



City of
Ljubljana

CIVITAS FORUM 2015

CIVITAS ANNUAL CONFERENCE | 7-9 OCTOBER 2015 | LJUBLJANA



A Decision Support Tool for Sustainable Urban Mobility

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TRT Trasporti e Territorio



THE CIVITAS INITIATIVE IS CO-FINANCED BY
THE EUROPEAN UNION

Project launched by DG MOVE to:

- Catalyse action on developing sustainable urban mobility across Europe
- Test how urban transport objectives of 2011 Transport White Paper can be realised
- Facilitate practical action through development and dissemination of robust, easy-to-use tools and guidance

Key features:

- Free, on-line, policy support tool available at the end of 2015
- Five illustrative policy roadmaps
- Stakeholder engagement key

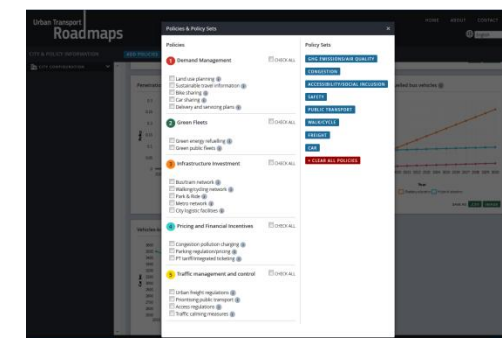
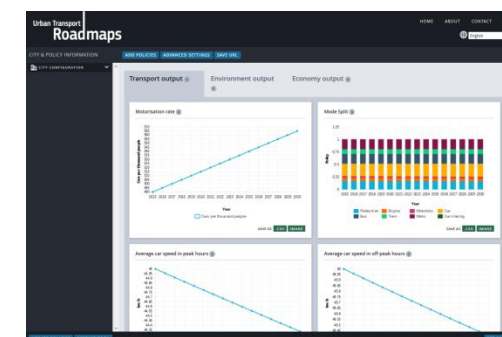
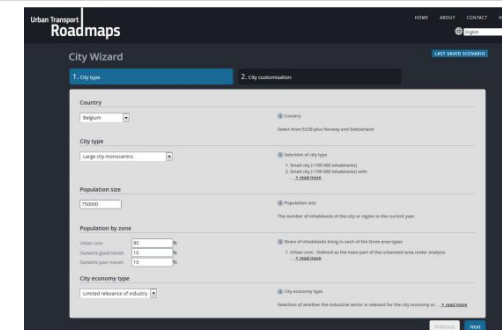
Duration:

- 2014 - 2017



Web-based policy support tool

- High level assessment tool
- To allow cities to explore different transport policy scenarios
- Adaptable to different city circumstances (**focus on smaller / medium sized cities**)
- All urban transport modes covered
- On line functioning, ease of use and visually attractive outputs
- Limited data requirements and no modelling experience required
- Full guidance provided – tool tips and user guides
- Quantitative outputs provided
- Available in ten European languages



