**

The last significant increase in the number of trains beginning and ending in Prague was recorded in 2009 with the opening of the Nové spojení („New Connection“) and the completion of platforms I – IV at Praha hlavní nádraží. Over the past two years the total number of trains has stagnated.

Passenger turnover at most important railways stations within Prague *

Station	Praha hlavní nádraží	Praha Masarykovo nádraží	Praha-Smíchov	Praha-Vršovice	Praha-Libeň	Praha-Vysočany	Praha-Holešovice	Praha-Radotín
Persons per year	24 833 000	9 359 000	4 170 000	1 433 000	1 870 000	1 492 000	1 339 000	1 986 000
Persons per day	73 791	31 187	13 706	4 437	6 044	4 915	4 135	6 406
– PID	28 762	31 187	11 766	3 892	4 554	4 273	2 099	6 406
– non-PID	45 029	0	1 940	545	1 490	642	2 036	0

** sum of boarding and disembarking*

Non-PID bus transportation

Public bus transportation between Prague and other areas is operated by a number of carriers from the Czech Republic, and some international lines are also run by carriers from other countries.

The only bus station in Prague that only dispatches non-PID buses is ÚAN Florenc. It has also long been the most heavily trafficked station for regular external, generally long-distance, bus transportation.

Development of selected characteristics of Florenc bus station

	2003	2005	2006	2007	2008	2009	2010	2011
Connections per year	230 000	220 000	210 000	200 000	180 000	160 000	145 000	**145 000**
Connections per average workday	700	660	650	620	550	460	420	**420**
– of which international	110	140	140	140	120	100	105	**130**
– of which domestic long-distance	590	520	510	480	430	360	315	**290**
Number of carriers	100	90	90	90	85	93	100	**100**

Other lines connecting Prague and other areas are dispatched and concluded at the bus stations Černý Most, Dejvická, Hradčanská, Nádraží Holešovice, Na Knížecí, Roztyly and Zličín. To a lesser extent (up to 5 000 connections a year) long-distance buses also leave from Letňany, Ládví and Opatov.

Selected characteristic of most important bus terminals within Prague

	Dejvická	Nádraží Holešovice	Černý Most	Na Knížecí	Zličín	Hradčanská	Roztyly	TOTAL
Connections/year	150 184	101 641	95 165	90 862	81 036	47 525	43 628	**610 041**
Connections/workday *	509	351	286	289	273	164	127	**1 999**
– international	0	0	1	0	0	0	9	**10**
– domestic long-distance	96	203	219	84	96	47	82	**827**
– intraregional	413	148	66	205	177	117	36	**1 162**

** as of 8 December 2011*

SID Středočeská integrovaná doprava

Central Bohemian Integrated Transport (Středočeská integrovaná doprava – SID) also contributes to suburban transport in Prague. SID provides public transport in selected parts of the Central Bohemian Region on regional and municipal lines, but without any shared fare with PID or Czech Railways trains. SID lines entering the territory of Prague are designated by the letters A (Kladno district), B (Rakovník district), C (Beroun district), D (Příbram district), E (Benešov district), F (Kutná Hora district), G (Kolín district) and a corresponding number.

84 SID lines began or ended at 19 locations in Prague in 2011. They crossed the city boundaries with 1 366 connections on an average workday, carrying nearly 4.5 million passengers per year.

4 BICYCLE TRAFFIC

The cycle route network in the City of Prague has a total length of 504 kilometres. The individual cycle routes are broken down into arterial (serving primarily for distance travel and following the natural lines of the terrain and urban axes – numbered Ax and Axx), main (providing connections between individual municipal districts – numbered Axxx), supplementary and local (allowing general access to an area, including recreational routes – numbered Axxxx and not labelled on the ground). This system is supplemented by cyclotourist routes.

The most important **arterial cycle routes** are the north-south routes A1 (along the left bank of the Vltava) and A2 (along the right bank of the Vltava). Important radial cycle routes heading to the centre of the city are, for example, route A12 (along Prokopské údolí), A16 (crossing through Prague 6), A23 (along the Botič stream), A25 (passing along Krejcárek and Žižkov to Hlavní nádraží) and A26 (connecting Karlín and Libeň with Hloubětín).

Basic data on bicycle infrastructure in Prague

Cycle route network	Independent cycle tracks	Cycle tracks together w/ pedestrians
504 km	7.5 km	12.9 km sep. and 120.9 km unsep.
Cycle pictocorridors	**Independent cycle lanes**	**Shared cycle lanes (+bus+taxi)**
19.0 km	30.5 km	13.3 km
Bicycle stands	**Advance stop lines for cyclists**	**Bicycle crossings**
approx. 1 230*	118 intersections, 459 lanes	30 (of those 13 with lights)

** installed by TSK*

A track for cyclists marked with sign C8a is constructed and designated as a path only for cyclists (and inline skaters). The sign C9a designates a mixed track for pedestrians and cyclists, while C10a marks a route where pedestrian and bicycle traffic is separated (either physically or by road marking). **A cycle lane** (a separate lane for cyclists) is indicated by signs IP20a and V14 in the main transportation area of the road and allows for fast and safe passage through an area with a large number of intersections. In contrast to “sidewalk” tracks, the cyclist in their own lane need not yield to vehicles approaching from a side street. **Cycle pictocorridors** (a route for cyclists marked with pictograms) is marked by sign V20 and advises cyclists where to ride along the road. It also alerts other parties on the road to the increased presence of cyclists in the area.

New part of the track for cyclists along Roztocká street

New option for going around Roztocká stop

New bicycle infrastructure in 2011

Infrastructure	Length	Infrastructure	Amount
Cycle tracks (C8a)	4 400 m	Advance stop lines for cyclists (V19)	194 lanes
Cycle lanes (V14)	2 710 m	Bicycle crossings	9 (5 w/ lights)
Cycle pictocorridors (V20)	4 130 m	Bicycle stands	303

Bicycle infrastructure investment projects in 2011

Location	Route	Description
Podbabská – Roztocká	A1	0.8 km connection of cycle tracks on left bank of Vltava between Podbabská and Roztocká.
Za Elektrárnou – Papírenská	A1	1.8 km section (of that 0.85 track) along the boat canal near Papírenská street.
Troja – Ďáblice, Phase II	A2	1.2 km of cycle track with mixed pedestrian and bicycle use between the streets Pod Havránkou and Čimická.
Vršovice – Nusle – Záběhlice	A23 + A223	3.8 km section, part as cycle track, part combined path for cyclists and pedestrians and part in the main traffic area (Nuselská – Na Líše)
Ankarská	A150	New traffic light controlled crossing for pedestrians and for cyclists.
Seifertova – Vítkov tunnel – Krejcárek	A25	On 1 June 2011 the final inspection was made of a 4.5 km length of track for pedestrians and cyclists co-financed with funding from EU funds and SFDI.

Cyclists on Prague Integrated Public Transport (PID)

Since 2 April 2011, the transportation of bicycles as a piece of luggage within the City of Prague is free for passengers according to the PID Fare Conditions. In the **metro**, at most two bicycles can be transported in the back of each train car. Transportation is not limited by the time of day, but is not allowed during periods of high traffic.

On **trams**, bicycles may only be transported on stipulated stretches heading out of the centre on workdays from 20:00-6:00 and all day on non-workdays. At most two bicycles can be transported in the space designated for prams.

On **railway track** integrated into PID, the transportation of bicycles is free within the territory of Prague; outside this territory the basic cost remains CZK 25 for each train taken.

On **non-workdays** from the end of March until October 2011, a „cycle-train“ was in operation on the route Praha-Masarykovo nádraží – Slaný. From the beginning of April until October, also on non-workdays, a „cycle-bus“ was also in operation along the route Dobřichovice, nádraží – Kytín, connecting to the S7 line train connections.

Following a successful trial run, in 2011 the transportation of bicycles on the Petřín **funicular** has been permitted on a permanent basis. Bicycles can also be transported for free on all the **ferries** connecting the banks of the Vltava.

Daily cyclist volume at selected survey stations (manual survey, both directions, workday, 7:00-20:00)

Name of station	Placement of station	2007	2008	2009	2010	2011
Podolské nábřeží	by Dvorce tram stop	1 121	1 116	596	1 332	**2 267**
Hostivař reservoir	by the dam	405	378	409	218	**261**
Vltavanů	by the cinema	1 243	791	1 585	1 290	**1 693**
Trojská lávka	on the bridge (incl. walking bikes)	1 070	2 142	1 918	1 794	**1 371**
Stromovka	Gotthardská	318	256	406	441	**440**
Podbabská	by the MHD bus stop V Podbabě	331	574	248	622	**409**
Kampa	south bridging of Čertovka	438	478	241	613	**692**
Na Příkopě	Václavské náměstí – Havířská	280	376	303	418	**493**
Jindřišská	Václavské náměstí – Panská	148	99	140	135	**148**
Nuselský bridge	on the bridge	165	98	160	187	**181**

In June 2011 an annual **manual survey** of bicycle traffic volume was carried out at 35 stations, with an additional survey measuring at a further 15 selected sites in September 2011. A comparison of the results in 2010 and 2011 shows that there was a growth in bicycle traffic at 42 measuring points. The overall daily volume at comparable sites grew by about 3 % (2010 – 23 469 cyclists; 2011 – 24 193 cyclists).

Manual surveys offer a longer time range for comparison, but each year the volume of bicycle traffic recorded by these surveys is influenced by the weather on the survey day. This is one of the main reasons that **automatic bicycle counters** were installed in 2009.

Bicycle counters allow on-line access to data 24 hours a day year-round, thus providing a detailed survey of bicycle activity at various times of year, as well as the changes in volume over the day or week. In Phase I these counters were installed at ten sites.

Over the course of 2011 (Phase II), a further 15 bicycle counters were progressively put into operation (Povltavská, Hlubočepská, Dukelských hrdinů, Vítkov, Vysočany, Modřany–Komořany, Divoká Šárka, Chodov, Střešovice, Podbabská, Letňany, Šeberov, Barrandovský bridge, Radotín and Nuselský bridge).

Bicycle counter on Podolské nábřeží

For the first 10 locations, comparable data are available for the two whole years of 2010 and 2011. For the bicycle counters installed in 2011, only partial data are available corresponding to the number of months remaining in the year. The most heavily trafficked of the new sites are Modřany-Komořany (66 000 total cyclists in August 2011) and Povltavská (approx. 41 000 total cyclists in August 2011).

Total annual cyclist volume recorded by automatic bicycle counters

Name of station	Cycle route, placement of station	Cyclists per year			Cyclist per day
		2010	2011	11/10 (%)	max. in 2011*
Dubeč	A24, Netlucká street	15 064	25 406	+68.65	385 (Sun)
nábř. Kpt. Jaroše	A1, 200 m from Hlávkův bridge	30 785	46 963	+52.55	363 (Fri)
Kolčavka	A26, at underpass Čuprova street	36 673	94 586	+157.92	1 097 (Sun)
Podolské nábř.**	A2, 150 m south from Vyšehrad tunnel	228 097	318 144	+39.48	3 108 (Tues)
Rohanské nábřeží	A2, between Hlávkův bridge and Ke Štvanici street	100 436	163 199	+62.49	1 331 (Tues)
V Šáreckém údolí	A17, at bus stop Žežulka	46 863	37 535	-19.90	512 (Sun)
Strakonická	A1, under Lahovice bridge	73 521	128 737	+75.10	2 130 (Sun)
Císařský ostrov	A160, on bridge over Plavební canal	226 372	269 958	+19.25	2 754 (Sun)
Vršovická	A23, in cycle lanes near Vršovice railways station	48 965	74 962	+53.09	622 (Tues)
Sulická	A22, at underpass Jižní spojka	99 057	158 881	+60.39	1 725 (Sun)
TOTAL		**905 833**	**1 318 371**	**+45.54**	-

* *Maximums do not include transit strike on 16 June 2011*
** *No records from 18 September 2010 till 9 February 2011*

A comparison of 2011 and 2010 shows a rise in cyclist volume at nearly all locations (with the exception of the location in Šárecké údolí). The average overall growth was 45.5 %.

Taking into account the growth in bicycle traffic volume, the number of cyclist accidents has grown but at the same time the relative accident rate (number of accidents compared to total kilometres travelled on bikes) is falling. In the case of collisions with serious consequences the absolute number of accidents has also fallen. This trend is comparable with other European countries.

5 PEDESTRIAN TRAFFIC

It is possible to undertake a whole trip from start to finish by foot, but walking is also required to start and finish every trip undertaken by any form of individual or mass transport. Walking is a free and environmentally friendly form of transport that also fulfils a social and health function. It allows instant mobility independent of spatially and economically more demanding modes of transport and also helps increase the quality of life in the city.

The volume of pedestrian traffic depends on the location, the type of pedestrian infrastructure and the time of day. In Prague, the greatest volume of pedestrian traffic is still in the city centre on the “golden cross” at the intersection of the pedestrian routes Václavské náměstí – Na můstku – 28. října street – Na příkopě, where on a workday between 5 000 and 8 000 pedestrians pass through per hour.

In recent years the volume of pedestrian traffic has continued to grow along the routes frequented by visitors to Prague, in particular routes connecting the tourist hot spots of Prague Castle – Malá Strana – Old Town, where the volume of workday pedestrian traffic reaches 3 000 to 4 000 pedestrians an hour. Prague residents are also attracted to the pedestrian routes that pass through the city’s parks and recreational forests (Stromovka, Letná, Petřín, Šárka, Kunratický les, around the Hostivař reservoir, etc.).

Charles Bridge

Traffic buttons on Náprstkova street

Increasing awareness is being given to pedestrian safety, particularly on routes where there are greater numbers of children, seniors and persons with limited mobility and orientation. This is especially true of places where pedestrian routes frequently cross paths with forms of „vehicle“ traffic.

Pedestrian safety at pedestrian crossings can be increased relatively quickly and at low cost through **non-structural measures**, though these often have a limited lifespan. This applies primarily to emphasising and increasing the quality of the traffic markings, both signage and on the street, and installing certain pre-made traffic devices (concrete barriers, speed humps or traffic buttons).

In 2011, traffic buttons to slow down vehicle traffic were used, for example, on Náprstkova street in Prague 1, at about 20 locations in Prague 3, at 8 locations in Prague 10 and in several locations in Prague 12.

The installation of speed detectors has a positive effect on increasing pedestrian safety, particularly around educational institutions (for example on the streets Na Zlíchově, Hlubočepská and Na Václavce in Prague 5, and on Broumarská, Českobrodská, Jamská and Vodňanská in Prague 14). A combination of several non-structural measures were used on Durychova street in Prague 12 in 2011.

New pedestrian crossings were installed in several places in the past year. In Prague 11 this included a crossing at Květnového vítězství (by the primary school ZŠ Schulhoffova), in Prague 20 Horní Počernice across Božanovská (between the intersections with Studnická and Slatiňanská) and across the street Ve žlíbku (around the intersection with F. V. Veselého street).

PRAHA

NETWORK OF TRUNK ROADS AND METRO (UNDERGROUND)

TRUNK ROADS

2011 reality

in construction

stage

plan

tunnel

METRO

2011 reality

in construction

stage

P&R TERMINALS

2011 reality

stage

Due to the low cost, adjustments to the traffic signage are used to calm traffic along whole sections of local streets. For example, the speed limit was reduced to 30 km/h on the section of Hlupočepská from the intersection with Slivenecká to Prokopské údolí in Prague 5. A zone with a speed limit of 30 km/h was also instigated in part of Malešice in Prague 10 and a restricted traffic zone (speed limit of 30 km/h and parking restrictions) has been delineated in the Prague 13 city district covering Nové Butovice, Lužiny and Stodůlky (Háje and Vidoule).

Despite considerable financial limitations in 2011, certain projects with **greater investment** and construction demands were also realised in some municipal districts.

A structurally modified **pedestrian zone** was founded in Prague 1 in the Old Town on parts of the streets Jalovcová – Jilská – Karlova. Structurally modified **residential zones** were also set up in Prague 1 on part of Thunovská, in Prague 11 on Nad Opatovem and Pastevců, in Prague 18 Letňany in front of the school ZŠ Rychnovská, in Prague 20 on a stretch of Slatiňanská and in Prague 21 on local streets in Koloděje, Klánovice, Běchovice and Újezd nad Lesy.

Other forms of „traffic calming“ supported by structural modifications were implemented, for example, on Zborovská in Prague 5, where the streetscape was rebuilt to include a raised intersection, speed humps integrated into the pedestrian crossing, delimitation of parking spots and marking of a bike lane.

“Central park” on Obchodní náměstí

Crossing at intersection of Rokycanova – Sabinova

Modification of the public space designated for the relaxation of city residents and visitors was limited in 2011. The most extensive such work, already begun in previous years, continued in the city district of Prague 12 and consisted of revitalising public green space in the Labe neighbourhood (new pedestrian paths were created including rest spots) and landscaping of the public space on Obchodní nám. („Central park“ Modřany).

Structural modifications of pedestrian crossings were made throughout Prague. These included making pedestrian crossings barrier-free (74 locations), pedestrian islands, additional lighting, etc. The most significant projects were realised at Rokycanova – Sabinova (traffic island, lighting), Seifertova – Siwiecova (traffic islands), Osiková – Pod lipami (traffic island, installation of pavements), on Tachovské náměstí (traffic island), Na Jarově – Habrová and U Rajské zahrady – Vozová (installation of pavements), in Prague 5 at the pedestrian crossing on Na Václavce (traffic island) and in Prague 12 at the intersection Lhotecká – Čs. exilu. At the site of two heavily trafficked crossings across the street V Olšinách in Prague 10, lights were embedded into the carriageway.

