European Commission

Quantifying the Effects of Sustainable Urban Mobility Plans

OBJECTIVES

The European Commission is proposing a European support framework for the implementation of Sustainable Urban Mobility Plans in EU Member States. This initiative is consistent with the 2011 White Paper proposal to increase coordination between transport authorities and transport policy deciders. Consequently, an interest on how different urban measures can be used in order to render transport activities more sustainable has given way to research concerning the impacts and effects that policy measures might have on socio-ecological systems.

The methodology presented here uses the expert scoring information (Delphi method) available in current scientific literature in order to explore the impacts and effects that different urban measures may have in planning for sustainability on a European wide level.

METHODOLOGY

A five step approach

1.Review of scientific literature sources on urban transport measure scorings (based on expert knowledge).

2. Computation of a single template that gathers and normalizes all expert scorings found in the literature concerning the impacts and the effects of urban transport measures according to their potential to:

- *avoid unsustainable transport practices,*
- *shift to more sustainable transport modes,*
- *improve on current behaviour in transport activities,*

as well as:

- *their impact on economic, social & environmental issues.*

3. Assessment of average urban profiles for cities within NUTS3 zones according to current transport behaviour trends based on:

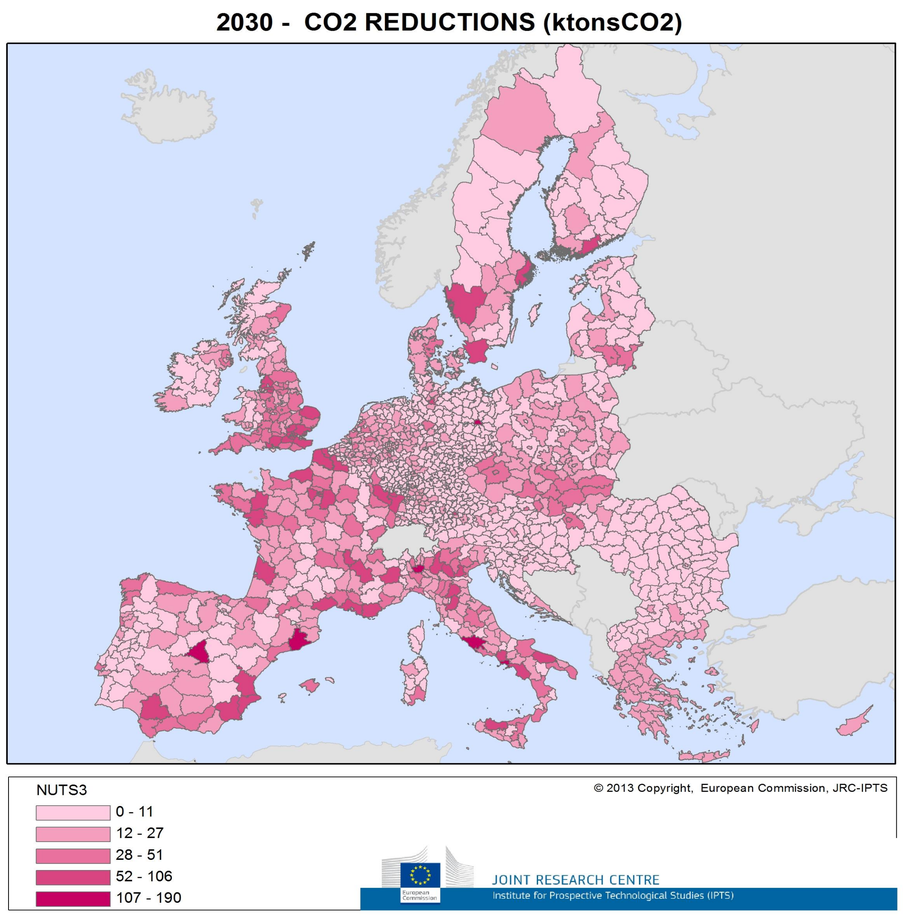
- *transport activity*
- *population*
- *employment in NUTS3*
- *commuting rates*
- *rail and road accessibility accessibility*
- *urbanization rates & density density*

4.Establishing a tailored weighting system for the effects and impacts of urban measures according to the individual profile of each NUTS3

5.Quantifying the potential range of effects of policy measures on CO2 emissions -for each NUTS3 zone- using transport demand and CO2 estimation results (MODEL-T, JRC) for the year 2030.

