XVII Conference of the Italian Association of Transport Economics and Logistics

Condition and development trends in transport infrastructure in the cities – case study: Krakow

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Krakow

The second city in Poland as regards the number of inhabitants and the area

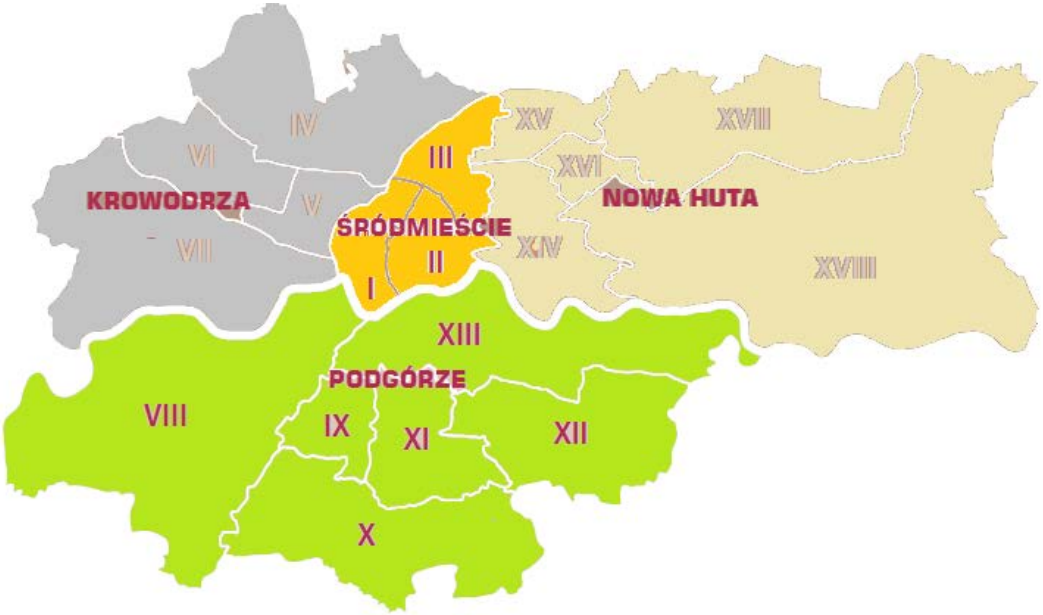
- ✓ the number of inhabitants - 761.873 (12.12.2014)
- ✓ the area - 327 km^2
- ✓ density of population - 2331 (person/km^2)

The city has important administrative, economic, cultural, educational, scientific and tourist functions.

Krakow borders with 13 communes.

It is divided into 18 self-governing districts.

Local government districts of Krakow (18 self-governing districts)



In the transport system in Krakow, it is possible to indicate the following subsystems:

- ✓ pedestrian
- ✓ cycling
- ✓ road (individual and mass transport of people and goods)
- ✓ rail (trams, railway)
- ✓ Air
- ✓ inland waterways
- ✓ transmission

In 2013 transport areas in the city occupied nearly 11% of the total area of Krakow

details		Transport area	
		ha	% (of the total area of city
transport areas		3467	10,6
including	the roads	2689	8,2
	the rail transport	708	2,2
	other transport facilities	70	0,2

The road transport system in Krakow is made up of the road network in the radial and bypass form.

These forms follow from the historical conditioning of the city development around the main district of the City Centre and the central location of the Market Square.

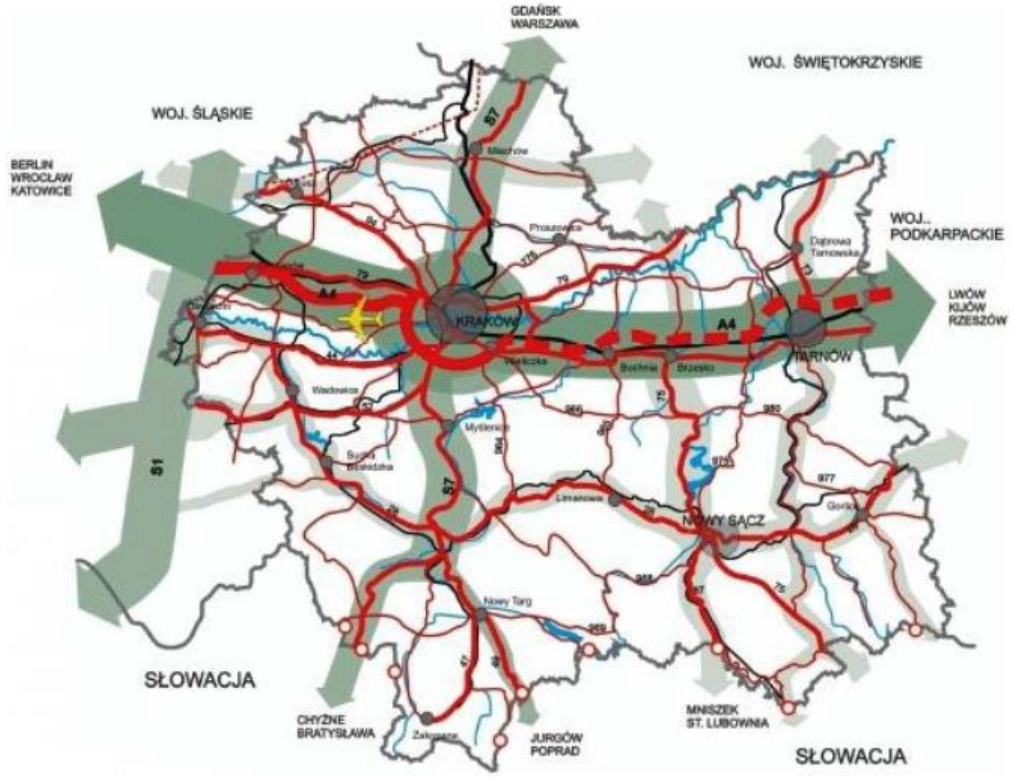
In Krakow, there are a total of 1382.6 km of roads, of which 1100.7 km public roads (national and provincial – about 6%, district - 23%, commune - 71%).

