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CIVITAS ANNUAL CONFERENCE | 28-30 SEPTEMBER | GDYNIA

Tackling congestion: a joint approach of 3 CIVITAS projects

30 September 2016

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Tackling congestion using different means

	Issue:	**Response:**
TRACE WALKING AND CYCLING TRACKING SERVICES	Recognising the potential in **newly-developed tracking tools**	Make use of tracking tools to understand behaviour and support behaviour change and city planning
flow	Recognising **weaknesses in transport modelling tools** in incorporating cycling and walking	Improve transport modelling to put non-motorised transport on equal footing with motorised transport
Create	Recognising a **cycle of transport policy development**	Develop a trend-based analysis of cities' development cycles and factors discouraging car use

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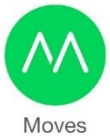
TRACE Mission

USING TECHNOLOGY TO GET MORE PEOPLE CYCLING & WALKING

Why tracking/TRACE?

- **Tracking applications widely used today – provide data**
  - Personal use – e.g. to track performance, route taken, etc.
  - Planners - for planning of cycling and walking, but also for communication
  - Obtain information that was not possible to obtain before
  - Seize the potential of tracking services to encourage behaviour change



TRACE Approach

- Using **established measures to promote cycling and walking**

- Enhancing them with **dedicated TRACE tracking based tools** to:
  - Promote behavioural change:

  o Positive drive

  o Traffic Snake Game

  o Cycle to shop initiative

  - Support mobility planning:

  o Tracking for planning tool

- **Validating** them with stakeholders
- Testing them in **8 pilot sites**

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TRACE Process

- Understand the potential – stakeholder consultations and literature review
- Take-up group validated results
- Develop prototypes
- Take-up group to validate results
- Implement Pilots
- Evaluate impacts and effects
- Disseminate

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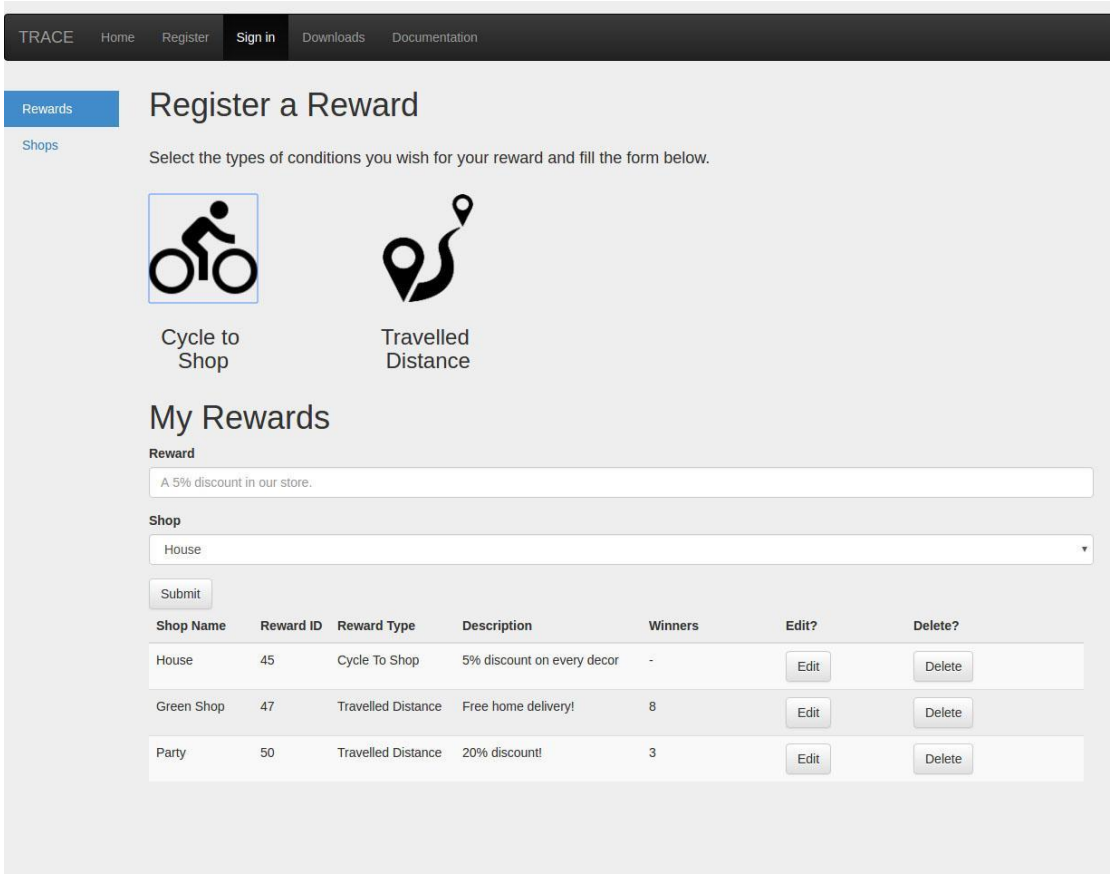
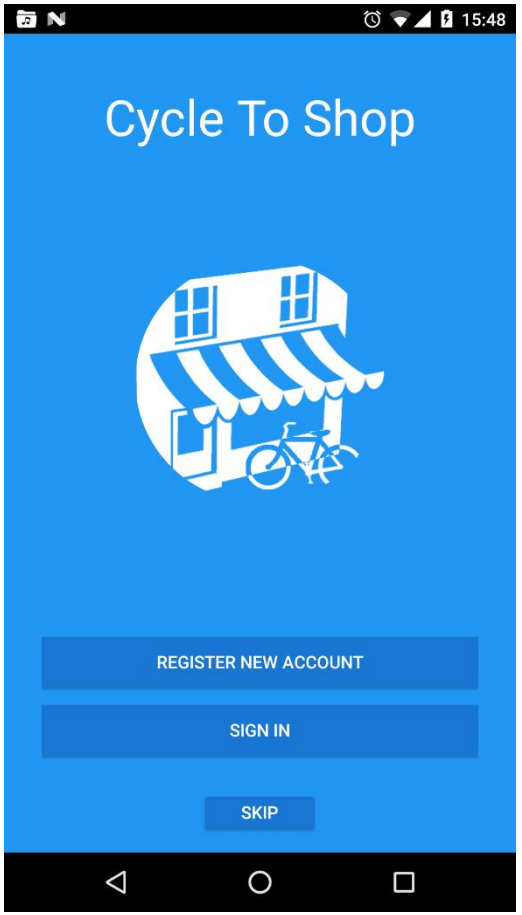
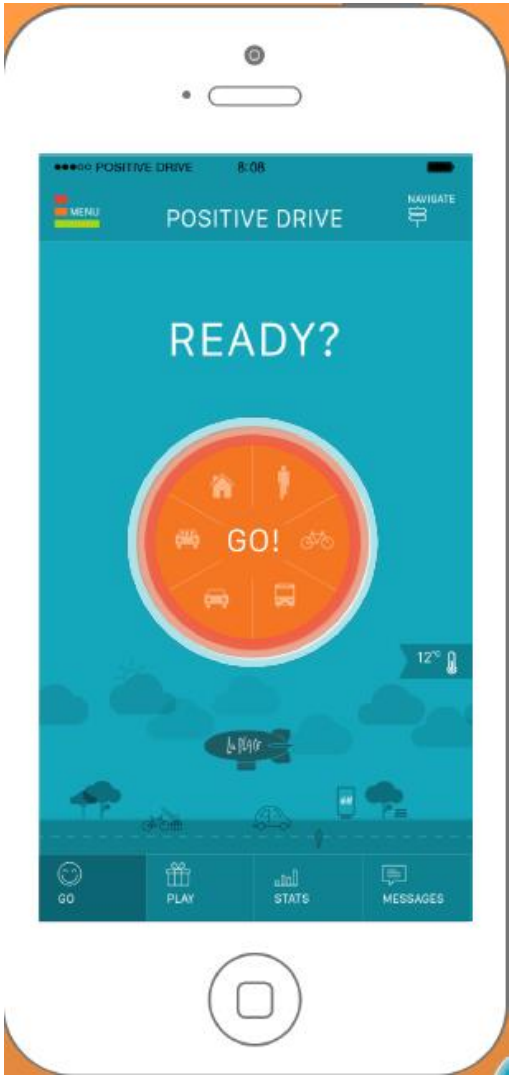
Cycle-to-Shop





