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

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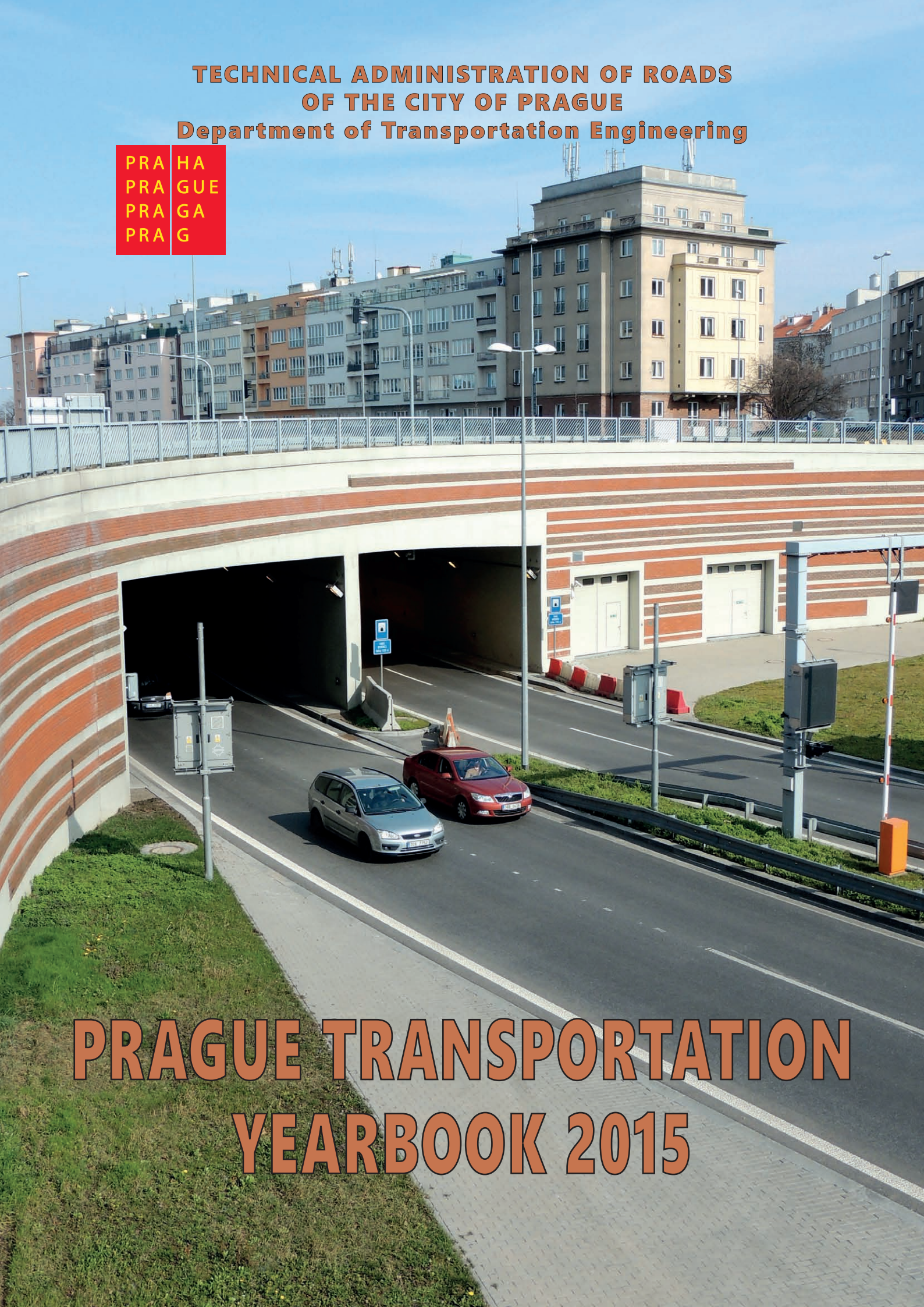

PRAGUE TRANSPORTATION YEARBOOK 2015

Traffic volume – year 2015 autumn

All vehicle, average workday, 0:00 – 24:00

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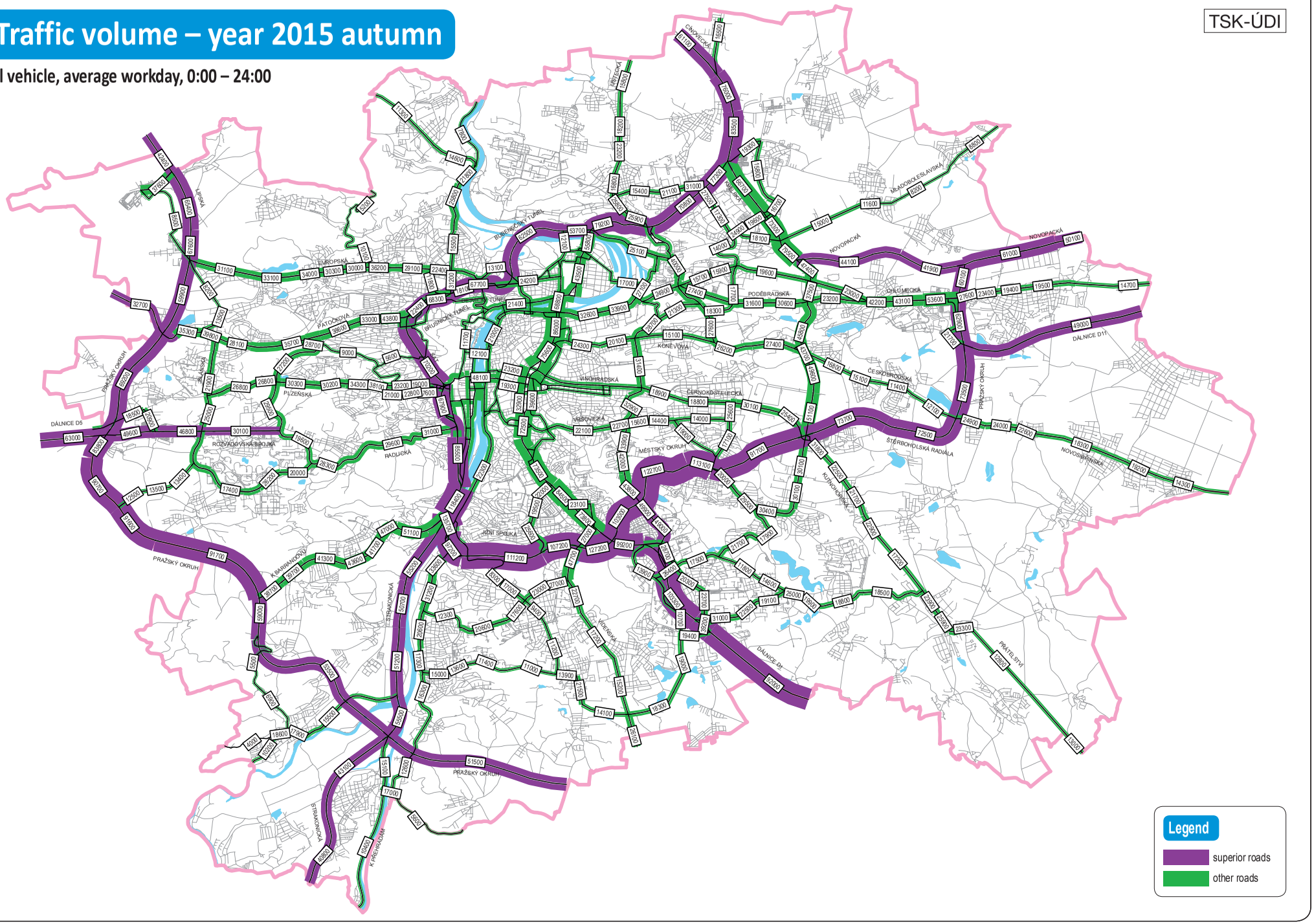

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PRAGUE TRANSPORTATION YEARBOOK 2015

Dear Prague residents and visitors,

It is with a feeling of pride that I present to you the 2015 Transportation Yearbook, which has been compiled and published by the City of Prague Technical Administration of Roads (TSK), as it does every year. The year 2015 was a noteworthy one for transport in Prague and its inhabitants. In April and September, two technically and financially demanding underground transport works were opened, which meant great strides forward in the quality of transport as well as for the environment of the city and the life of nearly all its inhabitants. This was felt most in the northwest of the city, but a significant positive effect was also felt in the west and north of the city, as well as the city centre.

The extension of the A metro line from the former final station Dejvická further to the west changed the method of transit service for the major settlement units of Červený Vrch and Petřiny and the Motol hospital complex, while also improving connections to the airport and suburban bus transport to northwest Bohemia. It allowed for reduction and optimisation of tram and urban bus lines and the curtailing of passenger automobile transport in several areas. In public transport, travel times were shortened and better conditions were created for the sick and disabled.

The opening of the northwest section of the City Ring Road (Blanka Tunnel Complex – BTC) and its subsequent use confirmed that the concept of a ring road system was the right one and underscored the importance and priority of completing the remaining eastern segment of the ring. The benefits of Blanka in terms of relieving traffic on the surface road network, reorganising traffic, and even for cyclists, not just in the immediate vicinity of the tunnels but in practically the whole city, are described in many of the Yearbook's chapters. The reduced traffic volume has led to increased traffic flow and reduction of air pollution and noise levels.

Accelerating the state-guaranteed completion of the Prague Outer Ring Road could have a similar effect, particularly for freight transport, but there construction has nearly come to a halt. State funding thus at least helps with maintenance and repairs to roads that stand in for the missing segments of the Prague Outer Ring Road within city territory, and recently it has also been directed into optimising railway lines.

The City of Prague budget for 2015 devoted more than a third of the overall planned expenditure to transport, with the most going to public transport. Nevertheless, due to the completion of the aforementioned major underground works, it was possible to devote a greater volume of funds to roadwork (over CZK 800 million more than in 2014). TSK not only focused on repairing road surfaces and sidewalks, but also on noise reduction projects and telematic devices.

In the Yearbook you will find detailed data on the operation of various types of transport in Prague in 2015. I trust that you will find it interesting and useful.

Petr Dolínek
Deputy Mayor of the City of Prague
for Transport and European Funds

In Prague, 18 April 2016

Dear readers,

The City of Prague Technical Administration of Roads operated as a contributory organisation of the City of Prague in 2015 and performed the tasks entrusted to it to ensure the administration, development, maintenance and repair of roads, and optimise comprehensive traffic solutions with a special focus on the organisation, management and comprehensive development of the transport system. This activity was expanded in 2015 to include the issue of paid parking zones. The broad scope of TSK's activities provides the data which, when added to from other institutions and partner organisations, allow for comprehensive information on transport in Prague in the past year to be compiled and provided to the public as the 2015 Prague Transportation Yearbook. The state of all forms of transport as of 31 December 2015 and the changes that took place over the course of the year are described in the individual chapters.

Public and automobile transport receive the greatest attention in the Yearbook, having also undergone the most extensive and most significant changes due to the opening of new transport works in 2015. Also worthy of note is the increased scope of road and tram track refurbishing compared to 2014, made possible by the increased capital expenditure budget from the city earmarked for such purposes in 2015. TSK's participation in EU projects in the field of road traffic management and regulation brought about further development. The number of traffic signals hooked up to the central management system, telematic surveillance system cameras and devices for traffic information all increased considerably.

In 2015 there was a further, though only slight, rise in the number of persons transported by public transport, particularly in the metro (+1.4 %). The only major increase recorded was for suburban bus transport (+6.5 %). In addition to the four new metro stations, another three were equipped with lifts. Barrier-free access was also implemented at tram stops. The intervals on tram and bus night lines were reduced and a new ferry started operating between Holešovice, Štvanice and Karlín.

While the number of registered vehicles continued to rise, the overall traffic volume on city roads remained practically unchanged (increase of only 0.1%). This was not true, however, of the city centre, where the traffic volume fell by nearly 5% following the opening of the northwest section of the City Ring Road. Also positive was the higher use of park and ride lots, while a negative was the increase in traffic accidents.

The number of persons transported in air and water transport increased in 2015, while the numbers for rail and long-distance bus transport remained at the previous year's level.

In freight transport an ongoing shift can be observed from railway to road truck transport, but water transport has also risen.

By studying the Yearbook you will obtain further and more detailed information on transport in the City of Prague in 2015 whatever your purposes may be.

In Prague, 18 April 2016

Ing. Ladislav Pivec
Acting Director of TSK

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1 BASIC DATA

1.1 Selected data on the City of Prague as of 31 December 2015

Land area		**496 km²**
Number of inhabitants		**1 267 449**
Total length of road network		**3 971 km**
of which	administered by TSK	2 348 km
	administered by other administrators	1 623 km
Number of bridge structures on the road network administered by TSK*		**678**
of which	bridge structures across the Vltava	29
	grade-separated crossings	294
	underpasses	124
Number of road tunnels (14 km)		**13**
of those the Brusnice, Dejvice, and Bubeneč tunnels		5.5 km
Number of motor vehicles		**941 145**
number of passenger automobiles		740 745
Vehicle ownership (vehicles per 1 000 inhabitants)		**743**
Automobile ownership (passenger automobiles per 1 000 inhabitants)		**584**
Length of metro network		**65.1 km**
Length of tram network		**142.7 km**
dedicated track bed		52 %
Length of urban and suburban bus network in Prague		**818 km**
Number of traffic signals		**646**
signals at separate pedestrian crossings		146
Vehicle kilometres travelled (VKT) by automobile on the whole road network		
average workday		21.8 m VKT
annually		6.9 bn VKT
Modal split – motor transport (by number of trips within city bounds per workday)		
public transport		57 %
automobile transport		43 %
Modal split – motor and non-motor transport (by number of trips within city bounds per workday)		
public transport		43 %
automobile transport		33 %
cyclists		1 %
pedestrians		23 %
Number of recorded traffic accidents		**21 462**
Number of traffic accident injuries		**2 282**
fatal		25
serious		179
minor		2 078
Relative accident rate (number of accidents per 1 million VKT)		**3.1**

** According to ČSN 73 6220 Records of Road Bridge Structures*

1.2 Comparison of Prague and the Czech Republic

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

		Praha	ČR	Praha/ČR (%)
Land area (km²)		496	78 864	0.6
Population (mil.)		1.267	10.554	12.0
Number of motor vehicles (in thousands)		941	6 991	13.5
	of which passenger cars (thousands)	741	5 130	14.4
Vehicle ownership	motor vehicles per 1 000 persons	743	662	-
	persons per 1 motor vehicle	1.3	1.5	-
Car ownership	passenger cars per 1 000 persons	584	486	-
	persons per 1 passenger car	1.7	2.1	-

Comparison of VKT in the years 1990–2015 (millions of VKT/avg. workday, 0:00-24:00)

Year	Prague*	Czech Republic+
1990	7.3	80.9
2000	16.6	131.2
2010	22.2	140.9
2012	21.8	142.4
2014	21.8	147.0
2015	**21.8**	**149.8****
Index 2015/1990 (%)	299.4	185.0**
Index 2015/2014 (%)	100.1	101.9**

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

Comparison of registered vehicles in 1961–2015

Year	Prague					Czech Republic (up 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 %
2000	1 181	746 832	174 %	620 663	185 %	10 267	5 230 846	129 %	3 720 316	154 %
2010	1 257	928 769	217 %	699 630	208 %	10 533	6 036 576	149 %	4 494 425	186 %
2012	1 247	835 427	195 %	647 839	193 %	10 516	6 446 857	160 %	4 723 150	196 %
2014	1 259	881 235	206 %	690 037	206 %	10 538	6 693 284	166 %	4 908 462	204 %
2015	**1 267**	**941 145**	**219** %	**740 745**	**220** %	**10 554**	**6 990 542**	**173** %	**5 130 266**	**213** %

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.

In 2002–2011 they were taken from the new keepers of this data – for Prague this was the Prague City Hall Department of Transport Administration and for the Czech Republic the Ministry of Transport's Department of Transport Administration.

Starting in 2012 the data have been taken from the new central vehicle registry (data administered by the Ministry of Transport's Department of Road Vehicles).

2 AUTOMOBILE TRANSPORT

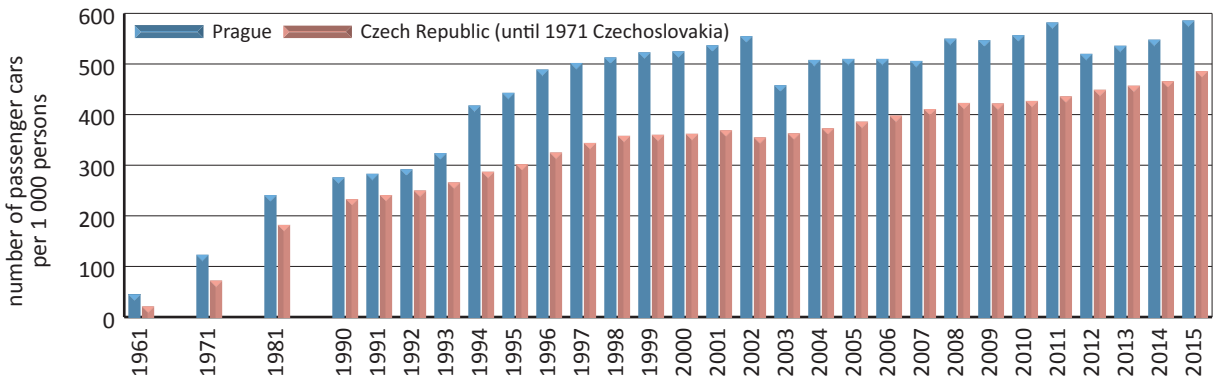
2.1 Development of vehicle and car ownership

The total number of motor vehicles registered within Prague increased dramatically up until 1999, after which the growth slowed. As of the end of 2015 there was one registered passenger automobile 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	persons per 1 car	vehicles per 1 000 ppl	persons per 1 vehicle	cars per 1 000 ppl	persons 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
2000	632	1.6	525	1.9	510	2.0	362	2.8
2010	739	1.4	557	1.8	573	1.7	427	2.3
2012	670	1.5	520	1.9	613	1.6	449	2.2
2014	700	1.4	548	1.8	635	1.6	466	2.1
2015	**743**	**1.3**	**584**	**1.7**	**662**	**1.5**	**486**	**2.1**

Development of car ownership



Note: In 2003–2007 the administrator for Prague data on the number of vehicles used a different algorithm that produced lower values.

2.2 Volume of automobile traffic on workdays

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

All data on traffic volume apply to the period from 0:00-24:00 of an average workday. All data on automobile traffic exclude municipal public transport buses. In 2015 all data are presented for the situation including the Blanka Tunnel Complex (BTC).

Traffic volume

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.

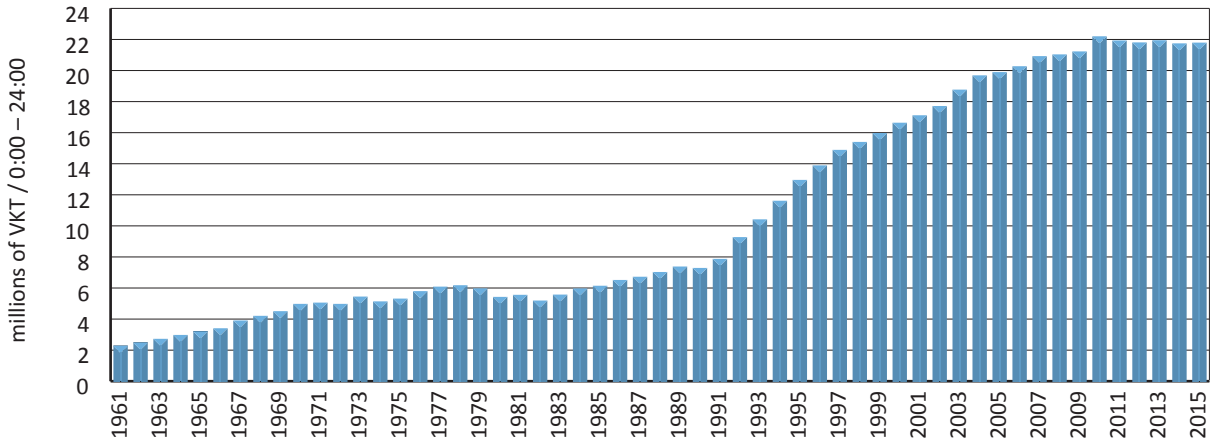
- Situation in 2015: in the period of 0:00-24:00 of the average workday, motor vehicles in the whole territory of Prague drove a total of 21 798 million VKT. Of this amount, passenger automobiles accounted for 20 070 million VKT, or 92 %.
- Development 2014–2015: automobile transport within Prague measured by VKT on the whole road network stagnated in 2015, or rather increased only 0.07 % compared to the previous year.
- Longer-term tendencies: the annual growth of automobile traffic recorded within the city after 1990 practically ceased in 2008 and 2009 and after growing again 2010 it has stagnated – see graph of traffic volume development.

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
2000	16.641	228	15.131	259	91
2010	22.205	304	20.435	349	92
2012	21.812	299	20.131	344	92
2014	21.782	299	20.072	343	92
2015	**21.798**	**299**	**20.070**	**343**	**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)



Development of changes in 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	**2011**	year-on-year -269 000 VKT/day
1991–1995	year-on-year +1 134 000 VKT/day	**2012**	year-on-year -124 000 VKT/day
1996–2000	year-on-year +736 000 VKT/day	**2013**	year-on-year +63 000 VKT/day
2001–2005	year-on-year +652 000 VKT/day	**2014**	year-on-year -93 000 VKT/day
2006–2010	year-on-year +461 000 VKT/day	**2015**	year-on-year +16 000 VKT/day

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.

Greater city centre – central cordon

- Situation in 2015: based on the counts made at the central cordon, which measures two-way 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), 263 000 vehicles entered (single-direction) the greater city centre in the 24 hours of an average workday in 2015, of those 253 000 passenger automobiles.
- Development 2014–2015: in the greater city centre delineated by the central cordon, automobile traffic dropped on average by 4.5 % compared to the previous year.
- Longer-term tendencies: 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, with slight fluctuations. Since the year 2000 automobile traffic in the greater city centre has dropped by 24 %, roughly to the level of 1992.

Outer zone of the city – outer cordon

- Situation in 2015: based on counts done at the outer cordon, which expresses the volume of traffic at the entrances from the main roads and motorways into the continually settled area of the city, over the 24 hours of an average workday, 297 000 vehicles entered Prague (single-direction) across the boundary of the outer cordon, of which 264 000 were passenger cars.
- Development 2014–2015: the average volume of automobile traffic fell by 2.6 % at the outer cordon compared to the previous year.
- Longer-term tendencies: 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 to 2014, replaced by a slight fall-off again in 2015, roughly to the level of 2013.

Prague road network segments with heaviest traffic in 2015

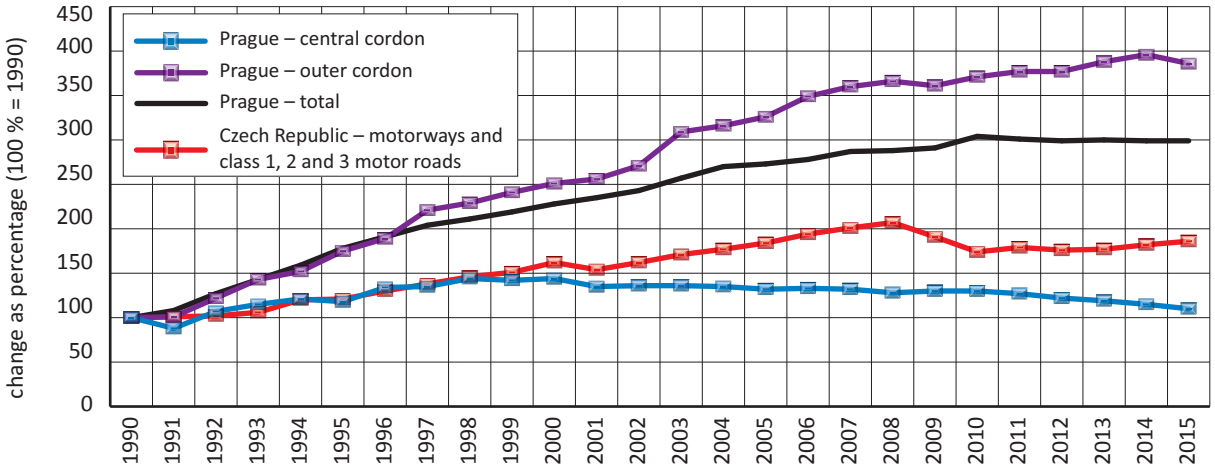
	Section	Vehicles per day (0-24 h) total
1.	Barrandovský most	136 000
2.	Jižní spojka section 5. května – Vídeňská	127 000
3.	Jižní spojka section Chodovská – V korytech	123 000
4.	Strakonická section Dobříšská – Barrandovský most	118 000
5.	Jižní spojka section V korytech – Průběžná	113 000

Data on traffic volume on various segments of the monitored road network in Prague for 2015 are available in table form on the TSK website in the section "Transport Engineering".

Intersections with the heaviest traffic in 2015

	Intersection	Vehicles on intersection per day (0-24 h) total
1.	5. května – Jižní spojka	202 000
2.	Strakonická – Barrandovský most	180 000
3.	Jižní spojka – Chodovská	161 000
4.	Jižní spojka – Vídeňská	155 000
5.	Jižní spojka – Průmyslová	141 000

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

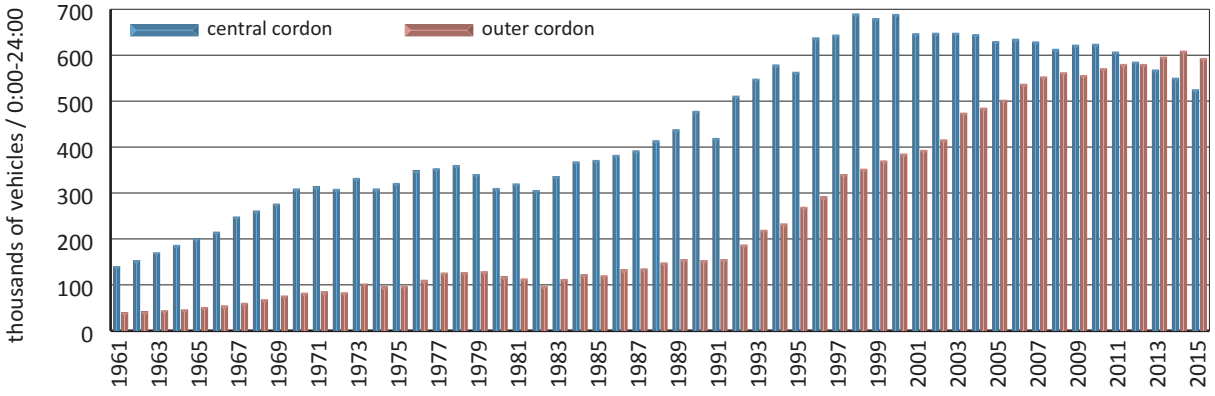


Traffic volume at central and outer cordons in Prague (workday, both directions total, 0:00-24:00)

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
2000	653 000	154	25 000	58	690 000	144	334 000	301	47 000	127	386 000	251
2010	598 000	141	14 000	33	625 000	130	505 000	455	58 000	157	572 000	371
2012	562 000	133	17 000	40	586 000	122	518 000	467	54 000	146	581 000	377
2014	526 000	124	10 000	23	551 000	115	546 000	492	53 000	143	610 000	396
2015	**505 000**	**119**	**9 000**	**21**	**526 000**	**110**	**528 000**	**476**	**56 000**	**151**	**594 000**	**386**

100 % = 1990

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



2.3 Vehicle modal share and temporal traffic patterns

The modal 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 2015, this rate was 96 % at the central cordon, 89 % at the outer cordon and 92 % on average for the whole network.

