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Zagreb transport situation

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Zagreb is a regional highway hub with eight highways and expressways radially leading into the city through the Zagreb bypass.

In 2011on the territory of the City of Zagreb there was a total of 375.929 registered vehicles. In the total number of motor vehicles the most represented are personal automobiles which constitute over 86,7 % (326.092) of the total number of vehicles, then follow cargo-vehicles, scooters and motorcycles. Rising living standards over the past ten years have led to an increase in the number of private cars as well as to increased mobility in the City of Zagreb (increasing mileage of passenger cars on an annual basis). The number of motor vehicles has reached about 500 cars per 1000 inhabitants, and with this number the city is equal to other western European cities. However, unlike other eastern European cities the City of Zagreb is only starting to encourage non-motorized modes of transport.

Zagreb drivers typically use a wide network of avenues

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and other arterial streets. Due to the shape of the city, most of the trips done in the city are on the east-west relation, causing high traffic on this roads. The 18-kilometer (11 mi) Slavonska Avenue is the longest and one of the most congested roads in Zagreb, connecting the inner city to the A3 highway in the east.

Public transportation in the City of Zagreb is organised through bus and tram traffic, and also public suburban rail transportation .There is a funicular as a tourist attraction which connects the Upper and the Lower Town.
Public transport is the backbone of the City of Zagreb. A big problem in the central part of the city is the low travel speed of trams and buses which makes public transport uncompetitive in relation to the use of private cars. In some areas of the PT network average travel speed is below 10 km/h.
Zagreb Electric Tram, a branch office of the Holding, is the only concessionaire entrusted with providing the service of public transportation of vehicles on the administrative territory of the City of Zagreb as well as on the part of the territory of Zagreb County. Tram and bus transportation are mutually very well integrated, they use a common system of tickets and together they make a unique system of public transportation.

Tram network is the skeleton of public transportation. Regular tram transportation takes place on 116.346 m of tracks (approximately 58 km in each direction), on which 191 motor tram vehicles and 62 trailers run every day. There are 15 lines of day traffic and the four night lines .

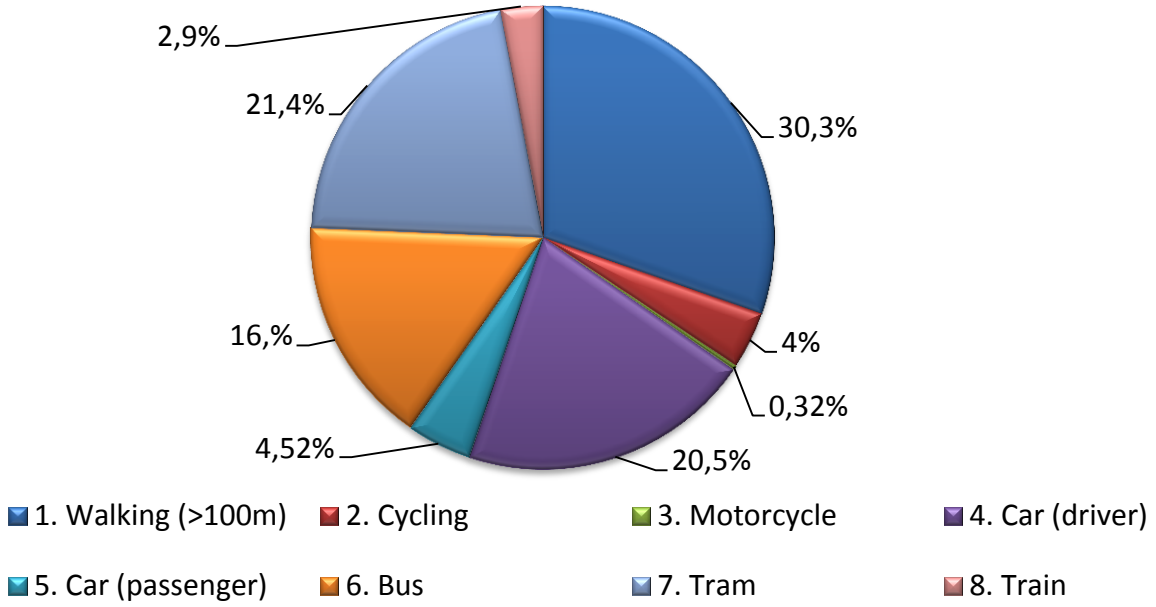
Public bus transportation in the City of Zagreb is organised on the territory of the City of Zagreb and on the territory of certain neighbouring cities and municipalities. Buses do not operate in the central part of the City, but there is a connection to the tram network

through numerous terminals which are located on the border parts of the central part.
The bus transport fleet consisted of 430 vehicles which are used for along 127 routes, 73 of which are urban and 54 are suburban. There are 2103 bus stations, 1614 of which are in Zareb The expansion of the bus network is limited by the network of main roads and the topology of the town, and for that reason it has a relatively small density of coverage. The lines are run from the bus terminals located on the edge of the central area to which arrive trams towards the border parts of the town. No Park and Ride system has been implemented, but people use free surface near the terminals and PT stops to park their cars .Public transport company ZET introduced 160 new buses of which 100 buses run on the mixture of regular diesel and biodiesel and 60 buses run on CNG.