Structure of the tool

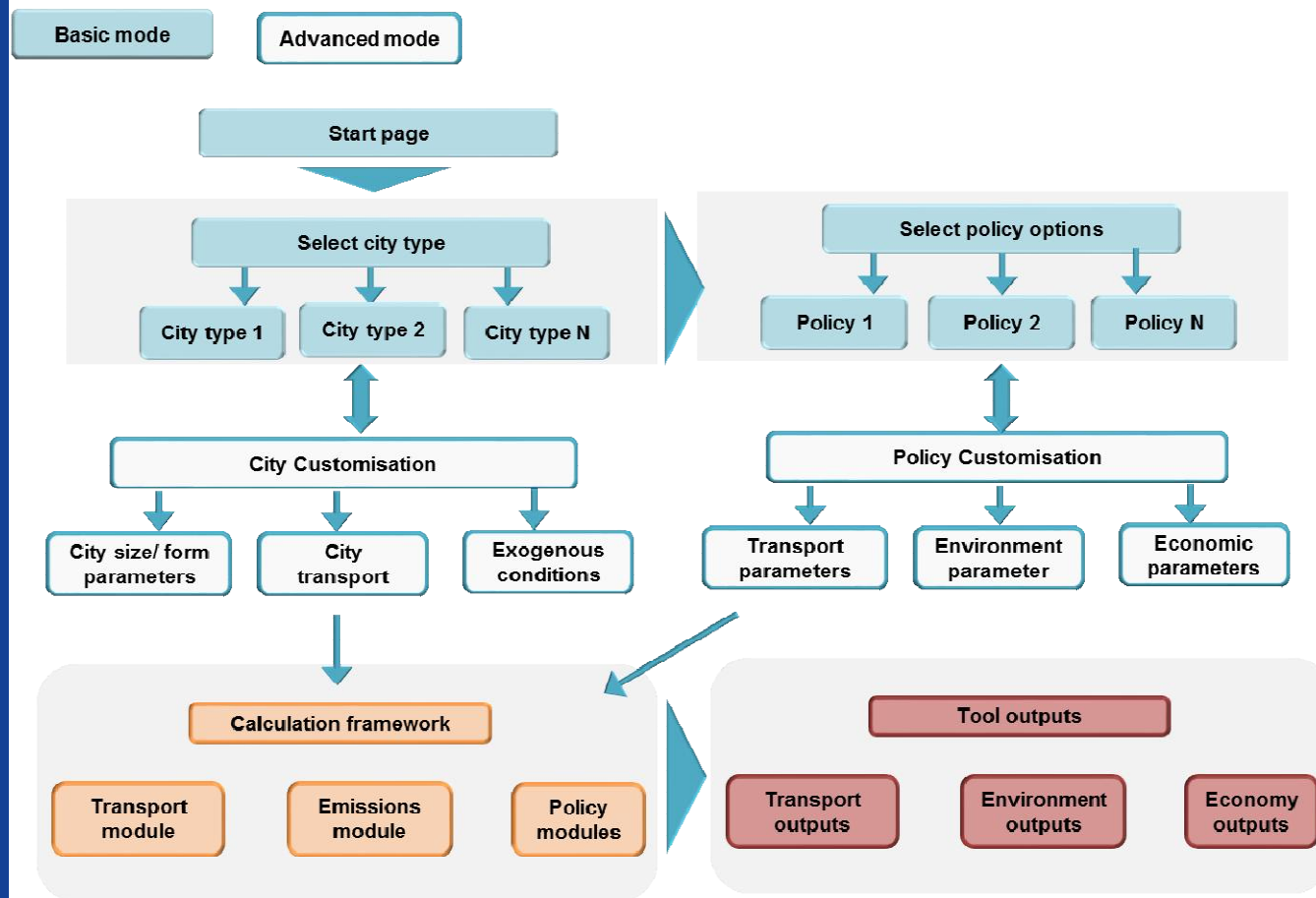
Four main elements:

- City type selection

- Policy selection

- Calculation framework

- Tool outputs



City type selection and customisation

Urban Transport Roadmaps
HOME ABOUT CONTACT HELP

English

City Wizard
LAST SAVED SCENARIO

1. City type

Country: Belgium

City type: Large city monocentric

Population size: 750000

Advanced Settings

Sociodemographic

Population trend: Stagnation: growth rate of 0% per year

Sprawling trend: No sprawl

Average income level: Medium average income per capita

2. City customisation

Public transport use: Public transport is extensively used

Bicycle use: Bicycles are used

Motorbike use: Motorbikes are used

Population trend

Stagnation: growth rate of 0% per year

Limited decline: growth rate of -0.5% per year

Significant decline: growth rate of -1% per year

Limited growth: growth rate of 0.5% per year

Significant growth: growth rate of 1% per year

Sprawling trend

No sprawl

Limited move from centre

Some sprawl

Significant sprawl

Average income level

Medium average income per capita

High average income per capita

Medium average income per capita

Low average income per capita



City type advanced customisation

Advanced Settings

Sociodemographic | Traffic | Parking | Public transport and bicycle | Vehicle fleets | Exogenous conditions

Mode split trend
Car share growth

Share of freight vehicles with respect to cars
8 %

Share of freight vehicles trend
0.1 %

Electric refuelling stations at the base year
Electric fuelling stations do not exist or are negligible

Fuel cell refuelling stations at the base year
Hydrogen fuelling stations do not exist or are negligible

Advanced Settings

Sociodemographic | Traffic | Parking | Public transport and bicycle | Vehicle fleets | Exogenous conditions

Car fleet composition by fuel type

Fuel Type	SHARE (100%)	%
GASOLINE	52.869352	%
DIESEL	42.1777397	%
CNG	1.2561419	%
LPG	3.1796792	%
HYBRID ELECTRIC	0.5122932	%
BATTERY ELECTRIC	0.0046326	%
FUEL CELLS	0.0001616	%