There are 281.9 km of non-public internal roads.

Public roads constitute more than 80% of the total length of the roads in the city, of which there is 1.67 km per 1 inhabitant.

The density of the public road network is not satisfactory and is 3.86 km/km^2

Transport system in the impact area of Krakow



Elements of the road network in Krakow

details	2010	2011	2012	2013
Basic system (in km)	312.2	312.2	312.9	315.5
national roads	38.6	38.6	37.6	38.8
provincial roads	25.2	25.2	25.2	25.2
district roads	248.4	248.4	250.2	251.5
Supporting Setup for managing local, urban roads (in km)	1071.7	1070.7	1083.8	1067.1
cycling routes	99.2	113.6	126.8	136.0
parking lots	-----	173631	173912	174294

The road network in Krakow is based on bypasses, which run around particular segments of the city in circles.

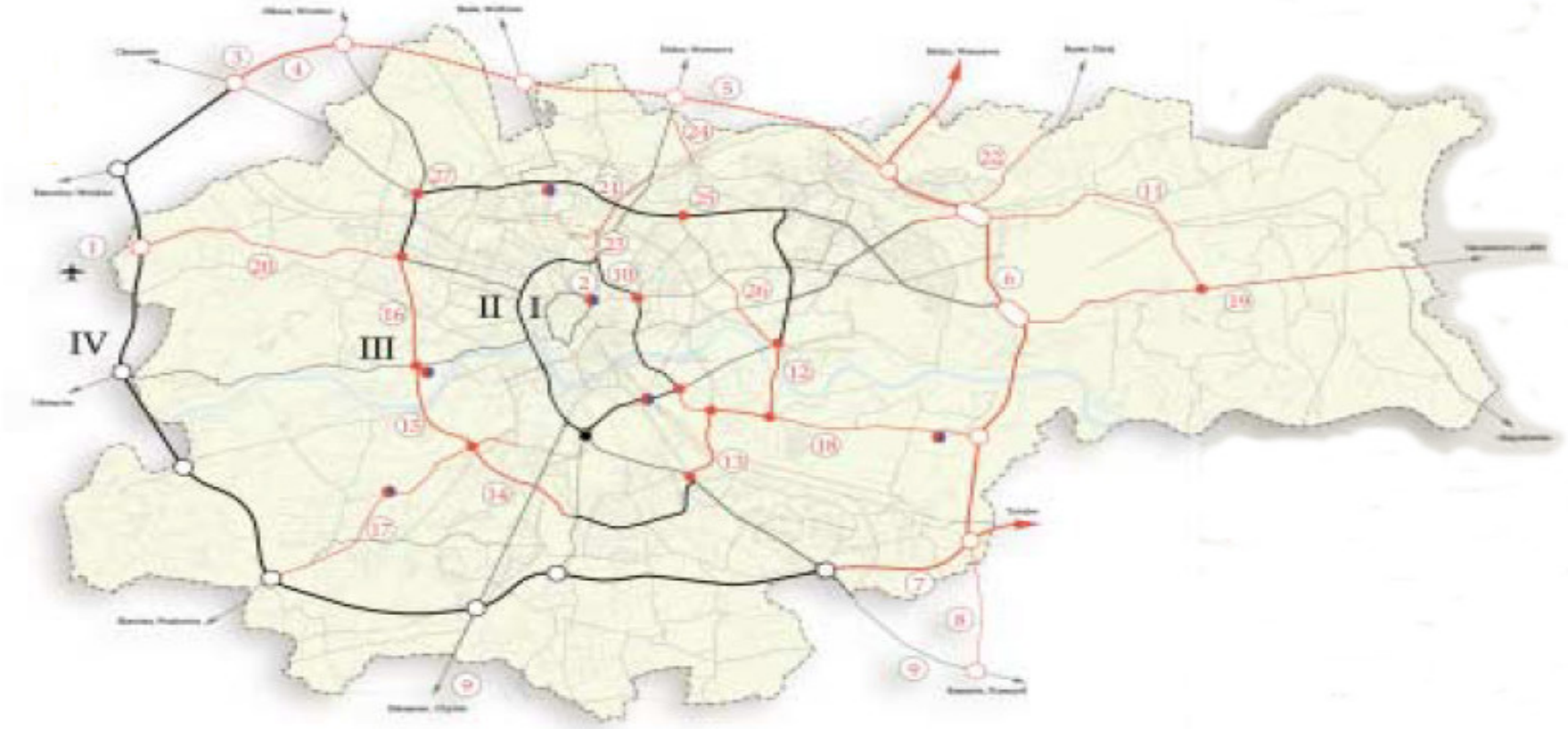
At the moment, there are as many as 4 bypass routes important for the functioning of the urban road system.

