



URBAN SOLUTIONS

HOW TO TRANSPORT SMARTER – WITHOUT COMPROMISING MOBILITY

CHRISTINA MOSE,
PROJECT SENIOR MANAGER,
TRANSPORT AND URBAN DEVELOPMENT

RAMBOLL

RAMBOLL IN BRIEF

- Independent engineering and design consultancy and provider of management consultancy
- Founded 1945 in Denmark
- 13,000 experts
- Over 300 offices in 35 countries
- Significant presence in the Nordics, the Americas, the UK, Continental Europe, Middle East, India, SE Asia, Australia, and Sub-Saharan Africa
- EUR 1.1 billion revenue
- Owned by Ramboll Foundation

- Services across the markets:
 - Buildings
 - Transport
 - Planning & Urban Design
 - Environment & Health
 - Water
 - Energy
 - Oil & Gas
 - Management Consulting

ENERGY AND TRANSPORT

1. Cities account for **three quarters of energy consumption and 80% of CO2 emissions worldwide**
2. Transport sector covers up till **30% of the energy consumption in EU**



TECHNOLOGY



OUTLOOK

CO2 emissions from transport
could increase 60% by 2050 WW

Technology progress alone will
not achieve a reduction of CO2 –
Behaviour changing policies is
required



MOBILITY – A MAIN SET

MOBILITY – KEEP THE CITY MOVING





THE KIDS



FAMILY



THE COMMUTER



THE YOUNG



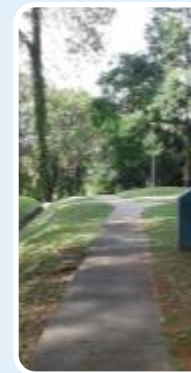
THE TOURIST



THE ELDERLY

**MOBILITY
NEEDS DIFFERS...**

MOBILITY AS A WHOLE - HOLISTIC THINKING – LIVEABILITY



Strategic
Urban
Governance

Architecture
&
Sustainable
Design

Liveable
Public
Spaces

Mobility
solutions

Energy
Strategy

Urban Water
Manage-
ment

Blue/green/
black
infrastruc-
ture design

Biodiversity
in cities

Urban
environmen-
tal quality

Waste
manage-
ment

Holistic City planning

Health, Sustainability and Liveability appraisals, Strategic Environmental Assessments