Modal share 1961–2015 (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 %
2000	94.7 %	0.6 %	3.7 %	1.0 %	86.5 %	0.2 %	12.1 %	1.2 %
2010	95.7 %	1.0 %	2.4 %	0.9 %	88.4 %	0.3 %	10.2 %	1.1 %
2012	95.8 %	1.1 %	2.1 %	1.0 %	89.1 %	0.5 %	9.3 %	1.1 %
2014	95.6 %	1.7 %	1.7 %	1.0 %	89.6 %	0.5 %	8.8 %	1.1 %
2015	**96.0 %**	**1.1 %**	**1.8 %**	**1.1 %**	**88.9 %**	**0.6 %**	**9.4 %**	**1.1 %**

Note: The modal share of cyclists in the overall number of vehicles in traffic ranges from 0.1– 1.0 %.

Basic characteristics of daily variation of workday traffic volume in Prague

- The majority of traffic volume for the whole day takes place during the daytime period (74 % 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 until midnight.
- The morning peak is at 8:00-9:00; the afternoon peak is 16:00-17:00.
- The volume of the morning peak hour makes up 6.9 % of the total; the afternoon peak hour accounts for 7.0 % (100 % = 0:00-24:00).
- The difference between the peak hours and the noon sag is not very pronounced.

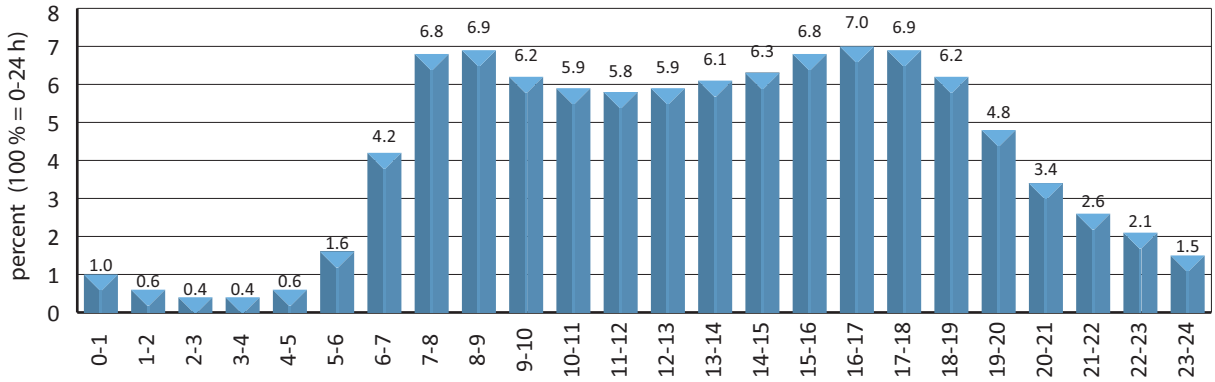
Significant changes to temporal traffic patterns in Prague 1990–2015

- Daily variation – The volume of the morning peak hour has fallen from its original 8–9 % to 6.9 % and has shifted from 6:00-7:00 to 8:00-9:00. The difference between the peak hours and the morning lull period has been reduced. The afternoon peak hour is now 16:00-17:00 and is higher (7.0 %) than the morning peak (6.9 %).
- Weekly variation – The volume for Wednesday, Thursday and Friday has risen slightly compared to Monday and Tuesday.
- Monthly variation – The share of January and February has increased in relation to the average for the year.

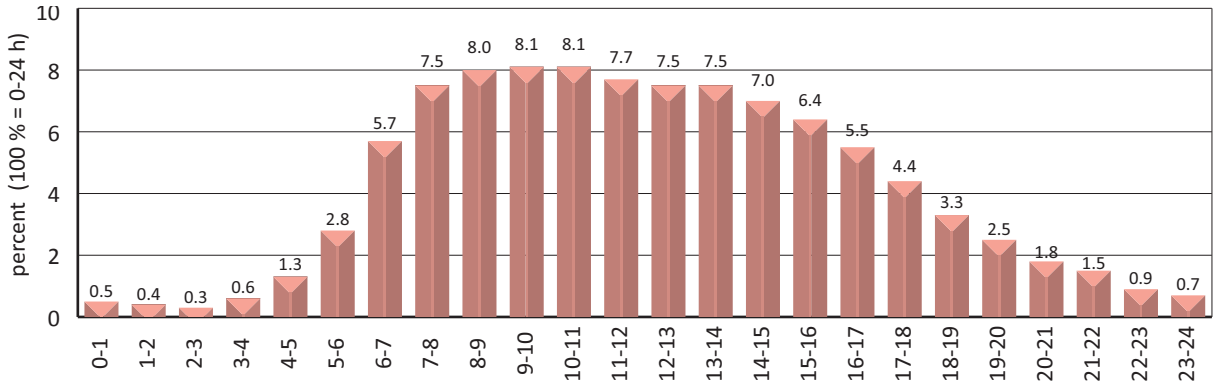
Evropská street

Clumecká street

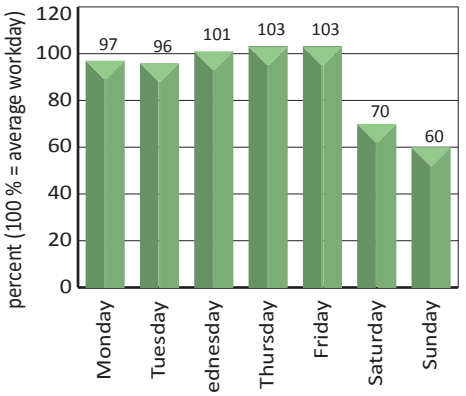
Daily variation of total automobile traffic (2015, Prague, whole network, workday)



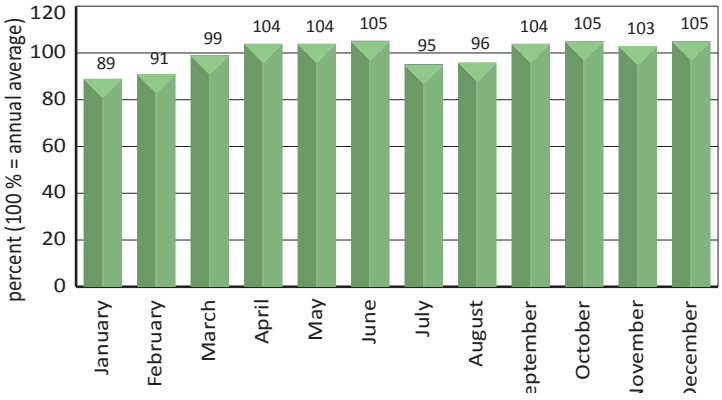
Daily variation of freight vehicles and buses, not incl. public transport (2015, Prague, whole network, workday)



Weekly variation (Prague, whole network, total vehicles)



Monthly variation (Prague, whole network, total vehicles)



2.4 Influence of Blanka Tunnel on traffic volume in Prague

On Saturday, 19 September 201, the Blanka Tunnel Complex (BTC) was opened in Prague. At its core are three connected automobile tunnels between the Malovanka and Troja grade-separated intersections totalling 5.5 km (Brusnice, Dejvice and Bubeneč tunnels). BTC is a component of the north section of the City Ring Road and at the Malovanka intersection it links up to the earlier tunnels Strahov (2.0 km, since December 1997) and Mrázovka (1.3 km, since August 2004). This forms a continuous route of a total tunnel length of 8.8 km between the Troja intersection (with Trojský most) and the south portal of the Mrázovka tunnel, which hooks up to the surface section of the City Ring Road – the streets Dobříšská, Strakonická, Barrandovský most and the Jižní spojka.

The impact of this new route on traffic in the city has been documented in terms of the load at selected characteristic major traffic profiles of the affected Prague road network. The situation before BTC was opened is documented by the average workday volumes in spring 2015, with the situation with BTC captured by the average volumes in autumn 2015.

The following conclusions can be drawn from the assessment:

1. The opening of BTC did not result in an increase in the overall volume of automobile traffic in Prague, as the traffic volume (VKT) on the whole Prague road network remained essentially unchanged (see Chapter 2.2).
2. This new route manifested solely in the rerouting of some trips through the city.
3. The rerouting of some trips into the continuous tunnel route of Mrázovka – Strahov tunnel – BTC significantly reduced the number of vehicles entering the greater city centre, where according to counts at the central cordon the number of vehicles entering dropped by 13 000 a day, i.e. 4.5 % less year-on-year.
4. A total of 68 000 vehicles travelled through the Blanka Tunnel Complex a day.
5. The opening of BTC was reflected in a significant increase in traffic in the connecting Strahov and Mrázovka tunnels and on the Dobříšská route.
6. There was also a significant growth in traffic on the collector roads as well: on Patočkova, V Holešovičkách and Povltavská.
7. In contrast, traffic dropped significantly on streets from which some traffic shifted to the tunnel: M. Horákové, Veletržní, Chotkova, nábř. Kapitána Jaroše, Argentinská, transit through Malá Strana, Hlávkův most, on Wilsonova by the Main Train Station, on Nuselský most and the connecting street 5. května.

Traffic volume at selected road network profiles in connection with BTC
(Average workday, both directions total, 0:00-24:00)

Tunnels	Spring 2015	Autumn 2015	Difference
Bubenečský tunel	0	63 000	
Dejvický tunel	0	68 000	
Brusnický tunel	0	68 000	
Strahovský tunel	46 000	70 000	+ 24 000
tunel Mrázovka	51 000	68 000	+ 17 000
Letenský tunel	18 000	18 000	0
Těšnovský tunel	38 000	37 000	- 1 000
Selected section with lower intensity	**Spring 2015**	**Autumn 2015**	**Difference**
M. Horákové (U Brusnice – Prašný most)	38 000	22 000	- 16 000
M. Horákové (Prašný most – Špejchar)	33 000	18 000	- 15 000
M. Horákové (U Vorlíků – Letenské náměstí)	30 000	23 000	- 7 000
Veletržní (Strojnická – Kamenická)	35 000	24 000	- 11 000
nábř. Kapitána Jaroše (Dukelských hrdinů – Letenský tunel)	33 000	24 000	- 9 000
Argentinská (Dělnická – Plynární)	52 000	44 000	- 8 000
Chotkova	19 000	12 000	- 7 000
Karmelitská (Malostranské náměstí – Hellichova)	15 000	11 000	- 4 000
Hlávkův most	75 000	69 000	- 6 000
Wilsonova (u Hlavního nádraží)	80 000	76 000	- 4 000
Nuselský most	78 000	73 000	- 5 000
5. května (Vyskočilova – Jižní spojka)	80 000	74 000	- 6 000
Dálnice D1 (Chodovec – Šeberov)	110 000	103 000	- 7 000
Selected section with higher intensity	**Spring 2015**	**Autumn 2015**	**Difference**
Dobříšská (tunel Mrázovka – Strakonická)	77 000	86 000	+ 9 000
Patočkova (Pod Královkou – Pod Drinopolem)	30 000	44 000	+ 14 000
V Holešovičkách (Pelc-Tyrolka – Vychovatelna)	68 000	79 000	+ 11 000
Povltavská (Pelc-Tyrolka – Zenklova)	13 000	25 000	+ 12 000
Pražský okruh (Lahovice – Lochkov)	48 000	54 000	+ 6 000

3 PUBLIC TRANSPORT

3.1 Prague Integrated Public Transport

Within the territory served by Prague Integrated Public Transport (PID) it is possible to travel using a single travel document regardless of the mode of transport, thereby giving public transport a competitive edge over individual transport. The beginnings of the integrated system in Prague stretch back to 1992; in 1996 a transfer zone tariff was introduced and from that time the PID system has continued to expand.

Basic data on PID	
Modes of transport under PID	Metro, trams, urban and suburban buses, railway, Petřín funicular, ferries
PID organiser	ROPID (Regional Organiser of Prague Integrated Transport)
Inhabitants with access to PID	**1 942 681** (**1 267 449** in Prague and **675 232** in Central Bohemia)
Area served	**3 654** km^2 (City of Prague **496** km^2 and about a third of Central Bohemia **3 158** km^2)
Municipalities served	**359** (**87** served by railway and bus, **46** only railway, **226** only buses)
Number of PID lines	**386** (**191** solely within Prague, **109** btw. Prague and region, **86** solely in region)
Number of PID carriers	**18** (Prague Public Transport Company, Czech Railways and **16** private carries)
Persons transported annually	**1 336 706 700** (**1 262 945 700** within Prague and **73 761 000** in Central Bohemia)
Cost of basic PID tickets	In Prague – CZK **24** (valid **30** min), CZK **32** (valid **90** min), CZK **3 650** (valid **1** year)
PID operating costs in Prague	CZK **18.05** bn (**75.1** % Prague, **23.6** % revenue, state budget **1.2** %, other entities **0.1** %)
PID fare revenue in Prague	CZK **4.25** bn (**23.6** % of costs)

Nádraží Veleslavín station

A 15T tram leaving the Jindřišská stop

Development of PID system								
Year	**1992**	**1995**	**2000**	**2005**	**2010**	**2013**	**2014**	**2015**
Number of PID suburban and regional bus lines	2	11	89	147	150	156	157	**161**
Number of municipalities served by PID suburban bus lines	2	15	159	299	299	308	309	**313**
Number of PID railway stations and stops	23	59	190	212	222	222	229	**235**

Development of annual PID VKT volume								
Year	**2007**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Metro, trams, urban buses (millions of VKT/year)	165.0	168.5	171.8	168.8	165.4	161.8	162.2	**167.0**
Suburban buses (millions of VKT/year)	23.6	24.6	25.1	25.9	26.9	26.8	26.0	**28.8**
Railway lines in all of PID* (millions of VKT/year)	-	-	10.9	11.2	11.4	11.4	11.5	**11.8**

* *new data not including sections of S and R lines outside PID territory (e.g. on the S9 line not including the segment Čerčany – Benešov u Prahy)*

Lines operated under PID

Mode of transport	Lines	Nature and numbering of lines
Metro	**3**	A, B, C
Trams	**30**	21 day lines (numbered 1-26), 9 night lines (numbered 51-59)
Urban buses **with route only within City of Prague boundaries**	**149**	115 day lines (numbered 100-297), 14 night lines (numbered 501-515), 18 school lines (numbered 551-576), 1 line for persons with reduced mobility (H1) and the AE line
Suburban buses **with route btw. city and region**	**92**	82 day lines (numbered 301-398), 10 night lines (numbered 601-610)
Regional buses **with route only in the region**	**69**	68 day lines (numbered 401-495), 1 seasonal cyclobus
Railway **26 tracks under PID, of which 11 enter the territory of Prague**	**36**	13 S lines between Prague and the region (S1-S9, S20, S41, S65, S80) 3 R lines between Prague and the region (R3, R4, R5), 1 urban line (S34) 15 S lines in the region only (S11-S88), 1 R line in the region only (R32) 3 seasonal lines (Prague and Podlipansko Motor Trains and Cyklohráček)
Ferries	**6**	Lines P1, P2 (annual), P3, P5, P6 and P7 (seasonal)
Funicular	**1**	Újezd-Petřín Funicular (from 7. 9. 2015 in recostruction)

An SOR NB18 bus on the street U zdravotního ústavu

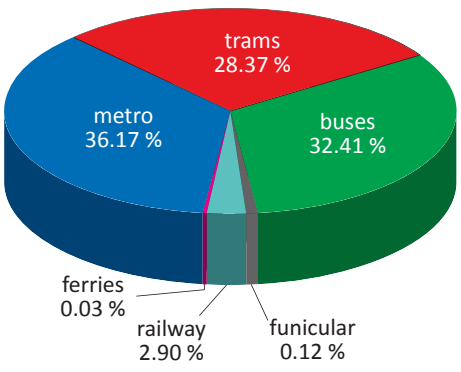
The S9 line at the new platform at Praha-Hostivař station

Operators of PID lines

Metro, trams, Petřín funicular	Prague Public Transport Company (DPP)
Urban buses	DPP (126 lines = 85 %), 7 private carriers (23 lines = 15 %)
Suburban and regional buses	11 private carriers (147 lines = 91 %), DPP (14 lines = 9 %)
S railway lines	Czech Railways (33 lines = 92 %), KŽC Doprava (3 lines = 8 %)
Ferries	Pražské Benátky (4 lines), Vittus group (1 line), Pražská paroplavební společnost (1 line)

PID ridership and share of total PID passengers within City of Prague in 2015

Mode of transport (operator)	Persons/year
Metro (DPP)	456 820 000
Trams (DPP)	358 284 000
Urban buses (DPP and private)	372 435 000
Suburban buses (private and DPP)	36 855 000
Railway (PID or ČD ticket)	36 669 000
Funicular (DPP)	1 480 000
Ferries (private carriers)	402 700
Total	**1 262 945 700**



Composite data on PID in 2015				
	Metro	Trams	Buses	Railway
Operating length of network within Prague (km)	65.1	142.7	818.0	160.0
Operating length of network outside Prague (km)	-	-	1 654.0	545.0
Average distance btw. stations and stops in Prague (km)	1.122	0.525	0.596	3.65
Average travelling speed within Prague (km/h)	35.6	18.8	24.2	48.9
Annual VKT within Prague (in thousands)*	55 673	51 470	69 666	4 164
Annual VKT outside Prague (in thousands)*	-	-	20 824	7 039
Passengers transported annually in Prague (in thousands)	456 820	358 284	409 290	36 669
Passengers transported annually outside Prague (in thousands)	-	-	41 210	32 551

** For rail transport data in train-kilometres.*

Refurbished Sídliště Petřiny exit stop

Suburban bus line 303 at Černý Most

3.2 Metro

The metro forms the backbone of the public transport network. During one workday an average of 1 800 train connections are dispatched in the Prague metro, carrying approximately 1 566 000 passengers (if a passenger transfers, each ride is counted separately). If a transfer is counted as part of a single ride, passengers make 1 286 000 rides by Prague metro each day.

81-71M trains at Nemocnice Motol

Basic data on the metro network in Prague		
Operator	**Number of lines**	**Operating length**
Prague Public Transport Company	3 (A, B, C)	65.1 km
Number of stations	**Average distance between stations**	**Average travelling speed**
61 (transfer stations counted twice)	1.122 km	35.6 km/h
Ridership within Prague and modal share under PID		**Number of persons transported per day**
456 820 000	36.17 %	1 566 000
Annual VKT	**Operating time**	**Number of trains running at peak**
55 673 000 (a train has 5 cars)	daily approx. 4:45–0:15	101

Interesting data on metro lines, segments and stations

Longest line	Deepest station	Most connections on a line
B (25.7 km)	Náměstí Míru (A) – 52 m	C (716 connections/day)
Most frequented segment*	**Most frequented station***	**Shortest interval at peak**
I. P. Pavlova – Vyšehrad (C) 277 300 ppl/day both directions	Můstek (A)** – 178 100 ppl/day I. P. Pavlova (C) – 102 400 ppl/day	C (1 min 55 seconds)

** Data from "Comprehensive Metro Ridership Survey" **Transfer station – entry + exit + transfer*

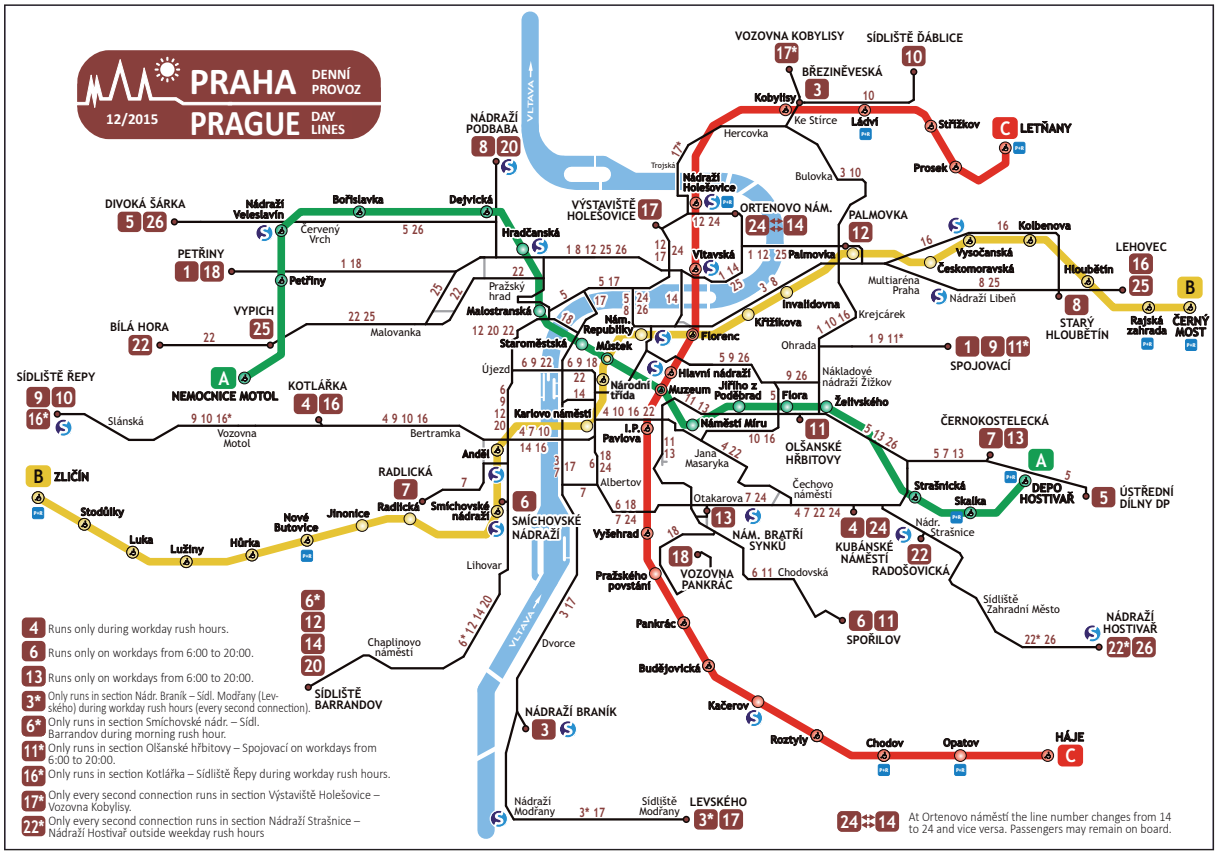
Number of trains designated for individual lines of the Prague metro

A line (type 81-71M)	B line (type 81-71M)	C line (type M1)
26 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

Metro stations with barrier-free access in Prague – 41 stations of 61 (67 %)

A line (9 stations of 17)	B line (15 stations of 24)	C line (17 stations of 20)
Nemocnice Motol, Petřiny, Nádraží Veleslavín, Bořislavka, Dejvická, Muzeum, Strašnická, Skalka, Depo Hostivař	Zličín, Stodůlky, Luka, Lužiny, Hůrka, Nové Butovice, Smíchovské nádraží, Anděl, Národní třída, Florenc, Vysočanská, Kolbenova, Hloubětín, Rajská zahrada, Černý Most	Letňany, Prosek, Střížkov, Ládví, Kobylisy, Nádraží Holešovice, Vltavská, Florenc, Hlavní nádraží, Muzeum, I. P. Pavlova, Vyšehrad, Budějovická, Pankrác, Roztyly, Chodov, Háje
under construction Můstek A/B	under construction Můstek B/A	

Metro and tram lines in Prague (day lines – standard state as of 31 December 2015)



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 a single workday, an average of 6 200 connections are dispatched on the Prague tram network (including night trams), transporting approximately 1 188 000 passengers.

Basic data on the tram network in Prague		
Operator	**Number of lines**	**Operating length**
Prague Public Transport Company	30 (21 day, 9 night)	142.7 m (52 % dedicated track bed)
Number of stops in operation	**Average distance between stops**	**Average travelling speed**
272 (by name), 596 (by stop marker)	0.525 m	18.8 km/h
Ridership within Prague in 2015 and modal share under PID		**Persons transported per day**
358 284 000	28.37 %	1 188 000
Annual VKT	**Operating time**	**Number of trams running at peak**
51 470 000 (one tram has 2 cars)	day 4:45–0:15, night 0:00–5:00	399

Sídliště Barrandov balloon loop

Procession of historical trams at celebration of 140 years of public transport

Interesting data on tram lines, segments and stops		
Longest line	**Most persons transported on a line**	**Most connections on a line**
16 (22.74 km)	22 (133 035 ppl/6:00-23:00)	22 (505 connections/day)
Most frequented segment	**Stops/hubs with highest turnover**	**Shortest interval at peak**
Lazarská – Spálená x Myslíkova 83 450 ppl/6:00-23:00 both directions	Anděl – 78 330 ppl/6:00-23:00 I. P. Pavlova – 63 300 ppl/6:00-23:00	Lines 3, 9, 17 and 22 (4 min)

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.

Basic data on the PID bus network in Prague		
Operators of urban lines	**Number of urban lines**	**Operating length in Prague***
9 (85 % DPP and 15 % private)	149	818.0 km
Number of stops in service*	**Average distance between stops***	**Average travelling speed***
1 148 (by name), 3 099 (by markers)	0.596 km	24.2 km/h
Ridership within Prague in 2014 and modal share under PID*		**Persons travelled per day**
409 290 000	32.41 %	1 161 000
Annual VKT*	**Operating time**	**Number of vehicles running at peak***
69 665 640	day 4:30–0:30, night 0:00–5:00	1 317

** Segments of suburban bus lines within the city's territory are included in the statistics for Prague.*

Interesting data on PID bus lines, segments and stops within the city		
Longest day line	**Most persons transported on a line**	**Most connections on a line**
269 (32.0 km)	177 (42 960 ppl/6:00-20:00)	137 (444 connections/day)
Most frequented segment	**Stops/hubs with greatest turnover**	**Shortest interval at peak**
Nemocnice Krč – U Labutě 66 000 ppl/6:00-20:00 both directions	Kobylisy – 50 760 ppl/6:00-20:00 Kačerov – 47 060 ppl/6:00-20:00	107 (2 minutes)

Over a single workday, an average of around 23 350 PID bus connections are dispatched, transporting approximately 1 161 000 passengers. Of this amount, around 19 320 connections are **urban** lines (the 100, 200 and 500 series) and around 4 030 connections are **suburban** lines (the 300 and 600 series).

A 139 line connection at the Želivského intersection

Celebrating 90 years of buses in Prague – procession of vehicles

On an average workday, approximately 4 030 connections crossed the city boundaries in both directions on **suburban** bus lines (the 300 and 600 series), carrying approximately 94 000 passengers across the city limits. Suburban bus lines used a total of 28 locations as starting or final stops within Prague. The most suburban PID lines (13) and connections (455) used the Zličín terminal; the highest turnover of passengers (approximately 10 000 persons/day) was at the terminals Zličín, Černý Most and Smíchovské nádraží.

The network of PID bus lines is also supplemented by **regional** lines that do not enter the territory of Prague (the 400 series). At the end of 2015 a total of 1 597 connections rode outside the territory of Prague daily, carrying roughly 24 900 passengers on an average workday. They were all operated by private carriers.