The system of bypass routes has been completed partially so far.

The first bypass is a system of roads running around the Planty Park, the second is based on the outline of the Old Town.

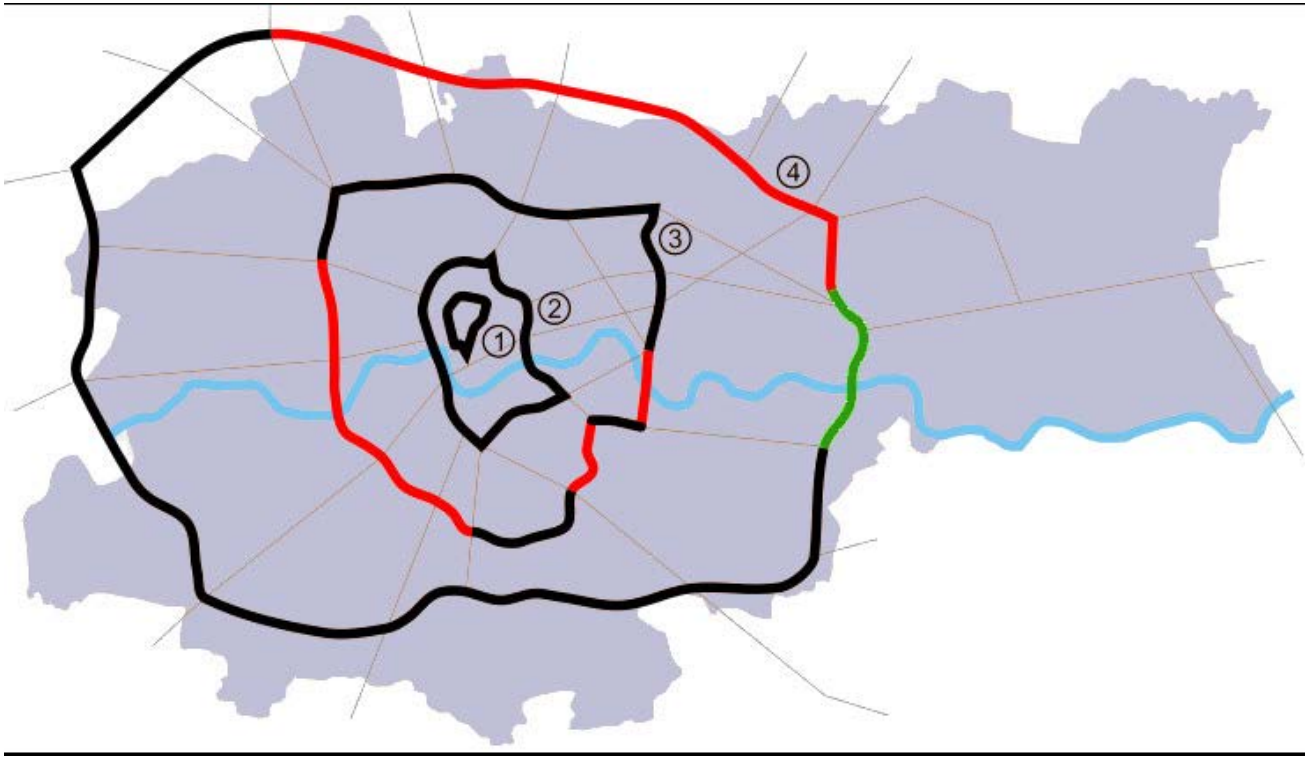
Bypass I and II are closed circuits, while III and IV still require further investment.