Smart city concepts and technologies



**DYNAMIC AND POWER FULL
BUSINESS AREA ?**



**ATTRACTIVE
SETTLEMENTS ?**



**MOBILITY
WHAT DO WE
WANT WITH OUR
CITIES?**



**ACTIVE
WELFARE SOCIETY ?**

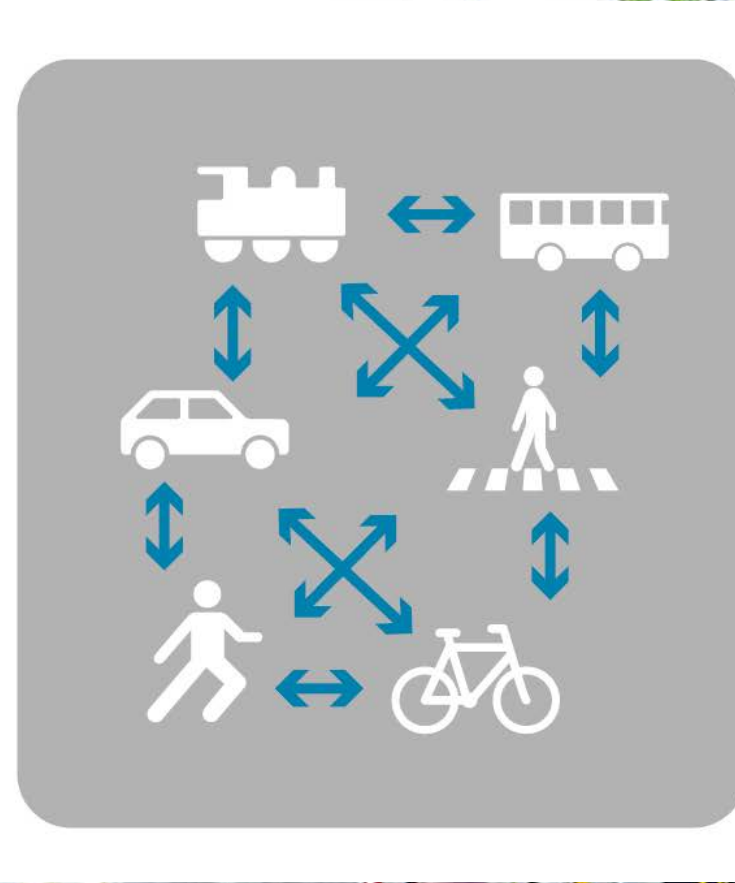


**POPULAR
CITY CENTRE ?**

MOBILITY...



**Traditional thinking –
each mode of transport = one
unit**



**Mobility - all modes of transport
= a holistic**

SMART, SUSTAINABLE AND LIVEABLE

Best practice to future practice

- Best practice today is sustainability
- Not content with best practice
- Best practice is retrospective
- Cities last for the next 100s of years
- Future practice is liveability

Liveability is the ever moving objective

- Prime **enablers** are:
 - Sustainability
 - Smart city
 - Mobility
 - Viability
- **Planning means** are resiliency, coherency and flexibility

PREPARING WELL

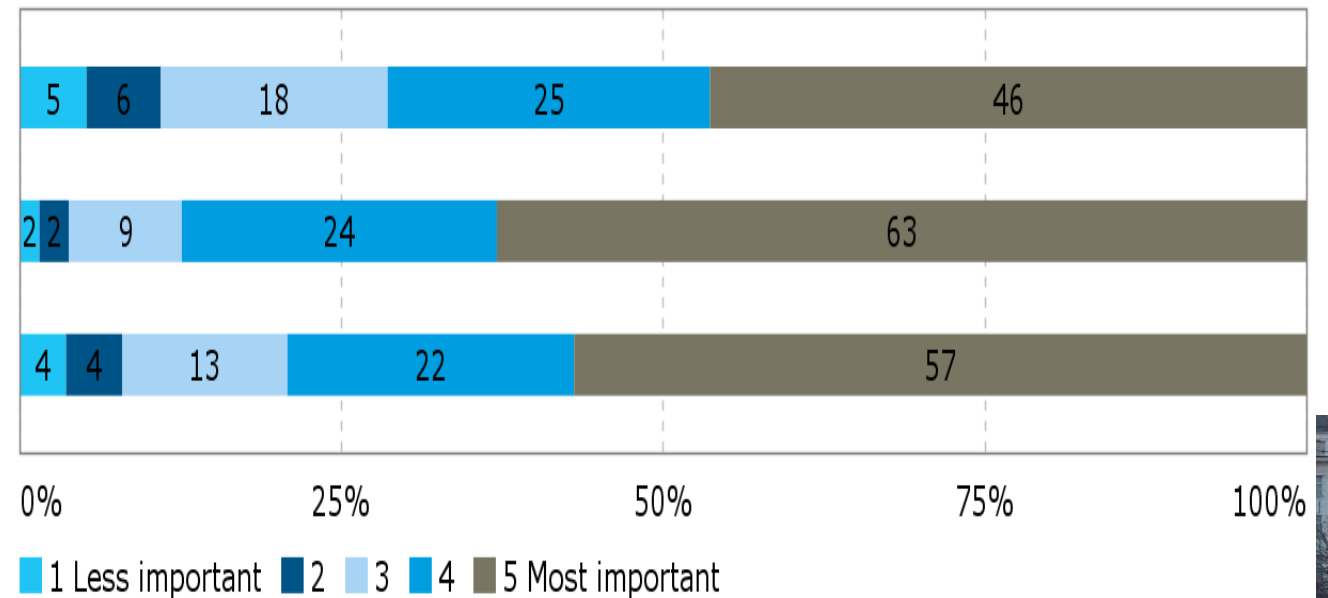
MASTER PLAN OF THE TRANSPORT SYSTEM OF THE CITY OF ZAGREB, ZAGREB COUNTY AND KRAPINA-ZAGORJE COUNTY

What is important for you in improving the traffic situation in the Greater Zagreb Area?

