TECHNICKÁ SPRÁVA KOMUNIKACÍ
HLAVNÍHO MĚSTA PRAHY, A.S.
Úsek dopravního inženýrství

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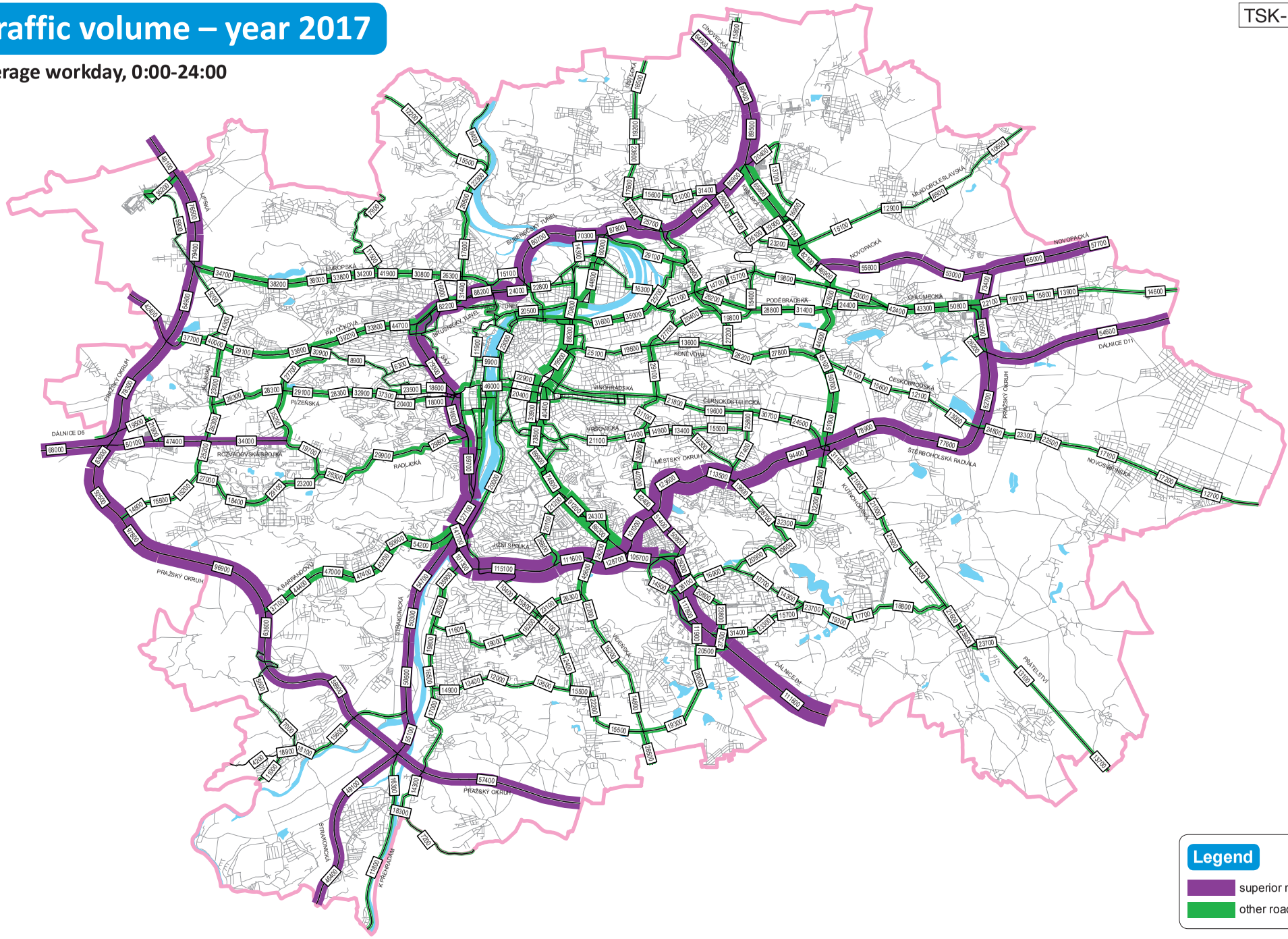
PRAGUE TRANSPORTATION YEARBOOK 2017

Traffic volume – year 2017

Average workday, 0:00-24:00

TSK-ÚDI



TECHNICKÁ SPRÁVA KOMUNIKACÍ HLAVNÍHO MĚSTA PRAHY, A.S.
ÚSEK DOPRAVNÍHO INŽENÝRSTVÍ

PRAGUE TRANSPORTATION YEARBOOK 2017

Dear readers,

You are currently looking at the 2017 Transportation Yearbook, which has been compiled and published by Technická správa komunikací hlavního města Prahy, a.s. (TSK) with contributions from other institutions and partner organisations in order to inform the professional and general public about the state of transport in Prague at the end of 2017 and the changes that took place in transport over the previous year. The yearbook strives to provide comprehensive information and the possibility of monitoring the development of such information over recent years.

2017 was a break-through year for TSK. It entered the year as a subsidiary organisation of the City of Prague and on 1 April, following the necessary adjustments, it transformed into a joint-stock company, the sole shareholder of which is the City of Prague. According to its statutes however its activity continues to comprise the administration of city roads, including tunnels, bridges, underpasses, and components and accessories to roads, providing for the maintenance, repairs and development thereof along with traffic engineering, telematics, and planning and civil engineering activities.

Compared to 2016, funding for transport increased slightly in the 2017 City of Prague budget, being reflected primarily in the current expenditure on public transport. Further progress was achieved in broadening Prague Integrated Public Transport (PID) in 2017 with a contribution from the Central Bohemian Region. The area serviced expanded and the number of municipalities, residents and railway stations and stops incorporated into PID increased. This was felt primarily in regional transport, but within Prague as well, and affected both bus and railway transport.

On the other hand we must not neglect to mention a further increase in automobile traffic in Prague (by over 3.5 %), which was felt not only in outer areas (particularly around the City Ring Road) but also in part of the city centre as well. The annual use rates of P+R lots also rose. The greatest development in 2017 however was recorded by air transport (approximately 18 % more passengers checked through compared to the previous year). A marked increase was also evident in freight transport (air by 15 %, external road by 14 %, rail based on number of trains starting and ending their trip in Prague by 8 %).

Despite a slight decrease in funding for transport construction, success was had in 2017 in maintaining the priorities of traffic safety, reducing noise pollution caused by traffic, and improving barrier-free access for passengers to public transport stations and stops as well as to crosswalks. The number of persons injured in traffic accidents fell in 2017 to 96.6 % of the previous year's levels.

In the yearbook you can also find a range of additional and more detailed data on the various modes of transport used in Prague in 2017. I trust you will find it interesting and be able to make good use of it.

Petr Dolínek
Deputy Mayor of the City of Prague
for Transport

In Prague, 1 May 2018

Dear readers,

Allow me to present in more detail the body that produced the 2017 Prague Transportation Yearbook, which is Technická správa komunikací hlavního města Prahy, a.s. Úsek dopravního inženýrství.

Technická správa komunikací hlavního města Prahy was detached from under Prague Roads on 1 July 1967, and later for a certain period was also placed under the concern Transport Enterprises. It became an independent budgetary organisation of the City of Prague in 1989 and since 2001 had the status of what is called a “contributory” (i.e. city-funded) organisation.

The City of Prague Institute of Transport Engineering was founded 1 February 1966 to provide for transport engineering activities, draft measures to improve traffic safety and flow, and plan transport networks and structures at all phases of their development. As of 1 January 2008 this activity was moved under Technická správa komunikací hlavního města Prahy as a special unit thereof. The conducting of traffic surveys, analyses and evaluations of current traffic conditions in Prague provides source material for the annual compiling and publishing of the Transportation Yearbook, which you now have the opportunity to peruse.

Technická správa komunikací hlavního města Prahy, a.s. (TSK), with the City of Prague its sole shareholder, took over all activities of the contributory organisation as of 1 April 2017.

The joint-stock version of TSK remains focused on the professional administration of the capital’s roads including special structures, maintenance, repairs and development thereof, traffic engineering, planning and also civil engineering activities, management of street greenery, road equipment and accessories, parking lots, and providing for operation of dispatch and control centres. It devotes considerable attention to pedestrians, barrier-free crossings, bicycle routes, telematic systems, and measures for noise reduction and traffic safety as a whole. It also participates in projects and programmes opened and co-financed by the European Union.

I am pleased to state that the transformation went off successfully and, despite the challenging changes to the organisation of work and the function of the company itself, we managed to continue providing our services to all residents of Prague without them being affected by the change. At the same time, in 2017 the investment and current expenditures on infrastructure exceeded the CZK 2.4 billion mark out of a total of CZK 4 bn for investments in the road network.

My thanks go out to all the drafters of the individual chapters of the yearbook and of course to all our employees for a job well done in 2017. I am glad I can present this comprehensive source of information to you for your further use.

Ing. Petr Smolka
CEO and Chairman of the Board
Technická správa komunikací hlavního města Prahy, a.s.

In Prague, 1 May 2018


BUS
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BUS

CONTENTS

1 BASIC DATA

1.1 Selected data on the City of Prague as of 31 December 2017

Land area	**496** km^2
Number of inhabitants	**1 294 513**
Total length of road network	**3 977** km
of which administered by TSK	2 327 km
administered by others	1 650 km
Number of bridge structures on the road network administered by TSK*	**628**
of which bridge structures over the Vltava	27
underpasses	127
Number of road tunnels (total length 14 km)	**13**
Number of motor vehicles	**1 058 949**
of which number of passenger automobiles	844 613
Vehicle ownership (vehicles per 1 000 inhabitants)	**818**
Automobile ownership (passenger automobiles per 1 000 inhabitants)	**652**
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	**834.3** km
Number of traffic signals	**660**
signals at separate pedestrian crossings	154
Vehicle kilometres travelled (VKT) by automobile on road network	
average workday	23.0 mil. VKT
annually	7.3 mld. VKT
Modal split – motor transport (by number of trips on city territory over the workday)**	
public transport	59 %
automobile transport	41 %
Modal split – motor and non-motor transport (by number of trips on city territory over the workday)**	
public transport	42 %
automobile transport	29 %
combination of public and automobile transport	2 %
cyclists	1 %
pedestrians	26 %
Number of recorded traffic accidents	**23 032**
Number of recorded traffic accident injuries	**2 124**
fatal	17
serious	156
minor	1 951
Relative accident rate (number of accidents per 1 million VKT)	**3.2**

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

** *Balance of all trips in passenger transport within the city per workday. Data based on special studies from 2014–2016*

1.2 Comparison of Prague and the Czech Republic

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

		Prague	Czech Rep.	Prague/CZ (%)
Land area (km²)		496	78 870	0.6
Population (mil.)		1.295	10.610	12.2
Number of motor vehicles (in thousands)		1 059	7 551	14.0
	of which passenger cars (thousands)	845	5 573	15.2
Vehicle ownership	motor vehicles per 1 000 persons	818	712	-
	persons per 1 motor vehicle	1.2	1.4	-
Car ownership	passenger cars per 1 000 persons	652	525	-
	persons per 1 motor vehicle	1.5	1.9	-

Comparison of VKT in the years 1990–2017 (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
2015	21.8	154.9
2016	22.3	160.4
2017	**23.0**	**165.2****
Index 2017/1990 (%)	315.1	204.1**
Index 2017/2016 (%)	103.1	103.0**

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

Comparison of registered vehicles in 1961–2017

Year	Prague					Czech Republic (up until 1971 Czechoslovakia)				
	Population (000s)	Motor vehicles		Passenger cars		Population (000s)	Motor vehicles		Passenger cars	
		total	%	total	%		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
2015	1 267	941 145	219	740 745	220	10 554	6 990 542	173	5 130 266	213
2016	1 281	1 002 645	234	795 178	237	10 579	7 265 766	180	5 346 182	222
2017	**1 295**	**1 058 949**	**247**	**844 613**	**251**	**10 610**	**7 550 908**	**187**	**5 572 788**	**231**

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

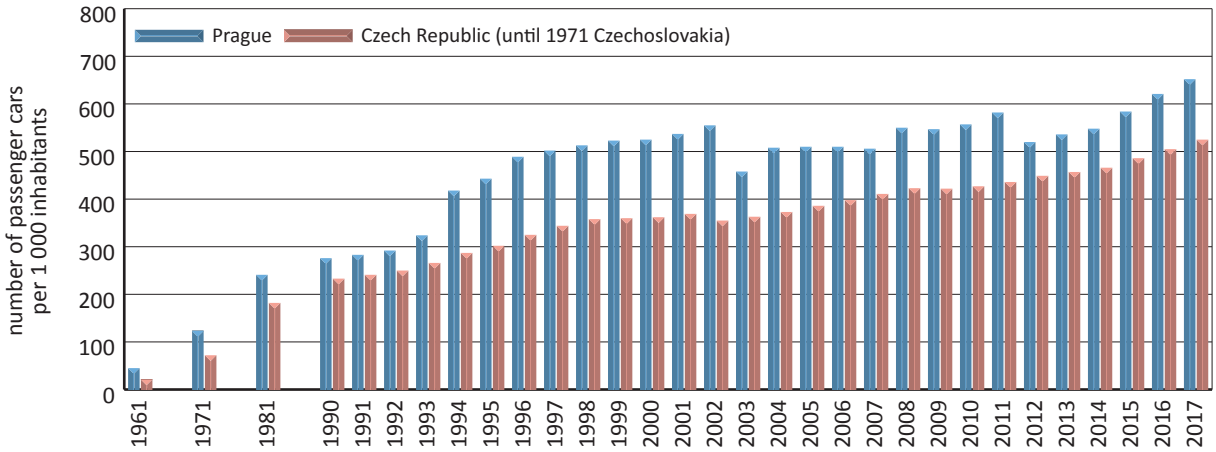
2.1 Development of vehicle and car ownership

The total number of motor vehicles registered within Prague increased dramatically up until 1999, after which the growth slowed. As of the end of 2017 there was one registered passenger automobile per 1.5 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
2015	743	1.3	584	1.7	662	1.5	486	2.1
2016	783	1.3	621	1.6	687	1.5	505	2.0
2017	**818**	**1.2**	**652**	**1.5**	**712**	**1.4**	**525**	**1.9**

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. In 2012 the data were taken over by the central register of the Czech Ministry of Transport.

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.

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.

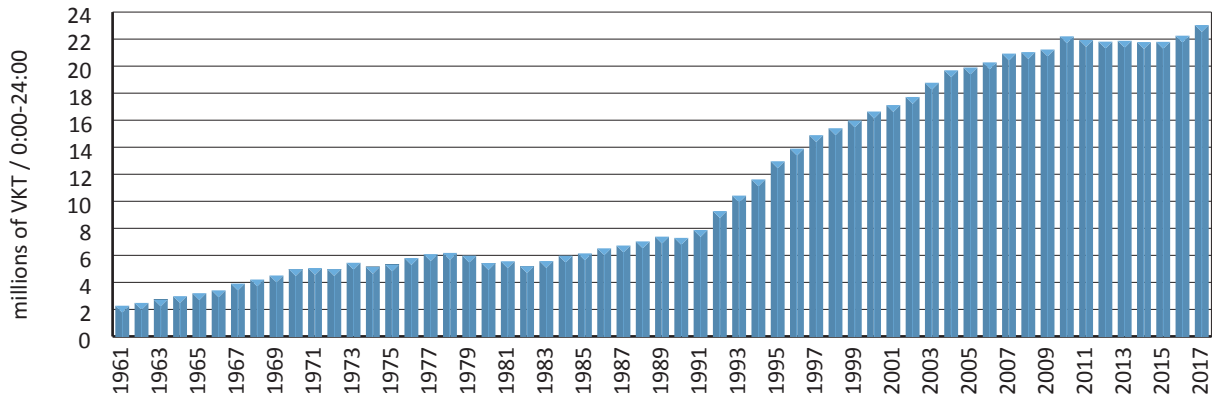
Automobile traffic in the territory of Prague as measured by traffic volume on the whole road network increased on average by 3.5 % in 2017 compared to the previous year. In the period of 0:00-24:00 of an average workday for the year, motor vehicles drove 23 043 million VKT in all of Prague. Of this amount, passenger cars accounted for 21 062 million VKT, or 91 %.

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
2015	21.798	299	20.070	343	92
2016	22.253	305	20.472	350	92
2017	**23.043**	**316**	**21.062**	**360**	**91**

*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)



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".

Greater city centre – central cordon

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 (with the Strahov and Mrázovka tunnels lying outside the central cordon), 265 000 vehicles entered (single-direction) the greater city centre in the 24 hours of an average workday in 2017, of those 253 000 passenger automobiles.

In comparison with the previous year of 2016, automobile traffic increased by 2.3 % in the area delineated by the central cordon.

Outer zone of the city – outer cordon

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 327 000 vehicles entered Prague (single-direction) across the boundary of the outer cordon, of which 290 000 were passenger cars. Compared to the previous year this was an increase of 4.5 %.

Prague road network segments with heaviest traffic in 2017

	Segment	Total vehicles per day (0:00-24:00)
1.	Barrandovský most	142 000
2.	Jižní spojka (5. května – Vídeňská)	129 000
3.	Strakonická (Dobříšská – Barrandovský most)	127 000
4.	Jižní spojka (Chodovská – V korytech)	124 000
5.	D1 (Chodovec – exit Chodov)	118 000

Heaviest bridges across Vltava in 2017

	Bridge	Total vehicles per day (0:00-24:00)
1.	Barrandovský most	142 000
2.	Hlávkův most	71 000
3.	most Barikádníků	60 000
4.	Radotínský most (on Prague ring)	57 000
5.	Jiráskův most	46 000

Prague road network tunnels with heaviest traffic in 2017

	Tunnel	Total vehicles per day (0:00-24:00)
1.	Zlíchovský tunnel	90 000
2.	Dejvický tunnel	88 000
3.	Brusnický tunnel	82 000
4.	Bubenečský tunnel	81 000
5.	Strahovský tunnel	79 000

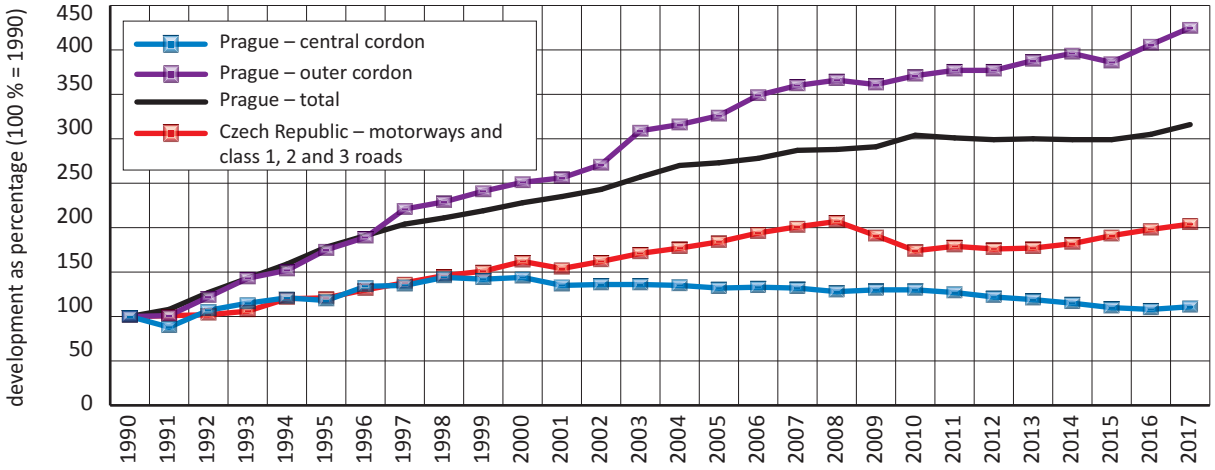
Grade-separated intersections on the Prague road network with the heaviest traffic in 2017

	Intersection	Total vehicles per day at the intersection (0:00-24:00)
1.	5. května – Jižní spojka	211 000
2.	Strakonická – Barrandovský most	190 000
3.	Jižní spojka – Chodovská	162 000
4.	Jižní spojka – Barrandovský most	142 000
5.	Liberecká – Cínovecká	132 000

At-grade intersections on the Prague road network with the heaviest traffic in 2017

	Intersection	Total vehicles per day at the intersection (0:00-24:00)
1.	Poděbradská – Kbelská	70 000
2.	Černokostelecká – Průmyslová	65 000
3.	Kolbenova – Kbelská	64 000
4.	Legerova – Anglická	63 000
5.	Chilská – Opatovská	59 000

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



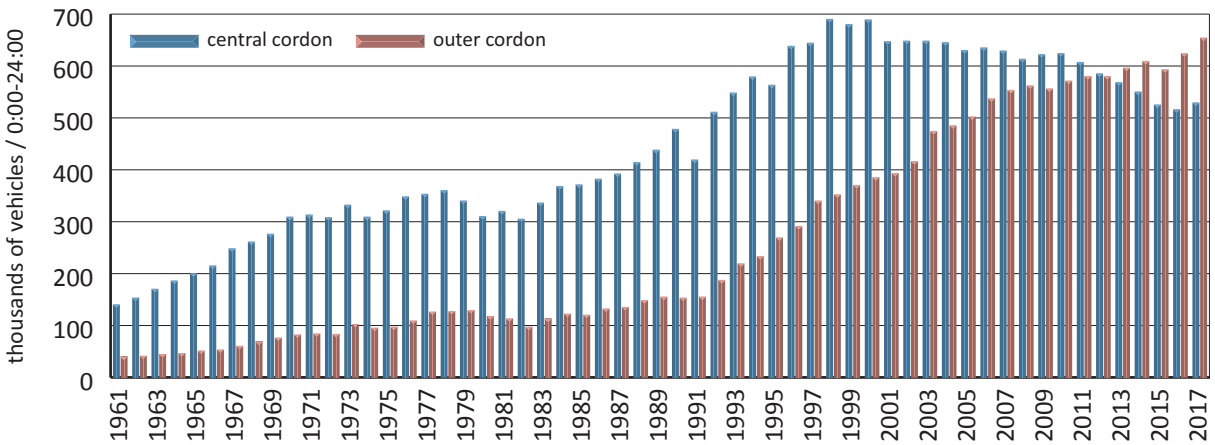
Data on traffic volume on various segments of the monitored road network in Prague for 2017 are available in table form on the TSK website in the section “Transport Engineering” and in graphic form on the inside cover of the yearbook.