Basic data on the PID bus network in the surroundings of Prague		
Operators of suburban buses	**Number of suburban bus lines**	**Operating length of outside Prague**
11 (83 % private and 17 % DPP)	92 lines (82 day and 10 night)	1 654.0 km
Operators of regional buses	**Number of regional bus lines**	
8 (100 % private carriers)	69 (68 day, 0 night, 1 season)	
Number of stops in service	**Average distance between stops**	**Average travelling speed**
1 278 (by name), 2 515 (by marker)	1.077 km	29.1 km/h
Ridership on PID buses outside Prague in 2015		**Operating time**
41 210 000		day 4:30–0:30, night 0:00–5:00
Annual VKT		**Vehicles running at peak**
20 824 260		445

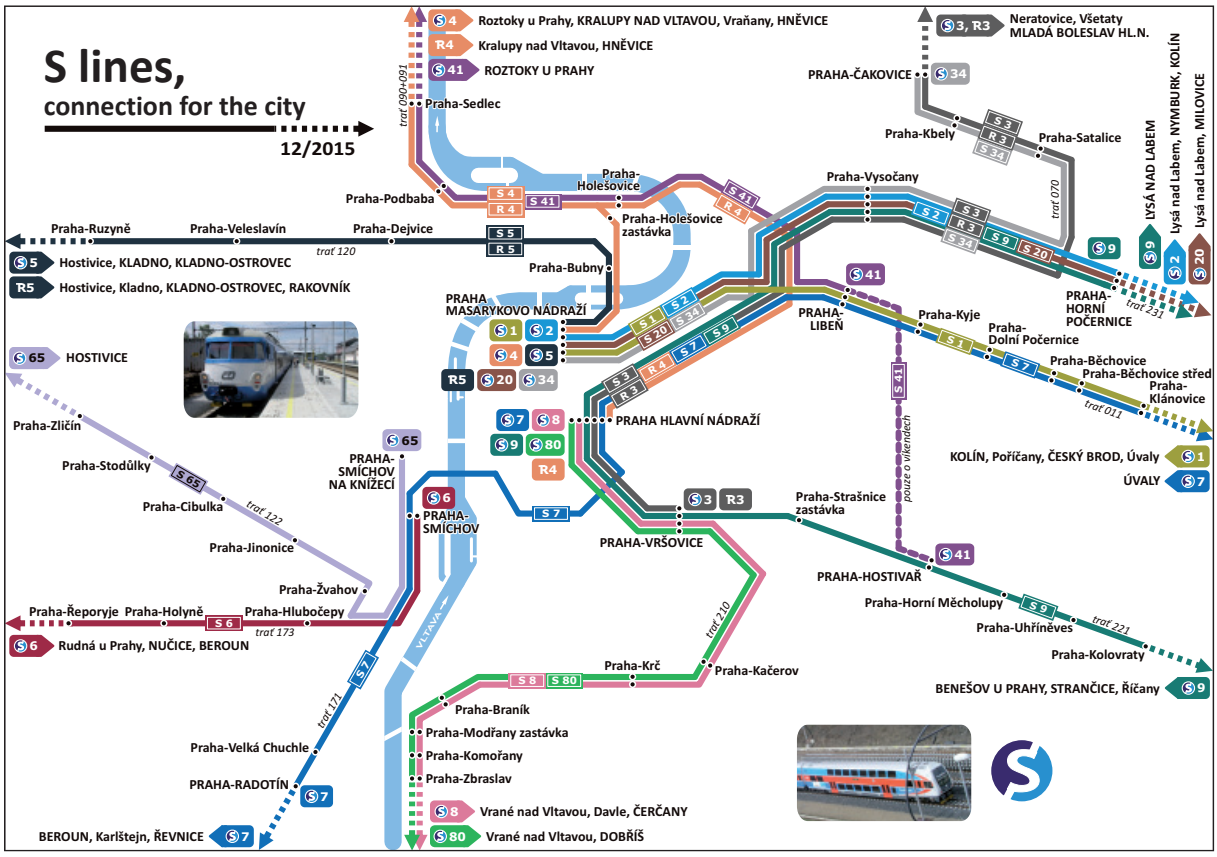
3.5 PID railway transport

Railway transport has been under development under PID since 1992. In 2007 the process of labelling suburban lines with the letters “S” or “R” was begun, with emphasis on regular intervals and easy-to-remember times. Recently, public transport connections that pass quickly through Prague in all directions have been expanded. Within Prague a total of 860 train connections were dispatched under PID daily on workdays in 2015, carrying approximately 117 000 passengers.

Basic data on the PID rail network within Prague

Operators	No. of lines + tracks starting in Prague	Operating length
17 – ČD, a.s., 2 – KŽC Doprava, s. r. o.	19 lines, 11 tracks	160.0 km
Number of stations and stops	**Average distance between stops**	**Average travelling speed**
46	3.65 km	48.9 km/h
Ridership within Prague in 2015 and modal share of PID		**Operating time**
36 669 000 (on a PID or ČD ticket)	2.90 %	day 4:00–0:30
Annual number of train kilometres		**Number of trains running at peak**
4 163 660		95

S and R railway lines within Prague



PID lines use 532 km of track around Prague and stop at 189 stations and stops. Annually PID trains in the region (including those entering Prague) transport approximately 32.5 million passengers. In addition to connections serving the territory of Prague, a further 17 PID lines travel only in the region outside Prague, on which roughly 500 train connections are dispatched daily. The operator of all these lines aside from the Podlipansko Motor Train is Czech Railways (ČD).

Number of persons transported by rail under PID per year (using PID or ČD tickets)

Year	2008	2009	2010	2011	2012	2013	2014	2015
Persons	24 593 000	26 905 000	26 883 000	29 320 000	32 361 000	34 762 000	36 548 000	**36 669 000**

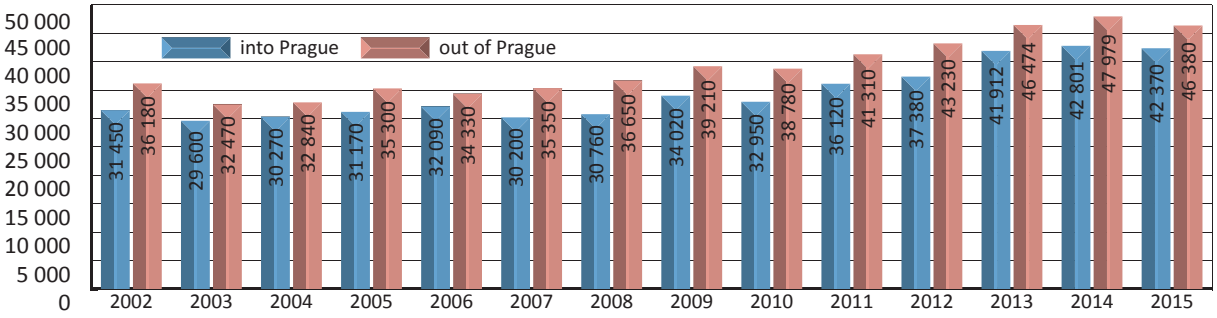
Number of persons transported by PID trains on individual tracks within Prague (average workday)

Track	Line	2008	2009	2010	2011	2012	2013	2014	2015
011	S1 (S7)	17 580	18 120	17 570	19 340	20 930	21 790	21 520	21 090
070	S3, S34, R3	2 260	2 540	2 380	2 890	2 960	4 110	4 430	3 890
091	S4, R4	10 030	7 830	8 210	10 030	10 710	13 400	14 820	15 720
120	S5, R5	4 310	5 620	5 270	4 960	5 470	7 040	7 080	7 210
122	S65	200	230	340	390	390	390	390	590
171	S7	16 450	18 530	18 970	20 470	20 350	21 590	21 990	21 870
173	S6	510	690	790	880	1 030	1 160	1 500	1 640
210	S8, S80	1 830	1 950	1 860	1 560	2 240	2 670	2 280	2 670
221	S9	13 780	15 650	16 940	18 950	21 640	23 710	25 420	23 780
231	S2, S20 (S9)	11 060	12 730	13 640	14 490	15 090	16 070	16 680	16 080
ML	S41	1 890	2 480	2 500	2 520	2 470	1 510	1 010	2 210
TOTAL		76 140	79 900	86 370	88 470	103 280	113 440	117 120	116 750

Train on the R5 line at Praha-Veleslavín station

Cyklohráček train

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



** On Saturdays in 2015 PID trains transported approx. 54 % of the weekday average, on Sundays 42 %.*

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

Station	PID lines stopping there	Entry, exit and transfer (ppl/day total)
1. Praha Masarykovo nádraží	S1, S2, S20, S34, S4, S5, R4, R5	42 960 (PID makes up 100 % of total daily turnover)
2. Praha hlavní nádraží	S3, R3, S7, S8, S80, S9	32 320 (PID makes up 42 % of daily turnover from train ČD)
3. Praha-Smíchov	S6, S7	13 720 (PID makes up 87 % of total daily turnover)

Percentage share of tickets used by passengers on PID trains within Prague (workday)										
Year	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**	**2014**	**2015**
PID document* (%)	32.5	39.2	52.1	57.7	60.4	63.8	68.7	72.7	72.2	**72.8**
of which individual PID fare (%)	-	-	7.2	10.6	7.5	5.6	8.5	5.3	5.3	**5.5**
ČD document, free transport (%)	67.5	60.8	47.9	42.3	39.6	36.2	31.3	27.3	27.8	**27.2**

** including individual PID tickets*

Frequency and travel time to the centre on most important railway segments in Prague			
Section (line)	**Frequency (morning peak)**	**Trip time**	**Distance**
Praha-Klánovice – Praha Masarykovo nádraží/Praha hl. n. (S1,S7)	15 min	25 min	18 km
Praha-Kolovraty – Praha hlavní nádraží (S9)	15 min	23 min	17 km
Praha-Radotín – Praha hlavní nádraží (S7)	10 min	17 min	13 km
Praha-Čakovice – Praha hl. n. (S3,R3)/Praha Masarykovo nádr. (S34)	20 min	24 min	19 km
Praha-Sedlec – Praha Masarykovo nádraží (S4)	20 min	13 min	9 km
Praha-H. Počernice – Praha Masarykovo n./Praha hl. n. (S2, S20, S9)	15 min	16 min	15 km
Praha-Ruzyně – Praha Masarykovo nádraží (S5)	30 min	24 min	13 km

3.6 Funicular and ferries

The **funicular** is part of PID and provides a connection between Újezd, Nebozízek and Petřín. In 2015 it carried a total of 1 480 000 passengers (a daily average of 4 055) and accounted for 0.12 % of the overall number of persons transported by PID within the city. The funicular consists of two cable cars with a capacity of 100 persons moving along a 510 m long track covering a height of 130.45 m. In the summer the funicular makes 75 trips a day, in the winter 57, and when there is increased demand it also runs outside the scheduled timetable. On 7 September 2015, planned extensive work on the funicular began.

Since 2005, **river ferries** across the Vltava have become a commonplace component of public transport in the city. Their primary importance is for recreational travel (connecting to cycle paths, serving the islands on the Vltava), but increasingly they are also used for standard transport, e.g. to work (in the winter 75 % trips). In 2015 there were 6 ferries in operation, transporting 403 000 passengers (0.03 % of the total number of passengers transported under PID within Prague). The operator of the P3 ferry is Vittus group s. r. o., the P7 ferry Pražská paroplavební společnost, a. s., and the remaining four ferries are run by Pražské Benátky, s. r. o.

3.7 Non-PID public transport in Prague

Mass passenger transport outside the PID system is predominantly operated in Prague for special occasions. During the Prague Museum Night on 13 June, 11 bus lines were dispatched. These lines were in service from 18:30 until around 1:45 at intervals of 5 to 10 minutes, transporting passengers for free between various cultural institutions. The central transfer point was Jana Palacha square.

A chapter of its own is formed by service to shopping, office and multifunctional centres. Such places are usually located at the edge of Prague or in poorly accessible areas and thus transport is organised for visitors from the nearest terminals, generally of high-capacity rail transport. This includes, for example, the OCL line between the Letňany metro station and Letňany shopping centre or the line serving BB Centrum. This transportation is generally free and paid for by the individual centre or shops.

Two special lines, from the metro station Nádraží Holešovice to Výstaviště Holešovice (751) and from Letňany to Výstaviště Letňany (758), are dispatched for various exhibitions and fairs, particularly intended for persons with reduced mobility and orientation. The frequency of these lines most often ranges between 10 and 20 minutes.

For holders of the ZTP and ZTP/P cards (people with physical handicaps) whose registered address is in Prague or certain municipalities in the Central Bohemian Region, the company Handicap –

transport s. r. o. operates an on-call microbus service. There is a boarding fee of CZK 10 and then a fare of CZK 32 per trip around Prague. For travel within the first tariff zone and Prague together the price is CZK 40 for a single ride and single person.

The Prague ZOO ran a special bus connection from Nádraží Holešovice to Troja and back for CZK 1 at its own expense. The bus ran from 24 May through 31 August on weekends and holidays and every day during the summer holiday months (July and August).

The BB1 line

ZOO bus

3.8 Public 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 transport

A total of 1 098 train connections operated by Czech Railways started, ended or passed through Prague on an average workday in 2015, carrying around 138 500 passengers across the city limits. Roughly a quarter of these were non-PID connections, the remainder were incorporated under PID.

In terms of volume, the most important train station in Prague for external rail transport has long been the station Praha hlavní nádraží (Prague Main Train Station). A total of 644 train connections pass through this station daily, of which 43.6 % are non-PID connections.
The operation of (non-PID) long-distance passenger rail transport is provided by Czech Railways, RegioJet and LEO Express. The infrastructure for transport is provided by the state organisation the Railway Infrastructure Administration (Správa železniční dopravní cesty – SŽDC).

Number of trains operated by ČD 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	219 730	116 821	77 790	83 073	88 210	61 327	39 924	42 189
Trains per day**	644	344	237	249	266	182	120	132
– PID	363	344	186	223	177	151	91	132
– non-PID	281	0	51	26	89	31	29	0

** number of trains starting, ending or stopping ** average workday 2015*

A RegioJet train at Hlavní nádraží

Celebrating 170 years of the Prague – Český Brod railway

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

Year		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
of trains	starting	161 193	160 360	174 615	215 189	217 472	217 481	219 679	214 483	213 973	224 336
	ending	163 510	160 665	174 947	215 598	217 886	217 895	220 098	214 892	214 381	224 764
	total	**324 703**	**321 025**	**349 562**	**430 787**	**435 358**	**435 376**	**439 777**	**429 374**	**428 353**	**449 100**

Passenger turnover at most important railway stations in Prague in 2015 (ČD trains only)*

Station	Praha hlavní nádraží	Praha Masarykovo nádraží	Praha-Smíchov	Praha-Vršovice	Praha-Libeň	Praha-Vysočany	Praha-Holešovice	Praha-Radotín
Ppl/year (in 000s)	26 974	12 488	4 723	1 808	1 949	1 555	971	2 389
Ppl/workday	76 125	42 432	15 781	5 633	6 878	4 809	3 000	7 975
– PID	32 324	42 432	13 715	5 109	5 141	4 130	1 343	7 975
– non-PID	43 801	0	1 812	554	1 737	679	1 657	0

** number boarding and disembarking*

Non-PID bus transport

Public bus transportation between Prague and other areas is operated by a number of carriers from the Czech Republic; some international lines are also run by carriers from other countries. The only bus station in Prague that dispatches exclusively non-PID buses is ÚAN Florenc. It has also long been the most heavily trafficked station for regular external (primarily long-distance) bus transportation. The largest carrier is Student Agency.

Development of selected characteristics at Florenc bus station

	2008	2009	2010	2011	2012	2013	2014	2015
Connections per year	180 000	160 000	145 000	145 000	150 000	155 000	155 000	**170 000**
Connections per average workday	550	460	420	420	425	435	450	**485**
international	120	100	105	130	145	155	175	**230**
domestic long-distance	430	360	315	290	280	280	275	**255**
Number of carriers	85	93	100	100	100	105	120	**125**

Other lines connecting Prague with external areas are dispatched and terminated at the bus stations Černý Most, Dejvická, Hradčanská, Nádraží Holešovice, Na Knížecí, Roztyly, Zličín, Želivského and now also Nádraží Veleslavín, to which a majority of connections were moved from Dejvická after the new metro segment was opened.

To a lesser extent (up to 5 000 connections a year), long-distance buses also leave from Ládví, Letňany and Opatov. Compared to 2014, around half the connections from Nádraží Holešovice were moved under PID lines and shifted to Ládví and Letňany.

Nádraží Velestavín bus station

Roztyly bus station

Selected characteristics of the most important bus terminals in Prague

	Connections per year	inter-national	domestic long distance	intra-regional	Connections per day*	inter-national	domestic long-distance	intra-regional
Na Knížecí	94 614	104	34 346	60 164	314	0	102	212
Černý Most	92 558	0	73 256	19 302	279	0	205	74
Nádr. Veleslavín	82 997	0	0	82 997	441	0	0	441
Zličín	75 339	0	27 842	47 497	117	2	77	38
Hradčanská	59 827	0	25 459	34 368	251	0	125	126
Nádr. Holešovice	55 304	0	38 800	16 504	116	0	115	1
Dejvická	47 122	0	11 334	35 788	517	0	99	418
Roztyly	38 018	1 110	25 428	11 480	117	2	77	38
Želivského	2 699	2 699	0	0	4	4	0	0
TOTAL	**543 478**	**3 913**	**236 465**	**308 100**	**1 639**	**8**	**701**	**930**

** average workday*

Central Bohemian Integrated Transport (Středočeská integrovaná doprava – SID) also contributes to suburban bus transport. It 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) and a corresponding number.

Development of selected characteristics of SID

Year	2011	2012	2013	2014	2015
Number of lines entering Prague	41	40	33	31	**31**
Average number of connections per workday*	572	591	455	458	**456**
Persons transported across Prague boundaries (000s)	4 476	3 470	3 453	3 457	**3 455**

** total into + out of Prague*

SID Středočeská integrovaná doprava

4 BICYCLE TRAFFIC

The **marked cycle route network** in the City of Prague has a total length of 450 kilometres. The individual cycle routes are broken down into arterial, main, supplementary and local and are marked with the letter A and a number. This system is supplemented by cyclo-tourist routes.

Basic information on bicycle infrastructure in Prague

Total length of marked cycle routes	Total length of protected marked and recommended cycle routes	Two-way lanes for cyclists
454 km	167 km	23 km (125 sections)
Cycle pictocorridors	**Separate cycle lanes**	**Shared cycle lanes (+ bus + taxi)**
33 km	44 km	21.5 km
Bicycle stands	**Advance stop lines for cyclists**	**Bicycle crossings**
1 714	255 intersections, 1 037 lanes	60 (26 with traffic signals)

A222 Roztyly-Záběhlice cycle route

A222 Roztyly-Záběhlice cycle route, different view

New bicycle infrastructure implemented in 2015

Type	Length / number	Type	Length / number
Cycle lanes (V14)	3 120 m	Shared cycle lanes (+bus+taxi)	1 990 m
Cycle pictocorridors (V20)	1 000 m	Bicycle crossings (V8)	6 (2 w/ traffic signal)
Two-way lanes for cyclists	1 750 (11 sections)	Bicycle stands (two spots each)	174

Bicycle transport investment projects completed in 2015

Location	Route	Description
Záběhlice – Hostivař reservoir	A23	Phase 1b Záběhlická – Hamerský rybník, length 1.5 km, of which 1.2 km cycle path, final inspection in 2015.
Roztyly – Záběhlice	A222	Modification of paths and sidewalks, expansion of crossings, added signage, new lighting, new segment of cycle track on U Záběhlického zámku, length 2 km.
Michnova – Hněvkovského	A41	Refurbishing along streets U modré školy + Prašná completed, length 420 m.
Ďáblice	A280	Cycle track, connecting A280 route to Ďáblice observatory, length approx. 200 m, width 3 m, joint for pedestrians and cyclists.
Radotín – Rymáň	A1	Cycle track, length 280 m.

Michnova – Hněvkovského cycle track

Ďáblice cycle track

Of the non-investment projects, the significant ones include work In Prague 7, where the number of two-way lanes for cyclists grew considerably and one older one underwent repairs (on Ovenecká). The streets Osadní and Nad Královskou oborou were made two-way for cycles, while Antonínská ulice by Vltavská was made traversable with a change to the traffic regime.

Integration of cyclists on Veletržní

Path for pedestrians and cyclists, Ovenecká

In connection with the reduction of automobile traffic on Veletržní, an “uphill” cycle lane was added from Strojnická up to Letenské náměstí, with a cycle pictocorridor marked in the opposite direction.

The most significant new two-way lane for cyclists in 2015 was on Hybernská, where the conditions for biking into the centre from Žižkov or the A25 cycle route along the former railway track and Vítkov tunnel were significantly improved, linking up to the already used two-way lane for cyclists on Na příkopech (implemented in 2013). The two-way lane for cyclists on Hybernská was closely coordinated with the restoration of the Hybernská – Havličkova traffic signal.

Cyclists on Prague Integrated Public Transport (PID)

For passengers with a valid PID ticket, the transport of bicycles as an accompanying piece of luggage is free within Prague (zones P, 0 and B). In the **metro**, at most two bicycles can be transported at the back of each train car. Selected lifts at metro stations marked with a blue pictogram of a bicycle can also be used to transport bikes.

On **trams**, a bicycle may be transported in the space designated for prams, but only on selected stretches heading out of the centre, and not on workdays between 14:00 and 19:00. At most two bicycles can be transported in each such space. Bicycles may not be transported during heavy demand. Stops where this is possible are marked with a pictogram.

On all **railway tracks** within Prague the transport of bicycles is free; outside Prague there is a fee. On the **funicular** up Petřín and on all ferries the transport of bicycles is also free.

On the **AE line (Airport Express)** operated on the route Hlavní nádraží – Václav Havel Airport Prague it is possible to transport a bicycle packed for air transport for free. On other buses the transport of bicycles is not permitted.

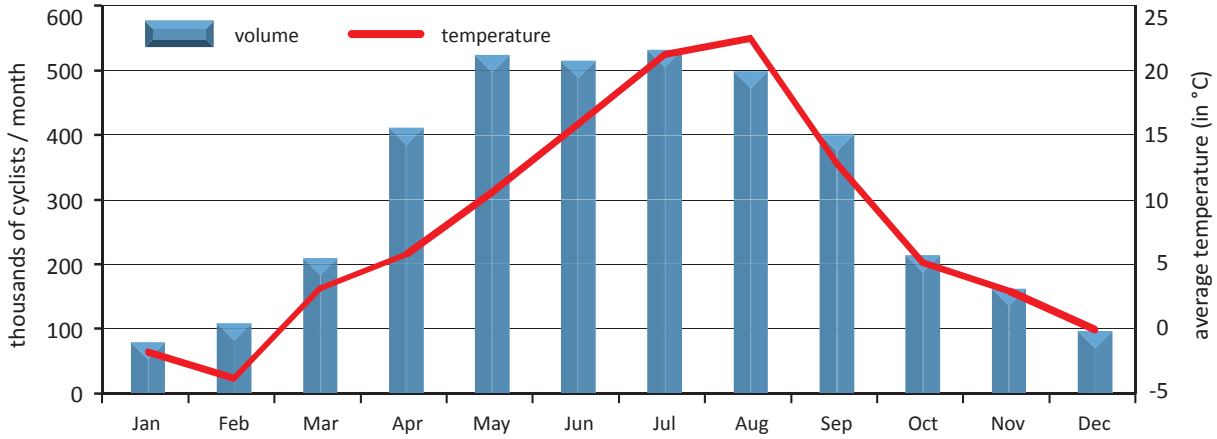
Automatic bicycle counters

Automatic bicycle counters allow on-line access to data 24 hours a day year-round, thus providing a detailed summary of bicycle activity at various times of year, as well as the changes in volume over the day or week. The first counters were installed in autumn 2009 and at the end of 2015 there were 26 locations in operation in Prague. Comparing 2015 to 2014 at all comparable locations shows a drop in bicycle traffic volume of 3.5 %.

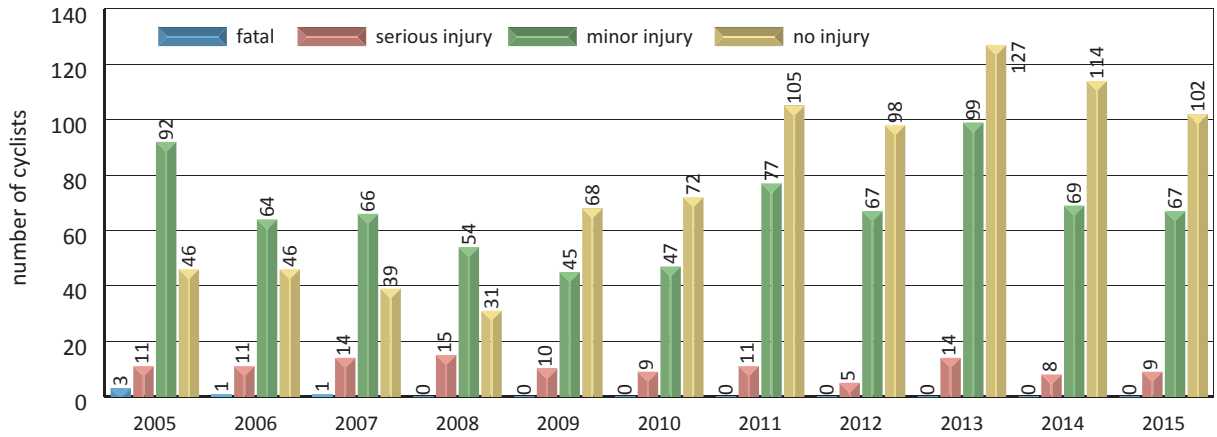
The month with the highest number of detected cyclists was July.

Podolské nábřeží-track bicycle counter

Annual variation of bicycle traffic 2015 according to automatic bicycle counters



Results of cyclist accidents in Prague 2005–2015 (source Traffic Police Department, City of Prague Police)



5 PEDESTRIAN TRAFFIC

Walking (pedestrian transport) can be the form of travel for a whole trip between the origin and destination, but every trip made by any form of individual or mass transport must be begun and ended by walking. Walking is an inexpensive and environmentally friendly method of transport. It also has a social and health function. It allows for immediate mobility independent of spatially and economically more demanding types of transport and helps increase quality of life in the city.

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 – ul. 28. října – Na příkopě, where it ranges from 7 000 – 8 000 pedestrians at the peak hour. The ongoing interest of visitors in Prague gives rise to pedestrian traffic on favoured routes, especially those connecting the attractive areas of Prague Castle – Malá Strana – Charles Bridge – Old Town, that can reach workday volumes of 4 000 pedestrians an hour.

Melantrichova street, which connects the Old Town and Wenceslas Squares and is highly utilised by tourists, underwent reconstruction. The goal was to create a cultivated public space, increase functionality, cleanliness and safety.

Melantrichova street

Charles Bridge

Measures to increase pedestrian safety focus on routes with high numbers of pedestrians, especially children and seniors, and areas with higher rates of persons with reduced mobility and orientation. Individual structural and non-structural modifications take place in cooperation with the municipal districts. Funding is provided for under general maintenance, the BESIP programme and pavement programme.

Schoellerova – Marie Podvalové median island

Extended kerb on Kroftova street

New crossings for pedestrians were marked at four intersections and structural modifications to crossings were made at a further four locations. On thirteen streets barrier-free modifications to crossings were made including guiding elements for the blind. Aside from barrier-free road crossings, the “Barrier-Free Prague” project also worked to make metro stations and tram stops accessible, for example in the form of kerb extensions (Pravnická fakulta) or “Viennese-style” stops. Protective islands were installed in five locations.