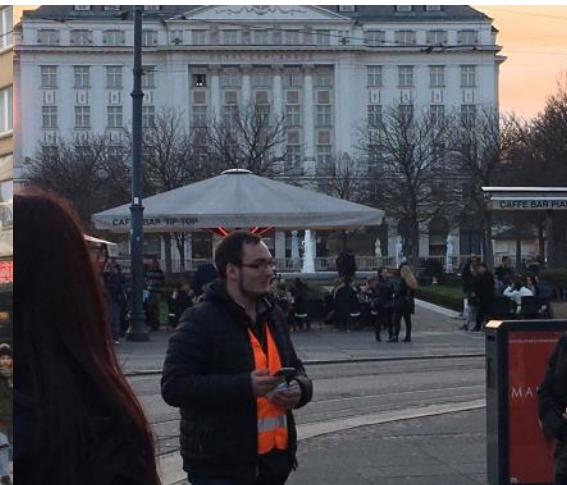
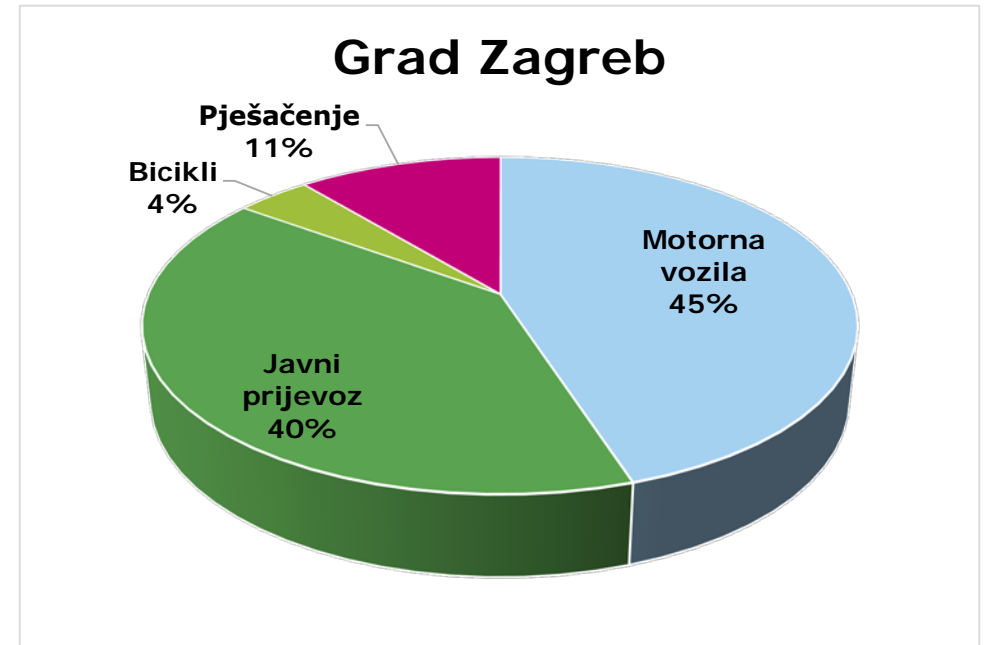
Improving conditions for private car transport