Positive Drive



Traffic Snake Game 2.0

TRACE

2020 CIVITAS Cleaner and better transport in cities | GDYNIA moje miasto | 90 lat 1926 2016

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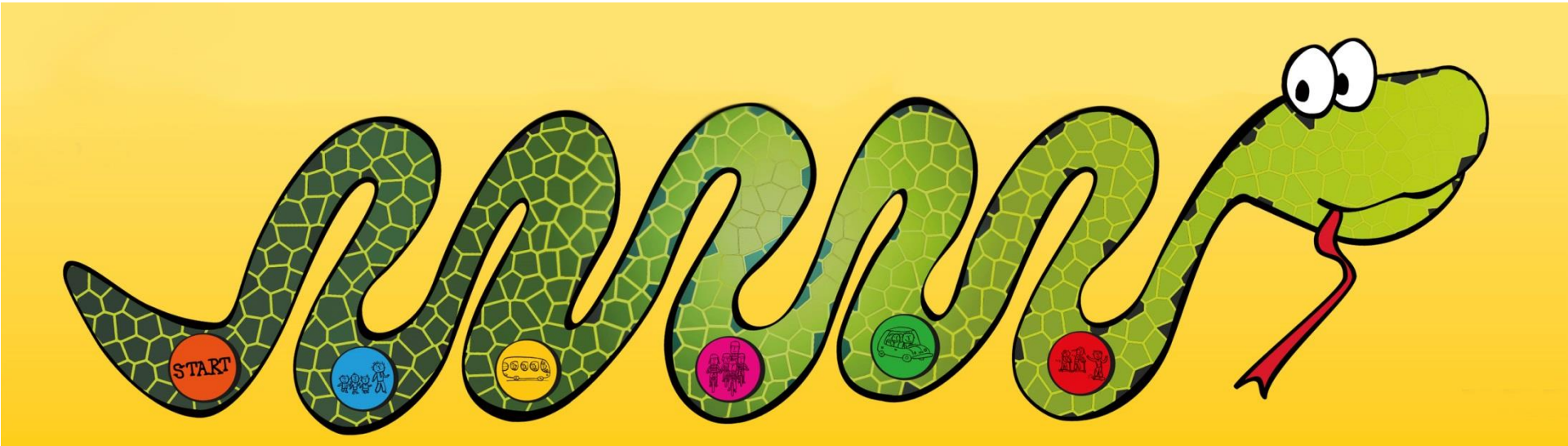
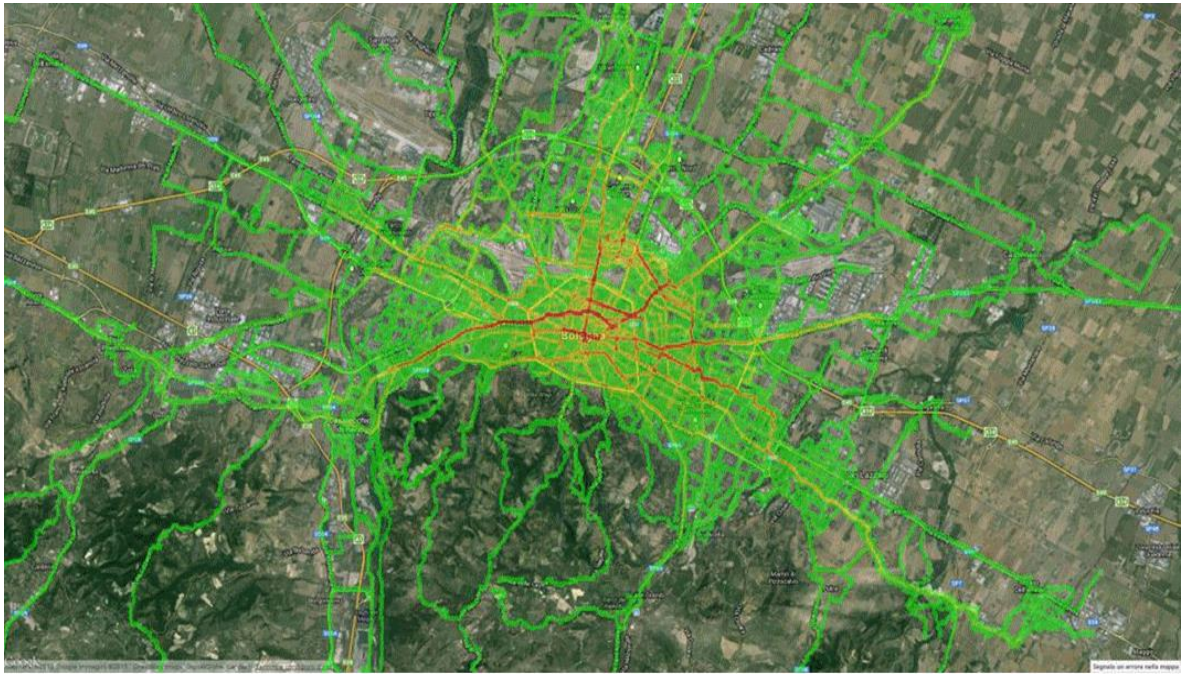
The TRAFFIC SNAKE GAME