Speed bump on Tréglova

Raised intersection at Na Jarově – Pod Lipami

Intersection modifications including a new integrated crossing took place at the intersection Na Jarově – Pod Lipami. Structural speed bumps with an integrated pedestrian crossing were installed on the streets Tréglově and Nikoly Vapcarova.

Complete refurbishment including sidewalk surfaces took place on the streets Kroftova, V. P. Čkalova, Komunardů and Ortenovo náměstí. The street Nad úžlabinou was modified, including parking bays, pedestrian crossings, places for crossing and adjacent sidewalks.

In terms of **pedestrian space**, a riverside promenade was added on the Hořejší nábřeží embankment. A parking lot and potential traffic jam bypass route became a pedestrian zone with permitted entrance of bicycles and integrated rescue system vehicles. This pedestrian zone has created a unique space that can be used for social events or just for sitting and walking by the water. A residential zone was created on Farní in Prague 6.

Pedestrian zone at the Hořejší nábřeží embankment

As part of the **pavement programme** mosaic cobble pavements were installed on the streets Ovenecká, Šternberkova, Mánesova, Máchova and Podskalská, interlocking pavements on the streets Dvouletky and Dětská, and porous asphalt on Počernická, Jasmínová, Limuzská and Nedvězí.

The most extensive refurbishing of sidewalks (Bořivojova, Vítězné náměstí, 8. listopadu , Zelenohorská, Větrušická and Nad Rokoskou) was carried out as part of general maintenance.

6 TRANSPORT TELEMATICS AND TRAFFIC MANAGEMENT

Transport telematics integrates various systems in order to optimise transport performance, increase the flow and safety of traffic and generally improve the quality of transport. The field has increasingly extensive applications in traffic management processes using traffic lights and control centres, as well as in information, monitoring and early warning systems.

6.1 Construction and renewal of traffic signals

In 2015 a total of 13 new traffic signals were built within the City of Prague by TSK and other investors, three of them at stand-alone pedestrian crossings. The total number of traffic signals in Prague reached the number 646. The number of traffic signals on the tram network grew by two over the past year, with the number of traffic signals with tram right-of-way increasing by 5. Six traffic signals equipped with active detection for bus priority were added (see Chapter 7.1).

Basic data on traffic signals in Prague

Total in Prague	Stand-alone pedestrian crossings	Centrally controlled
646 (by number of controllers)	146	440
On tram network	**With tram right-of-way**	**With bus right-of-way**
248	189	206
Number of new, removed and refurbished traffic signals in 2015		
13 new, 1 removed		17 refurbished

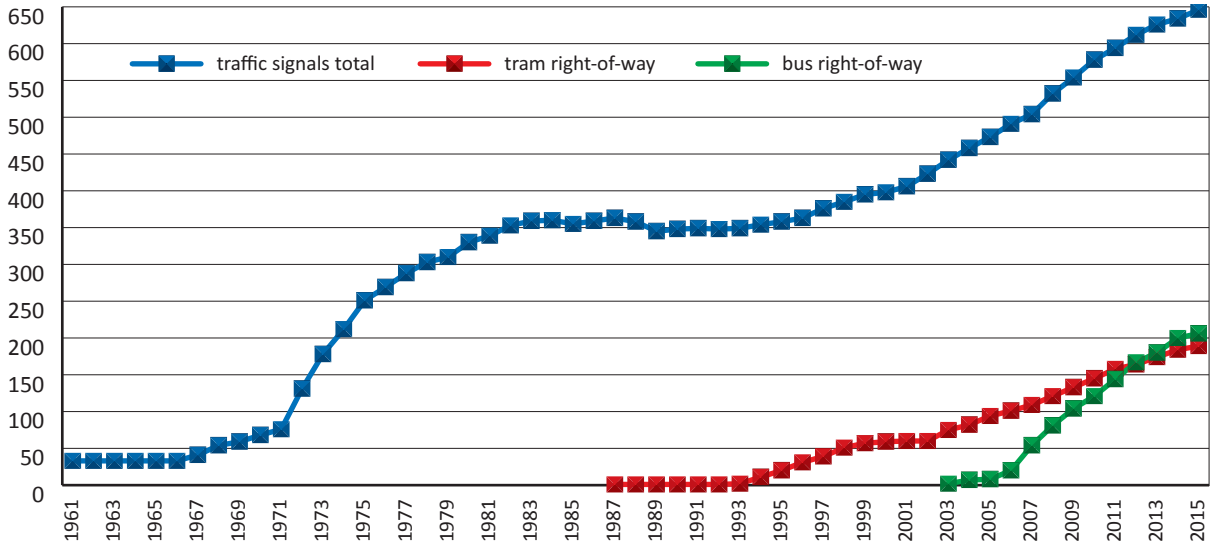
As part of an investment project, TSK built 6 new traffic signals. For example, new intersections were unveiled at Legerova – Wenzigova and Sokolská – Wenzigova which, along with a change of traffic organisation, allow for direct connection from Vinohrady to Nuselský most. Both intersections also include barrier-free crossings across the north-south expressway (Magistrála). In connection with the opening of the Blanka Tunnel Complex, 7 new traffic signals were put into operation at adjacent intersections and entrances and exits from the tunnel. New signals were thus built at the intersections of Povltavská and the ramps of Barikádníků bridge and the intersection Milady Horákové – U Vorlíků.

New signal 6.136 Milady Horákové – U Vorlíků

Refurbished signal 0.356 Vršovická – Sportovní

In 2015 a total of 14 signal-controlled intersections were refurbished. In coordination with tram track renovations on Vršovická and Na Zlíchově, three such intersections were refurbished. At the intersections by the Těšnov tunnel the sequencers and signals were replaced as part of modernisation of equipment. When refurbishing the signals at the intersection Korunovační – Sládkova a button for schools (controlled by a key) was installed as a pilot project. With this button, teachers accompanying a whole class from nearby schools can select a longer green for crossing.

Development of number of traffic signals and those with preference for public transport vehicles



6.2 Control centres

The system of traffic management in Prague is divided up into several levels. At the lowest level are the individual traffic signals which are gradually being connected to the Area Traffic Control Centres (ATCC). Control of traffic signals and management of whole areas is centralised through the automated ATCCs into the main Urban Traffic Control Centre (UTCC), which is located in the Central Dispatching building on the street Na bojišti in Prague 2. From the UTCC dispatchers can control two thirds (66 %) of all the traffic signals in Prague. The system of control centres is administered by TSK.

The total number of traffic signals connected to the central management system as of 31 December 2015 was 440, which is a significant increase compared to the previous year. The most signals were newly connected in 2015 through the Operational Programme Transport (OPD) project "Supplementation and Modification of Traffic Management Infrastructure in the City of Prague". A new type of area control centre is being used on a trial basis at ATTC Vltavská, the VRS 5000 (currently only hooked up to a testing traffic signal). Soon it will replace the existing VRS 2100 and will be hooked up to the SCALA management system.

List of ATCCs in City of Prague, their management systems and connected signals

Area	Name of ATCC	Area covered	Number of signals connected	System
C1a	Na bojišti	Centre 1, right bank	74	SCALA
C1b	Těšnov	Centre 1, right bank	17	VRS 2100
C1c	Na Moráni	Centre 1, right bank	14	VRS 2100
C2	Smíchov	Centre 2, left bank	97	SCALA
C3	Vltavská	Centre 3, Holešovice	28	VRS 2100
V	Českomoravská	East	35	VRS 2100
S	Ládví	North	43	SCALA
J	Pankrác	South	46	SCALA
JZ	Nové Butovice	Southwest	24	SCALA
JV	Skalka	Southeast	42	SCALA
SZ	Dejvická	Northwest	20	SCALA

6.3 Traffic Information Centre (TIC) Prague

In 2015, the Traffic Information Centre (TIC) was in operation in the capital as part of the activities of TSK (launched 1 July 2005).

TIC dispatchers run the system of devices for traffic information (DTI – formerly called variable information signs), record the differences between automatically generated traffic volumes and the actual situation and last but not least monitor alternative sources of traffic information and ensure it is entered into the content management system. They collaborate actively with the Control Centre for the Ring Road Around Prague (CC RRAP) in Rudná and the National Traffic Information Centre in Ostrava (NTIC).

TIC Prague provides drivers with current traffic information on traffic levels (on a scale of 1 to 5), traffic accidents, exceptional situations on the roads, long-term planned closures and also provides output for the web, including screenshots from selected camera systems. Drivers are informed via the website http://dic.tsk-praha.cz/. This site also includes the texts currently displayed on the information signs.

TSK also provides information broadcast through RDS-TMC (Radio Data System – Traffic Message Channel) on the frequency of Czech Radio's Regina DAB Praha station. This system displays the current traffic information in navigation systems and makes driving around the city easier for drivers.

In 2015 the operating hours of TIC were workdays from 6:00 to 20:30, Saturdays from 7:00 to 14:30 and Sundays from 13:00 to 20:30. Seven operators alternated in two shifts.

UTCC Prague

New DTI on Milady Horákové

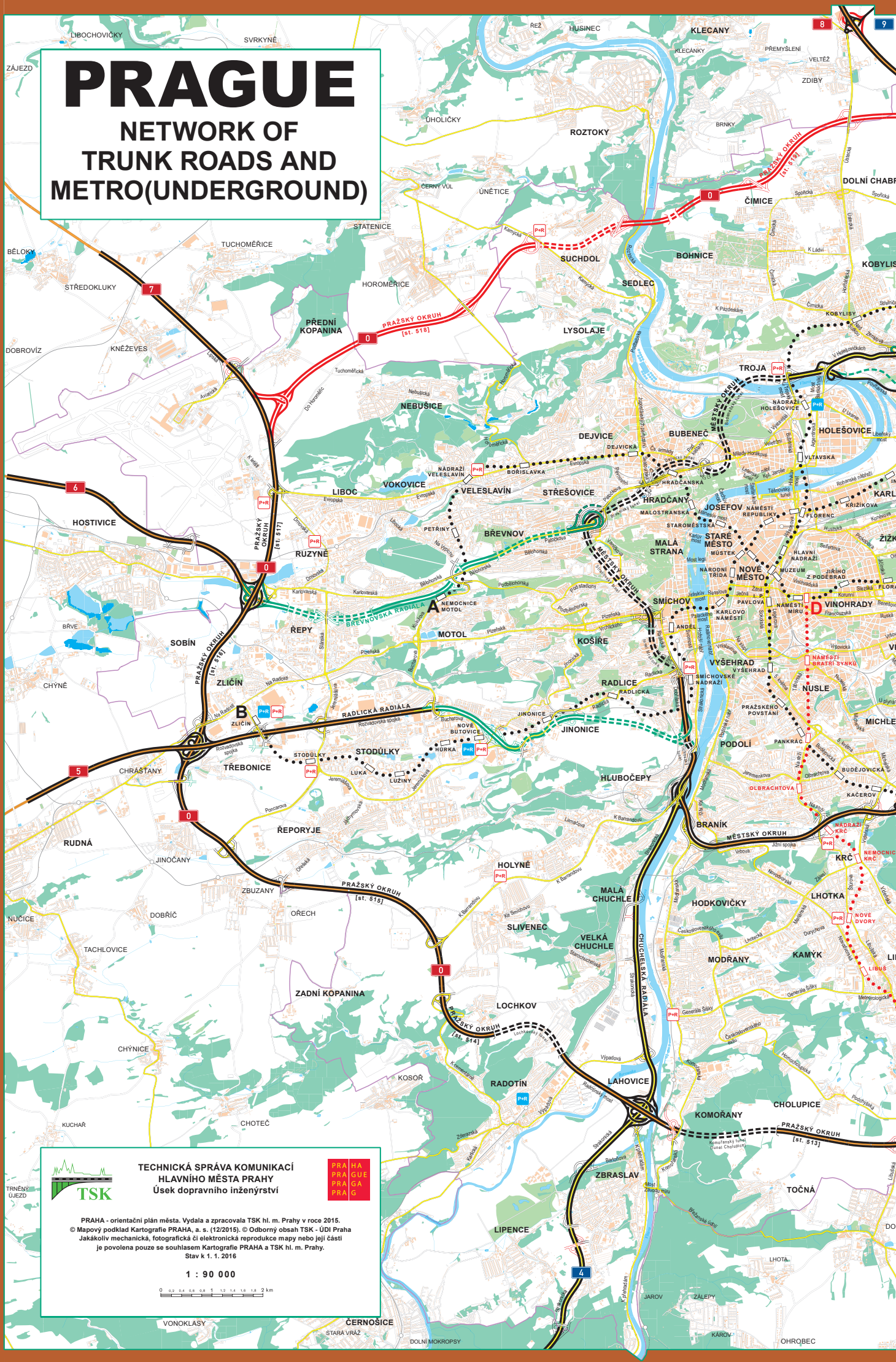
6.4 Other transport telematics systems and facilities

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

Television monitoring systems in the City of Prague (TVD)

System	Cameras	System description
TVD-TSK	455	Monitoring of traffic situation – run by TSK
TVD-TKB	390	Monitoring of traffic in Blanka Tunnel Complex and linked traffic signals
MKS	924	Monitoring of (traffic) safety system – run by City Hall Crisis Management Department
DPP	1 200	Monitoring of situation in metro – run by Prague Public Transport Company

The centre of the TVD-TSK **camera monitoring system** is the Urban Traffic Control Centre and the main users are the dispatchers at UTCC and TIC Prague. Overall 845 cameras are available in the monitoring system, both from TSK's monitoring systems and the camera monitoring of the Blanka Tunnel Complex.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Úsek dopravního inženýrství
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JOSEFOV
KARL
HOSTIVICE
PETŘINY
BŘEVNOV
MALÁ STRANA
STARÉ MĚSTO
NOVÉ MĚSTO
RUZYNĚ
SMÍCHOV
VINOHRADY
BŘVE
ŘEPY
MOTOL
KOŠÍŘE
SOBÍN
VYŠEHRAD
CHÝNĚ
ZLIČÍN
RADLICE
NUSLE
JINONICE
PODOLÍ
MICHLE
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CHRÁŠTANY
BRANÍK
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RUDNÁ
JINOČANY
HOLYNĚ
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MALÁ CHUCHLE
LHOTKA
HODKOVIČKY
DOBŘÍČ
OŘECH
SLIVENEC
VELKÁ CHUCHLE
NUČICE
TACHLOVICE
MODŘANY
KAMÝK
ZADNÍ KOPANINA
LOCHKOV
CHÝNICE
KOSOŘ
RADOTÍN
LAHOVICE
CHOLUPICE
KUCHAŘ
CHOTEČ
KOMOŘANY
ZBRASLAV
TOČNÁ
TRNĚNÝ ÚJEZD
LIPENCE
VONOKLASY
ČERNOŠICE
STARÁ VRÁŽ
DOLNÍ MOKROPSY
JAROV
ZÁLEPY
KÁROV
OHROBEC
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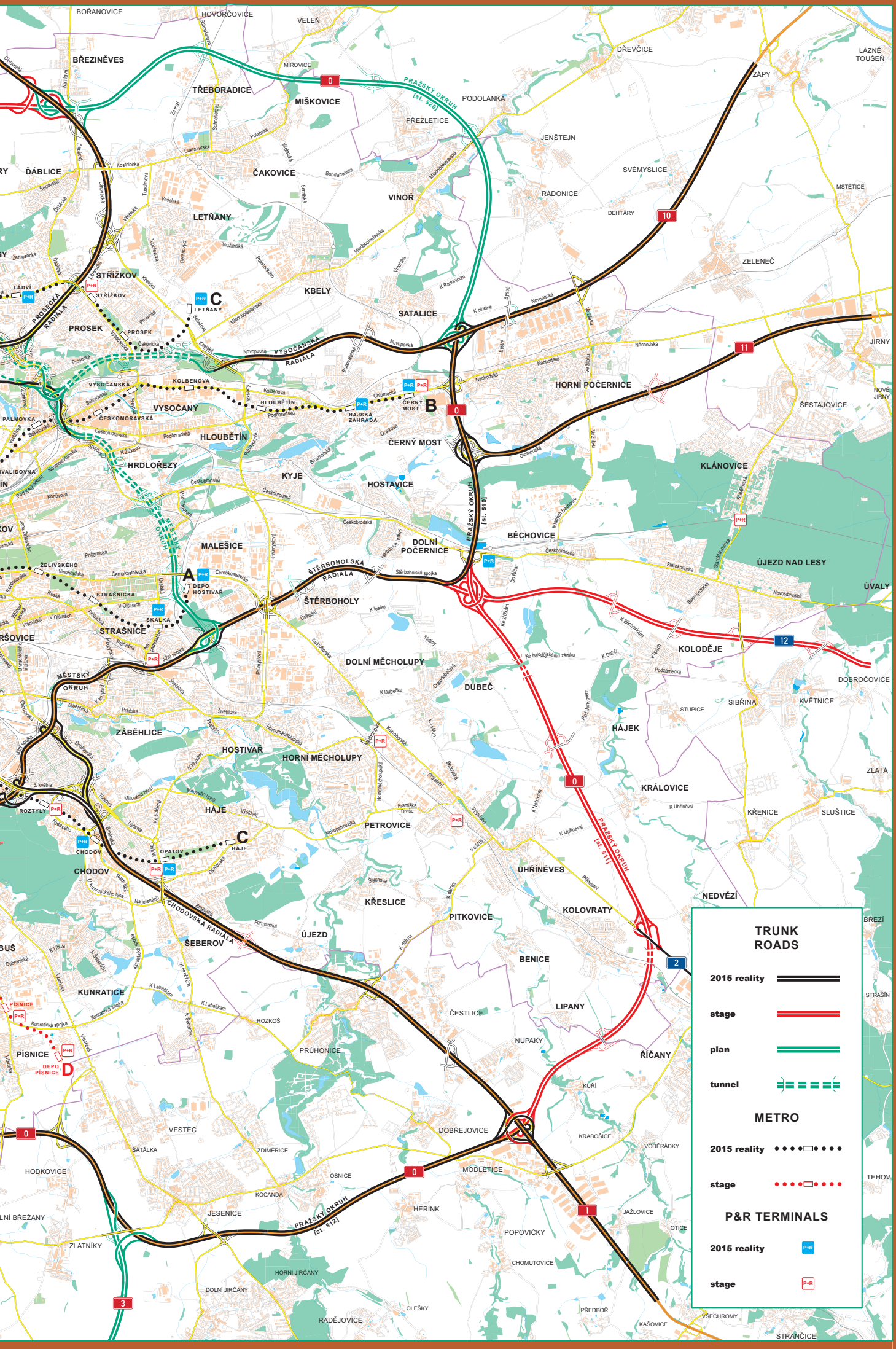
TRUNK ROADS
2015 reality
stage
plan
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METRO
2015 reality
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P&R TERMINALS
2015 reality
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BOŘANOVICE
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VELEŇ
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MIŘOVICE
TŘEBORADICE
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PRAŽSKÝ OKRUH [st. 520]
PODOLANKA
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VINOŘ
SVÉMYSLICE
RADONICE
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ZELENEČ
STŘÍŽKOV
KBELY
SATALICE
PROSEK
VYSOČANSKÁ RADIÁLA
JIRNY
HORNÍ POČERNICE
VYSOČANY
KOLBENOVA
HLOUBĚTÍN
ČERNÝ MOST
ŠESTAJOVICE
NOVÉ JIRNY
PALMOVKA
ČESKOMORAVSKÁ
HRDLOŘEZY
KYJE
HOSTAVICE
KLÁNOVICE
PRAŽSKÝ OKRUH [st. 510]
MALEŠICE
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BĚCHOVICE
ÚJEZD NAD LESY
ÚVALY
ŠTĚRBOHOLSKÁ RADIÁLA
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ŠTĚRBOHOLY
KOLOĎEJE
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DUBEČ
DOBROČOVICE
SIBŘINA
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KRÁLOVICE
HÁJE
PETROVICE
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CHODOV
OPATOV
UHŘÍNĚVES
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NEDVĚZÍ
KŘESLICE
PITKOVICE
KOLOVRATY
CHODOVSKÁ RADIÁLA
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MODLETICE
OSNICE
KOCÁNDA
HERINK
JAŽLOVICE
OTICE
JESENICE
PRAŽSKÝ OKRUH [st. 512]
POPOVIČKY
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CHOMUTOVICE
HORNÍ JIŘČANY
DOLNÍ JIŘČANY
OLEŠKY
RADĚJOVICE
PŘEDBOŘ
KAŠOVICE
VŠECHROMY
STRANČICE

There are several types of camera depending on their purpose. In tunnels there are fixed cameras with a video detection safety function that can detect a stopped vehicle, slow-moving vehicle, emerging congestion, object on the roadway that is blocking traffic or a potentially dangerous situation such as a pedestrian in traffic, vehicle going the wrong way or reduced visibility in the tunnel.

Cameras and LED signals in Blanka

The second type of camera are rotating cameras that allow operators to rotate or zoom the camera, which expands the area they can supervise. Newer types of such rotating cameras installed in the last two years can also detect basic traffic characteristics. These are primarily the cameras located on the City Ring Road and radial roads, which are collectively labelled as cameras of the Comprehensive Telematic Monitoring System (CTMS). The process of digitising TSK's traffic cameras and integrating them into the city-wide Municipal Camera System continues.

Also serving to directly or indirectly manage and influence traffic in Prague are **devices for traffic information – DTI**. The project for building and modernising DTIs in Prague was completed in 2013. Since then there have been 58 DTIs available to Traffic Information Centre operators and drivers as well. In 2015 the DTIs installed as part of building the Blanka Tunnel Complex were also hooked up to the system, which now numbers a total of 72 information boards.

Employees of the Traffic Information Centre (TIC) can use the content management system that collects current traffic information from various subsystems to inform drivers about exceptional situations, closures and restrictions or on the current traffic situation immediately in front of the driver. The placement of DTIs is planned with regard for the important points where a decision must be made so that a driver can re-evaluate their route choice in time.

One of the other types of information displayed on DTIs is information on travel times. As of 31 December 2015, travel times could be displayed on 26 DTIs and one simplified display board. These and other travel times not connected to a specific DTI are available in a web application at the address http://unicam.tsk-praha.cz/Discoverer/TravelTime3/map.

Currently the time taken to travel through a segment is measured at 72 sites. The principle of determining travel times is based on sensors monitoring the actual time it takes for vehicles to travel through a given segment. Video detection or Bluetooth scanners are installed at the beginning and end points of the segments and they automatically – without any human intervention – evaluate the travel time by comparing the device ID or licence plate. The functionality of acquisition of information on travel times from other systems not dependent on sensors (e.g. from a fleet of vehicles in traffic) is currently being tested. This would allow for the number of displayed travel times to be significantly increased, thereby helping drivers to become better informed and thus able to select an alternative route.

The system of **weighing of vehicles while they are in motion** (WIM – Weight in Motion) is in place at seven locations heavily trafficked by freight vehicles. The principle of the system is based on the measurement of the dynamic effects of individual wheels on the carriageway (pressure sensors). When the vehicle passes, the speed, acceleration and deceleration are also determined. The system also categorises vehicles into classes and, in connection with other WIM locations (licence plate capturing), makes it possible to evaluate whether vehicles are in transit or heading for their destination.

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 – 60 % of vehicles to roughly 1 – 5 % of recorded vehicles.

At the end of 2015, speed was measured in this manner at 45 stretches in Prague. Six new sections were added as part of the Blanka Tunnel Complex, as were four new sections on Českobrodská.

Spot speed measurement using just one camera and detection loops was first realised in Prague in 2010 near the Ořechovka tram stop in the direction toward the city centre. As of 31 December 2015 spot speed measurement was being conducted at 22 sites. One location was added in 2015 in Újezd nad Lesy as part of a new location for section speed measurement.

Intersections with a system of documenting red-light violations

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

As part of the applications for recording misdemeanours, devices for detecting and **documenting the running of red lights** are in place at 15 intersections in the city. The system is comprised of a pair of cameras (overview and detail) that record the current state of the traffic light and the moment the vehicle crosses the stop line. A device that records the misdemeanours of drivers who fail to yield to pedestrians at the uncontrolled crossing on Čs. armády by Národní obrany has been in place on a trial basis since 2012.

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

Detectors	Number	Description
SDDÚ	23	Two portals with cameras designed for collection of data on a section.
SDDŘ	143	Video detectors placed on lamp posts designed for collection of data on a spot.
KVD	28	Sensors monitoring meteorological data useful for both drivers and, for example, winter road maintenance.

Another type of transport telematic device are **strategic traffic detectors**, which can be spot detectors (SDDŘ) or section detectors (SDDÚ). These are a significant source of traffic data in the City of Prague. Non-transport data are collected by 28 weather detectors.

Detection of free disabled parking spaces

Location	Number	Location	Number
Řásnovka	2	Dlouhá	2
Mariánské náměstí	3	Dvořákovo nábřeží	1
Valentinská	1	Ostrovní	2
Staroměstské náměstí	4	Náměstí Republiky	3
Pařížská	2	Charvátova + Vladislavova	3
Štěpánská	2	Národní	2
Vodičkova	2	Lodecká	2
Rybná	3	Wilsonova	2
Malostranské náměstí	6	Kosárkovo nábřeží + U Lužického semináře	5

In 2015 a pilot project was run to detect free parking spots that are reserved for holders of ZTP cards (the disabled). As of 31 December 2015, the occupancy of 47 parking spots was being monitored by magnetometric detectors. The data are read by a data collector at the site and then sent to the central server. Information on the current occupancy of individual spots was available for users via a mobile phone application entitled “ZTP Parking Prague”. Parallel to this project, monitoring of the paid parking zone on Řásnovka was installed. This is a larger area without distinguishing between individual spots.

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 are now by default equipped with technology that allows the right-of-way to be given to public transport vehicles. These vehicles can thus have the first choice and extended green lights adjusted in real time according to their needs so 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
248 (100.0 %)	189 (76.2 %)	67 SSZ (27.0 %)	122 SSZ (49.2 %)
2015: +2	2015: +5	2015: +2	2015: +3

** Absolute priority means that all trams will pass through the intersection without stopping (except when multiple trams arrive at once); conditional means that the delay and stopping of trams at the signal will at least be severely reduced compared to signals without priority*

Two traffic signals were built on the tram network in 2015 and they had **tram priority** (Milady Horákové – U Vorlíků, Poděbradská – Nademlejnská). The number of signals with absolute priority rose by two, the number with conditional priority by three. The number of intersections in Prague with some form of tram preference exceeded 76 %.

