VILNIUS 2030: SUSTAINABLE URBAN LOGISTICS WITHOUT EMISSIONS?

VILNIUS' SUMP

2017 10 30

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VILNIUS GEDIMINAS TECHNICAL UNIVERSITY

BALTIC PATHWAY TOWARDS LOW CARBON AND CLIMATE RESILIENT DEVELOPMENT

Vilnius: Current situation

STATISTICS
MODAL SPLIT
PROBLEMS

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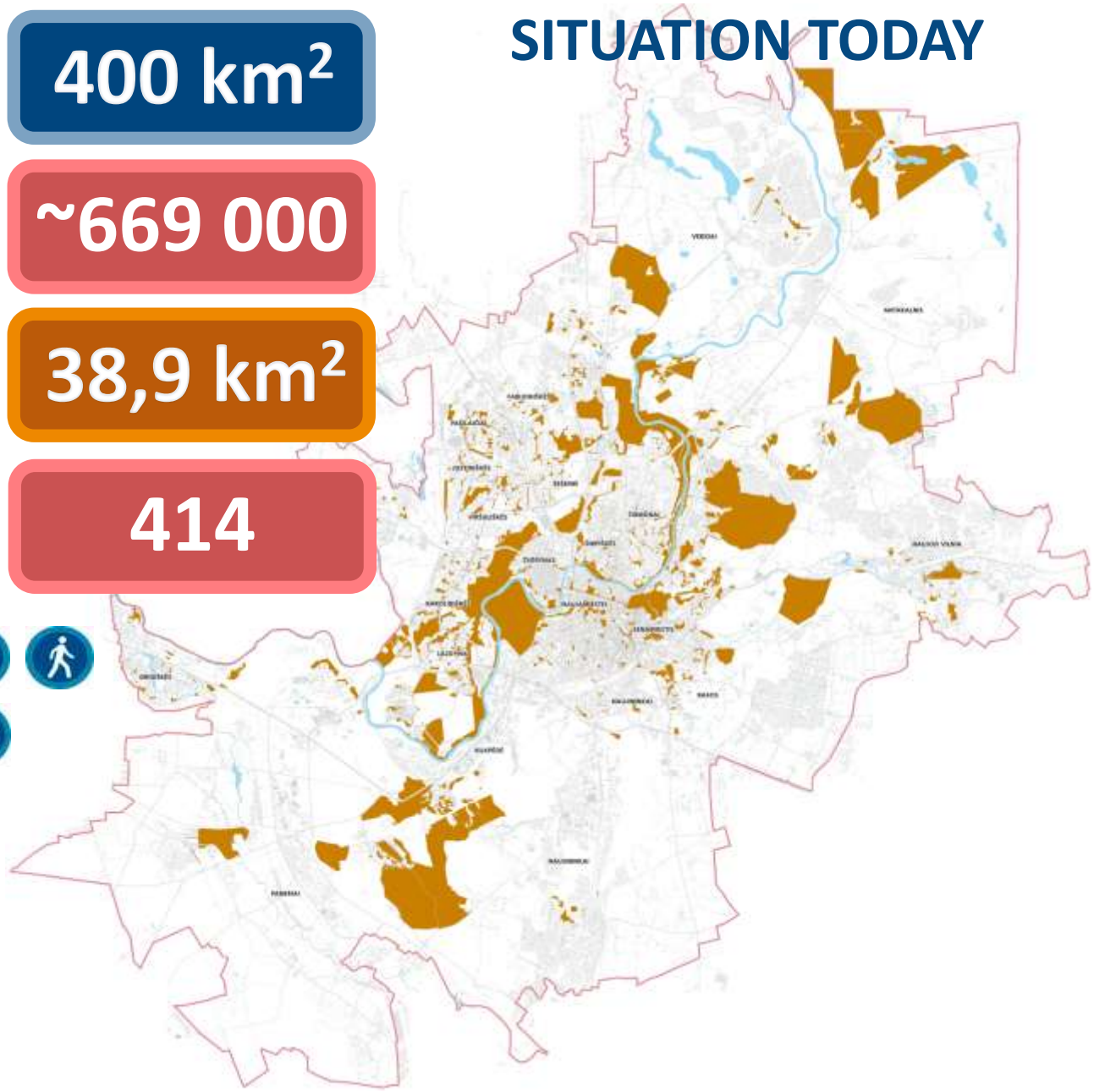
SITUATION TODAY

AREA 400 km²

INHABITANTS (with agglomeration) ~669 000

PUBLIC SPACES (total area) 38,9 km²

CAR OWNERSHIP (per 1000 habitants) 414



TRAVEL MODAL SPLIT ACCORDING FUNCTIONAL ZONES

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2016 MODAL SPLIT

Travel mode:

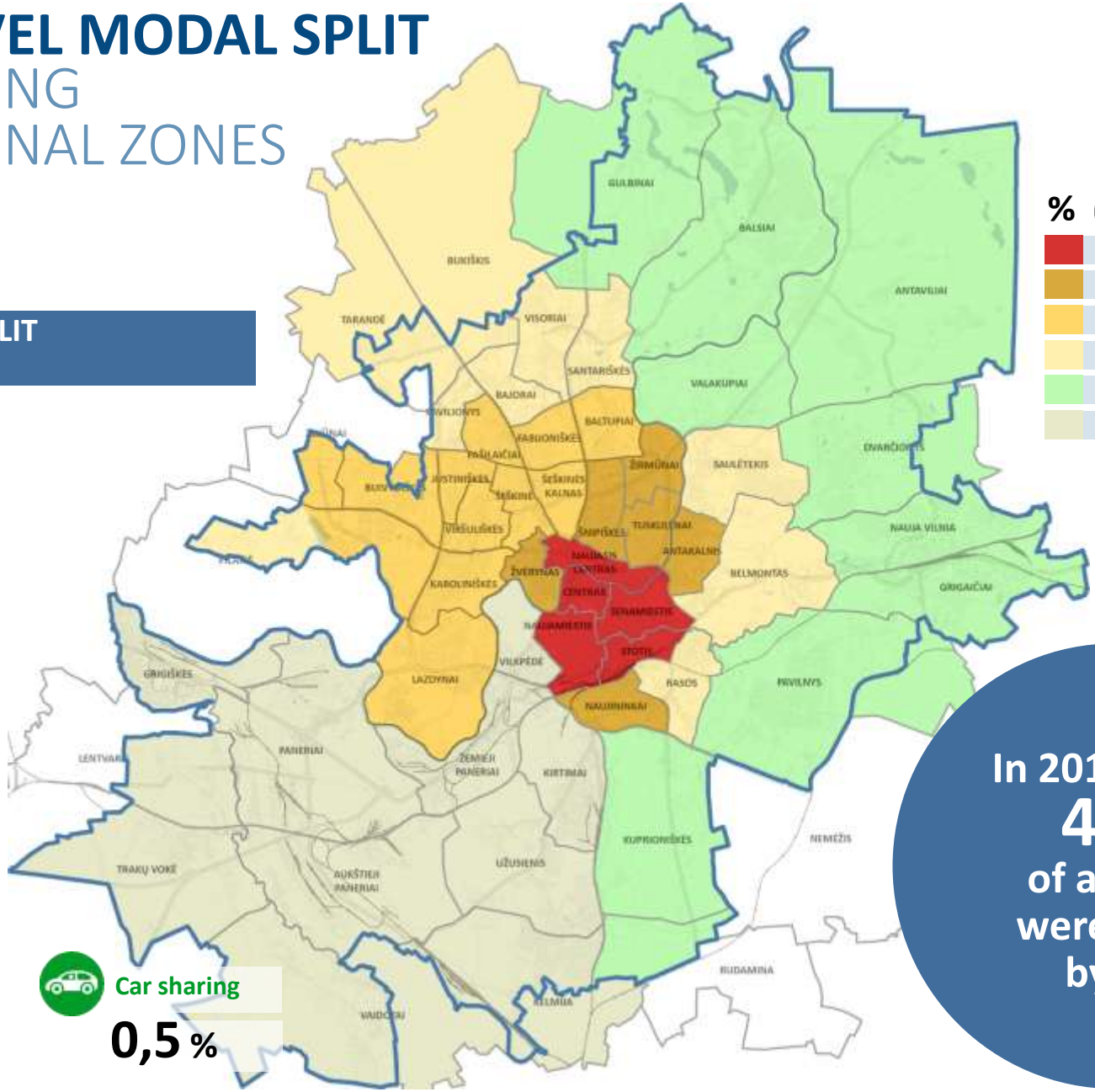
Public transport
24,3 %

Bycicle
0,7 %

Pedestrian
29,4 %

Car
45,1 %

Car sharing
0,5 %



%				
	21,8	1,3	41,7	35,2
	21,9	0,7	35,3	42,1
	37,1	0,8	23,1	39,0
	22,1	2,6	11,0	64,3
	34,3	0	12,1	53,6
	13,7	0,6	17,9	67,8

In 2016 about 45 % of all trips were made by car

Environmental situation

VEHICLES
AIR POLLUTION
NOISE POLLUTION

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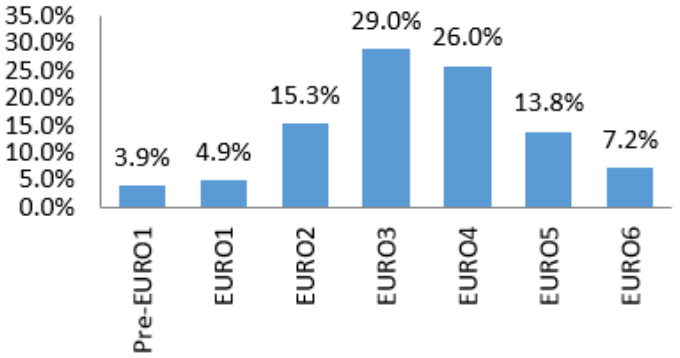
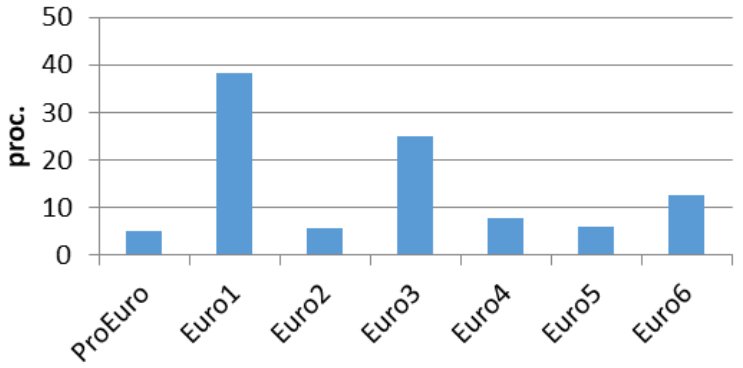
VEHICLES IN THE CITY
AGES AND STANDARTS