Traffic volume at central and outer cordon in Prague (average 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
2015	505 000	119	9 000	21	526 000	110	528 000	476	56 000	151	594 000	386
2016	495 000	117	9 000	21	517 000	108	558 000	503	56 000	151	625 000	406
2017	**505 000**	**119**	**10 000**	**23**	**530 000**	**111**	**580 000**	**523**	**64 000**	**173**	**655 000**	**425**

100 % = year 1990

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



Average occupancy of passenger automobiles (persons per vehicle)			
Year	**Centre (central cordon)**	**Outer zone (outer cordon)**	**Prague total**
1990	1.57	1.90	1.71
2000	1.37	1.49	1.44
2010	1.30	1.30	1.30
2015	1.30	1.30	1.30
2016	1.30	1.30	1.30
2017	**1.30**	**1.30**	**1.30**

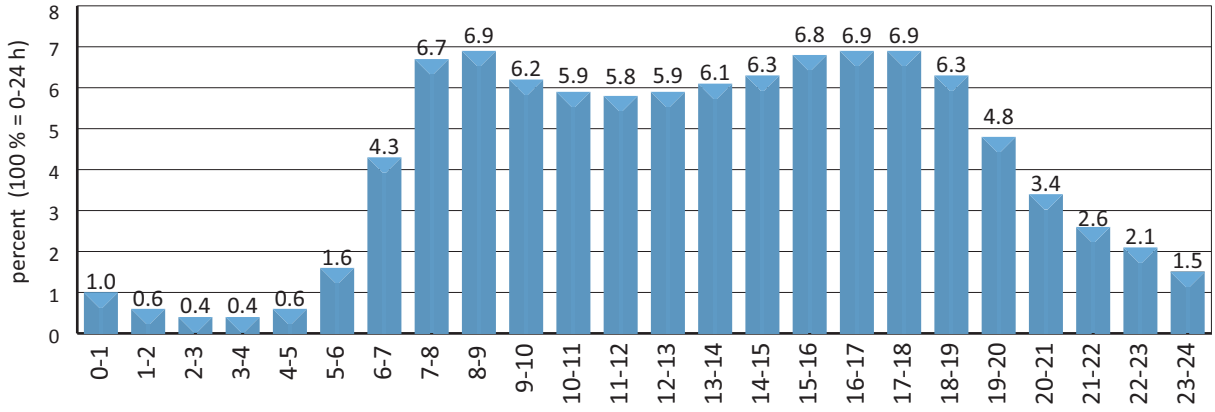
2.3 Vehicle modal share and temporal traffic patterns

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 2017, this rate was 96 % at the central cordon, 89 % at the outer cordon and 92 % on average for the whole network.

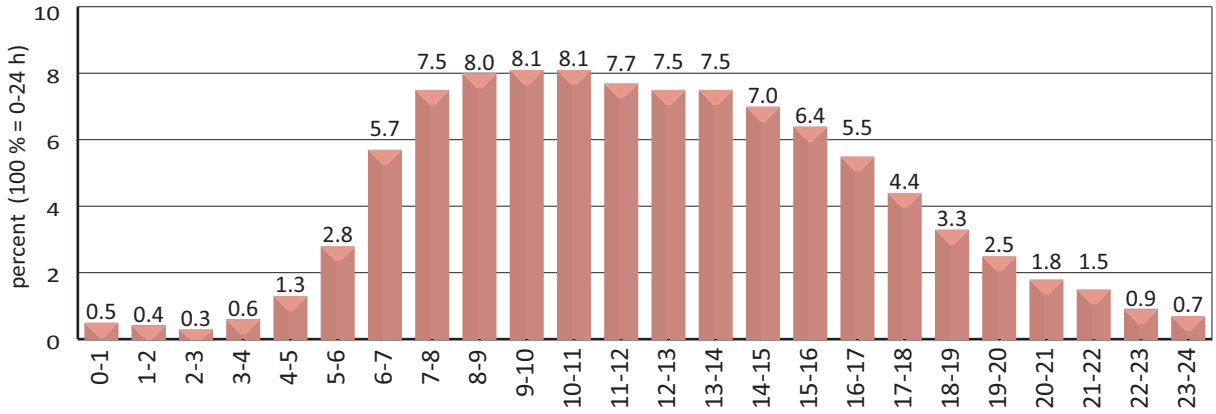
Basic characteristics of daily variation of workday traffic volume in Prague

- The majority of traffic volume for the whole day takes place during the daytime period (75 % for 6:00-18:00), with the period 6:00-22:00 accounting for approx. 92 %.
- After 19:00, 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 hours are 16:00-17:00 and 17:00-18:00.
- The volume of the morning peak hour makes up 6.9 % of the total, as do each of the afternoon peaks, with 100 % equalling the whole volume for 0:00-24:00 of an average workday.
- The difference between the peak hours and the noon sag is not very pronounced.

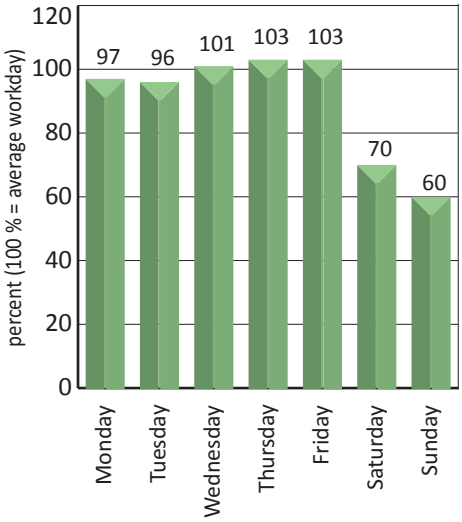
Daily variation of total automobile traffic (2017, Prague, whole network, workday)



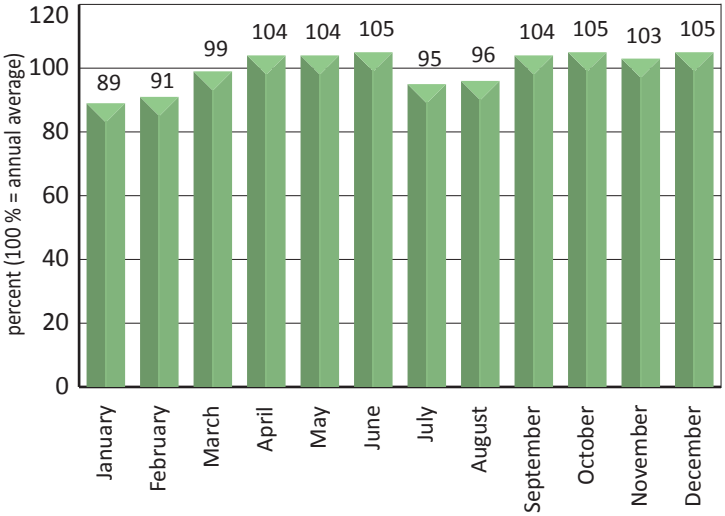
Daily variation freight vehicles and buses, not incl. public buses (2017, Prague, whole network, workday)



Weekly variation (Prague, whole network, total vehicles)



Annual variation (Prague, whole network, total vehicles)



2.4 Directional survey of vehicles with a maximum authorised mass of over 3.5 t

During 2017 a traffic survey was conducted in Prague focusing on automobile traffic of freight vehicles with a maximum authorised mass (MAM) of over 3.5 t.

The vehicle monitoring was broken down into the categories:

- medium freight automobiles (MFA) – two-axle vehicles of 3.5 – 18 t MAM
- heavy freight automobiles (HFA) – vehicles with three or more axles up to 32 t MAM (including special vehicles regardless of MAM and number of axles)
- heavy freight automobiles with a trailer and semi-trailers (SEM) – two- and three-axle vehicles over approx. 10 t MAM with a trailer and semi-trailers.

The following basic conclusions can be drawn from the survey results:

Around 39 000 freight vehicles with an MAM of over 3.5 t enter Prague daily, of those 77 % heavy freight automobiles (HFA) and freight automobiles with trailers or semi-trailers (SEM) and just under 23 % medium freight automobiles (MFA).

Of the total number of freight vehicles that enter Prague on an average workday, over 70 % pass through the city, while 30 % have their destination here.

Of the total number of vehicles in the SEM category that enter the city, not quite 20 % have their destination here and over 80 % are just passing through.

Data collection on Anglická

The proportion of night-time traffic (22:00–6:00) makes up an average of 17 % for vehicles over 3.5 t entering Prague, while for the category SEM it reaches nearly 19 %.

The strongest transit relations (around 4 000 vehicles in both directions / day) are between the entrances of motorways D1 – D5 and D1 – D8, somewhat lower (over 3 000 vehicles in both directions / day) is between motorways D8 – D11.

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 (Prague, from 1993), IDSK (from 2017)
Inhabitants with access to PID	**2 306 805** (**1 294 513** in Prague and **1 012 292** in the Central Bohemian and Ústí Regions
Area served	**5 921** km^2 (City of Prague **496** km^2, Central Bohemian and Ústí Regions **5 425** km^2)
Municipalities served	**557** (**143** served by railway and bus, **92** only by railway, **322** only by bus)
Number of PID lines	**490** (**200** solely within Prague, **130** btw. Prague and region, **160** solely in region)
Number of PID carriers	**24** (Prague Public Transport Company, Czech Railways and **22** private carriers)
Persons transported annually	**1 350 042 240** (**1 261 243 240** within Prague and **88 799 000** 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 **19.4** bn (**77.1** % Prague, **21.7** % revenue, state budget **1.1** %, other entities **0.1** %)
PID fare revenue in Prague	CZK **4.2** bn (**21.7** % of costs)

81-71M train at Strašnická station

Trams at Újezd intersection

Development of PID system								
Year	**1992**	**1995**	**2000**	**2005**	**2010**	**2015**	**2016**	**2017**
Number of PID suburban and regional bus lines	2	11	89	147	150	161	167	**222**
Number of municipalities served by PID suburban bus lines	2	15	159	299	299	313	332	**465**
Number of PID railway stations and stops	23	59	190	212	222	235	238	**392**

Development of annual PID VKT volume								
Year	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Metro, trams, urban buses (millions of VKT/yr)	171.4	178.1	176.9	172.0	170.9	175.9	181.0	**185.6**
Suburban and regional buses (millions of VKT/yr)	25.1	25.2	25.8	26.3	26.7	29.3	31.1	**36.6**
Railway lines solely in PID territory (millions of VKT/yr)	10.9	11.2	11.4	11.4	11.5	11.8	12.6	**17.1**

490 lines operated under PID

Mode of transport	Lines	Type and numbering of lines
Metro	**3**	Day lines A, B, C
Trams	**34**	25 day lines (numbered 1-26), 9 night lines (numbered 91-99)
Urban buses with routes solely within City of Prague boundaries	**154**	117 day lines (numbered 100-250), 15 night lines (numbered 901-915), 20 school lines (numbered 251-275), 1 line for persons with reduced mobility (H1) and 1 AE line (with separate fare)
Suburban buses with routes btw. city and region	**100**	90 day lines (numbered 300-399), 10 night lines (numbered 951-960)
Regional buses with routes solely in the region	**122**	121 day lines (numbered 421-671), 1 seasonal cyclobus
Railway in territory of Prague	**30**	14 S lines between Prague and the region (S1-S9, S22, S41, S54, S65, S88), 13 R lines between Prague and the region, 1 urban line (S34), 2 seasonal and tourist lines (Pražský motoráček and Cyklohráček)
Railway only in the region	**38**	37 lines and Podlipanský motoráček
Ferries	**8**	P1, 2 (both year-round), P3, 4, 5, 6, 7 (all seasonal), P8 (temporary)
Funicular	**1**	Újezd-Petřín Funicular

An SOR NB12 bus at the stop Plynárna Michle

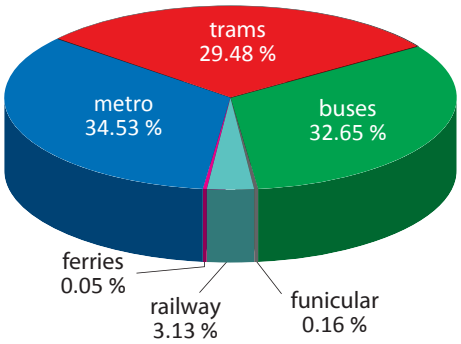
An S5 line train at the temporary station Praha-Bubny, Vltavská

Operators of PID lines

Metro, trams, Petřín funicular	Prague Public Transport Company (DPP)
Urban buses	DPP (132 lines = 86 %), 8 private carriers (22 lines = 14 %)
Suburban and regional buses	18 private carriers (208 lines = 94 %), DPP (14 lines = 6 %)
S railway lines	Czech Railways (65 lines = 96 %), KŽC Doprava (3 lines = 4 %)
Ferries	Pražské Benátky (5 lines), Vittus group (1 line), PPS (2 lines)

PID ridership and share of total passengers within the City of Prague for 2017

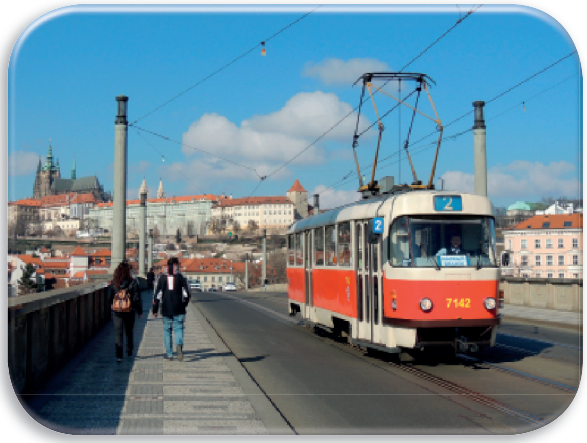
Mode of transport and operator	Persons/year
Metro (DPP)	435 586 000*
Trams (DPP)	371 765 000
Urban buses (DPP and private)	373 084 000
Suburban buses (private and DPP)	38 709 300
Railway (on PID or ČD ticket)	39 448 000
Funicular (DPP)	2 066 000
Ferries (private carriers)	584 940
Total	**1 261 243 240**



* *The lower number of persons transported on the metro is related to the greater number of stations and vestibules closed during renovations.*

Composite data on PID in 2017				
	Metro	Trams	Buses	Railway
Operating length of network within Prague (km)	65.1	142.7	834.3	160.0
Operating length of network outside Prague (km)	-	-	> 1 800.0	1 180.0
Average distance between stations and stops in Prague (km)	1.122	0.517	0.599	3.55
Average travelling speed within Prague (km/h)	35.6	18.7	23.9	54.7
Annual VKT within Prague (in thousands)*	58 128	57 931**	79 552	5 154
Annual VKT outside Prague (in thousands)*	-	-	26 541	12 350
Passengers transported annually in Prague (thousands)	435 586	373 831**	411 793	39 448
Passengers transported annually outside Prague (thousands)	-	-	48 605	40 194

** For rail transport, data in train-kilometres ** Including the Petřín funicular*



A T3SUCS tram on Mánesův most

300 line suburban bus at Divoká Šárka

3.2 Metro

The metro forms the backbone of the public transport network. During one workday an average of about 1 774 train connections are dispatched in the Prague metro, carrying approximately 1 437 580 passengers (if a passenger transfers, each ride is counted separately). If a transfer is counted as part of a single ride, passengers make 1 179 990 rides by Prague metro each day.

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 in 2017 and modal share under PID		Number of persons transported per day
435 586 000*	34.53 %	1 437 580
Annual VKT	Operating time	Number of trains running at peak
58 128 000 (a train has 5 cars)	daily approx. 4:45-0:15	103

** The lower number of persons transported on the metro is related to the greater number of stations and vestibules closed during renovations.*

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 (672 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 most recent comprehensive metro ridership survey (2015) **Transfer station – entry + exit + transfer*

Metro stations with barrier-free access in Prague – 44 stations of 61 (72.1 %)		
A line (10 stations of 17)	**B line (17 stations of 24)**	**C line (17 stations of 20)**
Nemocnice Motol, Petřiny, Nádraží Veleslavín, Bořislavka, Dejvická, Můstek, Muzeum, Strašnická, Skalka, Depo Hostivař	Zličín, Stodůlky, Luka, Lužiny, Hůrka, Nové Butovice, Smíchovské nádraží, Anděl, Národní třída, Můstek, Florenc, Palmovka, Vysočanská, Kolbenova, Hloubětín, Rajská zahrada, Černý Most	Letňany, Prosek, Střížkov, Ládví, Kobylisy, Nádraží Holešovice, Vltavská, Florenc, Hlavní nádraží, Muzeum, I. P. Pavlova, Vyšehrad, Pankrác, Budějovická, Roztyly, Chodov, Háje

Muzeum station reconstruction

New lift at Palmovka station

3.3 Trams

Trams form a complementary network to the metro. Tram lines have both a radial and a tangential function, also serving as feeders for metro stations. Over the course of one workday, and average of 6 620 connections are dispatched on the Prague tram network (including night trams), transporting approximately 1 212 000 passengers.

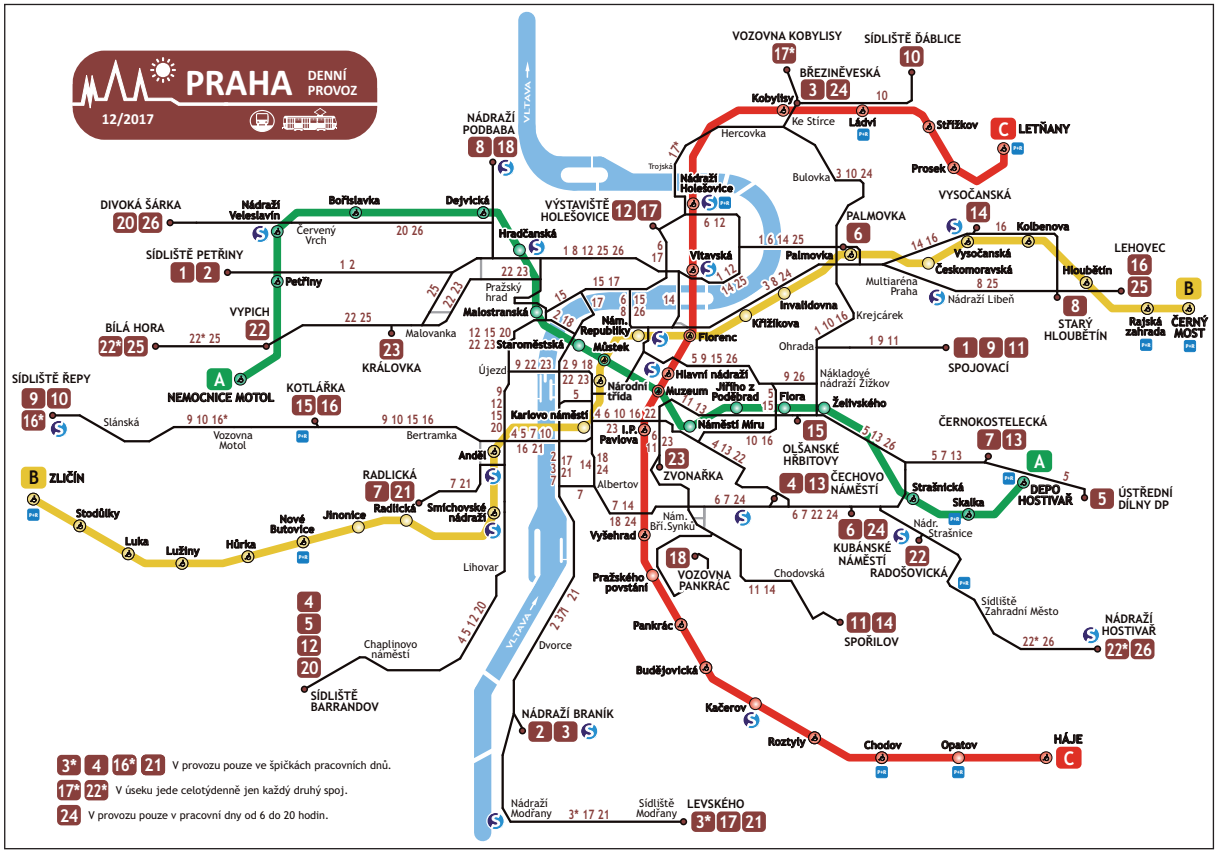
Basic data on the tram network in Prague		
Operator	**Number of lines**	**Operating length**
Prague Public Transport Company	34 (25 day, 9 night)	142.7 km (52 % dedicated track bed)
Number of stops in operation	**Average distance between stops**	**Average travelling speed**
276 (by name), 600 (by stop marker)	0.517 km	18.7 km/h
Ridership within Prague in 2017 and modal share under PID		**Persons transported per day**
371 765 000	29.48 %	1 212 000
Annual VKT	**Operating time**	**Number of trams running at peak**
57 931 000 (one tram has 2 cars)	day 4:45-0:30, night 0:15-5:00	436

Interesting data on tram lines, segments and stops		
Longest line	**Most persons transported on a line**	**Most connections on a line**
Line 16 (22.74 km)	Line 22 (118 075 ppl/6:00-23:00)	Line 22 (501 connections/day)
Most frequented segment	**Stops/hubs with highest turnover**	**Shortest interval at peak**
I. P. Pavlova – Štěpánská 84 730 ppl/6:00-23:00 both directions	Anděl – 83 480 ppl/6:00-23:00 Karlovo náměstí – 73 790 ppl/6:00-23:00	Lines 9, 17 and 22 (4 min)

Type T6 trams are on the decrease in the streets

Launch of nostalgic 23 tram line

Metro and tram lines in Prague (day lines as of 31 December 2017 not including closeres)



Tram at Zenklova street

Tram at Invalidovna stop

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.

Over a single workday, an average of around 24 570 PID bus connections are dispatched, transporting approximately 1 185 940 passengers. Of this amount, around 19 580 connections are urban lines (the 100, 200 and 900 series) and around 4 990 connections are suburban lines (the 300 and 950 series).

Basic data on the PID bus network in Prague

Operators of urban lines	Number of urban lines	Operating length in Prague*
9 (86 % DPP and 14 % private)	154	834.3 km
Number of stops in service*	**Average distance between stops***	**Average travelling speed***
1 176 (by name), 3 151 (by markers)	0.599 km	23.9 km/h
Ridership within Prague in 2017 and modal share under PID*		**Persons transported per day**
411 793 000	32.65 %	1 185 940
Annual VKT*	**Operating time**	**Number of vehicles running at peak***
79 551 700	day 4:45-0:30, night 0:15-5:00	1 359

** 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
Line 911 (38.2 km)	Line 177 (42 960 ppl/6:00-20:00)	Line 200 (443 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	Dejvická – 50 760 ppl/6:00-20:00 Kačerov – 47 060 ppl/6:00-20:00	Line 107 (2 minutes)

An SOR NS12 electric bus charging at Palmovka

A Mercedes Capacity L bus on Evropská

On an average workday, approximately 4 990 connections crossed the city boundaries in both directions on suburban bus lines (the 300-399 and 951-960 series), carrying approximately 98 600 passengers across the city limits. Suburban bus lines used a total of 30 locations as starting or final stops within Prague.