Speed humps were installed, for example, in Prague 12 on the streets Hausmannova and Pertoldova.

Construction of new pavements was limited due to the limited funding, but was carried out in Prague 12 Točná on Branišovská and in Prague 15 on K jezeru.

Pavement surfaces were replaced or repaired in part as part of the „pavement programme“ (Hošťálkova, Bachmačské nám., Wuchterlova, Nad hradním vodojemem), and in part as part of general maintenance (49 locations in Prague 5, 7, 10, 14 and 15).

6 TRANSPORT TELEMATICS AND TRAFFIC MANAGEMENT

Transport telematics integrates information and communication technology with traffic engineering in order to optimise the performance of the existing infrastructure, improve traffic safety and increase the quality of transport in general. The field has increasingly extensive applications in traffic management processes using traffic lights and control centres, as well as in monitoring, early warning and information systems.

In light of the growing demand for comprehensive transport telematic solutions, an update of the "City of Prague Principles for the Development of Transport Telematics" (approved in 2002) was launched in 2011, aiming to evaluate the projects to date and set further goals for the future.

6.1 Construction and renewal of traffic signals

In 2011 a total of 18 new traffic signals were built within the City of Prague by TSK and other investors, 3 of them stand-alone pedestrian crossings, bringing the total number of traffic signals in Prague to 594. The number of traffic signals on the tram network grew by five over the past year, with the number of traffic signals with tram right-of-way increasing by 13 and the number giving priority to buses by 23 (see Chapter 7).

Basic data on traffic signals in Prague

Total in Prague	Stand-alone pedestrian crossings	Centrally controlled
594	112	283
On tram network	**Tram right-of-way**	**Bus right-of-way**
233	158	144
Number of new and refurbished traffic signals in 2011		
18 new, of which 3 at new stand-alone pedestrian crossings*		26 refurbished

* *The third stand-alone pedestrian crossing was formed by converting the Jugoslávských partyzánů – Terronská intersection into just a controlled crossing.*

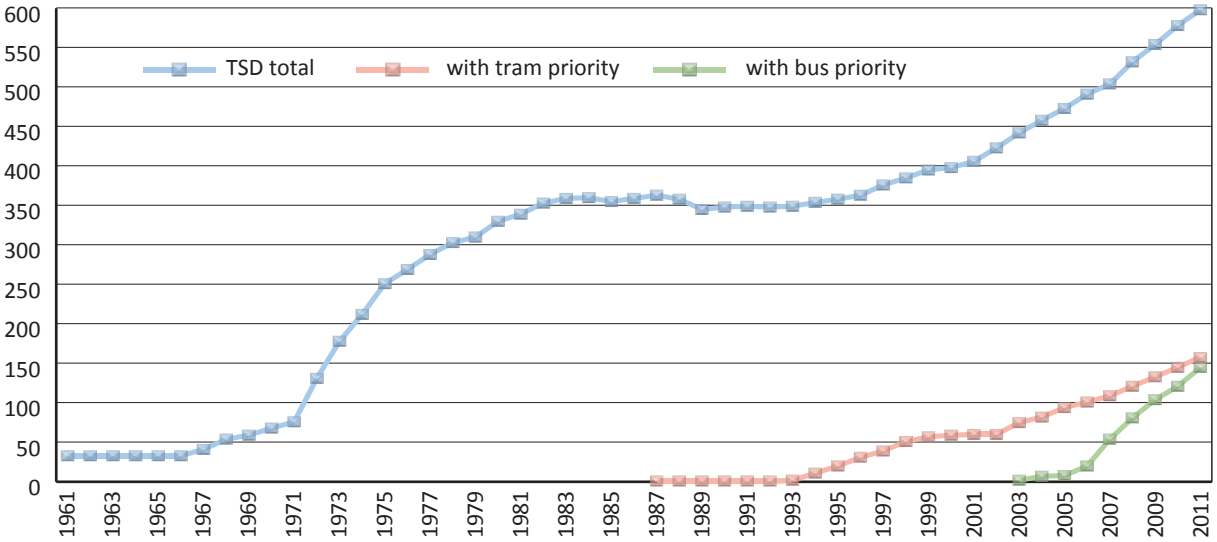
New traffic signals were built in 2011 in connection with the extension of the tram tracks at the intersection of Podbabská – Ve struhách. Installation of traffic signals helped resolve the complicated traffic situations cause by the uncontrolled intersections at Jelení – U Brusnice, Podbabská – V Podbabě and Jana Želivského – U nákladového nádraží. A stand-alone controlled pedestrian crossing installed across Seifertova street at Sladkovského náměstí ensured safer crossing for pedestrians.

New traffic signal 6.164 Podbabská – Ve struhách

Refurbished traffic signal 4.419 Podolské nábřeží – Kublov stop

Refurbishing of traffic signals continued in 2011 at, for example the intersections nám. I. P. Pavlova – Sokolská, nám. I. P. Pavlova – Legerova, Vinohradská – Želivského and Vršovická – Moskevská (Koh-i-noor).

Development of number of traffic signals and those with preference for trams or buses



Development of basic data on traffic signals

Year	1961	1971	1981	1990	2000	2005	2006	2007	2008	2009	2010	2011
Traffic signals total	33	76	339	348	398	473	491	504	532	554	578	**594**
Stand-alone crossings	-	9	37	45	57	72	76	78	86	96	108	**112**
Centrally controlled	-	-	-	20	116	192	212	218	231	236	270	**283**
With tram right-of-way	-	-	-	1	59	94	101	109	121	133	145	**158**
With bus right-of-way	-	-	-	-	-	8	20	53	81	104	121	**144**

6.2 Control centres

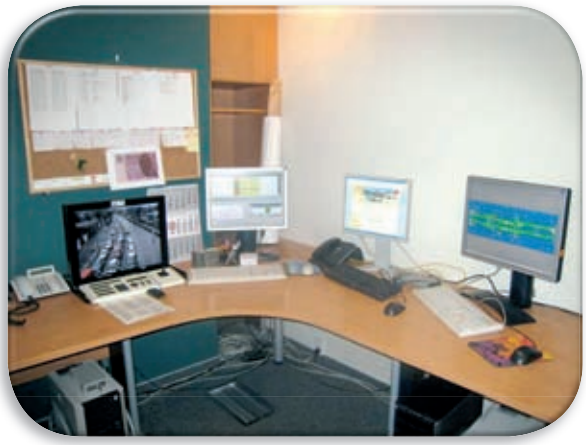
The system of central traffic management in the city is administered by the Technical Administration of Roads of the City of Prague – Department of Transportation Engineering. The Urban Traffic Control Centre (UTCC) is located in the MHD Central Dispatching building on Na bojišti street in Prague 2.

As of 31 December 2011, a total of 283 traffic signals were connected to the UTCC Prague via the various automatic Area Traffic Control Centres (ATCC). It was thus possible to control nearly half (47.6 %) of all the traffic signals installed in Prague's streets from the top level. The connection of further traffic signals continued throughout the year. The ATCC C2 Smíchov changed its control system from MIGRA to SCALA.

List of ATCCs in Prague, their control systems and traffic signals connected

Control area	Name of ATCC	Jurisdiction	Number of traffic signals	Control system
C1	Na bojišti	Centre 1, right bank	63	SCALA
C1	Na Moráni	Centre 1, right bank	14	VRS 2100
C1	Těšnov	Centre 1, right bank	16	VRS 2100
C2	Smíchov	Centre 2, left bank	75	SCALA
C3	Holešovice	Centre 3, Holešovice	27	VRS 2100
V	Libeň	East	34	VRS 2100
S	Ládví	North	26	SCALA
J	Pankrác	South	0	SCALA
JZ	Nové Butovice	Southwest	1	SCALA
JV	Skalka	Southeast	5	SCALA
SZ	Dejvická	Northwest	1	SCALA
SZ	Na bojišti (temporary)	Northwest	21	SCALA

Hall of UTCC Prague



Working post of TIC Prague

6.3 Traffic Information Centre (TIC) Prague

TIC Prague has been in operation since 1 July 2005, offering information services in monitoring and classifying traffic levels, providing information on planned long-term closures and exceptional circumstances on the road network and providing output from the city's information database, primarily for websites. The sources of data for the information distributed are the UTCC Prague systems and a number of devices installed on the streets.

Another important TIC Prague service for drivers is RDS-TMC (Radio Data System – Traffic Message Channel), which is able to display current traffic information on navigation maps inside vehicles and adapt routes to the current situation. The appearance of the messages (broadcasting is provided in cooperation with Czech Radio) is completely standardised according to the international ALERT C standards. RDS-TMC broadcasting was launched for the territory of Prague in 2005, making it the first such site in the Czech Republic and in the whole former Eastern Europe.

Since 2010, TIC Prague has been operated exclusively by employees of TSK. Their primary tasks are to check the difference between the automatically generated information and the actual situation, monitor alternative sources of traffic information and, most recently, to enter the ascertained facts into the editing system. TIC dispatchers also service the system of variable information signs (VIS).

Current traffic information acquired from TIC Prague is used by City of Prague web traffic applications to create a traffic volume map, tables with traffic levels, to distribute screen captures from selected traffic cameras and to provide information about road restrictions and closures.

6.4 Other transport telematics systems and facilities

The transport telematics systems in the City of Prague also include television monitoring systems, variable information signs, devices for determining and providing travel time information, devices for high-speed weighing of freight vehicles, devices for speed measurement and capturing red-light violations, strategic spot and sectional detectors and weather detectors.

Television monitoring systems in City of Prague (TVD)

System	Cameras	System description	As of
TVD-TSK	248	Monitoring of traffic situation – run by TSK	31.12.2011
MKS	671	Monitoring of safety situation – run by City Hall Crisis Management Department	31.12.2011
DP	1 200	Monitoring situation in metro – run by DPP	15.9.2010

The centre of the **TVD-TSK monitoring system** is the Urban Traffic Control Centre and the main users are the dispatchers at UTCC and TIC Prague. Of the overall count of 248 traffic monitoring cameras, 114 have a video detection function. Of these 94 are located in Prague's road tunnels (46 in

the Strahov tunnel, 31 in Mrázovka tunnel, 11 in the Letná tunnel and 6 in the Zlíchov automobile tunnel), while the remaining 20 are on the Jižní spojka and the streets Spořilovská and 5. května (cameras of the Comprehensive Telematic Monitoring System – CTMS).

Using a software definition of potential events that could take place within the camera's field of vision, these cameras can detect a stopped vehicle, recognise emerging congestion or identify an object on the carriageway that is blocking traffic.

VIS on Karmelitská street without contrast frame

Stills from 122 TSK traffic cameras are available on the City of Prague's website at http:/kamery.praha.eu. Recently the first phase of digitising TSK's traffic cameras and integrating them into the Municipal Camera System was completed.

Variable information signs (VIS)

Number	Location	Number	Location
1	Ke Štvanici (toward Těšnovský tunnel)	14	Strakonická (below Barrandov, dc)
2	Hlávkův bridge (toward Muzeum)	15	K Barrandovu (toward centre)
3	Wilsonova (toward Hlávkův bridge)	16	Jinonická (toward Plzeňská)
4	Na Františku (toward Těšnovský tunnel)	17	Radlická (by Nad Laurovou, toward centre)
5	Rohanské nábřeží (toward Těšnovský tunnel)	18	Karmelitská (toward Újezd)
6	Vítězná (toward Újezd) – dismantled	19	Dobříšská (toward Mrázovka tunnel)
7	Modřanská (by Údolní, toward Podolské nábř.)	20	Dobříšská (toward Zlíchovský tunnel)
8	Dienzenhoferovy sady (toward Kartouzská)	21	Strakonická (before Zlíchovský tunnel, dc)
9	Hořejší nábřeží (toward Jiráskův bridge)	22	Karlovarská (before Drnovská, dc)
10	Plzeňská (toward Strahovský tunnel)	23	Podbabská (by V Podbabě, dc)
11	Patočkova (by Střešovická, zc) – construction	24	MÚK Malovanka (entry to Strahovský tunnel)
12	Patočkova (by Pod Drinopolem, dc)	25	5. května (atypical VIS on bridge before City Ring Road)
13	Jižní spojka (by Barrandovský bridge, dc)		dc = toward centre, zc = out of centre

Variable information signs (VIS) are installed in Prague in order to display up-to-date information about the traffic situation on connected roads and on short-term and long-term closures, particularly in relation to the tunnels of the City Ring Road. Altogether there were 23 functional VISs in Prague as of 31 December 2011.

Over the past year a VIS was put into operation on the north entrance to the Strahov tunnel in connection with modernisation of telematic devices in Prague's road tunnels. The VIS near the Patočkova – Střešovická intersection, located on the construction site of the City Ring Road, was still not in service.

Devices for high-speed weighing of freight vehicles

The principle of the system of **weighing vehicles** while they are in motion (WIM – Weight In Motion) is based on the measurement of the dynamic effects of individual wheels on the carriageway. Each wheel is measured several times on sensors while passing through the station and at the same time the speed, acceleration and declaration are also determined. Signals from sensors (based on quartz crystals) located in the carriageway form the basis for establishing the weight.

The system is calibrated by driving through vehicles with known wheel, axel and total weight, which then allow the weight of the axels and whole vehicle to be determined.

In the month of December 2011, a total of 13 946 vehicles over 12 tonnes at WIM Strakonická were weighed and 334 of them (2.4 %) were over weight. In the same period, 81 763 vehicles with a weight of over 12 tonnes were weighed at WIM Kbelská and 3 359 were over weight (4.1 %).

Devices for determining and providing information on travel times	
Street (section)	**Street (section)**
Evropská (Nová Šárka – Vítězné nám.)	5. května, Jižní spojka (Ryšavého – Barrandovský bridge)
Jižní spojka (cable bridge – K Barrandovu)	Strakonická (Zbraslav – Barrandovský bridge)
K Barrandovu, Jižní spojka (K Holyni – 5. května)	Cínovecká, V Holešovičkách (Kostelecká – Povltavská)
Karlovarská, Bělohorská, Patočkova (Drnovská – Strah. tunnel)	Horňátecká, V Holešovičkách (Kobylisy – Povltavská)

As of 31 December 2011, there were eight road sections where drivers were provided with information on the current expected trip time between two points. The same camera technology is used for **measuring travel times** as is for measuring vehicle speed and recording red light violations. Licence plate recognition does not serve for restrictive measures in this case, but to inform drivers. The travel time is calculated automatically from the licence plates without any human intervention and the licence plate photos are immediately erased from the system.

Section speed measurement			
Number	**Location**	**Number**	**Location**
1	5. května – toward centre	13	Patočkova – toward centre
2	Bělohorská – from centre	14	Poděbradská – toward centre
3	Cínovecká – direction Holešovice	15	Poděbradská – from centre
4	Dobříšská – direction Barrandovský bridge	16	Podolské nábřeží – toward centre
5	Dobříšská – direction tunnel Mrázovka	17	Spořilovská – toward centre
6	Dobříšská – sections 5 and 22 together	18	Strahovský tunel – direction Mrázovka
7	Evropská – toward centre	19	Strahovský tunel – direction Patočkova
8	Jižní spojka 1 – by Vrbova, direction Krč	20	Strakonická – toward centre
9	Jižní spojka 2 – section 5. května – Chodovská	21	tunel Mrázovka – direction Barrandovský bridge
10	Jižní spojka 3 – Průmyslová – cable bridge	22	tunel Mrázovka – direction Strahovský tunel
11	Jižní spojka 4 – sections 8 and 9 together	23	Ústecká – from centre
12	Jižní spojka 5 – Spořilovská – 5. května	24	V Holešovičkách – from centre

Devices for **measuring speed on a road section** consist of a pair of gates with cameras that take a picture of the vehicle at the beginning and end of the section. On the basis of vehicle identification from the licence plate, the length of the section and the time data, the average speed is calculated. Since this system was installed in 2006, the number of misdemeanours for breaking the speed limit has fallen in the given locations from 30 to 60 % of vehicles to 1 to 5 % of recorded vehicles.

At the end of 2011, speed was measured in this manner at 24 stretches in Prague. Three new sections were implemented – on Cínovecká street in the direction toward Holešovice, on Spořilovská street in the direction toward Chodovská and on the street V Holešovičkách in the direction toward Liberecká.

Section speed measurement on Spořilovská

Section speed measurement on the street V Holešovičkách

Spot speed measurement

The spot speed measurment used one camera on each lane and two induction loops was installed in 2010 near tram stop Ořechovka in direction toward centre. In the last year new restrictive application of spot speed measurment was installed on 3 intersections (Legerova – Rumunská, Sokolská – Ječná and K Barrandovu – Lamačova).

Spot speed measurement on Legerova street is performed by cameras and pairs of sensors inserted in the carriageway

Intersections with system of documenting red-light violations

Number	Location	Number	Location
0.612a	Černokostelecká – Průmyslová (NT)	5.529	Plzeňská – Jeremiášova
2.029	nám. I. P. Pavlova – Sokolská (NT)	5.569	K Barrandovu – Lamačova (NT)
2.069	Legerova – Rumunská (NT)	5.974	K Barrandovu – Ke Smíchovu (NT)
4.409	Chodovská – U plynárny	6.122	Bělohorská – Kukulova (NT)
4.449	Chilská – Opatovská	8.278	Střelničná – Ďáblická
4.450	Generála Šišky – Československého exilu	9.223	Poděbradská – Kbelská (NT)
5.018	Jiráskův bridge – Janáčkovo nábřeží	9.297	Kolbenova – Kbelská (NT)
5.499	K Barrandovu – K Holyni (NT)		NT = new technology

At 15 intersections in the city, devices have been installed for detecting and **documenting the running of red lights**. In 2011 this device was added to the overloaded intersection 9.223 Poděbradská – Kbelská (entrances to Kbelská street). New camera technology that can recognise vehicle registration plates was added as part of the renewal of existing devices at the intersections Kolbenova – Kbelská, Legerova – Rumunská and I. P. Pavlova – Sokolská.