CHANGING MOBILITY BEHAVIOUR OF CHILDREN AND THEIR PARENTS



- Obtain data (interoperable)
- Translate into useful indicators and visualizations
- For more effective planning



Bologna ECC 2013 cycling heatmap

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TRACE Pilots

Pilot site	Partner	1. Positive Drive	2.Traffic Snake Game	3.Cycle to Shop	4.Tracking Tools
Hasselt/Belgium	M21	x	x		x
Belgrade	FTTE	x	x		x
Esch	LuxM	x		x	x
Breda	Breda	x		x	x
Agueda	Agueda	x	x		x
Plovdiv	EAP		x	x	x
Bologna	SRM		x	x	x
Southend-On-Sea	SSBC	x	x	x	x

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- **TRACE Take-up group (~20 experts)**
  - 1st meeting: 21-22 January 2016: Workshop "Walking and cycling data for planning and policy" and Workshop "Walking and cycling tracking for behaviour change initiatives"
  - 2nd meeting: January 2017

- **TRACE Validation seminar**

Cycling and Walking

Causes of Congestion or Solutions to it?

flow

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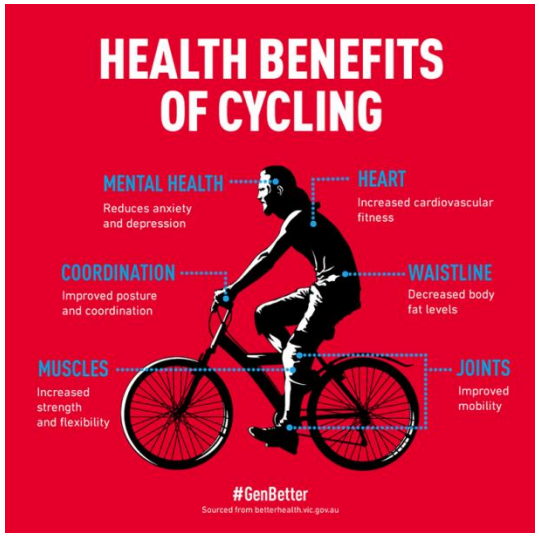
The (co)benefits of walking and cycling

health environment economy transport



HEAT
Health economic assessment tool

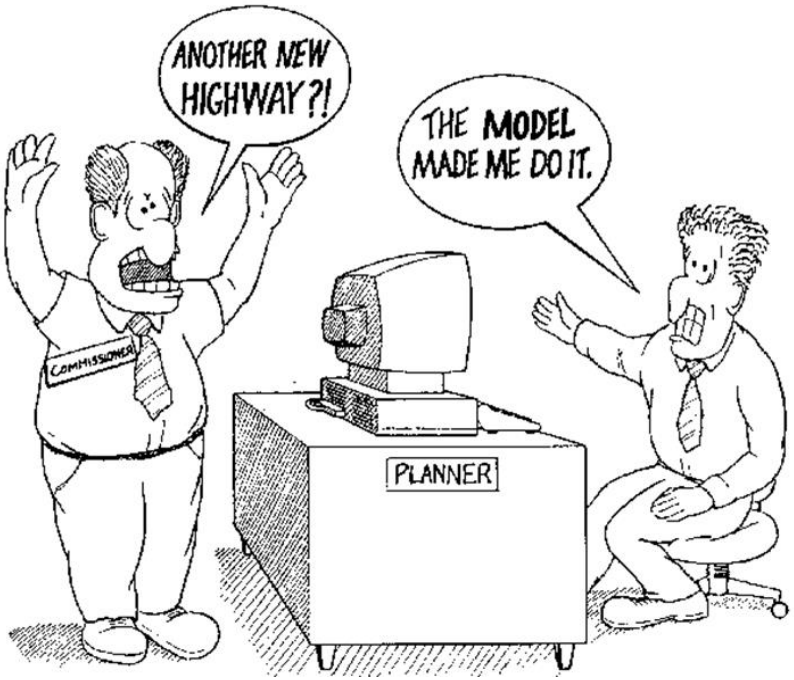
carbonrally
Small actions. Big impact.

AActive Access

flow

The FLOW story: bringing two worlds together

Transport modelling is taken seriously to predict and provide for future transport needs.



Cycling and walking are playing a larger role in people's transport choices.

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FLOW partners

Support partners

- Rupprecht Consult (coordinator)
- Gdansk University of Technology
- Budapest U of Tech and Economics
- Wuppertal Institute
- Traject
- Polis

Technical

- PTV
- Forum of European National Highway Research Laboratories

Cycling and walking

- Walk21
- European Cyclists' Federation

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What is multimodal congestion?

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Pedestrians and cyclists in planning and modelling

Strategic planning

- Macromodelling
- Walking and cycling in transport development plans

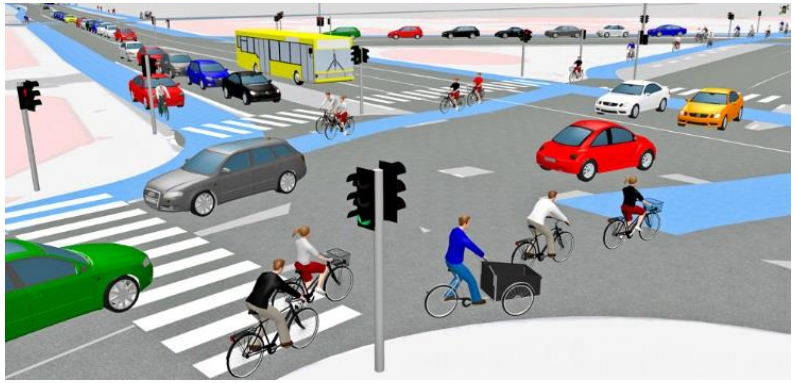
PTV VISUM

Operational planning

- Micromodelling
- Interaction with other modes at intersections

PTV VISSIM

PTV VISWALK



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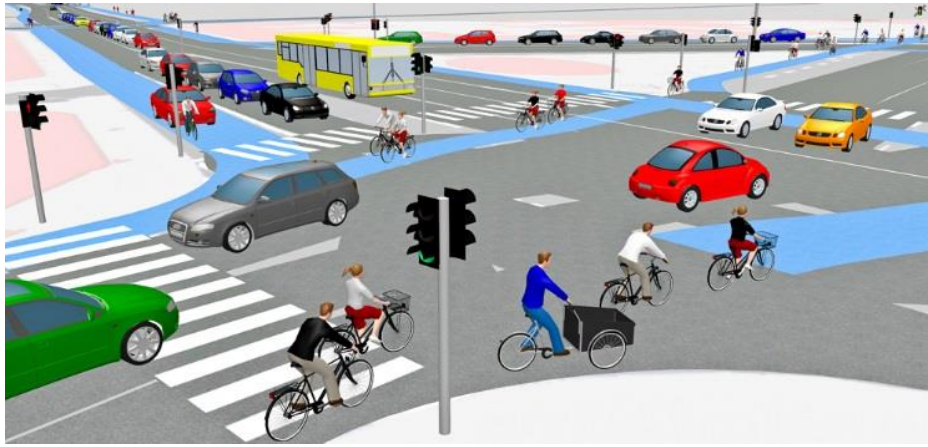
Active modes in microscopic modelling