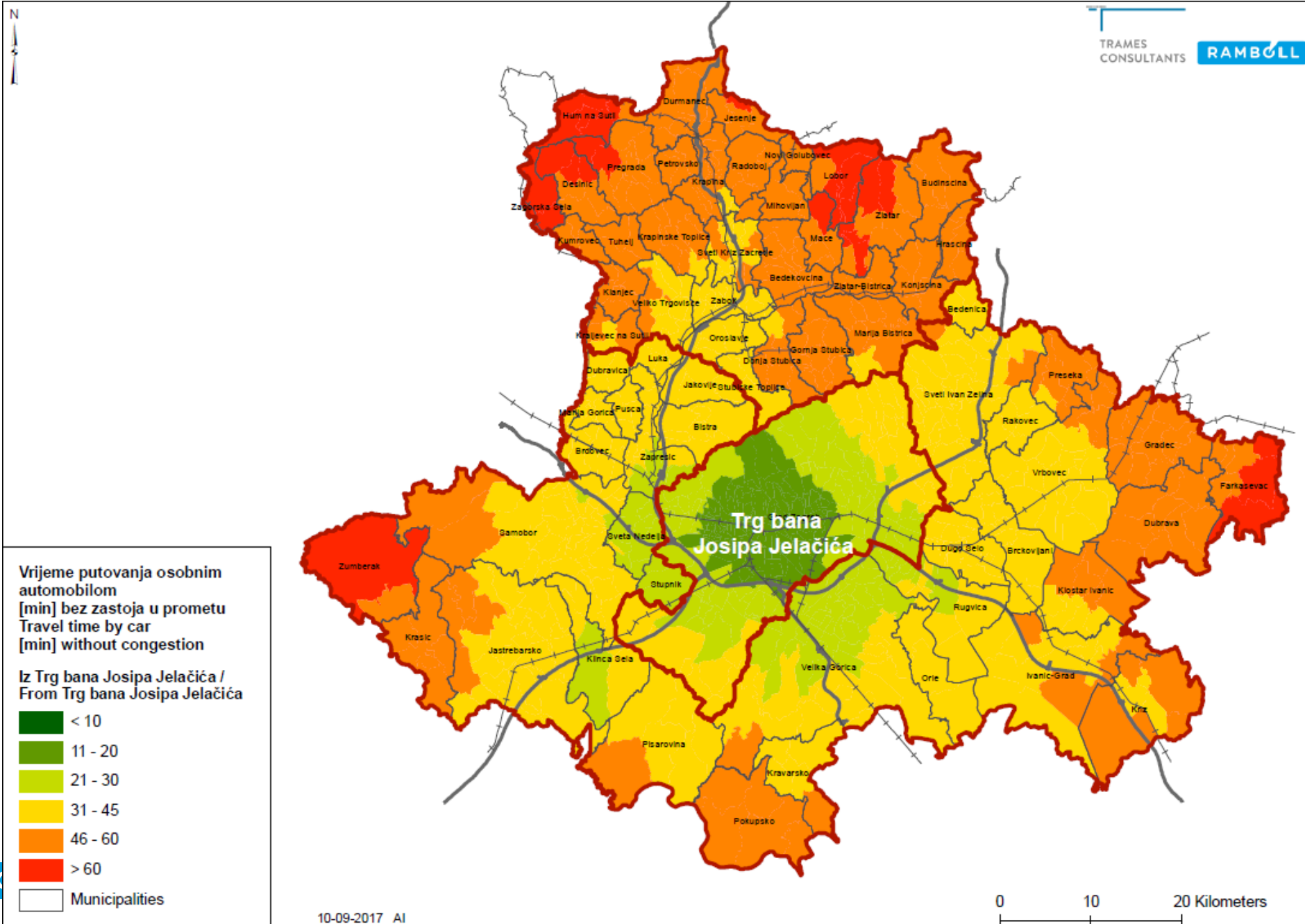
Improving conditions for public transport