Strategic spot detectors (SDDŘ), section detectors (SDDÚ) and weather detectors (KVD)

Detectors	No.	Description
SDDÚ	23	Two gates with cameras designed for collection of data on section.
SDDŘ	108	Video detectors placed on columns designed for collection of data on spot.
KVD	28	Sensors monitoring meteorological data useful for drivers, e.g. winter road maintenance.

Recent modernisation of the UTCC Prague increased the demand for wider collection of data and subsequent provision of traffic information. Since 2010 the network of 131 **strategic traffic detectors** covering most of the main roads in the capital has been a significant source of traffic data.

Installation of these devices was 85 % financed from the EU's Operational Programme Transport and was carried out as part of the project "Urban Road Traffic Management and Regulation System for the City of Prague".

On the basis of a study put together in 2011, it has been proposed that approx. 70 new detectors will be added to this network in the coming period.

7 PRIORITY FOR PUBLIC TRANSPORT VEHICLES

Implementation of priority for public transport vehicles has been ongoing in Prague since the beginning of the 1990s based on the "City of Prague Transportation Policy Principles". This process helps maintain a positive ratio of persons transported by mass transit in relation to individual transportation. It also helps keep public transport flowing smoothly and transportation quality standards high.

7.1 Priority for public transport vehicles at traffic signals

New and refurbished traffic signals (TS) are now by default equipped with technology that allows the right-of-way to be given to public transport vehicles. These vehicles thus have the option of first choice and extended green lights in real time according to their needs, in order that they can pass through controlled intersections without stopping where possible, or with only a minimum of delay.

Traffic signals with tram priority – basic data

Total on tram network	With tram priority	With absolute* tram priority	With conditional * tram priority
233 TS (100.0 %)	158 TS (67.8 %)	60 TS (25.8 %)	98 TS (42.0 %)
2011: +5 traffic signals	2011: +13	2011: +2	2011: +12

* *Absolute priority means that the "first" tram will pass through the intersection without stopping; conditional means that a tram can be stopped but it will be given the green at the earliest possible moment dependent on the prior demands at the other branches of the intersection.*

Six traffic signals were built on the tram network in 2011, of those five with **priority for trams**. One traffic signal was taken down (8.215 Zenklova – Hejtmánkova). Conditional right-of-way was implemented at 12 traffic signals, for example at the new traffic signal 1.192 Jelení – U Brusnice or at the intersection of Vršovická – Moskevská (Koh-i-noor). Conditional priority was changed to absolute at traffic signal 6.173 Milady Horákové – K Brusce crossing.

In connection with the end of the diversion route around the closed-off Patočkova street, conditional tram priority was also implemented at the intersections 6.831 Myslbekova – Dlabačov and 6.832 Bělohorská – Vaníčkova. Traffic signal 8.206a Sokolovská – Zenklova, which was equipped with tram preference, was turned off after evaluation of the trial run.

TS 3.750 Jana Želivského – U nákladového nádraží

TS 6.112 Jugoslávských partyzánů – Zelená

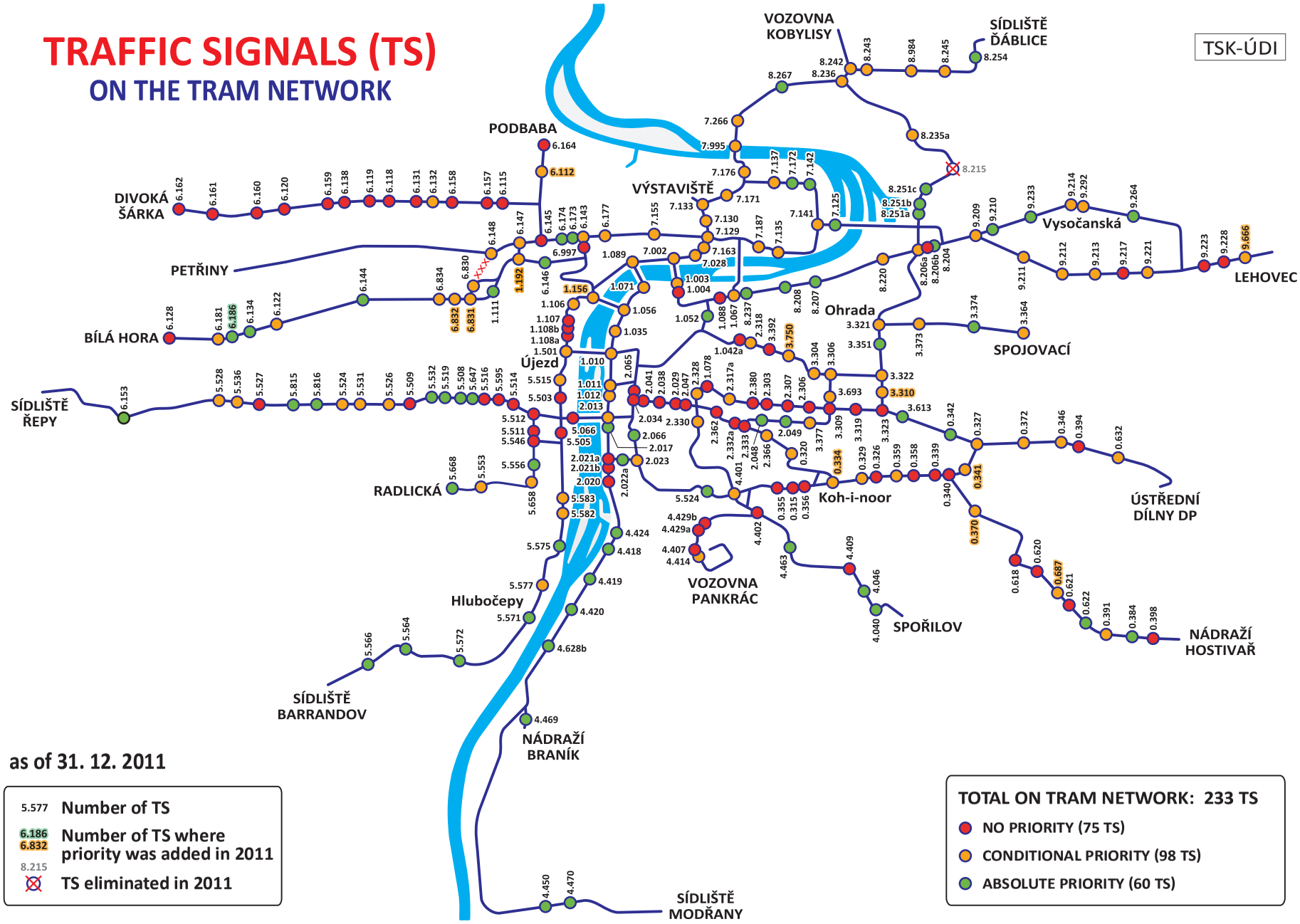
Intersections where tram priority was implemented in 2011

0.334	Vršovická – Moskevská (Koh-i-noor) (C)	3.750*	Jana Želivského – U nákladového nádraží (C)
0.341	V Olšinách – Starostrašnická (C)	6.112	Jugoslávských partyzánů – Zelená (C)
0.370	Průběžná – V korytech (C)	6.186*	Bělohorská – Bolívarova (A)
0.687*	Švehlova – Jahodová (C)	6.831	Myslbekova – Dlabačov (C)
1.156	Klárov – Letenská (C)	6.832	Bělohorská – Vaníčkova (C)
1.192*	Jelení – U Brusnice (C)	9.666	Poděbradská – Slévačská (C)
3.310*	Seifertova – crossing at Sladkovského náměstí (C)		

** Traffic signal new in 2011 (C) … conditional priority (A) … absolute priority*

TRAFFIC SIGNALS (TS)
ON THE TRAM NETWORK

TSK-ÚDI



as of 31. 12. 2011

5.577 Number of TS

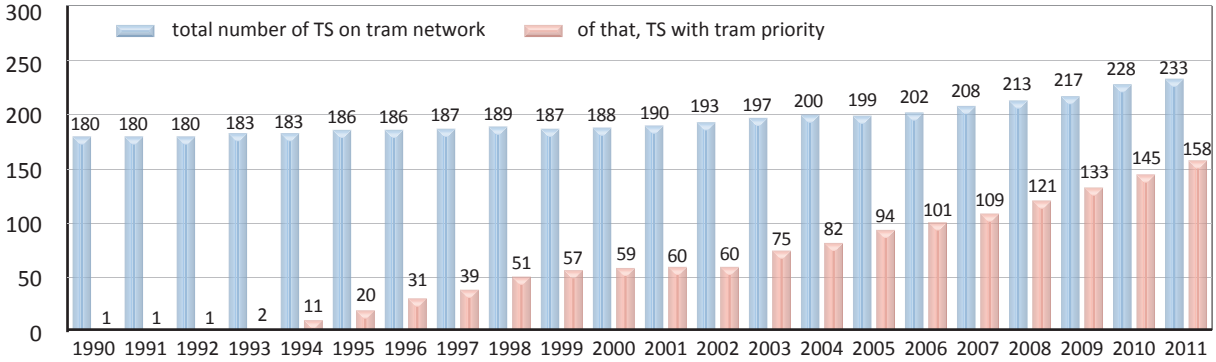
6.186 6.832 Number of TS where priority was added in 2011

8.215 TS eliminated in 2011

TOTAL ON TRAM NETWORK: 233 TS

- NO PRIORITY (75 TS)
- CONDITIONAL PRIORITY (98 TS)
- ABSOLUTE PRIORITY (60 TS)

Traffic signals on the tram network



Bus priority at traffic signals – basic data

With bus priority	With active* bus detection	With passive* bus detection
144 TS (100.0 %)	135 TS (93.7 %)	9 TS (6.3 %)
2011: +23 traffic signals	2011: +21	2011: +2

* *Passive detections means buses are detected in a special lane through classic vehicle loop detection. Active detection works on the basis of radio communication between the vehicle and the traffic signal controller.*

Bus priority was put in place at the first pair of intersections in Prague in 2003 as part of the city's participation in the European project Trendsetter. In the following years, bus priority was primarily dealt with at the traffic signals around the new sections of the C metro line gradually built in Kobylisy, Prosek and Letňany. In 2011 further traffic signals were added where buses received preference, 21 using active detection and two using passive detection. The most important installation of a new traffic signal with bus priority in terms of its impact on traffic was at the exit from the Černý Most turn-around.

Intersections where bus priority was implemented in 2011

0.334	Vršovická – Moskevská	4.681	Československého exilu – Hausmannova
0.341	V Olšinách – Starostrašnická (passive detection)	5.547	Holečkova – crossing by Kobrova stop
0.370	Průběžná – V korytech	6.112	Jugoslávských partyzánů – Zelená
0.371	V korytech – Jabloňová	6.164	Podbabská – Ve struhách
0.687	Švehlova – Jahodová	6.186	Bělohorská – Bolívarova (passive detection)
0.766	Novopetrovická – Hornoměcholupská	6.711	Podbabská – V Podbabě
3.310	Želivského – U nákladového nádraží	6.804	Ankarská – Za zahradou crossing
3.323	Vinohradská – Želivského	8.920	Ďáblická – Kostelecká
4.417	Olbrachtova – Na strži	9.263	Ocelkova – exit from turn-around Černý Most
4.435	U Kunratického lesa – Hornomlýnská	9.666	Poděbradská – Slévačská
4.659	Lhotecká – Mazancova	9.771	Chlumecká – Bryksova
4.679	Lhotecká – Hasova		

TS 0.334 Vršovická – Moskevská (Koh-i-noor)

TS 0.341 V Olšinách – Starostrašnická

Traffic signals on bus network 2004 – 2011								
Year	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Number of TS with bus priority	0	8	20	53	81	104	121	**144**

7.2 Other measures for public transport vehicle priority

An important indicator of the quality of public transport in a city is the degree to which public mass transport is separated from individual transport. For trams, reduction of the number of areas with mixed traffic and an increase of public transport vehicle priority is achieved by constructing tracks on its own track bad, potentially also separated from other traffic by concrete dividers (in Prague 52 % of the 142.4 km of tram track is on its own track bed). For buses, greater fluidity is achieved with separated bus lanes.

Tram priority – raised thresholds along tram tracks

The first longitudinal divider used in Prague was a classic concrete kerbstone, built into the 50 m of carriageway on Bělehradská street before the intersection with Anglická in 1996. This installation of the first device to prevent automobiles from driving onto tram tracks proved itself and since 1997 concrete separating blocks have begun to appear in other places as well. The only change was that they were made so vehicles could drive over them more easily when passing.

At the end of 2011, such raised separating blocks along tram tracks reached a total length of approximately 10 260 metres. These thresholds have brought the greatest benefit to increasing the flow of tram traffic on Rašínovo nábřeží (installed 1997-1999), Národní (1998-2001 and 2010) and Sokolovská street (2003). Over the past twelve months, separating thresholds have been installed on the streets Klapkova (stop Ke Stírce – Zenklova, toward centre), Vinohradská (U tržnice – Šumavská, from centre), Újezd (before intersection with Vítězná street, toward centre) and on Podolské nábřeží (by intersection with Podolská, from centre).

Raised separating block at Újezd

Reserved bus lane on tracks at Podbaba stop

Bus priority – reserved bus lanes

Reserved bus lanes on the tram track bed serve both to increase the flow of public transport traffic and to ensure better transfer connections between buses and trams. Other reserved lanes are generally created in places where bus lines are disproportionately held up by congestion and the width of the road allows for the creation of a separate lane for buses (as well as bikes and taxis).

At the end of 2011 the total length of reserved bus lanes had reached around 16 000 metres on roads and around 6 700 metres on tram track bed. Important bus lanes were implemented over the past year on the streets Vršovická and Roztocká, while an existing lane was extended on Vysočanská and buses now drive onto the tram tracks at the Podbaba tram stop (heading into the centre).

8 ROAD TRAFFIC SAFETY

8.1 Traffic accidents

In 2011, 16 572 accidents were recorded in Prague (-9 % compared to 2010), with 39 casualties (+34 %) and 2 241 injuries (+3 %). There were 598 accidents involving pedestrians (+1 %), with 17 persons killed (+6 %) and 546 injured (-2 %). Pedestrians themselves were at fault for 245 accidents (-6 %), with 7 casualties (+40 %) and 209 injuries (-14 %).

The decisive majority of accidents were caused by drivers (15 991 of 16 572 accidents, or 96 %). The main causes of accidents caused by drivers were improper driving and failure to yield. The number of accidents where alcohol was detected in the culprit was 504 (-1 %).

Number, impact on health and main causes of traffic accidents in Prague

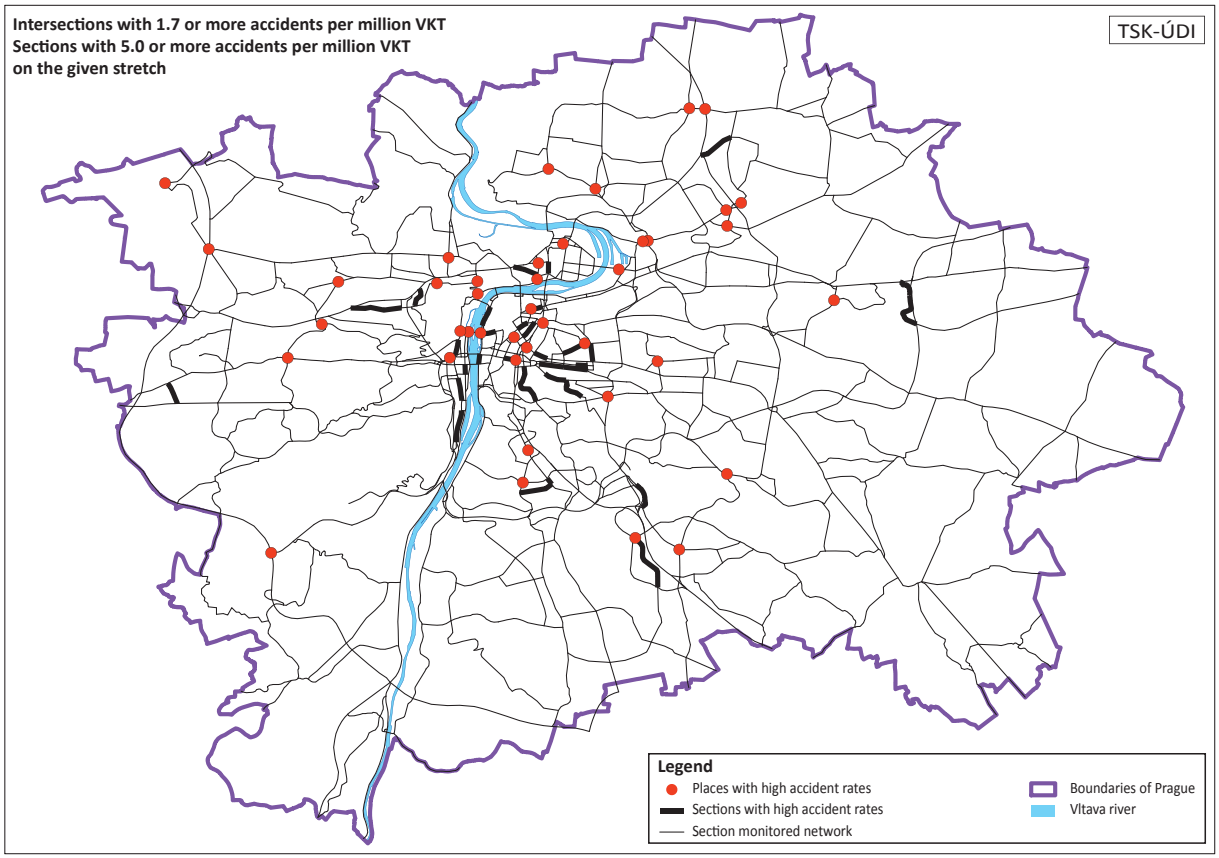
Year	2009	2010	2011	difference 11/10
Number of accidents	15 583	18 190	16 572	**- 9 %**
Number of fatal injuries	40	29	39	**+34 %**
Number of serious injuries	347	279	279	**0 %**
Number of minor injuries	2 082	1 893	1 962	**+4 %**
Number of accidents with injury	2 094	1 885	1 955	**+4 %**
Number of accidents without injury	13 489	16 305	14 617	**-10 %**
Number caused by the driver	14 968	17 555	15 991	**-9 %**
due to: failure to keep proper distance	2 555	3 240	2 848	**-12 %**
lack of due care and attention	2 211	2 784	2 506	**-10 %**
red-light violation	327	338	289	**-14 %**
failure to yield in violation of a traffic sign	933	1 065	1 003	**-6 %**
failure to yield when making a left turn	589	577	525	**-9 %**
failure to yield when passing from lane to lane	1 175	1 444	1 215	**-6 %**
failure to adapt speed to density of traffic	104	92	160	**+74 %**
failure to adapt speed to vehicle condition	158	101	126	**+25 %**
failure to adapt speed to road conditions (ice, potholes, wetness, mud, etc.)	911	1 172	682	**-42 %**
failure to adapt speed to road (turn, width, decline, incline, etc.)	208	152	194	**+28 %**
Caused by road defect	72	96	44	**-54 %**
Caused by pedestrian	304	262	245	**-6 %**
Caused by cyclist	68	72	105	**+46 %**

The basic trends in accident rate in 2011 can be characterised by a slight drop in the number of recorded accidents in comparison with the preceding year, a rise in the number of fatalities, an unchanged number of injured persons with a slight growth in the number of minor injuries and number of accidents resulting in injury.

