

# PROSPERITY



## RESOURCE PACK

### Urban Transport Roadmaps tool

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# 1 Introduction

This chapter provides a summarized introduction to the training theme.

Urban transport systems are integral elements of the European transport system and are therefore of concern for the Common Transport Policy. Urban transport faces a number of sustainable development challenges. The 2011 Transport White Paper sets ambitious targets to address these challenges. Meeting these targets will not happen autonomously as a result of technological development or market forces and consequently, policy action is needed at the city level in order to ensure that the objectives for urban transport are met.

Policy measures are the elementary components used for defining roadmaps and meeting the set targets. There is a vast range of policies that are potentially useful for setting up urban strategies aimed at addressing transport sustainability. Sources such as the ELTIS, CIVITAS and EPOMM websites provide a wide range of examples of individual actions to promote sustainable mobility. These existing catalogues of solutions and best practice formed the basis for developing a prioritised set of policy measures. A long list of policy measures was identified from these sources by clustering the actions (often very focused and context specific) into broader measures. From this long list of measures a set of key policy measures was identified based on criteria including:

- Policy type (i.e. demand management; green fleets; infrastructure investment; pricing and financial incentives; and traffic management/control);
- Institutional level of implementation (i.e. by national or local authorities);
- Effectiveness on key impact areas, cost distribution, and transport modes covered.

The set of 19 short-listed policy measures are detailed below in Table 1 Key policy measures.

**Table 1 Key policy measures**

Policy Type	Measure
Demand Management	<ul style="list-style-type: none"> <li>• Sustainable travel information and promotion</li> <li>• Bike Sharing Scheme</li> <li>• Car sharing (Car Clubs)</li> <li>• Delivery and Servicing Plans</li> <li>• Land-use planning - density and transport infrastructure</li> </ul>
Green Fleets	<ul style="list-style-type: none"> <li>• Green energy refuelling infrastructures</li> <li>• Green public fleets</li> </ul>
Infrastructure Investments	<ul style="list-style-type: none"> <li>• Bus, trolley and tram network and facilities</li> <li>• Walking and cycling networks and facilities</li> <li>• Park and ride</li> <li>• Metro network and facilities</li> <li>• Urban Delivery Centres and city logistics facilities</li> </ul>
Pricing and financial incentives	<ul style="list-style-type: none"> <li>• Congestion and pollution charging</li> <li>• Parking pricing</li> <li>• Public Transport integrated ticketing and tariff schemes</li> </ul>
Traffic management and control	<ul style="list-style-type: none"> <li>• Legal and regulatory framework of urban freight transport</li> <li>• Prioritising Public Transport</li> <li>• Access regulation and road and parking space reallocation</li> <li>• Traffic calming measures</li> </ul>

There is a wide range of instruments available to implement this policy effort, including land-use planning, pricing schemes, infrastructure for non-motorised modes, charging/refuelling of clean vehicles to reduce emissions, and many others. These instruments should be part of a meaningful strategy in order to develop cost-effective interventions.

The development of EU Urban Transport Roadmaps to 2030 aims at playing an important role in supporting cities to meet the Transport White Paper objectives for urban transport through the provision of a web based policy support tool, supported by detailed policy roadmaps and underpinned by a range of stakeholders' engagement activities.

The availability of tools and guidance documents is central to the development of cost-effective strategies, helping policy-makers to understand the range of possible actions and steps to successful implementation.

The development of the policy roadmaps is focused on the achievement of the EU's 2030 objectives for urban transport, as specified in the 2011 Transport White Paper. Roadmaps describe the specific steps that need to be taken to implement a strategy and the timing required for each step, taking the urban context into account. The development of the roadmaps helps to recognise that different types of policy measures are appropriate for different types of cities. The analysis of scenarios and roadmaps help to assess the impact of the European urban mobility policies in the long term.

In order to define a representative roadmap the following key steps have to be followed:

(a) *The identification of the basic components of the scenarios.* These components are the policy measures available to define a scenario to move towards the objectives.