The road-street network in Krakow

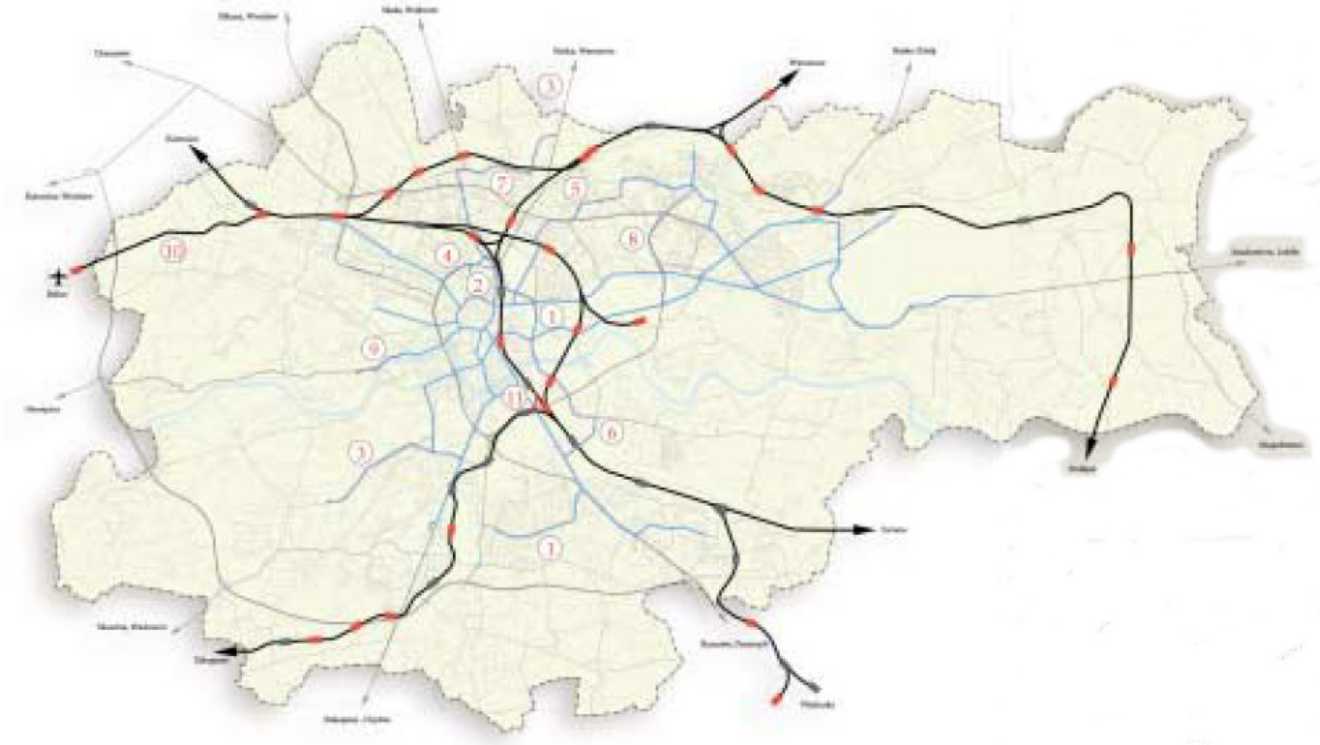


Source: Krakow Development Strategy

The system of bypass routes in Krakow



Rail transport in Krakow



Source: Krakow Development Strategy

High Speed Municipal Rail

Source: http://krakow.naszemiasto.pl/tag/szybka-kolej-aglomeracyjna.html

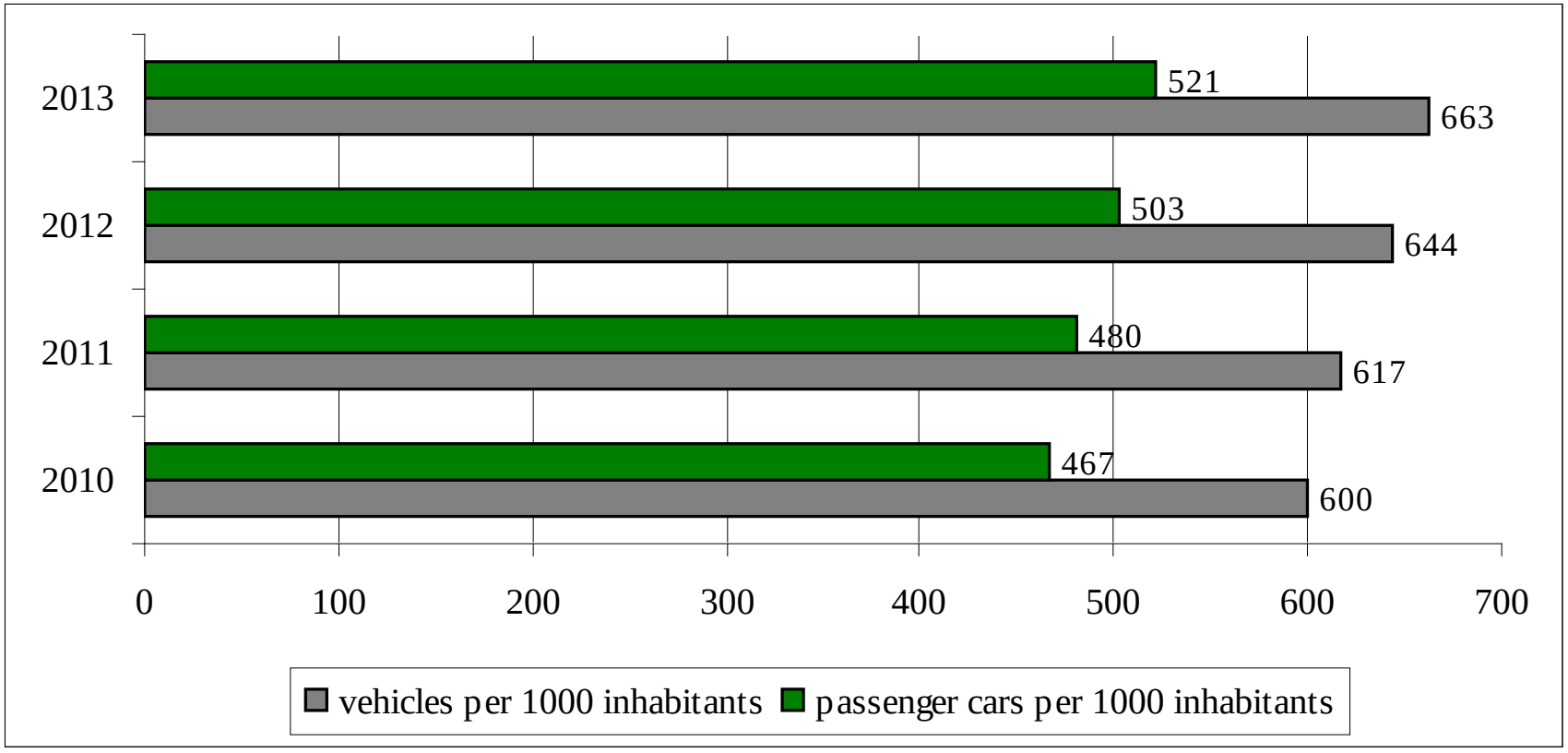
In 2013, expenditure on transport constituted 20.4% of the total expenditure, of which the spending on public roads amounted to 12.2% of the total expenditure on transport.