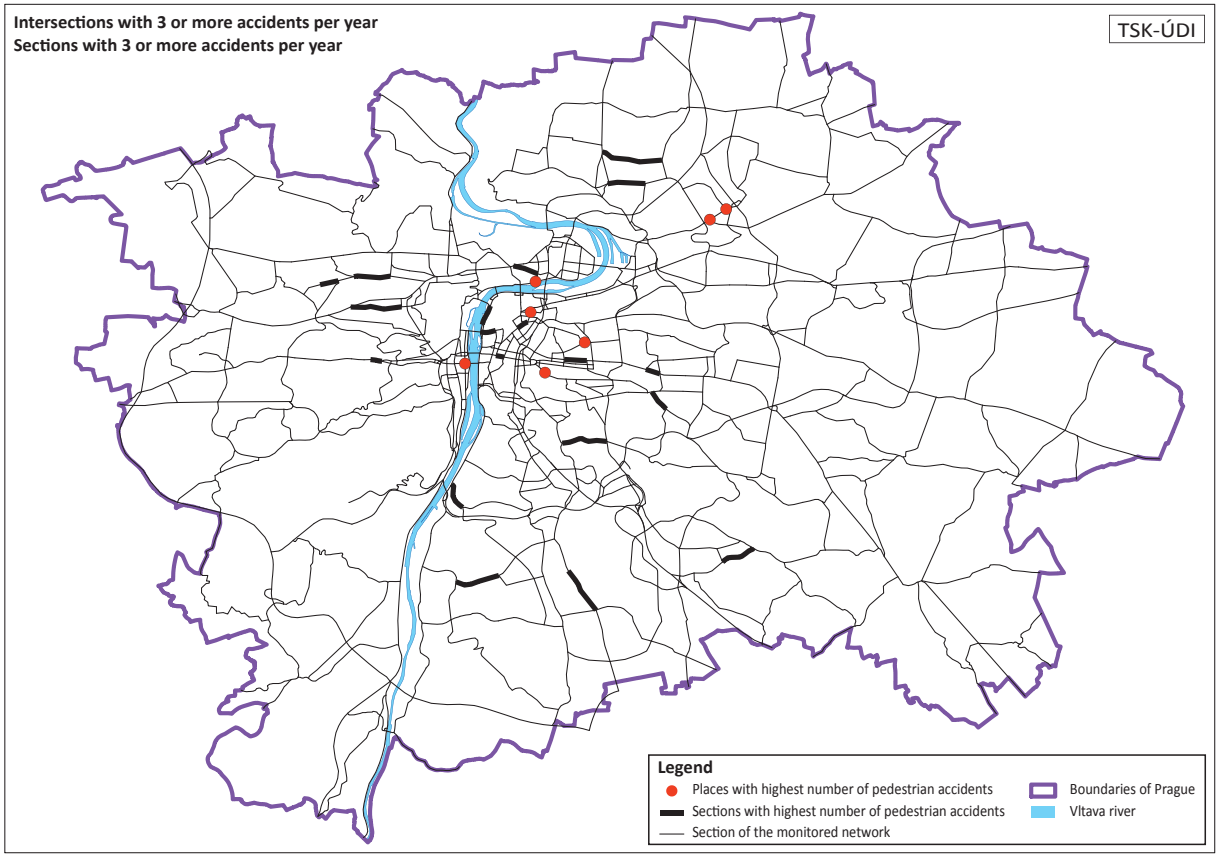
In assessing the long-term trends in accident rates it can be stated that from the 1960s through the 1980s, the long-term development of the accident rate was relatively positive, as the number of recorded traffic accidents roughly corresponded to the development of traffic volume and increased at a slower rate than traffic volume. In the 1990s the general tendency of development reversed to become quite negative, as the number of traffic accidents started growing faster than the volume of traffic. This led to an increase in the risk of accident, expressed as an indicator of the relative accident rate (the number of accidents per million vehicle kilometres travelled).

Only after 2001 did the number of recorded traffic accidents begin to fall again, despite ongoing growth of automobile traffic. The relative accident rate has also decreased, by 69 % in 2011 compared to 2000. In 2011 the Prague-wide average was 2.3 recorded accidents per one million vehicle kilometres travelled.

Places and stretches with high accident rates in Prague in 2011



Places and stretches with the highest number of pedestrian accidents in Prague in 2011



The provisions of Act No 361/2000 Coll. on road traffic and its subsequent amendments have also had an influence on the marked drop in the number of recorded accidents since 2001, having several times changed the obligation to report an accident to the police. Traffic accidents without injury or damage to a third party need only be reported where the material damage exceeds the following amounts:

Until end of 2000	Since January 2001	Since July 2006	Since January 2009
CZK 1 000	CZK 20 000	CZK 50 000	CZK 100 000

A positive trend in traffic safety is the reduction in the number of fatal, serious and minor injuries incurred in traffic accidents, despite the ongoing growth of automobile traffic in the city. The overall number of injuries in traffic accidents has fallen from 3 861 in 2000 to 2 280 in 2011, by 41 %, while in the same period automobile traffic in Prague has risen 32 %.

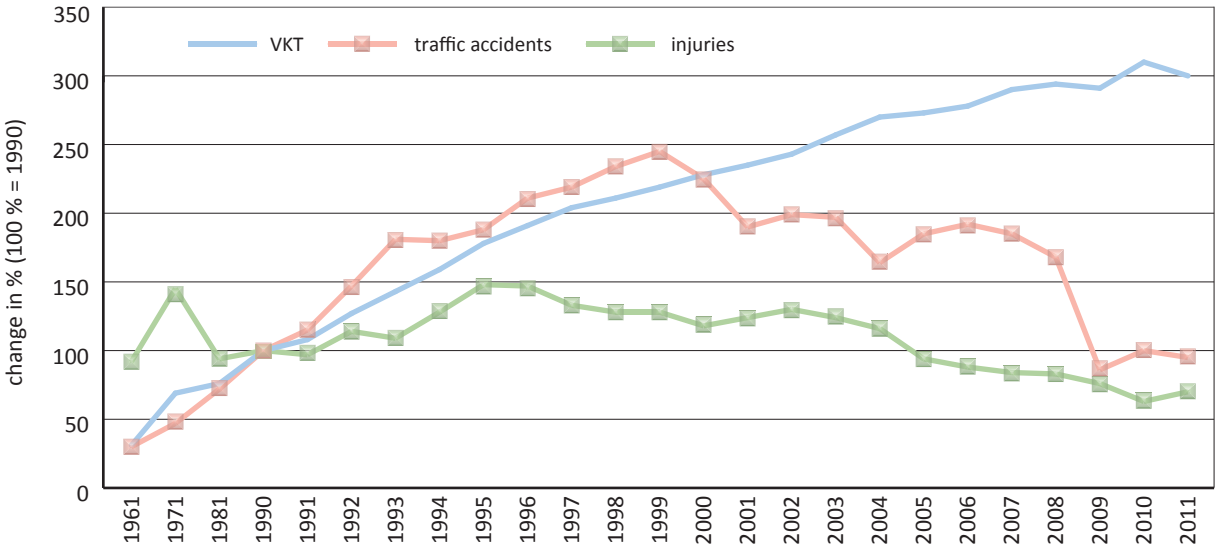
Even more positive is a comparison of the long-term trend in the number of injuries with the volume of automobile traffic. Over the last 20 years, automobile traffic has risen to more than triple 1990 levels (by 201 %), while the number of injuries in traffic accidents has fallen 30 % (from 3 269 injuries in 1990 to 2 280 in 2011), covering all kinds of injury – fatal, serious and minor.

Number of traffic accidents, injuries and relative accident rate in Prague

Year	Total accidents		Fatal injuries		Serious injuries		Minor injuries		Relative accident rate	Traffic volume (%)
	number	%	number	%	number	%	number	%		
1961	5 495	30	63	69	580	157	2 361	84	7.3	31
1971	8 496	47	123	135	567	154	4 046	144	5.1	69
1981	13 064	72	81	89	401	109	2 572	92	7.1	76
1990	**18 024**	**100**	**94**	**100**	**369**	**100**	**2 806**	**100**	**7.5**	**100**
1995	33 898	188	123	131	679	184	4 044	144	7.9	178
2000	40 560	225	80	85	521	141	3 260	116	7.4	228
2005	33 349	185	61	65	393	107	2 603	93	5.1	273
2008	30 251	168	38	40	334	91	1 941	69	4.7	288
2009	15 583	86	40	42	347	94	2 082	74	2.2	291
2010	18 190	101	29	31	279	76	1 893	67	2.5	304
2011	**16 572**	**92**	**39**	**41**	**279**	**76**	**1 955**	**70**	**2.3**	**301**

100 % = 1990 *Relative accident rate = number of accidents per million VKT (average values, whole road network in Prague)*
Traffic volume = vehicle kilometres travelled on whole road network

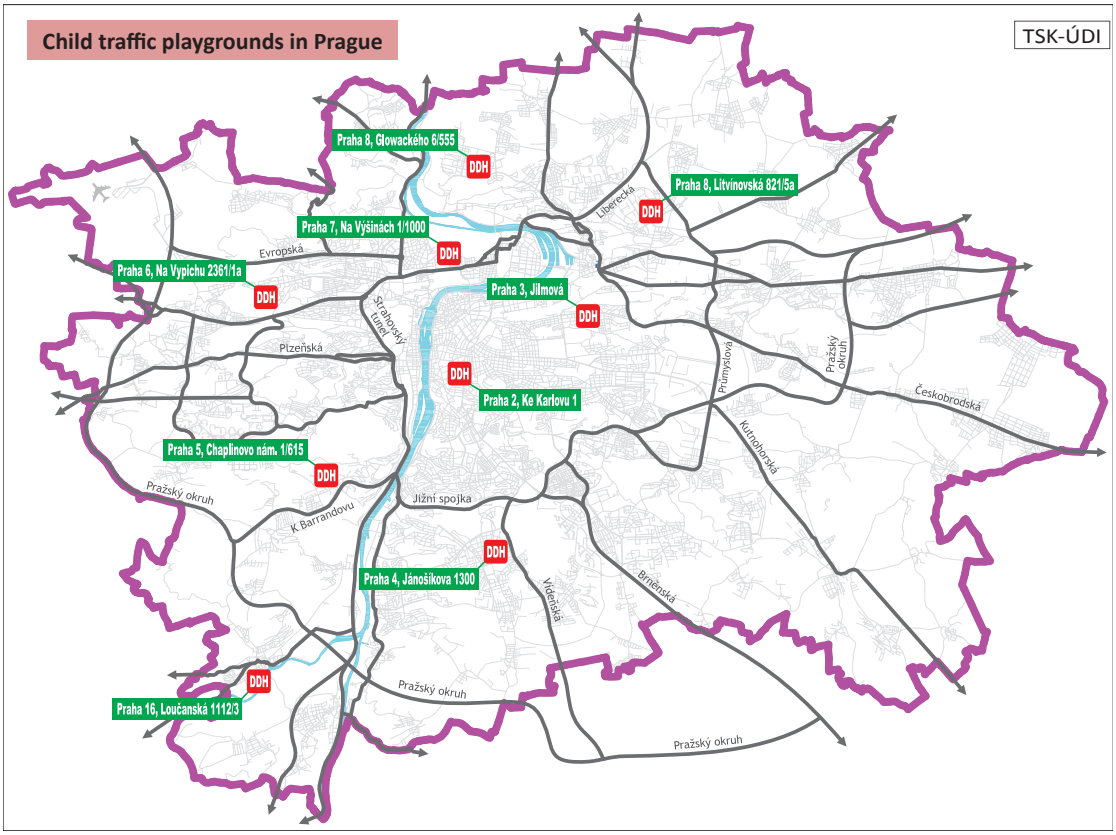
Accidents, injuries and traffic volume in Prague 1961 – 2011 (whole road network, annual total)



8.2 Traffic education

The City of Prague continued to devote significant attention to child traffic education in 2011. A number of programmes were provided, in particular including a programme for systematic training at child traffic playgrounds (hereinafter CTPs), a programme for beginning cyclists (Young Cyclist Traffic Competition), traffic education programmes for children and youth, interactive theatre presentations for children with traffic education themes, and many other events.

Children were taught at nine permanent CTPs in Prague in 2011, with education taking place according to the traffic education thematic plan drawn up by the Ministry of Transport. This plan is primarily focused on 4th grade primary school students, because these are beginning cyclists. In the case of extra room at the CTP, students of other primary school grades or nursery school children can also take part in the exercises. In 2011 a total of 39 263 primary school students went through organised training at Prague CTPs. Taking part in the afternoon programmes were 19 018 children.



The programme for beginning cyclists – Young Cyclist Traffic Competition – is held by the Ministry of Transport in cooperation with the Ministry of Education, Youth and Sport and is made up of four parts: tests on the rules of the road, a practical road test (in Prague these take place at child traffic playgrounds), a road skill test (a practical ride around various obstacles) and first aid knowledge.

This event is primarily focused on Level II primary school students and the winning teams move on through district, city and national rounds to an international competition, which in 2011 tooks place in Paris. In 2011, 125 schools took part in the first round and students from ten city districts took part in the district round. The number of schools involved grew by seven over 2010. The national round of the 2011 contest tooks place in Třeboň in the South Bohemia Region.

Another form of prevention of traffic accidents is a series of traffic education shows for primary school children. In 2011, 24 such shows were presented. Forty-six interactive theatre presentations of “The Fairytale Traffic Light” and “Aunt Berta’s Bike” were performed at the Police Museum. Children are pulled into the action, working together with actors and puppets. For the youngest age group this is a very interesting and effective form of traffic education.

A number of safety drives took place for adult participants of road traffic as well in 2011 (spring and autumn skill rides for the driving public, events for hearing-impaired motorists). There were also several traffic safety events for the whole family. Seminars were provided on methods of traffic education at schools, for employees of child traffic playgrounds as well as for seniors, who were provided with reflective materials at the end of the sessions.

Another element of traffic education for adults is the driver training that every employer is required to provide within the meaning of the Labour Code for employees that drive a business or personal vehicle of up to 3.5 t while carrying out their work.

8.3 Measures to increase traffic safety

In 2011, a total of CZK 30 million was spent under the BESIP (road traffic safety) budget to implement measures to increase safety on the road network in Prague. These measures included minor structural modifications, modifications of traffic markings and the installation of traffic devices. Important modifications are performed both as investment projects and road maintenance.

Current expenditures (CZK 8.4 million spent in 2011) are designated in particular for installing assembled speed humps and road mirrors, performing carriageway surface roughening, and placing crash barriers and railings, as well as for other non-structural traffic safety devices, in particular near schools and pedestrian crossings.

An amount of CZK 21.6 million was drawn for capital spending on construction of speed humps, installing lighting for pedestrian crossings and other primarily structural safety measures.

Raised intersection at Sládkova – Havanská

Traffic island on Koněvova street

A new pavement was constructed on the street K jezeru, several intersections were modified structurally (e.g. a new raised surface was built at the intersection of Sládkova – Havanská), minor structural modifications were carried out as part of the project „Safe route to school“ and extra lighting was installed at eight pedestrian crossings.