(b) *The classification of the contributions that each component can provide to the scenarios.* The policy measures are different, some require physical investments others are mainly a matter of setting (and enforcing) different rules. Also, the type of impact expected from each instrument is different, some have complementary effects, and some may have conflicting effects.

(c) *Grouping of measures in consistent scenarios.* Having in mind the objectives and building on the classification of the policy instruments, a coherent package of measures can be defined. Alternative scenarios can be developed according to the nature of the measure, the strength of the interventions, their expected effectiveness and implementation costs.

(d) *The specification of the pathway to proceed towards specific scenario goals.* The final step makes the roadmap more than a list of potential measures as the practical issues related to the implementation of the policy measures are considered: timing, relationships between different interventions, stakeholders involved and others.

## 2 The tool

This chapter provides an overview of the Urban Transport Roadmaps tool, as well as its interaction with the SUMP's process and its structure.

### Definition

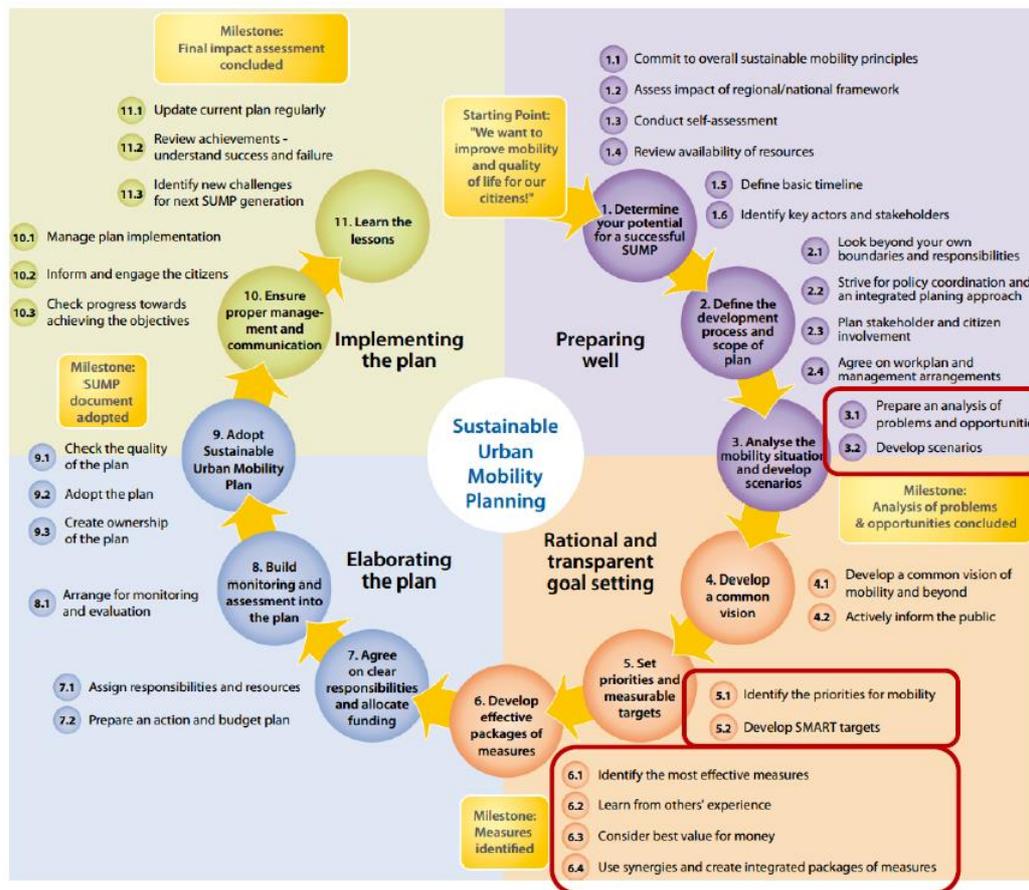
The Urban Transport Roadmaps (UTR) on-line scenario building tool ( [www.urban-transport-roadmaps.eu](http://www.urban-transport-roadmaps.eu) ), commissioned by DG MOVE, is designed to support cities in exploring alternative transport scenarios / roadmaps and in translating their vision on sustainable urban mobility into a concrete set of actions for their Sustainable Urban Mobility Plans (SUMPs).