The most suburban PID lines (15) and connections (616) 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 420-650 series). At the end of 2017 a total of 3 554 connections rode outside the territory of Prague daily, carrying roughly 30 000 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 outside Prague**
14 (86 % private and 14 % DPP)	100 lines (90 day and 10 night)	>1 800.0 km
Operators of regional buses	**Number of regional bus lines**	
13 (100 % private carriers)	122 (121 day, 0 night, 1 seasonal)	
Number of stops in service	**Average distance between stops**	**Average travelling speed**
2 025 (by name), 4 026 (by marker)	1.094 km	32.52 km/h
Ridership on PID buses outside Prague in 2017		**Operating time**
48 605 000		day 4:30-0:30, night 0:00-5:00
Annual VKT		**Vehicles running at peak**
26 541 300		658

3.5 PID railway transport

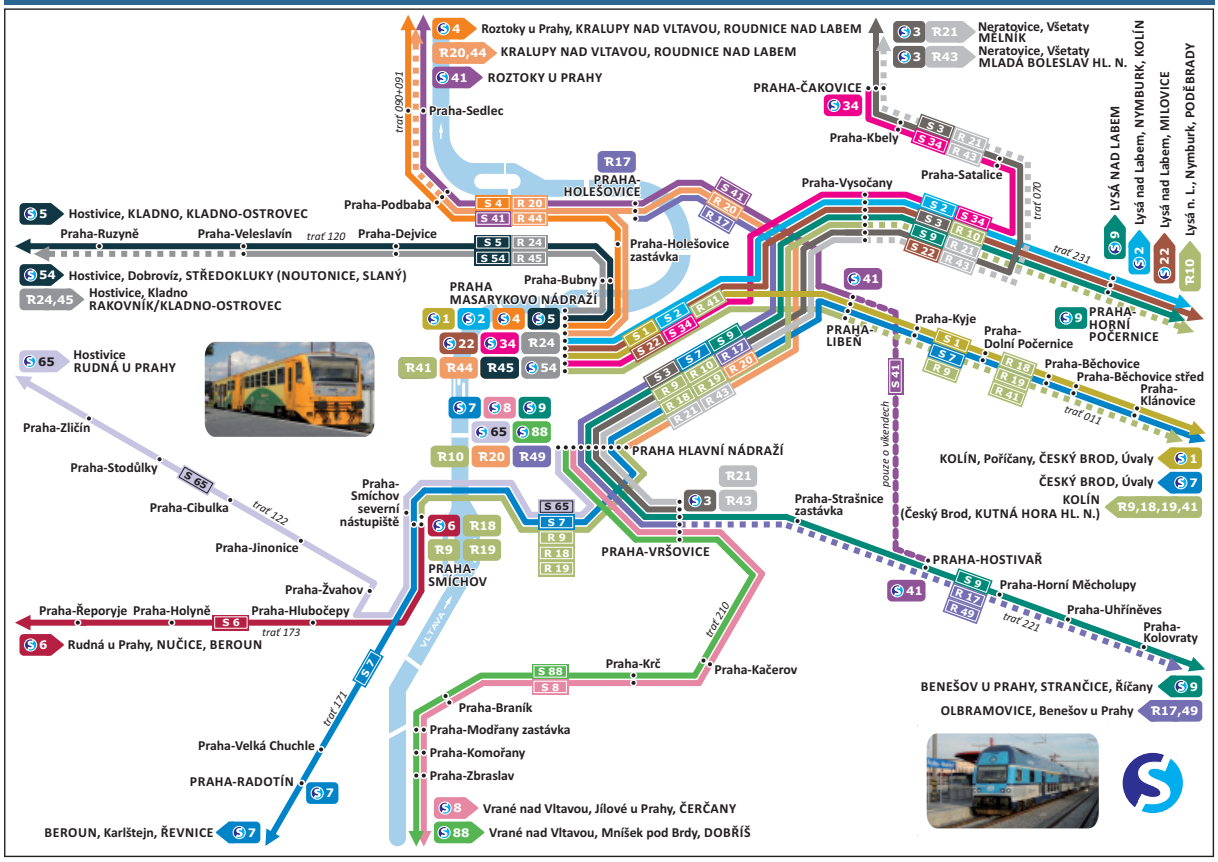
Railway transport has been under development under PID since 1992. In 2007 the process of labelling suburban lines with the letters “S” or “R” was begun, with emphasis on regular intervals and easy-to-remember times. Recently, public transport connections that pass quickly through Prague in all directions have been expanded. Within Prague a total of around 1040 train connections were dispatched under PID daily on workdays in 2017, carrying approximately 137 890 passengers.

Basic data on the PID rail network within Prague		
Operators	**No. of lines + tracks starting in Prague**	**Operating length**
28 – ČD, a.s., 2 – KŽC Doprava, s. r. o.	30 lines, 11 tracks	160.0 km
Number of stations and stops	**Average distance between stops**	**Average travelling speed**
45	3.55 km	54.7 km/h
Ridership within Prague in 2016 and modal share of PID		**Operating time**
39 448 000 (on a PID or ČD ticket)	3.13 %	4:00-0:30
Annual number of train kilometres		**Number of trains running at peak**
5 154 458		126

A train on the S9 line at Praha-Uhříněves station

451 series trains are putting in their last kilometres on the S41 line

S and R railway lines within the City of Prague



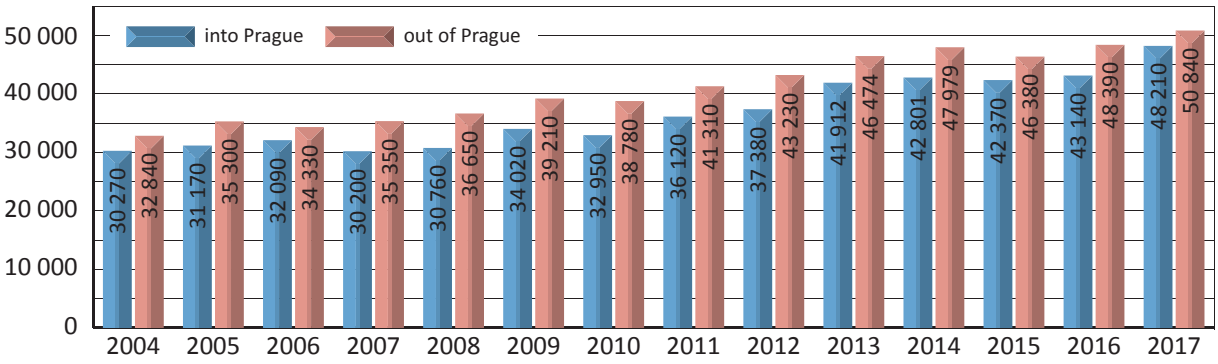
In addition to connections serving the territory of Prague, a further 38 PID lines travel only in the region outside Prague, on which roughly 1 460 train connections are dispatched daily. The operator of all these lines aside from the Podlipansko Motor Train is Czech Railways (ČD).

PID lines use 1 023 km of track around Prague and stop at 347 stations and stops.

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

Year	2010	2011	2012	2013	2014	2015	2016	2017
Persons	26 883 000	29 320 000	32 361 000	34 762 000	36 548 000	36 669 000	37 462 000	**39 448 000**

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



** On Saturdays in 2017 trains transported approx. 53 % of the weekday average; on Sundays 43 %.*

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

Station	PID lines stopping there	Boarding, disembarking and transferring (ppl/day total)
1. Praha hlavní nádraží	S3, S7, S8, S9, S65, S88, R10, R17, R20, R21, R43, R49	49 890 (PID makes up 55 % of station turnover)
2. Praha Masarykovo nádraží*	S1, S2, S4, S22, S34, R41	32 300 (PID makes up 100 % of station turnover)
3. Praha-Smíchov	S6, S7, S65	14 080 (PID makes up 89 % of station turnover)

** the drop for Masarykovo nádraží results from the ongoing detour on Negrelli Viaduct*

Percentage share of tickets used by passengers on PID trains within Prague (workday)

Year	2000	2002	2004	2006	2008	2010	2012	2014	2016	2017*
PID document* (%)	39.2	52.1	57.7	60.4	63.8	68.7	72.7	72.2	71.6	**65.3**
of which individual PID fare (%)	-	7.2	10.6	7.5	5.6	8.5	5.3	5.3	5.4	**5.0**
ČD document, free transport (%)	60.8	47.9	42.3	39.6	36.2	31.3	27.3	27.8	28.4	**34.7**

** 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	26 min	18 km
Praha-Kolovraty – Praha hlavní nádraží (S9)	10 - 20 min	24 min	17 km
Praha-Radotín – Praha hlavní nádraží (S7)	10 min	17 min	13 km
Praha-Čakovice – Praha hl. n. (S3, R21, R43)/P. Masarykovo n. (S34)	15 min	22 min	19 km
Praha-Sedlec – Praha Masarykovo nádraží (S4)	20 min	17 min	14 km
Praha-H. Počernice – Praha Masarykovo n./Praha hl. n. (S2, S9, S22)	15 - 20 min	15 min	15 km
Praha-Ruzyně – Praha Bubny, Vltavská (S5)	30 min	20 min	11 km

3.6 Funicular and ferries

The funicular is part of PID and provides a connection between Újezd, Nebozízek and Petřín. In 2017 it carried a total of 2 066 000 passengers (a daily average of 5 645) and accounted for 0.16 % 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.

Since 2005, river ferries across the Vltava have become a commonplace component of Prague Integrated 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 % of trips). In 2017 there were 8 ferries in operation, transporting 584 940 passengers (0.05 % 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 and P8 ferries Pražská paroplavební společnost, a. s., and the remaining four ferries are run by Pražské Benátky, s. r. o.

Overview of Prague ferries operated in 2017 and selected operating parameters

Line	Route	Beginning of operation	Service	Persons transported/ day	Persons transported/ year
P1	Sedlec – Zámky	1 Jul 2005	year-round	97	**35 420**
P2	V Podbabě – Podhoří	1 Jul 2006	year-round	632	**230 750**
P3	Lihovar – Veslařský ostrov	17 Jul 2007	seasonal	194	**42 400**
P4	Černošice, Mokropsy – Kazín	1 Jun 2017	seasonal	50	**6 210**
P5	Císařská louka – Výtoň – Náplavka Smíchov	31 Jul 2008	seasonal	567	**133 850**
P6	Lahovičky – Nádraží Modřany	19 Sep 2009	seasonal	206	**45 130**
P7	Pražská tržnice – Ostrov Štvanice – Rohanský o.	7 Aug 2015	seasonal	387	**84 720**
P8	Císařský ostrov – Troja	23 Dec 2017	temporary	717	**6 460**

3.7 Non-PID public transport in Prague

Mass passenger transport outside the PID system is predominantly operated in Prague for special occasions.

For people with physical handicaps – holders of the ZTP and ZTP/P cards – whose registered address is in Prague or selected municipalities in the Central Bohemian Region (including one person providing accompaniment to such a card-holder) can make use of transport by on-call microbus (with possibility of assistance) from the organisations Societa and Handicap-transport (service is ordered by the City of Prague via ROPID). The service is available around the clock, with a boarding fee of CZK 10 and a fare of CZK 32 per trip around Prague regardless of length. For trips from Prague to selected parts of the Central Bohemian Region or back, the client pays CZK 40.

A chapter of its own is formed by service to shopping, office and multifunctional centres at the edge of Prague or in poorly accessible areas. This includes, for example, the OCL line between the Letňany metro station and Letňany shopping centre or the line serving BB Centrum, which on workdays serves the office buildings north-east of Budějovická metro station. This transportation is generally free and paid for by the individual centre or shops.

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 1 149 train connections operated by Czech Railways started, ended or passed through Prague on an average workday in 2017, carrying around 144 000 passengers across the city limits. A 22 % of that number were non-PID connections, while the remainder were under PID.

The operation of (non-PID) long-distance passenger rail transport is provided by Czech Railways, RegioJet, LEO Express and Arriva. The infrastructure for transport is provided by the state organisation the Railway Infrastructure Administration (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	252 103	83 382	83 572	93 916	100 494	53 900	80 460	43 450
Trains per day**	743	231	258	265	302	158	285	137
of those PID	507	231	205	265	212	158	192	137
of those non-PID	236	0	53	0	90	0	93	0

** number of trains starting, ending or stopping ** average workday 2017*

Development of number of trains starting and ending at Prague per year (all trains Czech Railway)

Year		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
number of trains	starting	174 615	215 189	217 472	217 481	219 679	214 483	213 973	224 336	229 222	**238 542**
	ending	174 947	215 598	217 886	217 895	220 098	214 892	214 381	224 764	228 352	**236 693**
	total	**349 562**	**430 787**	**435 358**	**435 376**	**439 777**	**429 374**	**428 353**	**449 100**	**457 574**	**475 235**

Passenger turnover at most important railway stations in Prague in 2017 (only ČD trains)*

Station	Praha hlavní nádraží	Praha Masarykovo nádraží	Praha-Smíchov	Praha-Vršovice	Praha-Libeň	Praha-Vysočany	Praha-Holešovice	Praha-Radotín
Ppl per year (000s)	30 249	11 610	4 784	1 942	2 548	1 463	1 536	2 108
Ppl per workday	89 940	31 769	15 850	6 163	9 056	4 602	7 309	7 009
of those PID	49 893	31 769	14 082	6 163	6 855	4 602	6 135	7 009
of those non-PID	40 047	0	1 778	0	2 201	0	1 174	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.

Development of selected characteristics at Florenc bus station

	2010	2011	2012	2013	2014	2015	2016	2017
Number of connections/year	145 000	145 000	150 000	155 000	155 000	170 000	180 000	**180 000**
Number of connections/avg. workday	420	420	425	435	450	485	505	**510**
of those international	105	130	145	155	175	230	260	**285**
domestic long-distance	315	290	280	280	275	255	245	**225**
Number of carriers	100	100	100	105	120	125	125	**125**

Other lines connecting Prague with external areas are dispatched and terminated to the greatest extent at bus stations Nádraží Veleslavín, Na Knížecí, Černý Most, Hradčanská and Zličín. To a minor extent (up to 3 000 connections a year) long-distance buses also leave from Želivského and Roztyly.

Selected characteristics of other important bus terminals in Prague

	Number of connections per year				Number of connections per average workday			
	International	Domestic long-dist.	Intra-regional	Total	International	Domestic long-dist.	Intra-regional	Total
Černý Most	257	68 539	21 059	**89 855**	2	211	81	**294**
Na Knížecí	362	31 324	54 470	**86 156**	0	92	214	**306**
Nádr. Veleslavín	0	0	81 554	**81 554**	0	0	376	**376**
Hradčanská	6	35 644	34 194	**69 844**	0	111	117	**228**
Zličín	0	22 628	45 497	**68 125**	0	62	177	**239**
Nádr. Holešovice	0	37 135	204	**37 339**	0	124	0	**124**
Roztyly	2 377	22 398	11 414	**36 189**	7	69	46	**122**
Želivského	2 193	0	0	**2 193**	3	0	0	**3**
TOTAL	**5 195**	**217 668**	**248 392**	**471 255**	**12**	**669**	**1 011**	**1 692**

With the gradual integration of lines into PID, Central Bohemian Integrated Transport (SID) participates less and less in regional bus transport, their connections being gradually transferred to the PID system. SID was created in 2005 as a specific body arising from the public transport systems of the largest municipalities with extended jurisdiction in Central Bohemia. It used a zone-based fare with the zones focused on the centres of said municipalities, but without ties to the fares of PID and Czech Railways. The remaining SID lines that enter Prague are designated by a letter based on the district (A Kladno, B Rakovník, C Beroun, D Příbram, E Benešov, F Kutná Hora) and a number.

4 BICYCLE TRAFFIC

The marked cycle route network in the City of Prague has a total length over 470 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
477 km	178 km	24 km (127 sections)
Cycle pictocorridors	**Separate / protected cycle lanes**	**Shared cycle lanes (+ bus + taxi)**
34 km	47.5 km / 1.4 km	24 km
Bicycle stands (two spots)	**Advance stop lines for cyclists**	**Bicycle crossings**
3 300	297 intersections, 1 238 lanes	75 (34 with traffic signals)

New bicycle infrastructure implemented in 2017

Type	Length / number	Type	Length / number
Cycle lanes (V14 / V14 protected)	1 530 m / 1 115 m	Shared cycle lanes (+bus+taxi)	1 080 m
Cycle pictocorridors (V20)	1 275 m	Bicycle crossings (V8)	2 (0 SSZ)
Two-way lanes for cyclists	+610 m (+4 sections)	Bicycle stands (two spots each)	793

Sharing is one of the biggest trends of today, and in recent years countless platforms have emerged through which people can share private property, vehicles, etc. The greatest provider of shared bicycles (known as bikesharing) in Prague is the company Rekola Bikesharing, which has been operating here since 2013. From spring to autumn, bikes are available to the public either on a one-off basis, or through an annual membership. The pink bikes are not parked at fixed stations, but anywhere within the designated district. Their exact location can be determined using a mobile phone app. One must register and pay a fee for the selected period. Rides under 15 minutes are free.

In 2017 the Chinese operator OFO began to offer bikes within the Prague 7 district. They are unlocked using an app, via which the customer reads a QR code on the bike. Rides are paid for using an electronic wallet or via the payment card registered within the application (300 bikes). It is a stationless bikesharing system and the bicycles can be returned anywhere they are not an obstruction.

In 2017 Prague introduced a new app called “Na kole Prahou” (Around Prague on a Bike) for cyclists, with maps and a navigation system. It covers the whole of Prague extending 15 km into Central Bohemia. It offers users several route variants and can combine routes with public transport and trains.

By the Strašnická metro station and the Prague 10 town hall, new public bike boxes for storing bicycles were unveiled at the start of September 2017. This is the third project for public bike boxes in Prague; they were previously installed by the Chodov shopping centre and by the train station in Klánovice. In the case of Prague 10, self-service boxes by the company Boxline System were chosen. At each of the locations there is a total of four boxes with room for eight bikes, two bicycles fitting into each box.

New bike boxes at Strašnická

In Prague 10 a new bridge for pedestrians and cyclists was installed across the Botič stream.

Since October 2017 the Jinonice metro station on the B line has been connected to the newly emerging neighbourhood at the former Waltrovka site by a new bridge for pedestrians and cyclists, which connects directly to and supplements the streets Na Hutmance, Klikatá and Jinonická. The 110 m long footbridge has an orange surface and includes a ramp for bicycles and prams.

Protective cycle lanes, Veletržní

Combined crossing for pedestrians and cyclists, Podvinný mlýn

Cyclists on Prague Integrated Public Transport (PID)

In Prague it is permitted to transport a bicycle on the metro, on trains, on selected sections of tram lines (outside the afternoon rush hour), on the funicular and on ferries. The transport of bicycles is free within Prague. For safety reasons the transport of bicycles is not permitted on bus lines (with the exception of cycle buses, the AE line and specially equipped buses on the 147 line). Bicycles may not be transported during periods of heavy demand.

Starting 25 March 2016, bicycles may be transported in the front and back part of each metro car with the exception of the very first car of the train. Each such space has a maximum capacity of two bikes. The number of spaces available for bicycles has thus increased from five to nine in each metro train. The transport of bicycles is free. Each set of doors in the Prague metro is marked with a colour sticker clearly telling travellers with a bicycle whether the space is meant for them or not.

Selected lifts can be used to transport bicycles at metro stations. Such lifts are marked with a blue pictogram of a bicycle.

On trams, a bicycle may only be transported on selected stretches heading out of the centre, and not on the afternoon peak on workdays (14:00-19:00).

On all railway lines included under PID, service is provided by vehicles that allow the transport of bicycles. For passengers with a valid PID ticket (or document for free transport according to the PID Tariff), transport of bicycles as accompanying luggage is free within Prague (zones P, 0, and B), while outside the city's territory there is a fee.

On non-workdays from 25 March 2017 until 29 October 2017, the transport of bicycles was considerably expanded on most connections. These connections were serviced by double-decker cars (the S8 line) or a special bicycle car was attached to Regionova units. Each such connection thus provided space to transport at least 20 bicycles. The Cyklohráček train was also in operation during the same period on non-workdays on a new route of Praha hl. n. – Praha-Smíchov north platform – Hostivice – Středokluky – Podlešín – Slaný – Zlonice. This train offers expanded transport of bicycles, a playroom for children and games tables. The second car in the train has priority designation for cyclists, being equipped with special spaces for transporting bicycles and a reduced number of seats.

The transport of bicycles is not permitted on buses, except the 147 line, the AE line (Airport Express) and the cycle bus. On the 147 the transport of bicycles was possible only heading out of the centre (up the hill towards Výhledy). Due to the time-consuming nature of it, bicycles may only be loaded at the stops Dejvická (transferring from the metro) and V Podbabě (transferring from the ferry), and unloaded at the stops Internacionální and Výhledy. Passengers are responsible for loading and unloading.

On the Petřín funicular, bikes are transported for free in the second part of the car (marked with a pictogram). Free transport of bikes is also possible on all ferries connecting the banks of the Vltava (transport may be restricted during high demand).

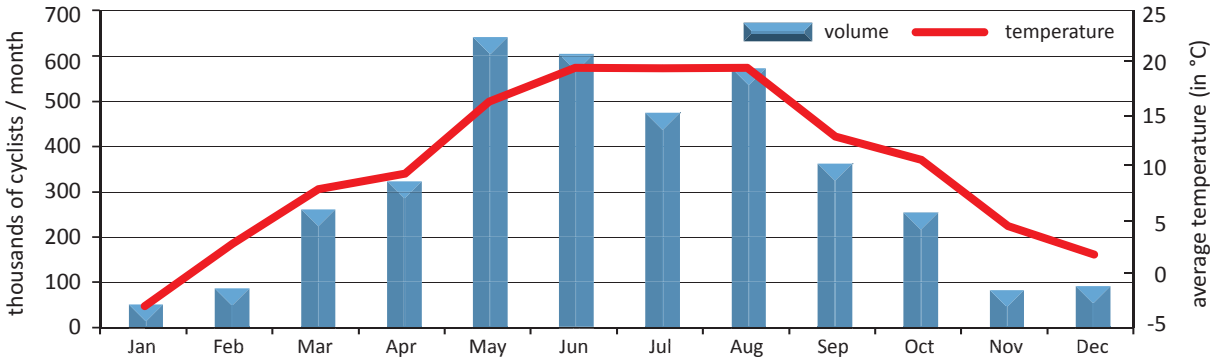
A folded fold-up bike, child's scooter or child's bicycle for children under 6 can also be transported as luggage, but it must meet the dimension allowance (50x60x80 cm).

