

SUSTAINABLE URBAN MOBILITY PLANNING – STRATEGY, RESEARCH AND EXPERIENCE IN BUDAPEST

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SCOPE OF PLANNING



What is pictured here?

- ?
-
-
-
-
-
-
-

DIFFERENCES IN PERCEPTION

What is pictured here?

- ?
- River
- Bridge
- People
- Heritage
- Urban space
- Disrupted service
- Free time activities

POLICY FOCUS

[slide of Prof. Peter Jones, UCL – CREATE project]



- Road building
- Car parking
- Lower density
- Decentralisation

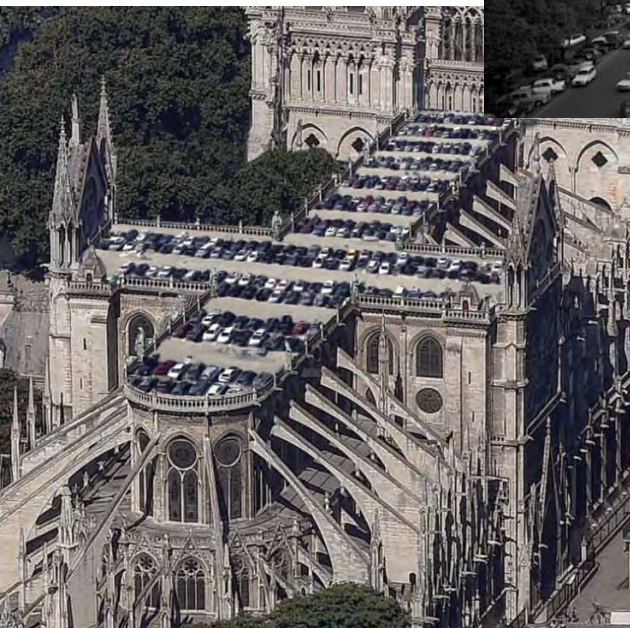


- Public transport
- Cycle networks
- Roadspace reallocation

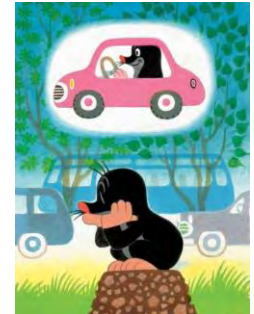


- Public realm
- Street activities
- Traffic restraint
- ToD/mixed use developments

VALUE SETTING



LONG TIME EFFECTS OF DECISIONS

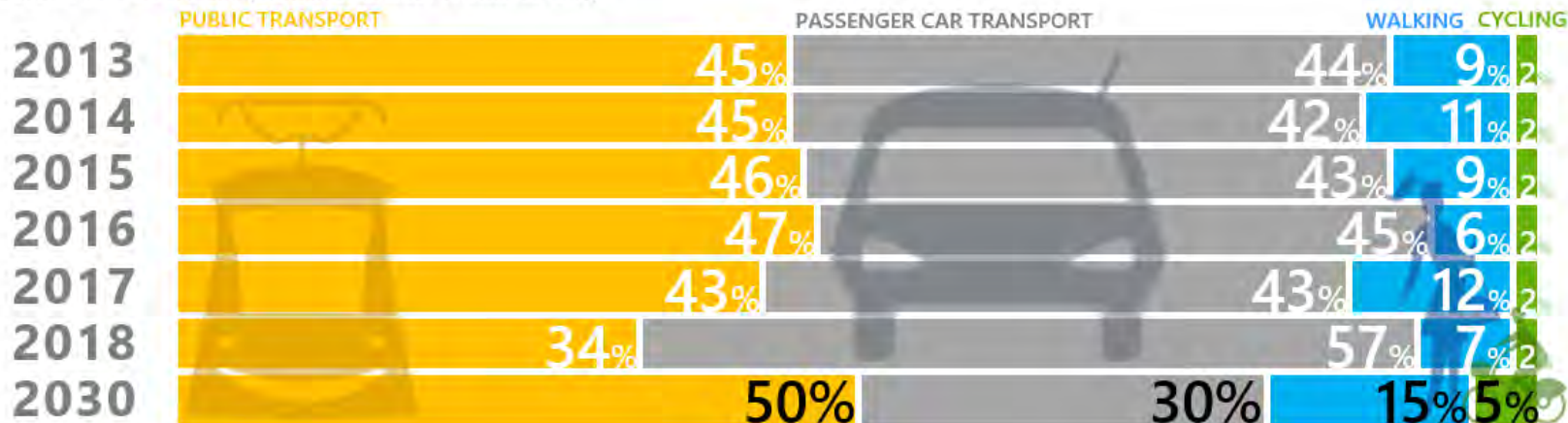


BEWARE OF TECH-TSUNAMIS



TIME FOR A CHANGE

MODAL SPLIT - BUDAPEST (DISTANCE BASED, WORKING DAY)



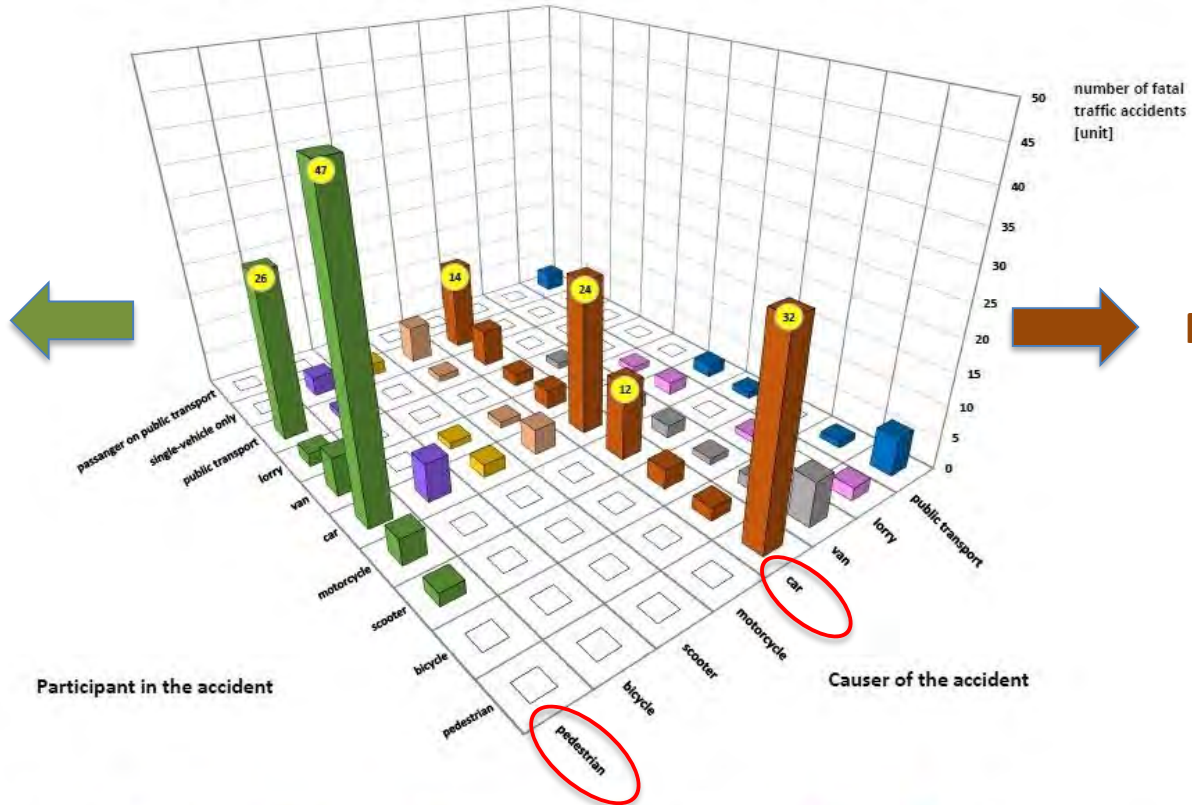
INVOLVEMENT IN TRAFFIC ACCIDENTS (ROAD SAFETY MODAL SPLIT) - BUDAPEST



SAVING HOMO SAPIENS

Causers and participants in fatal traffic accidents in Budapest in 5 years (2014-2018)