1. Enhanced modelling of conflict zones between cars and pedestrians
2. Behaviour parameters, new mobility patterns
3. Interaction of bikes and pedestrians
4. Shared space

PTV VISSIM PTV VISWALK



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Removing a pedestrian overpass – Lisbon

Current situation

- Unused pedestrian overpass
- Fear of congestion keeps it from being replaced with a level crossing

Application of FLOW Assessment tools

- Microscopic analysis of level crossing
- Congestion impact

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Involvement opportunities

Cities:

- 9 Exchange Cities ☑
- 25 Follower Cities ☑

Businesses

- Market Forerunners ☑
- Market Followers

Learning and exchange:

- webinars
- online courses

- h2020-flow.eu
- FLOW newsletter
- Twitter feed

Congestion **R**eduction in **E**urope – **A**dvancing **T**ransport **E**fficiency

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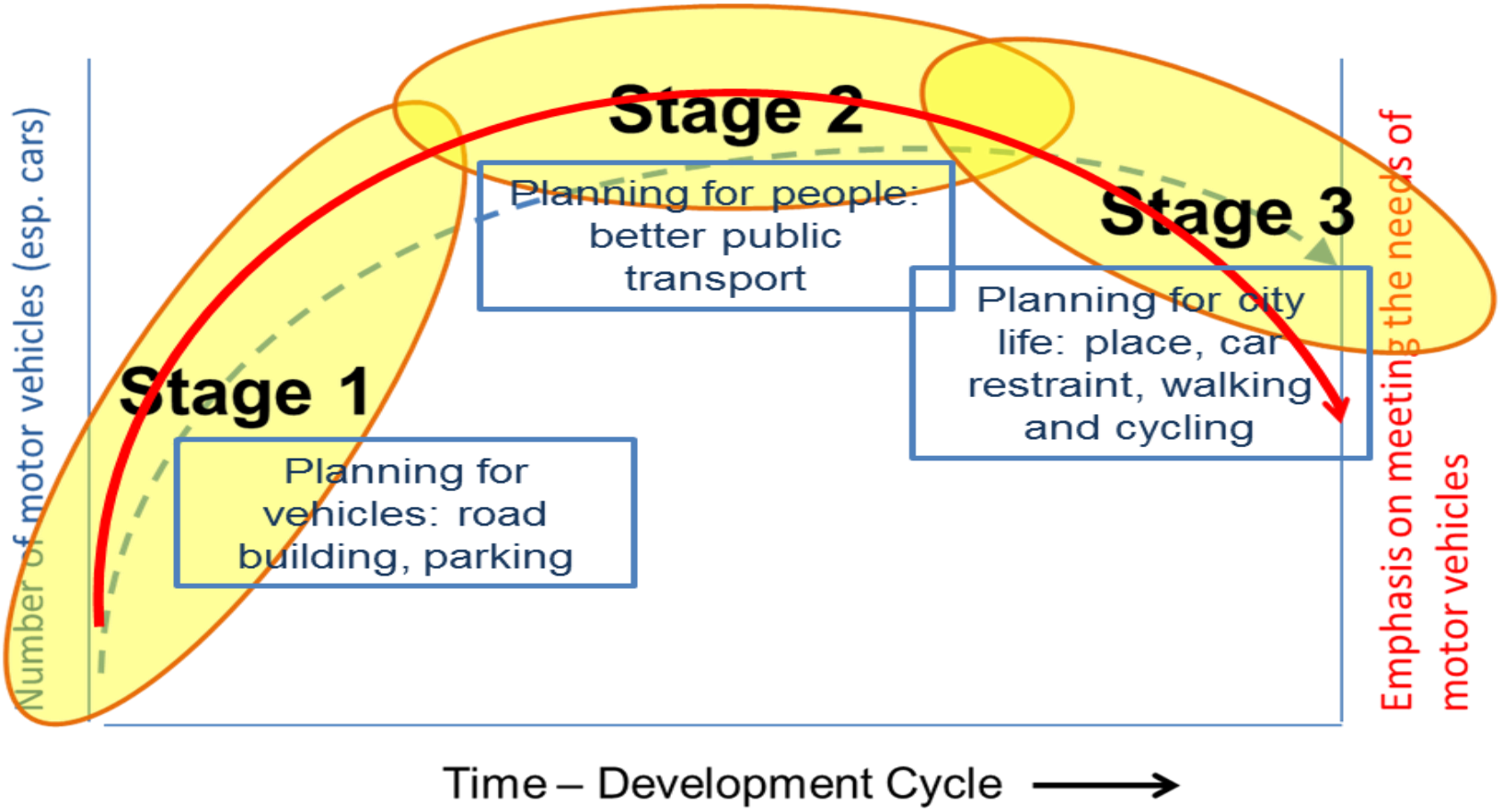
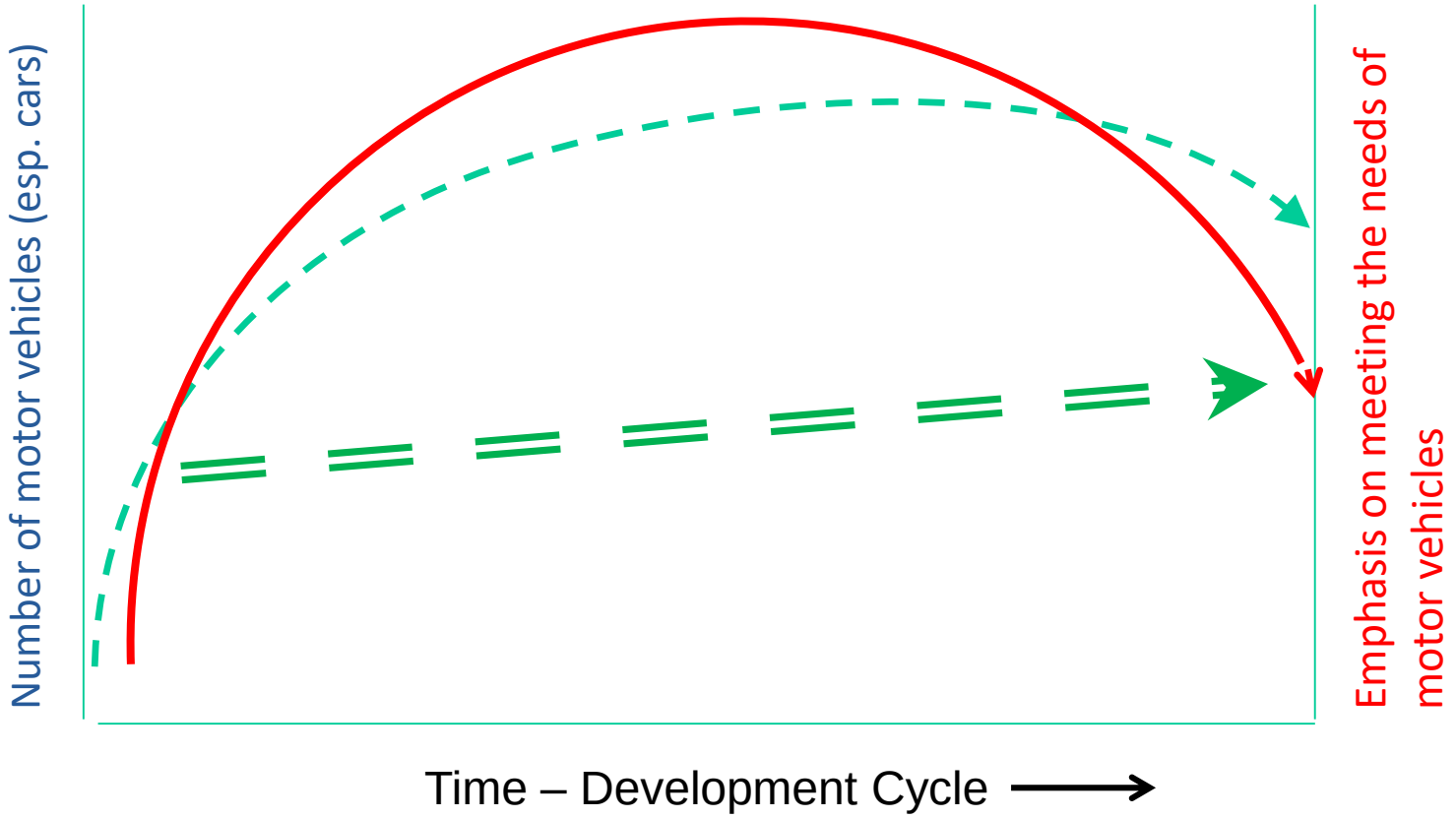
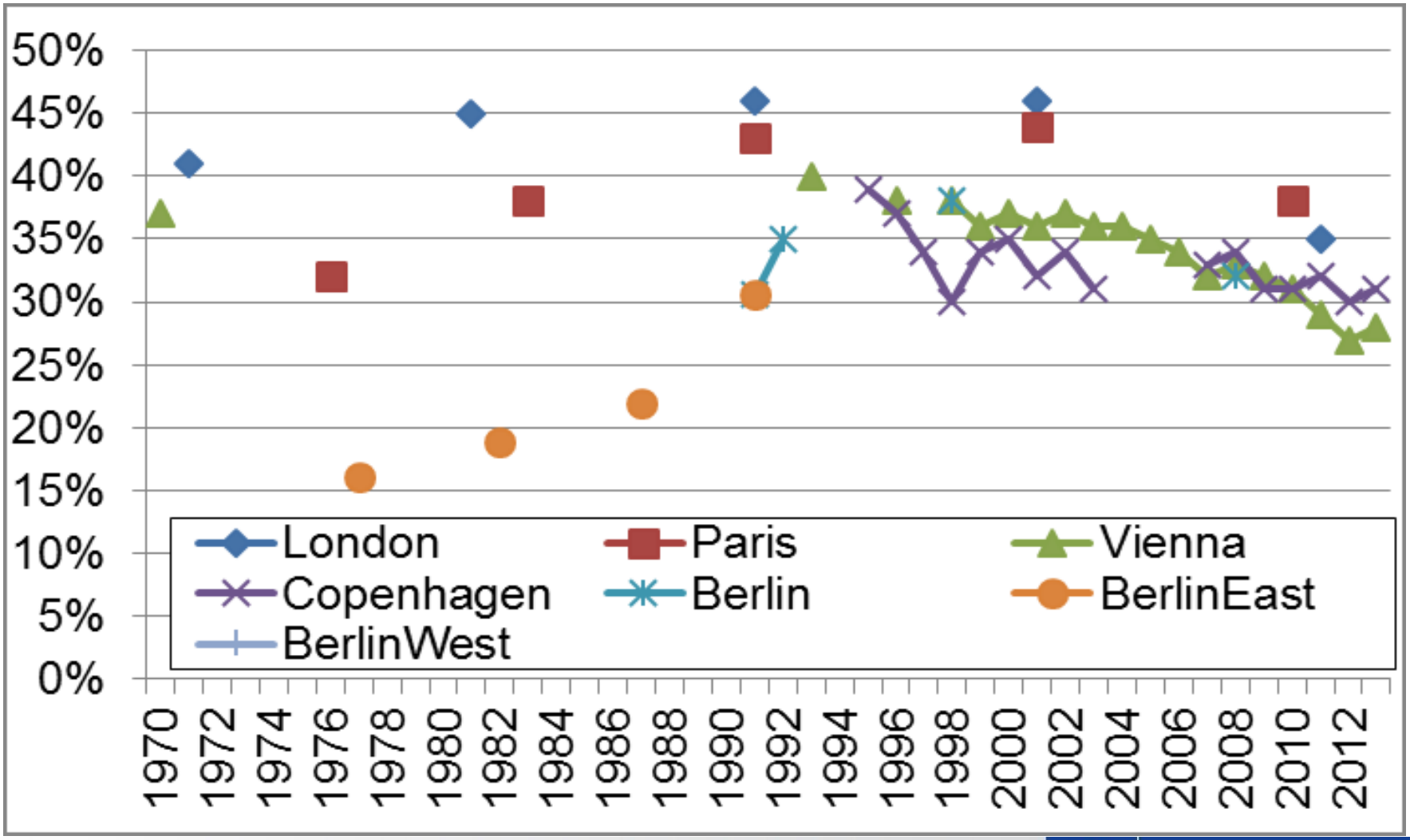
Typical Urban Transport Policy Development Process



Can this evolutionary/learning process be short-circuited?