Automatic bicycle counters

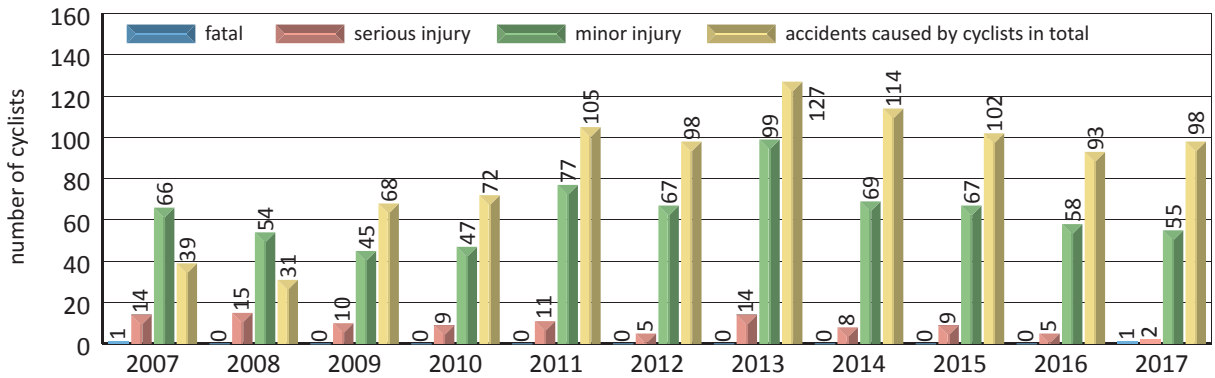
Automatic bicycle counters allow online access to data 24 hours a day year-round, thus providing a detailed summary of bicycle activity at various times of year, as well as the changes in volume over the day or week. The first counters were installed in autumn 2009. At the end of 2017 there were 27 locations in operation in Prague.

Comparing 2017 to 2016 at all comparable locations, a decrease in bicycle traffic volume of 6.85 % was shown. The bicycle profiles Povltavská and Modřany have long been the locations with the highest detection of cyclists in both directions. The month with the highest number of detected cyclists was May.

Annual variation of bicycle traffic 2017 according to automatic bicycle counters



Results of cyclist accidents in Prague 2007–2017 (source Traffic Police Department, City of Prague Police)



5 PEDESTRIAN TRAFFIC

Walking is the most natural and most frequent way for people to get around. Every trip using some means of transport begins and ends with walking. Roughly 26 % of all trips are made solely by foot.

Relatively speaking, the largest number of trips by foot take place in the central part of the city, particularly within the municipal district of Prague 1.

On selected streets within Prague 1, testing surveys of ordinary workday pedestrian traffic have been being conducted every 10–15 years since 1963.

The development of pedestrian traffic at the peak hour of a workday is evident from the following table, which contains the values for pedestrian volume at selected profiles in Prague 1.

Number of pedestrians at selected Prague 1 profiles (peak hour, workday)

Street	Segment	1963	1975	1990	1999	2017
Václavské náměstí	Vodičkova – Na příkopě	18 420	17 000	16 000	7 380	**8 230**
Vodičkova	Palackého – Václavské náměstí	7 470	10 800	6 400	4 710	**2 730**
Jindřišská	Václavské náměstí – Panská	7 250	10 500	6 250	3 320	**2 580**
Smetanovo nábřeží	Národní – Divadelní	1 310	1 500	700	610	**860**
Charles Bridge	Na Kampě – Křižovnické náměstí	1 310	2 200	2 600	3 540	**2 850**

The table shows that from 1963 to the present there has been a steady decline in the number of pedestrians moving about during the peak hours in the streets of Prague's centre. While in the 25-year period between 1963 and 1990 the drop in number of pedestrians was in the single percentage points, in the 10-year or 27-year period between 1990 and 2017, the drop was in most cases in the tens of percentage points. The popularity of Prague and rate at which it is visited by foreign tourists is reflected by the pedestrian frequency on the attractive route connecting Prague Castle and Old Town Square.

The volume of pedestrian traffic depends on location, type of pedestrian path and time of day. In Prague, the greatest volume of pedestrian traffic is in the city centre on the "golden cross" (Václavské nám. – ulice Na můstku – ulice 28. října – Na příkopě), where it ranges from 5 000 to 8 000 pedestrians an hour on workdays. Another of the most frequented pedestrian routes is that connecting the touristically attractive sites between Prague Castle and the Old Town Square, where the workday volumes can reach 3 000 to 4 000 pedestrians an hour. Pedestrian volumes here are another 15–20 % higher on weekends (particularly on Saturday).

Great attention is afforded to supporting pedestrian traffic in the form of minor structural works or adjustments to traffic organisation. Five underpasses underwent renovations: Sokolská – Fügnerovo náměstí, Fügnerovo náměstí – Legerova, 2 underpasses by Nuselský most (by the street Boženy Němcové), and Vídeňská (in front of Thomayerova nemocnice).

In the new Waltrovka neighbourhood in Jinonice (Prague 5), a new bridge for pedestrians and cyclists was built, connecting this area with the metro. There is also a new square here, with an area of 5 000 m^2. A new footbridge for pedestrians and cyclists was also built over the Botič stream in Prague 10.

In recent years, growing efforts to increase pedestrian safety have been manifesting more and more, particularly for children and youth around nursery, primary and secondary schools and for pedestrians at crossings by tram stops and across major roads. More care is being given to ensuring the safety of persons with reduced mobility and impaired eyesight, particularly at road crossings.

Individual structural and non-structural modifications take place in cooperation with the municipal districts, with funding coming primarily from the BESIP programme and pavement programme. Modifications to make pedestrian crossings barrier-free are paid mainly from general maintenance funding.

Regulatory measures that lead to increased pedestrian safety on the existing road network include bollards, speed humps, bumps, emphasised signage or carriageway surface roughening.

6 TRANSPORT TELEMATICS AND TRAFFIC MANAGEMENT

The systems for the various forms of transport telematics continued to be expanded and innovated upon in 2017 with an emphasis on connecting them to each other. The primary goal was to help these systems optimise transport and increase traffic flow and safety. Transport telematics has increasingly extensive applications in traffic management processes using traffic lights and control centres, as well as in providing traffic and travel information, in parking, monitoring and early warning systems, and in improving the quality of public transport.

6.1 Construction and renewal of traffic signals

In 2017 a total of 2 new traffic signals were built within the City of Prague by TSK and other investors, all of them at stand-alone pedestrian crossings. The number of sequencers increased to 660. The number of signal-controlled sites on the road network reached 700.

Basic data on traffic signals in Prague

Total in Prague	Stand-alone pedestrian crossings	Centrally controlled
660 (by number of controllers)	154	466
On tram network	**With tram right-of-way**	**With bus right-of-way**
248	197	232
Number of new, removed and refurbished traffic signals in 2017		
2 new, 0 removed		18 refurbished

As part of a TSK investment project, two new traffic signals were installed – at the crosswalk across Poděbradská by the Lehovec tram loop and on Hlávkův most by the temporary Štvanice stops. Outside of this TSK investment project, no traffic signals were put into operation in 2017.

Renewed SSZ 4.040 Chodovská – ramp Jižní spojka

Restored signal 2.023 Svobodova – Na Slupi

Development of basic data on traffic signals in Prague

Year	1961	1971	1981	1990	2000	2005	2010	2011	2012	2013	2014	2015	2016	2017
Traffic signals total	33	76	339	348	398	473	578	594	612	626	634	646	658	**660**
Stand-alone crossings	-	9	37	45	57	72	108	112	118	125	144	146	152	**154**
Centrally controlled	-	-	-	20	116	192	270	283	294	321	320	440	456	**466**
With tram priority	-	-	-	1	59	94	145	158	164	174	184	189	195	**197**
With bus priority	-	-	-	-	-	8	121	144	167	180	200	206	223	**232**

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). Here the dispatchers can control around two thirds (66 %) of all the traffic signals in Prague.

6.3 Traffic Information Centre (TIC) Prague

TIC Prague has been in operation since 1 July 2005 and is the longest serving centre of its type in the Czech Republic. It is run by Technická správa komunikací hlavního města Prahy, a.s.

TIC dispatchers ensure the entering of information into the content management system, collaborating actively with the Prague Outer Ring Road Control Centre (PORR CC) in Rudná, the National Traffic Information Centre in Ostrava (NTIC), Czech Radio and Czech Television. They also run the system of devices for traffic information (DTI), record the differences between automatically generated traffic volumes and the actual situation, and last but not least monitor alternative sources of traffic information.

UTCC Praha

On the DTIs, 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 now also informs on traffic regulation in Prague's tunnels. It also provides output for the web, including screenshots from selected camera systems.

TSK provides drivers in Prague with 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.

6.4 Other transport telematic systems

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	447	Monitoring of traffic situation – run by TSK
TVD-TKB	395	Monitoring of traffic and equipment in Blanka Tunnel Complex and linked traffic signals
MKS	1 038	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 842 cameras are available in the monitoring system, both from TSK's monitoring systems and the camera monitoring of the Blanka Tunnel Complex.

There are several types of camera depending on their purpose. In tunnels there are fixed cameras with a video detection safety function. These cameras 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.

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 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). Stills from traffic cameras are also available on TSK's website. 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. 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 2017, travel times could be displayed on 29 DTIs and one simplified display board. These and other travel times not connected to a specific DTI are available in a web application. Currently the time taken to travel through a segment is measured at 70 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 evaluate the travel time by comparing the device ID or licence plate.

The system of weighing of vehicles while they are in motion (WIM – Weight in Motion) is in place at eight locations in Prague heavily trafficked by freight vehicles. The principle of the system is based on 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.

At the end of 2017, speed was measured in this manner at 61 stretches in Prague. Of the total number, 10 locations are located in Prague's tunnels on the City Ring Road, where they significantly contribute to the flow and thus also safety of traffic.

Spot speed measurement using just one camera and detection loops was first realised in Prague in 2010. As of 31 December 2017 spot speed measurement was being conducted at 38 sites.

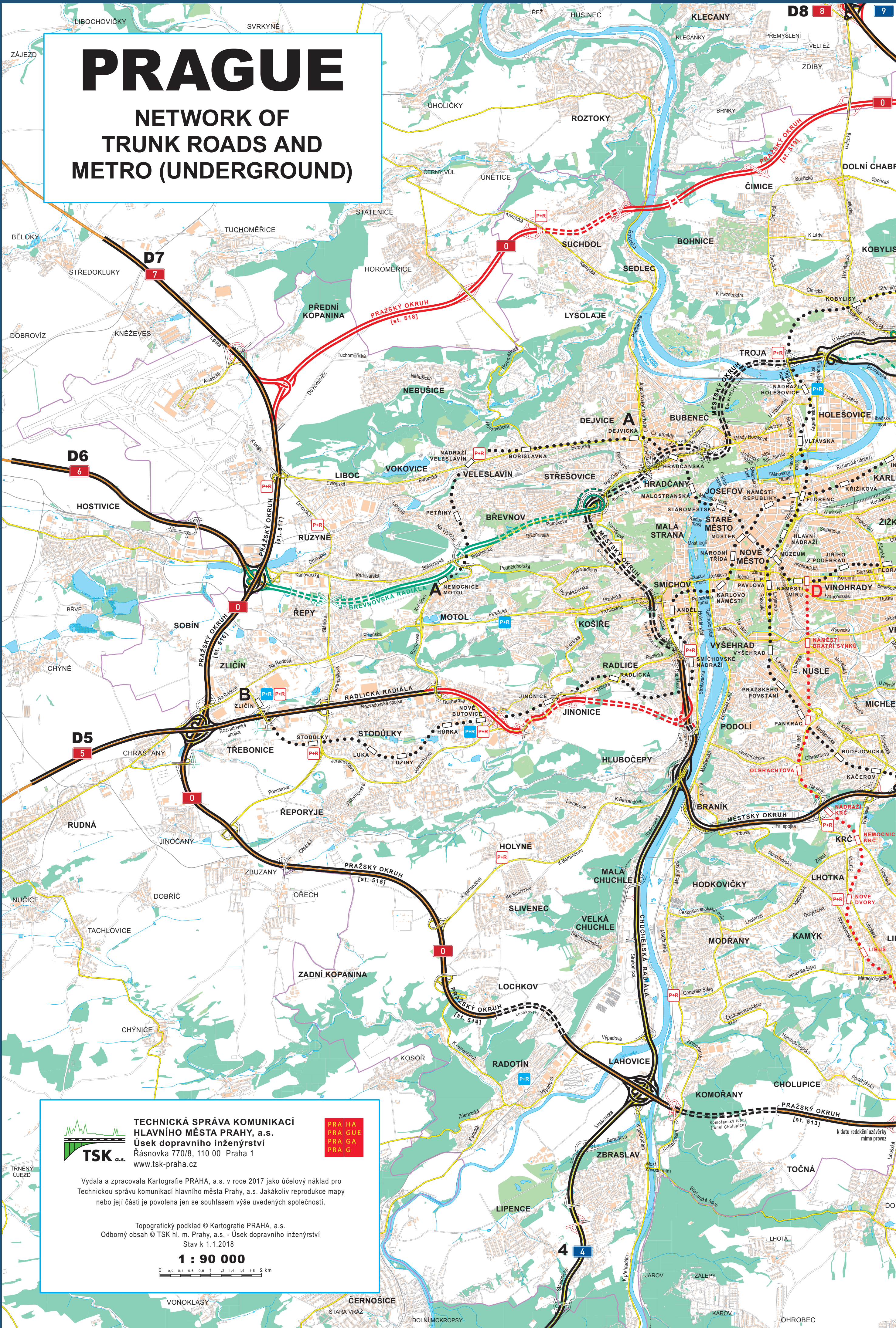
Three new devices for detecting and documenting the running of red lights were installed in 2016. Thus as of 31 December 2017, this misdemeanour was being recorded at 18 traffic signals. The system is comprised of a pair of cameras (overview and detail) that record the current state of the traffic light and the moment the vehicle crosses the stop line.

Another type of transport telematic device is 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. A total of 166 of such strategic detectors are in place on main roads (23 SDDÚ and 143 SDDŘ). Non-transport data are collected by 28 weather detectors.

As of 31 December 2017, the occupancy of 55 parking spots was being monitored by magnetometric detectors. The data are read by a data collector at the site and then available for users via a mobile phone application. Parallel to this project, monitoring of the paid parking zone on Řásnovka was installed. This is a larger area without distinction between individual spots.

PRAGUE

NETWORK OF TRUNK ROADS AND METRO (UNDERGROUND)



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NÁDRAŽÍ HOLEŠOVICE
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SLIVENEC
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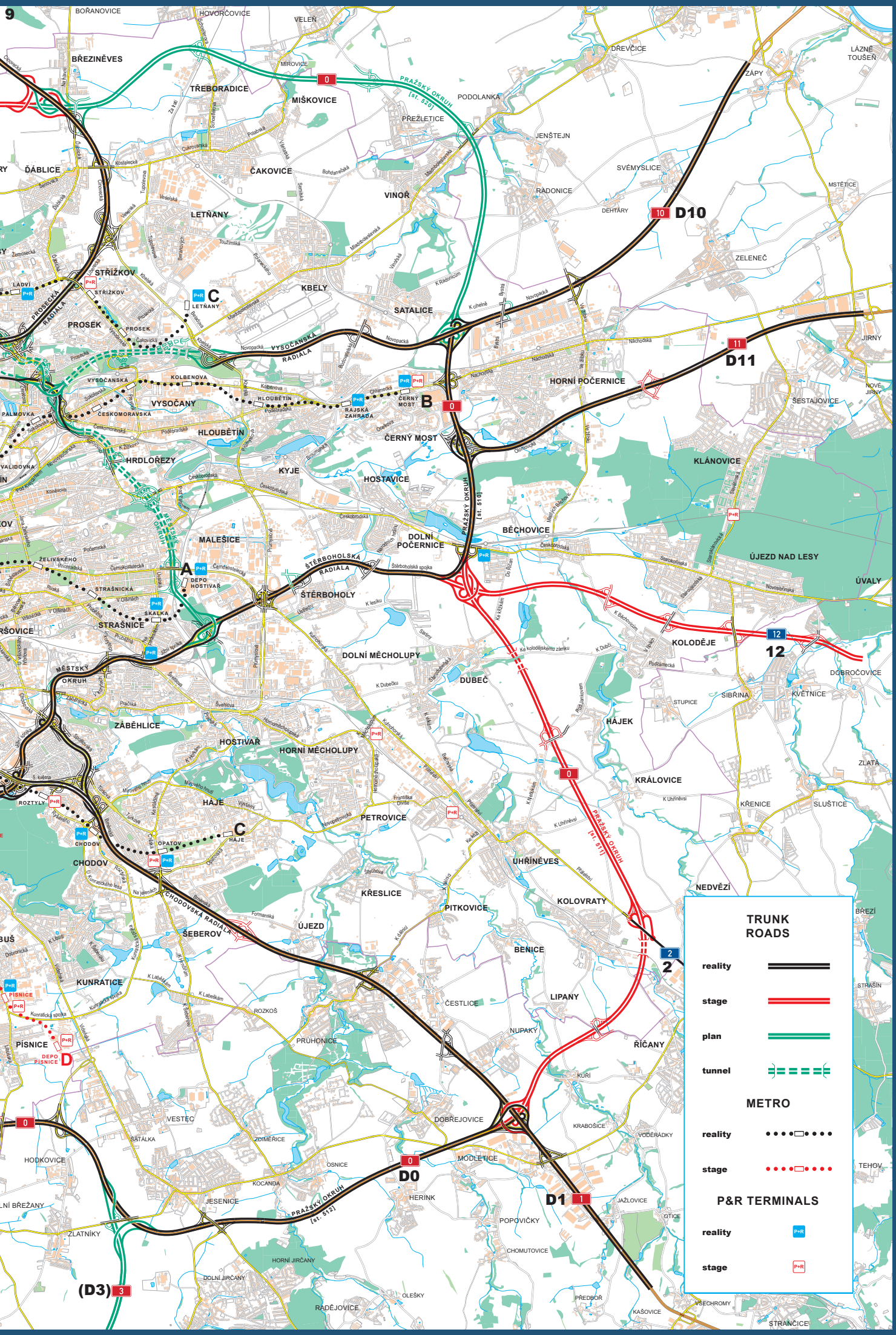
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reality
stage
plan
tunnel
METRO
reality
stage
P+R TERMINALS
reality
stage

7 PRIORITY FOR PUBLIC TRANSPORT VEHICLES

Implementation of priority for public transport vehicles has been ongoing in Prague since the beginning of the 1990s. This process helps maintain a positive ratio of persons transported by mass transit in relation to individual transport. It also helps keep public transport flowing smoothly and transport 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 %)	197 (79.4 %)	69 (27.8 %)	128 (51.6 %)
2017: -2	2017: +2	2017: -2	2017: +4

* *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*

The percentage of signal sites in Prague with some form of tram preference exceeded 79 %.

Bus priority at traffic signals – basic data

With detection for bus priority	With active* bus detection	With passive* bus detection
232 (100.0 %)	223 (96.1 %)	9 (3.9 %)
2017: +9	2017: +7	2017: +2

* *Passive detection means a bus's claim is recorded through a standard automobile detector (induction loop or video loop), primarily in a dedicated lane. 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.*

Intersections where detection for bus priority was installed in 2017

0.408	Bohdalecká – Nad Vršovskou horou	4.440	Türkova – Archivní
0.619	Průmyslová – Spalovna	4.455	Modřanská – Jižní spojka ramp
0.623	Rabakovská – underpass by Pelyňková	9.981	Starokolínská – Onšovecká crossing
4.040	Chodovská – Jižní spojka ramp (P)	9.982	Novosibřinská – Sídliště Rohožník loop (P)
4.406	Vídeňská – Zálesí		

(P) … passive detection

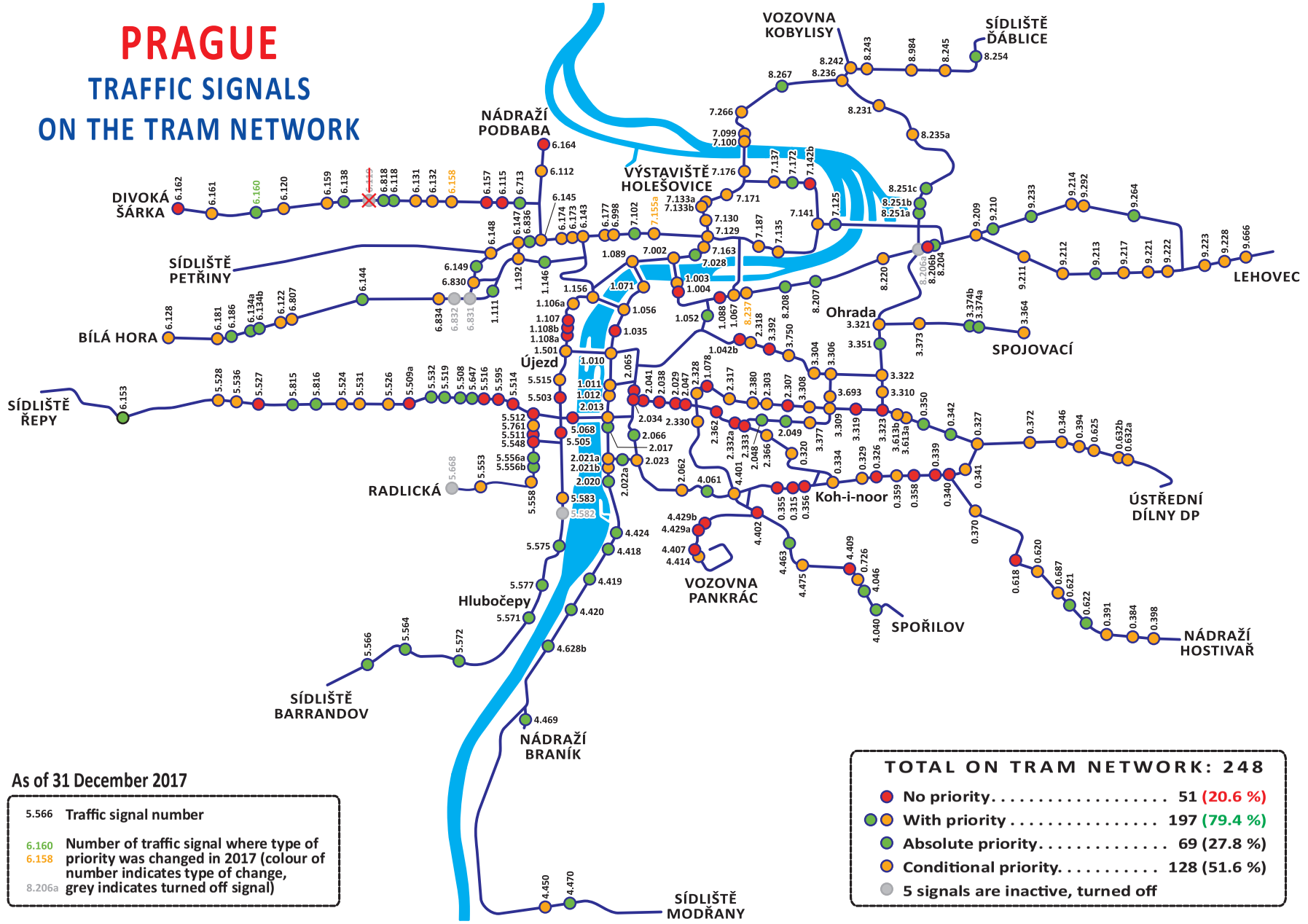
Traffic signals equipped with detection for bus priority on bus network

Year	2005	2010	2011	2012	2013	2014	2015	2016	2017
Signals w/ bus detection	8	121	144	167	180	200	206	223	**232**

Bus priority in the form of active detection 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 (Nádraží Holešovice – Ládví – Letňany). Now priority is the standard implemented at new or refurbished traffic signals.