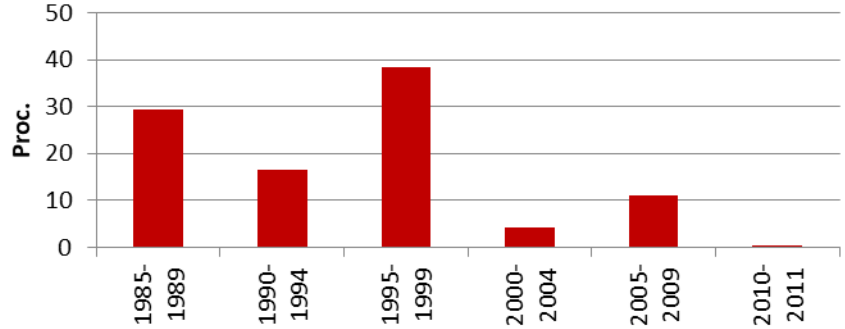
- Private vehicles statistics



- Public transport (buses) fleet



- Public transport (trolleybuses) fleet



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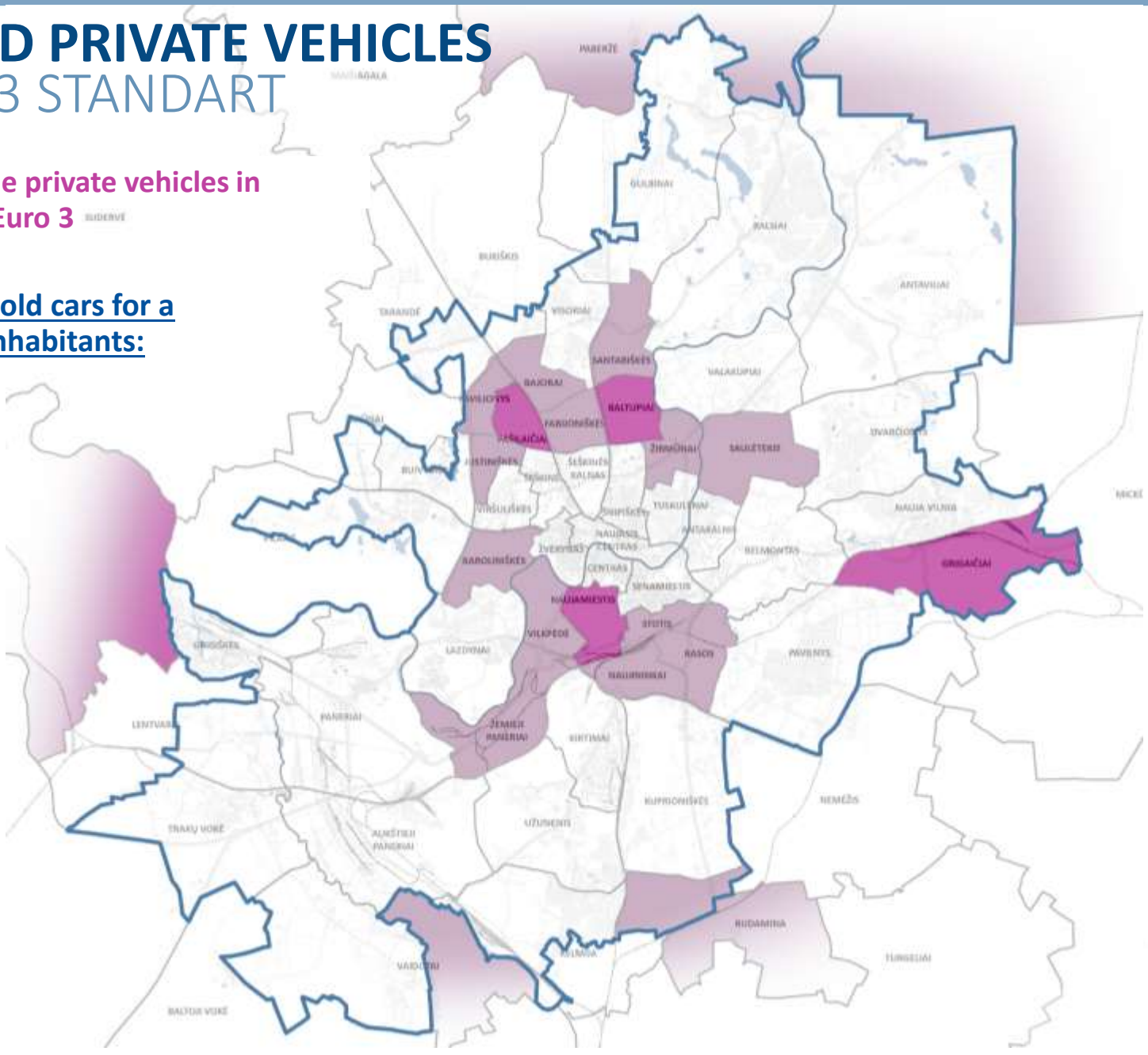
OLD PRIVATE VEHICLES
EURO 3 STANDART

29,0 % of the private vehicles in Vilnius are Euro 3

Number of old cars for a thousand inhabitants:

101 – 500

501 – 1560



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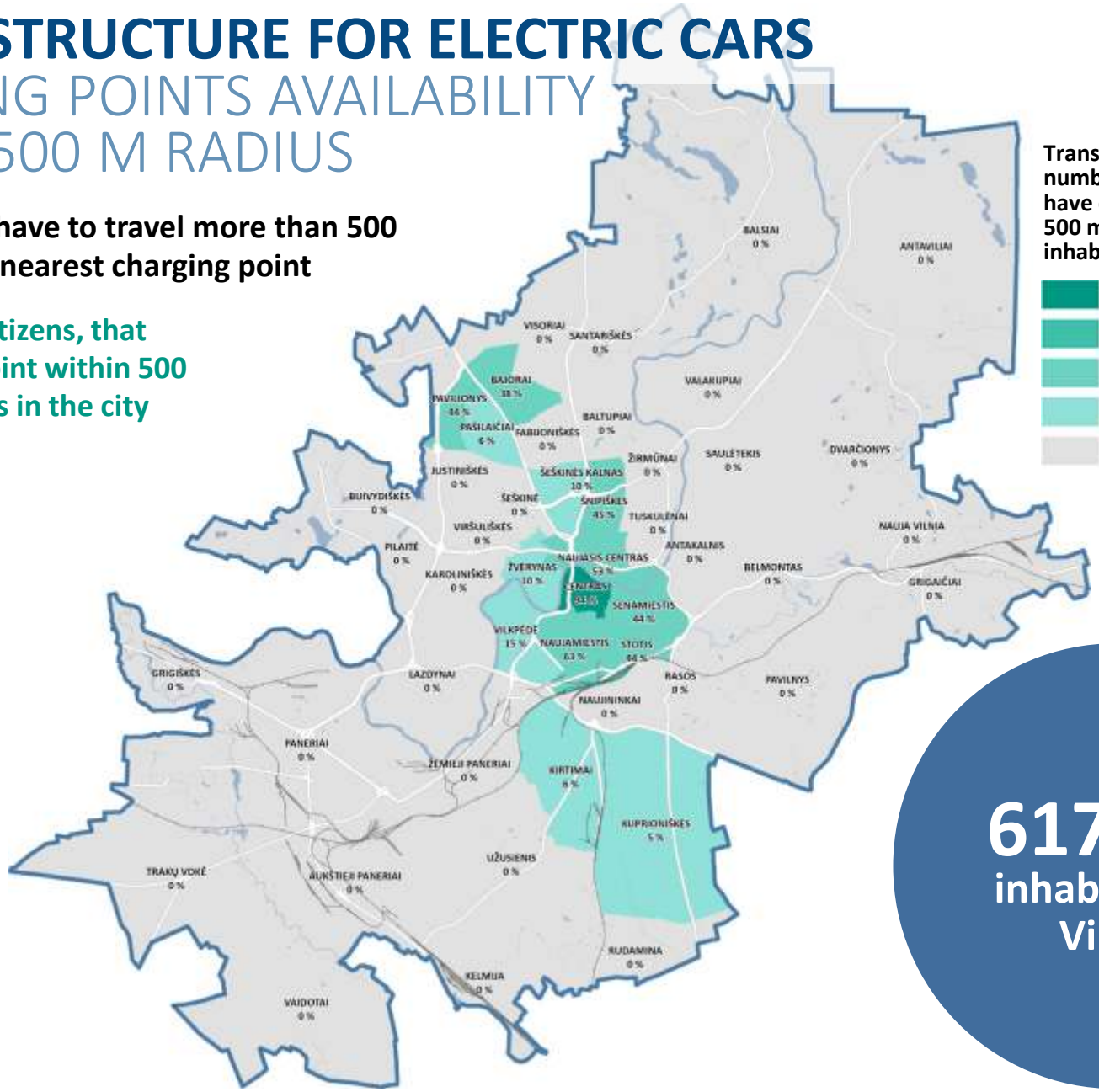
INFASTRUCTURE FOR ELECTRIC CARS

CHARGING POINTS AVAILABILITY WITHIN 500 M RADIUS

89 % of citizens have to travel more than 500 meters to reach nearest charging point

Biggest part of citizens, that have charging point within 500 m radius (94 %) is in the city center.



Transport districts by number of citizens, that have charging point within 500 m, part from all inhabitants (%)

- >90
- 66 - 90
- 26 - 65
- 1 - 25
- 0

617 000
inhabitants in Vilnius

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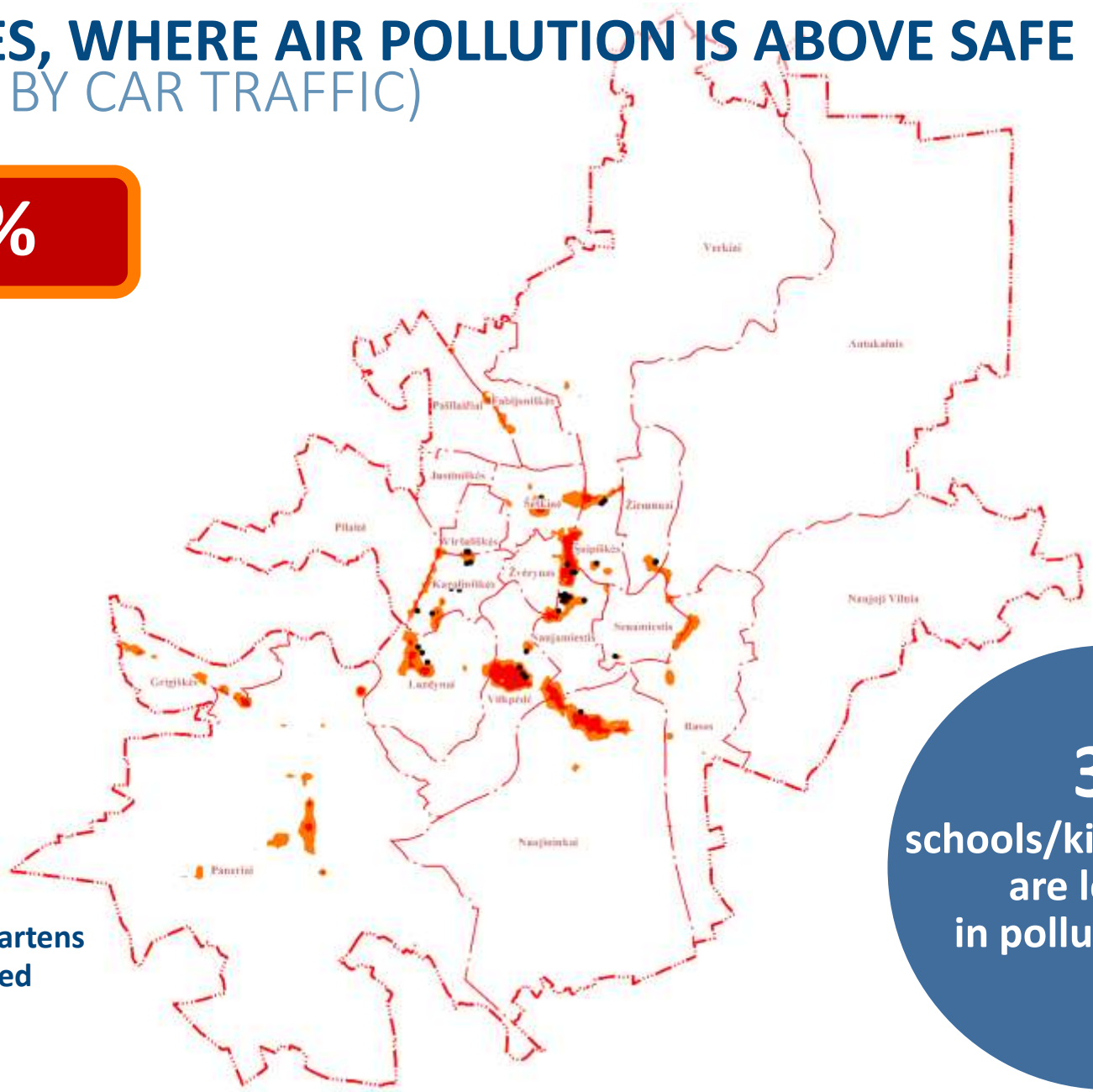
ZONES, WHERE AIR POLLUTION IS ABOVE SAFE
(CAUSED BY CAR TRAFFIC)

~ 6 %



Air pollution above safe

Schools/kindergartens located in polluted zones

36
schools/kindergartens are located in polluted zones

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AIR POLLUTION

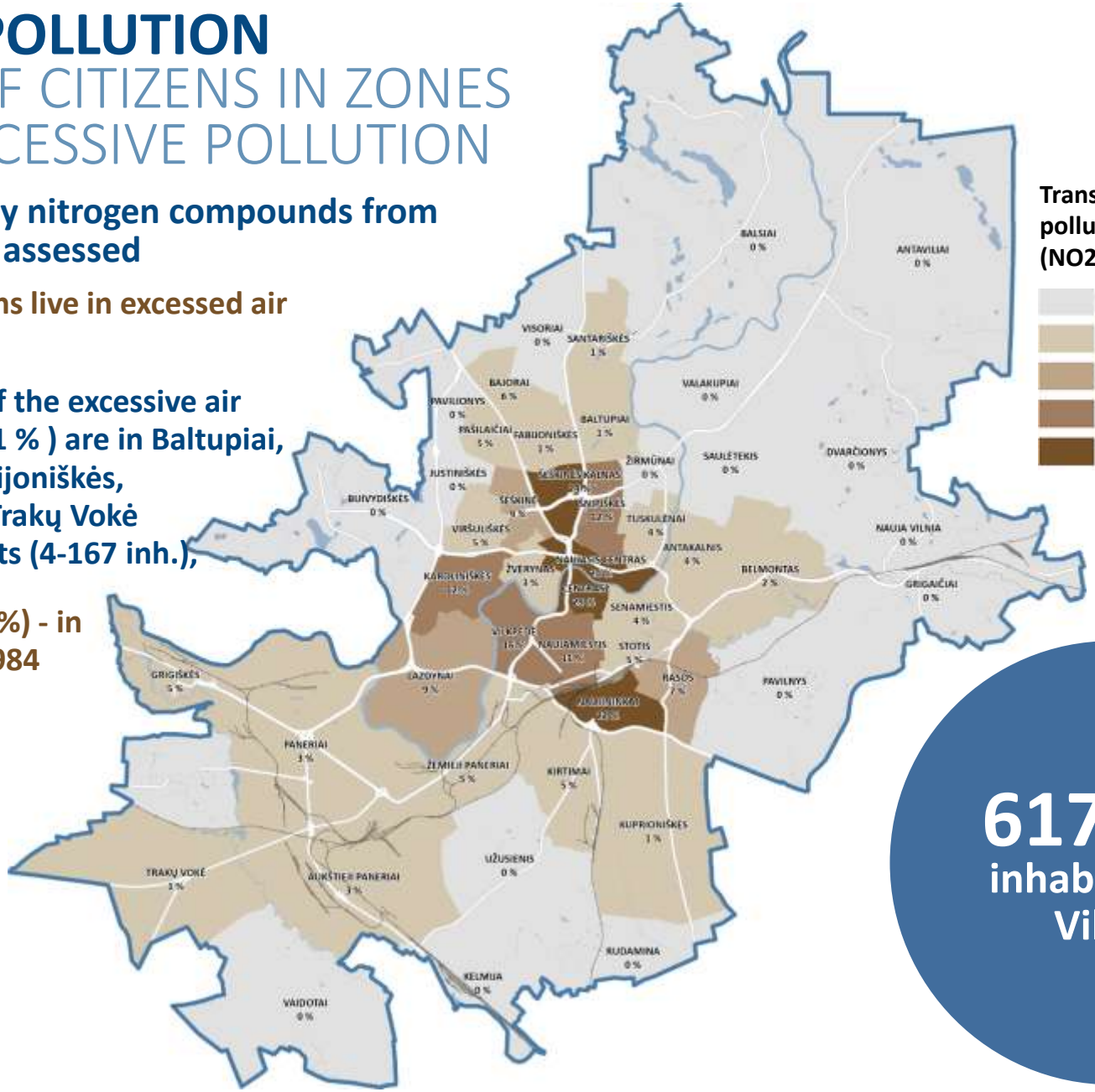
SHARE OF CITIZENS IN ZONES WITH EXCESSIVE POLLUTION

Air pollution by nitrogen compounds from autotransport assessed

4 % of the citizens live in excessed air pollution zones

Smallest parts of the excessive air pollution zone (1 %) are in Baltupiai, Santariškės, Fabijoniškės, Kuprioniškės ir Trakų Vokė transport districts (4-167 inh.),

biggest part (29 %) - in the city centre (984 inh.).