Car Driver Modal Shares of Residents, Over Time



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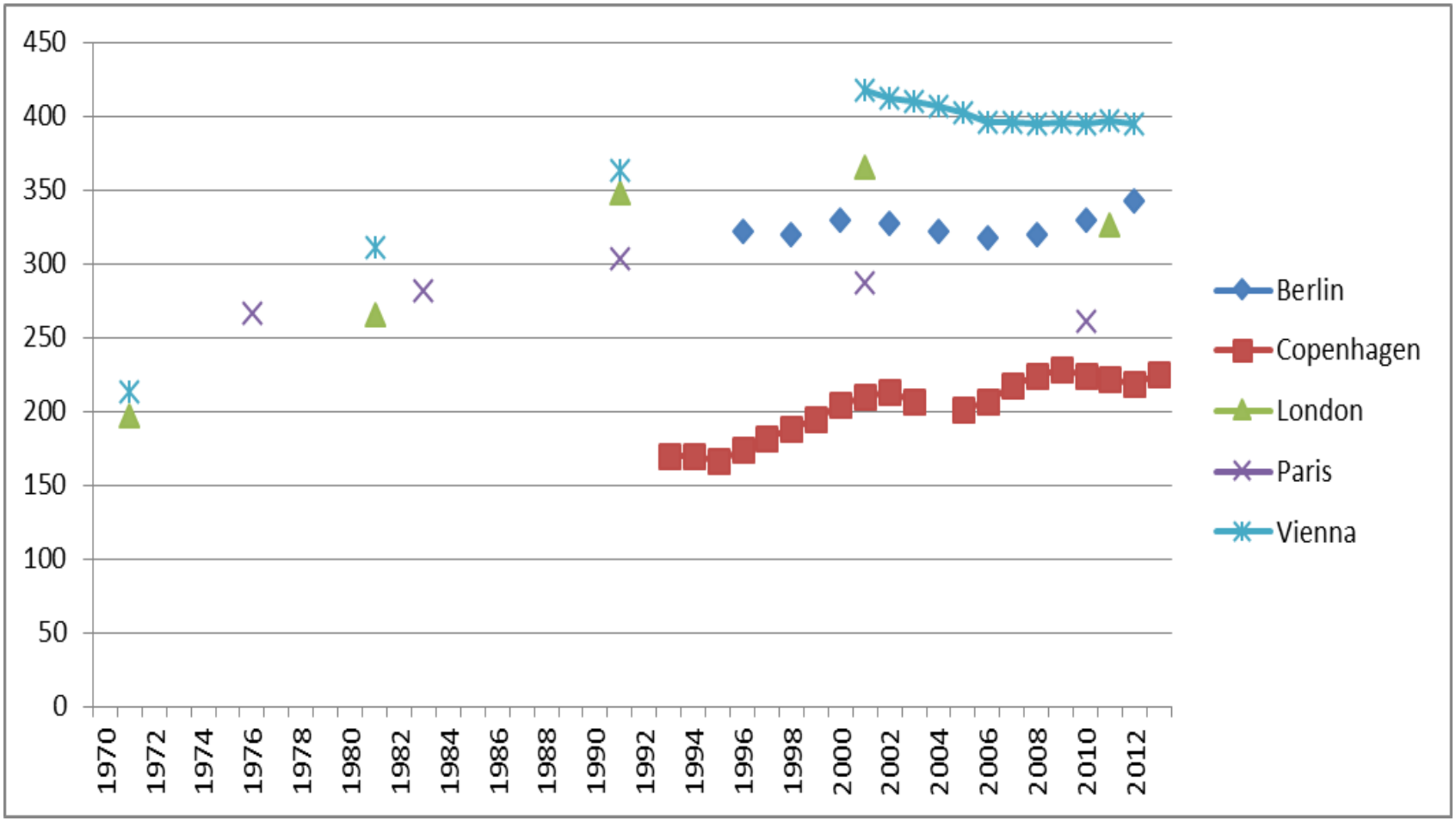
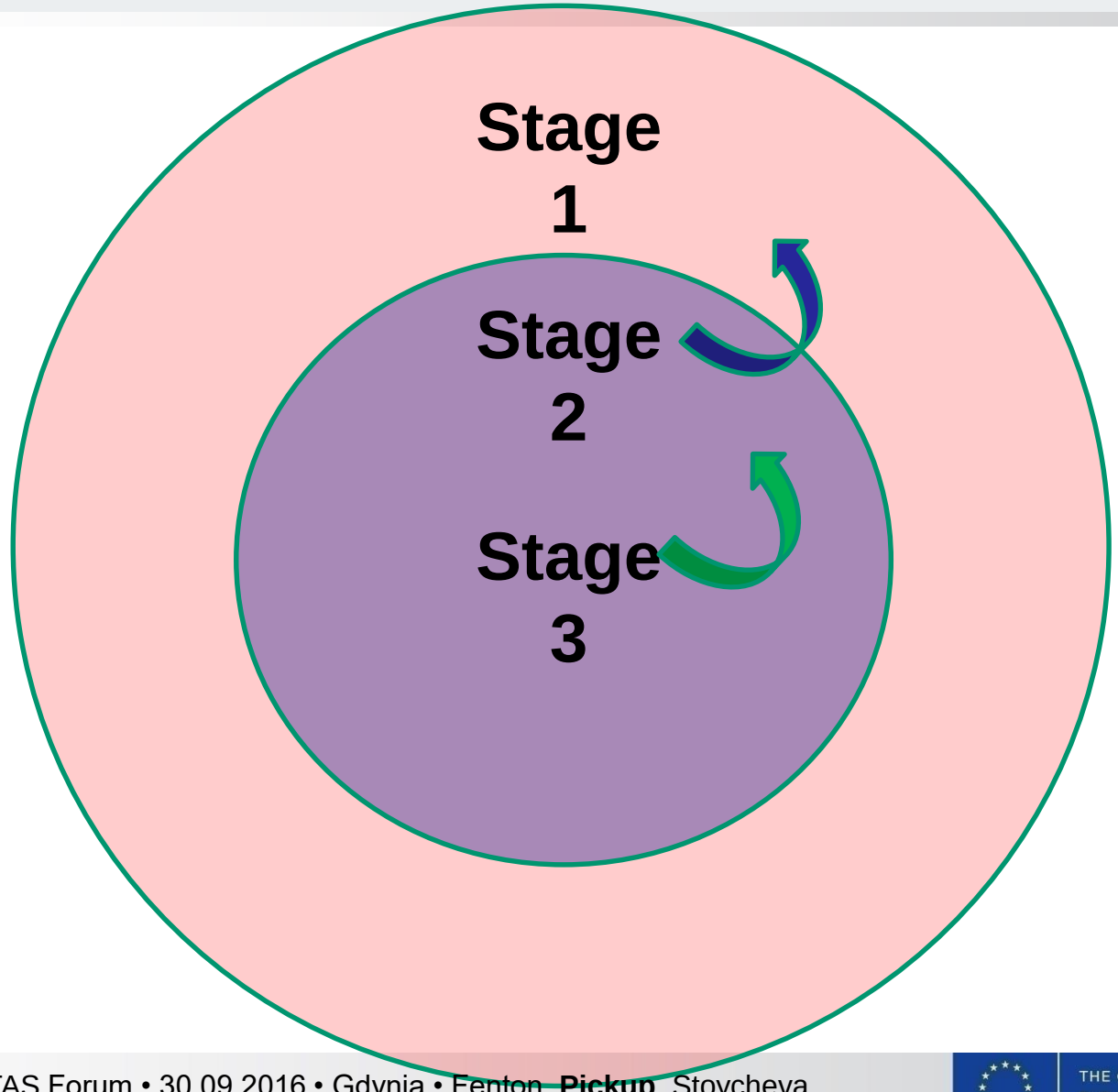
Car Ownership, Over Time