PRAGUE

TRAFFIC SIGNALS ON THE TRAM NETWORK



As of 31 December 2017

5.566	Traffic signal number
6.160 6.158 8.206a	Number of traffic signal where type of priority was changed in 2017 (colour of number indicates type of change, grey indicates turned off signal)

TOTAL ON TRAM NETWORK: 248

No priority	51 (20.6 %)
With priority	197 (79.4 %)
Absolute priority	69 (27.8 %)
Conditional priority	128 (51.6 %)
5 signals are inactive, turned off	

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 or by buses driving on the tram tracks.

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.

At the end of 2017, raised concrete dividers along tram tracks had reached a total length of approximately 12 550 metres. Last year around 160 metres of such dividers were added. The largest section (around 140 m) was installed as part of the track refurbishing on the street U Plynárny. A short section of concrete dividers was installed on Křesomyslova (42 m). 25 metres of concrete dividers along tram tracks was removed in 2017 during refurbishing of the tram tracks on Svobodova by the Albertov tram stop.

Divider installed on Křesomyslova street

Dedicated bus lane on Bělohorská street

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 2017 the total length of dedicated bus lanes had reached 44 790 metres, on roads 31 080 (an increase of 2990 m) and 13 710 on tram track bed (an increase of 2 200 m).

The most important dedicated lane implemented last year was on Ústecká heading into the centre in a 1 180 m long segment from the city limits along Spořická. Another important location is Bělohorská heading out of the centre, where 450 metres of dedicated lane was implemented from the stop Malý Břevnov along Thurnova. Smaller segments were implemented on Úvalská, Chlumecká and Svatovítská.

8 ROAD TRAFFIC SAFETY

8.1 Traffic accidents

In 2017 there were 23 032 accidents recorded in Prague (+1 % compared to 2016), with 17 casualties (-19 %) and 2 107 persons injured (-3 %). There were 686 accidents involving pedestrians with 11 persons killed and 616 injured.

The decisive majority of accidents were caused by drivers (22 329 of 23 032 accidents, or 97 %). The main causes of accidents caused by drivers were failure to keep proper distance, which is caused primarily by the nature of urban driving, lack of due care and attention and failure to yield. The number of accidents where alcohol was detected in the culprit was 395 (-6 %).

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

Year	2015	2016	2017	Diff. 17/16 (%)
Number of accidents	21 462	22 876	**23 032**	**+1**
Number of fatal injuries	25	21	**17**	**-19**
Number of serious injuries	179	194	**156**	**-20**
Number of minor injuries	2 078	1 983	**1 951**	**-2**
Number of accidents with injury	1 909	1 839	**1 765**	**-4**
Number of accidents without injury	19 553	21 037	**21 267**	**+1**
Number caused by the driver	20 754	22 206	**22 329**	**+1**
due to failure to keep proper distance	4 236	4 541	**4 427**	**-3**
lack of due care and attention	2 401	2 785	**2 317**	**-17**
red-light violation	349	309	**339**	**+10**
failure to yield in violation of a traffic sign	1 074	1 162	**1 105**	**-5**
failure to yield when making a left turn	741	671	**764**	**+14**
failure to yield when passing from lane to lane	1577	1 772	**1 827**	**+3**
failure to adapt speed to density of traffic	104	96	**102**	**+6**
failure to adapt speed to vehicle condition	118	114	**133**	**+17**
failure to adapt speed to road conditions (ice, potholes, wetness, mud, etc.)	531	722	**613**	**-15**
failure to adapt speed to road (turn, width, decline, incline, etc.)	175	185	**165**	**-11**
Caused by road defect	17	8	**22**	**+175**
Caused by pedestrian	295	302	**301**	**0**
Caused by cyclist	102	93	**98**	**+5**

The basic trends in accident rate in 2017 can be characterised by a growth in the number of recorded accidents in comparison with 2016, a decline in the number of fatalities and a slight decline in the number of accidents resulting in injury. In 2017 the Prague-wide average was 3.2 recorded accidents per million vehicle kilometres travelled.

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

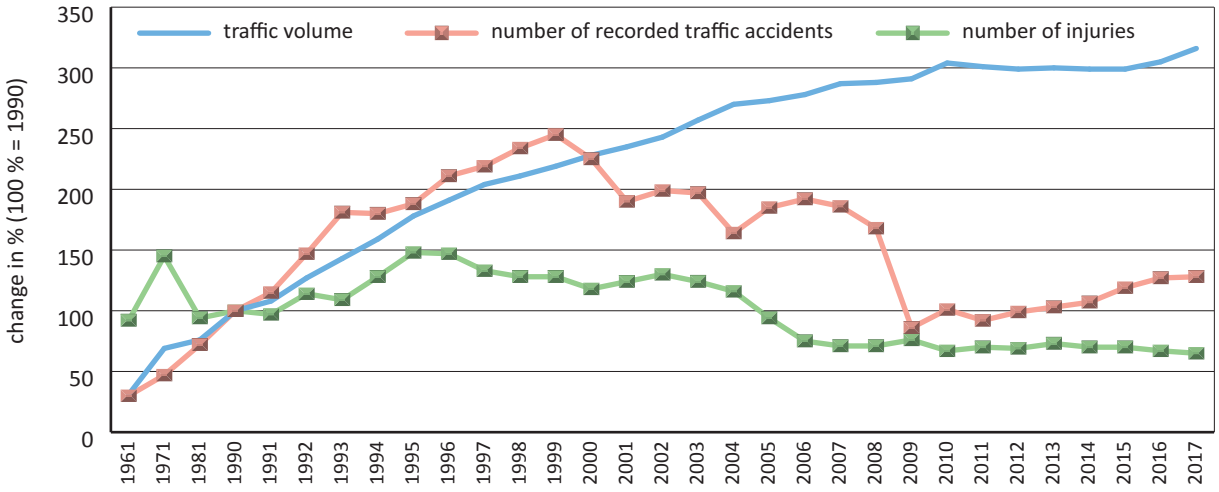
An interesting indicator is the breakdown of relative accident rate by type of road. This breakdown confirms that while the City Ring Road and Prague Outer Ring Road along with the radial roads transport the greatest volume of traffic in Prague, they have a 3 times lower relative accident rate than the Prague-wide average.

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
2016	22 876	129	21	22	194	53	1 983	71	3.3	305
2017	**23 032**	**128**	**17**	**18**	**156**	**42**	**1 951**	**70**	**3.2**	**316**

100 % = 1990 levels *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 1961–2017 (whole road network, annual total)



8.2 Traffic education

Traffic education functions as a significant preventive element from the perspective of traffic safety for children, youth and also adults.

In terms of educating children and youth, this primarily concerns support for child traffic playgrounds (CTPs). A whole range of traffic education programmes take place here with the goal of boosting the effectiveness of traffic education at schools (traffic education is enshrined in the curriculum for the 4th grade at primary schools). Education at CTPs was central to this, along with the programme for beginning cyclists (Young Cyclist Traffic Competition), traffic education shows for children and youth, interactive theatre performances on the topic of traffic education and more. Nearly CZK 1.8 million was drawn for traffic education for children and youth in 2017.

In 2017, 9 CTPs where children were taught year-round were in operation in Prague. The CTP in Prague 7 was not running due to renovations, while the CTP on Jánošíka in Prague 4 was only open

for the first semester, then was closed. In the past year, 55 685 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). The winning teams progressed through district and city rounds to the national round, which took place in the South Bohemian Region in Tábor, all the way to the international competition, held in Tirana, Albania.

39 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. In 2017, five performances of the "Fairytale around an Intersection" took place there.

A total of 8 traffic safety drives took place for the driving public as well in 2017, one of those being for hearing-impaired motorists. Other traffic education events for the public were focused on the whole family. Seminars continued to be provided on methods of traffic education at schools, for CTP employees, as well as for seniors.

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 2017, 1 435 persons went through this training.

8.3 Measures to increase traffic safety

In 2017, a total of CZK 23.0 million was spent under the BESIP (road traffic safety) budget. These measures included minor structural modifications, modifications to 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 19 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. Of this, capital expenditures by municipal districts for BESIP represented an amount of CZK 0.9 million in 2017. The funding was primarily used to cover costs associated with drawing up and discussing project documentation.

Other non-structural traffic safety measures, particularly at 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 4.0 million.

In 2017 the following were realised:

Traffic islands on pedestrian crossings

Traffic safety devices

Pedestrian crossings

Intersection modifications, for example at the locations Plukovníka Mráze – Tenisová, Vokovická – K Červenému vrchu, Blanická – Korunní

Replacement of prefabricated speed humps for bituminous ones by educational institutions

Road surface roughening (Letná tunnel, Veletržní, Strakonická, Plzeňská)

Structural speed humps (Ohradní Primary School)

Silent threshold before the Ohradní Elementary School

9 CHANGES IN TRAFFIC ORGANISATION

An important change on the main road network in 2017 was the opening of a direct ramp from the Jižní spojka onto Chodovská in the direction towards Michle at the Záběhlice grade-separated crossing. The opening of this ramp did away with the need to use the return ramp onto Chodovská, removing the chaotic junction where left turns off the ramp were taking place at the point where the tram tracks merge from separate track onto Chodovská.

Further minor changes in traffic organisation were associated with the trial operation of the Blanka Tunnel Complex (BTC) in Prague 6, 7 and 8. Adjustments to the traffic regime in Prague 6 primarily concerned the area around Vítězné náměstí, with the bus turnaround for public transport heading toward Suchdol returning to the way it was originally and the temporary traffic signal at the entrance from the inner roundabout of Vítězné náměstí towards Svatovítská being left in operation. Minor changes to the traffic regime on “Nová Povltavská” took place when exiting the “Bubeneč” tunnel and turning onto the return ramp onto V Holešovičkách, plus modifications to the horizontal street markings on the street V Holešovičkách to ensure smoother merging of vehicles from BTC.

Following repairs, the “Vysočanská viaduct” was fully reopened at the end of 2017 after a burst water pipe in July 2016 and subsequent collapse of the carriageway required a complete closure. This did away with the long detour via Klíčov and Prosek to Libeň through the territories of Prague 8 and 9.

New Ramp Jižní spojka – Chodovská

The Vysočanská estakáda is back in operation

Changes in traffic organisation were caused by the measures adopted in connection with the collapse of the Troja footbridge, which impacted pedestrian and cyclist traffic between Holešovice and Troja. Operation of the ferry implemented to replace it at the site of the collapsed bridge was limited by water flow in the river of over 170 m^3/s.

Over the course of 2017 short-term changes to traffic organisation continued to take place, including on major roads.

The greatest impact on the flow of traffic was had by the traffic measures on the bridge Nuselský most during rehabilitation of the lower structure, new insulation and carriageway construction and on the Šterboholská spojka during restoration of the original sound barriers and construction of a new one, where the number of lanes was reduced and movement was restricted at intersections. Traffic was also complicated by ongoing repairs to the road surface on Lipská heading into the centre and expanding Přátelství to a width of 9.5 m in the segment from the K Netlukám roundabout up to the city limits.

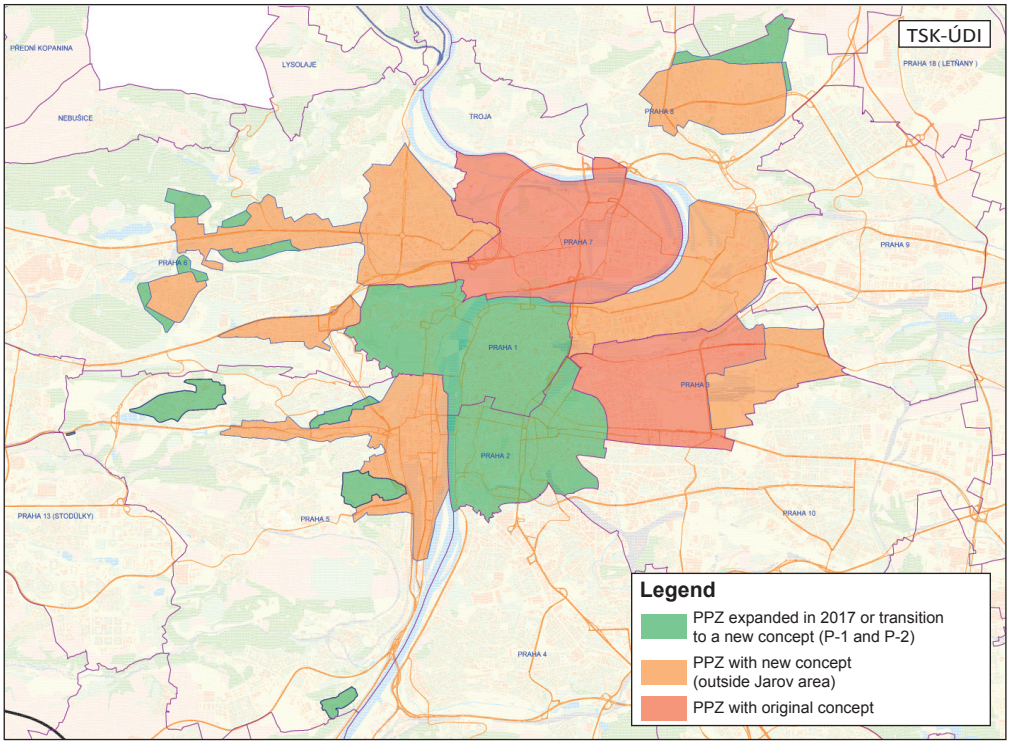
The further major roads where construction work caused temporary changes to the traffic regime were the streets Na Slupi (complete closure), V Holešovičkách (traffic heading into the centre rerouted to the opposite direction lane while refurbishing sewers) and major driving restrictions in the lanes was caused by repairs to the bridge on the Rozvadovská spojka above the Prague Outer Ring Road.

10 PARKING

10.1 Parking in areas with paid parking zones

In 2017 a gradual transition took place from the paid parking zones (PPZ) operated according to the original concept over to the new concept. Starting 1 October the zones in Prague 1 and 2 transitioned to the new concept. PPZs also expanded to parts of the city districts Prague 5, 6, 8 and 16. The purpose of the expansion was to simplify parking for residents at the expense of visitors, to reduce automobile transport, drive people towards public transport and to calm traffic in the individual areas. After the introduction of PPZs in the new areas, there truly was a drop in vehicles on the individual streets, but the parking problem primarily shifted to streets that lay just beyond the boundaries of the PPZ. For this reason various municipal districts are planning to further expand PPZ.

Map of paid parking zones



In Prague there are now two PPZ systems. The first is the original system and is run in Prague 1, 2, 3 and 7. Here the zones are divided into blue, green, orange and mixed zones. Classic parking slips are used here and residents have a parking pass stuck to their windshield. Municipal police officers check to ensure compliance.

Original 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 resident and paid parking
Time of parking	Long-term parking for holders of parking passes	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 w/ 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)

In the new PPZ areas a second system is in place that makes greater use of modern technology. Zones are divided into blue, purple and orange. Parking permits are electronic here and refer to the licence plate of the car. This does away with the need to have a parking pass stuck to one's windshield or display a parking slip. Visitors have the option of paying either using parking machines, where they enter the licence plate number of their vehicle, or through "virtual parking meters", which means paying using a mobile application via the internet. The new parking machines allow for payment by card and are powered by a solar cell. Now visitors can also park in the resident (blue) zones, but for a maximum of 3 hours and they must pay by "virtual parking meter". Checking of compliance takes place via a monitoring system. A vehicle equipped with a monitoring device drives through and checks the validity of parking permits based on licence plate numbers and the data from the central information system. Thanks to this measure, respect for the PPZs is higher than in the original areas. As part of the implementation of PPZs, in several areas zones with reduced speed were also introduced, which allowed the number of parking spots to be increased while also calming traffic.

New types of PPZ in Prague 5, 6 and 8

	Blue zone	Purple zone	Orange zone
Type of parking	Preferentially resident and subscriber parking	Combination of resident and paid parking	Paid parking
Time of parking	Long-term parking for holders of parking permits; for visitors short-term paid parking (3 hrs)	Long-term parking for holders of parking permits; for visitors long-term paid parking (24 hrs)	Short-term paid parking (2 hrs)
Users	Residents with permanent residence and businesses w/ place of business in PPZ; visitors after paying via virtual parking meter	Residents, business owners and visitors to have more uniform use of capacity	Visitors to the given area
Operation*	Mon-Fri 8:00-20:00	Mon-Fri 8:00-20:00	Mon-Fri 8:00-20:00

** This is the basic time of operation. Individual municipal districts may adjust this time.*

Number of spots and parking machines in areas with PPZs – as of December 2017

Zone	Machines		Machines		Machines mixed zone				Blue zone	Other	Total	
	Orange zone		Green zone		Green-blue		Purple					
	# of meters	# of spots	# of meters	# of spots	# of meters	# of spots	# of meters	# of spots	# of spots	# of spots	# of meters	# of spots
Prague 1	-	-	-	-	-	-	89	1 797	6 080	908	89	8 785
Prague 2	-	-	-	-	-	-	125	4 460	7 167	843	115	12 470
Prague 3	65	1 008	34	722	10	458	21	1 069	13 315	62	130	16 634
Prague 5	9	226	-	-	-	-	101	4 724	3 904	638	110	9 492
Prague 6	1	8	-	-	-	-	165	7 259	11 071	1 115	166	19 453
Prague 7	29	453	39	916	27	757	-	-	7 500	-	95	9 626
Prague 8	11	206	-	-	-	-	87	4 617	8 106	619	98	13 548
Total	**115**	**1 901**	**73**	**1 638**	**37**	**1 215**	**588**	**23 926**	**57 143**	**4 185**	**803**	**90 008**

In 2017 the garages on Letná that were built as part of construction of the Blanka Tunnel Complex were opened. The mass garages are accessible from the intersection of the streets Milady Horákové and U Sparty and offer 800 parking spots, of those 315 for residents of Prague 7.

Further parking spots in the heritage reserve are found in public garages (see table), private garages and in courtyards (in the heritage reserve around 11 000).

Number of spots in selected public parking garages in the protected centre and surroundings					
District	**Name and address**	**spots**	**District**	**Name and address**	**spots**
Prague 1	Palladium (náměstí Republiky)	900	**Prague 2**	Václavské garáže (Václavská 18)	120
	Florentinum (Na Florenci 19)	50	**Prague 3**	Žižkovská věž garages (Mahlerovy sady 1)	100
	Pařížská (Pařížská 30)	180		Atrium Flora (Jičínská)	570
	OD Kotva (entrance from Královorská)	360	**Prague 4**	Congress Centre (Pankrácké náměstí)	850
	Millennium Plaza (V celnici 10)	440	**Prague 5**	Shopping centre (Kartouzská)	2 700
	Wilsonova (Hlavní nádraží)	310		Anděl City (Radlická and Stroupežnického)	300
	Opletalova (Opletalova 9)	90		Zlatý Anděl (Bozděchova)	110
	Rudolfinum (náměstí J. Palacha)	460	**Prague 7**	Letná	800
	Slovan (Wilsonova 77)	470		Vltavská (Heřmanova)	100
	AAA Parking Grand (Na Florenci 29)	100	**Prague 8**	Hilton (Pobřežní 1)	300
	National Theatre (Ostrovní 1)	180		3D Parking (Křižíkova 44)	110
Total			**9 600**		

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 is felt most strongly in the north-west part of Prague, where there is a lack of Park and Ride facilities. The brunt of parked vehicles is faced by the areas that border on PPZs, because vehicles that used to park on the streets where there are now PPZs have started to park there.

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 partial parking on 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 lots in P+R system	**Total structural capacity**	**Number of spots per 1 million residents**
19 (16 locations)	3 433 spots	2 652
Permitted vehicles	**Operating hours**	**Daily parking fee**
passenger automobiles, bicycles	4:00-1:00 (24 hrs 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 13 paid P+R lots (with

regulated operating hours) available under the system and 6 free lots 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 not tracked.

The operator of the P+R Opatov lot terminated its contract and provision of services 31 October 2017. At the instructions of Prague City Hall, it was decided that until a contract is signed with a new operator, the lot will serve unattended.

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

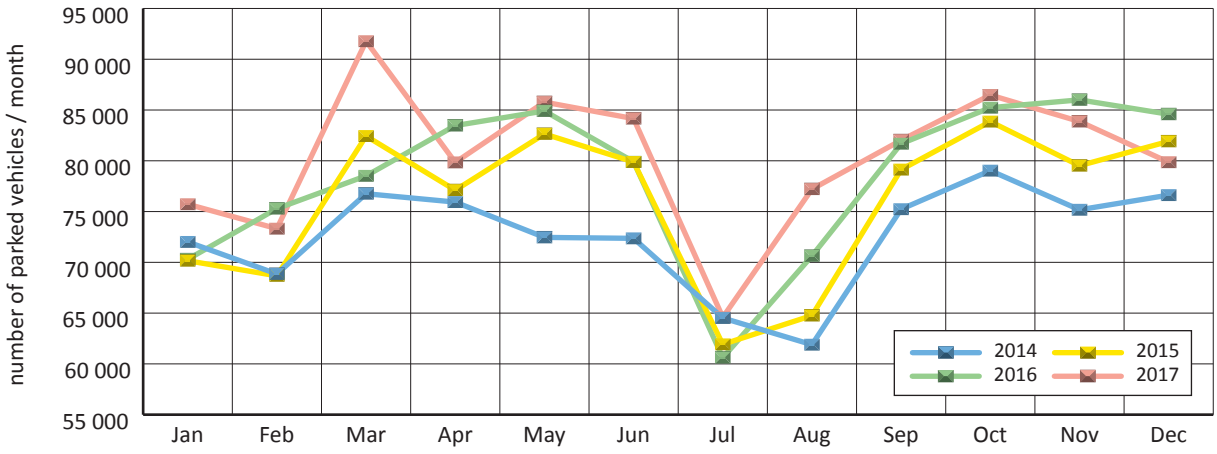
Lot	# of spots	Cars parked monthly		Lot	# of spots	Cars parked monthly	
		Oct 2016	Oct 2017			Oct 2016	Oct 2017
Běchovice	92	-	-	C Opatov	208	5 807	6 166
B Černý Most 1	294	11 600	10 973	BUS Písnice*	95	-	8
B Černý Most 2	131	3 558	3 360	Radotín	36	700	620
A Depo Hostivař	169	5 289	5 215	B Rajská zahrada	88	2 441	2 772
C Holešovice	74	3 570	3 459	A Skalka 1	63	1 473	1 491
C Chodov	653	18 998	22 098	A Skalka 2	74	-	-
TRAM Kotlářka*	184	-	100	TRAM Švehlova*	128	-	2
C Ládví	78	2 842	2 187	B Zličín 1	83	3 880	3 180
C Letňany	633	20 131	20 063	B Zličín 2	61	2 730	2 627
B Nové Butovice	57	2 212	2 154				

** in operation from 12. 10. 2017*

For the paid P+R lots the daily fee is CZK 20. Each violation of the terms and conditions for guarded lots (e.g. leaving a transportation device at the lot outside the operating hours) leads to a CZK 100 fee. With the selection of a new operator at the lots run by DPP, an additional possibility of online payment of parking fees (MPLA.cz) via registered payment card numbers (Visa, MasterCard) or CCS fuel cards was introduced at P+R Depo Hostivař, P+R Ládví and P+R Letňany.