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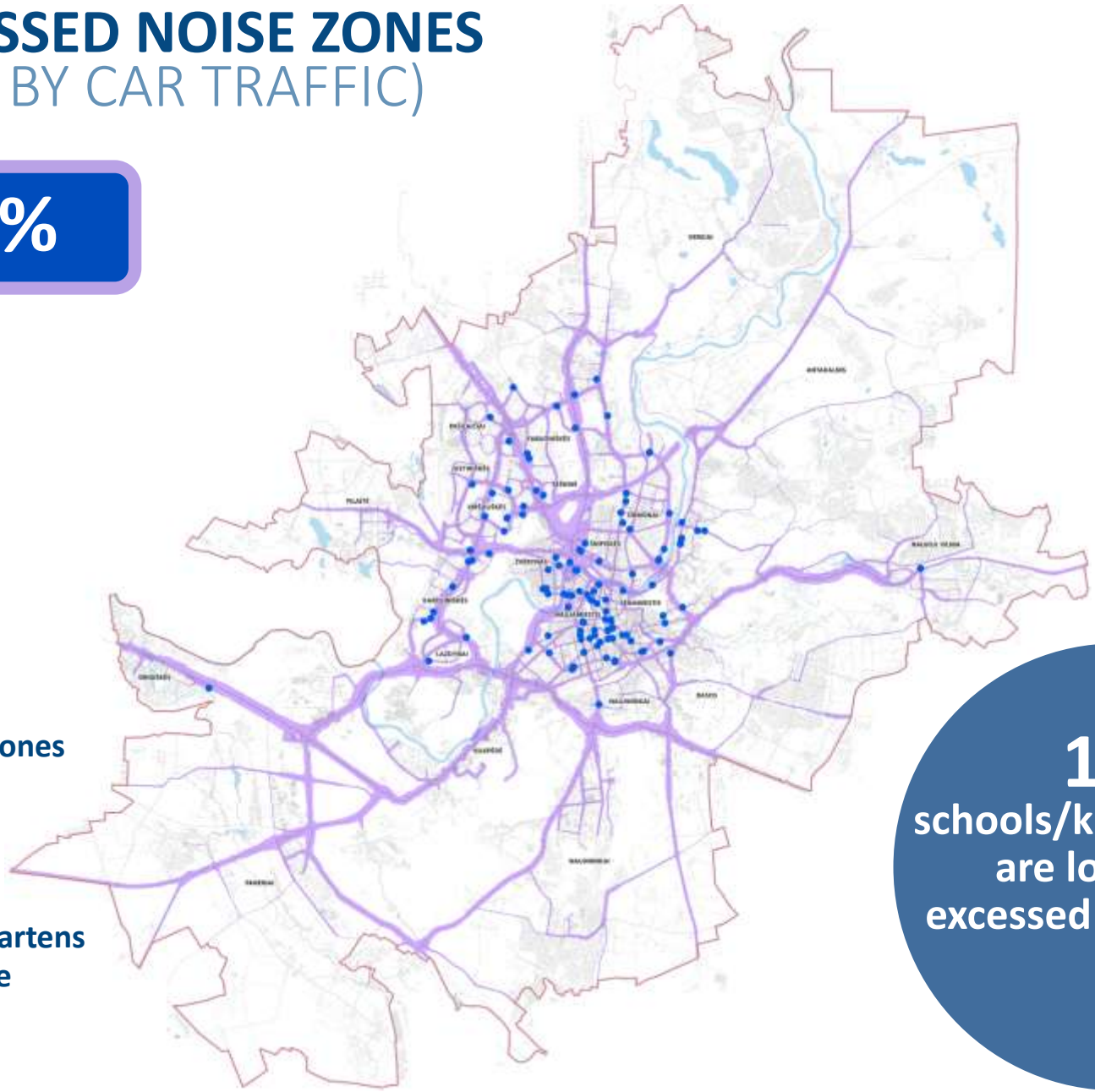
EXCESSED NOISE ZONES
(CAUSED BY CAR TRAFFIC)

~ 29 %



Excessed noise zones

Schools/kindergartens in excessed noise zones

166
schools/kindergartens are located in excessed noise zones

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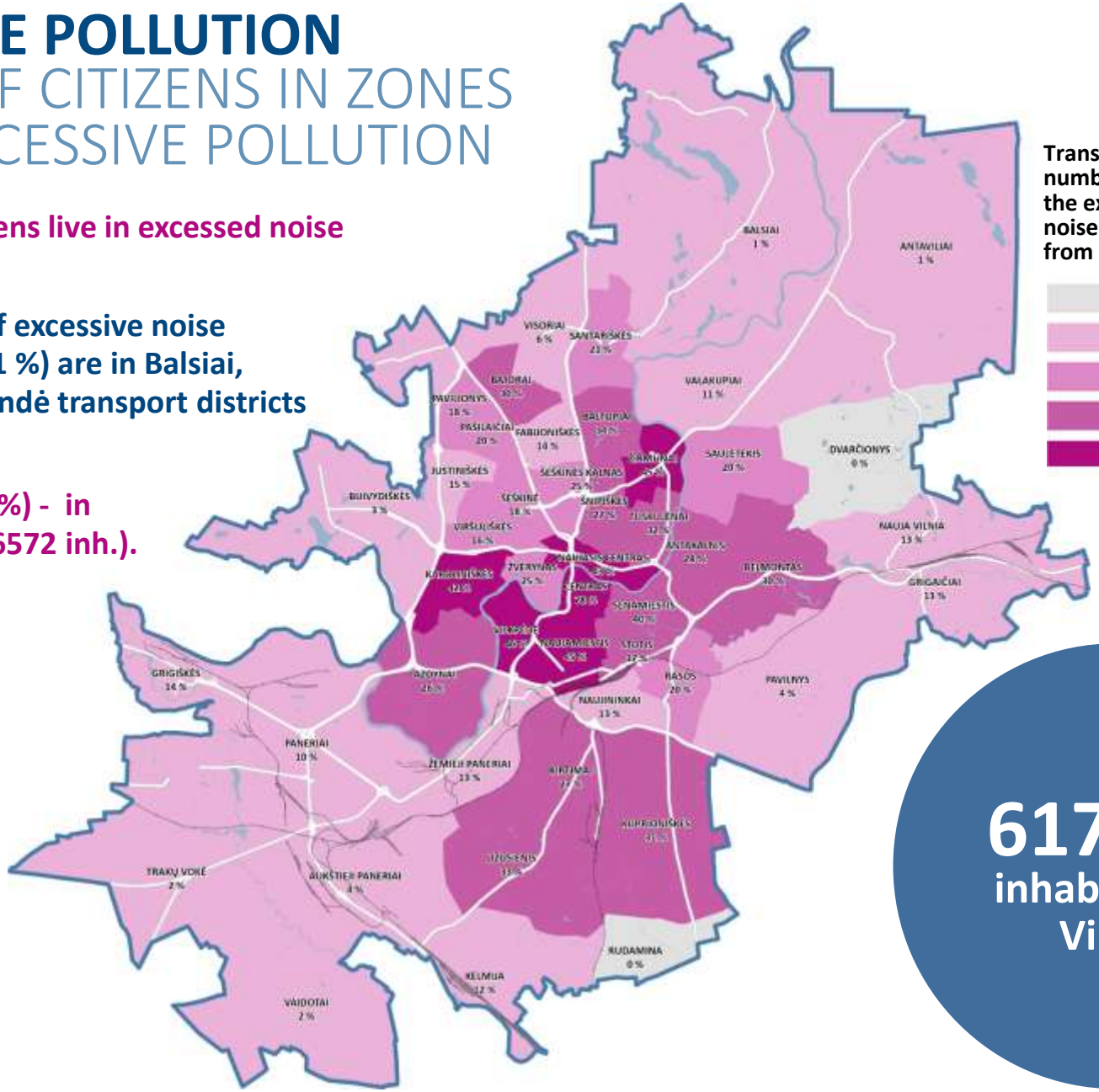
NOISE POLLUTION

SHARE OF CITIZENS IN ZONES WITH EXCESSIVE POLLUTION

24 % of the citizens live in excessed noise pollution zones

Smallest parts of excessive noise pollution zone (1 %) are in Balsiai, Antaviliai ir Tarandė transport districts (14-135 inh.),

Biggest part (78 %) - in the city center (6572 inh.).



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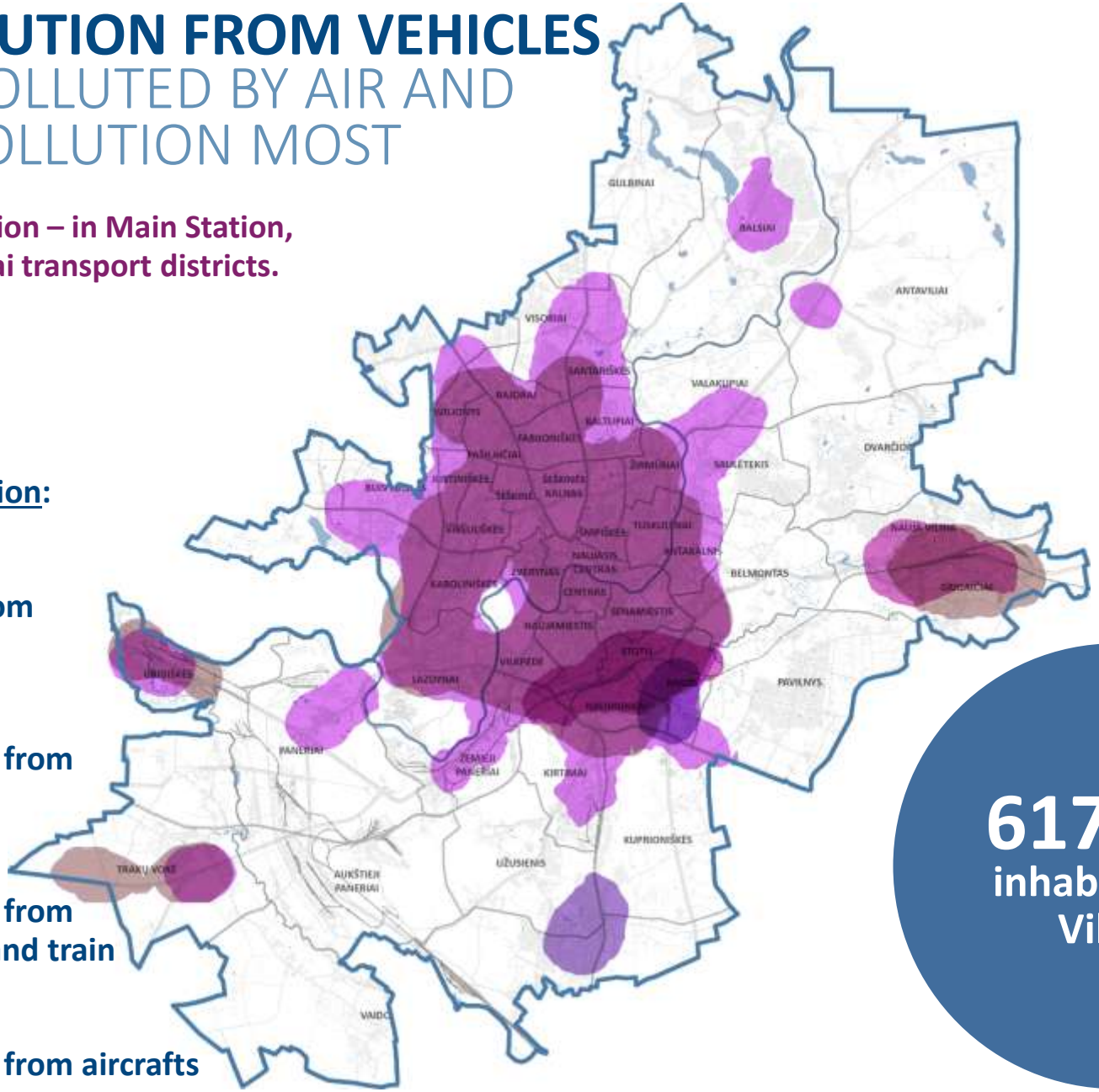
POLLUTION FROM VEHICLES

AREAS POLLUTED BY AIR AND NOISE POLLUTION MOST

Strongest pollution – in Main Station, Rasų, Naujininkai transport districts.