Bus fleet composition by fuel type

Fuel Type	SHARE (100%)	%
DIESEL	98.2	%
CNG	1.7	%
BATTERY ELECTRIC	0	%
HYBRID ELECTRIC	0.1	%

Car sharing subscribers at the base year (number of subscribers)
0

Car sharing type
Round system (car must be returned to specific stations)

Average car sharing fixed cost at the base year (€/year)
€ 80

Average car sharing cost at the base year (€/hour)
€ 15

Average time to pick up a vehicle of car sharing service at the base year (minutes)
10

Car sharing type

- Round system (car must be returned to specific stations)
- One-way system (car can be collected and returned to any points in the city)
- Round system (car must be returned to specific stations)

Fuel cell refuelling stations at the base year

- Hydrogen fuelling stations do not exist or are negligible
- A good % of urban area is served by hydrogen fuelling stations
- A limited % of urban area is served by hydrogen fuelling stations
- Hydrogen fuelling stations do not exist or are negligible

Electric refuelling stations at the base year

- Electric fuelling stations do not exist or are negligible
- A good % of urban area is served by electric fuelling stations
- A limited % of urban area is served by electric fuelling stations
- Electric fuelling stations do not exist or are negligible

Mode split trend

- Car share growth
- Car share growth
- Car share decrease
- Car share strong decrease



Policy selection



The screenshot displays the 'Policies & Policy Sets' configuration interface. On the left, a sidebar contains 'Urban Transport Roadmap' and 'CITY CONFIGURATION'. The main area is divided into 'Policies' and 'Policy Sets'.

Policies & Policy Sets

Policies

- 1 Demand Management** CHECK ALL
 - Land use planning *i*
 - Sustainable travel information *i*
 - Bike sharing *i*
 - Car sharing *i*
 - Delivery and servicing plans *i*
- 2 Green Fleets** CHECK ALL
 - Green energy refuelling *i*
 - Green public fleets *i*
- 3 Infrastructure Investment** CHECK ALL
 - Bus/tram network *i*
 - Walking/cycling network *i*
 - Park & Ride *i*
 - Metro network *i*
 - City logistic facilities *i*
- 4 Pricing and Financial Incentives** CHECK ALL
 - Congestion pollution charging *i*
 - Parking regulation/pricing *i*
 - PT tariff/integrated ticketing *i*
- 5 Traffic management and control** CHECK ALL
 - Urban freight regulations *i*
 - Prioritising public transport *i*
 - Access regulations *i*
 - Traffic calming measures *i*

Policy Sets

- GHG EMISSIONS/AIR QUALITY
- CONGESTION
- ACCESSIBILITY/SOCIAL INCLUSION
- SAFETY
- PUBLIC TRANSPORT
- WALK/CYCLE
- FREIGHT
- CAR
- X CLEAR ALL POLICIES**

Navigation: ABOUT CONTACT HELP
Language: English

Timeline: 2027 2028 2029 2030
2027 2028 2029 2030

Buttons: UPDATE POLICIES RESTART TOOL SET BASELINE



Policy customization

1 BIKE SHARING

PRIMARY SETTINGS

Initial year of the measure
2016

Bike share annual cost
VALUE
IMPLEMENTATION COST € 2800
OPERATION COST € 0

▲ ADVANCED SETTINGS

Input variables affecting the bike mode share
VALUE
BIKE SHARE COST 40
BIKE SHARE COVERAGE 0.3

Elasticities of impact on bike mode share
ELASTICITY
BIKE SHARING COST 1
BIKE SHARING COVERAGE 1
CYCLING RESERVED LANES 1

1 CAR SHARING

PRIMARY SETTINGS

Initial year of measure
2018

Car sharing fixed tariff (euro/year)
€ 20

Car sharing variable tariff (euro/hour)
€ 15

Average time to pick up a vehicle of car sharing service (minutes)
5

Car sharing type
Round system (car must be re)