Traffic signal 6.818 Evropská – Súdánská crossing

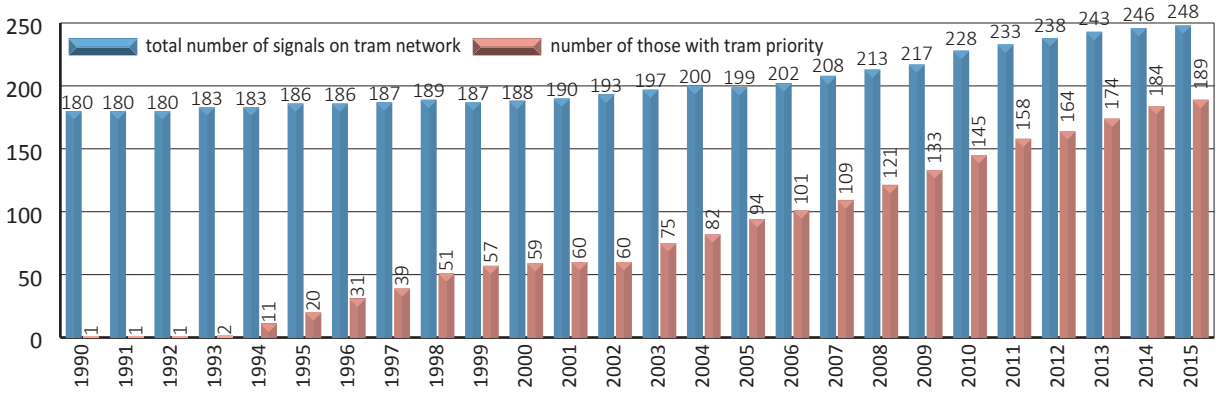
Traffic signal 6.120 Evropská – Veleslavínská

Intersections where tram priority was installed in 2015

2.303	Vinohradská – Šumavská (P)	6.136*	Milady Horákové – U Vorlíků (P)
3.364	Koněvova – Spojovací (P)	6.818	Evropská – Súdánská crossing (A)
6.120	Evropská – Veleslavínská (P)	9.222*	Poděbradská – Nademlejnská (P)

** New signal in 2015 (P) … conditional priority (A) … absolute priority*

Traffic signals on the tram network



Bus priority at traffic signals – basic data

With detection for bus priority	With active* bus detection	With passive* bus detection
206 (100.0 %)	199 (96.6 %)	7 (3.5 %)
2015: +6	2015: +6	2015: ±0

* *Passive detection means a bus's claim is recorded through a standard automobile detector (induction loop or video loop). This can only be used in a dedicated lane however. Active detection means a bus logs in and out through radio signals broadcast at defined points from the vehicle to the traffic signal. Infrared beacons or GPS are used to locate vehicles approaching the signals.*

Bus priority was put in place at the first pair of intersections in Prague during 2003 as part of the capital's participation in the EU's Trendsetter project. After that, bus priority was primarily implemented at the traffic signals around the new sections of the metro; more recently it has become the standard for new or refurbished traffic signals. In 2015, the number of traffic signals where buses are given priority using active detection rose by 6.

Special priority signal for buses

Signal 8.734 Povltavská – ramps to Barikádníků bridge east

Intersections where active detection for bus priority was installed in 2015

0.315	Vršovická – Petrohradská	8.733*	Povltavská – ramps to Barikádníků bridge west
4.411	Ryšavého – Tomíčkova	8.734*	Povltavská – ramps to Barikádníků bridge east
4.472	Vídeňská – crossing by Klárův ústav stop	9.979	Starokolínská – Polesná crossing

* *New traffic signal in 2015.*

Traffic signals equipped with detection for bus priority on bus network

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
TSDs with bus priority	7	8	20	54	81	104	121	144	167	180	200	**206**

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 in public transport vehicle priority is achieved by constructing tracks on own track bed, potentially also separated from other traffic by concrete dividers (in Prague 52 % of the 142.7 km of tram track is on its own track bed).

For buses, greater fluidity is achieved with separate bus lanes.

Tram priority – raised thresholds along tram tracks

The first longitudinal divider used in Prague was a classic concrete kerbstone, built into 50 m of carriageway on Bělehradská ulice before the intersection with Anglická in 1996. The installation of this first object used to prevent cars from driving into the tram lane worked and starting in 1997 concrete thresholds began being installed in other areas as well. The only difference was they received a makeover with a more rounded and later also narrowed design so that vehicles, especially emergency vehicles, could drive over them more easily.

At the end of 2015, concrete dividers along tram tracks had reached a total length of approximately 12 100 metres. 674 metres were added as part of tram track refurbishing on Plzeňská. Other significant works were segments on Smetanovo nábřeží (40 m), Francouzská (60 m) and Vršovická (150 m).

Raised threshold on Smetanovo nábřeží

New dedicated lane on Vršovická

Bus priority – dedicated lanes

Dedicated BUS lanes on tram tracks serve to increase the flow of public transport and to provide better conditions for transferring between buses and trams. Other dedicated lanes on roads are generally created in areas where bus lines are held up in congestion and the width of the road allows for the demarcation of a separate lane for buses (along with bicycles and taxis).

At the end of 2015 the total length of dedicated bus lanes had reached approx. 26 700 metres on roads (an increase of 3 000 metres) and around 11 350 metres on tram track bed (an increase of 730 metres). Important dedicated lanes were implemented over the past year on Evropská at the entrance into the new Nádraží Veleslavín metro station (total length of 1 650 m), at the off-ramp from Barrandovský most towards Smíchov (length of 100 m) and on Strakonická heading towards Smíchov by the underpass under Barrandovský most (length of 890 m).

Buses now drive onto the tram tracks at the stops Bohemians, Petřiny, Vojenská nemocnice (only heading out of the centre) and Vozovna Střešovice (now also heading out of the centre).

8 ROAD TRAFFIC SAFETY

8.1 Traffic accidents

In 2015 there were 21 462 accidents recorded in Prague (+11 % compared to 2014), with 25 casualties (+25 %) and 2 257 persons injured (-1 %). There were 653 accidents involving pedestrians (-2 %), with 15 persons killed (+50 %) and 616 injured (-3 %). Pedestrians themselves were at fault for 295 accidents (-6 %), resulting in 7 casualties (+250 %) and 279 injuries (+2 %).

The decisive majority of accidents were caused by drivers (20 754 of 21 462 accidents, or 97 %). 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 452 (-0.1 %).

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

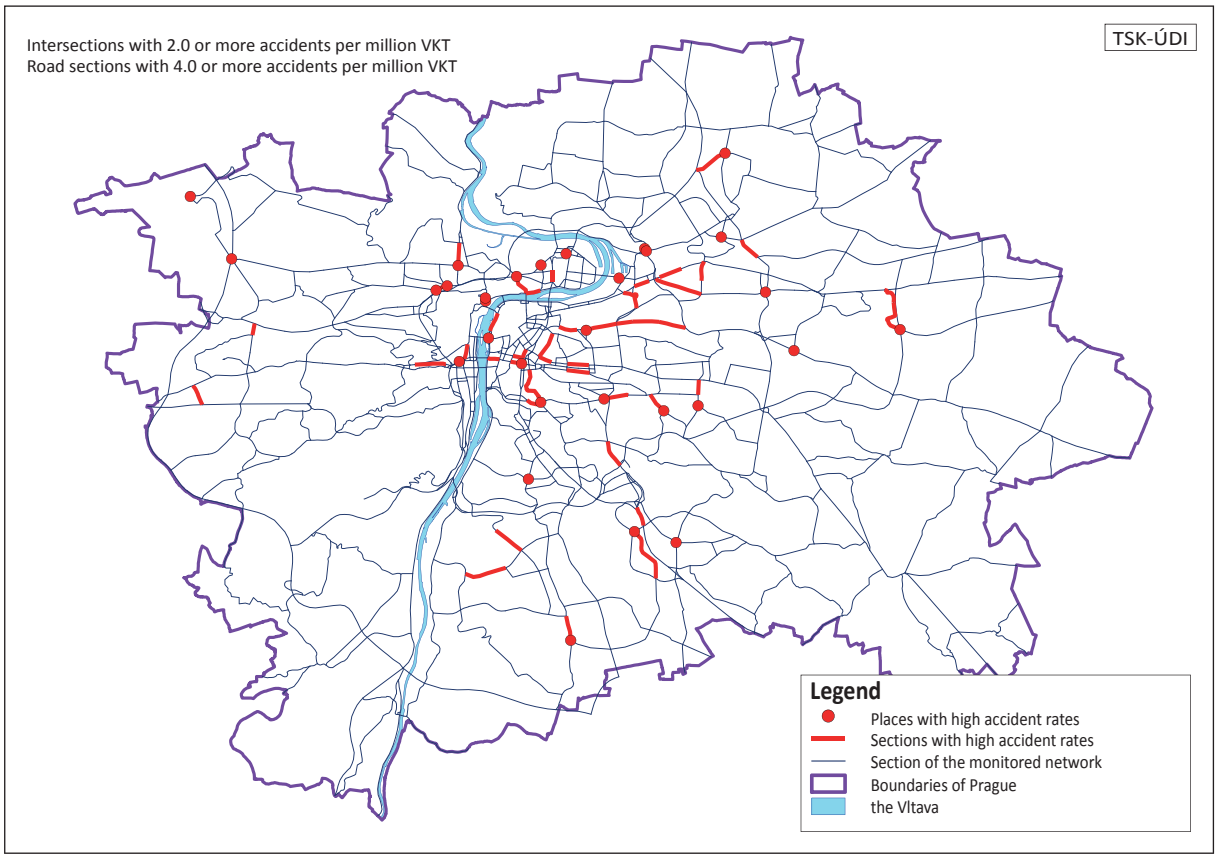
Year	2013	2014	2015	Diff. 15/14
Number of accidents	18 593	19 306	**21 462**	**+11 %**
Number of fatal injuries	29	20	**25**	**+25 %**
Number of serious injuries	228	206	**179**	**-13 %**
Number of minor injuries	2 116	2 070	**2 078**	**0 %**
Number of accidents with injury	1 965	1 946	**1 909**	**-2 %**
Number of accidents without injury	16 628	17 360	**19 553**	**+13 %**
Number of accidents caused by the driver	17 985	18 687	**20 754**	**+11 %**
due to failure to keep proper distance	3 290	3 612	4 236	**+17 %**
lack of due care and attention	2 556	2 355	2 401	**+2 %**
red-light violation	308	279	349	**+25 %**
failure to yield in violation of a traffic sign	1 002	1 016	1 074	**+6 %**
failure to yield when making a left turn	568	604	741	**+23 %**
failure to yield when passing from lane to lane	1 270	1 376	1577	**+15 %**
exceeding the speed limit	3	2	1	**-50 %**
failure to adapt speed to density of traffic	138	114	104	**-9 %**
failure to adapt speed to vehicle condition	103	128	118	**-8 %**
failure to adapt speed to road conditions (ice, potholes, wetness, mud, etc.)	792	627	531	**-15 %**
failure to adapt speed to road (turn, width, decline, incline, etc.)	157	197	175	**-11 %**
Caused by road defect	37	23	**17**	**-26 %**
Caused by pedestrian	257	314	**295**	**-6 %**
Caused by cyclist	127	114	**102**	**-11 %**

The basic trends in accident rate in 2015 can be characterised by a growth in the number of recorded accidents in comparison with the preceding year, an increase in the number of fatalities, a decrease in the number of seriously injured persons, a stable number of minor injuries and a miniscule decrease in the number of accidents resulting in injury.

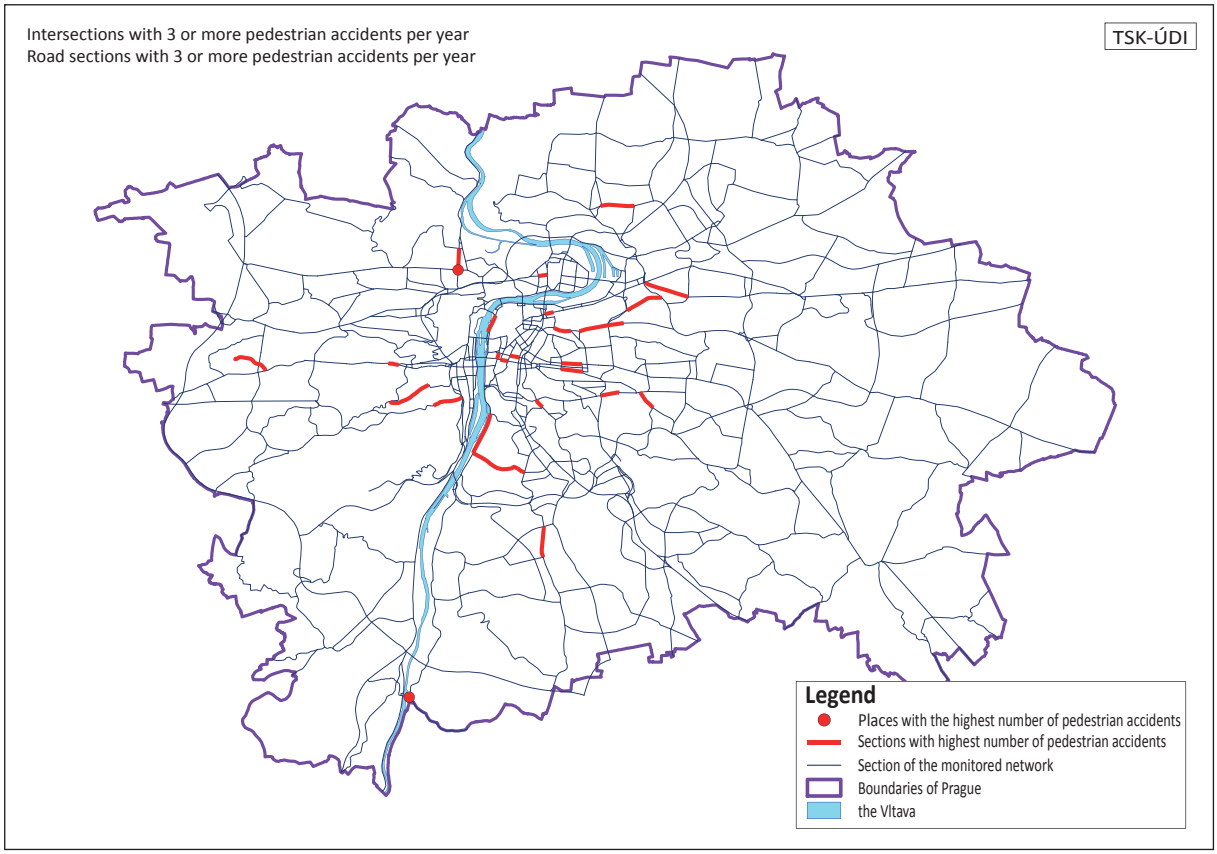
In assessing the long-term trends in accident rates, it can be stated that from the 1960s through the 1980s, the long-term development of the accident rate was relatively positive, as the number of recorded traffic accidents roughly corresponded to the development of traffic volume and increased at a 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 more rapidly 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 the ongoing rise in automobile traffic. The relative accident rate has also decreased, by 58 % in 2015 compared to 2000. In 2015 the Prague-wide average was 3.1 recorded accidents per million vehicle kilometres travelled.

Places and stretches with high accident rates in Prague in 2015



Places and stretches with the highest number of pedestrian accidents in Prague in 2015



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 third party property need only be reported where the material damage exceeds the following amounts:

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

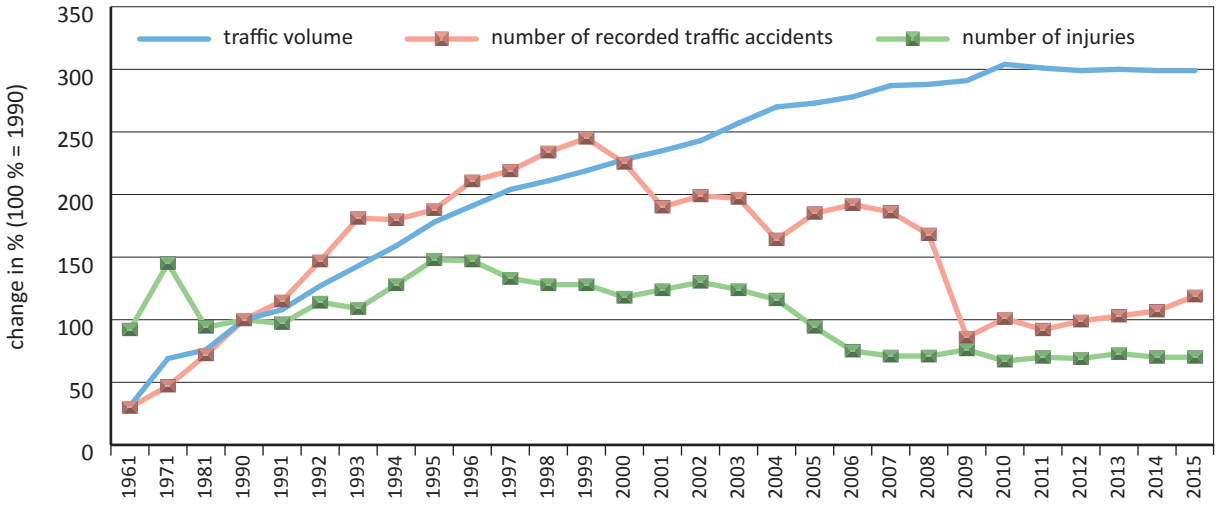
A positive long-term trend in traffic safety is the reduction in the number of fatal, serious and minor injuries incurred in traffic accidents, despite the ongoing growth of automobile traffic in the city. The overall number of injuries in traffic accidents has fallen from 3 861 in 2000 to 2 282 in 2015, by 41 %, while in the same period automobile traffic in Prague has risen 31 %.

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 %
2000	40 560	225 %	80	85 %	521	141 %	3 260	116 %	7.4	228 %
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 %
2012	17 795	99 %	26	28 %	236	64 %	2 009	72 %	2.5	299 %
2013	18 593	103 %	29	31 %	228	62 %	2 116	75 %	2.6	300 %
2014	19 306	107 %	20	21 %	206	56 %	2 070	74 %	2.7	299 %
2015	**21 462**	**119 %**	**25**	**27 %**	**179**	**49 %**	**2 078**	**74 %**	**3.1**	**299 %**

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 1961–2015 (whole road network, annual total)



8.2 Traffic education

Nearly CZK 2.13 million was drawn for traffic education in 2015, of that CZK 1.43 million for traffic education of children and youth, in particular operating child traffic playgrounds (CTPs) and teaching the rules of the road. A number of traffic education programmes were provided with the goal of helping

increase the effectiveness of traffic education at schools. A central aspect was education at CTPs, as well as the programme for beginning cyclists (Young Cyclist Traffic Competition), traffic education shows for children and youth, interactive theatre presentations with traffic education themes and more.

In 2015 a twelfth CTP was opened in Prague 13 at Bronzová Primary School. Children were taught according to a thematic plan year-round at eleven CTPs (only in the first semester at the CTP in Prague 7 due to planned renovations). This plan, drawn up by the Ministry of Transport, is binding for CTPs in all the regions of the Czech Republic. In the past year, 67 226 primary school students went through organised training at Prague CTPs.

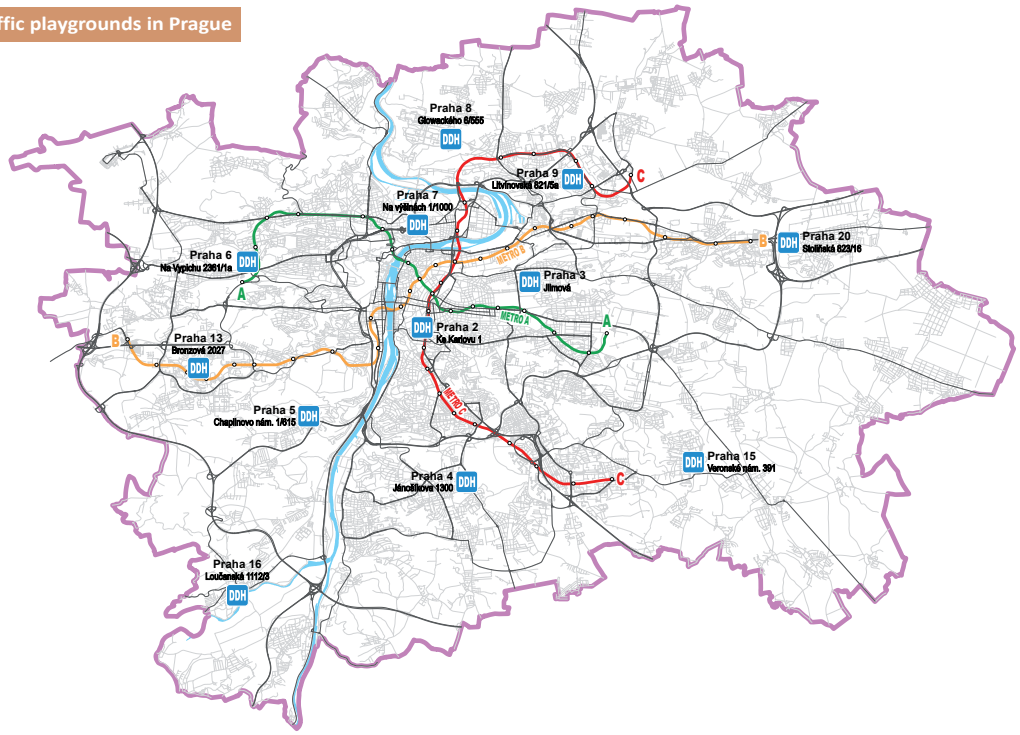
A programme for beginning cyclists – the Young Cyclist Traffic Competition – is held by the Ministry of Transport in cooperation with the Ministry of Education, Youth and Sport and is made up of four parts: tests on the rules of the road, a practical road test (in Prague these take place at CTPs), a road skill test (a practical ride around various obstacles) and first aid knowledge. This event is primarily focused on primary school students in their senior years (ISCED 2 – grades 6-9). In 2015, 147 schools took part in the first round (five more than last year). The winning teams progressed through district and city rounds to the national round, which took place in the Ústí Region, all the way to the international competition, which took place in Vienna.

Fifty-nine interactive theatre performances of “The Fairytale Traffic Light” and “Aunt Berta’s Bike” intended for the youngest age groups were presented at the Police Museum.

A number of safety drives took place for adult participants of road traffic as well in 2015 (spring, autumn and winter skill rides for the driving public, events for hearing-impaired motorists and more). Altogether there were seven events for adult drivers as well as several traffic safety events for the whole family. Seminars continued to be provided on methods of traffic education at schools, for CTP employees 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. In 2015, 1 601 persons went through this training.

Child traffic playgrounds in Prague



8.3 Measures to increase traffic safety

In 2015, a total of CZK 21.8 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, the installation of traffic devices and preventive programmes. Important modifications are performed independently as investment projects and as part of road maintenance.

An amount of CZK 11.3 million was drawn from the City of Prague budget for capital spending on construction of structural speed humps, installing extra lighting at pedestrian crossings and other primarily structural safety measures. A contribution from the Prague 3 municipal district of CZK 3.3 million for capital expenditures was drawn under the BESIP budget.

Other non-structural traffic safety measures, particularly by schools and pedestrian crossings (modifications to pedestrian crossings including carriageway surface roughening, installing assembled speed humps, adjusting signage, installing road mirrors, crash barriers and railings, information on current speed) were realised under current expenditures at a cost of CZK 7.2 million.

Raised intersection at Na Jarově – Pod Lipami

Pedestrian island with extra lighting on Bavorská (K Fialce stop)

Some of the projects realised from BESIP funding in 2015:

Intersection modifications – 4 intersections

Traffic islands – on the streets Koněvova, V rovinách, Bavorská, Schoellerova

Traffic safety devices, including primarily crash barriers, railings, bollards – 24 locations.

Traffic mirrors – on six streets

Extra lighting at pedestrian crossings – at Koněvova – Na Jarově, Bavorská – K Fialce public transport stop

Road surface roughening – leading up to 6 intersections and at 4 other locations leading up to pedestrian crossings.

Speed humps – structural at five locations, non-structural at Náměstí 14. října.

Informative speed indicators – on two streets, section speed measurement on Novosibřinská

Anti-parking posts – on two streets

9 CHANGES IN TRAFFIC ORGANISATION

The most significant permanent change to traffic organisation was the opening of the Blanka Tunnel Complex (BTC) in September 2015. The whole tunnel complex is part of the northwest part of the City Ring Road and connects the northwest sector of the city to Troja and Holešovice, and through the new Trojský most and streets V Holešovičkách and Povltavská also with the centre and north and east sector of the city.

With the opening of BTC, not only was the City Ring Road rerouted from surface roads into tunnels, but so was the Prague Outer Ring Road, as its definitive northwest segment is currently lacking. This is why there is signage for the major long-distance destinations Karlovy Vary, Ústí nad Labem, Hradec Králové and the Prague Airport in the tunnel. At individual exits from BTC, primarily local destinations are marked, or in exceptional cases nearby destinations (Roztoky) or other destinations (hospitals).

Destination signage is variable and, as with the other vertical and horizontal signage, it can react to the closure of various tunnel segments. Devices for traffic information inform about individual exits/ intersections. The speed limit can be regulated depending on traffic conditions through variable signage to be 70, 50 or 30 km/h. Freight vehicles over 12 t of maximum authorised weight and vehicles transporting dangerous goods are not permitted here.

New destination signage by BTC

SOS box in BTC

Maximum attention is paid to safety and orientation in the tunnel segments. A unified concept of colour design and orientation system was chosen for the case of an emergency (accident or fire in the tunnel). The characteristic colour for the Brusnice tunnel is orange, for the Dejvice tunnel purple and for the Bubeneč tunnel blue. Where the cross-passages and SOS alcoves are, the sides of the tunnel share a pronounced swath of green marked SOS alcove. Orientation signs showing the direction and distance of the nearest emergency exit are placed on the tunnel walls.

In July the off and on ramps of the Třebonice interchange (Prague Outer Ring Road x D5 motorway x Na Radosti) were opened connecting to the street Na Radosti, II/605 road, D5 motorway and the Rozvadovská spojka. This also brought the long-term measures complicating traffic at this intersection to an end.

Over the course of 2015, short-term changes to traffic organisation continued, often on roads that are important for traffic in Prague. On the Prague Outer Ring Road, aside from the Třebonice interchange, these included road repairs at the Řepy interchange and on the section Chlumecká – Štěrboholská spojka where the lanes were being widened. Traffic measures due to repairs to the Nuselský most road surface, specifically the closure of the southbound lanes, had a marked impact on the flow of traffic in the whole city sector. Short-term changes to traffic organisation included measures on Spořilovská during installation of sound barriers, on Mladoboleslavská during gas line work, due to tram track refurbishment on Plzeňská, Bělehradská and Patočkova and during final work on the V.A metro line.

10 PARKING

10.1 Parking in the city centre

The core of the city centre is the Prague Conservation Area (PCA) with an area of 8.7 km2, which is 1.7 % of the city's territory. In this area there are approximately 33 500 parking spots, of which roughly half are located on the road network (16 000) and the other half in public (9 860) or private (4 700) parking garages or in courtyards (3 000).