Excessed pollution:

- **Air pollution from autotransport**
- **Noise pollution from autotransport**
- **Noise pollution from autotransport and train**
- **Noise pollution from aircrafts**

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COMMON EUROPEAN GOALS
STATED IN WHITE PAPER:

- To reduce greenhouse gases emissions by 20 % until 2030 (compared to 2008 emissions);
- To reduce gases emissions by 60 % until 2050 (compared to 1990 emissions);
- To reduce fossil – fuelled transport usage twice until 2030;
- No fossil – fuelled transport in the cities until 2050;
- No CO_2 emissions from logistics in urban centres 2030m.

Vilnius‘ SUMP

WHAT IS SUMP AND IT‘S OBJECTIVES
MOBILITY MANAGEMENT
PUBLIC TRANSPORT
BYCICLES
PEDESTRIANS
SHARING MOBILITY

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SUSTAINABLE URBAN MOBILITY PLANNING

WHAT IS SUMP AND WHAT ARE IT'S BENEFITS?

Sustainable urban mobility plans (SUMP's) are offering long-term and strategic vision. SUMP promotes effectiveness, planning culture that is orientated into politics, institutions, cities.

Improved image of the city

City that is engaged in sustainable urban mobility planning is considered as an innovative and having far-sighted approach for the future.

Improved mobility and access

SUMP is an excellent tool to create multi-modal door-to-door transport solutions. Bringing different actors together ensures that particular access needs of citizens and businesses are effectively provided for.

Improved quality of life

Sustainable urban mobility planning raises the quality of life in urban area, it is planning for people, not transport. Result of SUMP – wide range of benefits, such as more attractive public places, improved safety and etc.

Better health and environment

More sustainable mobility directly translates into better air quality and less noise. Travelling more actively (by walking and cycling more often) is good for citizens' health. SUMP is a core element of any climate policy.

Winning public support

Involvement of stakeholders and citizens is a basic principle of a SUMP. A city government that shows that it cares about needs of citizens and involves stakeholders appropriately reduces risk of opposition to the implementation of ambitious policies.

Fulfilling legal obligations effectively

SUMP offers an effective way to respond through one comprehensive strategy to many legal requirements like European regulations like air quality improvement and noise abatement, national regulations.

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Vilnius municipality vision until 2030 is:

„Travel in Vilnius – fun, safe and comfortable!"

It is described by 3 key goals:

1. To improve the quality of travel, to shorten the duration of the trip, to make traveling enjoyable experience until 2030;
2. To reduce harmful environmental impact of traveling until 2030;
3. To reduce congestion of public spaces by cars until 2030.

VILNIUS SUMP OBJECTIVES

VILNIAUS PLANAS

- A transport system that's more friendly for kids, families, older and disabled people
- A greener city with a smaller proportion of public space devoted to parked and moving vehicles
- Improved road safety
- Improved personal security when using the transport system (including when walking)
- Better local economy (including ability to attract inward investment)
- Reduced proportion of household budget spent on transport
- Reduced oil-based energy consumption and therefore reduced CO2 emissions
- Reduction in noise and local air pollution
- Reduced traffic congestion and enhanced accessibility to key areas especially city centre

VILNIUS' GOALS FOR ENVIRONMENT

Achieve air quality in accordance with hygiene norms in all the city (at any time during the season);

To reduce CO_2 emissions from transport by 20 % until 2030 (compared to 2014 emissions);

In some parts of the city to reduce noise level by < 10 %.

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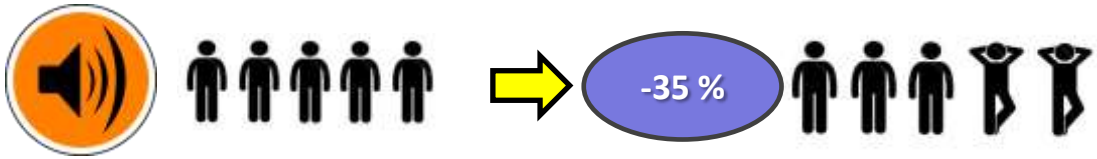
BETTER ENVIRONMENTAL SITUATION

WHAT SHOULD WE ACHIEVE?

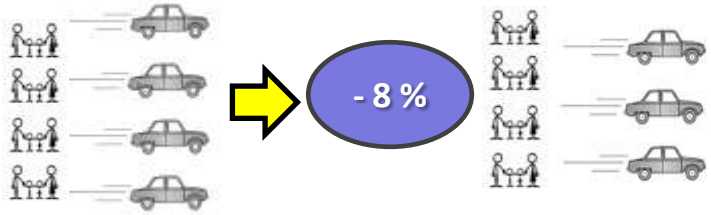
35 % less of the Vilnius‘ inhabitants live in excessed noise pollution zones



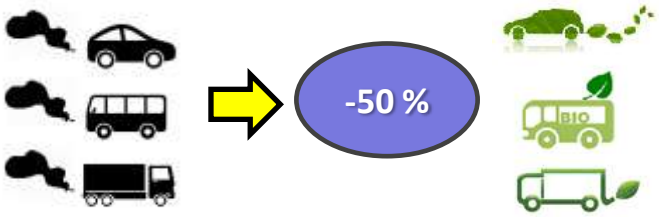
In the city center – no inhabitants live in excessed noise or air pollution zones

Rates of mordibity – not higher than national average

Reduce number of cars for a household to 0,92



50 % less fossil fueled transport in the city



Renewable energy sources for the production of electricity for transport

At least 80 % of city logistics done by transport on alternative fuel (natural gas, biogas, electricity, hydrogen)

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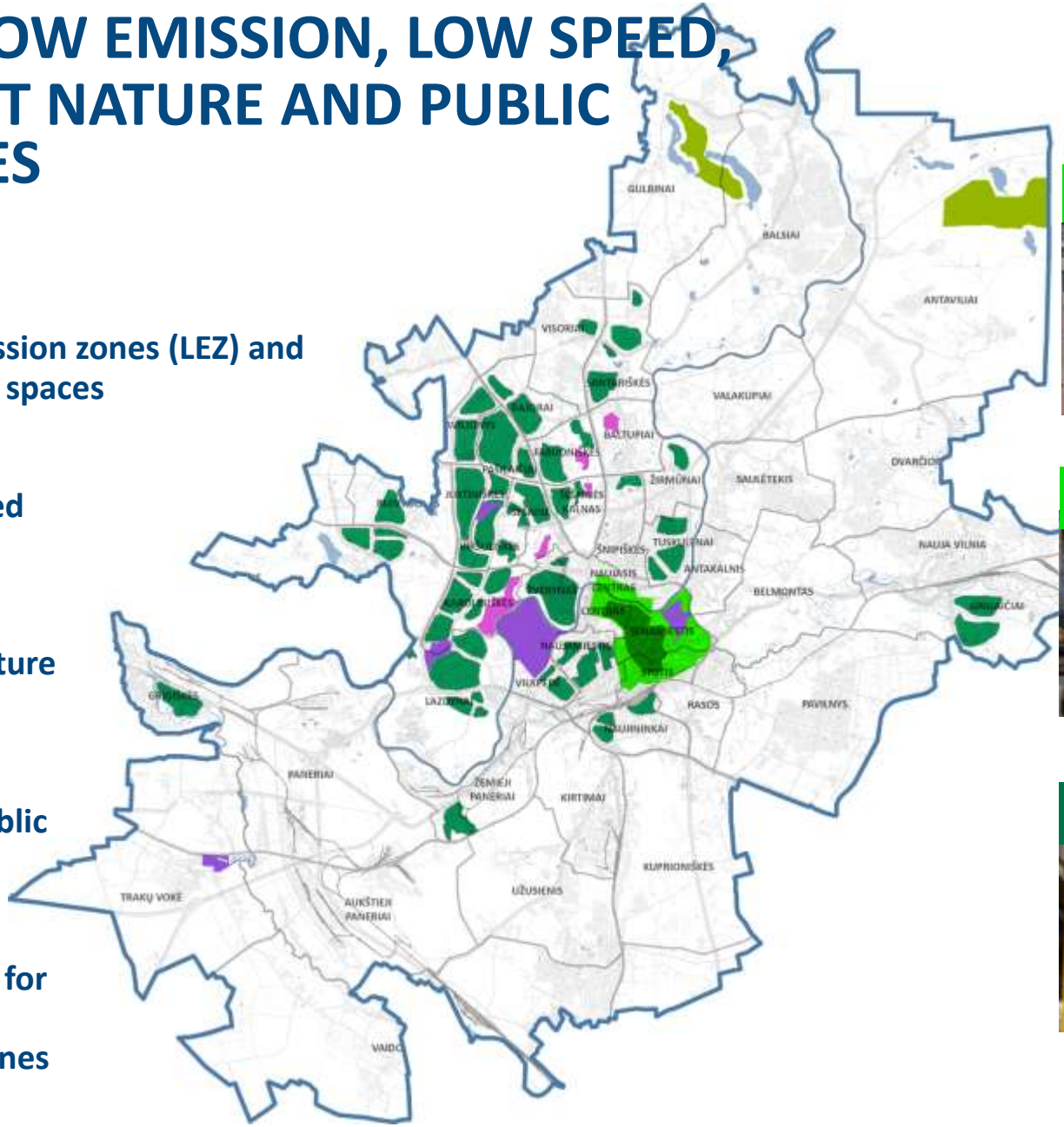
LOW EMISSION, LOW SPEED, QUIET NATURE AND PUBLIC ZONES

- Low emission zones (LEZ) and common spaces
- Low speed zones
- Quiet nature zones
- Quiet public zones
- Proposal for quiet public zones



Shared spaces

Low emission zone

Low speed zones

CARGO LOGISTICS MANAGEMENT

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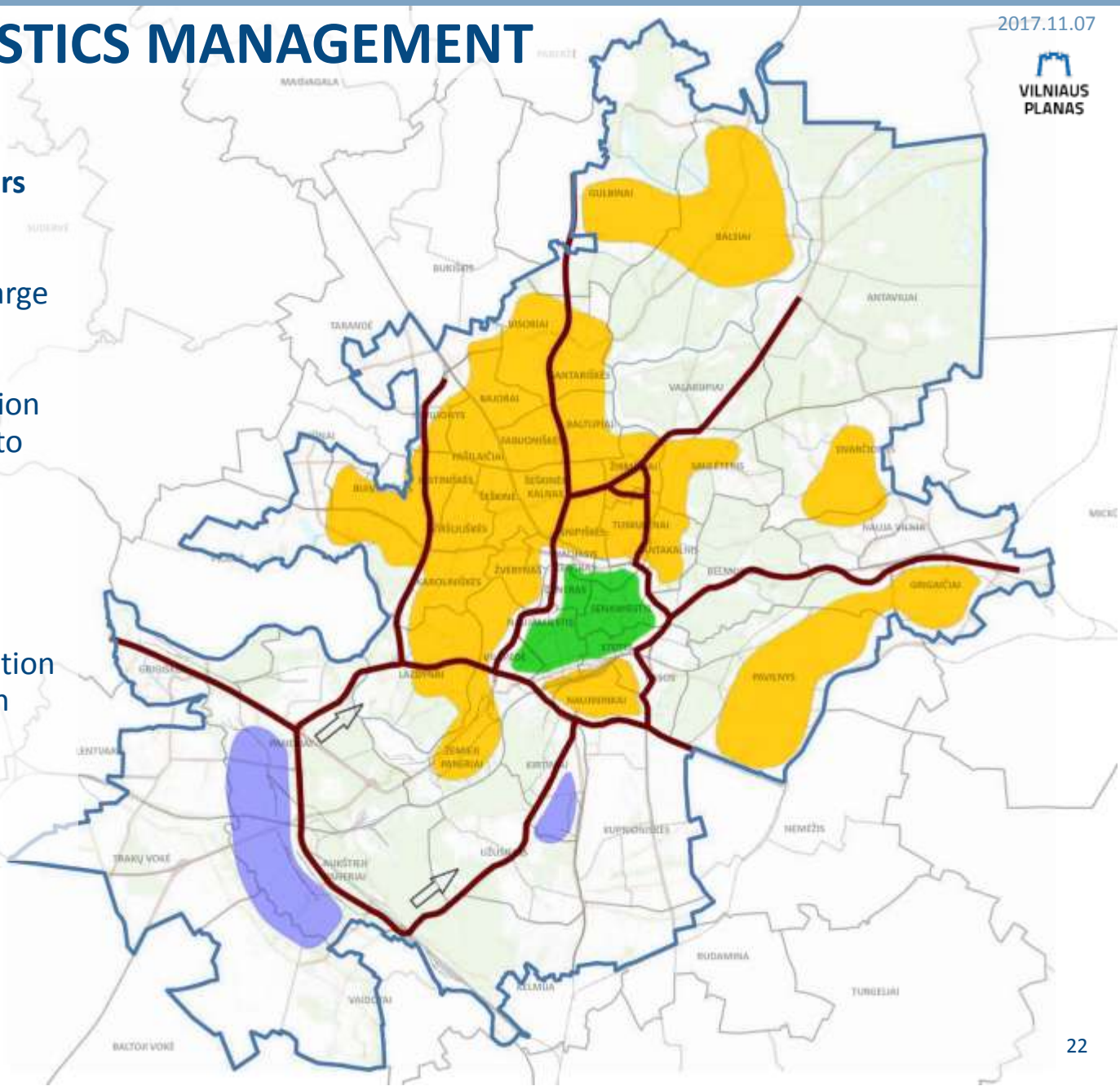
Logistics Consolidation Centers

Center territory. Due to the large number of supermarkets it is impossible to avoid cargo logistics. Differentiated pollution taxes. Transhipment of cargo to environmentally friendly transport.