▲ SECONDARY SETTINGS

Car sharing operating cost (euro/car)
€ 1000

3 BUS/TRAM NETWORK

PRIMARY SETTINGS

Initial year of the measure
2015

Mode selection
1

Input variables affecting the PT mode share

	AFFMODE	SHARE BUS NETWORK FREQUENCY	BUS NETWORK EXTENSION
VALUE	1	2000	6

Modes affected by mode shift on PT
1

Bus/Tram implementation cost
COST
BUS € 2000
TRAM € 5800000
FREQUENCY € 270000

▲ ADVANCED SETTINGS

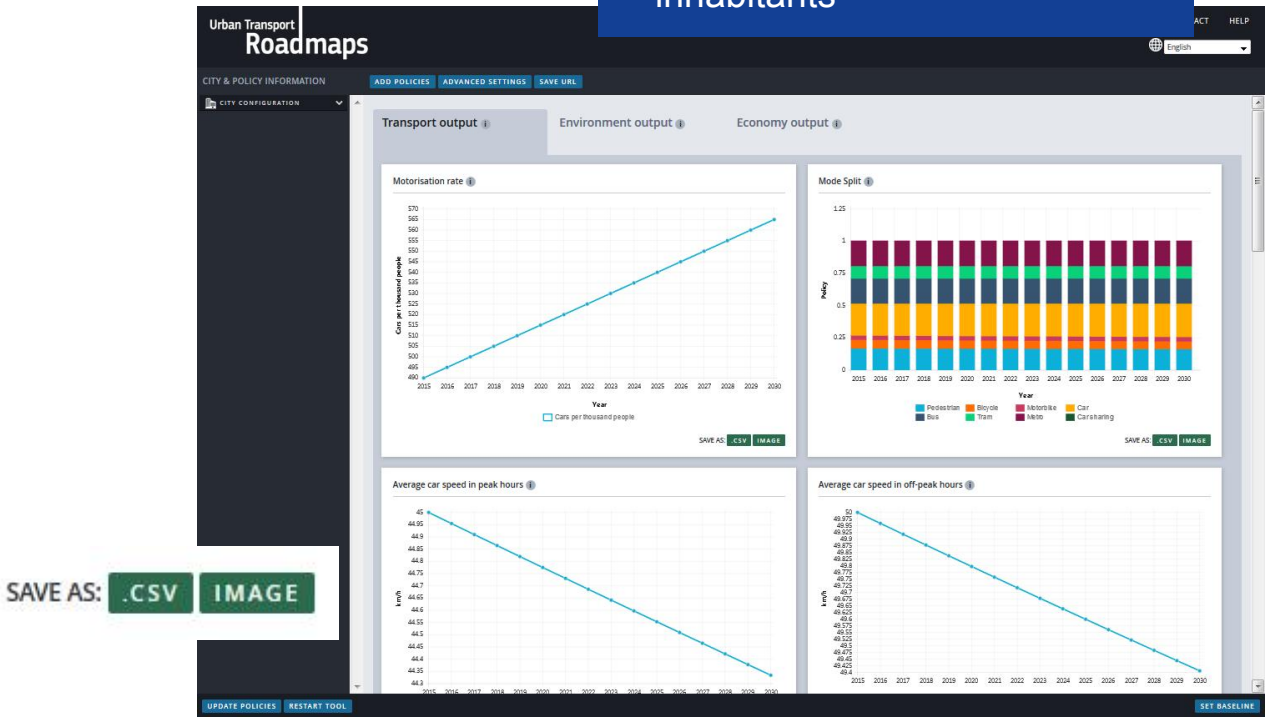
Elasticities of impact on PT mode share
ELASTICITY
BUS FREQUENCY 1
BUS NETWORK EXTENSION 1

Tool outputs

- Motorisation rate
- Mode Split
- Average car speed in peak / off-peak hours
- Average bus speed in peak / off-peak hours
- Average distance per trip
- Share of freight traffic in peak / off-peak hours
- Average occupancy factors of PT modes
- Penetration of alternatively fuelled car vehicles
- Penetration of alternatively fuelled bus vehicle
- Vehicles-km by car conventional vehicles
- CO2 / PM / CO / NOx / VOC emissions (tonnes)
- CO2 / PM / CO / NOx / VOC cumulated emissions (tonnes)

- Transport expenditure per individual
- Value of travelled time per individual (1000 Euro/year)
- Transport expenditure of public administration (1000 Euro/year)

- Total consumption by fuel type
- Total passenger fuel consumption by mode
- Total truck fuel consumption
- Total accidents by severity
- Fatalities per 100,000 inhabitants



Stakeholders engagement, beta testing and next steps

Stakeholders engagement

- Gather input and views, take account of specific needs and requirements and enable cities to take an active role in testing and developing of tool
- Stakeholder workshops in June 2014 and in June 2015



Beta version Currently being tested by the cities of

- Gothenburg (SE)
- Zargreb (HR)
- Alba Iulia (RO)
- Burgas (BG)
- Bremen (DE)
- Monza (IT)



Next steps

- Finalization of the tool by end of 2015
- Launch webinars covering EU Member States during 2016
- Final conference at the end of 2017





Thank you!

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