Traffic islands making it easier for pedestrians to cross the street were built as part of a BESIP project in four locations (Koněvova by Tachovského nám., Křesomyslova by the tram stop Divadlo Na Fidlovačce, Seifertova by Siwiecova street and Pod lipami by Osiková).

Concrete crash barriers, traffic safety railings and anti-parking bollards were installed in 11 cases, while road mirrors were installed at 5 locations. The road surface was roughened along two stretches with cobbled surface, on Benátská between Vyšehradská – U nemocnice and on Sibiřské náměstí in the stretch Rooseveltova – Krupkovo náměstí.

In 133 locations, particularly by schools and pedestrian crossings, modifications and refurbishing of traffic markings was carried out according to the demands of the individual road administration authorities, and road surfaces were treated using the „ROCBINDA“ system (red roughened carriageway surface). Current speed detectors were installed in five locations and pre-assembled short speed humps were installed on, for example, the streets Toužimská, Povltavská and Na Lysinách.

9 CHANGES IN TRAFFIC ORGANISATION

The most significant **permanent change** in the organisation of transportation in Prague in 2011 was the opening of the Vysočany Radial Road. Since 28 November this road has connected Kbelská (connection at Hloubětín interchange) with the Prague Outer Ring Road (R1) and also with the motor road R10 (connection at Satalice interchange). The third grade-separated intersection in the stretch is the Lipnická interchange. The newly opened segment serves as a temporary replacement for the as yet unbuilt north-east segment of the Prague Outer Ring Road and relieves streets such as Chlumecká, Poděbradská and Průmyslová (of transport trucks in particular).

Since the end of August 2011 more than a kilometre of a new branch of the Štěrboholy Radial Road has been in operation, which in the future will be part of the Rybníčky interchange (intersection with the planned eastern part of the City Ring Road). The transfer of traffic to the eastern branch of the future interchange considerably improved the latitudinal organisation and safety of traffic on the original bidirectional route near the cable bridge.

On 1 September the Prague Public Transport Company opened the renovated and extended tram track to Podbaba. In connection with this work, the entry to Vítězné náměstí from Jugoslávských partyzánů was narrowed from two lanes to one and several lateral crossings across the tram tracks were removed. The lateral organisation of Podbabská street was also modified, a roundabout was built at the intersection Kamýcká – Roztocká and a traffic signal was installed at the intersection with Ve struhách.

The overburdening of Spořilovská street by freight transport was also dealt with in September 2011 by once again allowing transport trucks to take the Jižní spojka between 5. května and Strakonická during the night hours (22:00–6:00).

New section of Štěrboholy Radial Road

Repair of expansion joints on Nuselský bridge

Over the course of 2011, **short-term changes** continued to be made in traffic organisation due to construction of the City Ring Road and the grade-separated intersections at Malovanka, Prašný bridge and Špejchar. In December, in connection with ongoing construction work, the section of Patočkova street between the Malovanka interchange and Myslbekova was opened.

Restrictions on the streets Kbelská and Veselská continued for the whole year during construction of the Letňany interchange, and up until November there were short-term closures of lanes on the Prague Outer Ring Road, Novopacká and Kbelská where they connect to the Vysočany Radial Road. Alternating closures of whole stretches on the Prague Outer Ring Road were caused from April to June 2011 by renovations of the 515 segment.

Work continued throughout the year on the construction of the stations on the V.A segment of the metro from Dejvická to Motol, which caused restrictions on the streets Evropská and Kukulova.

Over the holiday months, the expansion joints of Nuselský bridge and road surface of 5. května were refurbished, which temporarily reduced the number of lanes in this section to 2 and 2. Changes in traffic organisation during the refurbishing of Resslova street and Smetanovo nábř. had a great effect on traffic.

10 PARKING

10.1 Parking in the city centre

In the core of the city centre, predominantly made up of the approximately 9 km^2 of the Prague Conservation Area (PCA), no significant changes to the organisation of parking took place in 2011. Paid parking zones (PPZ) are in place to the same extent as in 2010 over the whole territory of city districts Prague 1, Prague 2 and the parts of Prague 3 and Prague 7 that belong to the centre.

Types of PPZ in the centre of Prague

	Blue zone*	Green zone	Orange zone	Mixed zone
Type of parking	Resident and subscriber parking	Paid parking	Paid parking	Combination of residential and paid parking
Time of parking	Long-term parking for holders of parking cards	Medium-term paid parking (6 hrs)	Short-term paid parking (2 hrs)	For holders of parking cards and for paid parking (during the day)
Users	Residents with permanent residence and businesses with a place of business in the PPZ	Visitors to city centre	Visitors to city centre	Residents, business owners and visitors in order to have more uniform use of parking capacity

* *At the borders of the PPZs in the city districts 1, 2 and 3 there are also so-called "intersecting zones" where residents and subscribers that are holders of valid parking cards in the neighbouring district can park.*

Mixed zone on Krásova street in Prague 3

Intersecting zone at border of Prague 2 and 3

The blue zones are in operation daily from 8:00 until 6:00 of the next day. Only between 6:00 and 8:00 can spots in blue zones be used by vehicles without parking cards. During the day such vehicles may only park in these spots for a maximum of 3 minutes. One-time two-hour or ten-hour scratch cards may be purchased for making deliveries or performing services in blue zones.

The operating times, price and method of payment in green, orange and mixed zones are given on the traffic sign and parking machines marked with the according zone colour.

As of the end of 2011, there were approximately 44 700 spots for vehicle parking in PPZs within Prague, of which approximately 35 800 (80 %) were reserved for residents and subscribers, approx. 7 300 (16.5 %) for visitors and approx. 1 600 (3.5) mixed. The total number of spots in PPZs changes slightly over the course of the year, generally as a result of various road restrictions.

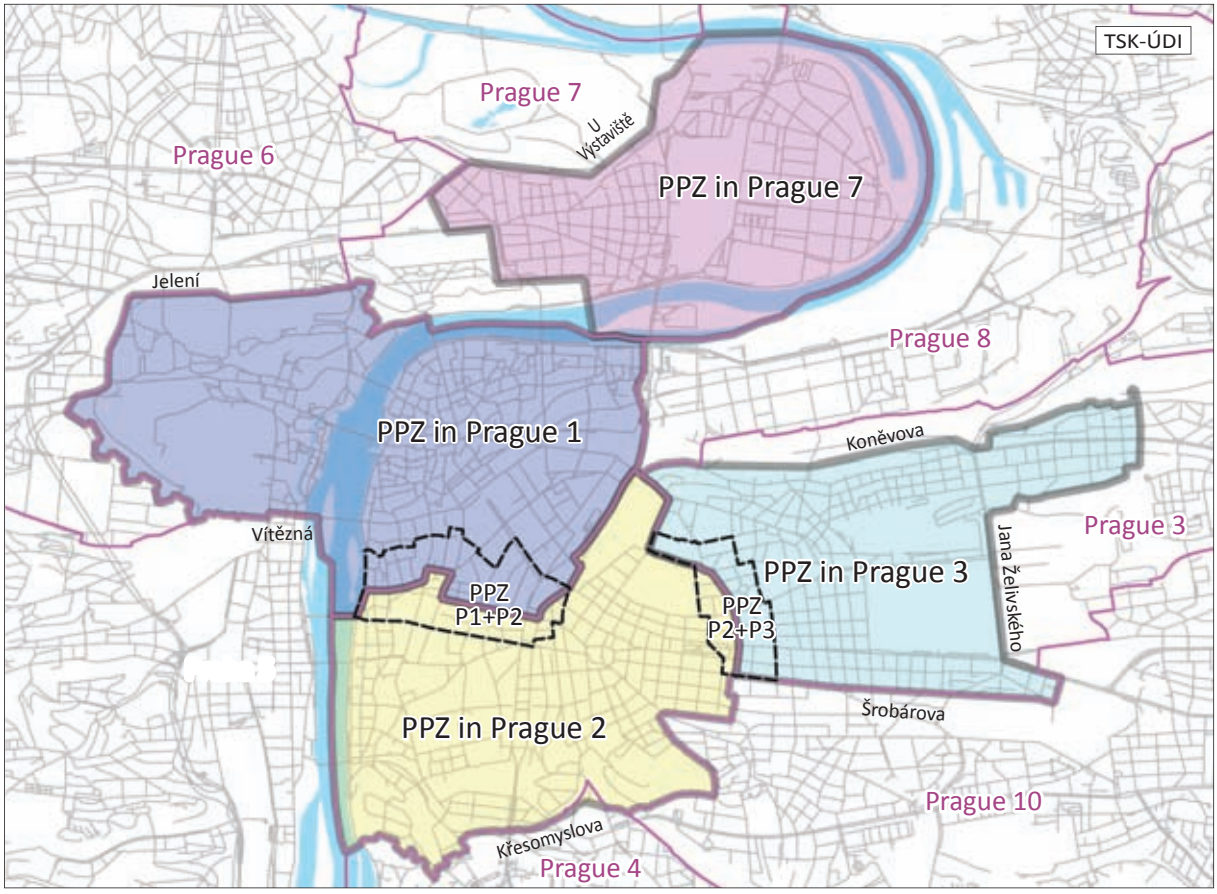
The number of spots for visitor parking during the allotted daytime period was increased by expanding the „mixed zones". Mixed zones were expanded the most in Prague 7, where approx. 770 spots were so marked at the end of 2011, and in Prague 3, where there were 470 such spots.

Number of spots, occupancy and respecting of zones in the centre of Prague in 2011*

City district	Blue zone			Orange and green zones			Mixed zone			Total		
	of spots	Occ. coef.	Resp. coef.	of spots	Occ. coef.	Resp. coef.	of spots	Occ. coef.	Resp. coef.	of spots	Occ. coef.	Resp. coef.
Prague 1	6 677	77.2 %	87.1 %	2 236	72.7 %	46.0 %	-	-	-	**8 913**	**76.0 %**	**77.3 %**
Prague 2	10 060	73.6 %	91.5 %	2 005	62.4 %	50.7 %	388	54.00 %	63.60 %	**12 453**	**71.2 %**	**85.1 %**
Prague 3	11 671	70.1 %	87.7 %	1 692	62.0 %	59.7 %	471	54.90 %	76.20 %	**13 834**	**68.6 %**	**84.3 %**
Prague 7	7 385	70.9 %	93.2 %	1 333	58.6 %	48.0 %	770	62.10 %	80.30 %	**9 488**	**68.5 %**	**86.8 %**
Total	**35 793**	**72.6 %**	**89.8 %**	**7 266**	**64.8 %**	**50.6 %**	**1 629**	**58.10 %**	**75.50 %**	**44 688**	**70.8 %**	**83.5 %**

* *The occupancy coefficient expresses the percentage of full spots in the zone; the respect coefficient expresses the percentage of drivers who have duly paid the parking fee.*

Map of paid parking zones (PPZ) in the centre of Prague



10.2 Parking in the rest of the city

The basic characteristics of the parking situation in the rest of the city, particularly in those areas with multi-story buildings, are as follows:

- Demand for parking spaces considerably exceeds the existing supply.
- The lack of parking spaces around metro stations is made worse by the fact that existing spots are taken up by motorists from Prague and its surroundings driving to the metro.
- Full use is not made of the paid parking in existing parking garages.
- The number of parking spaces on roads and in parking garages is not recorded.
- The various city districts are ordering studies and projects to organise the parking situation or are updating the existing documents.

City districts are looking for ways to increase the number of parking spots, particularly as part of construction projects on local roads. For example, in 2011 two paid parking lots were opened on Doupovská street in Prague 15 with a capacity of 230 spots, and a further 216 new parking spots were installed in housing estate blocks on the basis of a traffic audit.

In Prague 18 Letňany, 31 new parking spaces were installed on local streets, and the number of parking spaces was also increased in Prague 21 as part of carriageway refurbishment in Klánovice (Mechovka). A new mass parking structure was built in Prague 14 by the IKEA shopping centre and by the expanded shopping and entertainment centre Černý Most.

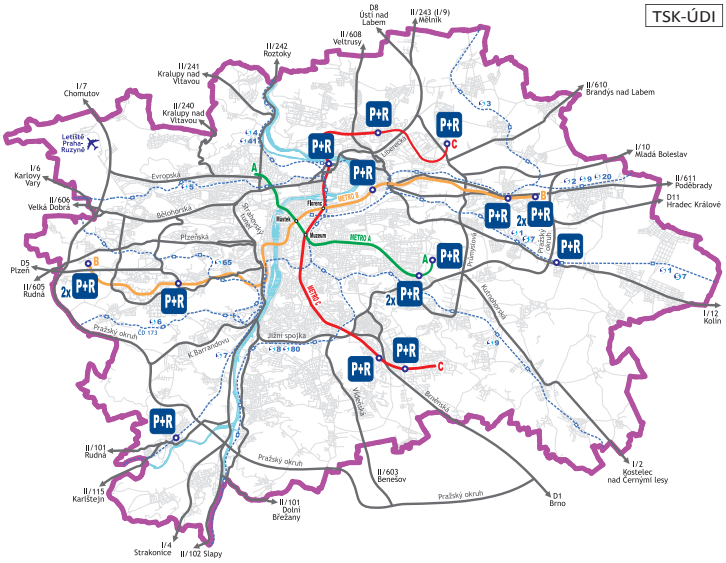
Paid parking lot on Doupovská

New mass parking structure at Černý Most

10.3 Park and Ride facilities (P+R)

The system of P+R facilities provides potential users with a more appropriate method of realising their trips through the city than driving a passenger automobile. In many cases a combination of automobile and public transport provides the best possible parameters for navigating areas that cannot be covered by a single type of transportation.

Park and Ride lots have a positive effect on the environment city-wide and with sufficient capacity can help resolve traffic situations during emergencies that have a negative effect on the flow of traffic.



The system of P+R lots has been expanding within Prague since 1997. Currently there are 17 lots in operation at 14 locations (12 by metro stations and 2 by railway stations).

Basic data on the P+R system in Prague

Number of parking lots in P+R system	Total structural capacity	Average structural capacity	Number of spots per 1 million city residents
17 (14 locations)	3 186 spots	187 spots	2 567
Parking lot regime		**Operating hours**	**Permitted vehicles**
public, organised by operator and guarded with regulated operating hours		4:00 – 1:00 (until 2:00 on Sat and Sun)	passenger automobiles, bicycles

The total structural capacity of the P+R system is broken down according to use between spots for the basic function of the P+R system (2 909 spots), spots permanently reserved for vehicles transporting a person with a serious handicap (138 spots), spots for residents with a valid contract on long-term parking of a vehicle (115 spots) and service parking (24 spots).

Spots reserved for the basic function of the P+R system

Lot	of spots	Lot	of spots	Lot	of spots
Běchovice	85	Ládví	78	Rajská zahrada	90
Černý Most	1 294	Letňany	633	Skalka 1	63
Černý Most	2 131	Nové Butovice	57	Skalka 2	74
Depo Hostivař	169	Opatov	181	Zličín 1	84
Holešovice	74	Palmovka	168	Zličín 2	60
Chodov	653	Radotín	15	TOTAL	2 909

On 1 July 2011 changes to the PID fare conditions included an adjustment to the price of each uninterrupted stay of a vehicle during the operating hours of the park and ride lot (daily parking fee) and did away with the reduced PID ticket rate associated with parking at a P+R lot.

The issuing of one reduced rate PID ticket was originally tied to a parking card and the price of this ticket included the daily parking fee. As of July 2011, the cost of the daily parking fee may only be paid independently and all users of the catchment lot are subject to the standard PID fare conditions when purchasing travel documents.

Prices for parking at P+R lots

Period	Daily parking fee	Reduced rate return transfer ticket	Reduced rate one-day network ticket
First half of 2011	CZK 10	CZK 50	CZK 90
Second half of 2011	CZK 20	N/A	N/A

For each violation of the parking lot regulations, the operator is entitled to collect an amount of CZK 100. Violation of the regulations includes, for example, leaving a transportation device (car or bike) at the lot outside the operating hours (i.e. overnight), or parking an automobile at the lot without demonstrating subsequent use of public transport.

Long-term parking at P+R lots and the associated fees

Service	Natural persons	Legal persons	Service available at P+R
Night and weekend resident parking (weekdays 17:30-7:30, all day weekends)	CZK 250/month		Rajská zahrada
All-day resident parking	CZK 500/month	CZK 800/month	Běchovice, Opatov, Skalka 1, Radotín

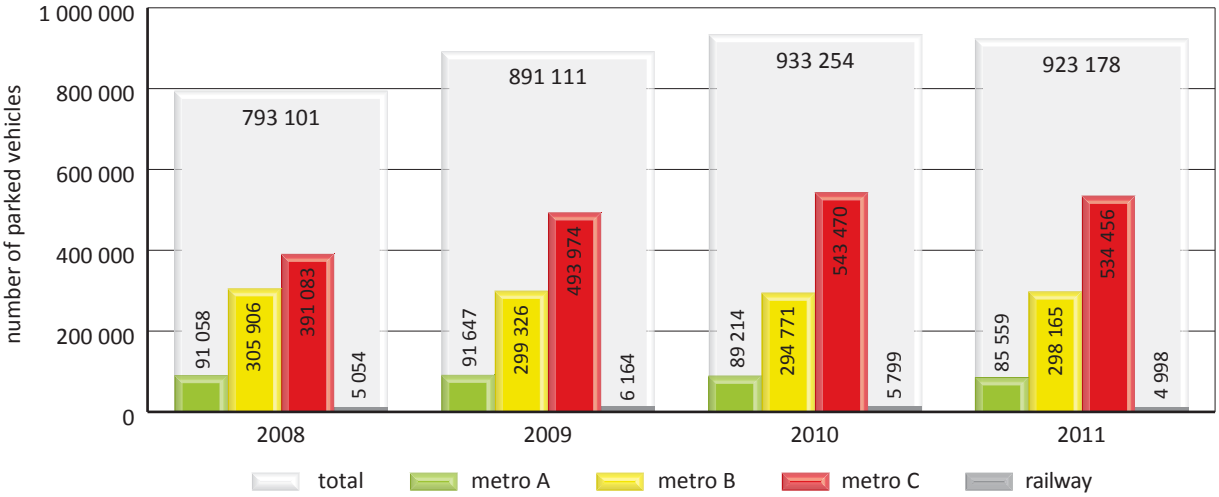
On the basis of a contract with TSK, some of the capacity at several P+R lots is reserved for long-term vehicle parking for local residents and legal entities located in the vicinity. In some cases the reservation of capacity for residents allowed the Park and Ride lot to be created or it allows for temporarily unneeded parking capacity to be used. With the exception of P+R Běchovice the capacity of resident spots is fully exploited.