Densely populated areas. Limitation of cargo transportation time, introduction of pollution taxes.

Proposal for the main cargo transport routes.



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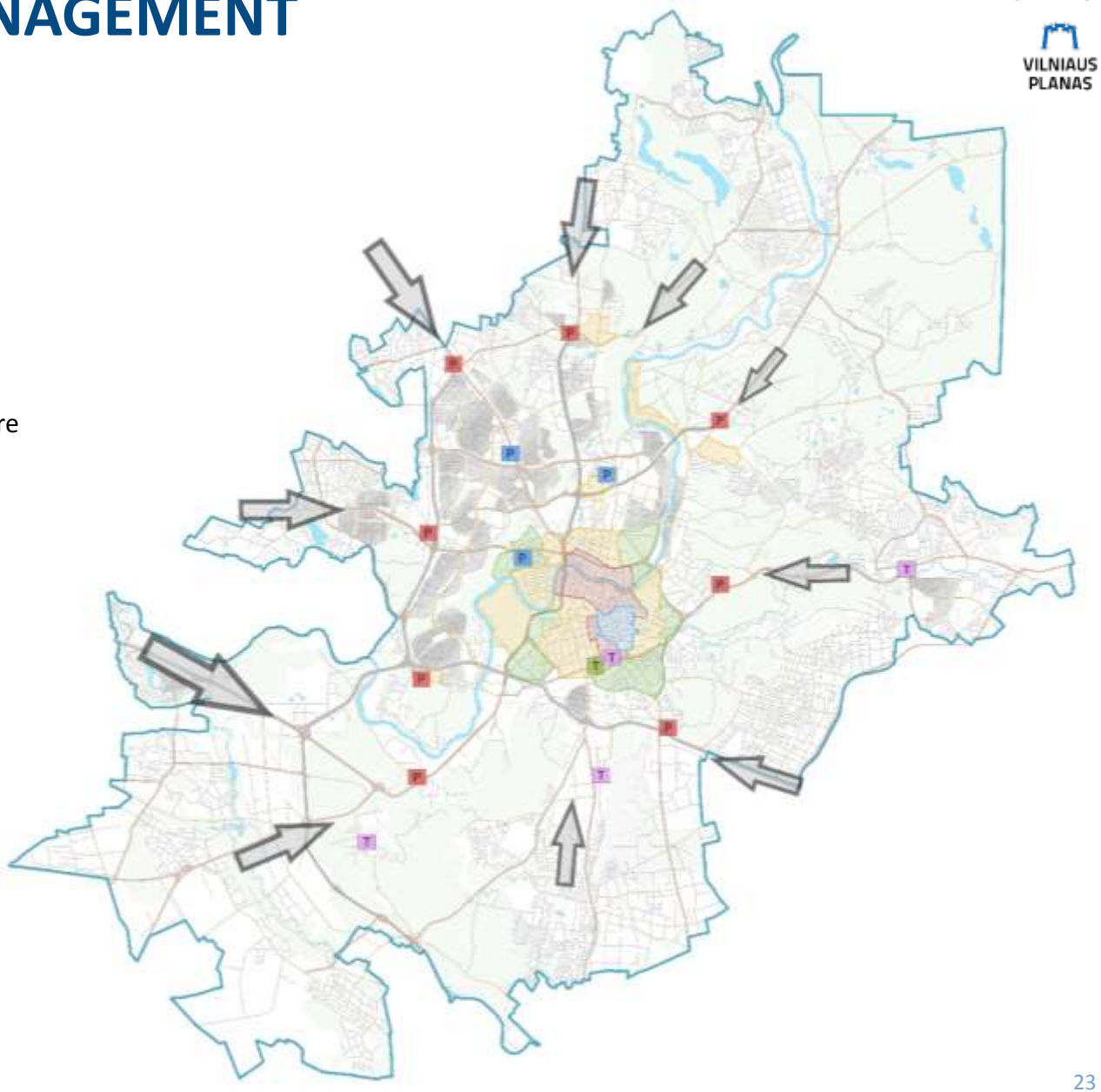
CARS AND MANAGEMENT

PARKING POLICY

- Proposal for Park&Ride
- Existing Park&Ride
- Proposal for Park&Train
- Proposal for Bike&Train
- Residential area with supervised parking
- Blue parking zone in the old town core
- Red parking zone in the centre core
- Yellow parking zone
- Green parking zone



SHARING GETS US FURTHER

WHAT WE HAVE IN VILNIUS?

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Citybee car-sharing

Cyclocity bike-sharing

Spark electric car-sharing

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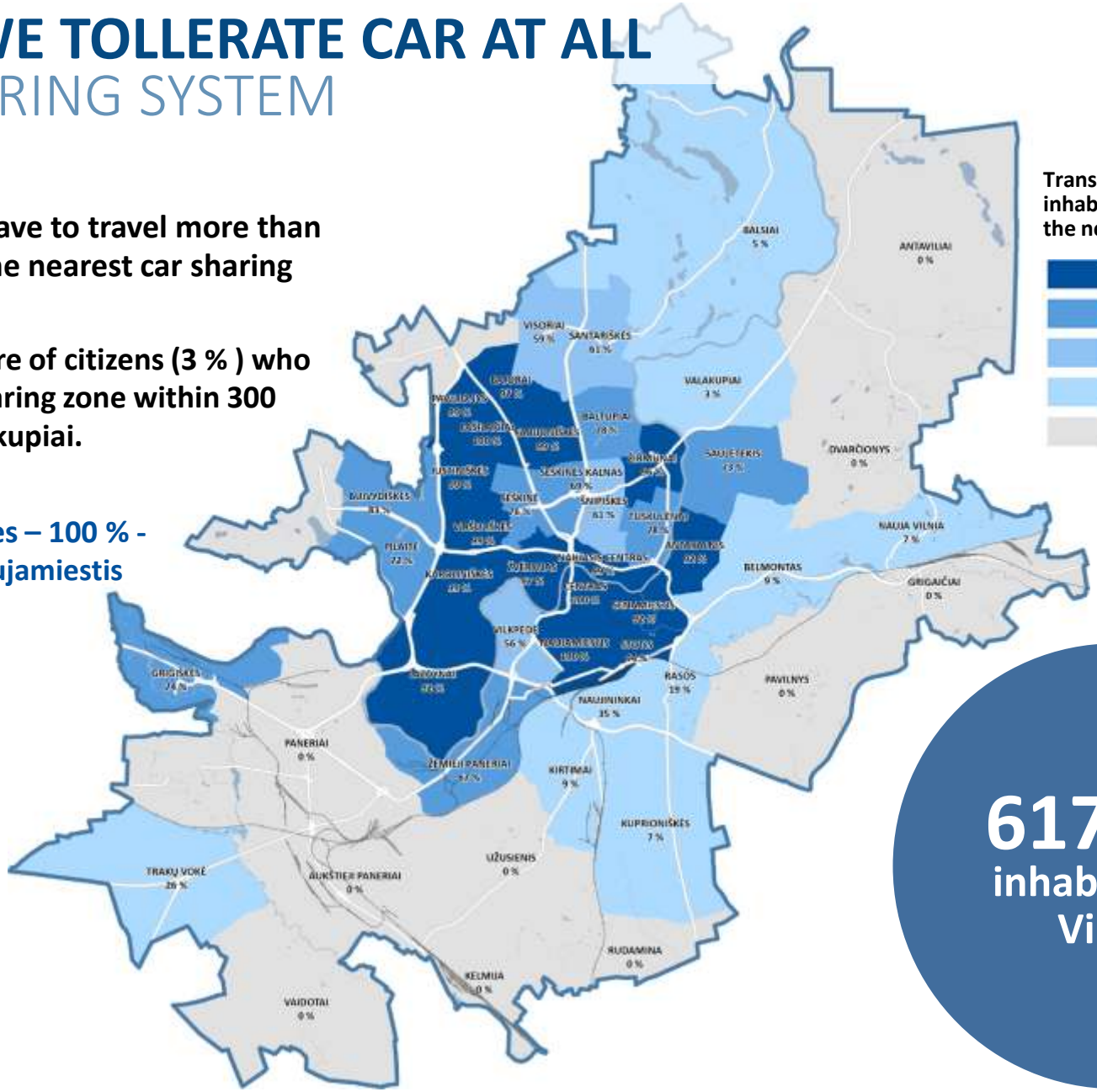
DO WE TOLLERATE CAR AT ALL

CAR SHARING SYSTEM

2 % of citizens have to travel more than 200 meters to the nearest car sharing zone.

The smallest share of citizens (3 %) who can reach car sharing zone within 300 meters is in Valakupiai.

The biggest shares – 100 % - are in Center, Naujamiestis and Pašilaičiai.



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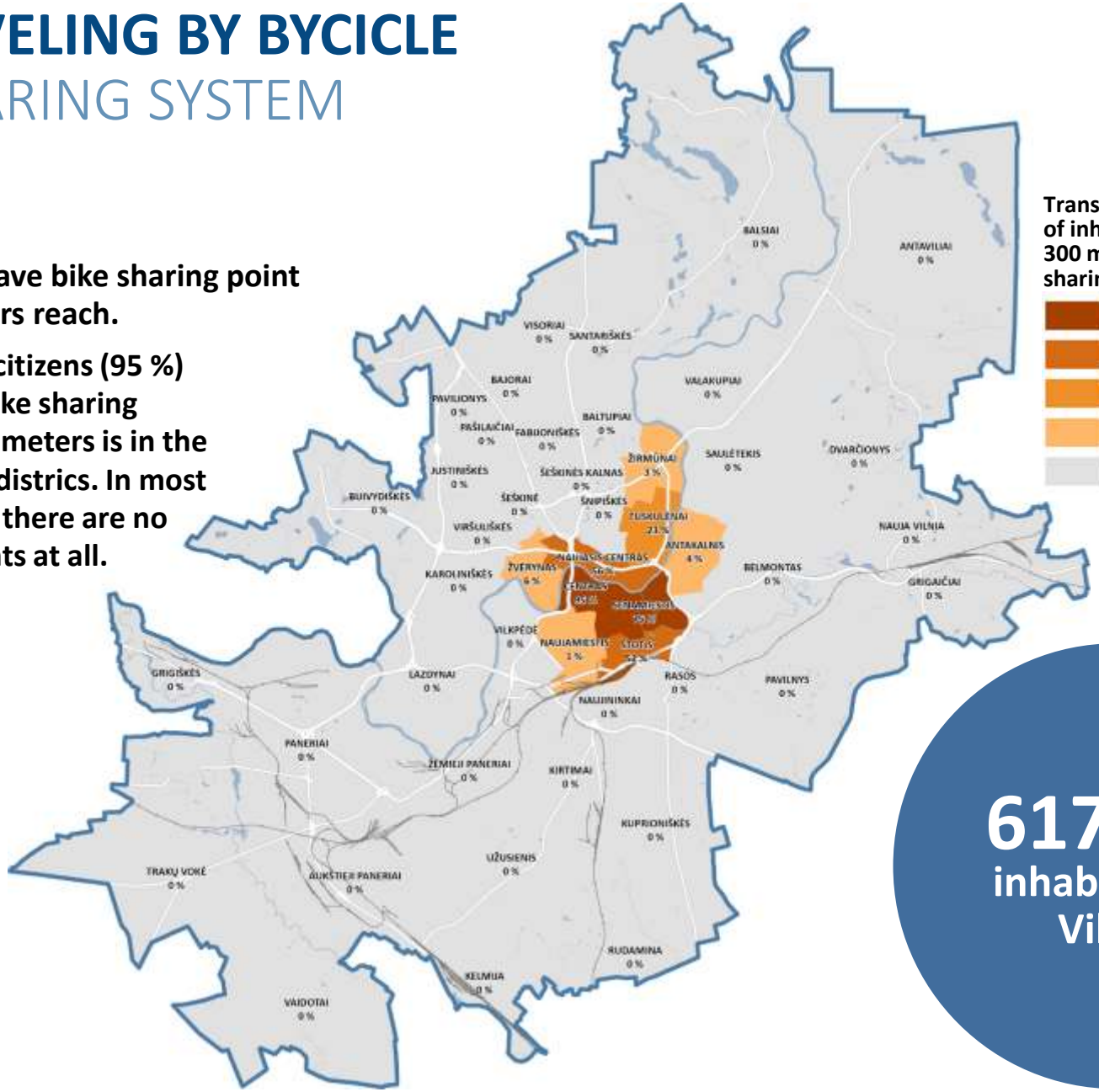
TRAVELING BY BYCICLE

BIKE SHARING SYSTEM

6 % of citizens have bike sharing point within 300 meters reach.