Suburban rail is operated by HŽ (Hrvatske željeznice ,Croatian Railways). With 24 trains, the Zagreb suburban railway run mostly E-W through the city mainly covers the eastern and western parts of Zagreb. It operates on the same standard-gauge lines used for Croatian Railways ' long-distance trains. The trains normally operate on a 15-minute frequency, but reach only a portion of the city's suburbs.

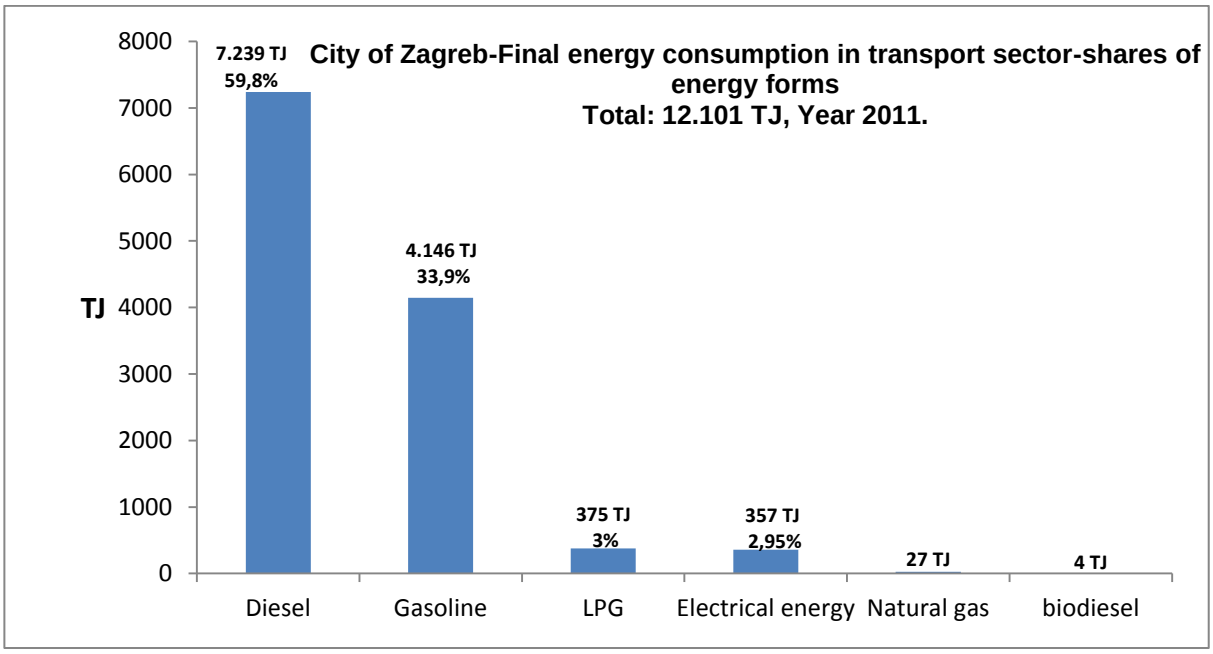
Cycling in Zagreb, as means of urban transport inside and outside the city, has a promising future. Zagreb has a network of cycling tracks (app 200 km). Since Zagreb has great potential for cycling (numerous student population, difficulties in mobility posed by motorized traffic, long history of cycling), main effort is aimed towards creation of a comprehensive cycling system, consisting of separate lanes, surfaces where space is shared with other modes and storage/parking possibilities. First rent-bike company started its trial run, a few months ago.

The analysis of all journeys (unimodal and multimodal) enabled the analysis of the distribution of transport modes in all trips (depicted in Chart below). Chart clearly show that the most prominent transport mode is walking with 30.3% in 2012, followed by car (driver) with 20.5% in 2012. This was to be expected since walking is the most prominent mode in multimodal journeys and car (driver) in unimodal journeys . The percentage of public transport modes (tram and bus) is 37.4% in 2012.



The idea of supporting **electro mobility** as a new concept of urban mobility in Croatia emerged in mid 2010. when national integrated E-mobility initiative was launched by Energy Institute Hrvoje Požar (EIHP) and City of Zagreb. In order to investigate market research in potential pilot region, EIHP conducted *Strategy for the development of energy infrastructure for charging electric vehicles in the City of Zagreb.* Additionally, first two smart charging stations have been commissioned in City of Zagreb. In the first stage Strategy application we will be oriented on activities that relate to replacing the existing cars owned by the City (550 passenger cars) with EVs, and the construction of charging points in the premises owned by the City (including public garages).

In the transport sector of the City of Zagreb in the use are different energy sources (see Figure below) - from fossil fuels in the largest share, over biofuels used in a small number of vehicles to electrical energy which is spent for tram transportation and public rail transportation, and only for a few passenger motor vehicles.



Since the it comes to development transport sector is one of the biggest single consumers of final energy in Croatia (over 30% - which is also recognized as fastest growing sector in last decade, and ultimately is almost in total dependant on imported oil) proactive approach in pushing energy efficiency and renewable energy sources is of utmost importance to be applied, in order to harmonize Croatian transport policy with common Pan European.