Spatial Evolution



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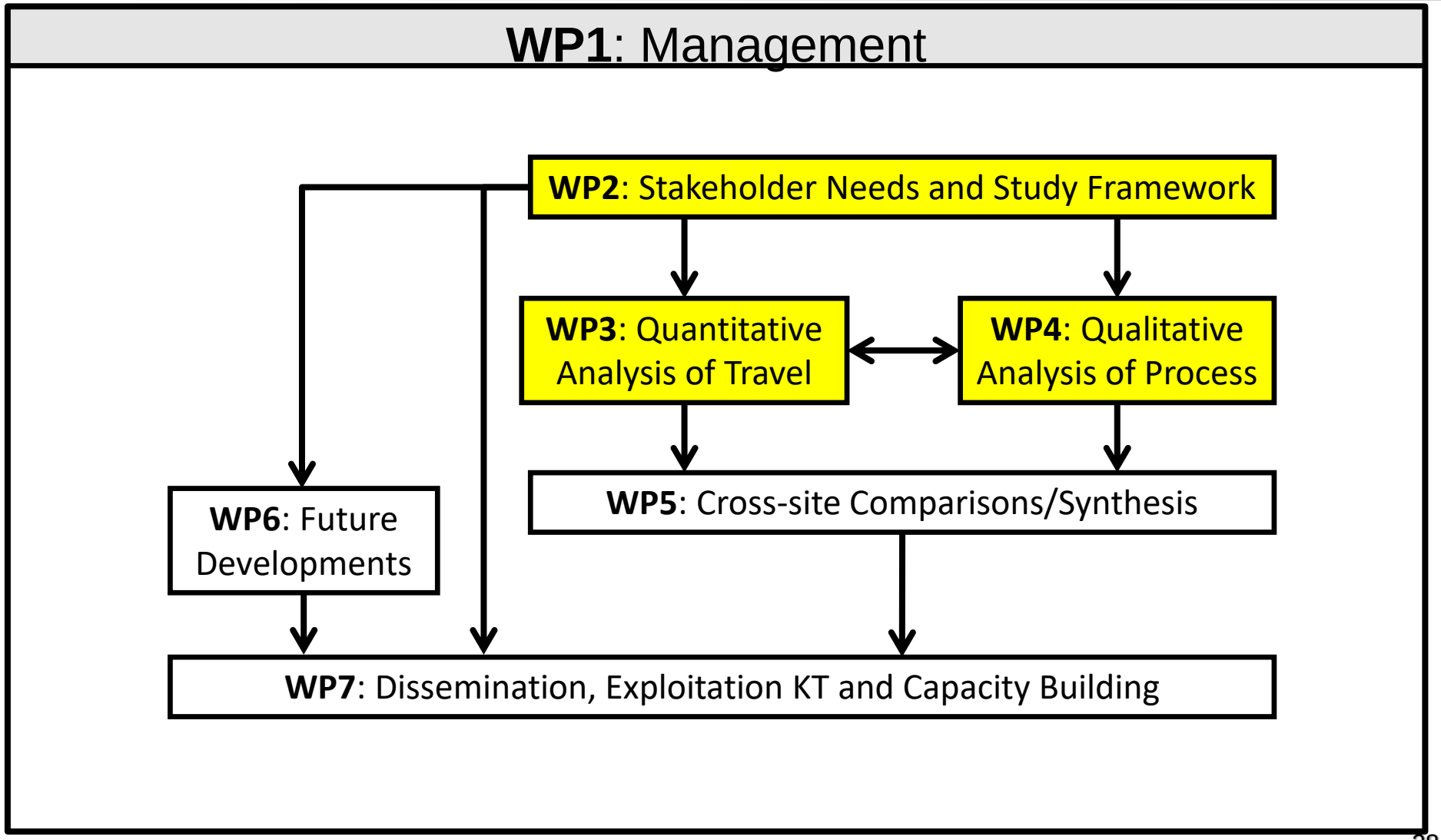
CREATE WP Structure



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Intended Impacts

- **Change debate about measurement of congestion & network performance**
- **Provide insights into why cities evolve away from car promotion and how – is this universally possible?**
- **Guidance to Stage 1 cities on how - and why - to rapidly advance to Stage 3**

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Primary External Outputs

- **D2.1: Urban congestion & network performance – a new understanding**
- **D3.3: Report of cross-city comparisons**
- **D4.3: Final report on socio-political factors**
- **D5.3: The CREATE guidelines: pathways to tackling congestion and reducing levels of car use in European cities**
- **D6.4: Developing a set of effective and politically acceptable Stage 4 city policies: an SUMDP (Sustainable Urban Mobility Densification Plan)**

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Key messages

- Current congestion measures have many limitations – often not recognised
- Measures of success vary according to 'Stage' of city development
- Need multiple measures to assess the 'health' of transport in a city
- Most indicators still based on Stage 1 thinking – lack Stage 3 indicators

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Indicators by Stage

Stage 1	Stage 2	Stage 3
• Average network speeds • Day-to-day variability • Vehicle congestion • Car parking availability • Road traffic accidents	• PT frequency and reliability • Access to bus stops & stations • Safety and security • PT modal split • Door-to-door travel times by mode	• Walking/cycling modal shares • Intensity of street activities • Time spent in local area • Health of the population • Social interaction

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TfL 'Healthy Street' Indicator Set