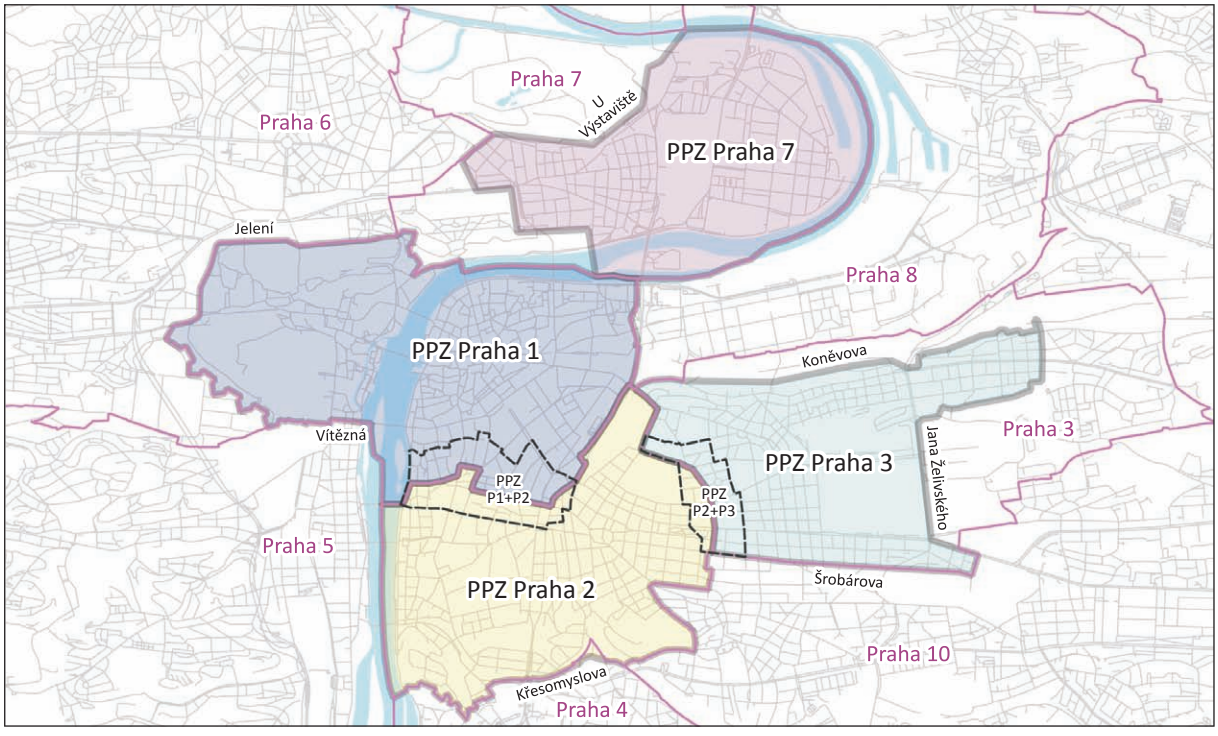
The PCA and adjoining historic neighbourhoods (Smíchov and Holešovice on the left bank of the Vltava and Karlín, Žižkov and Vinohrady on the right bank) form the citywide centre with the greatest concentration of institutions and administrative authorities of citywide and national importance as well as a considerable proportion of the commercial premises, facilities, shops, services and other civic amenities and a quantity of cultural historical monuments. The attractiveness of this area, the large number of job opportunities and the vibrant tourist industry lead to high demand for automobile parking, which must be regulated through a system of paid parking zones (PPZ).

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
Users	Residents with permanent residence and businesses with place of business in PPZ	Visitors to city centre	Visitors to city centre	Residents, business owners and visitors to have more uniform use of capacity
Operation	Mon – Sun 8:00 – 6:00	Mon – Fri (Sat, Sun) 8:00 – 18:00 (19:00, 20:00)	Mon – Fri (Sat, Sun) 8:00 – 18:00 (20:00)	Mon – Fri (Sat, Sun) 8:00 – 18:00 (19:00, 20:00)

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

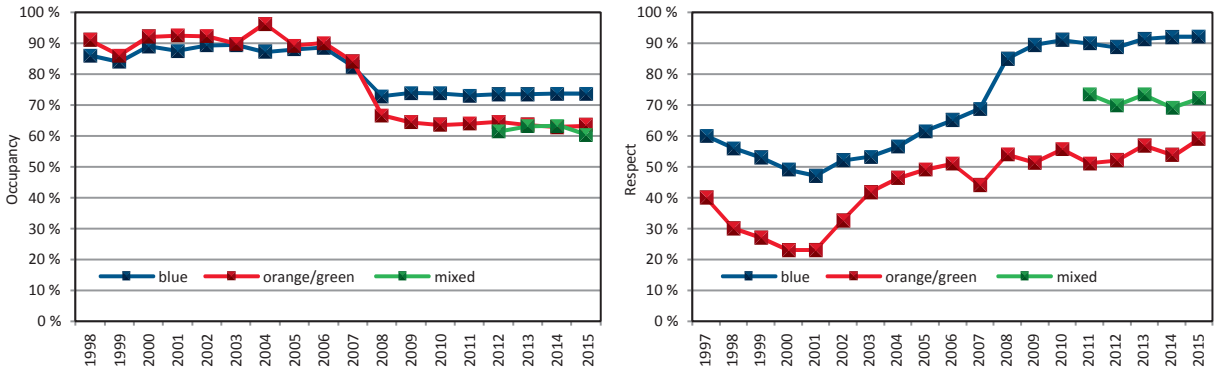
Map of paid parking in the centre of Prague



In 2015 there were paid parking zones in place in the municipal districts of Prague 1, Prague 2, Prague 7 and the part of Prague 3 adjacent to the centre (this has been the scope of PPZs since February 2008). For 2016 there are also plans for expansion as well as for the use of new payment instruments, for example mobile and internet applications and parking machines that accept payment cards.

Based on the public tenders issued, at the end of 2015 two contracts were signed for the supply and installation of parking machines and signage and to run and monitor the respecting of PPZs for a period of five years, as well as to supply a Central Information System that will register all valid parking permits and compare them with data from mobile monitoring.

Development of occupancy* and respect rates in PPZs



* *occupancy coefficient = percentage of full spots in the PPZ, respect coefficient = the percentage of drivers who have duly paid the parking fee*

New parking lane on Veletržní (Prague 7)

Blue zone on K Haštalu (Prague 1)

In the PCA and its immediate surroundings it is also possible to park in mass parking garages, which are generally underground and part of shopping or administrative centres, hotels or cultural destinations. To a lesser extent there are also facilities that serve solely for parking (e.g. the Slovan garages). Mass garages are currently being built at Letná (860 spaces) and Prašný most (460 spaces).

10.2 Parking in the rest of the city

The capacity of parking spaces in the rest of the city is for the most part not recorded. Particularly in areas with multi-storey buildings there is a deficit of parking spots. Around metro stations the lack of parking spots is exacerbated by the fact that local and out-of-town motorists commuting to the metro use them all up. This fact was felt in Prague 6 in 2015 when the extended A metro line was opened. The various municipal districts are attempting to arrange for studies and projects on the parking situation or update existing documents and to increase the number of parking spaces through traffic organisation measures, e.g. by making streets one-way, by reducing the number of lanes on less heavily trafficked streets, by changing parallel parking to perpendicular or diagonal parking, or

by allowing parking on part of the sidewalk. Other parking spaces are created with the construction of new residential buildings that differentiate between resident parking (often in underground garages) and visitor parking (generally on the street in front of the building). The parking situation is better in areas with low-rise development, where residents can often park on their own lot or in a garage.

10.3 Park and Ride facilities (P+R)

The combination of automobile and public transport holds many advantages for both travellers and the city itself. For travellers, transport outside the city remains as flexible as possible, while inside the city transport by mass transit is quicker and often less complicated as well. The city on the other hand benefits from the improved modal share and the reduced demand for travelling through the heavily settled area of the city.

What this means for the city however is an increased demand for parking around public transport stations. This is one of the reasons it is important to systematically expand and maintain the network of P+R parking spaces and K+R recommended stopping points.

Basic data on the P+R system in Prague

Number of parking lots in P+R system	Total structural capacity	Number of spots per 1 million residents
16 (13 locations)	3 009 spots	2 374
Permitted vehicles	**Operating hours**	**Daily rate**
passenger automobiles, bicycles	4:00 – 1:00 (24hrs at unguarded lots)	CZK 20 (free at unguarded lots)

The system of P+R lots in Prague has been in operation since 1997. These catchment lots are conceived of as public and are intended for the parking of passenger vehicles. There are 14 paid P+R lots (with regulated operating hours) available under the system and two free lots – P+R Běchovice and P+R Skalka 2 (with a regulated maximum parking time of 12 hours). There is only a parking system and lot staff at the paid P+R lots; usage of the free P+R lots is no longer tracked.
Since 2013 the parking technology at P+R lots has gradually been being replaced, with the age of some equipment stretching back to 1997. In 2015 the equipment was modernised at P+R Opatov and P+R Zličín 2.

A new lift was opened at the P+R Chodov lot in 2015, making it easier for persons from both levels of the lot to reach the shopping centre and Chodov metro station.

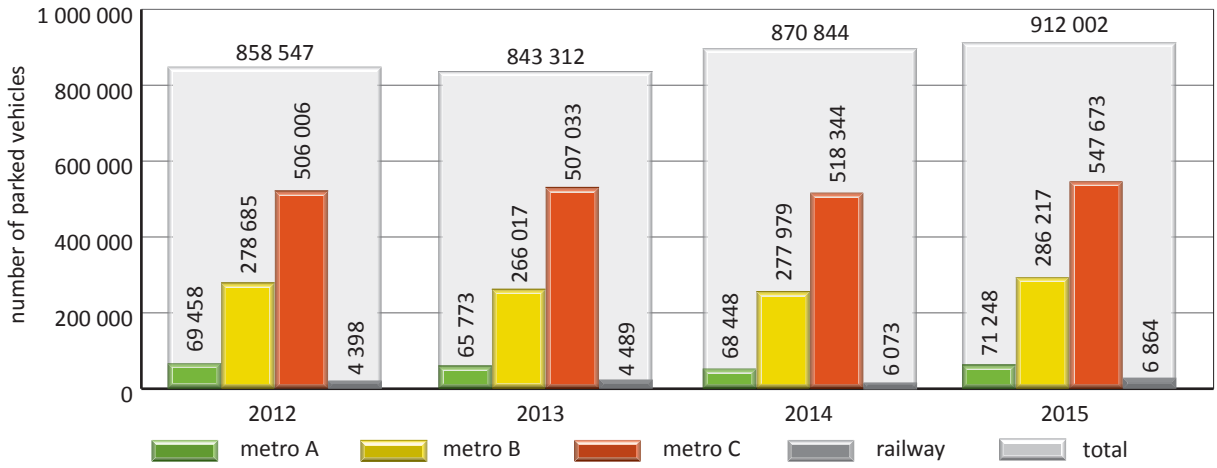
For the paid P+R lots the daily fee is CZK 20. Each violation of the terms and conditions for guarded lots leads to a CZK 100 fee (e.g. leaving a transportation device at the lot outside the operating hours).

Spots reserved for the basic function of the P+R system and vehicles parked monthly (October)

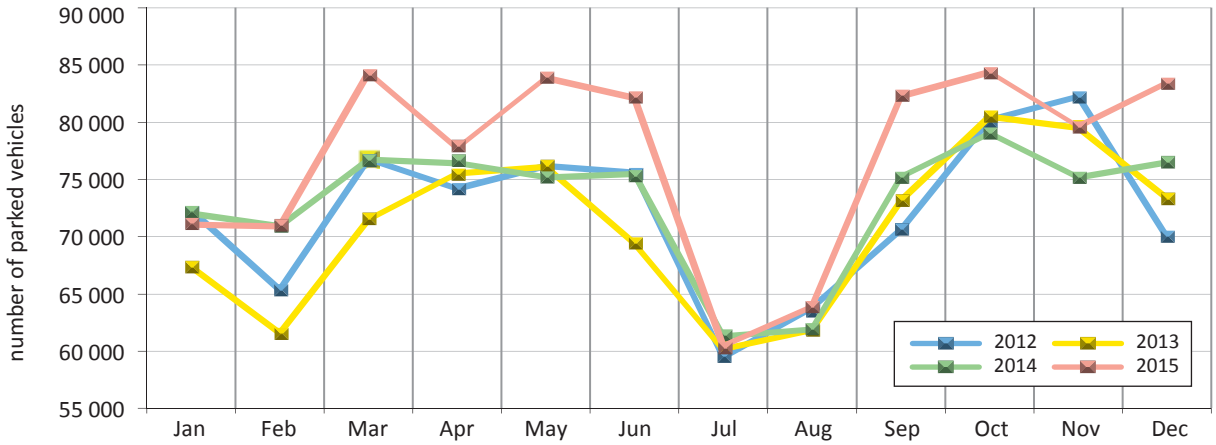
Záchytné parkoviště	Lot of spots	Cars parked monthly		Záchytné parkoviště	Lot of spots	Cars parked monthly	
		Oct 2014	Oct 2015			Oct 2014	Oct 2015
Běchovice	92	-	-	B Nové Butovice	57	2 050	2 154
B Černý Most 1	294	11 081	11 590	C Opatov	181	5 534	5 852
B Černý Most 2	131	3 252	3 360	Radotín	36	589	620
A Depo Hostivař	169	4 718	5 215	B Rajská zahrada	88	2 549	2 530
C Holešovice	74	3 650	3 459	A Skalka 1	63	1 547	1 491
C Chodov	653	17 656	19 532	A Skalka 2	74	-	-
C Ládví	78	2 138	2 187	B Zličín 1	83	3 144	3 180
C Letňany	633	18 557	20 063	B Zličín 2	61	2 565	2 627

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 (2 767 spots), spots permanently reserved for vehicles transporting a person with a serious handicap – marked in accordance with the Act on Land Roads (130 spots) and spots for other purposes or residents with a valid contract on long-term parking of a vehicle (112 spots).

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



Annual variation in use of the P+R system



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

A bicycle can be left at a P+R lot during the operating hours for free. The B+R service is not available at the double lots P+R Černý Most 2, P+R Zličín 2, the P+R Chodov garages and the free P+R Skalka 2 and P+R Běchovice lots. All other P+R facilities are equipped with a stand for at least 4 bicycles.

Parking spots reserved for residents at P+R lots

On the basis of a contract with TSK, a set capacity can be reserved at selected parking lots for resident vehicles. In this way temporary excess capacity can be made use of. Conclusion of a contract is conditional on the interested party having a place of residence or business in close proximity to the parking lot ("resident").

Long-term parking (24 hours a day, 7 days a week) was possible at selected P+R lots for a monthly fee of CZK 500 for natural persons or CZK 800 for legal entities. At P+R Opatov (26

P+R Zličín 1

spots) and P+R Skalka 1 (40 spots) the reserved capacity was full for the whole year. At P+R Radotín full capacity was reached again in July (20 spots).

Night-time and weekend parking (workdays 17:30-7:30, weekends and holidays all-day) was possible at P+R Rajská zahrada for a monthly fee of CZK 250. The designated part of the lot thus had a secondary use for times of reduced demand for the basic P+R function while also not restricting the catchment potential of the P+R lot. The reserved capacity of twenty spots was permanently full for the whole year.

Economics of operating the P+R lot system (amounts in thousands of CZK before VAT)

Year	Operating income	Operating costs	Economic balance
2012	14 529	30 864	- 16 335
2013	15 057	31 086	- 16 029
2014	15 301	29 461	- 14 160
2015	**15 950**	**29 025**	**- 13 075**

Source: TSK and Prague Public Transport Company

10.4 Kiss and Ride points (K+R)

IP13e

K+R is a method of combined transportation of passengers that connects passenger automobile transport and public mass transit and vice versa without long-term vehicle parking. K+R "Kiss and Ride" stopping points allow for short-term stopping of vehicles (max. 3 min) in order for passengers to exit or enter vehicles, primarily near metro stations.

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".

Currently there are 31 lots of this type available within the City of Prague with a total capacity of 97 spots. During 2015 give new locations were unveiled in connection with the opening of four new metro stations on the "A" line (Bořislavka, Nádraží Veleslavín, Nemocnice Motol and Petřiny) in the western part of Prague. Two new K+R stopping points were created while renovating the Praha-Hostivař railway station as part of optimisation of the track segment Praha-Hostivař – Praha hl.n.

Last year the K+R point on Roztylská by the "C" metro station Chodov was temporarily closed due to the relocation of the Chodov bus stop in connection with the addition being constructed on the Chodov shopping centre.

K+R points in Prague

into centre		out of centre
A Bořislavka (Evropská)	A Náměstí Míru (náměstí Míru)	B Černý Most (Chlumecká)
A Dejvická (Evropská)	A Nemocnice Motol (Kukulova)	S Hostivař (U Hostivařského n.)
C Háje (Opatovská)	A Petřiny (Na Petřinách)	C Chodov (Roztylská)*
C Háje (U modré školy)	B Nové Butovice (Bucharova)	C Kačerov (Michelská)
S Hostivař (U Hostivařského n.)	C Opatov (Chilská)	C Letňany (Beladova)
C I. P. Pavlova (Legerova)	C Prosek (Prosecká)	A Nemocnice Motol (Kukulova)
C Kačerov (Michelská)	C Prosek (Vysočanská)	C Opatov (Chilská)
C Kobylisy (Nad Šutkou)	B Radlická (Radlická)	B Radlická (Radlická)
C Ládví (Střelničná)	C Vltavská (nábř. Kapitána Jaroše)	S Radotín (Vrážská)
C Letňany (Beladova)	A Želivského (Vinohradská)	
A Nádraží Veleslavín (Evropská)	TRAM Zahradní Město (Švehlova)	

** temporarily removed due to construction on Chodov shopping centre addition*

11 TRANSPORT INFRASTRUCTURE AND ROAD MAINTENANCE

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 Departments of Strategic Investment and Technical Facilities (OSI and OTV), the Technical Administration of Roads (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 (through the Road and Motorway Directorate – RMD) and also help finance city roads that make up for the as yet unbuilt sections of these state-guaranteed structures.

The most important transportation work in Prague in 2015, having been put into operation 19 September 2015, is the Blanka Tunnel Complex, which is the northwest section of the City Ring Road. Its route consists of three separate tunnels – Brusnice, Dejvice and Bubeneč – which connect to the surface segment of the street Nová Povltavská.

The route of total length of 6.382 km is divided by direction, with a separate two- to three-lane tube in each direction. The proposed and currently highest speed limit is 70 km/h, the lane width is 3.5 m, the height above the lanes is 4.8 m and the maximum gradient of 5 % is located in the Bubeneč tunnel in the decline from Letná under Stromovka. The tunnel complex is connected to the surface at the grade-separated intersections Malovanka, Prašný most, Letná and Troja. The surface segment of Nová Povltavská ends at the Pelc-Tyrolka grade-separated intersection. The total length of the northbound tunnel route is 5 502 m (2 766 m bored, 2 736 m excavated); for the southbound tunnel 5 489 m (2 774 m bored, 2 715 excavated).

The Brusnice tunnel leads from the northern portal of the Strahov tunnel (Malovanka interchange) following the path of Patočkova ulice first in excavated tunnels, then in bored tunnels from the spot under the intersection with Myslbekova to the Prašný most intersection. The connecting Dejvice tunnel, which leads under Milady Horákové, was fully excavated. From the Letná intersection the Bubeneč tunnel continues with a short excavated segment under Letná and continues with a bored section under the built-up area, Stromovka, the canal, Císařský ostrov, the Vltava and then with another excavated segment up to the portal of the Troja intersection.

Blanka Tunnel Complex

Ramp from tunnel to Letná intersection

Another important work, opened 6 April 2015, was the operating segment V of the A metro line Dejvická – Nemocnice Motol, which extended the A line by 6.12 km (the structural length of the segment is 6 134 m, maximum gradient 3.95 % between Dejvice and Bořislavka stations). There are three bored and 1 excavated station on the route.

Bořislavka station is a single-vault station, bored 27 m under Evropská ulice. It has an island platform, from the east end of which three escalators lead up to the vestibule under the intersection with Horoměřická, from which the Prague Integrated Public Transport tram and bus stops are accessible. At the western end of the boarding platform is a pair of passenger lifts that lead to the underpass under Evropská, from which the Červený vrch housing estate is accessible; from here it is also possible to reach the nearby tram stops barrier-free.

Nádraží Veleslavín station lies 19 m under Evropská between the railways tracks and the street K Červenému vrchu. It is a triple-vault station supported by columns with an island platform. From its western end lead three escalators to the subsurface vestibule connected to the pedestrian underpass under Evropská. At the surface is the bus terminal from which lines going to the airport and other urban, suburban and long-distance destinations depart.

The single-vault station Petřiny was bored at a depth of 37 m below the surface. It has an island platform, which is connected at the north end by three escalators to the subsurface vestibule south of the street Na Petřinách right by the joint stops for trams and buses. At the south end of the platform are two lifts that lead to Brunclíkova. Beyond the station toward Nemocnice Motol is a middle tunnel with a turnaround track for shortened service.

Nemocnice Motol station is based at 5.6 m below the surface, excavated. Its length is 160 m + 410 m of tunnel for the siding track. Its structure is monolithic reinforced concrete, while the roofing is made of prefabricated reinforced concrete beams of varying profiles with glass casing that lets in daylight. The station has side platforms, a vestibule below the level of the platforms that connects seamlessly to the underpass under Kukulova, which leads directly into the hospital complex for which it is named, and from there stairs and ramps lead to the surface transport stops.

A line Nemocnice Motol metro station

A line Petřiny metro station

Most important transport works 2015

Name [investor]	Description
Blanka Tunnel Complex (northern section of City Ring Road) [OSI]	• The Blanka Tunnel Complex, the core of which are three tunnels – Brusnice, Dejvice and Bubeneč – was opened. • Along with the existing Strahov and Mrázovka tunnels, a continuous tunnel route of 8.8 km in tunnel length was formed between the intersection with Trojský most and the south portal of the Mrázovka tunnel, which connects to the surface part of the City Ring Road. • A positive impact was the significant reduction of traffic on streets from which traffic was rerouted into the tunnel, including: Milady Horákové, Veletržní, nábř. Kapitána Jaroše, Argentinská. • In December the load in the tunnel was as high as 72 000 vehicles a day.
New section of metro A Dejvická – Nemocnice Motol [DPP]	• On 6 April the new V.A metro section was opened. Four stations lie on the 6.1 km section – Bořislavka, Nádraží Veleslavín, Petřiny and Nemocnice Motol. • In connection with the extension a new transfer terminal was built by Nádraží Veleslavín station, eliminating the need for buses to drive to Vítězné náměstí.
Třebonice interchange [RMD]	• The expanded interchange allows for full connection of the II/605 to the D5 motorway and Prague Outer Ring Road, which is important for the local network and for relieving the existing grade-separated intersection. • The subject of the work was modifying the Třebonice interchange, with new branches added, certain existing branches rerouted, collector roadways extended and new connections created so as to allow for connection of the II/605 to all directions of the intersection, i.e. heading to the centre, Plzeň, Řepy and Slivenec.
Optimisation of railway track Praha-Běchovice – Úvaly [SŽDC]	• 10.3 km long section has been being modernised since 2013. • All primary construction work on modernisation was completed and in December 2015 the new Praha-Běchovice střed stop was opened including access roads.
Optimisation of railway track Praha-Hostivař – Praha hl. n. [SŽDC]	• First part of works affecting Praha-Hostivař railway station and adjacent tracks. • In 2015 a new terminal building started serving the public along with a new island platform and the new bridge over Průmyslová was completed.

Overview of most important road refurbishments and repairs in 2015	
Name [investor]	**Description**
Repair of Nuselský most [TSK – co-financed by SFDI]	• Works planned in stages for 2012–2016, the subject of which is rehabilitating the lower structure of Nuselský most (soffit of load-bearing structure, abutments and pillars), installing new carriageway insulation and new road surface strata, replacing the sidewalk structure and replacing drainage, including vertical drains • In 2015 the bridge deck was insulated, new surface laid in slow lane, new sidewalk installed heading into centre and rehabilitation performed on bridge casing.
Spořilovská – sound barrier construction [TSK]	• Second stage realised. The objective was expanding the lane heading toward 5. května at the expense of the centre median in order to place mobile sound barriers. • Mobile sound barriers were then installed on a length of 220 m between the grade-separated crossing with the Jižní spojka and the turn-off to the street Severní I. The sound barrier is located on the right edge of Spořilovská heading towards 5.května.
Cínovecká – sound barrier construction [TSK – co-financed by SFDI]	• These are sound barriers along a high-speed roadway, dealt with by modifying the noise protection embankment and adding a noise wall. The existing noise protection embankment was crowned with a sound barrier to a height of 6.75 m above street level. • The project addressed the insufficient noise protection in Březiněves.
Street refurbishment of Bubenská [TSK]	• Replacement of paving stone surface with bituminous surface in section U Výstaviště – Na Šachtě in order to reduce noise. Sidewalks were refurbished with mosaic pavement and sewer inlets replaced.
Renovation of bridge over Botič on Bělehradská [TSK]	• Complete reconstruction of bridge due to unsuitable state. • Completely new support structure, surface structure and accessories.
Street refurbishment of V Holešovičkách [TSK]	• Phase 2 of resurfacing took place in 2015. • The existing surface layer 2 cm thick was replaced with a layer 2.5 cm thick of low-noise asphalt in the section Kubišova – Barikádníků bridge heading into the centre. The project was realised in order to reduce noise levels.
Increasing the capacity of the Štěrboholy Radial Road [TSK – co-financed by SFDI]	• Completion and final building authority approval of works for increasing capacity of critical section of the Jižní spojka by the on-ramp to Rabakovská. In 2015 the carriageway was refurbished between the already repaired bridges of the northern branch and up to the boundary of the cable bridge.
5. května – sound barrier construction [TSK]	• This involved the construction of a mobile sound barrier on the street 5. května heading into the centre at a length of 357 m between the Kačerov viaduct – the start of the turn lane onto Vyskočilova. Installation of the wall reduced the noise burden in the affected area.
Jižní spojka – repair of slow lane cover [TSK – co-financed by SFDI]	• Phase 49 continued with replacing the existing surface with mastic asphalt on the slow lane of the Jižní spojka in the section 5. května – Vídeňská. • The on- and off-ramps lying in the affected segment were also repaired.

The more than 20 projects of TSK's continuous road maintenance included significant and costly road work: resurfacing on Wilsonova by Hlavní nádraží including repairs to the expansion, resurfacing on the streets Novodvorská (Phase 1 and 3), Tupolevova (Phase 3 and 4), Vinohradská (Pod Židovskými hřbitovy – Starostrašnická), Kunratická spojka (Na Jelenách – K Labeškám), Náchodská (Bořetická – hranice Prahy), Mírová, Městská, Na padesátém, Ústecká, Českobrodská, U Kunratického lesa. The carriageway was repaired on V Šáreckém údolí, where the retaining wall was also repaired, the width of the roadway unified to 5 m and the shoulders lined with edging stones.

Overview of most important refurbishments and repairs in public transport in 2015	
Name [investor]	**Description**
Tram track refurbishment on Evropská on section Bořislavka – Dejvická [DPP]	• Length of refurbished segment was 1.6 km. • Original large BKV panels replaced mainly with ties on a gravel bed with grass on most of the section. • All stops now have barrier-free access.
Tram track refurbishment on Plzeňská on section Jinonická – Tomáškova [DPP]	• Length of refurbished segment was 1.3 km. • The BKV panels were removed and a new construction was installed using the W-tram system with bituminous surface, separating from the roadway by raised thresholds made of prefabricated elements. • Following refurbishing all stops now have barrier-free access.

Tram track refurbishment on Vršovická on section Na Zámecké – Moskevská [DPP]	• A segment 1.4 km long was refurbished. • Original large BKV panels replaced by ties on a gravel bed partially covered in grass; on part of the section W-tram with cement covering. • Bohemians and Nádraží Vršovice stops are now barrier-free. • Stopping of buses was permitted at the Bohemians tram stops for easier transfers.
Tram track refurbishment on Na Zlíchově and Nádražní [DPP]	• Refurbishment of 0.7 km of track and local emergency repairs took place on Nádražní ulice. • The aging BKV panels were replaced with a W-tram system. • The Zlíchov stop out of the centre was shifted and was also moved closer to the nearby signal-controlled crosswalk. • The Zlíchov stops now have barrier-free access.
Tram track refurbishment on Na Petřinách and Střešovická [DPP]	• A segment 3.4 km in length was refurbished, with the original large BKV panels replaced mainly with ties on a gravel bed with grass on most of the section. • All stops now have barrier-free access. • Buses can now stop at the Petřiny and Vojenská nemocnice tram stops for easier transfers.
Tram track refurbishment of Bělehradská [DPP]	• Length of refurbished segment was 1.4 km. • Original large BKV panels replaced by W-tram system. • All stops now have barrier-free access, generally in the form of a tram bulb. • Since trams were already rerouted, the whole streetscape was refurbished, including the utility infrastructure and the bridge over the Botič [TSK].
Tram track refurbishment of Plynární [DPP]	• Refurbishment of 0.6 km of track from the intersection with Železničářů up to Ortenovo náměstí (incl.). • Original large BKV panels replaced with W-tram system. • Ortenovo náměstí stop now has barrier-free access.
Repairs on C metro line [DPP]	• Four switches and double crossovers completely replaced at C metro station Háje, which required thirteen days of suspended service on the relevant section of the C line.