Improving conditions for bicycle transport



MASTER PLAN OF THE TRANSPORT SYSTEM OF THE CITY OF ZAGREB, ZAGREB COUNTY AND KRAPINA-ZAGORJE COUNTY

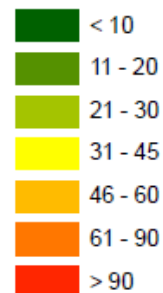




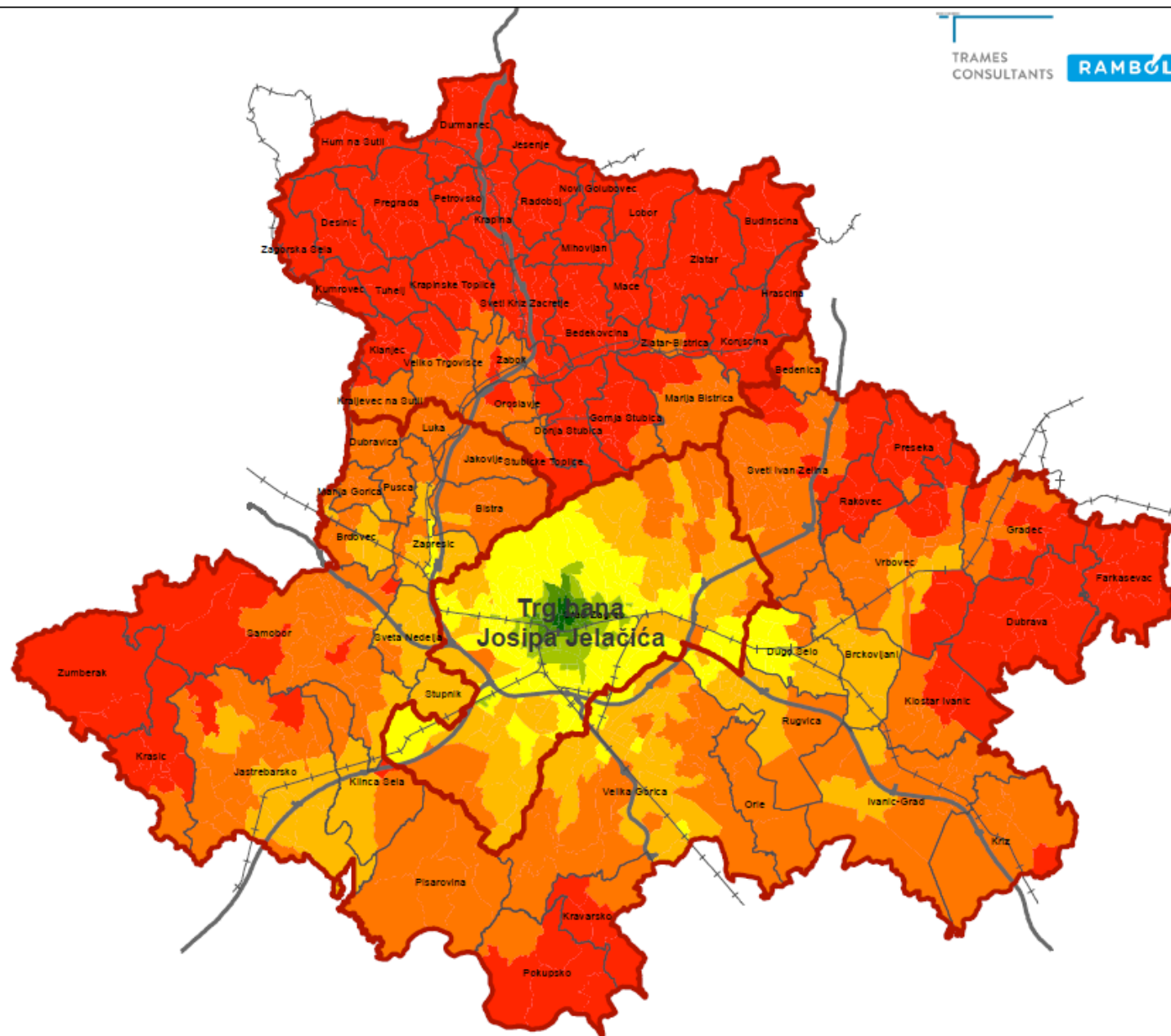


Vrijeme putovanja [min]
javnim prijevozom
Travel time [min]
by public transport

Iz Trg bana Josipa Jelačića /
From Trg bana Josipa Jelačića



Municipalities



12-09-2017 AI

0 10 20 Kilometers

What is important for you in improving conditions for bicycle transport?