Road network in Krakow is de-capitalised. The level of the de-capitalisation of the road network increased from 69% in 2013 for the basic setup, achieving the level of 85%

The number of registered vehicles in the city is systematically growing. In the period 2010-2013 there was an increase in the total number of vehicles by 11 %, whereas for passenger vehicles the increase was by 12 %.

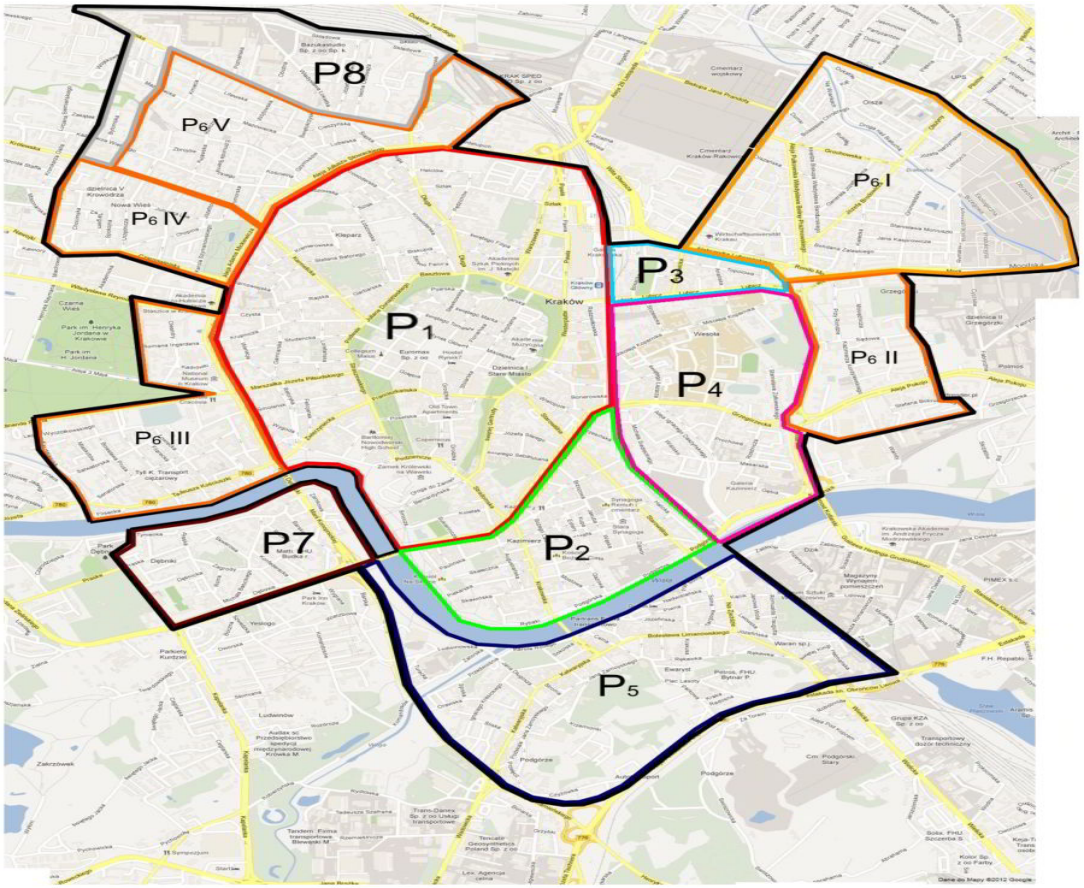
A consequence of the increase in the number of registered vehicles is an increase of the individual motor transport rate from 467 in 2010 to 521 passenger cars per 1000 inhabitants in 2013.