**AWARENESS
RAISING**



MODAL SHIFT

pedestrian bicycle scooter motorcycle car van lorry public transport

Source: Hungarian Central Statistical Office, Web-BAL database

EDUCATION AND INVOLVEMENT



DESIGN AND BEHAVIOR



THINK OUT OF THE BOX

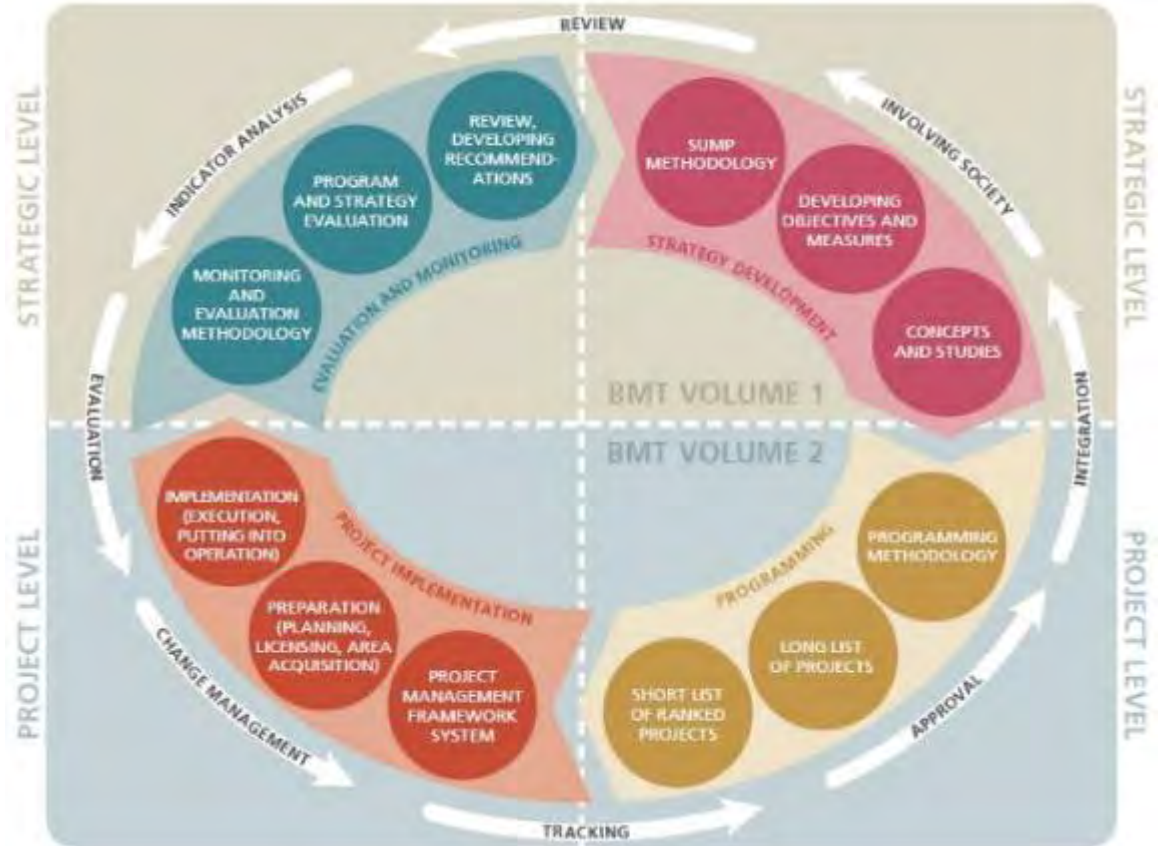


ENGINEERING vs. CO-CREATING METHODS

TRADITIONAL DESIGN	↔	SUSTAINABLE STRATEGY
TRAFFIC	↔	THE HUMAN BEING
KEEPING THE CITY MOVING, SERVING TRAFFIC NEEDS	↔	LIVEABLE CITY, INFLUENCING MOBILITY NEEDS
FOCUS ON TRANSPORT MODES, MAIN FOCUS ON ROAD TRAFFIC AND PUBLIC TRANSPORT	↔	COMPLEX APPROACH, SUPPORT OF SUSTAINABLE TRANSPORT MODES
INFRASTRUCTURE IS THE FOUNDATION OF THE SYSTEM	↔	MOBILITY AS A SERVICE
SEPARATE DESIGN FOR ALL SUBSECTORS	↔	COORDINATED DESIGN INVOLVING ALL SUBSECTORS
SHORT AND MID-TERM DEVELOPMENT PLAN	↔	DESIGN PROCESS BASED ON LONG TERM VISION AND GOALS
WITHIN THE OFFICIAL CITY BOUNDARIES	↔	WITHIN THE FUNCTIONAL BOUNDARIES, WITH REGIONAL APPROACH
ENGINEERING APPROACH	↔	INTERDISCIPLINARY APPROACH, WITH PUBLIC INVOLVEMENT
DESIGN IS DONE AND DISCUSSED BY EXPERTS	↔	DESIGN IS DONE WITH INVOLVEMENT OF ALL STAKEHOLDERS, FINALIZED AFTER PUBLIC HEARINGS
SUBSECTORAL EFFECT ANALYSIS, PROJECT FOCUS	↔	OVERALL STRATEGIC EFFECT ANALYSIS, WITH MONITORING AND ASSESSMENT PROCESSES

FOLLOW A CLEAR PLANNING METHOD AND PROCESS

Budapest Mobility Plan (BMT) – The first SUMP based transport development strategy



SET UNDERSTANDABLE GOALS AND OBJECTIVES

GENERAL GOAL

THE TRANSPORT SYSTEM OF BUDAPEST SHOULD IMPROVE THE COMPETITIVENESS OF BUDAPEST AND ITS REGION AND CONTRIBUTE TO A SUSTAINABLE, LIVEABLE, ATTRACTIVE AND HEALTHY URBAN ENVIRONMENT.