With its easy-to-use approach, the tool allows to:

- explore and identify appropriate sustainable transport policy measures;
- quantify the transport, environmental and economic impacts of these measures;
- consider an implementation pathway (roadmap) for the policy scenario.

In terms of the overall SUMP's development process the roadmaps tool is focused on developing the overall goals, approach and basic policies packages that form the basis of a SUMP before further elaboration and implementation. This relationship to the SUMP's process is illustrated in Figure 1 Overview of how the tool interacts with the SUMP's process below:

**Figure 1 Overview of how the tool interacts with the SUMP's process**



Key:  = action supported by this study

Therefore the tool is designed to carry out initial scoping of potential policies that could be applied to a city. It allows single policies and groups of policies to be assessed providing estimates of the impact on a range of transport, environment and economic indicators. As such it can be used for:

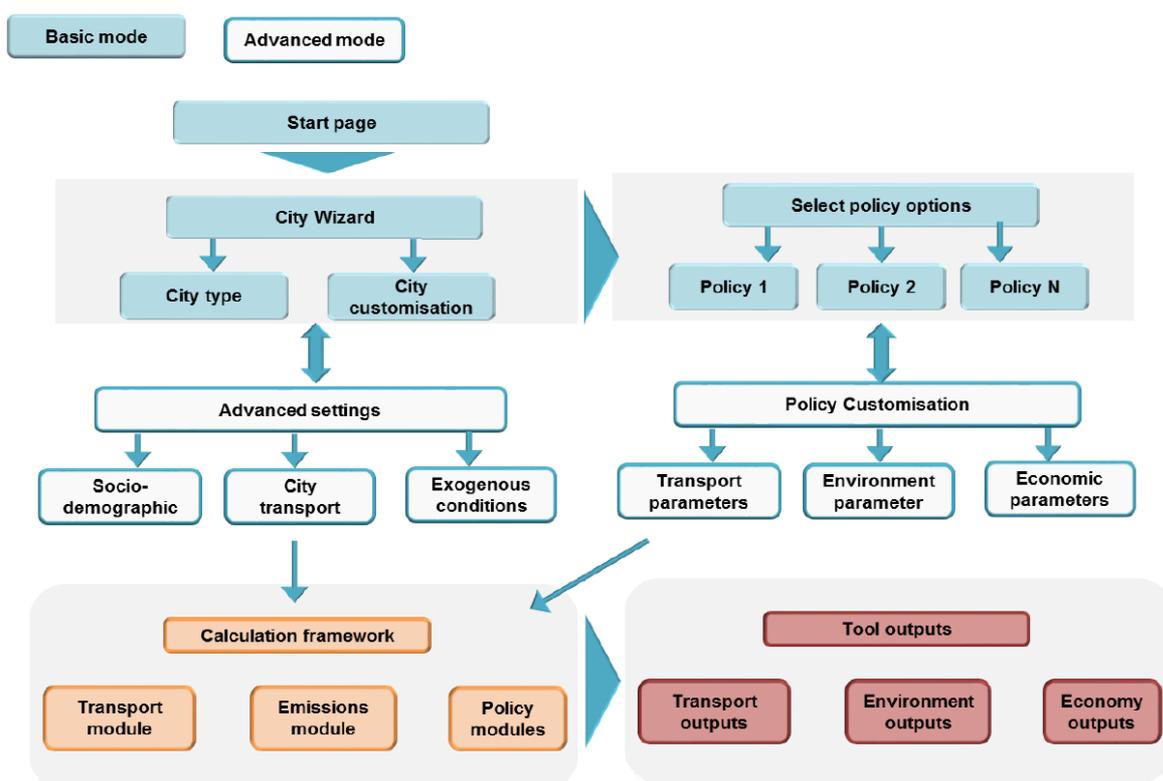
- initial sifting of potential sustainable transport policies options;
- grouping or packaging of policies to develop an overall approach to a sustainable transport strategy for a city;
- engaging a range of city stakeholders, many with little direct experience of transport modelling, in sifting and exploring policy options;

It is not a substitute for detailed transport models that are set up and developed for specific cities and require expert use. Similarly it should not be used for detailed planning, development and implementation of policies which will require more and detailed assessment approaches.