Indicator	How it relates to health
Pedestrians from all walks of life	Everybody needs to be active every day. If the mix of people walking in the street does not include certain groups such as children, older people or those with disabilities then the street environment is excluding some people from staying active.
People choose to walk and cycle	Some people walk or cycle not out of choice but due to poor access by other modes of transport. This can have negative impacts on their health and wellbeing. Success should be measured by people choosing to walk and cycle, rather than levels of walking and cycling.
Clean air	The health impacts of air quality include cardiovascular disease and respiratory disease.
People feel safe	People need to feel that they will be safe from injury and crime when they are on the street.
Not too noisy	Noise has a range of health impacts including stress and high blood pressure. It also discourages people from walking and cycling.
Easy to cross	If streets are difficult to cross because of physical barriers or traffic, people will be discouraged from using the street, particularly on foot. This can be socially as well as physically restricting.
Shade and shelter	Some people have difficulty moderating their body temperature, and this can put their health at risk in hot weather. Shade is needed on streets to enable people to keep cool.
Places to stop	Many people can only walk short distances without taking a rest, particularly those who are older, young, pregnant, injured or who have a disability or health condition such as chronic obstructive pulmonary disease. Providing seating at regular intervals is necessary to enable these people to incorporate much needed physical activity into their daily routine.
Things to see and do	Street environments need to be stimulating and engaging to invite people to walk and cycle more. This highlights the importance of good urban design and maintenance of public spaces in delivering health benefits.
People feel relaxed	Walking or cycling in the street should not be a stressful experience. If people are not relaxed it indicates that issues such as noise, insufficient space or fear of danger have not been addressed.

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A joint approach

Sofia using TRACE tracking tool in bike to work campaign

TRACE and FLOW in upcoming CREATE newsletters

Budapest, Sofia and Lisbon in CREATE Stakeholder Engagement Group

TRACE
WALKING AND CYCLING TRACKING SERVICES

TIS is FLOW Market Forerunner transport consultancy

Walk21 and BKK in TRACE take-up group

FLOW participated in TRACE workshop "Tracking for Planning"

Shared presentations:

- TRACE and FLOW at the SUMP conference
- TRACE, FLOW and CREATE at CiViTAS

Bologna and Skopje are FLOW Follower Cities

TIS presented TRACE to FLOW Exchange Cities

VECTOS is a FLOW Market Forerunner transport consultancy

Shared stands:

- TRACE, CREATE, FLOW and EMPOWER at CiViTAS
- TRACE, FLOW and NOVELOG at ECOMM

CREATE was in the TRACE newsletter (FLOW is in the next one)

TfL and TIS participated in FLOW expert workshop (KPIs and the definition of congestion)

Tallinn is a FLOW Exchange City

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Communication/dissemination

- Shared stands
- Shared presentations
- Newsletter reports

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Learning opportunities

- Follower cities
- Training and support for consultancies

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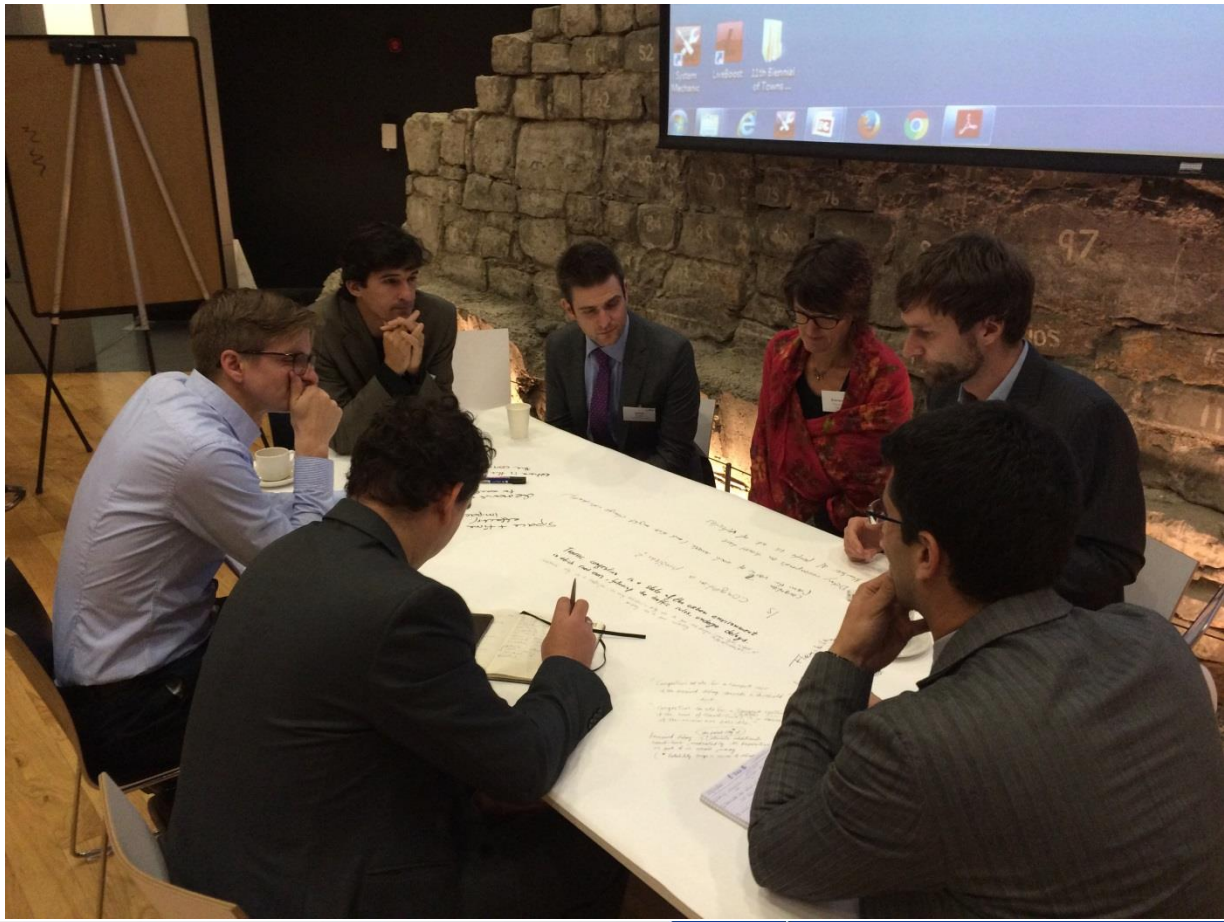
Technical level

- Stakeholder engagement
- City involvement in sister projects
- Tracking for planning
- Expert workshops
- Use of tracking app



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Thank you!

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TRACE
WALKING AND CYCLING TRACKING SERVICES

flow

Create

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