The individual motor transport in Krakow in the period 2010-2013

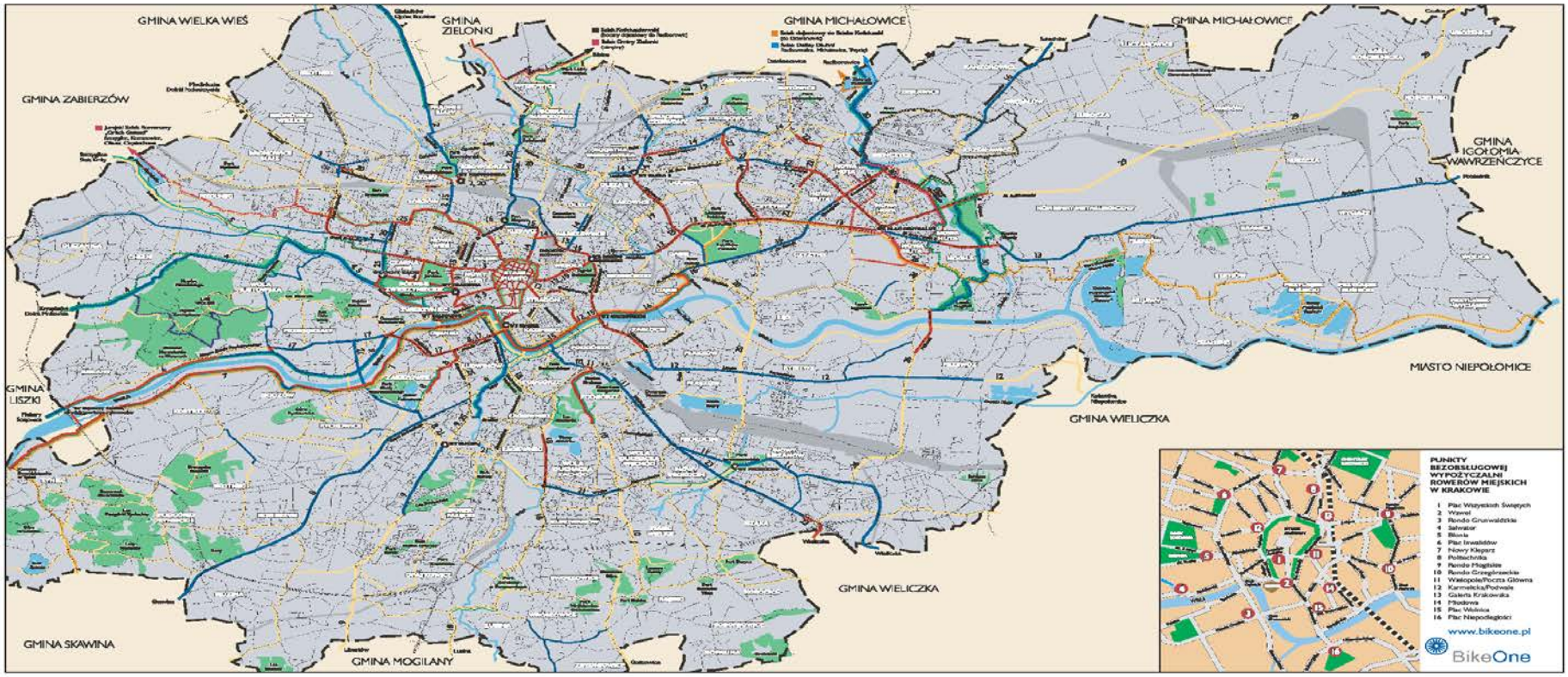


In Krakow there are 174294 parking lots (2013)

2.3 passenger cars per 1 parking place



Krakow has only 136 km of bike lanes, which results on average in 0.0002 km of a lane per inhabitant.