Bicycle storage (B+R Bike and Ride) at P+R lots

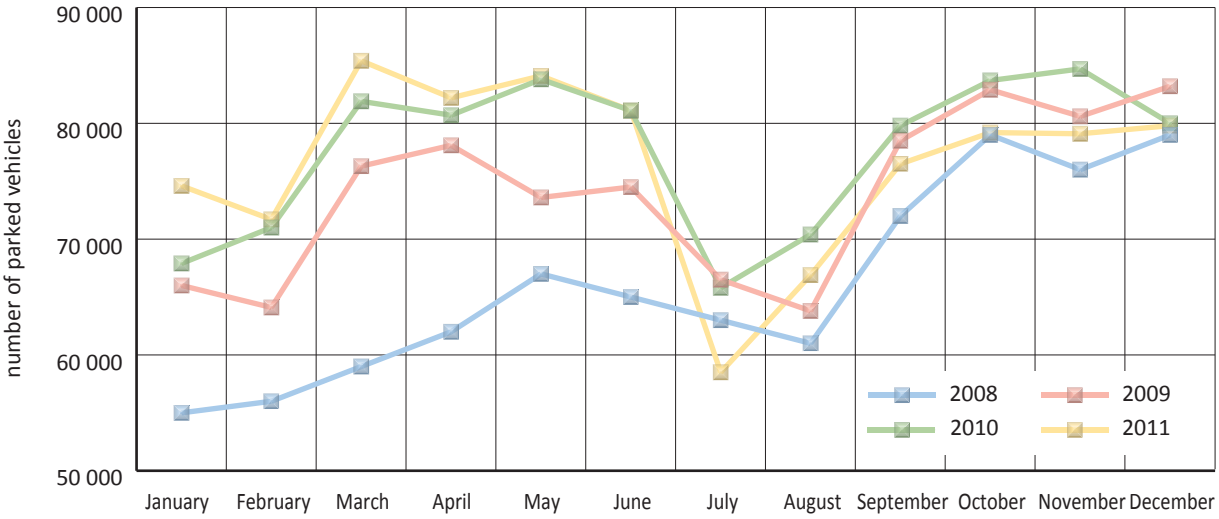
A bicycle can be left in the guarded premises of the P+R lot during the operating hours for free. The cyclist announces their arrival to the lot attendant, from whom they receive a lock for locking the bicycle to a stand. They return the key to the attendant and are issued a control card for a returnable deposit (CZK 20). This card allows them to pick up the bicycle.

Bicycle storage is not possible at P+R Chodov, P+R Černý Most 2, P+R Skalka 2 and P+R Zličín 2. The other P+R facilities are equipped with a stand for at least 4 bicycles. A covered stand structure for 10 bicycles is only located at P+R Zličín 1.

Year-on-year development of use of P+R system



Annual variation in use of P+R system



Number of vehicles parked at P+R lots in the month of October

Lot	2008	2009	2010	2011
Běchovice	215	191	90	**69**
Černý Most 1	11 294	10 942	10 881	**10 174**
Černý Most 2	3 482	2 912	2 817	**3 146**
Depo Hostivař	5 936	5 737	5 474	**4 944**
Holešovice	3 500	3 785	3 940	**3 670**
Chodov	17 607	19 763	18 668	**18 322**
Ládví	2 593	2 284	2 175	**2 054**
Letňany	12 456	16 567	18 510	**16 712**
Nové Butovice	2 346	2 164	2 228	**1 992**
Opatov	6 143	6 039	5 790	**5 452**
Palmovka	1 416	1 225	1 277	**1 127**
Radotín	286	431	348	**314**
Rajská zahrada	2 920	2 805	2 502	**2 465**
Skalka 1	1 917	1 745	1 824	**1 521**
Skalka 2	731	757	647	**574**
Zličín 1	3 175	2 879	3 722	**3 424**
Zličín 2	2 746	2 924	2 649	**2 513**
TOTAL	**78 763**	**83 150**	**83 542**	**78 473**

P+R Depo Hostivař

Entrance to P+R Opatov

10.4 Kiss and Ride points (K+R)

K+R "Kiss and Ride" stopping points allow for short-term stopping of vehicles in order for passengers to exit or enter near public transport stations, in Prague predominantly metro stations. It is a system of combined passenger transportation connecting individual automobile transportation and public mass transit and by supporting shared rides it reduces the volume of automobile traffic and the demand for longer-term parking in the city.

IP13e

K+R stopping points within the City of Prague are labelled with a "Sign on the carriageway" (V15) road marking with the text "K+R" along with a vertical "K+R Parking Lot" sign (IP13e) with the text "MAX 3 min".

As of the end of 2011 there were K+R spots available at a total of 18 metro stations (of this amount seven stations had two). One K+R spot also served drivers at the railway station Praha-Radotín.

During the past year the system was significantly expanded. The K+R spot on Evropská street was renewed by the Dejvická metro station and a second was added on Jugoslavských partyzánů. K+R spots were added at Opatov and Radlická to serve cars going in the opposite direction to the existing points.

New K+R spots were also created at Florenc, Háje, Pankrác, Nové Butovice and Náměstí Míru.

New K+R spot by Pankrác metro station

K+R stopping points in Prague

toward centre		out of centre
A Dejvická (Evropská)*	C Letňany (Beladova)	B Černý Most (Chlumecká)
A Dejvická (Jugosláv. partyzánů)*	A Náměstí Míru*	C Chodov (Roztylská)
B Florenc (Ke Štvanici)*	B Nové Butovice (Bucharova)*	C Kačerov (Michelská)
C Háje (Opatovská)*	C Opatov (Chilská)	C Letňany (Beladova)
C Háje (U modré školy)	C Prosek (Prosecká)	C Opatov (Chilská)*
C I. P. Pavlova (Legerova)	C Prosek (Vysočanská)	C Pankrác (Na Pankráci)*
C Kačerov (Michelská)	B Radlická (Radlická)*	B Radlická (Radlická)
C Kobylisy (Nad Šutkou)	C Vltavská (nábřeží Kpt. Jaroše)	Radotín (Vrážská)
C Ládví (Střelničná)	A Želivského (Vinohradská)	

** K+R spot installed in 2011*

11 TRANSPORTATION INFRASTRUCTURE AND ROAD MAINTENACE

Transportation infrastructure in Prague is primarily financed by the chapters of the City of Prague budget (see Chapter 12) and investment is organised above all by the Prague City Hall Municipal Investment Division (OMI), the Technical Administration of Roads of the City of Prague (TSK) and the Prague Public Transport Company (DPP).

State funds (via the State Fund of Transportation Infrastructure – SFDI) go to finance railway track within Prague, the Prague Outer Ring Road and also help finance city roads that make up for (or recently made up for) as yet unbuilt sections of these state-financed structures.

In 2011 several important transportation works were put into operation, above all the eastern part of the Vysočany Radial Road and the extension of tram tracks to Podbaba. Construction work continued on important transportation works that will influence the quality of life in the capital in the future (the north part of the City Ring Road – the Blanka tunnel complex, the extension of the A metro line to Motol).

After six years of construction, the first part of the Vysočany Radial Road (OMI) was opened in November 2011. This connection between Kbelská street and the R10 motor road also replaces the north-eastern section of the Prague Outer Ring Road between the R10 and D8 for the time being.

The radial road begins with a grade-separated intersection with Kbelská (Hloubětín interchange), heads south from the Kbely Airport toward the Lipnická interchange and ends with the Satalice interchange, where it crosses the Prague Outer Ring Road and directly connects to the R10 motor road. The whole section measures 5.6 kilometres and its construction cost CZK 2.5 billion. The radial road includes seven bridges, two of which are “bio-bridges”. One of these connects the street Za Černým Mostem with Satalice and is part of a new cycle track on the route from the Rajská zahrada metro station toward Vinoř and the Pojizeří area.

One of the “bio-bridges” over the Vysočany Radial Road

Grand opening of tram track to Podbaba

Since the end of August 2011, a **new branch** of the Jižní spojka (TSK) has also been open near Rabakovská street between the cable bridge in Zahradní Město and the DP-Metro bridge.

This has greatly increased the smooth flow and safety of this section of the Jižní spojka, which in the future will be part of a grade-separated intersection on the City Ring Road (section Balabenka – Jižní spojka).

On 1 September 2011 the Prague Public Transport Company opened the refurbished and also extended **tram tracks to Podbaba**. The new final stop is located at the site of the future train stop, which is to become a new transfer node between MHD and the railways.

The length of the track extension from the former Podbaba loop to the site of the planned Praha – Podbaba railway station is 260 metres. At the same time around 900 metres of track between Vítězné náměstí and Čínská street was refurbished. The majority of the refurbished or new tram track is made up of the quieter, non-grooved S49 rails and a significant part of the track bed is grassed.

Other important ongoing transportation works

Name [investor]	Description
Blanka tunnel complex (City Ring Road section Malovanka – Pelc-Tyrolka) [OMI]	• Work continued on the whole 6 382 m long section of the tunnel complex. • Boring under Letná was completed in January 2011. • 19 December Patočkova was re-opened between the Malovanka intersection and the connection to the detour past the Myslbekova construction site. • Expected date of completion in 2014.
Trojský bridge (part of construction of Blanka tunnel complex) [OMI]	• Will connect banks of Holešovice and Troja, total bridge length 262 m, width 36 m. • Construction of reinforced concrete arch with lower deck which will bear main load. • Expected to be opened for trams in 2013, and for automobiles and bicycle transport a year later.
New section of metro A Dejvická – Motol [DPP]	• 6 119 m long section includes 4 stations – Červený vrch, Veleslavín, Petřiny & Motol. • Drilling of tunnel sections began using new TBM – EPM technology (Tunnel Boring Machine – Earth Pressure Balance). The technology frees up earth using a cutterhead. • The underground stations and part of the section between the stations Petřiny and Motol are bored using new Austrian tunnelling technology (NRTM). • Operation is expected to begin at the end of 2014.
Kbelská – Veselská grade-separated crossing [OMI]	• Conversion of Kbelská – Veselská intersection to grade-separated continued. • Grade separation will considerably improve the flow and safety of the intersection. • Completion of conversion is planned for mid-2012.

Construction of Trojský bridge

Repair of Nuselský bridge expansion joints

Overview of most important road repairs and reconstruction in 2011

Name [investor]	Description
Repair of 5. května [TSK]	• Section between Nuselský bridge and Hvězdova reconstructed. • Use of new Viaphone asphalt mix reduced noise by 5 decibels during the day, up to 8 decibels at night. • Project included replacing carriageway covering, maintenance of crash barriers, repair of elastic bridge joints, maintenance of cracks in carriageway underbed layers and refurbishing of street signs, replacement of lighting poles, etc.
Repair of Nuselský bridge joints [TSK]	• Two-month repairs of bridge expansion joints, which were leaking into the metro, took place over the holidays. Road surface and insulation also repaired by joints.
Phase II of repairs of Michelská street [TSK]	• Stage two of repairs to Michelská street (Prostřední – Ohradní) included reconstruction of utility infrastructure, new road surface, pavements and landscaping.
Repair of K Barrandovu street [TSK]	• Laying of new Viaphone surface and replacement of bridge expansion joints on sections of Barrandovský bridge up to Lamačova in direction out of centre and from K Holyni up to Štěpařská in direction into centre. SFDI also contributed financially.
Rebuilding of Kamýcká – Roztocká intersection[TSK]	• Redevelopment of intersection into a small roundabout, co-financed by SFDI.

Overview of most important repairs and reconstruction in public transport in 2011

Name [investor]	Description
Reconstruction of tram track on Podolské nábřeží [DPP]	• Complete reconstruction of tram track from stop Výtoň to stop Přístaviště (excluding Vyšehradský tunnel). • 4 stops also refurbished on 2.9 km long stretch (Podolská vodárna, Kublov, Dvorce and Přístaviště), with information system added. • Goal was increased passenger comfort and reduced noise. • Reconstruction also launched on KOMOKO tram track („KOmunikace MOdřany – KOmořany“) along Modřanská and on Generála Šišky.
Repair of KOMOKO tram track (Nádraží Braník – Nádraží Modřany) [DPP]	• On selected stretches track was replaced using S49 non-grooved rails and grooved NT1 rails. • Stop information panels, shelters and drainage replaced at stops.
Refurbishment of KOMOKO tram track (scaffold bridge in section Nádraží Modřany – Čechova čtvrť) [DPP]	• Construction included return of moved bridge to planned position. • Track reconstruction focused on changing direction and height design allowing higher speeds. • Tram wheel oil pads were installed in order to reduce the noise for the surroundings and to reduce wear.
Refurbishment of tram track on Generála Šišky [DPP]	• Complete reconstruction of two tram track segments (KOMOKO scaffold bridge – stop Čechova čtvrť, crossing of Čs. exilu – stop U libušského potoka). • Length of refurbished segments totalled 1.2 km. • For new segments both un-grooved S49 rails and grooved NT1 rails were used. • Barrier-free access to stops Čechova čtvrť and Poliklinika Modřany, kerbs raised to 24 cm and stop information panels, shelters and drainage repaired.
Refurbishment of tram track on Smetanovo nábřeží, on Křižovnická street and on Masarykovo nábřeží [DPP]	• Reconstruction included segments from Národní to Karolíny Světlé street (335 m), from the Church of St Francis of Assisi to Kaprova (250 m) and the whole track along Masarykovo nábř. from Myslíkova to Národní. • Track structure on large-scale panels replaced by structures on concrete slabs with bituminous covering and use of NT1 grooved rails. • Stop islands refurbished including installation of information system. • Section of Masarykovo nábř. btw. Ostrovní and Národní also closed due to reconstruction of National Theatre's technical tunnels (carrying over into 2012).
Refurbishment of tram track on Zenklova – Phase I [DPP]	• Reconstruction took place in segment Palmovka – Elsnicovo náměstí. • NT1 grooved rails used on concrete slab with bituminous covering. • Kerb raised at stop Divadlo pod Palmovkou to 16 cm.
Phase I of optimisation of railway track 231 Praha-Vysočany – Lysá n. Labem [SŽDC]	• Goal of optimisation is increasing capacity of segment Praha Vysočany – Lysá n. Labem, building new security facilities and providing a detour route to allow the modernisation of the Běchovice – Úvaly segment. • First island boarding platform at station Praha-Horní Počernice was already in service by end of 2011. New underpass also built with lift for barrier-free access.

Tram track reconstruction on Podolské nábřeží

New island boarding platform at Praha-Horní Počernice station

Refurbished track on street Generála Šišky

Tram track reconstruction on Smetanovo riverbank

TSK, as the administrator of most roads and road accessories in the city, is responsible for keeping them in satisfactory working order. It therefore provides for all necessary repairs, cleaning, and winter and summer maintenance. These are financed from the current expenditure section of the City of Prague budget and from contributions from SFDI and certain municipal districts. For example, in 2011 SFDI co-financed repairs on the Jižní spojka, Průmyslová street and the bridge on Chlumecká street.

In 2011 TSK spent CZK 714 million for winter maintenance (including purchase of road salt) and CZK 1.338 billion on summer road maintenance (including contributions from SFDI and city districts).

These consist primarily of repairs to both roads and pavements, street drainage, traffic signs, as well as sometimes greenspace and utility networks. The most extensive work in 2011 was done on the streets Střížkovská, Ke Karlovu, Pod Kotlářkou, Pod Markétou, Semanského and the shore wall on Dvořákovo nábřeží.

Summer repairs on Resslova

Repairs of National Theatre technical tunnels

As part of ongoing maintenance, scoring and laying of new carriageway covers was carried out on longer road stretches, e.g. on the streets Jeremiášova (Archeologická – Pod hranicí and Bavorská – railway bridge), Vídeňská (Kunratická spojka – Dobronická and Ružinovská – Jalodvorská), K Barrandovu (K Holyni – Štěpařská) and Pod Vidoulí.

General maintenance was carried out at 182 locations in 2011. Generally this was a matter of accident repairs, road surface or pothole repairs, and sometimes also scoring and new layers of asphalt concrete. Among those works where repairs exceeded CZK 1 million were those at Resslova, K Dubči, Českobrodská, Barrandovský bridge, Pod Kavalírkou, Bělohorská, Patočkova, Jeremiášova and the intersections Bulhar and Průmyslová – Teplárenská.

Pavements were also repaired at 49 locations as part of general maintenance. Repair costs exceeded CZK 1 million on the streets Zapova and U smíchovského hřbitova and on Janáčkovo nábřeží.