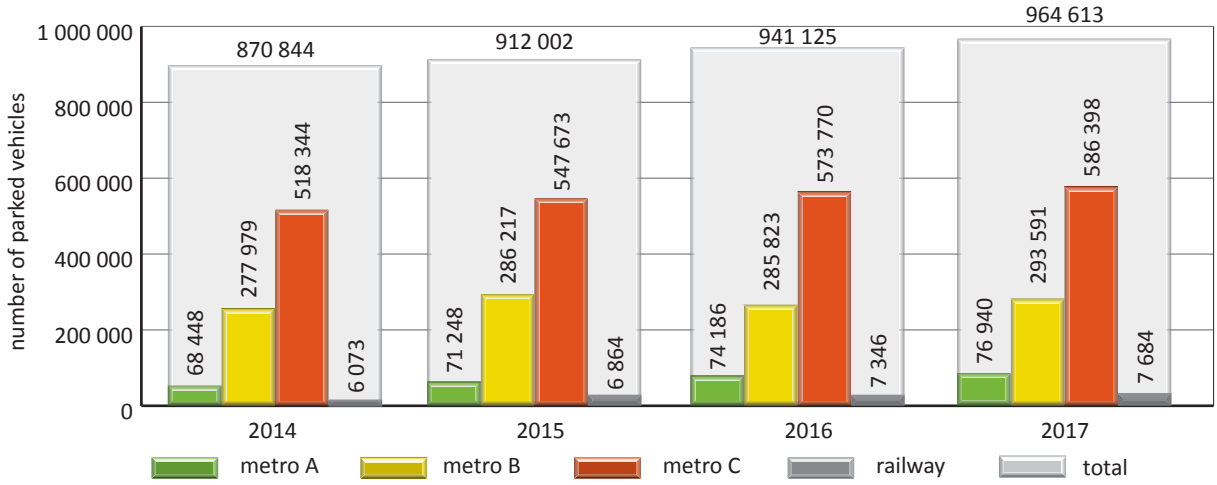
The total structural capacity of the P+R system is broken down according to use between spots for the basic function of the P+R system (3201 spots), spots permanently reserved for vehicles transporting a person with a serious handicap – marked in accordance with the Act on Land Roads (147 spots) and spots for other purposes or residents with a valid contract on long-term parking of a vehicle (85 spots).

Annual variation in use of the P+R system



The aggregate level of use of P+R lots reached a new maximum in 2017, exceeding the highest values for use of the P+R system to date, which were reached in 2010 (933 254 vehicles). The year-on-year growth stems primarily from increased use of P+R lots on the C line, at P+R Depo Hostivař on the A line and at P+R Černý Most, Zličín on the B line.

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, Zličín 2, the Chodov garages and the free P+R 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 P+R Opatov, Skalka 1 and Radotín for a monthly fee of CZK 500 for natural persons or CZK 800 for legal entities. 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 capacity reserved for residents at selected P+R lots was full for the whole year.

Residential parking on P+R Skalka 1

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

Year	Operating income	Operating costs	Economic balance
2014	15 301	29 461	-14 160
2015	15 950	29 025	-13 075
2016	16 284	24 630	-8 346
2017	**16 834**	**22 034**	**-5 200**

Source: TSK and Prague Public Transport Company

Marked improvement of the operating balance of the P+R system in 2016–2017 was primarily due to the selection of a new operator of the P+R lots managed by DPP. .

10.4 Kiss and Ride points (K+R)

IP13e

K+R "Kiss and Ride" points allow for short-term stopping of vehicles in order for passengers to exit or enter vehicles in order to transfer to public transport.

K+R stopping points within the City of Prague are marked 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" or "MAX 5 min".

Currently there are 36 lots of this type available by public transport stops and stations within the capital with a total capacity of 115 spots.

K+R Hradčanská – out of the centre

K+R Zahradní Město

In 2017 locations were added around the A line metro stations Hradčanská and Petřiny (heading out of the centre) as well as a location by the Vypich tram stop (heading into the centre) on Bělohorská. The K+R point on Roztylská by the C line metro station Chodov was removed in connection with the addition onto the shopping centre and has not yet been renewed. On Vinohradská by the A metro station Želivského heading into the centre, the traffic sign for a K+R spot is still invalidated.

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.)
B C Florenc (Sokolovská)	B Nové Butovice (Bucharova)	A Hradčanská (Milady Horákové)
C Háje (Opatovská)	C Opatov (Chilská)	C Chodov (Roztylská)**
C Háje (U Modré školy)	A Petřiny (Na Petřinách)	C Kačerov (Michelská)
S Hostivař (U Hostivařského n.)	C Prosek (Prosecká)	C Letňany (Beladova)
A Hradčanská (Milady Horákové)	C Prosek (Vysočanská)	A Nemocnice Motol (Kukulova)
C I. P. Pavlova (Legerova)	B Radlická (Radlická)	C Opatov (Chilská)
C Kačerov (Michelská)	C Vltavská (nábř. Kpt. Jaroše)	A Petřiny (Na Petřinách)
C Kobylisy (Nad Šutkou)	TRAM Vypich (Bělohorská)	B Radlická (Radlická)
C Ládví (Střelničná)	TRAM Zahradní Město (Švehlova)	S Radotín (Vrážská)
C Letňany (Beladova)	A Želivského (Vinohradská)*	
A Nádraží Veleslavín (Evropská)		

* *temporarily invalid*
** *temporarily out of service due to construction of Chodov shopping centre addition*

11 TRANSPORTATION 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), Technická správa komunikací hlavního města Prahy, a.s. (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 transport works in 2017 included the following:

Rehabilitation of Nuselský most [TSK]

In 2017, several years of repairs to the bridge Nuselský most were completed. The project comprised rehabilitation of the lower structure of the bridge (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, rehabilitation of subterranean oscillating walls on abutments, repairs to the expansion joint between metro tube and abutment, and rehabilitation of complete load-bearing structure and barrier wall of abutments. Rehabilitation of the bridge tube and refurbishing of the sidewalk ledge of Nuselský most was performed from hanging gangplanks and in part from temporary scaffolding.

Work began in 2012 with preparatory work; in 2013 the median was replaced including new bridge deck insulation, a new railing system was installed and the public lighting was replaced. In 2014 the carriageway structure was replaced, bridge deck aligned, new insulation installed and a new road surface added in the fast and middle lanes in both directions. In 2015 the carriageway structure was replaced in the right-hand lanes, the bridge deck was aligned and treated, including a sealing layer, and new deck insulation installed. At the same time the sidewalk structure on the bridge was replaced (existing sidewalk panels torn out and new ones installed). In 2016 work continued on the bridge deck and sidewalks. A diagnostic survey of the prestressing tendons also took place. In 2017 the rehabilitation of the bridge tube, Karlov and Pankrác abutments and pillars was completed. The project was co-financed from SFDI funds.

Rehabilitation of bridge tube from hanging gangplank

Nuselský most after work had been completed

Construction of Waltrovka footbridge [TSK]

The pedestrian footbridge along with the new construction of the street U Trezorky and modifications to the street Klikatá (implemented the previous year) ensures complete connection of the new Waltrovka neighbourhood to the existing infrastructure. The development was built at the site of a brownfield left from a former airplane engine factory. The footbridge leads from the Jinonice metro station over railway track no. 122, over the street U Trezorky and declines in a long longitudinal gradient onto

Walterovo náměstí, where it also forms part of the roof over the entrance to the underground garages. The footbridge is formed of a monolithic reinforced concrete structure with directly walkable bridge deck insulation. The structure was built on fixed falsework retaining the required clearance profiles over the road and railway track. The length of 105 m is divided into eight fields of varying width. In light of the large height difference between the two ends of the footbridge, part of the bridge is designed with a compensating ramp staircase. The individual levels of the staircase are supplemented in part of the span by ramps to facilitate the passage of a pram or walking a bike. Also part of the construction work was connecting it to the surrounding roads and public lighting of the footbridge.

Construction of bridge for pedestrians and cyclists over the Botič [TSK]

The opening of a footbridge over the Botič for pedestrian and cyclist traffic connected the park with the surroundings while also providing safer access for children to school. The bridge, which connects to the intersection of K Botiči and Ukrajinská on the west side and the street Přípotoční on the east shortened certain pedestrian routes and amends the road network in the area. The length of the bridge is 24 m with a variable width of 3 to 5 m. The height over the terrain and stream surface is 4.8 m and its structural height is 0.8 m. The load-bearing structure consists of four steel beams coupled with a reinforced concrete panel. The reinforced concrete bridge structure is placed on concrete abutments founded on micropiles. The bridge deck has an anti-slip surface and is formed of directly walkable insulation. The steel railings with handrails are at a height of 1.3 m, thus allowing safe passage for cyclists. The slopes are reinforced with stone tiles inserted in the concrete base. On the west side of the bridge are container stations for municipal waste. The access roads to the bridge are in interlocking pavement placed on a gravel bed and are equipped with warning and guiding elements for the blind and visually impaired.

Construction of noise barrier on the street 5. května [TSK]

A new noise barrier was constructed on the western part of the street 5. května in the segment that neighbours the street Jihlavská, on which there is multi-storey housing, and the street Bítovská, including the Bítovská school grounds. In part this is a replacement for the existing concrete noise barriers from the 90s, which however covered a considerably shorter section and above all was not suitable due to its height of 3 m.

The new 8 m high wall is composed of a lower solid part of 3 m with prefabricated absorbent elements, and an upper part of 5 m made of a transparent material with an acoustic reflecting effect. The new noise barrier reaches a length of 690 m and is founded on a reinforced concrete base strip on bored piles. The project counted on the route of the planned new on-ramp onto 5. května and the work also included landscaping of adjacent greenery.

Noise barrier along 5. května street

Refurbishing of street Přátelství [TSK]

The road Přátelství connects the municipal district of Uhříněves with the town of Říčany and then continues as the I/2 road towards Kutná Hora. The construction work included expanding the existing road by roughly 1 m on both sides to the standardised width of 9.5 m. Where the road was widened the substratum was rehabilitated and a completely new structure of base layers laid. Afterwards the old asphalt layers were ground off half by half and new ones laid. At the end a layer of low-noise asphalt was laid. Refurbishing was conducted in the segment from the roundabout at Přátelství x K Uhříněvsi x K Netlukám up to the boundary of Prague (i.e. the whole rural part of the road) and was divided up into 4 stages progressing from Říčany to Uhříněves. During the fourth stage, serious defects were found in the structure of the base layers and substratum and it was necessary to conduct extensive rehabilitation and completely replace the base layers in the given section. Despite these complications the duration of the road work was shorter than the original projected timeline. The project was co-financed from SFDI funds.

Overview of other construction, refurbishment and road repairs in 2017

Name [investor]	Description
Repairs to V Holešovičkách [TSK]	• In 2017 repairs to the surface of V Holešovičkách continued with the next phase between the Zenklova interchange and the end expansion joints of Most Barikádníků in the given direction. The existing 2 cm surfacing was replaced with a surface of 2.5 cm of low-noise asphalt. As part of ongoing maintenance the old noise pollution was removed. • In the segment Zenklova interchange – Kubišova the cavities were also rehabilitated including a check of the effectiveness of injection by the geophysical method.
Conversion of intersection K Tuchoměřicům x Tuchoměřická [TSK]	• This was a complete renovation of the junction from the original cross intersection to a roundabout with a diameter of 23 m with a single lane and a driveable ringlet. The surface of the junction is asphalt, with the dividing islands and ringlet made of large granite tiles that can be driven on. • In connection with the conversion the PID bus stops were shifted to a better position. The construction also included earthworks, restoration of the sewer inlets and shifting of the street lighting.
Ongoing maintenance of Náchodská [TSK]	• The refurbishing of part of Náchodská consisted of two separate works. The first part was the ongoing maintenance in the segment from the interchange with the Prague Outer Ring Road up to the junction with Stoliňská, and the second was repairing the intersection with the street Bystrá. • Grinding a thickness of 120 mm removed the upper layer of the road surface. Then asphalt layers were laid – 80 mm of ACL 22S and 40 mm of ACO 11S. Cracks were repaired, edging levelled and traffic signage restored.
Ongoing maintenance of Kunratická spojka [TSK]	• Phase 4 (repairs to roundabout with Vídeňská) and Phase 5 (830 m section Vídeňská – Libušská) of ongoing maintenance of Kunratická spojka took place. • Implementation consisted of grinding off 100 mm with subsequent laying of asphalt layers of 60 mm of ACL 22S and 40 mm of SMA 11S. Cracks were repaired, edging levelled and traffic signage restored. Project implemented with 3D model of surface grinding.
Refurbishing and construction of noise barriers on Štěrboholská spojka [TSK]	• Works in the section between Štěrboholy and Dolní Počernice comprised construction of new noise barriers and partial refurbishing of the original walls of inappropriate height and material that did not have the necessary mechanical and physical properties and sound insulation. • Construction over a total stretch of 3 344 m was divided into 5 stages.
Ongoing maintenance of Českobrodská [TSK]	• Ongoing maintenance of the road in the segment Broumarská – Lomnická of 1.1 km was conducted, consisting of grinding off 120 mm with subsequent asphalt replacement. Restoration of traffic signage, repairs to cracks, levelling of edging and surface signs of utilities infrastructure. • Bus stops repaved and in some cases rehabilitated.
Ongoing maintenance of Patočkova [SFDI]	• This project of ongoing maintenance of the road in the section Pod Královkou – Bělohorská of 1.5 km consisted of grinding off 100 mm with subsequent low-noise asphalt replacement. Cracks were repaired, levelling of edging and surface signs of utilities infrastructure. Traffic signage was restored.
Repairs to Evropská [TSK – co-financed by SFDI]	• Repairs on the section Vlastina – interchange with Prague Outer Ring Road comprised replacement of the surface and underlayer and rectification of surface signs of utilities infrastructure. • Four PID bus stops were also repaired.
Ongoing maintenance of Letná Tunnel [TSK]	• Ongoing maintenance of the road consisted of renewing the anti-skidding attributes of the road surface. According to the conducted surveys, the Peel-Jet technology was selected using a pressure of 2 500 bar and a speed of approx. 250 – 300 m^2/hr.

New roundabout K Tuchoměřicům x Tuchoměřická

Kyjevská following refurbishing

TSK projects also included further road repairs and refurbishing:

On the street Mladých Běchovic before the intersection with Českobrodská the road was expanded to include a new turn lane of 65 m including a new sidewalk along the expanded part. Following a burst sewer pipe on the Vysočanská viaduct and collapsed road surface, the carriageway and substratum were completely reconstructed (new active zone of a thickness of 0.5 m) and repairs to sidewalks and bus bays were made. The street Jalodvorská was expanded to 5.5 m, new sidewalks, drainage and a bus stop were built. On the streets Londýnská and Belgicka the carriageway, sidewalks and drainage were repaired and trees added. On the streets Senohrabská and Na Chodovci the surface and sublayer were replaced with low-noise asphalt. Also undergoing refurbishing were the streets Hlavní, Náměstí U lípy svobody and parts of the streets Vídeňská, U Sluncové, Žitomírská and Ke Křížkám.

The retaining wall on the streets Mariánské hradby and U Prašného mostu was repaired, including prior archaeological survey. The historical retaining wall was also refurbished on the street Na Baště sv. Jiří. The stone bossage of the corner was repaired along with the outer face including fixing any cracks and cavities in the shaft of the wall and a new railing was installed. The parking strip was designed to as not to overburden the historic wall.

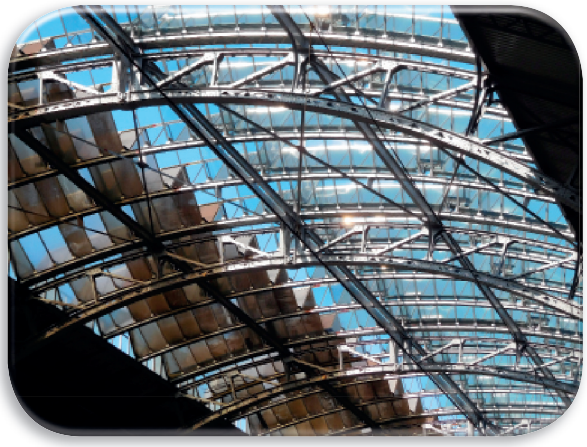
As part of the Prague 6 pavement programme, refurbishment was done on the streets Kanadská (carriageway with asphalt surface, sidewalks made of concrete paving), Na okraji and Štolbova (refurbishing of drainage and carriageway including rehabilitation of substratum, joining of kerbs, concrete paving sidewalks, carriageway with asphalt surface), U Zvoničky (carriageway paved with stone paving lined with granite kerbs, residential zone established) and Kyjevská (carriageway paved with stone paving, sidewalks with Prague mosaic).

On the street Chlumecká the expansion joints were replaced on the bridge over Ocelkova and on Průmyslová on the bridge over the railway tracks. Repairs were made to the bridge on the street Národních hrdinů (rehabilitation of load-bearing structure, new hydroinsulation, restoration of road surfacing layers).

Ongoing maintenance took place on the streets Plzeňská, Lipská in the section City of Prague boundary – Evropská, Koněvova (section Hraniční – Nad Ohradou heading into the centre), Průmyslová (section Objízdná – Teplárenská heading toward Hostivař), V Hodkovičkách, Nebušická, Kolbenova and K Radonicům.

Technická správa komunikací hlavního města Prahy, a.s., as the administrator of the majority of the city's roads including accessories thereto, is responsible for their satisfactory working order. It ensures funding from the current and capital expenditures budget for the necessary repairs, cleaning, and winter and summer maintenance, in some cases with contributions from SFDI or the municipal districts. In 2017 TSK spent CZK 2.908 billion on repairs, maintenance and road operation. Capital expenditures totalled CZK 1.756 billion.

The street Na okraji following refurbishing



Old and new part of roof over main train station hall

Overview of most important refurbishments and repairs in public transport in 2017

Name [investor]	Description
Renovation of historic roof of main train station [SŽDC]	• In 2017 repairs were completed to the steel arched two-bay roof of the 1st-4th boarding platforms, comprising refurbishing of drainage, repairs and additions to service gangplanks including railings, new glass in skylights, side walls, front of hall and shelters by the Fanta building. The anti-corrosion protection on the load-bearing structure was restored (removal of old coating through water-blasting and subsequent treatment with anti-corrosion system), replacement of the roof cladding with new one, revision of joints and replacement of damaged rivets. Some load-bearing structures could not be overhauled and new ones needed to be produced. • So only two boarding sides had to be closed at the same time, half of the longitudinal part of the hall was always renovated from scaffolding. • The project was co-financed from SFDI funds.
Tram track refurbishment of Albertov – Otakarova [DPP]	• Refurbishing took place on the streets Na Slupi, Jaromírova and Křesomyslova. The project was divided into ten stages, during each of which the old BKV panels were removed. The new track construction was made with a fixed W-tram system in an anti-vibration base with bituminous covering. • At the same time the sewer system on Na Slupi was modernised and the gas lines were repaired. • Associated with the tram track repairs was refurbishing of the bridge over the Botič at Ostrčilovo náměstí [TSK].
Renovation of Jinonice metro station [DPP]	• Renovations of this station from 1988 were caused primarily by the need to secure it against massive water leakage. Complete grouting of the leakage was conducted, plus rehabilitation of the jambs and installation of a drainage system. • Other work done was modernisation of the lighting, repairs to wiring, cabinets, ventilation and other work. The glass fittings forming the wall coverings were taken down, cleaned and reinstalled into new stainless steel cartridges. • The repairs caused several months of restrictions for passengers, meaning the trains passed through the station without stopping.
Renovation of Muzeum A metro station [DPP]	• Stage 1 of renovation of the Muzeum A transfer metro station took place, during which trains passed through without stopping on track 1 for roughly 6 months. • Work primarily comprised removing leaks into the station and building a stainless steel drainage system. The stone casing of the pillars on the platform was also replaced. New lighting, a new broadcast system, passenger counting system and beacons for the visually impaired were all installed.
Tram track refurbishment Palmovka block [DPP]	• The tram track on the streets Na Žertvách, U Balabenky, Sokolovská and Zenklova forming a circuit around Palmovka were refurbished in four stages. • Old BKV panels were removed, new track construction uses fixed W-tram system with bituminous covering. • Also repaired were the track drainage, heating and control of switches, the trolley wires and the track cables.
Tram track refurbishment on Klapkova [DPP]	• Old BKV panels were removed, new track construction uses fixed W-tram system with bituminous covering. • The sewer system has been reinforced, water lines transposed and heat pipes repaired.
Tram track refurbishment on Antonínská [DPP]	• Track repairs took place in the segment Strossmayerovo náměstí – Vltavská. The new track construction uses a fixed W-tram system with bituminous and cobblestone covering.
Other repairs and refurbishments in public transport	• Metro: At the Palmovka station, new lifts were built for barrier-free access, the escalators were replaced in the western vestibule, where the drop-ceilings were also replaced including lighting. Following realisation repairs were launched on the eastern vestibule, to be completed in 2018. At the Skalka station as part of renovations the escalators were replaced, as were the drop-ceilings including lights, the information system, the wall coverings and tiling. At Anděl station the replacement of escalators began. On the C line the switches at Florenc station were replaced during several closures and on selected track segments so were the rails and sleepers, the expansion devices, the electrified rail consoles and the contact transformers were transposed. • Trams: The tracks were replaced at the intersections Olšanské náměstí x Jičínská, Olšanská x Jana Želivského and Koněvova x Jana Želivského. At the Výstaviště Holešovice turnaround the track constructions were replaced. • Rail: The safety devices on the track Praha-Smíchov – Hostivice were refurbished and repairs to Negrelli Viaduct began, with planned completion in 2019.

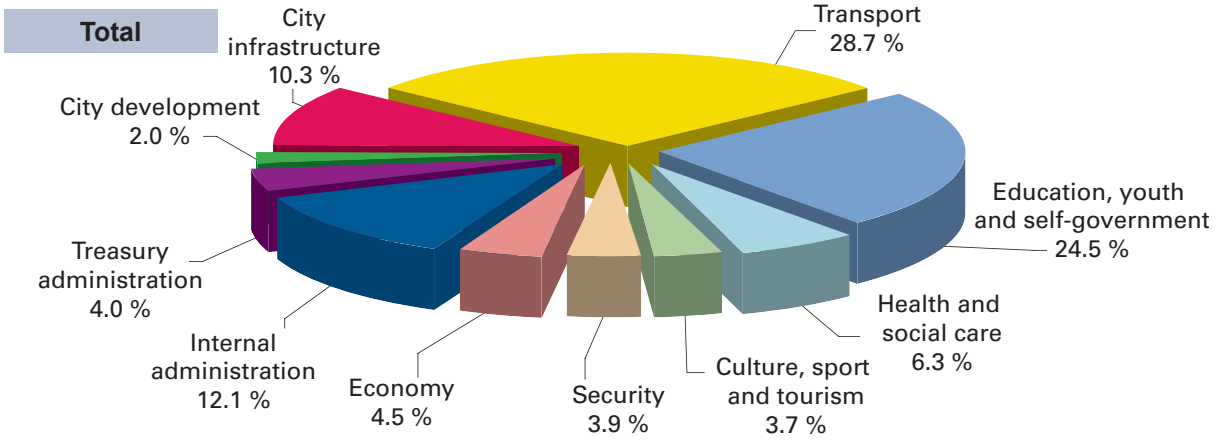
12 FINANCING THE OPERATION AND DEVELOPMENT OF MOBILITY

The operation of urban transport and the realisation of transportation infrastructure in 2017 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.