Biggest share of citizens (95 %) who can reach bike sharing point within 300 meters is in the central transpot districs. In most of other districts there are no bike sharing points at all.



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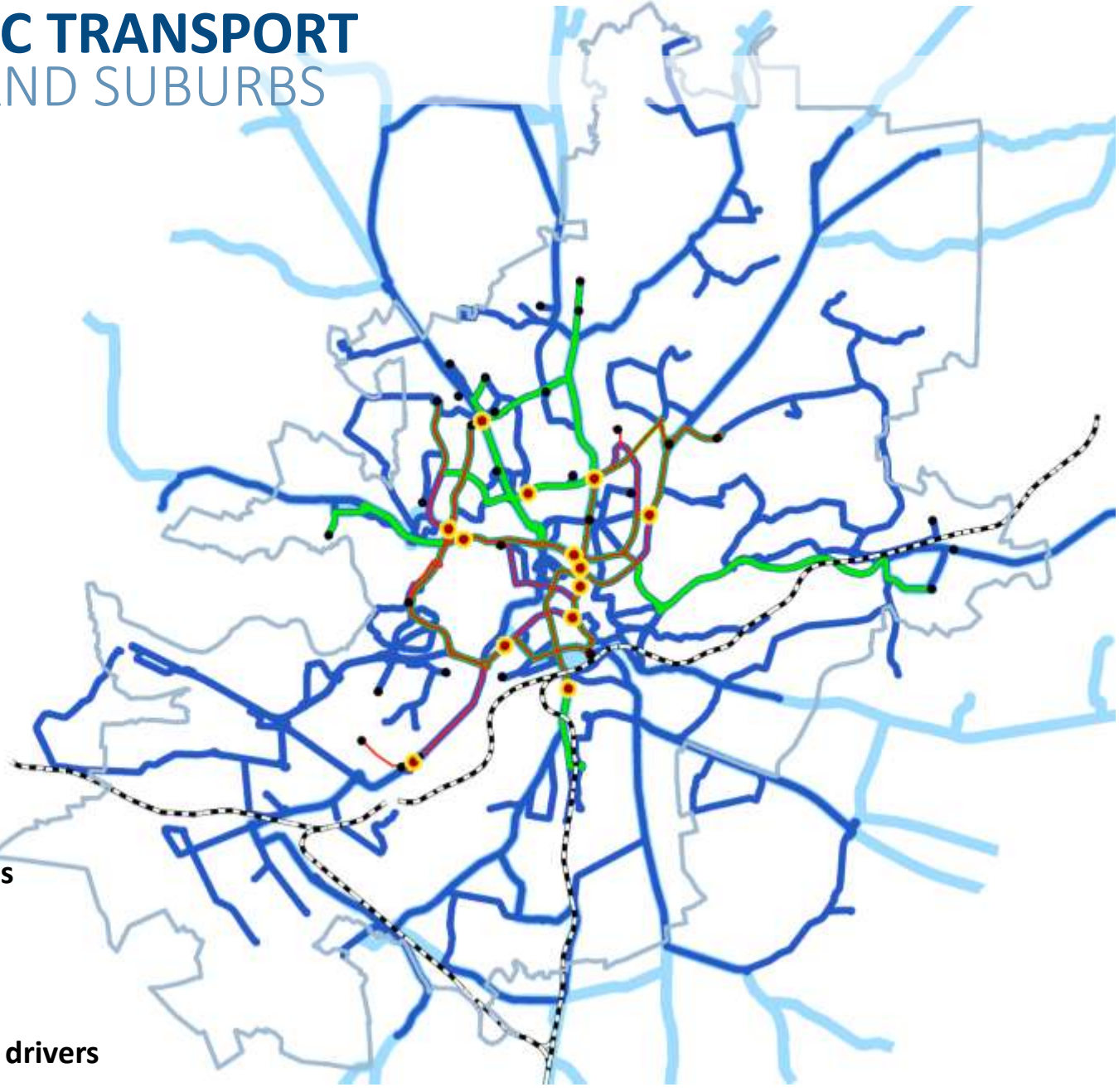
PUBLIC TRANSPORT
VILNIUS AND SUBURBS



- Trolleybuses
- Fast buses
- Buses
- Suburban buses
- Main change stops
- Resting points for drivers

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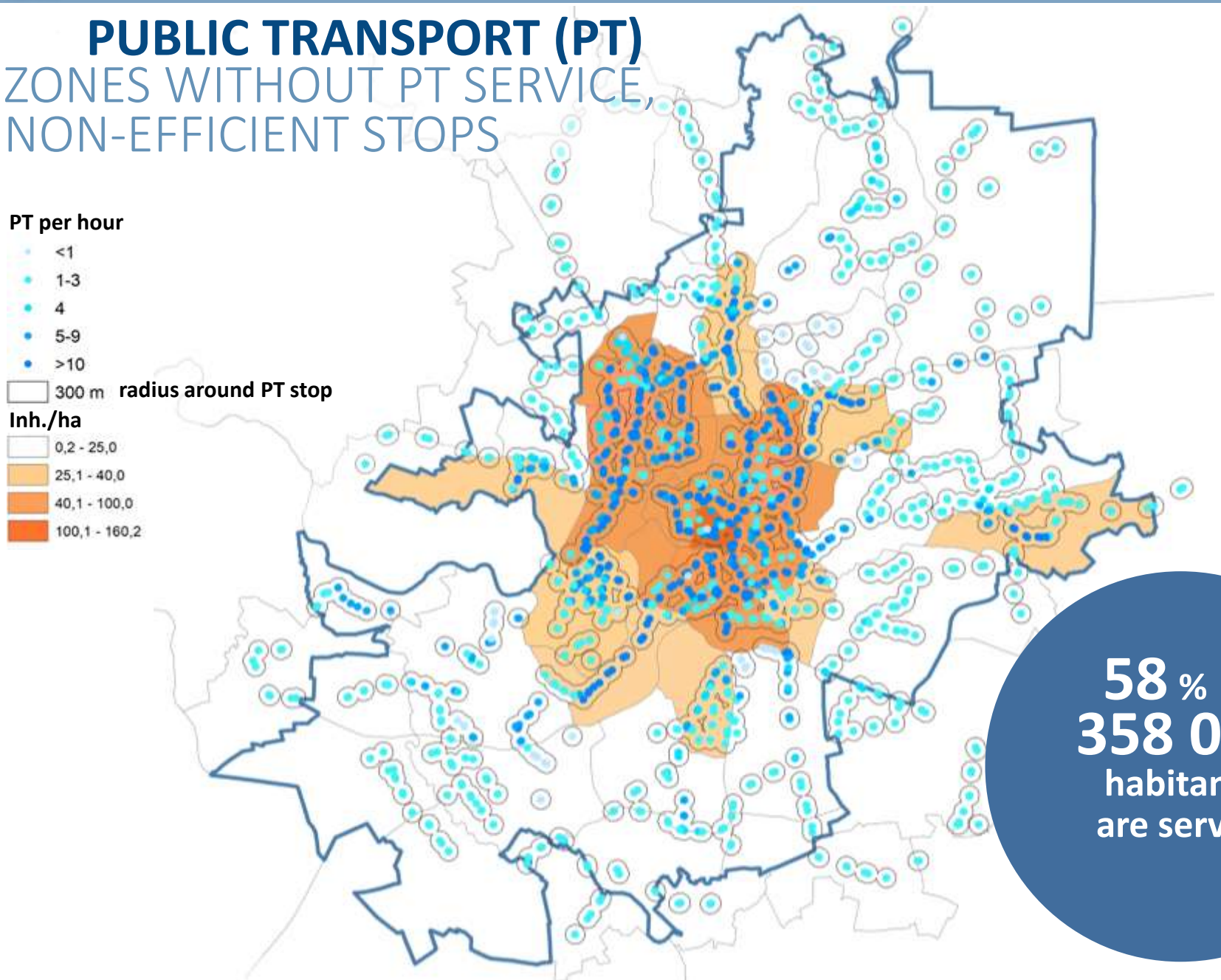
PUBLIC TRANSPORT (PT)

ZONES WITHOUT PT SERVICE, NON-EFFICIENT STOPS



58 % or 358 000 habitants are served

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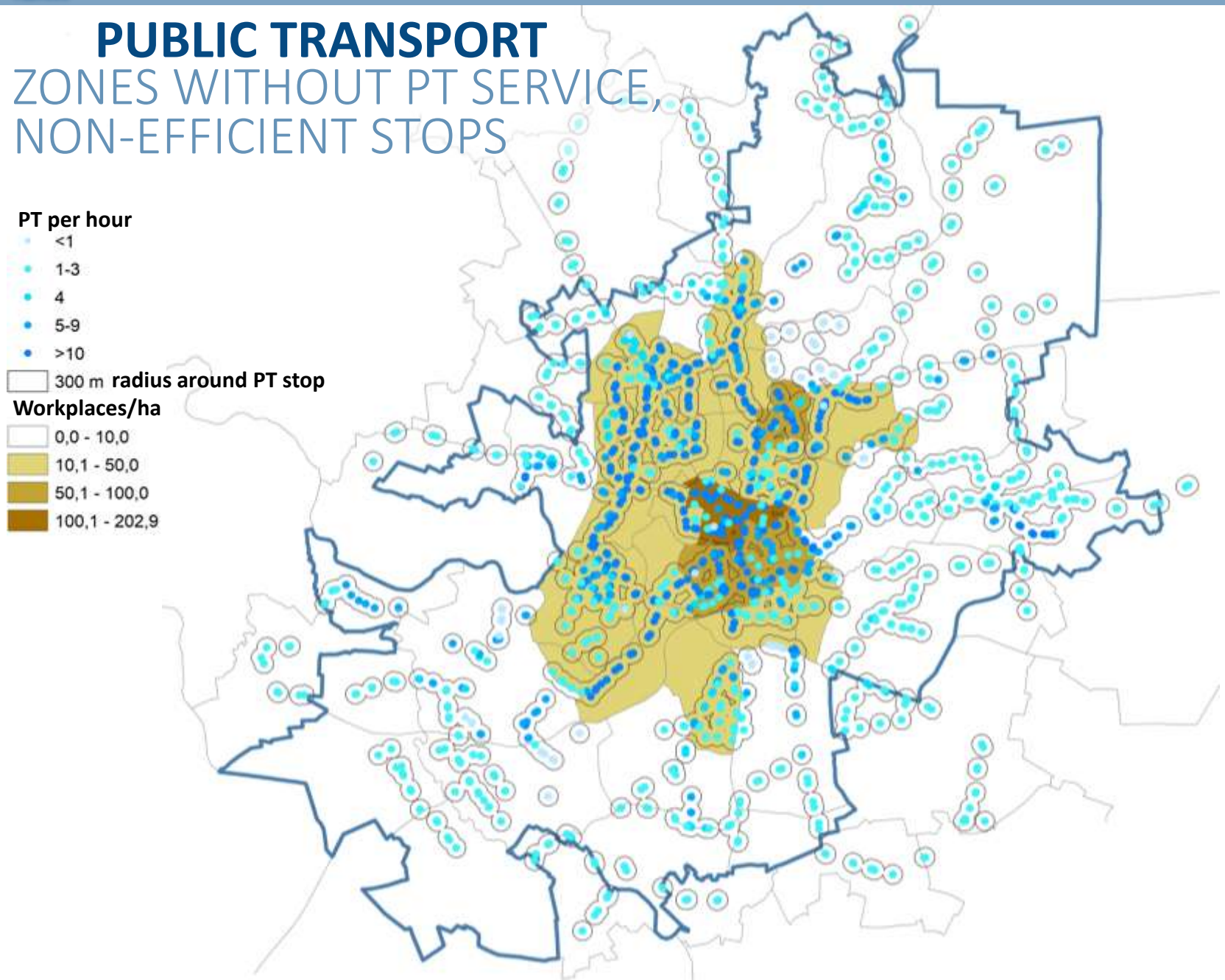
PUBLIC TRANSPORT