KRAKÓW
MAPA TRAS ROWEROWYCH

CRACOVIA 2011 KRAKÓW

Patroni medialni

KRAKÓW L

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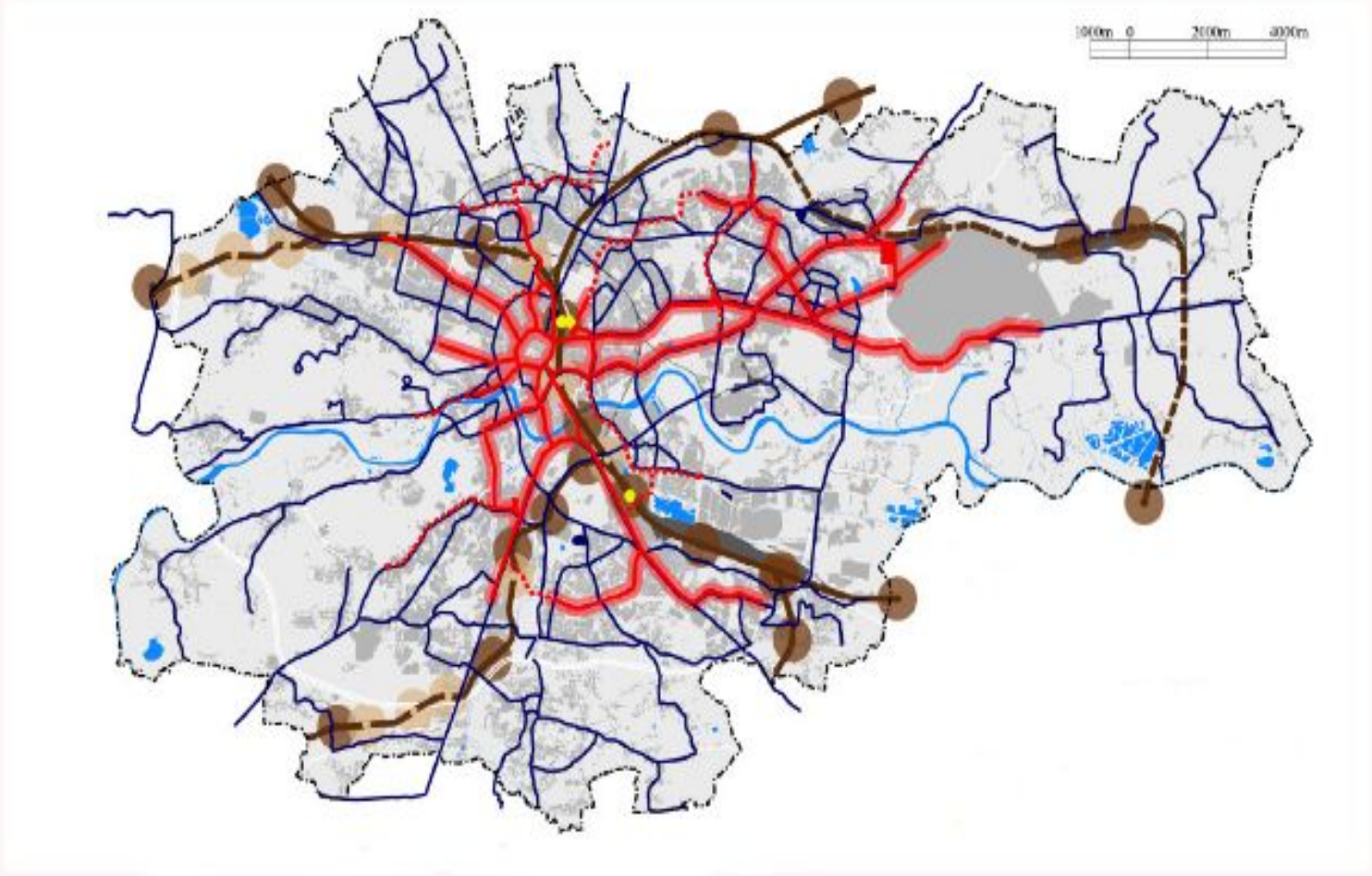
31-004 Kraków
tel.: +48 12 616 60 52; fax: +48 12 616 60 56
e-mail: turystyka@um.krakow.pl

- trasy główne, nr trasy
- odcinki o charakterze rekreacyjnym
- węzły tras
- odcinki istniejące
- odcinki projektowane do roku 2015
- odcinki projektowane w dalszej kolejności

SZLAKI GREENWAYS
- Bursztynowy Szlak Budapeszt–Kraków
- Szlak Kraków–Morawy–Wiedeń
- Szlak nowohuckich fortów Twierdzy Kraków
- Szlak Pętla Dłubni
- Szlak Starej Nowej Huty

- Inne szlaki rowerowe
- rzeki, cieki i zbiorniki wodne
- główne obszary zieleni parkowej i leśnej
- linie, dworce, przystanki i tereny kolejowe

The existing and planing tram and rail lines



The system of mass transport includes trams, buses and private minivans.

An important system of the urban railway transport is the High Speed Municipal Rail.