STRATEGIC OBJECTIVES

I

LIVEABLE URBAN ENVIRONMENT

TRANSPORT DEVELOPMENT, INTEGRATED INTO URBAN DEVELOPMENT BY INFLUENCING TRANSPORT NEEDS AND MODE SELECTION, REDUCING ENVIRONMENTAL POLLUTION AND ENHANCING EQUAL OPPORTUNITIES

II

SAFE, RELIABLE AND DYNAMIC TRANSPORT

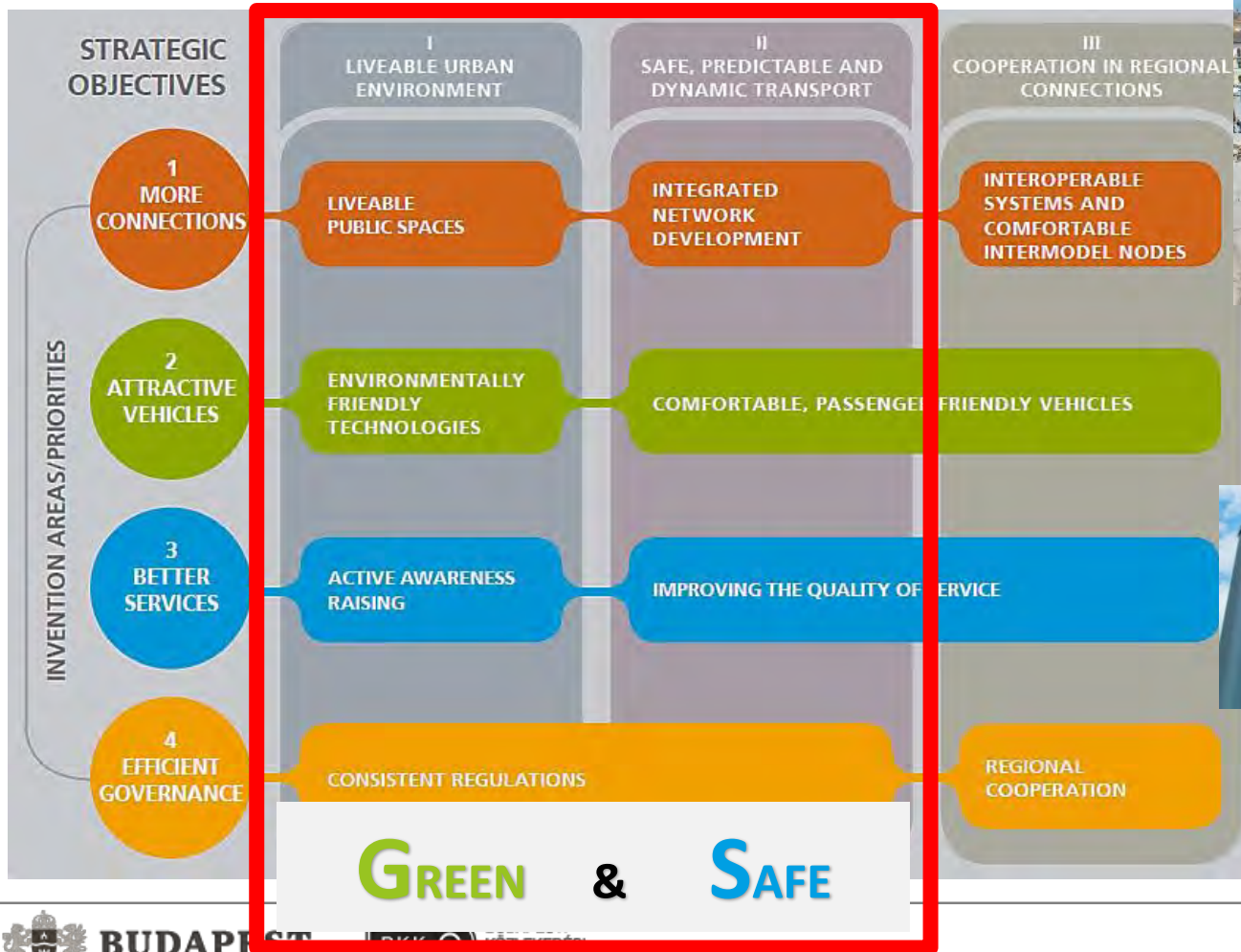
THE INTEGRATED DEVELOPMENT OF TRANSPORT MODES THROUGH EFFICIENT ORGANISATION, STABLE FINANCING AND TARGET-ORIENTED DEVELOPMENT

III

COOPERATION IN REGIONAL CONNECTIONS

REGIONAL INTEGRATION OF BUDAPEST WITH THE HELP OF A TRANSPORT SYSTEM THAT SUPPORTS REGIONAL COOPERATION AND STRENGTHENS ECONOMIC COMPETITIVENESS

FRAME INTERVENTION AREAS AND PRIORITIES



FORMULATE LONG LASTING MEASURES (NO PROJECTS YET!)



LIVEABLE PUBLIC SPACES: pedestrian connections, conditions of walking, **barrier-free accessibility**, 'forgiving' environment, traffic calming and traffic restrictions, **inner zone**, life and property security. **INTEGRATED NETWORK DEVELOPMENT:** direct connections, construction of the missing components, complex approach, **main cycling network**, cycling accessibility, bicycle-friendly secondary road network, **waterborne transport**.

COMFORTABLE AND PASSENGER FRIENDLY VEHICLES: modernisation, maintenance capacities, **accessible vehicles**, depot developments, suitable for carrying bicycles. **ENVIRONMENTALLY FRIENDLY TECHNOLOGIES:** zero emission vehicles, more stringent requirements, **support of green technology**, taxi services, freight transport.

IMPROVING THE QUALITY OF SERVICE LEVEL: passenger information, automated fare-collection, **interoperable fare system**, harmonisation of urban and suburban timetables, intelligent systems in organisation, **public bicycle sharing system**, extension of cycling services, on-demand passenger transportation services, **car sharing system**, public health tasks. **ACTIVE AWARENESS RAISING:** **conscious mobility**, safe transport education, **awareness campaigns**, customer service centres, transport heritage, **teaching transport culture**.

CONSISTENT REGULATION: predictable financing of public transport, economic incentives, **regulation of parking**, regulation of sightseeing vehicles, **integrated transport safety database**.

PREPARE FOR FACT BASED EVALUATION

Main indicators:

Modal split (cross city border & in Budapest), **CO₂ emission** and **Energy consumption** of transport

Strategic indicators for strategic goals:

Liveable urban environment

- **Clean air days** rate in a year
- **Noise pollution** rate of citizens
- Rate of **public space for transport**

Safe, predictable and dynamic transport

- Number of **road accidents**
- **Time loss of personal road transport**
- **PT punctuality, accessibility**
- PT and road **transport accessibility**

Cooperation in regional connections

- Rate of **PT service coverage**
- Rate of **PT information coverage**
- Rate of **PT with integrated ticketing** and integrated institutional system



- **Average travel time**
- **Number of direct rail-bound connections** (centre-suburb)



- Rate of **liveable streets**
- **Passenger satisfaction** on transport hubs
- **Transfer and changing times**
- Number of **P+R** and **B+R** places



Impact indicators for operative goals:

- Rate of **environmentally friendly vehicles** (PT, private and freight)
- Rate of **accessible PT vehicles**,
- Average **age of vehicles**
- **Changes of processes, financing and regulation** based on audits
- Rate of **not harmonized local policies**
- Rate of **passengers without valid ticket**
- **PT passenger satisfaction index**
- Annual offered **PT performance**

+ **69 indicators for specific measures** (1-2 indicator / measure) + **210 output indicators for projects** (1-2 indicator / project)