Extensive work was also done on the tram network with the aim of facilitating travel and increasing ride speed and comfort. The intersection Na Poříčí x Havlíčkova was completely repaired and at the same time the tram tracks on Revoluční were repaired as well. Repairs were made to the tracks on Hlávkův most. In connection with the detour on Střešovická, repairs were done on a section of tram track on Patočkova, where a new barrier-free shared Vozovna Střešovice stop for trams and buses was built in both directions allowing for easy transfer between lines. The tram track on Seifertova in the section Wilsonova – Italská under the railway bridge was repaired.

New Vozovna Střešovice stops

TSK continues to implement measures to reduce noise pollution, primarily by replacing inappropriate road surfaces and building different kinds of noise barriers, particularly in residential areas. To this end, the existing paving stones on Kodaňská were replaced with bitumen reinforced in areas where buses drive; the sidewalks are now made of concrete cobble pavement and the crosswalks and parking spots of small cobble pavement. New parking bays were also implemented, including modification and expansion of drainage. On Bělehradská the previous cobble pavement surface was replaced with a bituminous surface, while parking spaces were made of large granite cobble pavement and the sidewalks from mosaic cobble pavement. Stop bulbs and greenery were also added. On Komunardů the paved surface was replaced with bituminous, while sidewalks were refurbished, barrier-free tram stops created and the drainage and street greenery were modified.

The Technical Administration of Roads of the City of Prague, 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. In 2015, CZK 1.119 billion was spent on repairs and maintenance, CZK 706 million on cleaning and green space and CZK 534 million on winter street maintenance. Capital expenditures totalled CZK 1.986 billion.

12 FINANCING THE OPERATION AND DEVELOPMENT OF MOBILITY

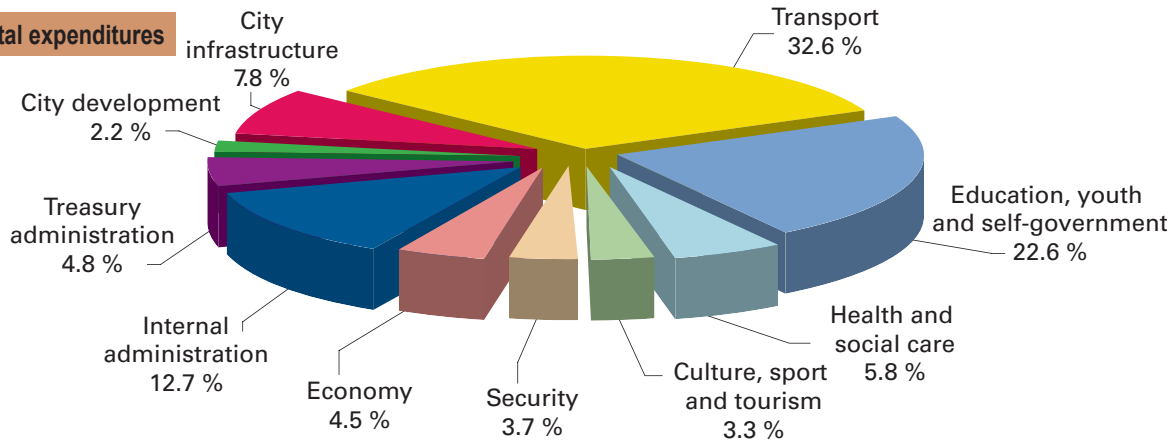
The operation of urban transport and the realisation of transportation infrastructure in 2015 was financed from the budget of the City of Prague, with contributions from the state budget, the own resources of the Prague Public Transport Company, and other city organisations. Funding also came from grants from EU funds and European Investment Bank (EIB) loans.

The City of Prague municipal budget, updated 30 June 2015, reached CZK 71.1 billion in expenditures, of which the expenditures under Chapter 03 Transport totalled CZK 23.3 billion. Chapter 03 was thus once again the most substantial heading of the municipal budget in terms of expenditures in 2015 (almost 33 %). Funds associated with operating the safety systems for the metro and Strahov tunnel were drawn from Chapter 07 Security.

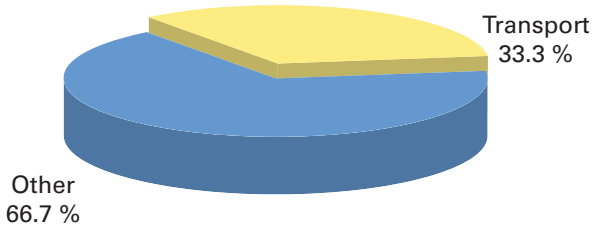
Transport accounted for over 33 % of the City of Prague's current expenditures and over 31 % of capital expenditures.

Breakdown of municipal budget expenditures in 2015 (budget updated as of 30 June 2015)

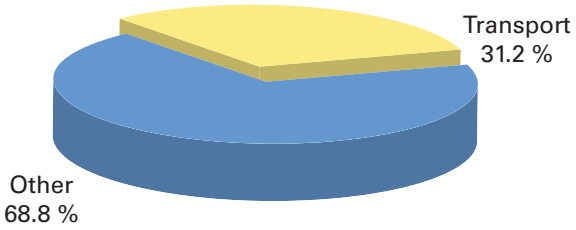
Total expenditures



Share of transport in current expenditures

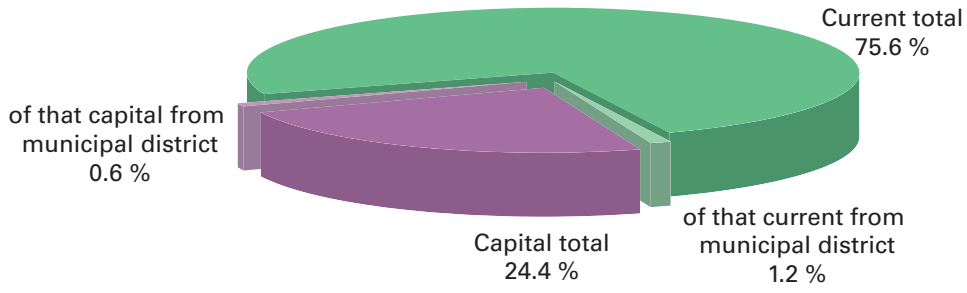


Share of transport in capital expenditures



Of the total amount planned for transport in the adjusted budget (CZK 23.3 billion), CZK 17.6 billion was earmarked for current expenditures and CZK 5.7 billion for capital spending.

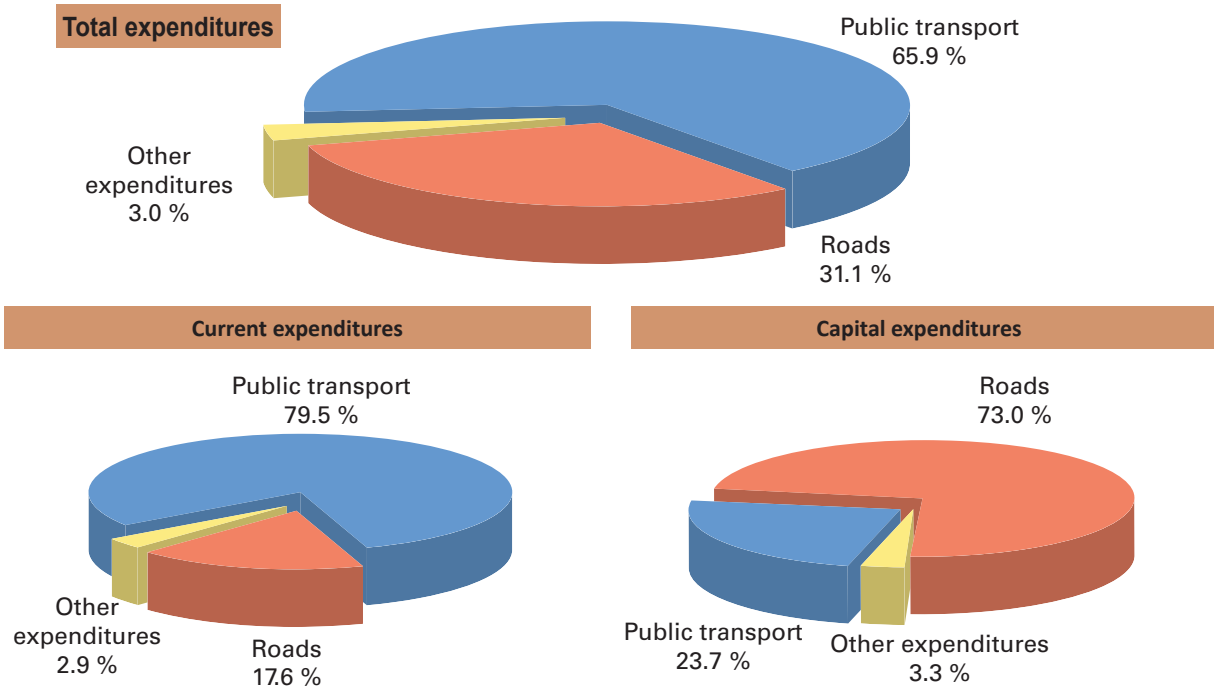
Proportion of current and capital expenditures in Chapter 03 Transport (budget updated 30 June 2015)



Ever year, expenditures associated with passenger public transport form the decisive bulk of current expenditures. CZK 14 billion was set aside for this purpose in the adjusted budget. CZK 3.1 billion was

earmarked for administration, maintenance and operation of roads and CZK 0.5 billion went to cover various other necessary expenditures.

Structure of municipal budget transport expenditures in 2015 (budget updated 30 June 2015)

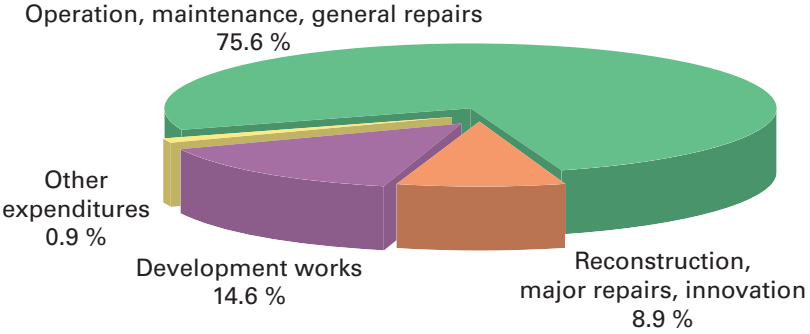


The capital expenditures went primarily to pay for development investments (60 %), as well as more extensive repairs and refurbishment (37 %). Only 1.1 billion was allocated for metro construction in the budget adjusted as of 30 June 2015 (primarily for preparing construction of the D line) because other investments in the metro network (completing construction of the Dejvická – Motol section of the A line) were covered from other sources. CZK 228 million was set aside for tram track refurbishing and CZK 50 million for bicycle transport. Over 10 % of capital expenditures (CZK 0.6 billion) was designated for investment in telematics and management systems in the adjusted budget. Capital expenditures were dominated by expenditures for improving the road network and the conditions for road traffic. Of the total amount of CZK 5.7 billion, over CZK 1.3 billion went to renewal and development of public transport, nearly CZK 4.2 billion to investment in the road network and CZK 0.2 billion for other necessary expenditures.

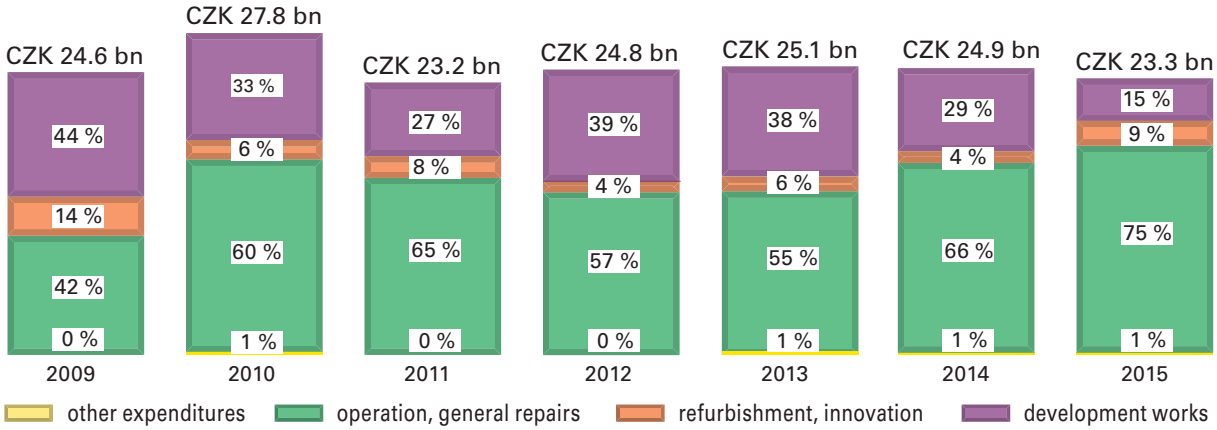
Of the total transport expenditures in the adjusted 2015 budget under Chapter 03, the amount set aside for ensuring the operation, renewal and development of public passenger transport was 66 % and the amount for ensuring road transport and development of the road network was 31 %.

A more detailed breakdown of the items in the expenditures on transport shows that CZK 17.6 billion went to providing for operation, general repairs and maintenance of the city's transportation system, CZK 2.1 billion went to major repairs, refurbishing and renewal of technical facilities, CZK 3.4 billion was earmarked for development investments, and CZK 0.2 billion to other expenditures.

Structure of municipal budget transport expenditures in 2015 (budget updated 30 June 2015)



Development of structure of transport expenditures in Prague budgets (budgets updated 30 June)

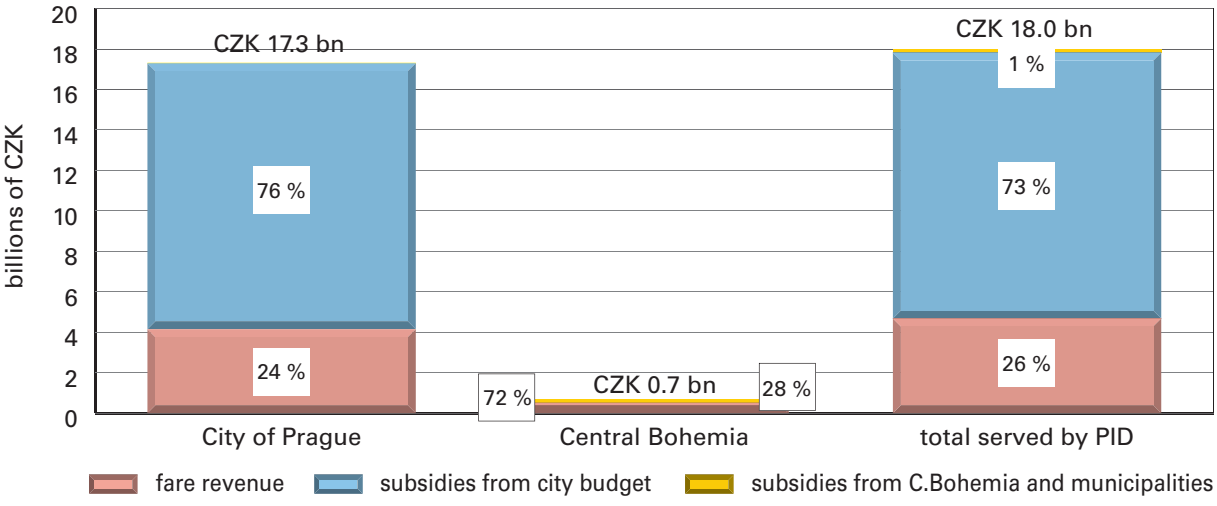


Targeted bound contributions were provided to the City of Prague from the state budget to cover certain public transport operating costs. A contribution was allotted from the budget of the State Fund for Transport Infrastructure (SFDI) for the maintenance, repair and construction of roads that are temporarily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

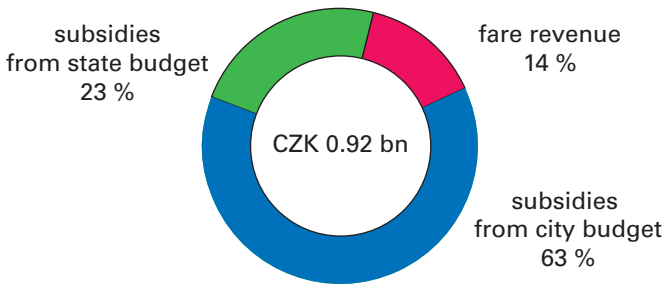
The state also helps finance construction of the Prague Outer Ring Road, having taken on full guarantee for its funding. In 2015 a total of CZK 330 million was drawn for construction work on the southwest part of the ring road.

An important source of funding for operation of the city's public transportation system is fare revenue and other potential minor revenue. The basic relationship between the volume of revenue and subsidies in operating Prague Integrated Public Transport is evident from the following graph.

Operating subsidies and fare revenue in public transport (2015, w/o railway revenue and subsidies in Prague and C. Bohemia)



Operating subsidies and fare revenue of public transport rail carriers within Prague (2015)



The Prague Public Transport Company contributed CZK 4.4 billion of its own resources to cover investment costs for the city's transportation system, of which CZK 2.8 billion went to renewing the public transport fleet and CZK 0.5 billion for projects co-financed from OP Prague – Competitiveness. For investment construction it drew a total of CZK 2 billion in 2015, covered primarily from EU structural funds.

13 EU PROJECTS WITH PARTICIPATION OF TSK

City of Prague objectives in the field of transport telematics

The City of Prague, like other European cities, struggles with the traffic congestion, accidents and air pollution caused by the constant growth of traffic. Merely building new roads is not enough, nor is it possible everywhere. This situation can be markedly improved by building and making effective use of telematic systems. The main feature of such systems is integration of data and information and subsequently making it available to traffic operators, municipal institutions and, in an appropriate form, also for individual users and traffic participants. The system is built in accordance with European and global standards and with regard for integration within the Czech Republic and the possibility of data exchange with other telematic systems in the country.

The City of Prague's goals in the field of managing and reducing automobile use and integration into European networks include restricting automobile traffic on the city's streets:

- Optimisation of traffic on the existing road network while applying the principles of priority for public transport and making use of the new possibilities afforded by management and information technology.
- Information and telematic traffic management systems – informing about traffic levels, parking capacity, etc. when entering the city.

A key aspect is that all steps to improve transport in Prague count on a significant level of EU funding. Important transport projects related to Prague are thus realised in part under Operational Programme Transport under Priority Axis 5 – Modernisation and Development of the Prague Metro and the Road Traffic Management Systems in the City of Prague.

Operational Programme Transport (OPD) – Programming period 2007 – 2013

The City of Prague Technical Administration of Roads realised a total of 5 projects under the programming period 2007 – 2013 in the years 2007 to 2015 that were financially supported by the European Union. The contribution from the EU Cohesion Fund totalled 85 % of the total costs. The remaining 15 % was paid from the City of Prague budget as co-financing.

I. Prague Urban Road Traffic Management and Regulation System

Support area:	Introducing road traffic management and regulation systems in Prague
Project number:	CZ.1.01/5.2.00/07.0029
Paid out (CZK):	556.5 million

The project was divided up into six functional areas:

- Management through traffic signals
- Main Urban Traffic Control Centre
- Optical network
- Collection of traffic information
- Expanding functionality of urban radio network
- Weather sensors

II. Increasing Road Safety in Prague

Support area: Introducing road traffic management and regulation systems in Prague
Project number: CZ.1.01/5.2.00/08.0129
Paid out (CZK): 378.4 million

The project was divided up into three basic areas:

- Traffic management and monitoring in tunnels
- Provision of traffic information
- Harmonisation of telematic systems on the City Ring Road and radial roads in connection with new structures

III. Comprehensive Telematic Monitoring System

Support area: Introducing road traffic management and regulation systems in Prague
Project number: CZ.1.01/5.2.00/12.0276
Paid out (CZK): 53.2 million

The project contained:

- Comprehensive Telematic Monitoring System

IV. Modernisation and Supply of a Traffic Management System in Prague

Support area: Introducing road traffic management and regulation systems in Prague
Project number: CZ.1.01/5.2.00/14.0380
Paid out (CZK): administrative completion of project underway

The project contained:

- Construction and rehabilitation of 167 traffic signals as part of a works contract for “Maintenance, repair and supply of equipment for traffic management in Prague”.

V. Intensified installation of telematic devices to increase traffic safety and flow in Prague

Support area: Introducing road traffic management and regulation systems in Prague
Project number: CZ.1.01/5.2.00/14.0418
Paid out (CZK): administrative completion of project underway

The project is made up of five functional areas:

- Modification of intersection traffic signals to increase traffic safety
- Expanding and modifying traffic signal infrastructure and transfer of traffic data
- Modernisation of technological equipment in Těšnov tunnel
- Expanding collection of traffic information for traffic management
- Modifying the traffic signal management mode from the parent level, including adding priority for public transport

14 OTHER FORMS OF TRANSPORT

14.1 Air transport

Both passenger and freight air transport in Prague are primarily operated at Václav Havel Airport Prague located at the northwest edge of the city (public international airport with an external border). Aside from this there are several other smaller airports within the city or its close surroundings (Letňany – grass-covered public domestic airport and private international airport, Kbely – military airport, Točná – grass-covered public domestic airport, Vodochody – private international airport).

The Prague Airport has three take-off and landing runways, one of which is in long-term closure. The total capacity of the runway system is approximately 200 000 aircraft movements (take-offs and landings) per year. The maximum capacity is 46 aircraft movements an hour. There are three terminals for checking through passengers at the airport. In the north part of the airport are Terminals 1 and 2 (1 – flights outside the Schengen area, 2 – flights to the Schengen area), while Terminal 3 (predominantly general aviation) is located in the south part. The overall capacity of the terminals that serve to check through passengers is 15.5 million per year. There are two terminals for freight in the north part of the airport with a total capacity of 200 000 t/year.

In 2015 a total of 369 carriers operated at Prague Airport, of those 58 carriers on regular passenger lines, 14 low-cost carriers and 6 regular freight carriers. The other carriers operated charter flights, private flights and irregular freight transport. Altogether in 2015, flights were made to 174 destinations in regular transport and 657 destinations in charter transport. Some destinations were the subject of both regular and irregular connections.

Václav Havel Airport (photo: Letiště Praha, a. s.)

North section – control tower and Terminal 2 (photo: Letiště Praha, a. s.)

The greatest volume of passengers was dispatched to destinations in the United Kingdom (1.54mil.), Germany (1.17 mil.), Italy (0.97 mil.), Russia (0.89 mil.), and France (0.86 mil.). The most heavily trafficked destination was the Charles de Gaulle Airport in Paris with a volume of 0.65 million passengers, followed by Moscow Sheremetyevo (0.58 mil.), Frankfurt (0.55 mil.), Amsterdam (0.52 mil.) and London Heathrow (0.45 mil.).

The position of Václav Havel Airport Prague compared internationally can be seen in the following table.

Number of passengers processed at selected airports (millions/year)						
Airport	**2000**	**2012**	**2013**	**2014**	**2015**	**15/14**
Hartsfield-Jackson International (Atlanta)	80.2	95.5	94.4	96.2	**101.5**	106 %
Bejing Capital International Airport	21.7	81.9	83.7	86.1	**89.9**	104 %
O`Hare International (Chicago)	72.1	66.8	66.9	70.1	**76.9**	110 %
London Heathrow	64.3	70.0	72.3	73.4	**75.0**	102 %
Paris Charles de Gaulle	47.8	61.6	62.1	63.8	**65.8**	103 %
Frankfurt	49.0	57.5	58.0	59.6	**61.0**	102 %
Amsterdam Schiphol	39.3	51.0	52.6	55.0	**58.3**	106 %
Madrid Barajas	32.6	45.2	39.7	41.8	**46.8**	112 %
Roma Fiumicino	25.9	37.1	36.3	38.6	**40.5**	105 %
Copenhagen Kastrup	18.2	23.3	24.1	25.6	**26.6**	104 %
Brussels Airport	21.5	19.0	19.1	21.9	**23.5**	107 %
Stockholm Arlanda	18.3	19.6	20.7	22.4	**23.2**	104 %
Vienna Schwechat	11.8	22.2	22.0	22.5	**22.8**	101 %
Letiště Václava Havla Praha	5.8	10.8	11.0	11.1	**12.0**	108 %
Warsaw Frederic Chopin	4.3	9.6	10.7	10.6	**11.2**	106 %
Budapest Ferihegy	4.7	8.5	8.5	9.2	**10.3**	112 %
Bratislava M. R. Štefánika	0.3	1.4	1.4	1.4	**1.6**	114 %

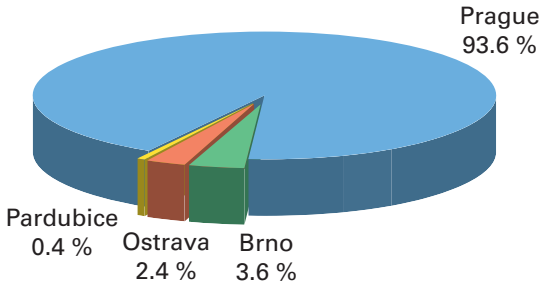
Source: The Chicago Department of Aviation on, BAA, Fraport Group and airport websites

The total volume of passengers checked through in 2015 at the four most highly trafficked Czech airports (Prague, Brno, Ostrava, Pardubice) totalled 12.9 million, 6.4 % more than in 2014. The volume of freight transported by air (goods and post) rose by 1.9 %, totalling 61 800 tonnes.

The contribution of Prague's airport to the total volume at the four aforementioned Czech airports in passenger transport was 93.6 %, in freight transport 81.8 %.