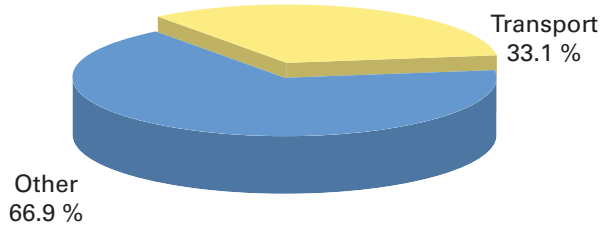
The City of Prague municipal budget, updated 30 June 2017, reached CZK 86.9 billion in expenditures, of which the expenditures under Chapter 03 Transport totalled CZK 25.1 billion. Chapter 03 was thus once again the most substantial heading of the municipal budget in terms of expenditures in 2017 (almost 29 %).

Transport accounted for almost 33 % of the City of Prague's current expenditures and nearly 20 % of capital expenditures.

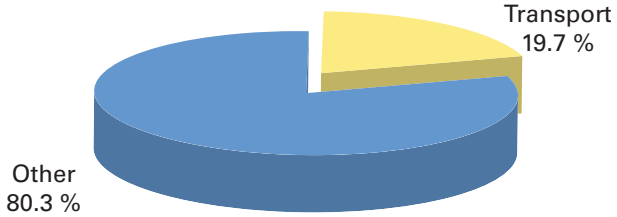
Breakdown of municipal budget expenditures in 2017 (budget updated as of 30 June 2017)



Share of transport in current expenditures

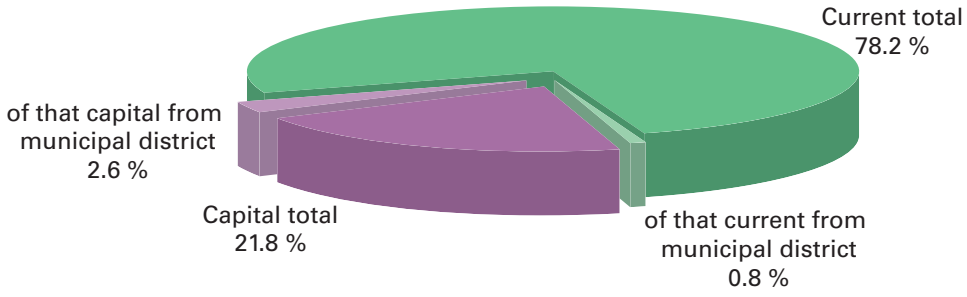


Share of transport in capital expenditures



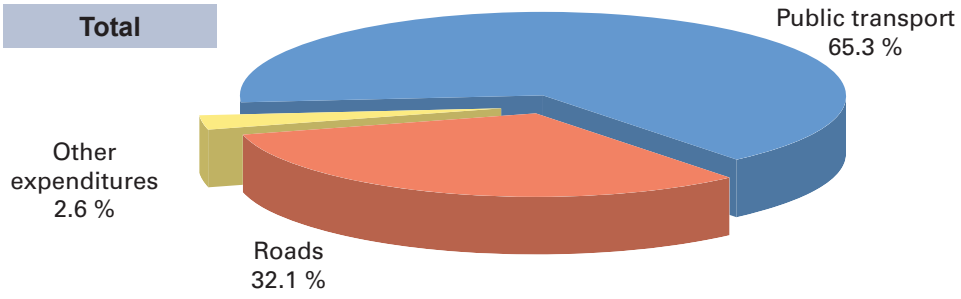
Of the total amount planned for transport in the adjusted budget (CZK 25.1 billion), CZK 19.6 billion was earmarked for current expenditures and CZK 5.5 billion for capital spending.

Proportion of current and capital expenditures in Chapter 03 Transport (budget updated 30 June 2017)

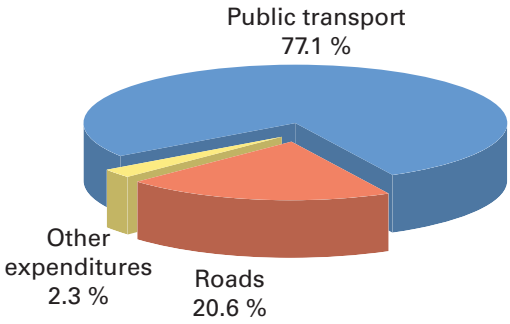


Ever year, expenditures associated with passenger public transport form the decisive bulk of current expenditures. CZK 15.2 billion was set aside for this purpose in the adjusted budget. CZK 4 billion was earmarked for administration, maintenance and operation of roads and CZK 0.5 billion went to cover various other necessary expenditures.

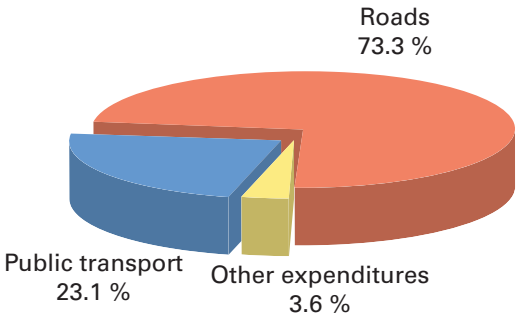
Structure of municipal budget transport expenditures in 2017 (budget updated 30 June 2017)



Current expenditures



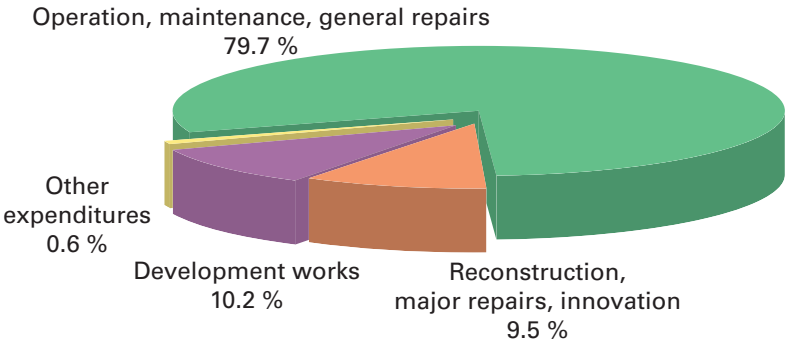
Capital expenditures



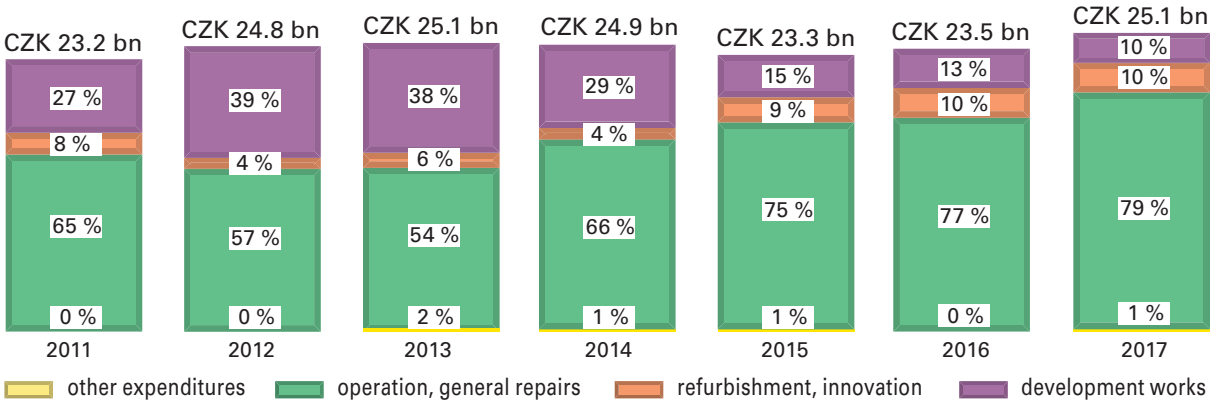
The capital expenditures were earmarked primarily for development investments (47 %), as well as more extensive repairs and refurbishment (44 %). Expenditures allocated for improving the road network and conditions and conditions for road traffic dominated. Of the total amount of CZK 5.5 billion, CZK 1.3 billion went to renewal and development of public transport and CZK 4.0 billion to investment in the road network. As regards the relatively low level of funding allocated for investment in the passenger public transport system, it is necessary to point out that further investments in this system were covered from other sources.

Of the total transport expenditures in the adjusted 2017 budget under Chapter 03, the amount set aside for ensuring the operation, renewal and development of public passenger transport was 65 % and the amount for ensuring road transport and development of the road network was 32 %. A more detailed breakdown of the items in the expenditures on transport shows that CZK 20 billion went to providing for operation, general repairs and maintenance of the city's transportation system, CZK 2.4 billion went to major repairs, refurbishing and renewal of technical facilities, CZK 2.6 billion was earmarked for development investments, and CZK 0.1 billion was for other expenditures.

Structure of municipal budget transport expenditures in 2017 (budget updated 30 June 2017)



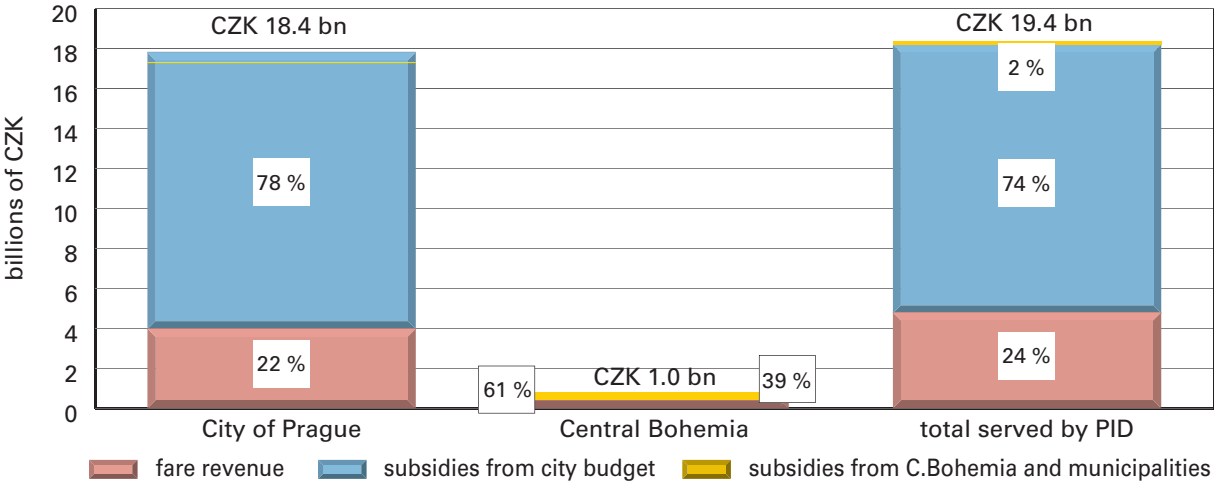
Development of structure of transport expenditures in Prague budgets (budget updated 30 June)



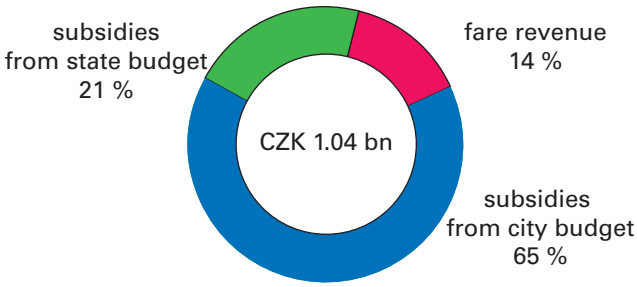
Targeted bound contributions were provided to the City of Prague from the state budget to cover certain public transport operating costs. A contribution was allotted from the budget of the State Fund for Transport Infrastructure (SFDI) for the maintenance, repair and construction of roads that are temporarily fulfilling the function of the lacking superior road network. The state also helps finance construction of the Prague Outer Ring Road, having taken on full guarantee for its funding. In 2017 a total of CZK 20 million was drawn for this purpose. The state budget also adds to EU funds to help finance EU operational programmes.

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 PID (2017, w/o railway revenue and subsidies in Prague and C. Bohemia)



Operating subsidies and fare revenue from rail carriers under PID within Prague (2017)



13 EU PROJECTS WITH PARTICIPATION OF TSK

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

The City of Prague Technical Administration of Roads realised a total of five 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
   Project number: CZ.1.01/5.2.00/07.0029
II. Increasing Road Safety in Prague
   Project number: CZ.1.01/5.2.00/08.0129
III. Comprehensive Telematic Monitoring System
   Project number: CZ.1.01/5.2.00/12.0276
IV. Modernisation and Supply of a Traffic Management System in Prague
   Project number: CZ.1.01/5.2.00/14.0380
V. Intensified Installation of Telematic Devices to Increase Traffic Safety and Flow in Prague
   Project number: CZ.1.01/5.2.00/14.0418

OPD and Operational Programme Prague – Growth Pole of the Czech Republic (OPPPR) in the programming period 2014–2020

EVROPSKÁ UNIE
Evropské strukturální a investiční fondy
Operační program Doprava

EVROPSKÁ UNIE
Evropské strukturální a investiční fondy
Operační program Praha – pól růstu ČR

The City of Prague Technical Administration of Roads took an active approach to the process of preparing applications for support with the possibility of drawing funding from operational programmes under the new 2014–2020 programming period, and took advantage of the first declared calls for submissions announced by the relevant managing authorities. At the turn of 2016/2017, three subsidy applications were thus prepared for Call No. 27 of Operational Programme Transport (Specific Objective 2.3 – Improving Traffic Management and Increasing Traffic Safety):

- Information System on Travel Times on the City Ring Road
  Project number: CZ.04.2.40/0.0/0.0/16_027/0000061
- Guidance System for Free Parking Spaces in the Streets of Prague
  Project number: CZ.04.2.40/0.0/0.0/16_027/0000062
- Development of Traffic-Dependent Management at Traffic Signals with Links to City Ring Road
  Project number: CZ.04.2.40/0.0/0.0/16_027/0000060

At the beginning of 2017 an application was also prepared for a subsidy under Call No. 40 of Operational Programme Prague – Growth Pole of the Czech Republic (Specific Objective 2.1 – Energy Savings in Municipal Buildings Achieved in Part Using Suitable Renewable Resources, Energy Efficient Devices and Smart Management Systems):

- Reducing the Energy Demand of the Strahov and Zlíchov tunnels
  Project number: CZ.07.2.11/0.0/0.0/17_057/0000604

along with a subsidy application under Call No. 8 (Specific Objective – 1.1 – A Higher Rate of Cross-Sectoral Cooperation Stimulated by Regional Governments):

- Low-Carbon Waste Logistics Solutions in Prague 1
  Project number: CZ.07.1.02/0.0/0.0/15_024/0000505

In accordance with the deadlines specified in the subsidy calls, the aforementioned subsidy applications were then over the course of 2017 submitted and registered. Subsequently the listed projects were approved by the competent managing authorities; for the projects submitted under OP Transport the Approval Forms were issued and for the projects under OP Prague – Growth Pole of the Czech Republic, the Conditions for Implementation were signed. The subsidy amount out of the overall eligible costs is 85 % for OP Transport projects and for OP – Prague Growth Pole of the Czech Republic projects 90 %.

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 2017 it had been 80 years since the airport launched operations and as part of the celebration of this anniversary the airport presented visions for its development over the next decades, including development of the terminals and associated areas for aircraft, increasing the capacity of the runway system, modifying the public space in front of the terminals and developing the broader territory of the airport.

In 2017 a total of 366 carriers operated at Prague Airport, of those 69 carriers on regular passenger lines, 12 low-cost carriers and 8 regular freight carriers. The other carriers operated charter flights, private flights and irregular freight transport. Altogether in 2017, flights were made to 163 destinations in regular transport and 671 destinations in charter transport. Some destinations were the subject of both regular and irregular connections. The greatest volume of passengers was dispatched to destinations in the United Kingdom (1.82 m), Italy (1.35 m), Germany (1.25 m), the Russian Federation (1.2 m), and France (1.04 m).

North section – air traffic control tower

North section – apron by Terminal 1

In 2017, compared to 2016, the number of passengers rose around the world by 6.4 % on average. Growth was felt in all parts of the world; in Europe it was 8.5 %. Freight transport rose by a worldwide average of 7.9 %, the most in Africa (12.4 %), in Europe by 8.7 %.

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)

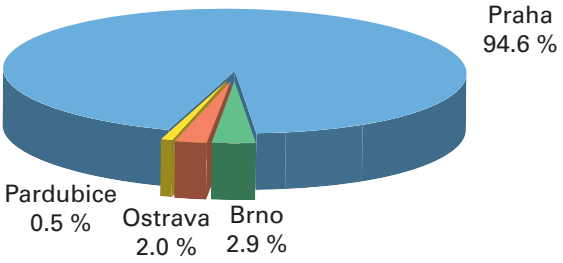
Airport	2000	2008	2015	2016	2017	17/16 (%)
Hartsfield-Jackson International (Atlanta)	80.2	90.0	101.5	104.3	**103.9**	100
Bejing Capital International Airport	21.7	55.9	89.9	94.4	**95.8**	101
O'Hare International (Chicago)	72.1	69.4	76.9	78.0	**79.8**	102
London Heathrow	64.3	66.9	75.0	75.7	**78.0**	103
Paris Charles de Gaulle	47.8	60.9	65.8	65.9	**69.5**	105
Amsterdam Schiphol	39.3	47.4	58.3	63.6	**68.5**	108
Frankfurt	49.0	53.5	61.0	60.8	**64.5**	106
Istanbul Atatürk Airport	14.7	28.6	61.3	60.1	**63.7**	106
Madrid Barajas	32.6	50.8	46.8	50.4	**53.4**	106
Roma Fiumicino	25.9	35.2	40.5	41.7	**41.0**	98
Copenhagen Kastrup	18.2	21.5	26.6	29.0	**29.2**	101
Stockholm Arlanda	18.3	18.1	23.2	24.7	**26.6**	108
Brussels Airport	21.5	18.5	23.5	21.8	**24.8**	114
Vienna Schwechat	11.8	19.7	22.8	23.4	**24.4**	104
Warsaw Frederic Chopin	4.3	9.5	11.2	12.8	**15.8**	123
Letiště Václava Havla Praha	5.8	12.6	12.0	13.1	**15.4**	118
Budapest Ferihegy	4.7	8.4	10.3	11.4	**13.1**	115
Bratislava M. R. Štefánika	0.3	2.2	1.6	1.8	**1.9**	106

Source: airport websites

The total volume of passengers checked through in 2017 at the most highly trafficked Czech airports (Prague, Brno, Ostrava, Pardubice) totalled 16.3million. The volume of freight transported by air (goods and post) rose to 91 200 tonnes.

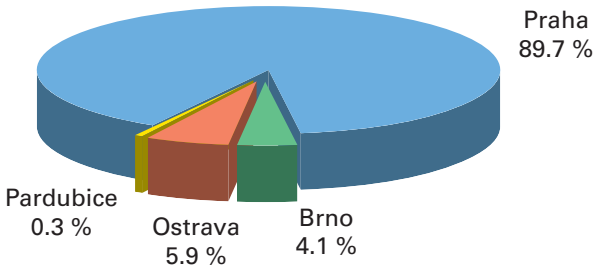
Share of airports in passenger volume

% of total volume of passengers (2017)



Share of airport in freight volume

% of total volume of goods and post (2017)



In 2017 a total of 15 415 001 passengers were checked through at the Prague Airport, which represents a rise of 17.9 % compared to 2016. The growth of "local" passengers, for whom Prague is the point of departure or destination, grew by 18.8 %, while the number of transfer and transit passengers dropped. Local passengers thus made up 98 % of the total number of passengers checked through.

The majority of passengers (96.6 %) were checked through on regular flights. Of the total volume of over 15.4 million, 68.8 % were transported on network carrier lines, while the share of low-cost companies totalled 27.8 % and the share of charter companies 3.2 %. The share of private flights was just under 0.2 %. The most passengers were checked through in July (1 703 200).

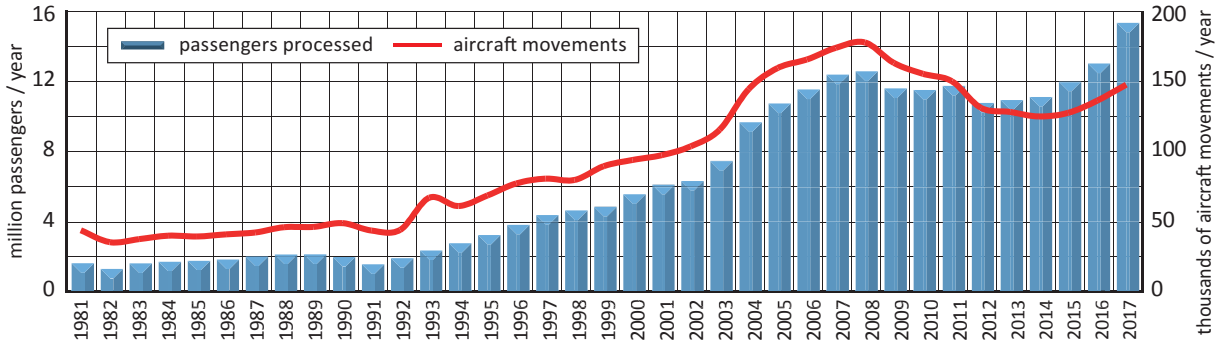
In air freight transport in 2017, a total volume of 81 879.6 t was transported. Freight transport was thus 10 788.7 t greater than in 2016 (an increase of 15.2 %).

The number of aircraft movements in 2017 totalled 148 283, which is 11 517 more than in 2016 (growth of 8.4 %).