### Structure of the tool

The tool has five main structural elements, as illustrated in Figure 2 Outline structure of the tool below.

Figure 2 Outline structure of the tool



These elements comprise:

- **The City Wizard** – this is the main entry point of the tool and allows the user to select some basic information to characterise their city. This basic information allows the model to set up the most appropriate basic transport patterns to represent the city, providing simple and quick initial configuration of the model.

- **Advanced Settings** – for the more advanced user there is the ability to customise the default data, using local data, to provide a more accurate representation of the city. All of the variables except the exogenous variables allow customisation of the transport aspects of the city. The exogenous variables are designed to reflect background trends that are outside of the control of the city such as fuel prices and technology trends.
- **Policy selection** – having selected a city type, and potentially customised it, the user can then select various policies to apply in their city. The primary policy measures will be associated with default parameters, again allowing the user a simple and quick way to use the tool.
  - Policy customisation – as with the city types the default data for the policy options can be customised to refine the policy measure. For example by adjusting tariff values for a charging scheme. The user is able to select individual policies or groups of policies.
  - Policy sets - You can also select sets of policies that have been tailored to meet a particular objective, such as reduce congestion, by using the sets of policies on the right. This will auto select certain policies relevant for that objective
- **Calculation framework** – this forms the core of the tool and takes the city setup parameters and policy measure parameters to calculate the results for the policy measures in the selected city. It includes the equations used for the background calculations building on the pre-coded values of parameters and variables as well as on the user input provided through the interface. The calculation framework comprises three key elements:
  - The transport module - that calculates the base transport patterns for the city and then adjusts them in relation to the policies.
  - The emissions module - that calculates the emissions and environmental data associated with the transport activity.
  - The policy modules - that translates the policies into impacts.
- **Tool outputs** – these provide the numerical and graphical representations of the impacts of the transport policies on the city. There are three main types of impact that are generated by the tool:
  - Transport impacts – including mode share, average trip distances and traffic levels;
  - Environment outputs – covering CO<sub>2</sub>, CO, PM, NO<sub>x</sub> and VOC emissions, and accident rates;
  - Economic outputs – providing the direct cost/benefits associated with the policies, and the social cost of emissions and accidents.

Source: Urban Transport Roadmaps- <http://www.urban-transport-roadmaps.eu/>

### 3 Available resources

A number of guidance documents and training materials were drafted under the EC DG MOVE project “European Urban Transport Roadmaps 2030”, the project who developed the tool.

They are all available (for free) at the project website:

<http://urban-transport-roadmaps.eu/>

Title	Description	Format
<b>Roadmaps Report</b>	<p>Insights about three alternative (sample) policy scenarios (“roadmaps”):</p> <ol style="list-style-type: none"> <li><b>Promote and Regulate.</b> A scenario based on changing behaviour by means of push and pull incentives.</li> <li><b>Plan and Build.</b> A scenario oriented on investments in the technology and transport infrastructure.</li> <li><b>Charge and Provide.</b> A scenario focused around the use of economic incentives like road charging and parking pricing.</li> </ol> <p>(80 pages, March 2016)</p>	Guidance document
<b>Detailed user guide</b>	<p>Tool description and user guide</p> <p>(80 pages, March 2016)</p>	Guidance document
<b>Quick Start Guide</b>	<p>Short (3 pages) document summarizing the main steps of the tool</p>	Guidance document
<b>Training webinar: slides</b>	<p>13 slides that were used in webinars to introduce the tool</p>	Presentation
<b>Training webinar: registration</b>	<p>40 minutes recording of an introductory webinar to the tool</p>	Online video
<b>UTR tool</b>	<p>The tool itself:</p> <p><a href="http://urban-transport-roadmaps.eu/">http://urban-transport-roadmaps.eu/</a></p>	Online tool available for individual and group exercises

Source: “European Urban Transport Roadmaps 2030” project, <http://urban-transport-roadmaps.eu/>

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## 4 Contact main trainer



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