MORE CONNECTIONS – THINK INTEGRATED



ATTRACTIVE VEHICLES – SEARCH FOR GREENER SOLUTIONS



BETTER SERVICES – TARGET CUSTOMERS



EFFICIENT GOVERNANCE – ENABLE PARTICIPATION

TREATING INDIVIDUALS AS

GOVERNANCE FOCUS

PARTNERS

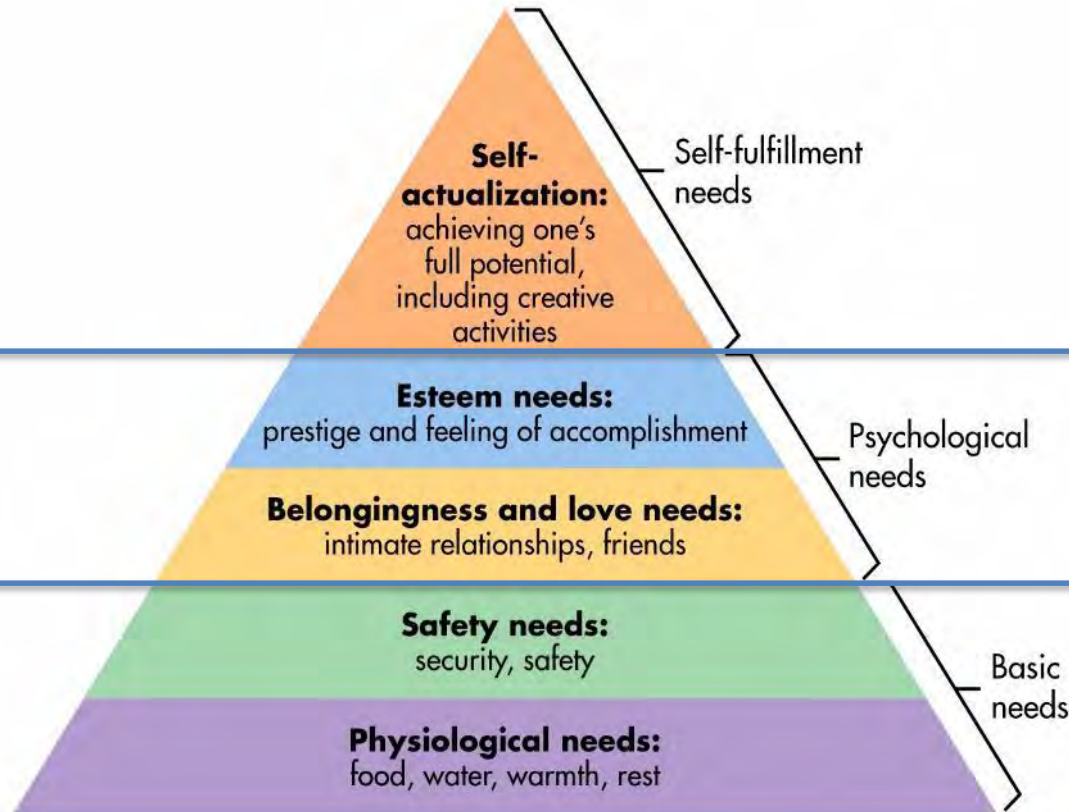
participation

CUSTOMERS

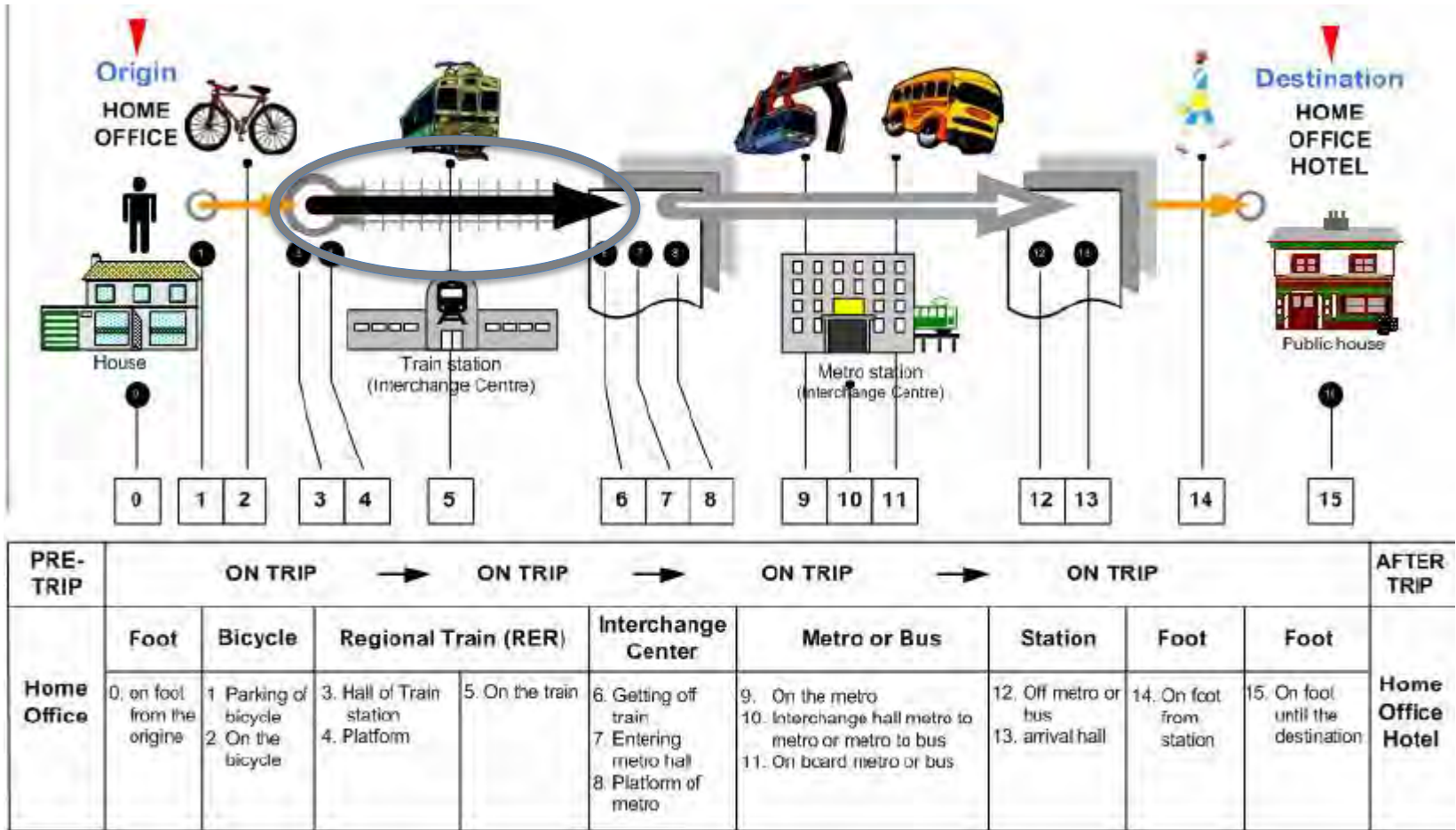
**mobility
management**

PASSENGERS

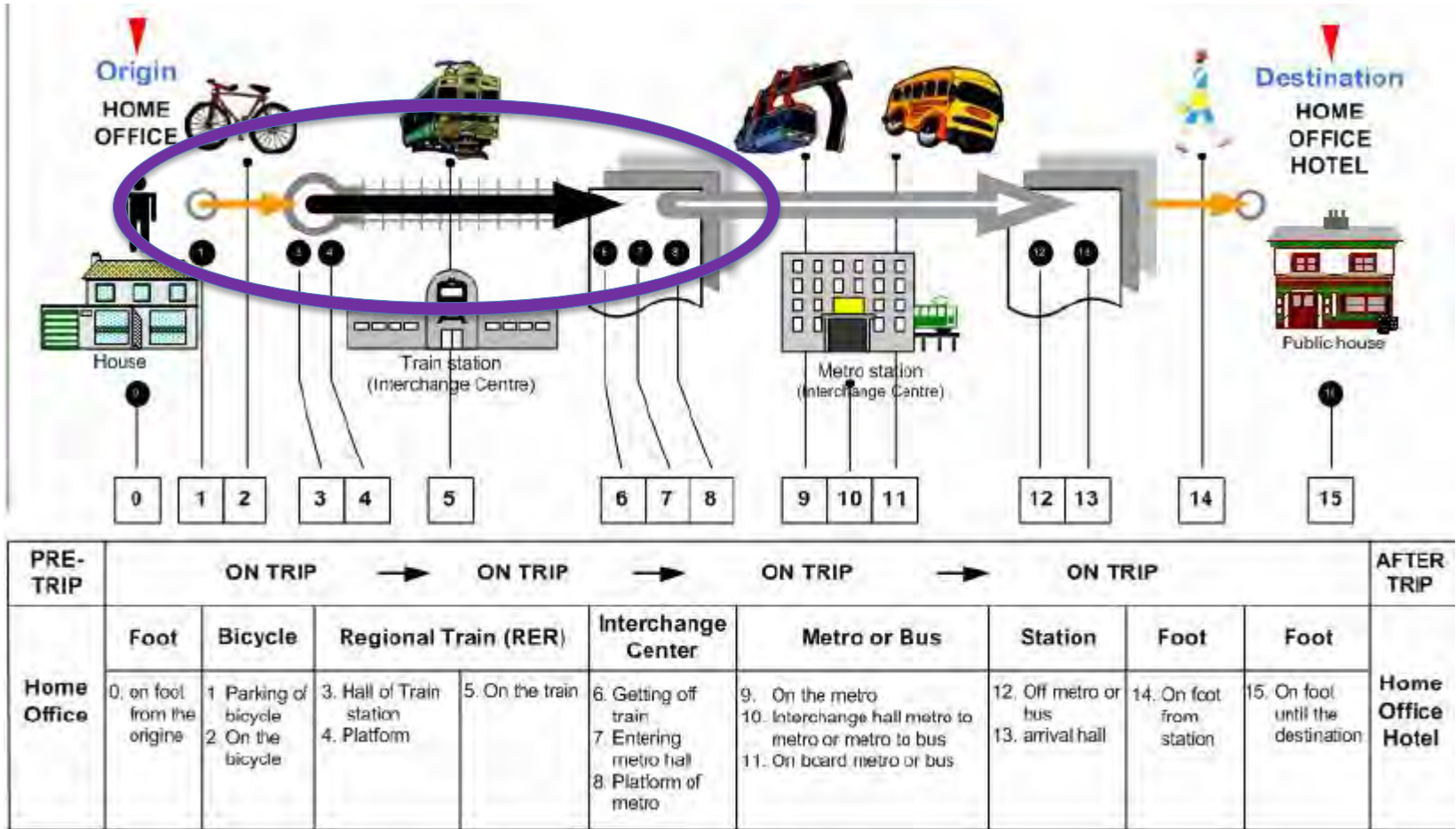
**transport
operation**



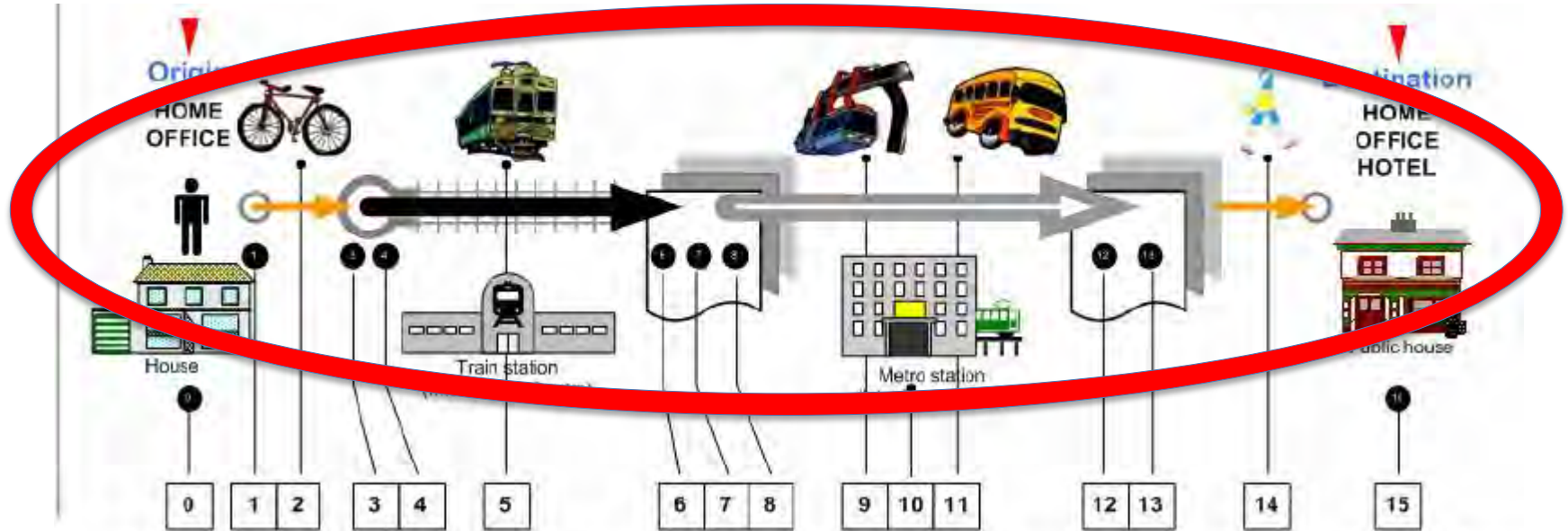
MOVING PASSENGERS FROM A TO B



TREATING CUSTOMERS WITH IMPROVED SERVICES



BUILDING PARTNERSHIPS FOR A BETTER CITY



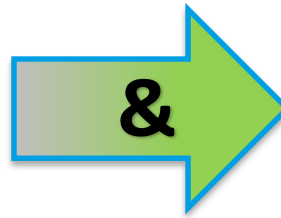
PRE-TRIP	ON TRIP		→	ON TRIP		→	ON TRIP		→	ON TRIP		AFTER-TRIP
Home Office	Foot	Bicycle		Regional Train (RER)	Interchange Center		Metro or Bus	Station		Foot	Foot	Home Office Hotel
	0. on foot from the origin	1. Parking of bicycle 2. On the bicycle		3. Hall of Train station 4. Platform	5. On the train 6. Getting off train 7. Entering metro hall 8. Platform of metro		9. On the metro 10. Interchange hall metro to metro or metro to bus 11. On board metro or bus	12. Off metro or bus 13. arrival hall		14. On foot from station	15. On foot until the destination	

BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

TRAFFIC CALMING IN DOWNTOWN



GREEN



SAFE



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

REBUILT PUBLIC SPACES FOR PEDESTRIANS



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

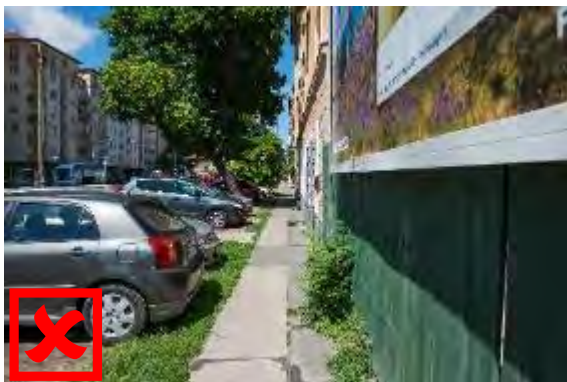
JOINT SURFACES



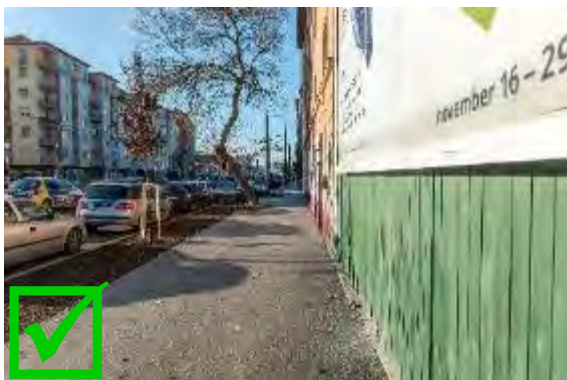
BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

IMPROVEMENT OF WALKING FACILITIES

BEFORE



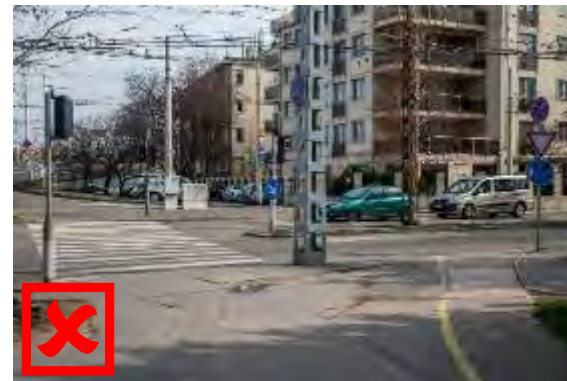
AFTER



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

IMPROVEMENT OF CYCLING FACILITIES

BEFORE



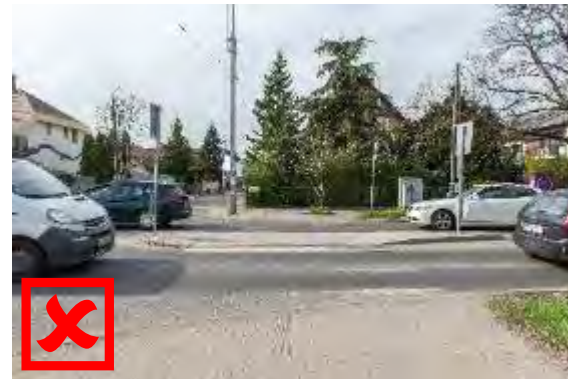
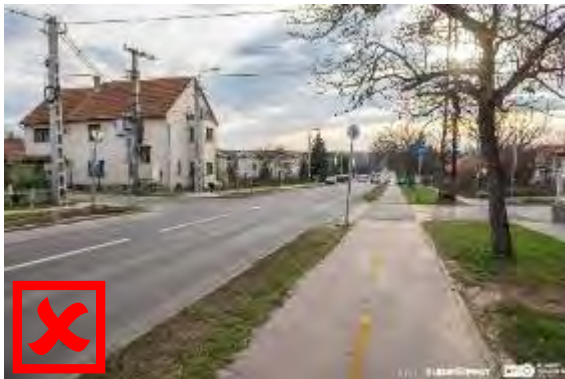
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BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

IMPROVEMENT OF INTERSECTIONS

BEFORE



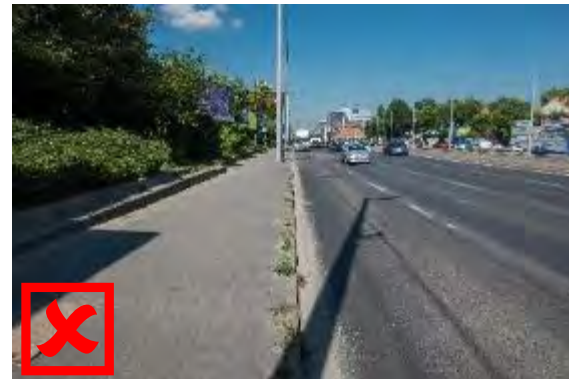
AFTER



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

REDESIGN OF ROAD INFRASTRUCTURE

BEFORE

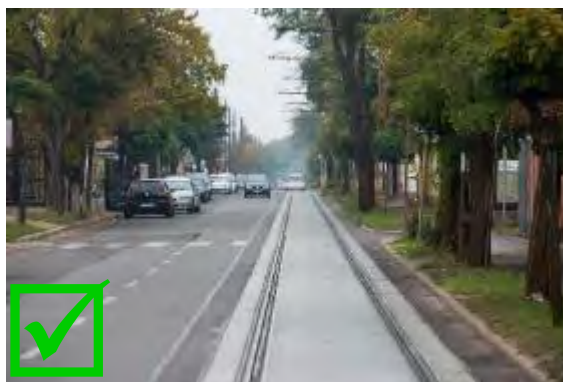


AFTER



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

PROMOTING CLEAN AND ACTIVE MOBILITY



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

SAFETY INTERVENTIONS

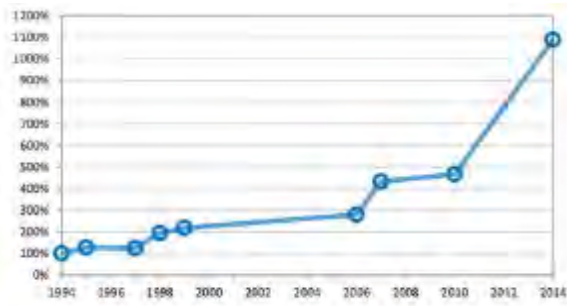


BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

BIKE-FRIENDLY CITY



GROWTH OF CYCLING IN BUDAPEST (1994-2014)



CYCLIST HEATMAP IN BUDAPEST (2017)

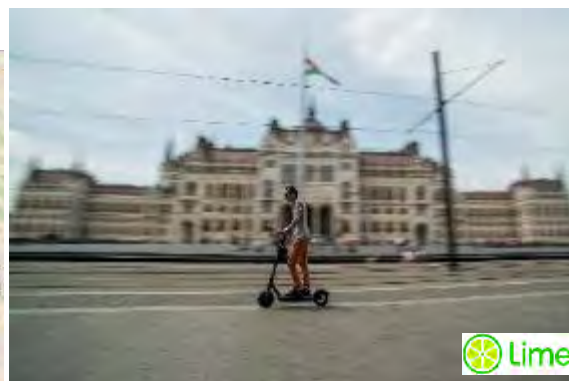
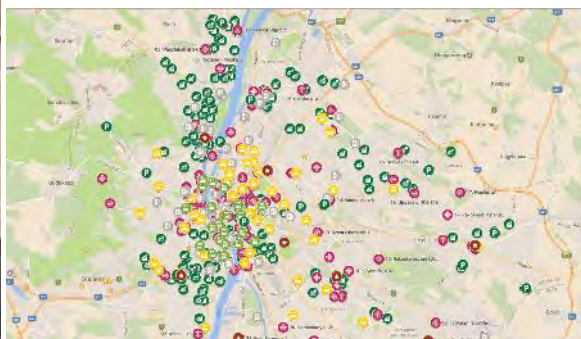


BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

SUPPORTING E-MOBILITY



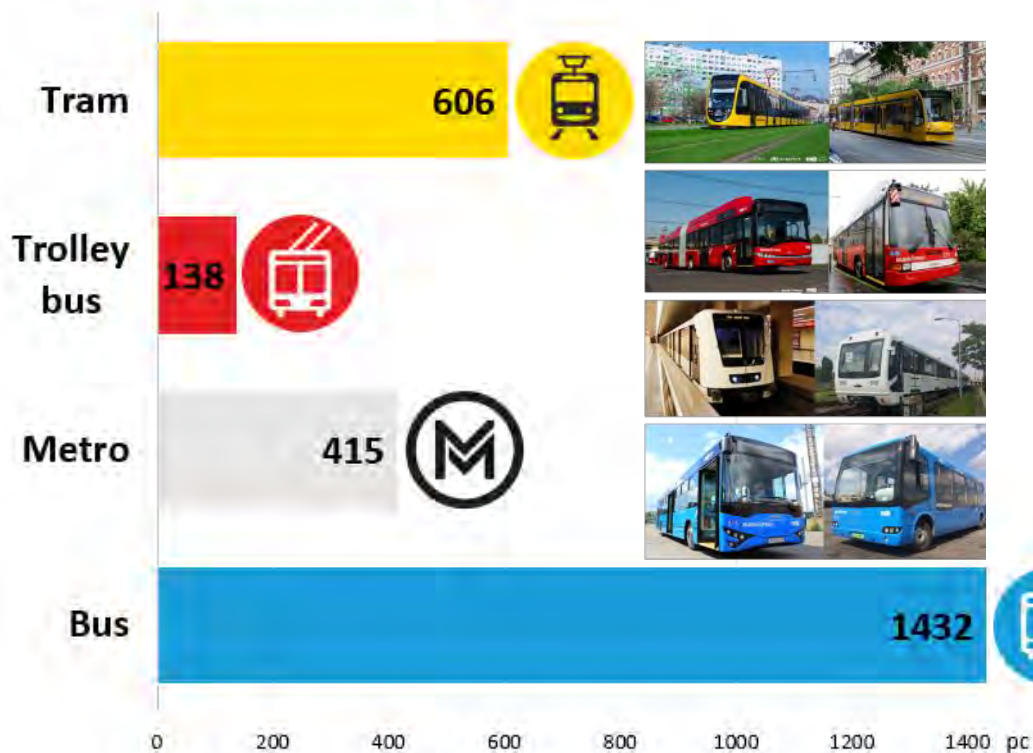
CHARGING POINTS IN BUDAPEST (2018)



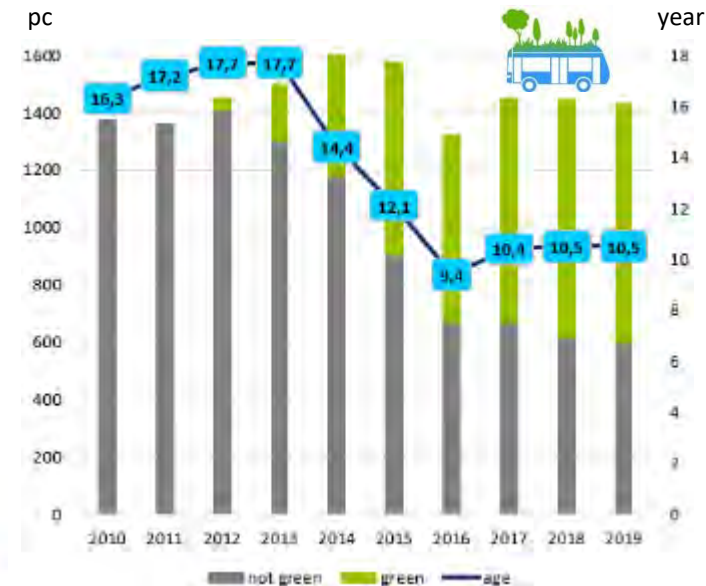
BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

PT FLEET RENEWAL

VEHICLE FLEET, BUDAPEST (2019)



GREEN RATIO & AGE OF BUSES IN BUDAPEST (2019)



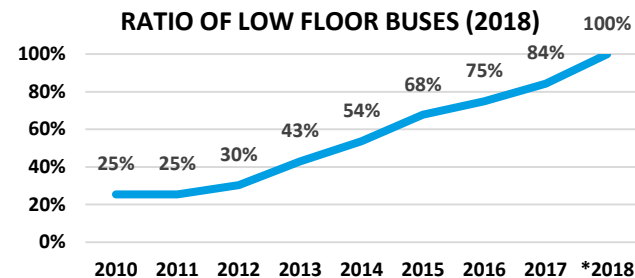
GREEN MODAL SPLIT GOALS IN BUDAPEST



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST



RATIO OF LOW FLOOR BUSES (2018)



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

METRO NETWORK IN BUDAPEST (2019)



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

GIVING PUBLIC SPACE BACK TO PUBLIC



CAR FREE DAYS



CYCLISTS' BREAKFAST



FREEDOM BRIDGE



CYCLE TO WORK

EUROPEAN
MOBILITY
WEEK



BEST PRACTICES IN BUDAPEST – GREEN & SAFE BUDAPEST

AWARENESS RAISING CAMPAIGNS



PUBLIC INVOLVEMENT – HISTORY

The traditional way – „public consultation” not involving the public

- **„Funny” timing** (22 December, 19:00 pm)
- **Unfortunate location** (a suburban culture hall, limited space, no water)
- **Poor communication** (A4 hanged on the dashboard at the 1st floor of the Municipality)

Recent better examples in Budapest

- **Public involvement in strategic planning** (public consultation about objectives and measures of the **SUMP**)
- **Public consultation about the network changes** after opening a new metro line, or at major reconstruction work of a **metro line**



PUBLIC CONSULTATION – FROM THE FIRST STEP

Public consultation in SUMP development

- **Involving society** in strategic planning
- **Open discussion about „public consultation version” of the BMT** (Objectives and measures)
 - 1100 positive and constructive feedback
 - **high acceptance (no general public criticism after official decisions)**

Tool: **communication plan** to reach more people (website, open events, dedicated email, Consul tool)