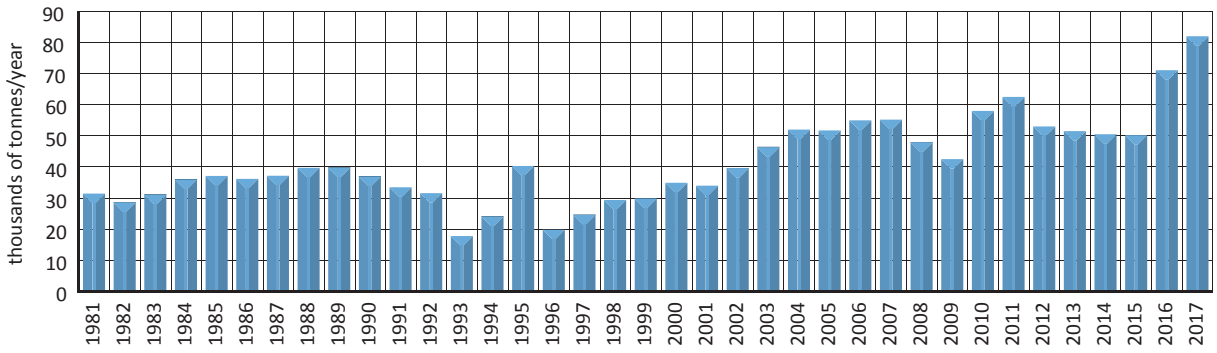
North section – apron by Terminal 1

Prague Airport – evening flight

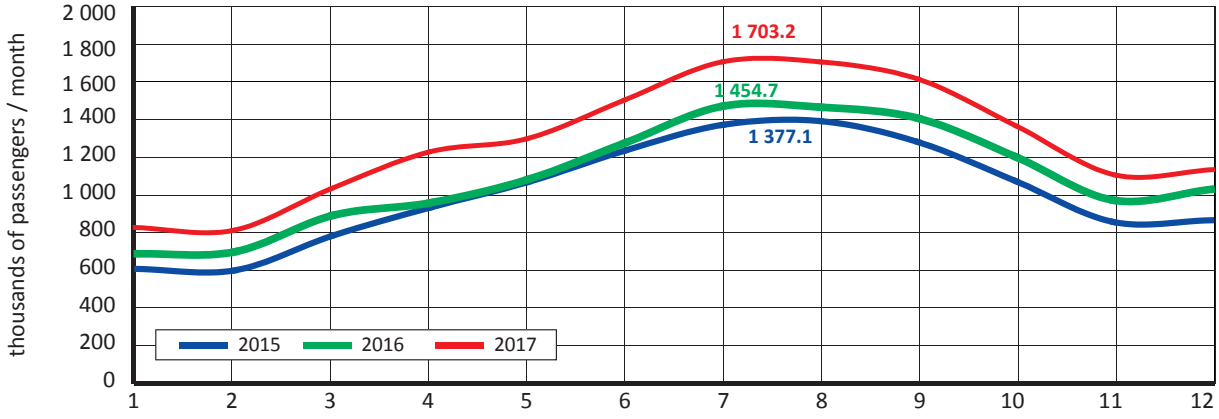
Development of volume at Prague Airport (number of passengers and aircraft movements)



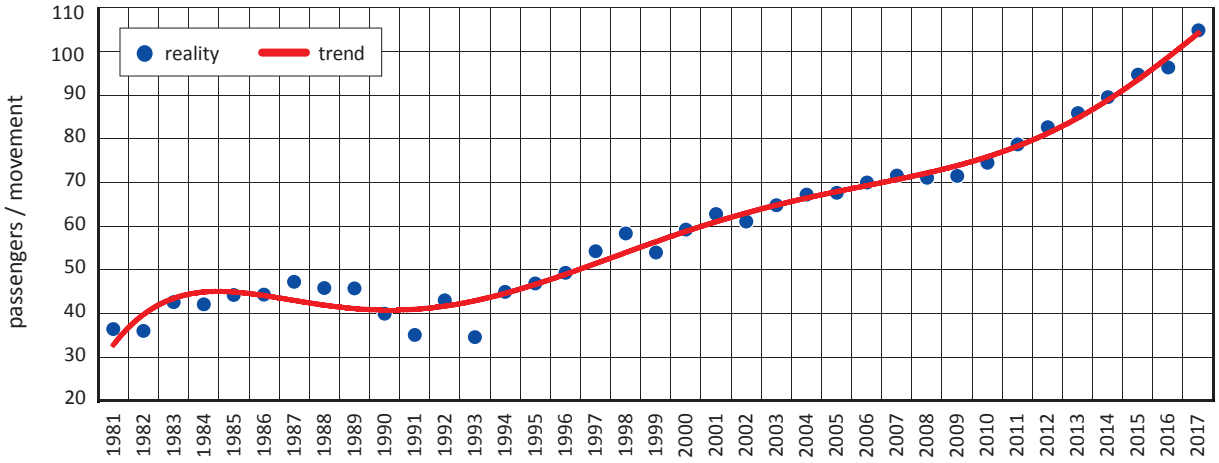
Development of volume at Prague airport (freight cleared – goods and post)



Month number of passengers checked at Prague airport in 2015–2017



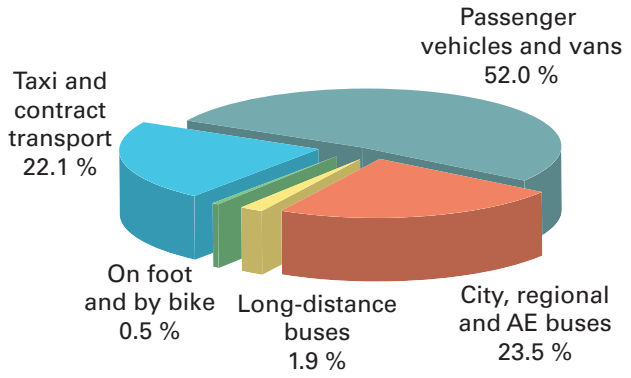
Development of passengers / 1 movement (Prague Airport, 1981–2017)



The airport is located approximately 11 km from the centre of the city. It is served by express urban bus lines from the metro lines A (Veleslavín) and B (Zličín). Long-distance and regional bus lines also pass through. The special Airport Express bus line, intended primarily for airline passengers, goes from the main train station Praha hlavní nádraží 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 (incl. taxis) 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 monitored by Prague Airport year-round.

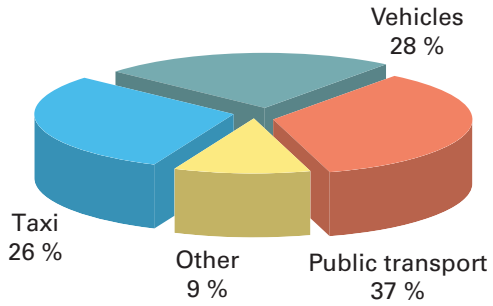
Modal split of trips to and from airport

all categories total, June 2016, workdays, 6:00-22:00



Modal split of trips to airport

only departing passengers, average for 2017



In 2017, about 6 000 stopping and parking spots were available to the public and airport employees in the north part of the airport complex, of which 590 places were located in the cargo zone. The largest number of parking spots (4 651) is available for the public and employees in parking lots operated by the airport – PA Smart, PC Comfort and PD Holiday. Further spots are located in the T1+T2 buildings and in lots located at suitable locations in the complex. The majority of spots are mid-term and long-term; 521 short-term spots are available for operative access.

In the south part of the complex are 104 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 2000 – 2017

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
2015	3 570	24 622	3 855	8 880	3 763
2016	3 500	25 575	4 501	8 915	4 560
2017	**3 158**	**25 386**	**4 520**	**10 174**	**3 827**

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. At the end of 2017 a new P8 ferry began to be operated, established at the site of the collapsed footbridge between Císařský ostrov and Troja.

In August 2017 it had been 15 years since the devastating floods of 2002, which saw historic water levels. Since that time flood protection has been installed, measuring 19.2 km, with mobile measures making up 6.8 km of that. The total costs amounted to CZK 3.7 billion. In July the docks at Nábřeží Edvarda Beneše reopened following modernisation. These docks provide an opportunity for tour boats or small cabin cruisers to dock, and is also available for short-term parking of small vessels.

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. Today this company forms a consortium with the company Prague Boats, which operates the boats for both companies.

Prague Boats, s. r. o. was created with the partition of the company Evropská vodní doprava (EVD), and harbours by Čechův most. 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.

Among the newest passenger vessels are the boats Grand Bohemia and Bohemia Rhapsody, which were manufactured for the specific conditions of Prague at the Bolle shipyard in Derben. They are single-deck boats with a mobile glass roof (“Aqua-Cabrio”) tailored for sightseeing cruises with a gastronomic programme. Air-conditioning allows for year-round operation. The vessels are equipped with low-noise engines and meet the EU standards for low emission values – they can cruise at speeds of up to 20 km/h. The capacity of each is over 200 persons. 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) and 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	2010	2011	2012	2013	2014	2015	2016	2017
Prague Boats	196	193	205	209	246	283	298	322	**329**
PPS	86	91	107	98	149	162	186	189	**192**

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 custom cruises and social events based on the customer's wishes. It docks at Na Františku.

Pražské Benátky 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 the 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 the 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
2015	145	345	41	440	313 900
2016	0	1 492	225	580	465 065
2017	**11 413**	**9 422**	**112**	**12 551**	**278 432**

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

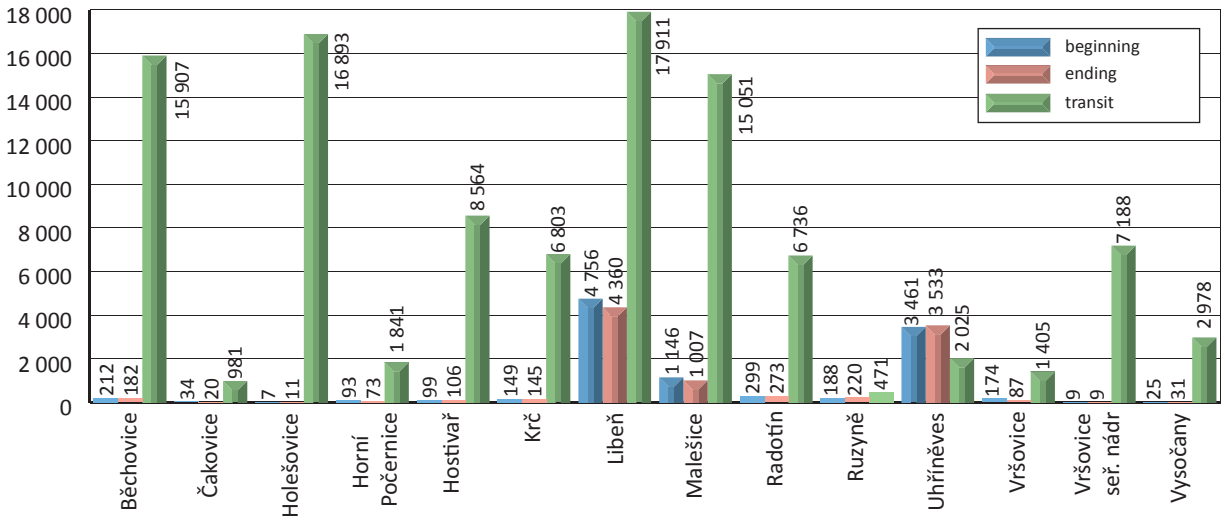
Year	Harbour					
	Radotín	Smíchov	Holešovice	Libeň	Other	Prague unspecified
2005	36 408	11 396	99 308	2 934	-	-
2010	0	364	53 207	0	-	-
2015	0	0	64 060	1 622	133 947	98 550
2016	0	0	4 100	18 577	416 922	28 910
2017	**16 736**	**0**	**0**	**28 070**	**234 683**	**50**

Operators of domestic water transport sometimes also report a different location from which they haul earth dug up during construction work. 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).

Number of freight trains beginning, ending and passing through Prague in 2017



In 2017, 21 315 freight trains were recorded beginning and ending at train stations within Prague (an increase of 8.4 % compared to 2016), the greatest amount in Libeň (9 116, i.e. nearly 43 %). For this reason the hump yard was renovated there, including barriers to prevent noise from spreading to the surrounding area.

Number of trains beginning and ending in Prague by month in 2017

Month	01	02	03	04	05	06	07	08	09	10	11	12	Total
Beginning	748	708	874	860	1 005	970	969	1 006	971	1 022	1 019	806	**10 958**
Ending	710	666	818	810	894	894	900	936	945	954	968	862	**10 357**

The year 2017 was relatively stable in terms of freight rail transport in Prague, and over its course very few changes took place. Last year once again the most important railway client could be considered the Metrans intermodal transport terminal in Uhříněves, at which transport to north German and Dutch ports continues to dominate. On 19 July however the first direct train with shipments of Czech crystal, beer and other commodities for the Chinese market was dispatched from there. The destination of this transcontinental connection was the city of Yiwu in the eastern Chinese province of Zhejiang, and its trip took 16 days.

In 2017 the share of rail in importing building material and materials for construction projects in the capital increased. First and foremost this was the case for the import of cement from the cement plant in Hranice na Moravě for the company Zapa Beton. This cement is transferred from railway cars to road vehicles at the train station Praha-Krč, whence it is taken to the concrete plant at Kačerov, or others in the vicinity. During 2017 train cars transported 40 000 tonnes of cement to Prague in this manner, saving 1 500 trips by truck along the overburdened D1 motorway.

A second example is the unloading of building components by the company KM Beta at various locations in Prague. This company, in reaction to the growing shortage of truck drivers, incorporated rail transport into its distribution chain. In practice this means that a shipment is loaded onto several covered train cars, transported to an appropriate railway station near the building site and there transferred to trucks and shipped directly to the construction site, or an appropriate interim storage site. In Prague and its surroundings stations such as Praha-Libeň, Praha-Radotín and nearby Rudná u Prahy served for transhipment.

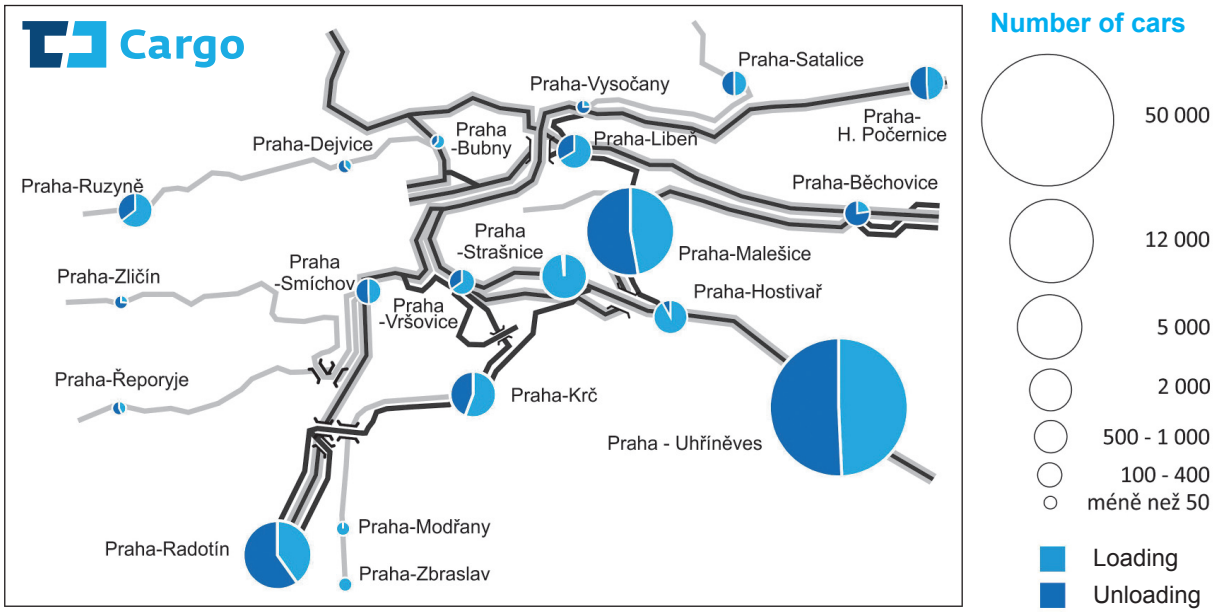
An interesting curiosity is the renewed loading of timber at Praha-Zbraslav. Wood harvested from the surrounding forests, in particular on the banks of the Vltava, started to be loaded here again after a hiatus of several years during the second half of last year and Praha-Zbraslav has once again become the only station in Prague where this otherwise “rural” commodity is loaded onto train cars.

The transport of postal consignments between Czech Post nodes in Praha-Malešice, Olomouc and Ostrava continued unchanged last year, with the most modern ČD Cargo locomotive from the 383 Vectron line being regularly deployed on some of those trains at the end of the year. Postal trains were supplemented in both directions by consignment transports by the company Lagermax.

Number of cars and tonnes of freight loaded and unloaded for ČD Cargo at Prague stations in 2017

Station name Praha-	Cars		Tonnes of freight		Station name Praha-	Cars		Tonnes of freight	
	loaded	unloaded	loaded	unloaded		loaded	unloaded	loaded	unloaded
Běchovice	30	103	1 292.79	4 860.04	Ruzyně	319	176	2 740.31	1 814.66
Bubny	18	11	402.67	139.11	Řeporyje	3	4	262.06	252.00
Čakovice	367	23	17 364.53	1 402.48	Satalice	126	127	4 221.58	5 432.44
Dejvice	3	5	116.71	121.71	Smíchov	67	69	2 902.76	2 800.59
H. Počernice	279	292	3 649.72	10 348.93	Strašnice	1 987	25	19 323.95	870.38
Hostivař	458	40	20 798.77	690.87	Uhříněves	25 019	25 762	636 849.41	708 779.72
Krč	1 051	834	25 749.31	42 677.50	Vršovice	223	119	3 075.51	5 138.34
Libeň	649	327	21 580.05	13 016.75	Vysočany	13	40	308.42	1 653.72
Malešice	5 729	6 455	109 104.77	147 787.12	Zbraslav	26	0	777.88	0
Modřany	42	0	940.85	0	Zličín	5	14	117.84	487.40
Radotín	2 117	3 150	51 028.00	158 908.75					

Prague – train station volumes in 2017



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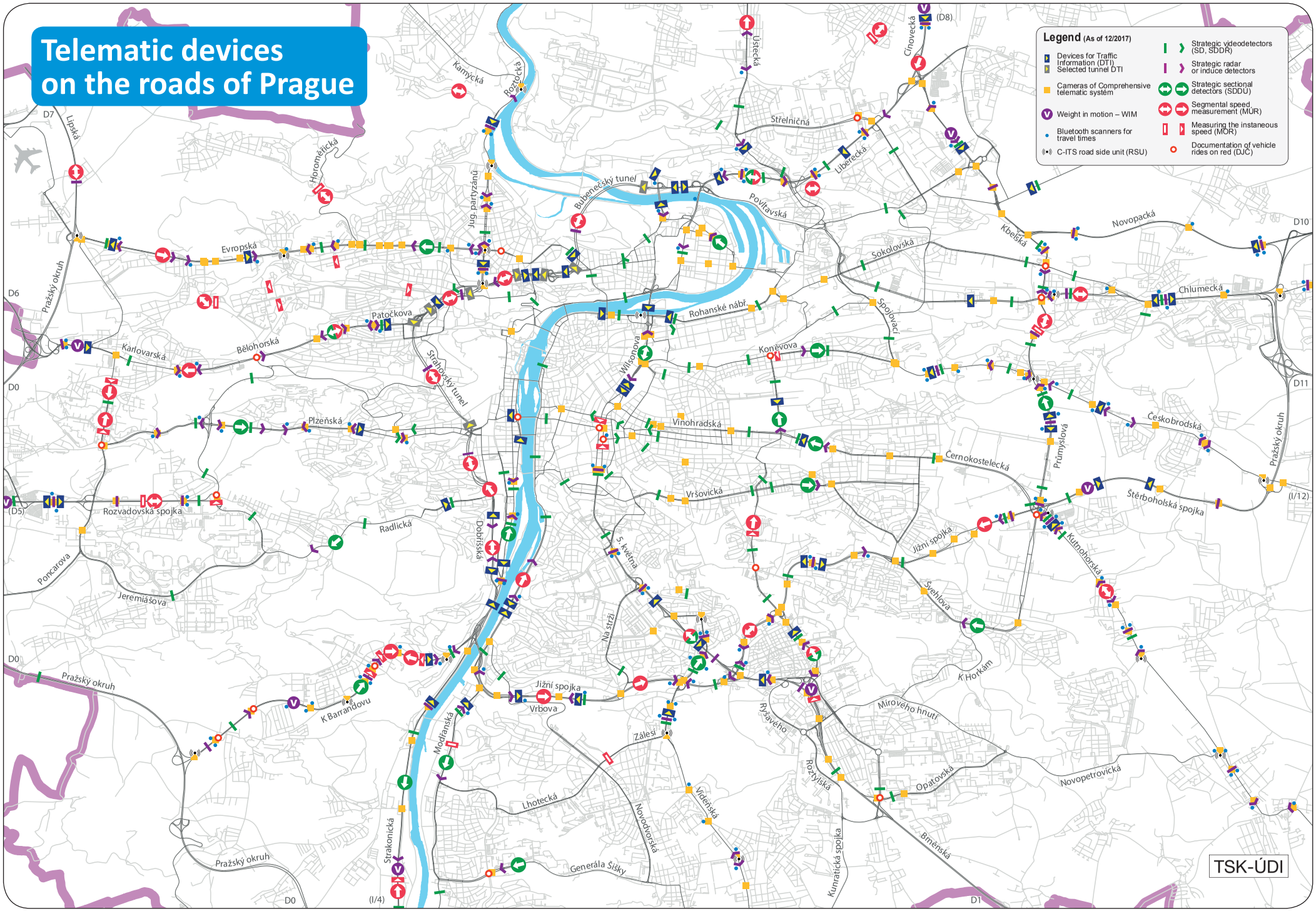
Telematic devices on the roads of Prague
Legend (As of 12/2017)
Devices for Traffic Information (DTI)
Selected tunnel DTI
Cameras of Comprehensive telematic system
Weight in motion – WIM
Bluetooth scanners for travel times
C-ITS road side unit (RSU)
Strategic videodetectors (SD, SDDR)
Strategic radar or induce detectors
Strategic sectional detectors (SDDU)
Segmental speed measurement (MUR)
Measuring the instaneous speed (MOR)
Documentation of vehicle rides on red (DJČ)
Evropská
Pražský okruh
Jižní spojka
Rohanské nábř.
Bubenečský tunel
Strahovský tunel
Povltavská
Sokolovská
Spojovací
Libečská
Střelničná
Ústecká
Čínovecká
Novopacká
Chlumecká
Českobrodská
Průmyslová
Štěrboholská spojka
Kutnohorská
Švehlova
K Horkám
Mírového hnutí
Novopetrovická
Opatovská
Rozvojová
Rýšavého
Kunratická spojka
Biměnská
Vídeňská
Novodvorská
Lhotecká
Generála Šišky
Strakonická
Modřanská
Vrbova
Zálesí
Na strži
5. května
Dobříšská
Vršovická
Vinohradská
Wilsonova
Koněvova
Černokostelecká
Plzeňská
Patočkova
Karlovarská
Bělohorská
Radlická
Rozvadovská spojka
Poncarova
Jeremiášova
K Barrandovu
Jugoslávských partyzánů
Hrdlořezská
Libeňský most
Rozvodná
Kamýcká
Lipská
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