Separate bicycle tracks



Bicycle parking facilities



Improved maintenance of roads



Improved maintenance of bicycle tracks



Fewer stops at traffic lights



Traffic safety



Information for cyclists



Better possibilities for bath and clothes change at my work or education



City bikes in Zagreb (bikes for everybody to use for a small fee)



0% 25% 50% 75% 100%

1 Less important 2 3 4 5 Most important

2017

0 - 2000

SUSTAINABLE TRANSPORT IN A SMART LIVEABLE CITY

NORDHAVN – A NEW PART OF COPENHAGEN, DENMARK



Sustainable and smart

- 40.000 inhabitants
- 40.000 workplaces
- CO2 neutral
- Smart city solutions
- Sea wheat for bioethanol and biogas
- District heating and cooling
- Large energy store
- Intelligent waste handling
- Public transport prioritization
- Parking strategy
- Super bicycle paths
- Solar systems

LIVEABILITY AND SMART PLANNING IMPROVE MOBILITY - REDUCE TRAFFIC

Definition of 5 minute city

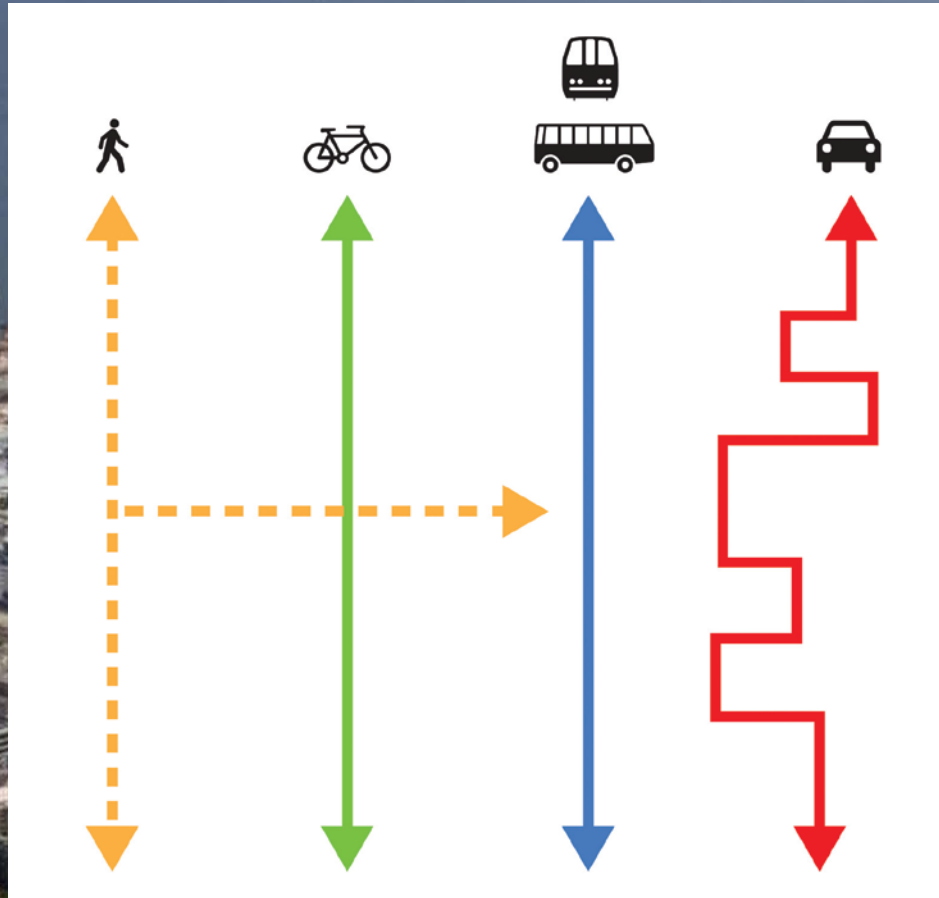
- The five minute city makes it possible to reach basic shops, institutions, work places and cultural facilities within 5 minutes walk
- Or within 5 minutes walk to a public transport mode leading to the destination

Why?