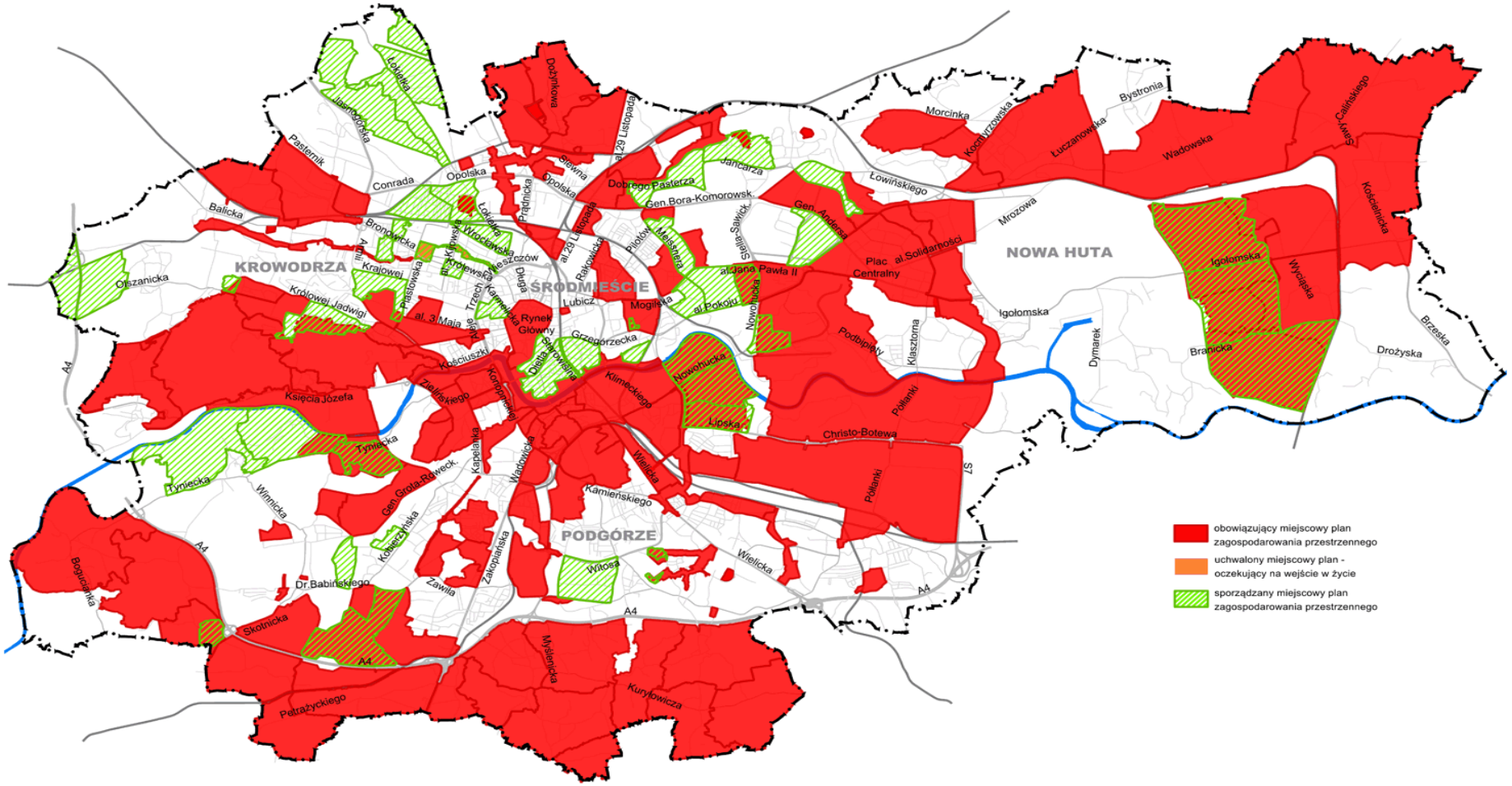
The existing rail infrastructure in Krakow is based mainly on tram lines. In 2013 in Krakow there were 25 tram lines with the total length of 337.8 km.

The length of bus lines in 2013 was 2092 km, of which urban bus lines constituted 960 km.

At the moment, the development of public transport in Krakow requires coordination with the existing spatial management of the city and adjacent areas and with the planned directions of projected development. Considerable opportunities are offered by local plans of spatial management.

At the moment, there are 134 local plans mandatory in Krakow. All in all, the city area covered by local plans constitutes 48% of the administrative area of Krakow.

Local spatial development plans in Krakow



https://www.bip.krakow.pl/?id=412

At the moment, Krakow follows the rules included in the transport policy based on the rules of sustainable development:

- ✓ Integrated management of roads, municipal infrastructure and public passenger transport

- ✓ Integration of public transport in the Krakow municipality, including to a certain extent particular available means of transport

- ✓ Priorities in the traffic for mass public transport, e.g. separate lanes for buses, integrated tram and bus stops, technical and organisational solutions aimed at “quietening” the car traffic on sensitive sections of the city roads, excluding cars from the traffic or limiting the accessibility of cars in defined zones of the city

- ✓ Construction and expansion of new sections of tram routes of the high-speed tram
- ✓ Gradually implemented local system of traffic management along with the steering hub, monitoring, information for passengers on the stops and in the vehicles
- ✓ Expansion of bike lanes along with supporting devices, introducing the city bike rental
- ✓ Adjusting interchange nodes to bike storage within the P&R system
- ✓ Building new sections of roads within the basic setup in the city as well as reconstructing many existing, degraded urban roads as well as the construction of nodes

Thank you for your attention