ZONES WITHOUT PT SERVICE, NON-EFFICIENT STOPS



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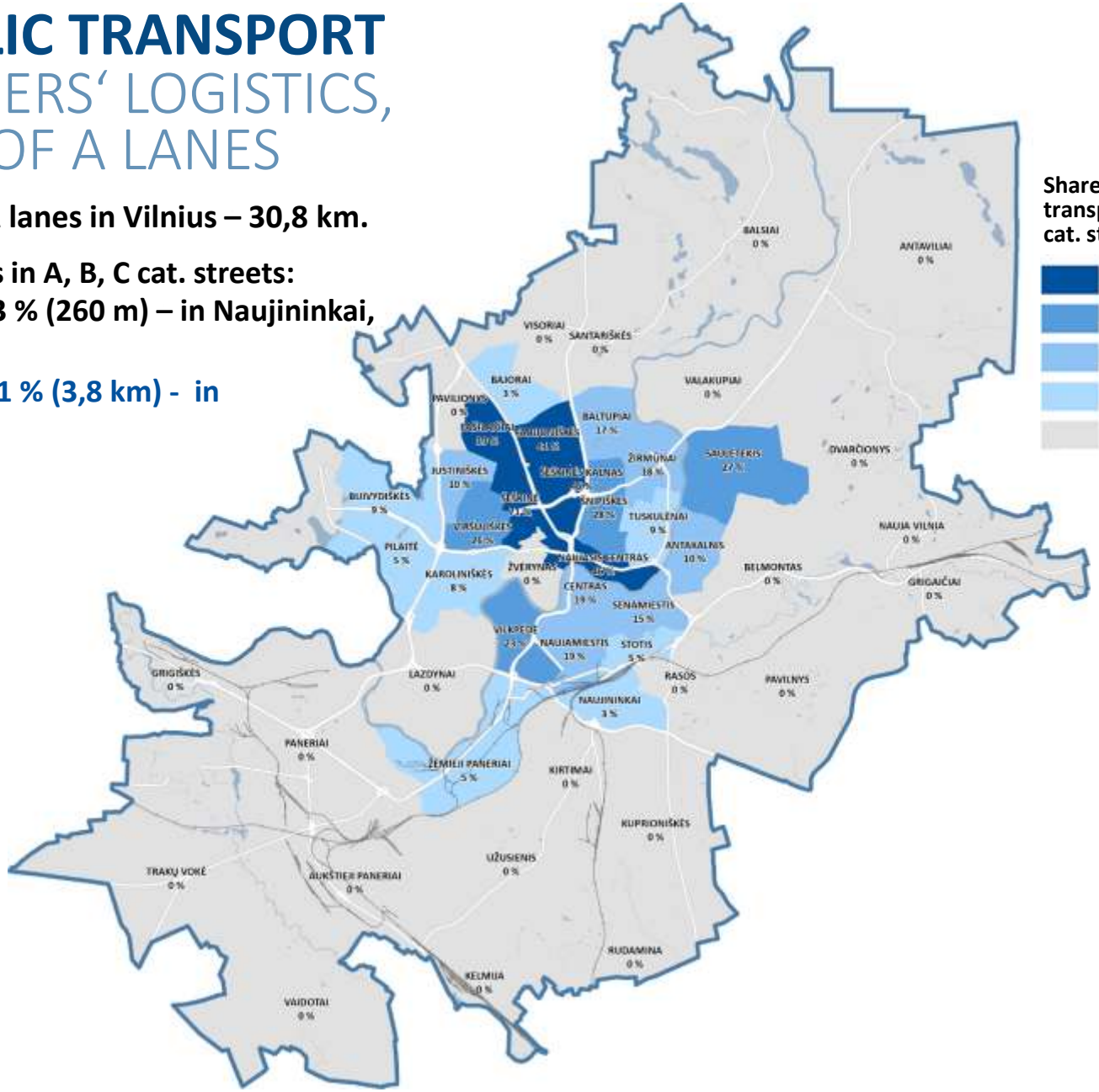
PUBLIC TRANSPORT

PASSENGERS' LOGISTICS, SYSTEM OF A LANES

Total length of A lanes in Vilnius – 30,8 km.

Length of A lanes in A, B, C cat. streets:
Smallest share– 3 % (260 m) – in Naujininkai,

Biggest share – 71 % (3,8 km) - in Šeškinė.



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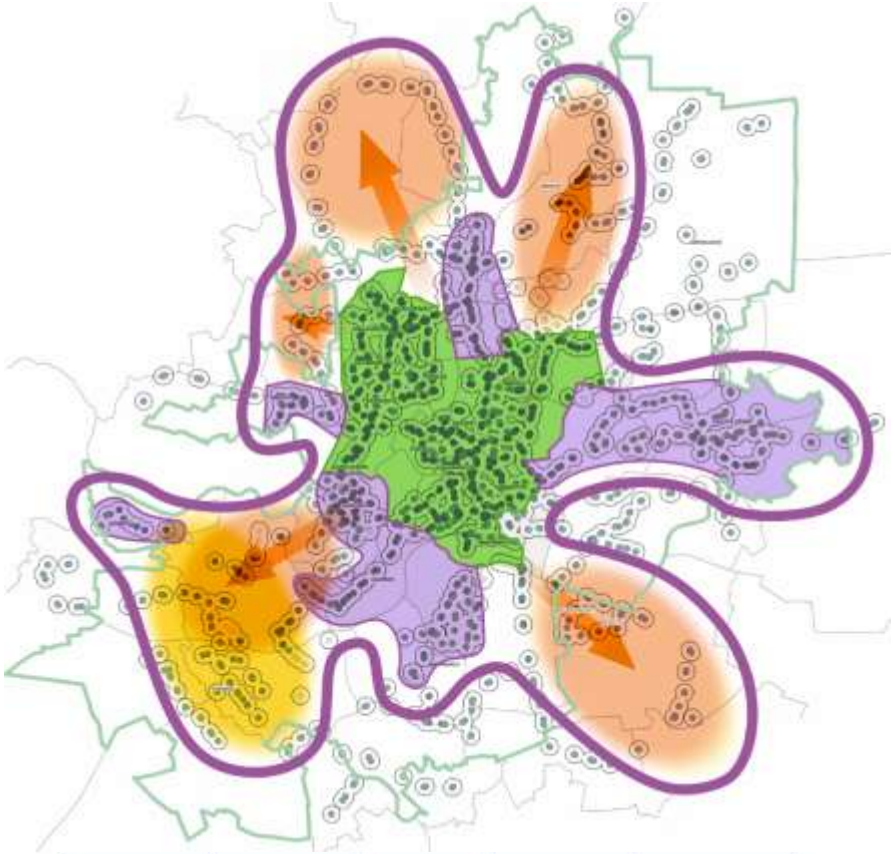
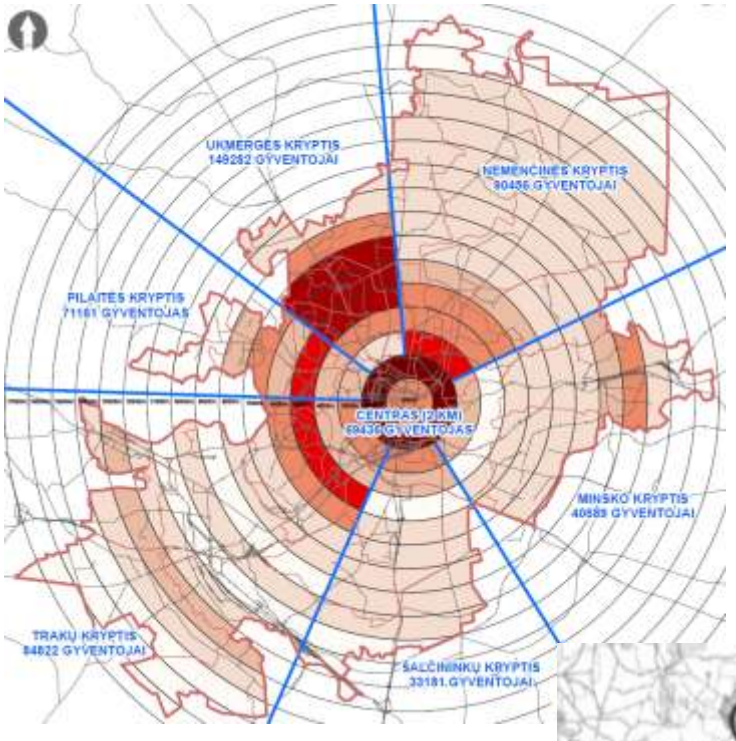
PUBLIC TRANSPORT. PRINCIPLES

FREQUENCY AND DIRECTIONS ORGANIZATION





Zone	Inh./ha	Workplaces /ha	Expected number of runs per hours	Proposal for radius of reach for stops
1	>100	>100	>10	300
2	40-100	50-100	5-9	400
3	25-40	10-50	4	500

EXAMPLE OF COPENHAGEN

- Less cars in the city center;
- Effective PT;
- Safe green spaces;
- Densely populated areas.

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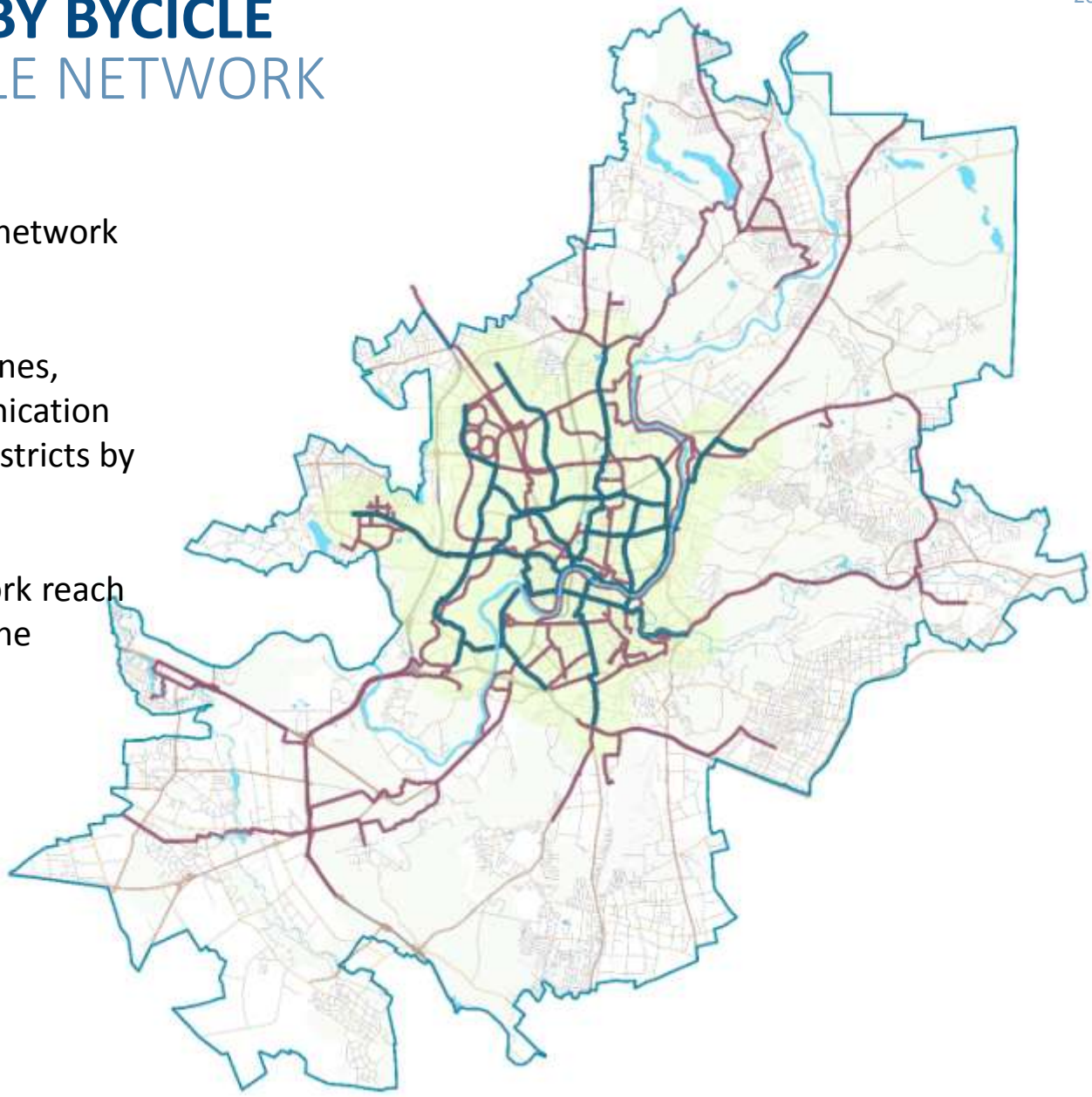
TRAVELING BY BYCICLE

HIGHWAY BYCICLE NETWORK CONCEPT

- Highway (fast) bycicle network
- Connecting highway lanes, ensuring local communication and reach of further districts by bycicle, network
- Highway bycicle network reach within 1000 meters zone