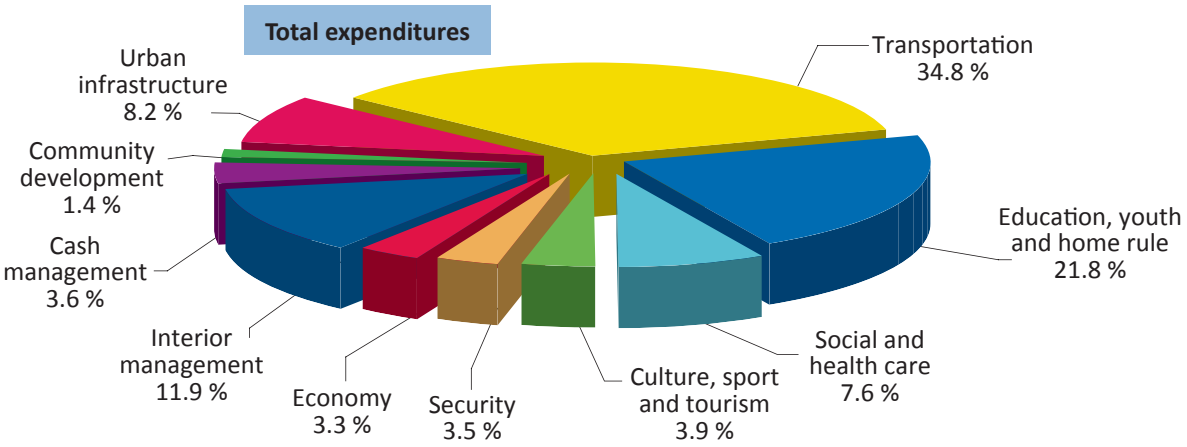
12 FINANCING THE OPERATION AND DEVELOPMENT OF MOBILITY

The operation of urban transport and the realisation of transportation infrastructure was financed from the budget of the City of Prague in 2011, with contributions from the state budget, the own resources of the Prague Public Transport Company, and other city organisations. Funding also came from grants from EU funds and European Investment Bank (EIB) loans.

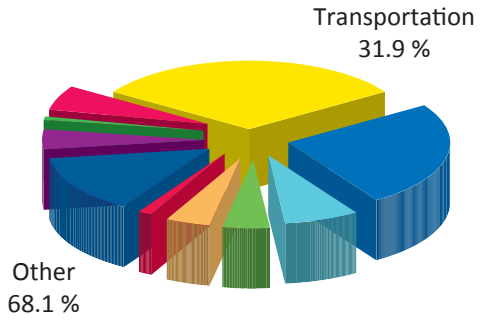
The City of Prague municipal budget, updated 30 June 2011, totalled CZK 66.8 billion in expenditures, of which the expenditures under Chapter 03 Transport totalled just under CZK 23.2 billion. Chapter 03 was thus once again the most substantial chapter of the municipal budget in terms of expenditures in 2011 (35 %). A further CZK 45 million earmarked for covering the operation of safety systems for the metro and Strahov automobile tunnel was drawn from Chapter 07 Security.

Transport accounted for 32 % of the City of Prague's current expenditures and transport investments for 41 % of capital spending.

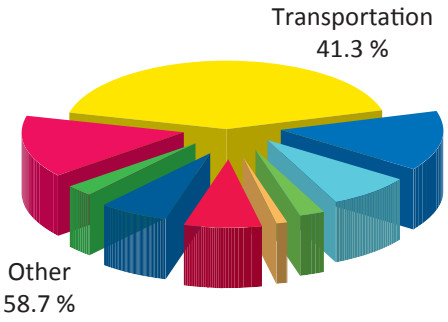
Breakdown of municipal budget expenditures in 2011 (budget updated as of 30 June 2011)



Current expenditures

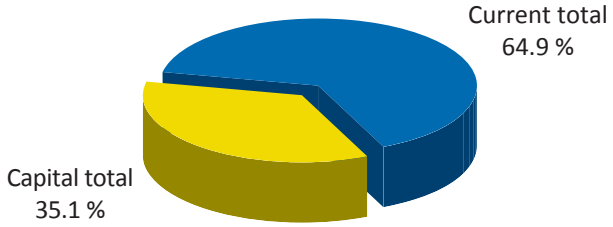


Capital expenditures



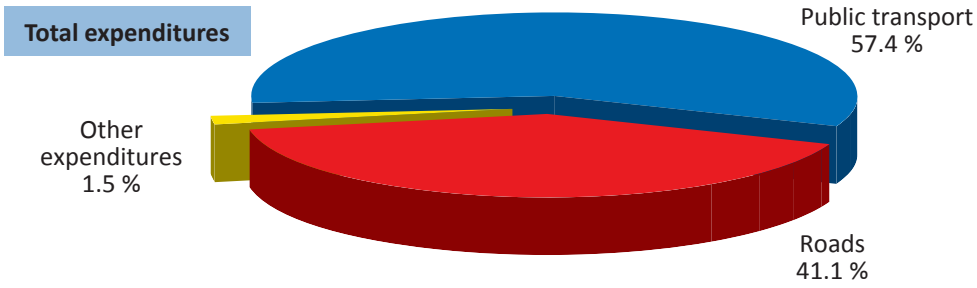
Proportion of current and capital expenditures in Chapter 3 Transport (budget updated as of 30 June 2011)

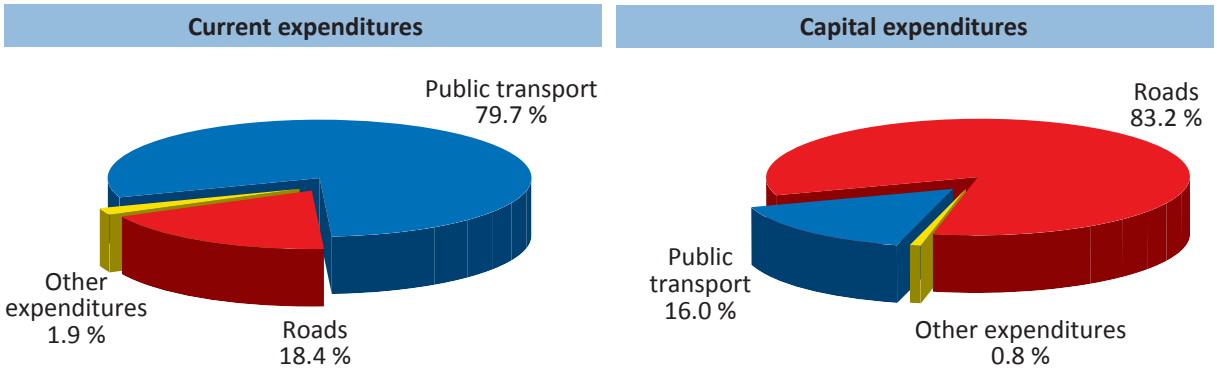
Of the total amount contained in Chapter 3 Transport (CZK 23.2 billion), over CZK 15 billion was earmarked for current expenditures and over CZK 8.1 billion for capital spending.



Ever year, expenditures associated with passenger public transport form the decisive bulk of current expenditures. CZK 12 billion was set aside for this purpose in the adjusted budget. CZK 2.8 billion was earmarked for administration, maintenance and operation of roads and just under CZK 0.3 billion went to cover various other necessary expenditures.

Structure of municipal budget transport expenditures in 2011 (budget updated as of 30 June 2011)



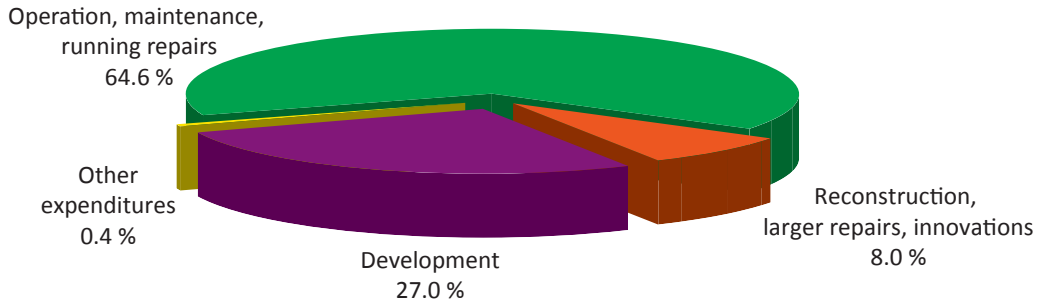


The capital expenditures went to pay mainly for development investments, i.e. construction of new roads and metro lines and other transportation equipment (77 %), as well as more extensive repairs and refurbishment of transport routes and equipment (23 %). Capital expenditures were dominated by expenditures for improving the road network and the conditions for operation of road traffic. Of the total amount of CZK 8.1 billion, CZK 1.3 billion went to renewal and development of public transport and CZK 6.8 billion to investment in the road network.

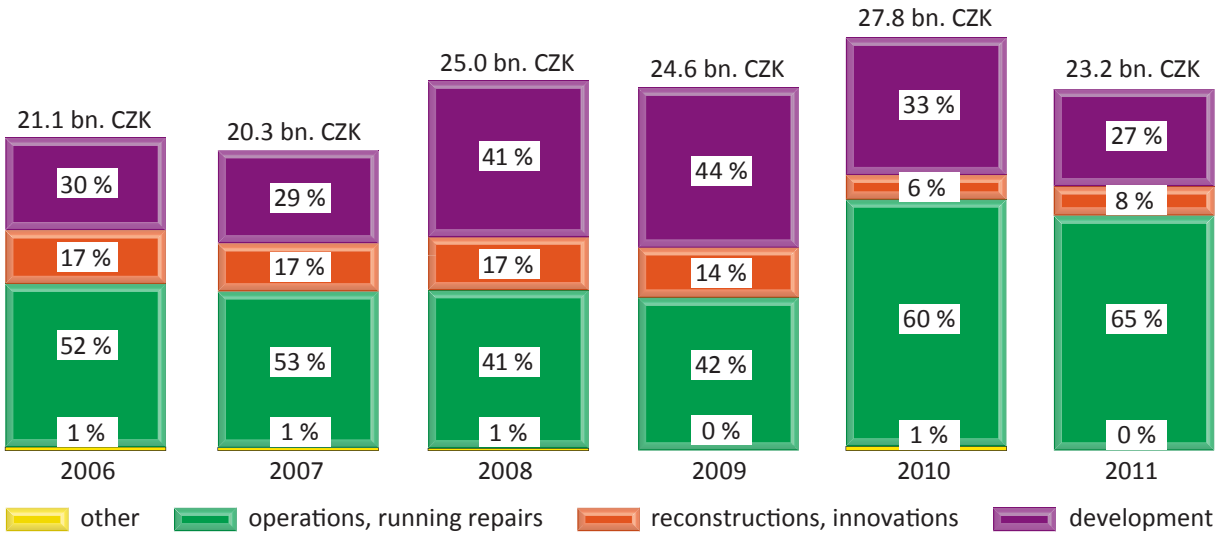
Of the total transportation expenditures in the adjusted 2011 budget, the amount set aside for ensuring the operation, renewal and development of public passenger transport was 57 % and the amount for ensuring road transport and development of the road network was 41 %.

A more detailed breakdown of the items in the expenditures of Chapter 03 shows that nearly CZK 15 billion went to securing operation, general repairs and maintenance of the city's transportation system, just under CZK 2 billion went to major repairs, renovation and renewal of technical facilities and over CZK 6 billion was earmarked for development investments.

Structure of total transport expenditures in 2011 city budget (budget updated as of 30 June 2011)



Development of structure of transport expenditures in City of Prague budgets

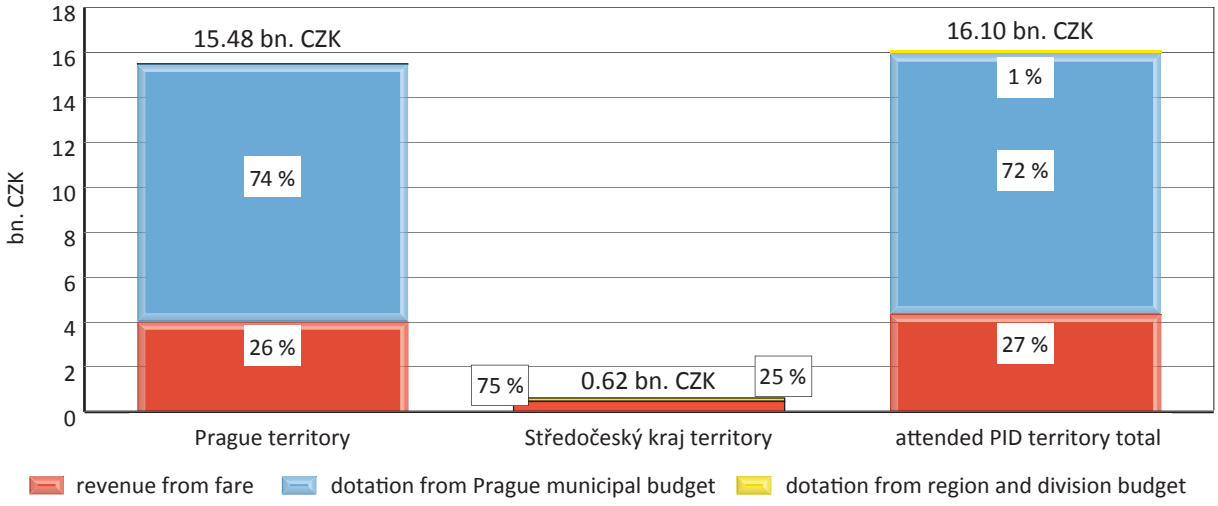


Targeted bound contributions were provided to the City of Prague from the state budget for operating the metro and Strahov tunnel safety systems, and to cover certain PID operating costs. A contribution was allotted from the budget of the State Fund for Transport Infrastructure (SFDI) for the maintenance, repair and construction of roads that are temporarily fulfilling the function of the lacking superior road network. The state budget also adds to EU funds to help finance EU operational programmes.

The state also takes part in building the Prague Outer Ring Road, having assumed full responsibility for financing it. A total of CZK 1.47 billion was drawn for ring road construction in 2011, of which CZK 0.03 billion came from the Operational Programme Transport, CZK 0.92 billion from the European Investment Bank and just under CZK 0.52 billion from the budget of the State Fund for Transport Infrastructure.

An important source of funding for the operation of the city's transportation system is the revenue from the sale of passenger public transport tickets. The basic relationship between the volume of revenue and subsidies in operating Prague Integrated Public Transport in 2011 is evident from the following graph.

Operating subsidies and fare revenue in PID (2011, not including railway revenue and subsidies)



The Prague Public Transport Company provided CZK 7.5 billion from its own resources to cover the cost of investments in the transportation system, of which CZK 1.6 billion went to metro construction and CZK 4.8 billion to MHD fleet renewal.

13 EU PROJECTS WITH PARTICIPATION OF TSK

In developing transportation in the capital city of the Czech Republic, attention is given to fulfilling the goals of the European Transport Policy. These goals are defined in a document called a White Paper and are implemented through so-called initiatives, which present specific measures on how to most effectively implement integrated traffic management systems, traffic information systems and systems allowing better use of transportation infrastructure.

Operational Programme Transport (OPD)

The Operational Programme Transport is an instrument for the years 2007 – 2013 that allows the Czech Republic to draw funding earmarked primarily for important transportation projects. The programme is financed so that 15 % of costs are paid by the applicant from their own resources and 85 % is paid as a subsidy from EU funds (the Cohesion Fund and the European Fund for Regional Development). Important transportation projects related to Prague are realised as part of OPD under priority axis number 5 – "Modernisation and Development of the Prague Metro and the Road Traffic Management Systems in the City of Prague".

Prague Urban Road Traffic Management and Regulation System

Realisation of Prague's first project under OPD, entitled "Prague Urban Road Traffic Management and Regulation System" took place in the years 2007 – 2011. Its main goal was to reduce the negative environmental effects of the large volume of road traffic in Prague by implementing telematic systems. Specifically, the project focused on optimising traffic (increasing safety and flow) on the existing road network using new modern control and information technology, including tying it into the comprehensive national telematic system (NDIC).

Individual areas for drawing project funds under TSK	
Area 1 – Management through traffic signals	Area 4 – Traffic data collection
Area 2 – Urban Traffic Control Centre Prague	Area 5 – Expansion of functionality of urban radio network
Area 3 – Optical network	Area 6 – Meteorological sensors

Project implementation was supported by a significant contribution from the Cohesion Fund, which was approved by the European Union in the amount of CZK 556 549 221. In 2011 the project was successfully completed.

Increasing Road Safety in Prague

Following up on the successful completion of the first project in the capital is Prague's second project under OPD, entitled "Increasing Road Safety in Prague". On the basis of a Czech Ministry of Transport decision from March 2009, this project was approved for co-financing from the Cohesion Fund. The project contains 3 areas, with work already underway in two of them in 2011.

Individual areas for drawing project funding under TSK	
Area 1 – Management and monitoring of traffic tunnels	Area 3 – Harmonisation of telematic systems on the City Ring Road and radial roads
Area 2 – Provision of traffic information	

In connection with the completion of the Blanka tunnel complex on the City Ring Road, the control and security systems in Prague's existing road tunnels will also undergo modernisation. A selection procedure has also been successfully completed for the renewal of the existing variable information signs and the delivery of approx. 30 new ones.

Financial support of CZK 493 300 279 was approved for the project, representing 85 % of the planned total costs. The remaining 15 % of the total costs will be paid by the City of Prague from its own budget.