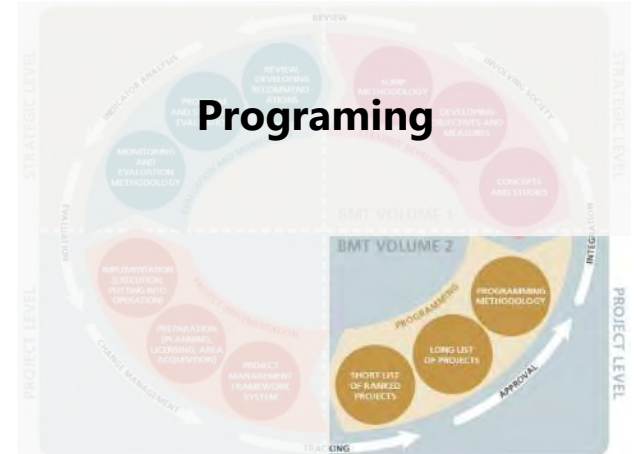


INSTITUTIONAL COOPERATION – ARGUE IN THE PLANNING PHASE

Public and professional involvement in the programming process

- Long list / short list of projects, based on evaluation based on **institutional cooperation**
- Consultations with the **Balázs Mór Committee** (wide range of high level state, city, regional and local representatives)

Tool: wide platform for all level stakeholders
(preparation of decisions for the officials)

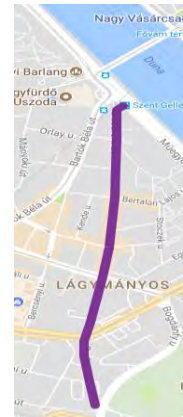
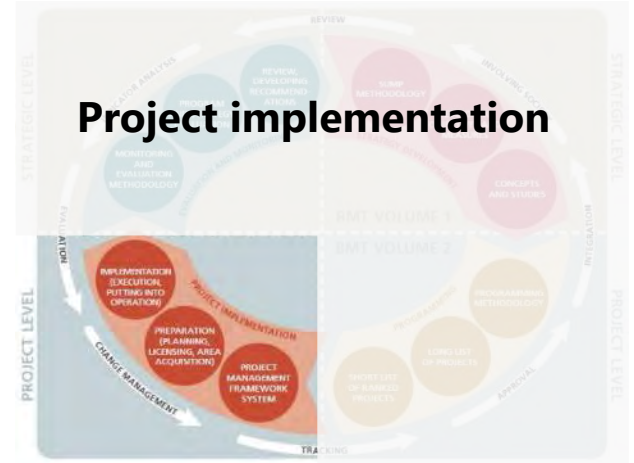


PARTICIPATORY PLANNING – MORE TIME FOR A BETTER PROJECT

Public involvement in co-creating projects

- **Budafoki road example: redesign** of transport oriented urban space **to liveable public space** (Now a wide road with narrow pedestrian sidewalk with parking. More space to be given to active modes, more green, less space for driving and parking.)
- Development of feasibility study recently procured

Tool: updated internal processes (readiness for a longer designing and preparation period – against instant management or political will)

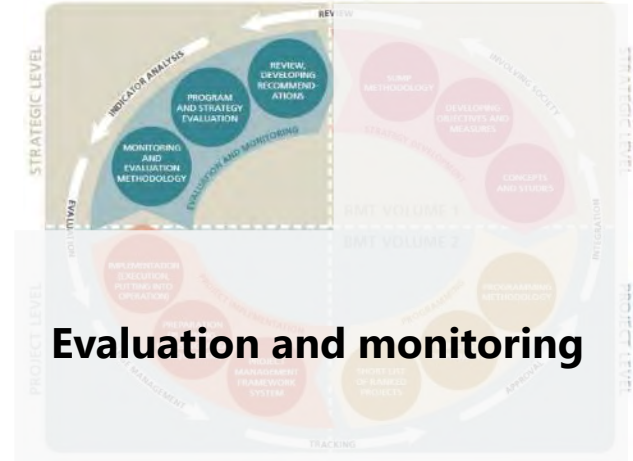


COMMON UNDERSTANDING – BASED ON EVALUATION FACTS


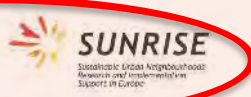

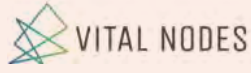

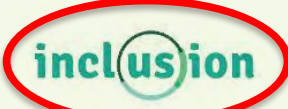



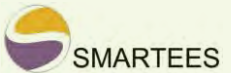


















Clear communication of results and future changes

- Continuous evaluation and monitoring of progress
- Feedback for the public with **transparent communication**
- Review of the process, involving citizens continuously in co-creation

Tool: awareness raising activities for better knowledge sharing and acceptance



EXAMPLES OF PARTICIPATION

<p>1 MORE CONNECTIONS</p>	  <p>MORE Multimodal Optimisation of Roadspace in Europe</p>	 <p>NODES</p>	 
<p>2 ATTRACTIVE VEHICLES</p>	 <p>EfficienCE</p>		   
<p>3 BETTER SERVICES</p>	  <p>SMACKER</p>		   <p>RESTRAIN</p>  <p>Prototyping MaaS</p> 
<p>4 EFFICIENT GOVERNANCE</p>	 <p>SMART-MR Interreg Europe</p>  	 	     

STARS (2013-2016)

Main objective:

Promoting active and sustainable modes of transport in primary- and secondary schools

Main outcomes:

- Successful cooperation with **30 schools** in Budapest
- Active participation of **1000 students**
- Gaining information about mode choice
- **Own campaigns** and **hundreds of activities** in schools
- Project went on as a national programme



INCLUSION (2017-2020)

Main objective:

Understand, assess and evaluate the **accessibility and inclusiveness of transport solutions**, identify gaps and propose a range of innovative and transferable solutions ensuring accessible, inclusive and equitable conditions for all and especially **vulnerable users**

Main outcomes:

- **Training of PTA and PTO employees** meeting vulnerable users on a daily basis
- **Demonstration campaigns** through the involvement of local stakeholders



inclusion

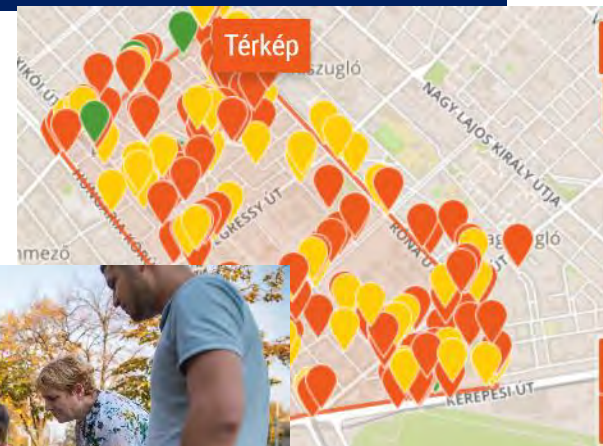
SUNRISE (2017-2021)

Main objective:

Sustainable **development of neighbourhoods**, redesign and testing of transport oriented urban space through **social inclusion**

Main outcomes:

- **Analysis of mobility challenges** of Törökőr is completed
- **Participative planning** with local stakeholders in Törökőr is in progress
- Implementation of selected **pilot projects**



CITIES4PEOPLE (2017-2020)

Main objective:

Development of **people oriented transport methods** through participative planning and piloting activities

Main outcomes:

- Setting up a **Mobility LAB** for participative events
- **Participative planning** under the coordination of Budapest Municipality
- **Implementation of pilot projects** on the Danube embankment in Buda (Mobility point, community spaces)



THANK YOU FOR YOUR ATTENTION!



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BUDAPESTI
KÖZLEKEDÉSI
KÖZPONT