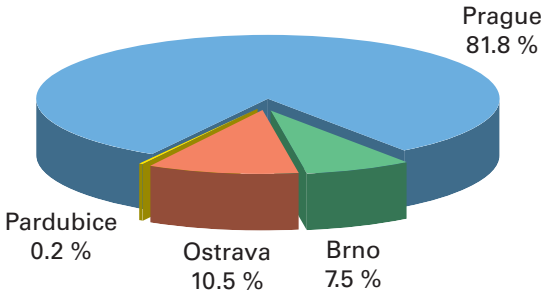
Share of airports in passenger volume

% of total volume of passengers (2015)



Share of airports in freight volume

% of total volume of goods and post (2015)



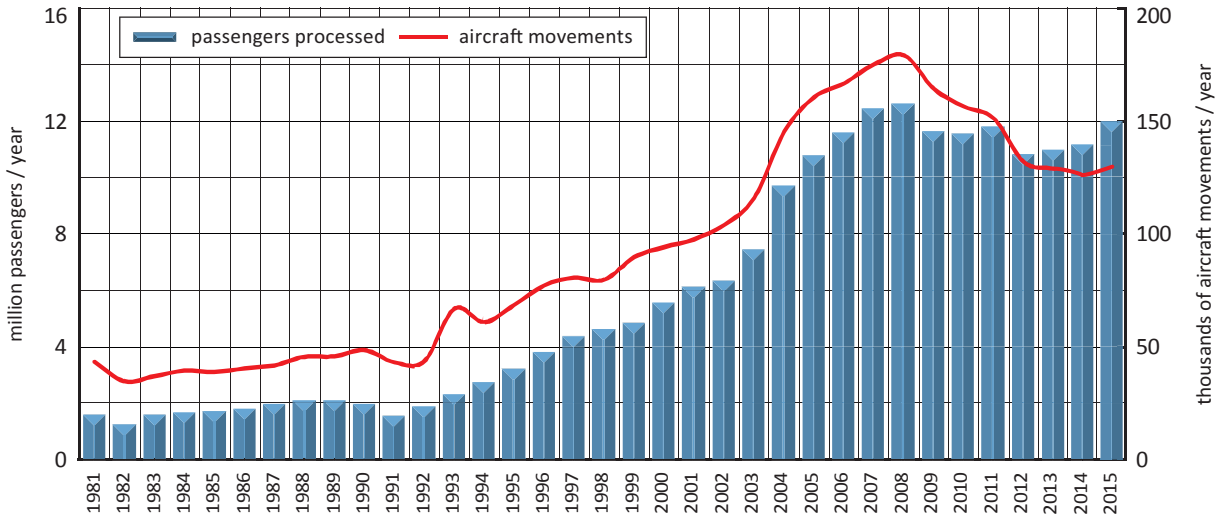
In 2015 a total of 12 030 928 passengers were checked through at the airport in Prague, which represents a rise of 7.9 % compared to 2014. The growth of „local"passengers was 7,1 %, transfer and transit rised of 24.1 %.

The majority of passengers (92.2 %) were checked through on regular flights. Of the total volume of over 12 million, approx. 66 % were transported on network carrier lines, while the share of low-cost companies totalled 26.2 % and the share of charter companies 7.7 %. The share of private flights was 0.2 %. The most passengers were checked through in August (1 377 400), the least in February (608 600). In comparison with 2014 the monthly maximum achieved in 2015 was 9 % higher. The Czech Republic was the stated placed of resident of 42 % of passengers, with the second most frequent answer (9 %) being the UK. 73 % of passengers leaving Prague were travelling privately, 26 % on business. Manager and entrepreneurs made up 28 %, employees 49 % and 12 % of those flying out of Prague were students. 98 % flew economy class.

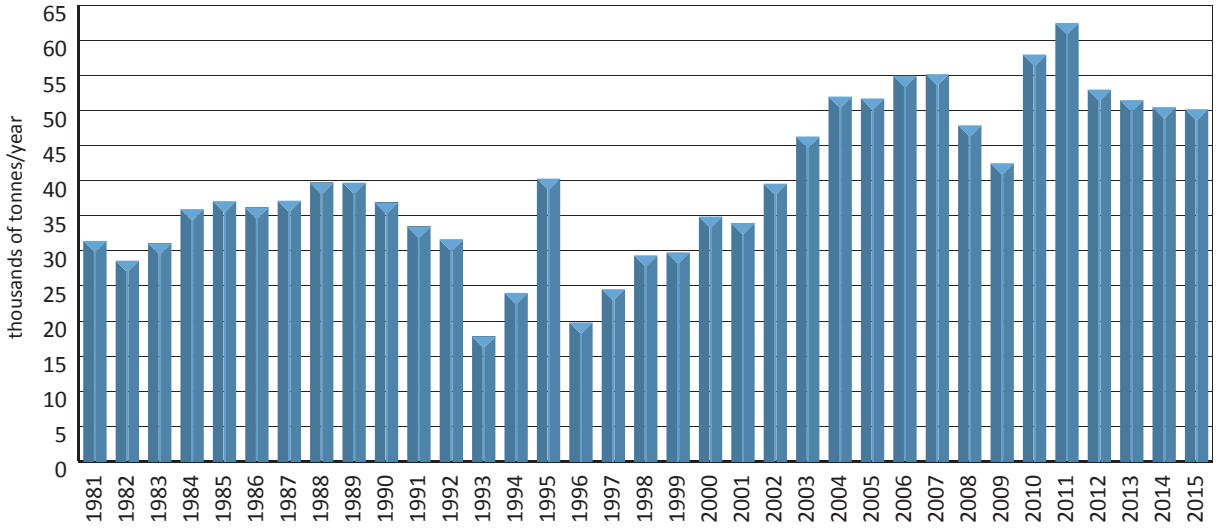
In air freight transport in 2015, a total volume of 50 595.3 t was transported. Freight transport was thus 302.5 t less than in 2014 (a drop of 0.6 %). The most freight was transported in December (5 347.9 t), the least in February (3 466.4 t). The monthly maximum in 2015 was 13.1 % higher than in 2014.

The number of aircraft movements in 2015 totalled 128 018, which is 2 581 more than in 2014 (growth of 2.1 %). The greatest number of movements (12 949) was recorded in July, the lowest (7 465) in February. In comparison with 2014 the maximum monthly number of movements in 2015 was 3.7 % higher.

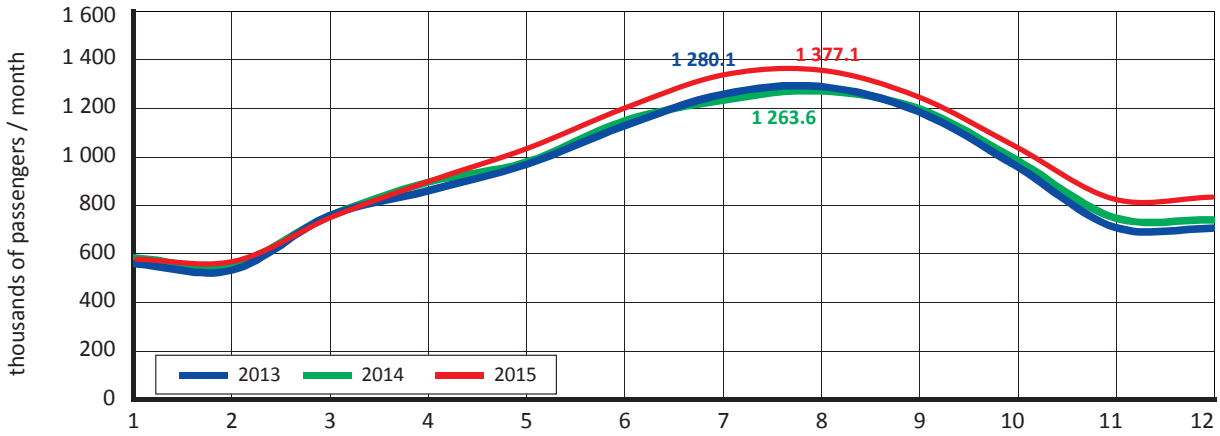
Development of volume at Prague Airport (number of passengers and aircraft movements)



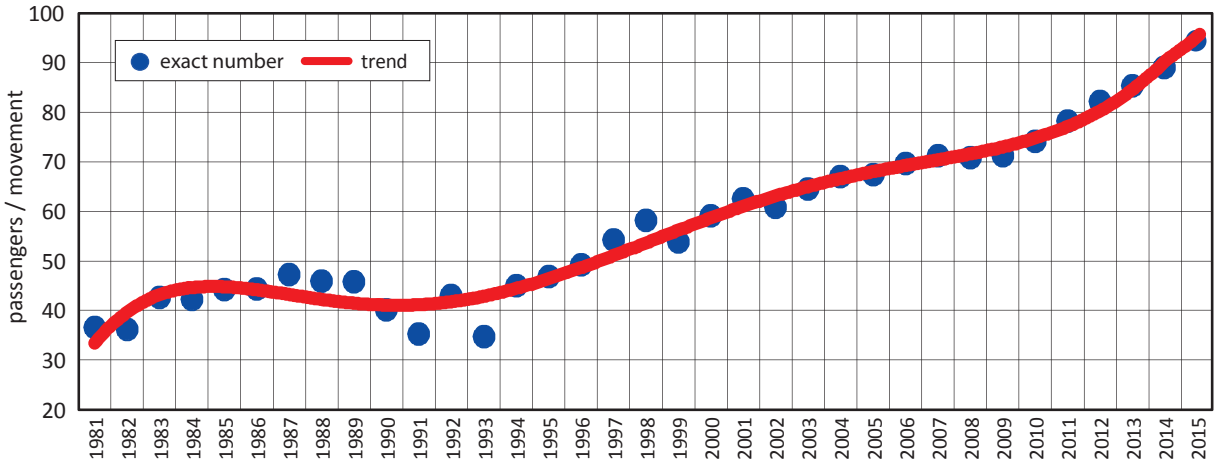
Development of volume at Prague Airport (freight cleared – goods and post)



Měsíční počty cestujících odbavených na Letišti Praha v letech 2013–2015



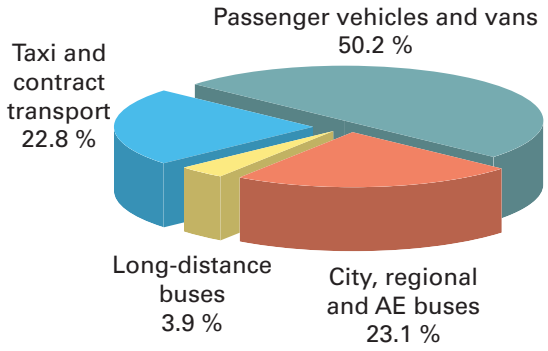
Development of number of passengers / 1 movement (Prague Airport, 1981–2015)



The airport is located approximately 11 km from the centre of the city. It is served by express bus lines to the A and B metro lines. In 2015 there was a change in public transport service to the airport. Following the extension of the A line, the transfer point for bus lines to the airport on this route was moved from Vítězné náměstí (Dejvická station) to Veleslavín (Nádraží Veleslavín station), significantly shortening the distance to the A metro line from the airport. Other Prague Integrated Public Transport bus lines to the airport are also in place, in particular a fast line to the end station of the B line (Zličín). Long-distance and regional bus lines also pass through. The special Airport Express bus line, intended primarily for airline passengers, goes from Praha hlavní nádraží train station to Terminals 1 and 2. Taxi service is also available, both by passenger automobiles and minibuses, 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, both in the aggregate spectrum of traffic system users (airline passengers, employees, visitors, etc.) and, though to a lesser extent, in the category of departing airline passengers, for whom this parameter is regularly monitored by Prague Airport.

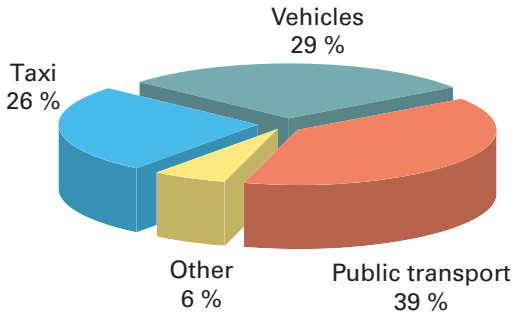
Modal split of trips to and from airport

all categories total, June 2012, workday, 6:00-22:00



Modal split of trips to airport

only departing passengers, average 2015



In 2015, more than 7 000 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 (4 637) is available for the public and employees in the covered lots PA Smart, PC Comfort and PD Holiday. Other spots are in the buildings T1+2 and at lots placed at appropriate locations in the complex. The majority of spots are mid-term and long-term; 474 short-term spots are available for operative access.

In the south part of the complex there are 110 public parking spaces situated by Terminal 3. Other spots in this part of the complex are for airport employees, organisations with a relationship to the airport and residents of the adjacent residential buildings.

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 (5.2 million t/year) and Smíchov (2.8 million t/year) 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
2013	1 649	24 498	3 199	7 877	1 062
2014	3 225	26 347	4 643	8 327	2 524
2015	**3 570**	**24 622**	**3 855**	**8 880**	**3 763**

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 transport service is provided by the Prague ferries, which are part of Prague Integrated Public Transport (PID) – see Chapter 3.6. In 2015 a ferry connecting Holešovice with Štvanice and Karlín began operation.

The largest operators of passenger boat transport include Pražská paroplavební společnost, a. s. (PPS), Prague Boats, s. r. o., AQUAVIA Praha, s. r. o. and Pražské Benátky, s. r. o.

The oldest operator of water transport along the Vltava is Pražská paroplavební společnost (PPS), which was founded in 1865. In 2015 it celebrated 150 years since its founding with a year-round programme including an exhibition at the National Technical Museum and the arrival of the historical steamer “Diesbar” (with a steam engine from 1840) from Dresden and a cruise in it for the public. Today this company forms a consortium with the company Prague Boats, which operates the boats for both companies.

Its flotilla includes the historic steamboats Vltava and Vyšehrad along with 19 modern motor boats. All boats are operated year-round, either at regular time intervals or according to the individual wishes of those ordering. Prague Boats and PPS organise various sightseeing tours along the Vltava, to the ZOO, as well as day trips to Slapy and Mělník. The boat fleet also includes the unique vessel Elektronemo, powered by solar energy (solar panels cover as much as 45 % of the consumption of the electric motors), which provides sightseeing tours along the Vltava, anchoring at Kampa. Four small, ecological, hand-made mahogany boats with a hybrid electric motor are used for rides around Malá Strana, the National Theatre, Charles Bridge and the Čertovka stream.

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

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Prague Boats	196	199	230	179	145	193	205	209	246	283	**298**
PPS	86	115	229	208	94	91	107	98	149	162	**186**

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

Pražské Benátky, s. r. o. runs canal sight-seeing cruises along the Vltava year-round. The parlour express boat Nepomuk is used for private events. The company also operates 5 all-wood covered boats, a gondola named Eleonora and open boats that have now been constructed as copies of the “Vltava nudists” with flat bottoms and nearly vertical sides which can also sail through shallow areas. Boats leave from the “Judita” docks every 15-20 minutes. The company also operates Prague ferries.

A number of smaller companies also 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.

In addition to restaurant sight-seeing boats, there are also historical OLD TIME BOATS for 6-10 persons and TAXI BOAT motor boats for 2-3 persons.

Various domestic and foreign operators also carry out freight transport on the river. One of the largest operators is Evropská vodní doprava – Sped, s. r. o., which runs domestic and international transport of bulk cargo, heavy loads, containers, liquids, etc. Their fleet includes 24 vessels and one floating dredger carrier.

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. In addition to these ports, temporary transhipment stations and mobile floating ramps are also used for handling freight.

Development of 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
2013	0	9 211	13 849	15 044	100 906
2014	150	2 613	1 095	2 974	187 760
2015	**145**	**345**	**41**	**440**	**313 900**

Development of volume of bulk cargo at Prague harbours (tonnes/year)

Year	Harbour					
	Radotín	Smíchov	Holešovice	Libeň	Other	Prague unspecified
2005	36 408	11 396	99 308	2 934	–	–
2010	0	364	53 207	0	–	–
2013	0	0	60 136	2 173	18 809	2 999
2014	0	0	61 159	8 765	93 477	2 617
2015	**0**	**0**	**64 060**	**1 622**	**133 947**	**98 550**

Operators of domestic water transport sometimes also report a location from which they haul earth dug up during construction work (in 2015 volumes were reported from Prague-Troja, Rohanský ostrov and Štvanice – these are marked together as “other”). Carriers can also report Prague as a place of port without further specification because in the international numbering system only Prague is listed.

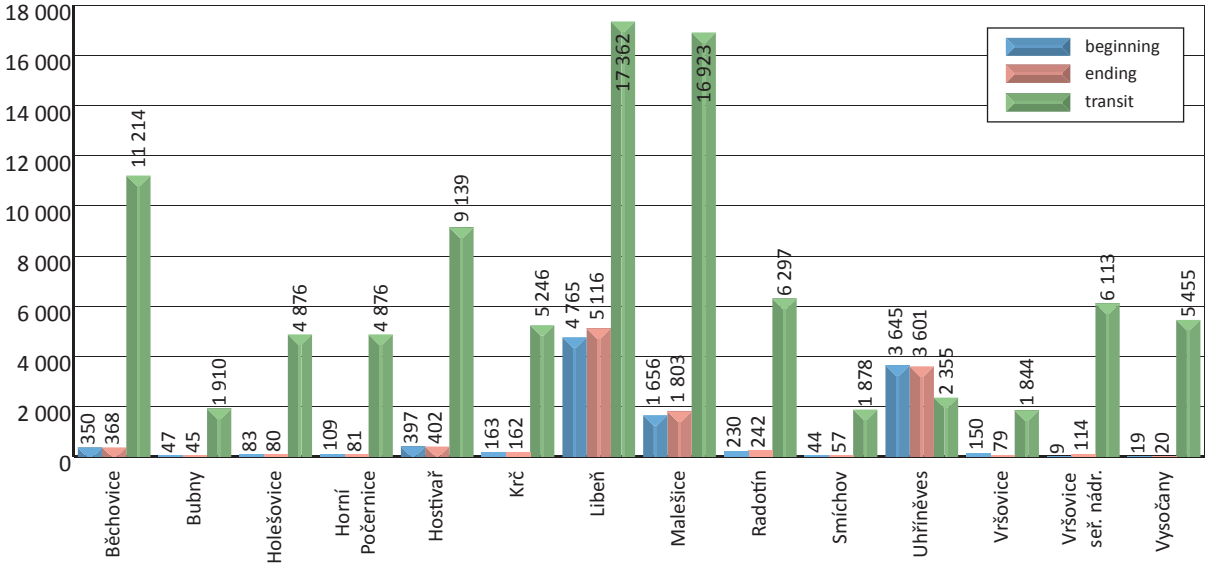
14.3 Freight rail transport

The Prague railway node, the largest and most important railway hub in the Czech Republic, is an important crossroads of railway corridors on the trans-European network and of combined transport routes according to the international agreements AGC and AGTC (AGC – European Agreement on Main International Railway Lines, AGTC – European Agreement on Important International Combined Transport Lines and Related Installations).

In 2015, extensive repairs were made to the section Praha-Krč – Praha-Radotín, which serves primarily for freight transport, in order to improve parameters, including replacing the track superstructure on Branický most. Refurbishment carried out on several other tracks however also had a negative impact on freight rail transport – e.g. due to detours during construction work on the Prague – Dobříš track, nearly all freight transport on this branch was lost and shifted to the roads.

On 31 December 2015 the container transhipment point Rail Cargo Operator – CSKD (formerly ČSKD Intrans) at the Praha-Žižkov freight station was closed. Last year was thus the final one not only in the history of this transhipment point, which stretches back to the 1960s, but for the whole freight railway station in Žižkov, which was commissioned in 1936 as the first of what was planned to be a whole network of such stations to supply the capital with railway transport.

Number of freight trains beginning, ending and passing through Prague in 2015



Roughly 24 400 freight trains beginning and ending at railway stations within Prague were recorded in 2015 (a drop of 4.5 % compared to 2015).

Number of freight trains beginning and ending in Prague by month 2015

Month	01	02	03	04	05	06	07	08	09	10	11	12	Total
Beginning	985	932	1 073	1 037	1 041	1 074	1 080	971	937	1 026	960	843	**11 959**
Ending	1 020	984	1 115	1 092	1 109	1 097	1 118	1 025	995	1 054	991	867	**12 467**

The largest Czech freight carrier is ČD Cargo. In Prague it accounts for about 77 % of the starting and ending trains and at Praha-Malešice about 68 % of the transit trains. The drop compared to the previous year is due to a change in the system by which the Metrans container terminal in Prague-Uhříněves is served. Starting in January 2015 the operator started arranging for transport of its container trains connecting the Prague terminal to North Sea ports (Rotterdam, Hamburg, Bremen) and other terminals in Germany (Duisburg) through its own carrier Metrans Rail. ČD Cargo thus only provides regular connections for Metrans with its other Czech terminal in Česká Třebová and distribution of containers for loading and unloading at sidings through a system of individual wagonloads.

No other significant changes took place in Prague and other transport and loading and unloading sites remained more or less unchanged compared to 2014. This applies, for example, to the loading of scrap metal at Praha-Hostivař and Praha-Krč, the loading of recycled paper at Praha-Strašnice and of new tyres for freight vehicles and construction machinery at the Mitas siding, the unloading of liquefied gas at Praha-Satalice, loading and unloading of building materials (slag and cement) at Praha-Radotín at the siding for the cement plant there and the unloading of bottled mineral water at Praha-Libeň.

Czech Post has its terminal at Praha-Malešice, from which three freight expresses are dispatched every evening with postal consignments to Olomouc and Ostrava, with the same number processed every morning upon arrival. The number of wagons transported by the “night jump” for the company Lagermax between Praha-Ruzyně and Ostrava rose in 2015.

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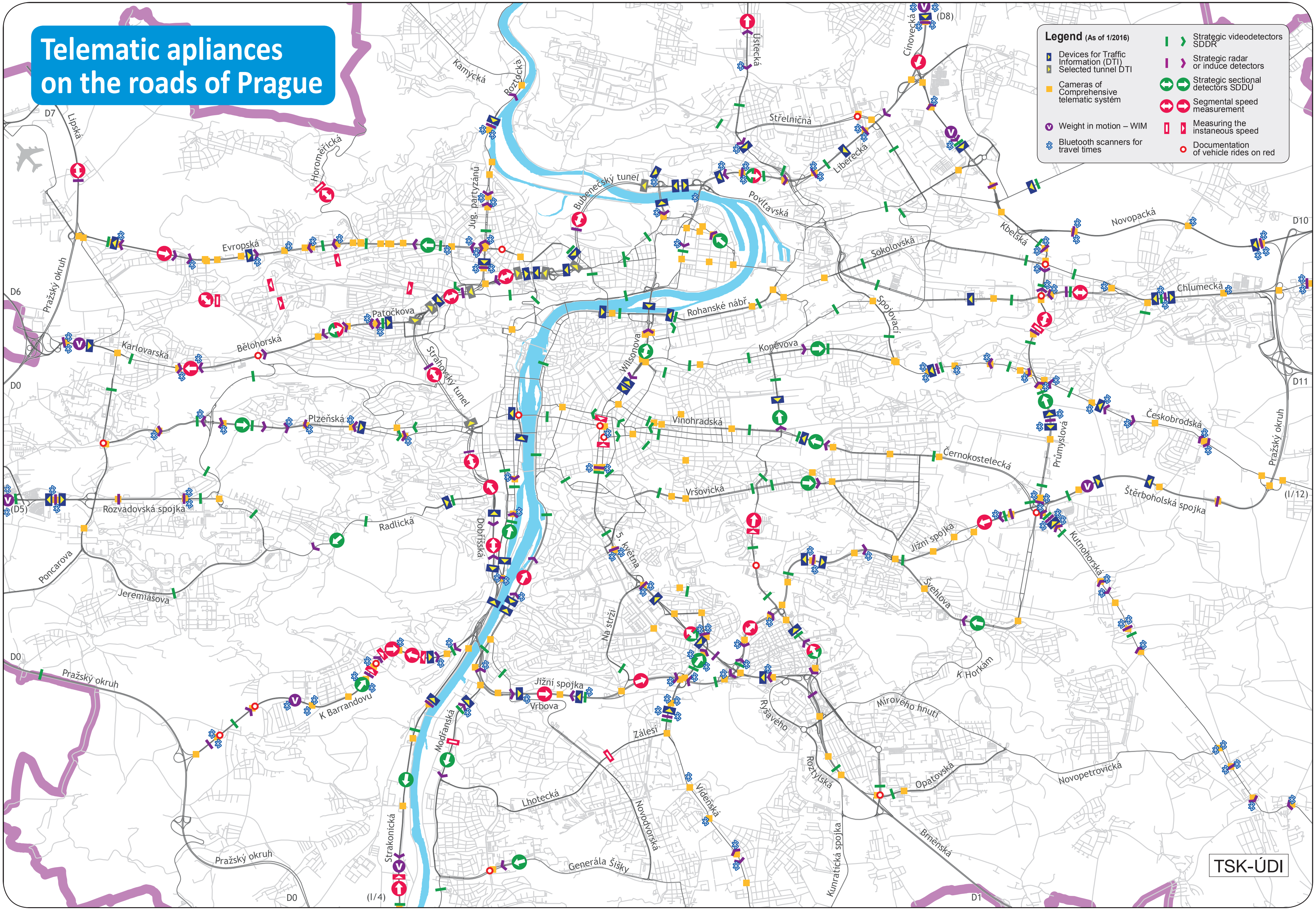
Telematic apliances on the roads of Prague
Legend (As of 1/2016)
Devices for Traffic Information (DTI)
Selected tunnel DTI
Cameras of Comprehensive telematic system
Weight in motion – WIM
Bluetooth scanners for travel times
Strategic videodetectors SDDR
Strategic radar or induce detectors
Strategic sectional detectors SDDU
Segmental speed measurement
Measuring the instaneous speed
Documentation of vehicle rides on red
TSK-ÚDI
Evropská
Karlovarská
Bělohorská
Patočkova
Strahovský tunel
Plzeňská
Rozvadovská spojka
Radlická
Dobříšská
Poncarova
Jeremiášova
Pražský okruh
K Barrandovu
Strakonická
Modřanská
Lhotecká
Generála Šišky
Jižní spojka
Vrbova
Na strži
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Wilsonova
Rohanské nábř.
Koněvova
Spojovací
Sokolovská
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Štěrboholská spojka
Kutnohorská
Švehlova
K Horkám
Mírového hnutí
Rysaveho
Roztylská
Opatovská
Novopetrovická
Brněnská
Kunratická spojka
Záleší
Vídeňská
Novodvorská
Bubenečský tunel
Povltavská
Liberecká
Střelničná
Ústecká
Čínovecká
Jug. partyzánů
Roztocká
Kamýcká
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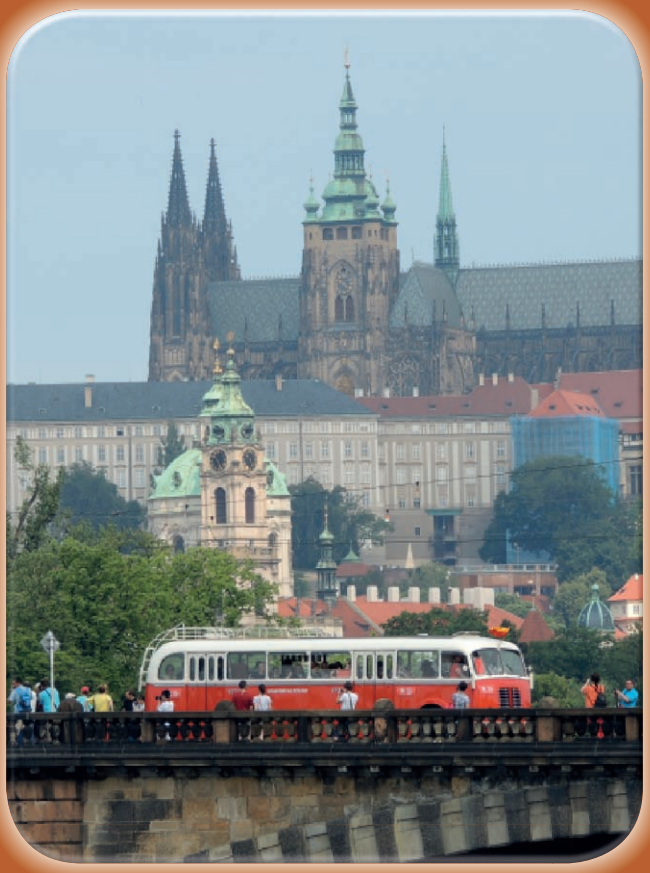
(I/12)

2015 – 140 years of mass transport and 90 years of bus transport in Prague



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