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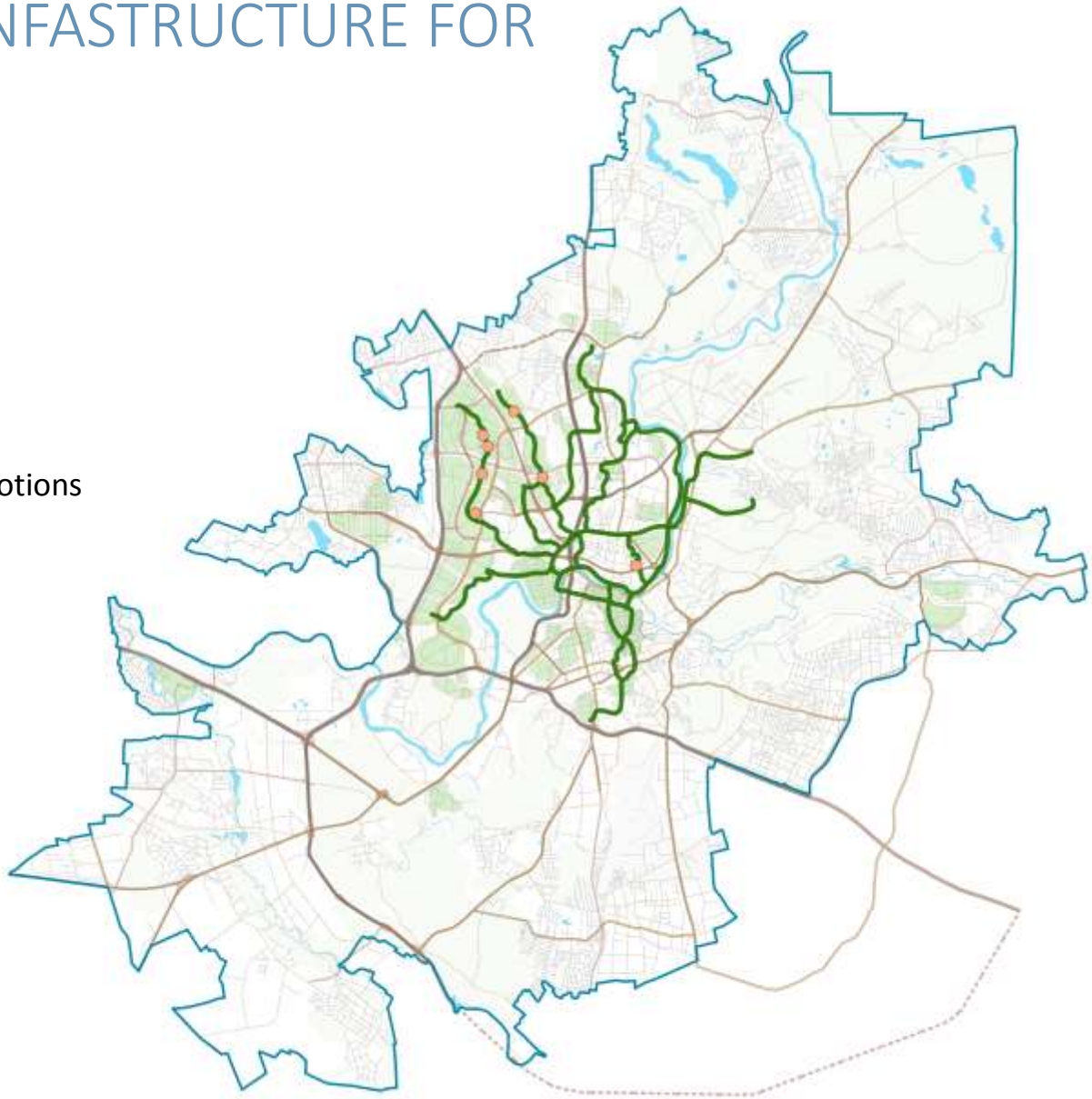
PEDESTRIANS AND PEOPLE WITH SPECIAL NEEDS

PROPOSALS FOR INFASTRUCTURE FOR PEDESTRIANS

- Everyday journeys' routes
- Zone for shared spaces
- Low speed zones
- Attractive territories for communities' activities promotions



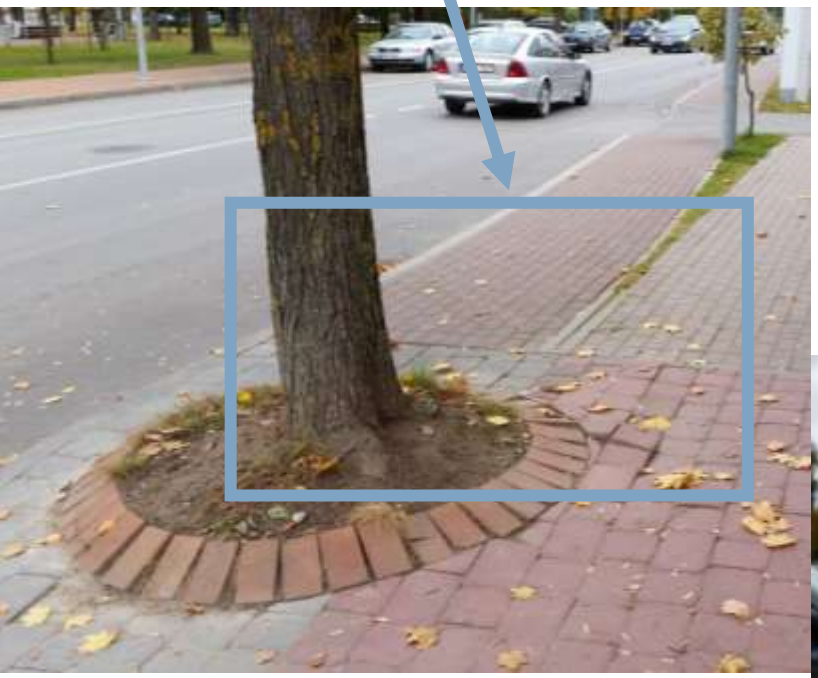
CITY'S PROBLEMS:
lack of respect and understanding in installing and supervision of the infrastructure

Sometimes infrastructure is not installed right,
central part of the city adapted the best, suburban areas are forgotten.

No ramps to enter the buildings, various obstacles on pedestrians paths, bumpy and crumbled coating on the paths, safe traffic on the pedestrian paths is interfered by white-painted bicycle paths.

CITY'S PROBLEMS:
lack of respect and understanding in installing and supervision of the infrastructure

What should cyclist do? Jump over?



Almost safe and comfortable

Almost comfortable

Maybe cyclist will fit in somehow?

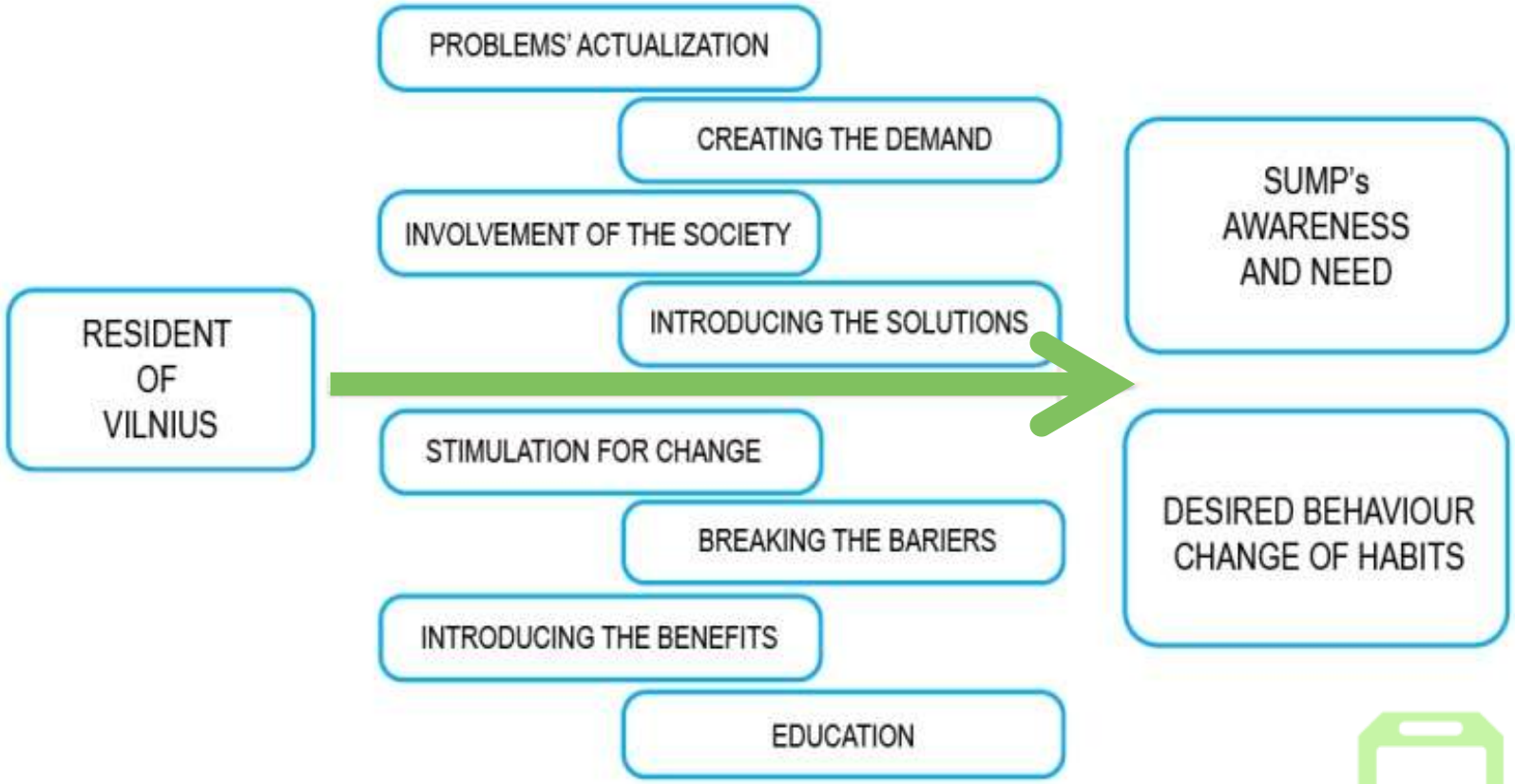
CITY'S PROBLEMS:
lack of respect and understanding in the society

Mother that teaches her son to ignore the road signs. Will he do the same as an adult?

Cyclist has to ride through the crowd on bicycle path

Are the warning signs valid for us?

SUMP's AND SUSTAINABLE MOBILITY IDEAS' COMMUNICATION PLAN



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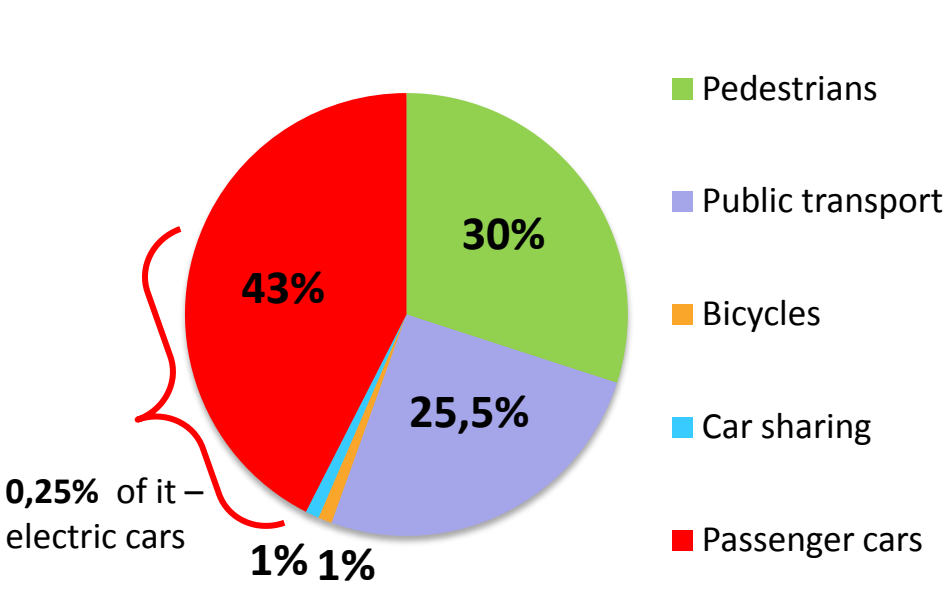
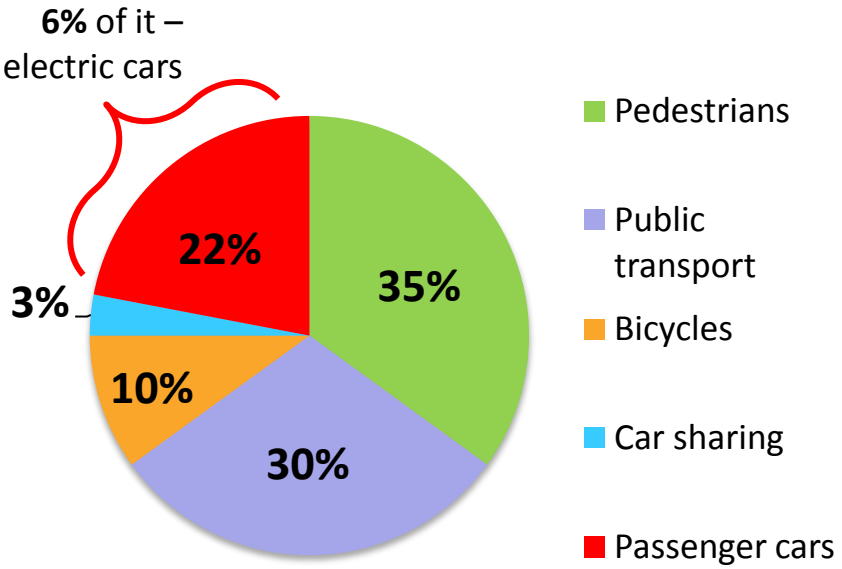
MODAL SPLIT OF TRAVEL MODES

2020, 2030 year

Modal split in 2020



Modal split in 2030



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THANK YOU

SUMP team

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