RESULTS

Potential CO_2 reductions



Country-	Urban Emissions 2010 ktons CO_2	Urban Emissions 2030 ktons CO_2	Potential Reductions 2030 ktons CO_2	Percentage
AT	3 214	2 648	179 - 225	6.8% - 8.5%
BE	7 816	5 921	393 - 493	6.6% - 8.3%
BG	1 485	1 384	100 - 125	7.2% - 9.0%
CY	257	180	15 - 19	8.3% - 10.3%
CZ	3 482	3 686	263 - 330	7.1% - 9.0%
DE	44 488	38 055	2 697 - 3 381	7.1% - 8.9%
DK	2 761	2 153	151 - 189	7.0% - 8.8%
EE	418	507	37 - 47	7.4% - 9.2%
ES	16 275	15 051	1 064 - 1 333	7.1% - 8.9%
FI	2 554	2 350	163 - 204	6.9% - 8.7%
FR	38 249	30 777	2 156 - 2 702	7.0% - 8.8%
GR	2 633	2 850	187 - 234	6.6% - 8.2%
HR	761	1 020	70 - 88	6.9% - 8.6%
HU	2 085	2 365	166 - 208	7.0% - 8.8%
IE	1 252	1 063	67 - 84	6.3% - 7.9%
IT	37 073	31 285	2 250 - 2 821	7.2% - 9.0%
LT	1 251	1 430	100 - 125	7.0% - 8.7%
LU	418	326	27 - 34	8.2% - 10.3%
LV	615	800	52 - 65	6.5% - 8.1%
MT	177	141	9 - 11	6.3% - 8.0%
NL	7 886	6 961	478 - 599	6.9% - 8.6%
PL	6 918	8 934	625 - 784	7.0% - 8.8%
PT	2 756	2 792	186 - 233	6.6% - 8.3%
RO	1 726	2 272	163 - 205	7.2% - 9.0%
SE	5 685	4 335	321 - 403	7.4% - 9.3%
SI	296	284	20 - 25	6.9% - 8.7%
SK	2 162	2 831	201 - 252	7.1% - 8.9%
UK	45 823	36 729	2 465 - 3 090	6.7% - 8.4%
Total	240 515	209 130	14 605 - 18 306	7.0% - 8.8%

Measure	Potential CO_2 reductions in ktonsCO_2
Investment and maintenance, including safety, security and accessibility	713 - 894
Public transport coverage (line density, stop density, walking distances between stops) & public transport frequencies.	917 - 1 150
Interoperable ticketing and payment systems	471 - 591
Taxi services (individual and collective)	578 - 724
Dedicated walking and cycling infrastructure investment and maintenance & Bike sharing schemes	781 - 979
Improvement of the efficiency of city logistics by the use of ICT	951 - 1 192
Measures to improve the energy efficiency and environmental performance of vehicles and/or use of alternative modes.	612 - 767
Corporate, school and personalised mobility plans (or workplace travel plans)	680 - 852
Car sharing & carpooling schemes.	442 - 554
Telecommunications	1 019 - 1 278
Multimodal connection platforms	306 - 383
Multimodal travel information provision	849 - 1 065
Park and Ride areas	510 - 639
Reallocation of road space to other modes of transport, e.g. dedicated bus lanes	985 - 1 235
Parking management	781 - 979
Dynamic traffic management measures	408 - 511
Low speed zones	476 - 596
Information and marketing campaigns	629 - 788
Promotion of eco-driving	153 - 192
Congestion charging zones (area and cordon charging)	1 495 - 1 874
Low emission zones	849 - 1 065

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