14 OTHER FORMS OF TRANSPORT IN PRAGUE

14.1 Air transport

Air transport in Prague is primarily operated at Prague Ruzyně Airport, which is designated for both international and domestic, regular and charter flights and is located at the north-west edge of the city. Other Prague airports are Letňany (grass-covered public domestic airport), Kbely (military airport) and Točná (currently out of service). The Vodochody airport (private international airport) is also located near Prague.

Prague Ruzyně Airport

In turns of its runway system, Prague Airport is equipped with three RWYs (runway, take-off and landing surface), with two of them (RWY 13/31 and RWY 06/24) in use. RWY 04/22 is closed for take-off and landing and serves as a parking and waiting area. The total capacity of the runway system is about 200 000 aircraft movements (take-offs and landings) per year and 46 aircraft movements per hour.

In 2011 the number of aircraft movements at Ruzyně reached 150 552, which is 5 500 movements less than in 2010 (a drop of 3.5 %). The highest number of movements (14 453) was recorded in July, and the lowest (10 278) in February. The number of passengers per movement has been increasing in the long-term. In 2011 it reached a value of 78.2 persons/movement (1990 – 40 passengers/movement).

Northern part of Prague Ruzyně Airport – terminals T1 and T2

RWY 06/24 and cargo terminals

Number of dispatched passengers, carriers and destinations at Prague Ruzyně Airport

Prague Ruzyně Airport has three terminals serving both incoming and outgoing passengers. Terminal 1 serves to process passengers flying to countries outside the Schengen area (passport control), Terminal 2 is for passengers flying to countries inside the Schengen area (no passport control) and Terminal 3 is for private and VIP flights. The total capacity of the three terminals is currently 15 500 000 processed passengers per year (PAX/yr).

In 2011 a total of 11 788 600 passengers were processed at Prague Airport (88.7 % on regular flights), which represents a growth of 2 % in comparison with 2010. The rate of normal airline companies using the services of the Ruzyně Airport was 66.4 %, while the rate of low-cost companies was 22.2 %. The percentage of transits and transfers of the total number of departing passengers (5 890 000) was 18.8 % in 2011 (23.7 % in 2010). The greatest number of passengers was processed in July (1 324 500 persons), the least in February (641 400 persons). In comparison with 2010 the monthly maximum was 1.3 % higher.

In 2011 a total of 364 carriers used the services of the airport in Ruzyně, of those 51 carriers on regular passenger lines, 5 freight carriers and 10 low-cost carriers. The other carriers operated private and charter flights.

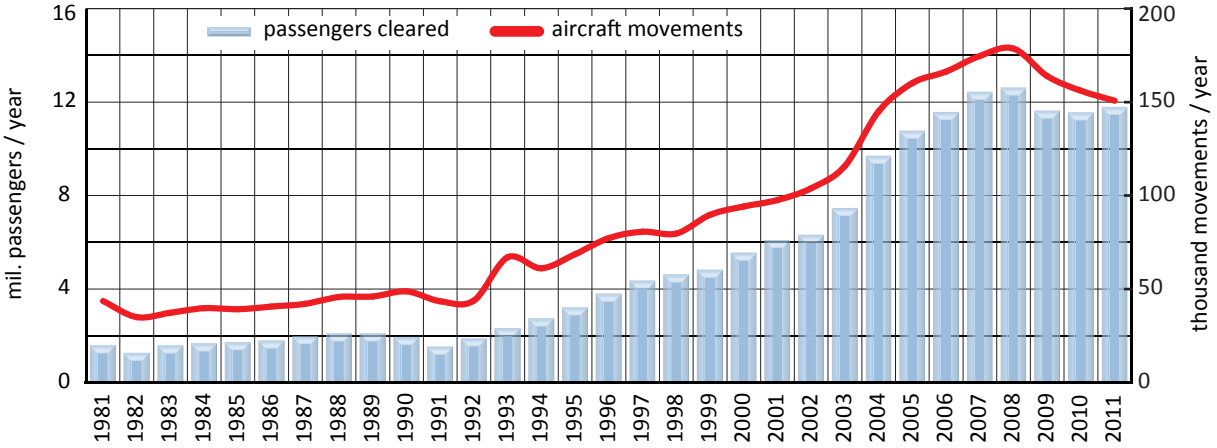
In total flights were made to 750 destinations from Prague Ruzyně Airport in 2011, of those 140 destinations in regular transport and 195 destinations in charter transport. The greatest volume of passengers was headed to Germany (1 160 000) and the United Kingdom (1 140 000).

The majority of passengers (91.1 %) were headed to European destinations, with the second largest proportion (3.8 %) headed to African destinations.

The destination with the heaviest traffic was Paris's Charles de Gaulle Airport with 830 000 passengers/year. This was followed by Moscow Sheremetyevo (540 000 passengers/year), Frankfurt (510 000 passengers/year), Amsterdam (460 000 passengers/year) and London Heathrow (340 000 passengers/year). In terms of carriers, the greatest share of passengers was transported by Czech Airlines along with Holidays Czech Airlines (38 %).

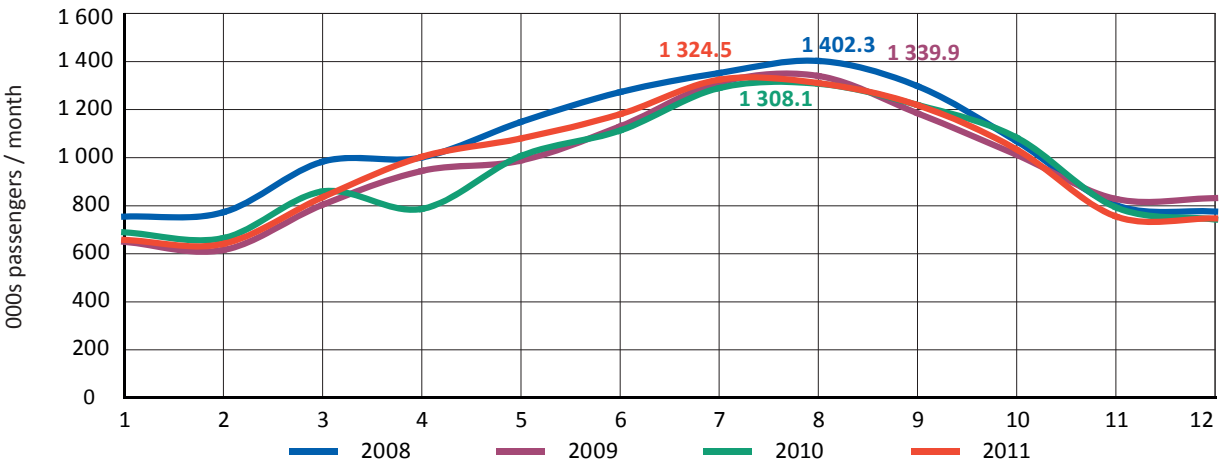
An Airbus A380 first lands at Prague Ruzyně Airport in October 2011

Development of passenger volume and aircraft movements at Prague Ruzyně Airport



Compared to 2009, when a general drop-off was recorded, air transport saw a worldwide recovery in 2010. In terms of passenger transport this trend continued in 2011, with the average number of passengers increasing 5 % worldwide over 2010, by 7 % in Europe. Freight transport on the other hand fell by 1 % on average worldwide, with a great deal of variability by region.

Monthly passenger numbers at Prague Ruzyně Airport



Number of passengers processed at selected airports (millions/year)

Airport	2000	2008	2009	2010	2011	11/10 (%)
Atlanta Hartsfield-Jackson (ATL)	80.2	90.0	88.0	89.3	92.4	103.5
London Heathrow (LHR)	64.3	66.9	65.9	65.7	69.4	105.6
Chicago O'Hare (ORD)	72.1	69.4	64.4	67.0	66.8	99.7
Paris Charles de Gaulle (CDG)	47.8	60.9	57.9	58.2	61.0	104.8
Frankfurt (FRA)	49.0	53.5	50.9	53.0	56.4	106.4
Madrid Barajas (MAD)	32.6	50.8	48.3	49.9	49.7	99.6
Amsterdam Schiphol (AMS)	39.3	47.4	43.5	45.3	45.2	99.8
Roma Fiumicino (FCO)	25.9	35.2	33.8	36.3	37.7	103.9
Copenhagen Kastrup (CPH)	18.2	21.5	19.7	21.5	22.7	105.6
Vienna Schwechat (VIE)	11.8	19.7	18.1	19.7	21.1	107.1
Stockholm Arlanda (ARN)	18.3	18.1	16.1	17.0	19.1	112.4
Brussels Airport (BRU)	21.5	18.5	17.0	17.1	17.2	100.6
Praha-Ruzyně (PRG)	5.8	12.6	11.6	11.6	11.8	102.0
Warsaw Frederic Chopin (WAW)	4.3	9.5	8.3	9.0	9.3	103.3
Budapest Ferihegy (BUD)	4.7	8.4	8.1	8.2	8.9	108.5
Bratislava M. R. Štefánika (BTS)	0.3	2.2	1.7	1.7	1.6	94.1

Source: The Chicago Department of Aviation, Fraport Group, ACI and airport websites

The contribution of Prague Ruzyně Airport to the total volume at the four Czech international airports (Prague, Brno, Ostrava, Karlovy Vary) in passenger transport was 92.6 % of the 12.7 million passengers (1.3 % less than in 2010), in freight transport 90.7 % of 69 100 t (1.5 % more than in 2010).

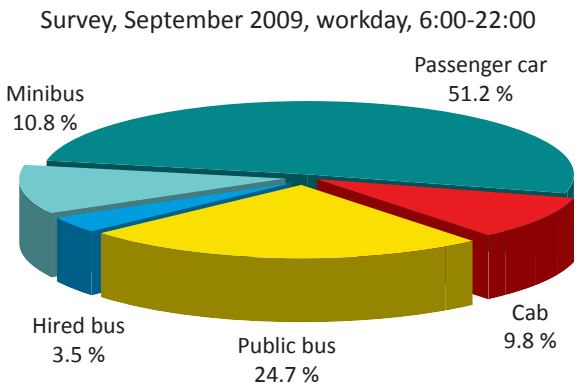
Freight transport at Prague Ruzyně Airport

There are two cargo terminals at Ruzyně for processing cargo (Menzies Aviation CZECH s. r. o., ČSA a. s.). Each of these cargo terminals has a capacity of 100 000 t/year. In 2011 a total of 62 689 tonnes of cargo was processed. Freight transport was 4 414 tonnes higher than in 2010 (7.6 %). The most freight was transported in March (5 736 t), the least in February (4 416.1 t). The monthly maximum was 2.6 % lower in 2011 than in 2010.

Connecting transportation to/from Prague Ruzyně Airport

Ruzyně Airport is located approximately 11 km from the centre of the city. The airport is served by two express bus lines (100 and 119) to the end stations of metro lines A (Dejvická) and B (Zličín) as well as other PID bus lines. Long-distance and regional bus lines also pass through. The special Airport Express bus line, with an interval of 30 minutes, goes from Praha hlavní nádraží train station to Terminals 1 and 2 and is intended primarily for airline passengers. Taxi service is also provided and a number of car rental services operate here. Individual automobile transport is the predominant method of transporting persons between the airport and the city.

Modal split of trips to and from Prague Ruzyně Airport



Parking at Prague Ruzyně Airport

In 2011, more than 7 200 stopping and parking spots were available to the public and airport employees in the north part of the airport complex, of which 600 places were located in the cargo zone. The largest number of parking spots (over 5 000) is available for the public and employees in parking sectors A, C, D and T1+2. The majority of spots are mid-term and long-term; 460 short-term spots are available for operative access.

14.2 Water transport

Water transport in Prague provides for the transportation of persons and cargo along the Vltava, of which 30.9 km flows within the boundaries of Prague. There are five locks in Prague (Modřany, Smíchov, Mánes, Štvanice, Podbaba). The capacity of the waterway is determined by the capacity of the Podbaba and Smíchov locks.

Development of number of boats passed through locks in Prague

Year	Lock				
	Modřany	Smíchov	Mánes	Štvanice	Podbaba
2000	1 898	21 716	3 747	5 775	1 897
2005	2 530	24 576	2 329	7 740	1 799
2010	2 414	25 797	2 720	8 950	2 335
2011	2 713	24 599	3 738	11 858	2 640

Passenger boat transport along the Vltava is predominantly for tourist and social purposes. Several companies operate year-round, specialising in various types of sightseeing tours around Prague and a wide range of other services. Regular transportation is provided by the Prague ferries operated as part of Prague Integrated Public Transport (PID) – see Chapter 3.6.

The largest operators of passenger boat transport include Pražská paroplavební společnost, a. s. (PPS), Evropská vodní doprava, s. r. o. (EVD), AQUAVIA Praha, s. r. o. and První všeobecná člunovací společnost, s. r. o.

The Bohemia with the Dancing Building in the background

Boat transport near the Na Františku dock

The oldest operator of water transport on the Vltava in Prague is Pražská paroplavební společnost a. s., which was founded in 1865. Currently this company operates 7 large boats docking on Rašínovo nábřeží between Palacký and Jirásek bridges. The company operates several regular lines: Prague – Mělník (twice a year), Prague – Slapy (seasonally on weekends and holidays), Prague – Troja (three times daily during the season), Na Františku Hospital – ZOO (during the summer holidays every day on the hour, during the rest of the season just on weekends). In addition it also organises a number of boat tours (the "Long Sail through Prague" daily year-round and in the season also a "Short Sail through Prague").

The largest company operating passenger boat transport is Evropská vodní doprava, s. r. o. (EVD). This company runs 17 modern boats docking by Čechův bridge. With the hotel boat Florentina for 100 passengers it organises 4 – 8 day trips according to the customer's wishes.

In 2010, the first water craft powered by solar energy, Elektronemo, began operations (solar panels cover as much as 45 % of the consumption of the electric motors). EVD and PPS also operate four small ecological boats, Šárka, Libuše, Vlasta and Bivoj. These are rented out for tours around Malá Strana, the National Theatre, the Charles Bridge and the Čertovka stream.

Development of number of persons transported by two largest carriers (persons/year)

	2005	2006	2007	2008	2009	2010	2011
EVD	196 000	199 000	230 000	179 000	145 000	193 000	205 000
PPS	86 000	115 000	229 000	208 000	94 000	91 000	107 000

The company AQUAVIA Praha, s. r. o. organises social events on three boats – Moravia, Czechie and Klára. The company organises one- to two-hour cruises or according to the customer's wishes, leaving from the Na Františku docks.

První všeobecná člunovací společnost, s. r. o. runs canal sight-seeing cruises along the Vltava under the name „Prague Venice" year-round. The parlour express boat Nepomuk is used for private events. The company also operates four all wood covered boats and seven open boats. Some have now been constructed as copies of the „Vltava nudists" with flat bottoms and nearly vertical sides so that they can also sail through shallow areas. Boats leave the „Judita" and „Čertovka" docks every hour on the hour. The company also operates ferries in Prague.

Overview of number and capacity of boats operated by largest operators

Company	Capacity (persons)							
	10-12	24-32	68-78	100-125	146	175-188	200	250-390
EVD	4*	1+1*	-	2	4+1*	4+2*	-	1+2*
PPS	4*	1*	-	-	1*	2*	2	2*
AQUAVIVA	-	-	2	-	-	1	-	-
PVČS	7	4	-	-	1	-	-	-

** boats operated jointly by EVD and PPS*

The boats Porto and Hamburk by Hlávkův bridge

In addition to these large companies there are also a number of smaller companies that operate tours and social events based on individual orders. There are docks for these companies on both banks of the Vltava in the centre of the city, for example at Na Františku, Kampa and Dvořákovo nábřeží. Not only do the companies take orders for sight-seeing cruises around Prague, but they also organise trips to Slapy, Nelahozeves, Poděbrady, Mělník and Dresden.

Historical boats are also in operation – OLD TIME BOATS for 6-10 persons, motor boats – TAXI BOAT for 2-3 persons and a number of sight-seeing restaurant boats.

Various domestic and foreign operators also carry out **freight transport** on the river. One of the largest operators is Evropská vodní doprava, s. r. o., which runs domestic and international transport of bulk cargo, heavy loads, containers, liquids, etc. Their fleet includes 39 vessels. The company also owns floating facilities (platforms for construction and other uses).

Volume of goods passed through locks in Prague (tonnes/year)

Year	Lock				
	Modřany	Smíchov	Mánes	Štvanice	Podbaba
2000	108 168	197 740	238	201 712	370 037
2005	56 759	59 378	690	106 749	302 726
2010	3 476	5 868	829	6 698	165 166
2011	0	2 805	264	1 647	180 634

There are 4 harbours within the city – Radotín, Smíchov, Holešovice and Libeň which serve for the transhipment of various types of cargo. The operator is České přístavy, a. s. The users of the harbours are transportation, warehousing, transhipment and manufacturing companies.

NOTICE

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TELEMATIC APLIANCES ON THE ROADS OF PRAGUE

AS OF 31 DECEMBER 2011

TSK-ÚDI

Evropská
Bělohorská
Plzeňská
Radlická
D5
Pražský okruh
K Barrandovu
Strakonická
Jižní spojka
Vídeňská
Brněnská (D1)
D8
Liberecká
Kbelská
Mladoboleslavská
Chlumecká
D11
Pražský okruh
Českobrodská
Průmyslová
Kutnohorská

Legend

- Strategic sectional detectors for one direction
- Strategic point detectors for both direction
- Strategic point detectors for one direction
- Cameras for section speed measurement for one direction
- Documentation of red-light violations
- Variable information signs
- Cameras for complex monitoring system (monitoring + traffic data collection)

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