- To create urban life
- Social interconnectedness
- Networking
- Sustainable behaviour and transportation

SMART MOBILITY

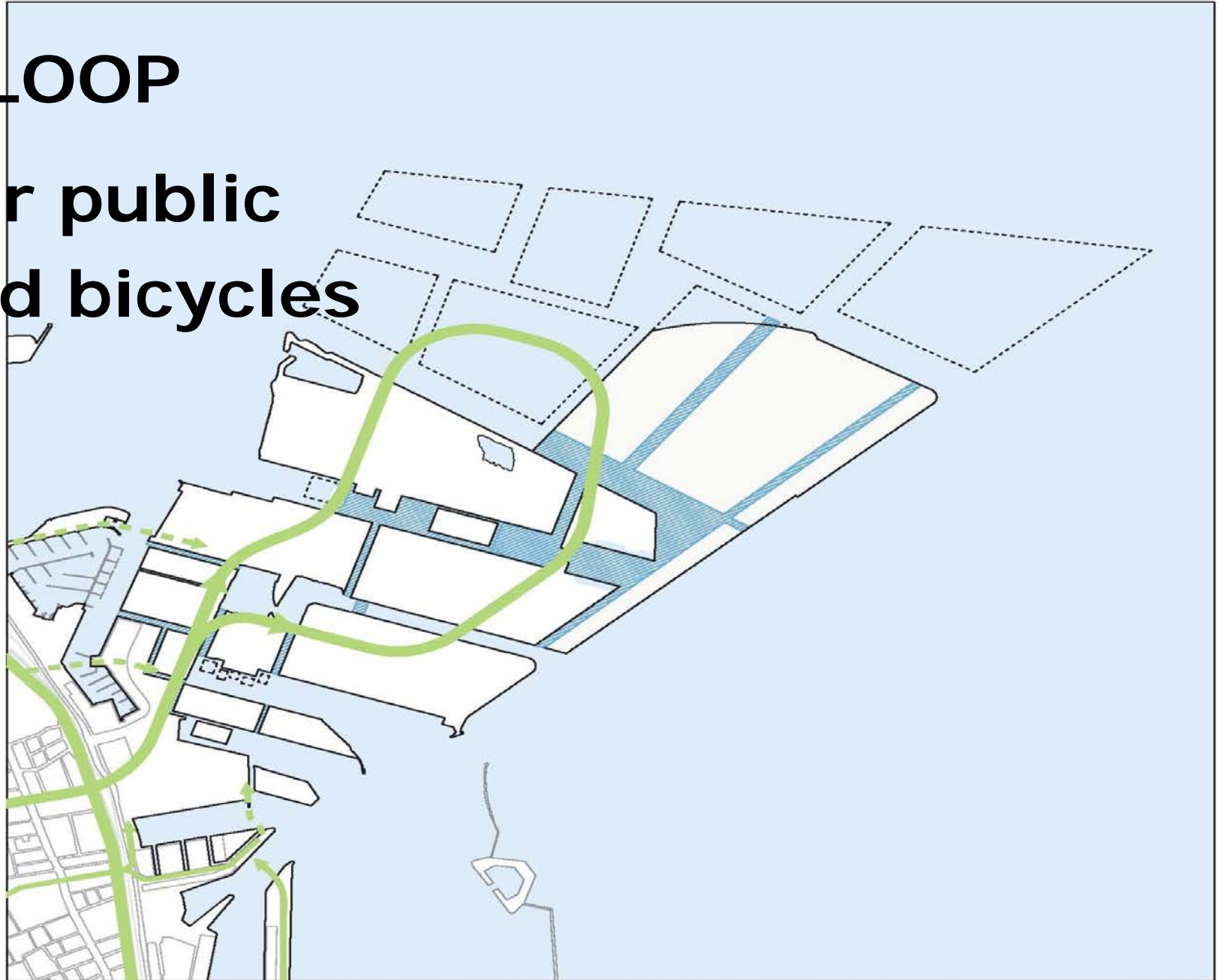
FIVE MINUTE CITY



- High quality public transport is one of the defining elements
- Direct and high class bicycle routes – super cycle paths
- Crooked car routes
- Location strategy for buildings for public use – institutions, shops, culture etc.

THE GREEN LOOP

A corridor for public transport and bicycles



LOOP – OUTER STRETCH IN GREEN SURROUNDINGS



HVALA

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