Over the three-year period from April 2006 to March 2009, CURACAO has monitored developments in urban road user charging in Europe and has extended the knowledge base established by previous projects in order to provide tools to support decision making and the integration of research results into policies. During this period there were some significant developments:

- Stockholm implemented a full-scale trial of congestion charging and introduced a permanent scheme following a positive referendum result.
- A trial giving monetary incentives to drivers who did not use congested roads at peak hours took place in The Hague.
- A second toll ring was introduced in Bergen.
- The scheme in Rome was extended to new areas and to evenings and weekends.
- In London, a western extension to the original charging zone was introduced but is now almost certain to be withdrawn.
- The Dutch government brought forward proposals for a national scheme to change the existing road and vehicle taxation system in favour of a scheme in which charges will vary by time, place and the pollution class of the vehicle.
- The UK Department for Transport funded feasibility studies in a number of cities embracing packages of measures including a charging element. Manchester was the first city to receive government approval for a scheme but failed to attract public support, leaving other potential schemes in limbo.
- The Milan Ecopass scheme was introduced.
- The Oslo toll ring was extended and prolonged for another 20 years.
- A number of cities began studies of URUC schemes, among them Amsterdam, Copenhagen, Gothenburg, Helsinki, Bath, Ljubljana, Riga and Zagreb.

CURACAO documented developments up to the end of December 2008, and produced a range of products to meet the needs of cities as expressed by the user group. The interaction between the consortium and the user group was a key element, with six meetings held over the course of the project at which the content and conclusions of the CURACAO State-of-the-Art Report were debated, and seminars were held focusing on the in-depth analysis of case studies.

CURACAO attempted to draw comparisons between schemes, but this proved to be extremely difficult. Although at first sight schemes may appear to be similar, when considered in detail scheme objectives and designs vary widely from city to city, and the available data on impacts are often inconsistent. The project identified a number of research gaps highlighting topics where information is difficult to find or is inconsistent, and which could usefully be pursued in future projects.

Focusing on the implemented schemes whose objectives have been to reduce congestion and/or improve the environment, there are seven key ‘headline’ impacts that emerge from an analysis of the case study data. The analysis shows that URUC is a demand management tool which can deliver the following benefits:
CURACAO policy recommendations

Based on the evidence collated in the State-of-the-Art Report and the case studies, a series of policy recommendations have been developed. Urban road user charging will typically be the responsibility of city and regional authorities, but national governments and the European Union have important enabling roles. The recommendations are thus aimed at city and regional authorities, national governments, and the European Union.

City and regional authorities

Before considering urban road user charging as a sustainable urban transport strategy, city and regional authorities should specify their objectives clearly, briefly and simply, and should adhere to them consistently. Although we identified nine possible objectives, there is a case for keeping the list short and simple, while not omitting objectives to which road user charging could effectively contribute. A road user charging scheme should not be designed in isolation but in the context of the full range of complementary policies that will support it. City and regional authorities should be flexible and dynamic in their approach to scheme design and development, while ensuring that scheme performance is as effective as possible. The scheme design should not be technology driven. Technology and business systems should be carefully selected with a close eye to system costs.

City and regional authorities designing a road user charging scheme should allocate resources for establishing baseline conditions, for collecting traffic and other data for analysis, and for continuous monitoring of performance after implementation. Cities which implement road user charging schemes are strongly encouraged to evaluate them against the full set of objectives and indicators given in the CURACAO Final Report, available at www.curacaoproject.eu/downloads.php.

Acceptability should be addressed at the outset in all its different aspects. Acceptability can be enhanced by demonstrating that there is a serious problem to be overcome, that a measure as dramatic as road user charging is needed, and that it is likely to work. It is essential that the impacts, both positive and negative, are clearly identified and effectively communicated. A continuing dialogue is needed with the public, pressure groups, politicians and the media. In particular, politicians need to understand, but not overestimate, the concerns of the public.

The use made of road user charging revenues is key to the acceptability and effectiveness of the scheme. Most charged drivers will initially be made worse off by road user charging, and it is only when the revenues have been channelled into transport (or other) improvements that they accrue personal benefits. It is therefore important that the system’s costs be kept as low as possible and that revenues are used to support the authority’s overall strategy.

Before implementing road user charging, authorities should pay attention to the planned implementation process and try to establish a consensus among the agencies involved. Wherever possible, the normal planning process should be used to judge the URUC scheme and its instruments. Unless a referendum is legally required, authorities should be cautious in using this method to determine whether URUC should be introduced.

National governments

National governments must develop a clear national transport strategy, explain it clearly and consistently, indicate who is likely to gain and lose from that strategy, and take steps to compensate those who are likely to lose. As part of that strategy they should recognise the potential benefits of road user charging as a means of demand management at both local and national levels. Road user charging should be seen as part of a wider strategy involving the internalisation of external costs and the adjustment of road and vehicle taxation systems so that user charges vary according to location, time and type of vehicle.

National governments also need to ensure that appropriate legislation exists to allow local authorities to plan and implement schemes, to provide the governance which

Continued at foot of next page
Rejection of URUC in Manchester

Proposals for a congestion charge scheme in Manchester, UK, were overwhelmingly rejected in a referendum on December 12, 2008, leading to the proposals being abandoned. This is the second UK scheme to be rejected in a referendum (Edinburgh being the first in 2005).

The scheme was proposed on the basis of traffic growth forecasts which, if left unchecked, would lead to increased congestion, greater pollution and higher carbon emissions, and would also damage the local economy. It was claimed that less congestion would create 10,000 new jobs in Greater Manchester and provide a major boost for the local economy.

The congestion charge would have been offset by £2.7bn (£3.2 bn) of public transport improvements. It was considered that access to key services and jobs would have been improved for the 30% of households in Manchester who do not own a car. Proposals to support low-income workers with a potential discount of up to a fifth of the charge were highlighted in the public consultation.

Those opposed to the scheme questioned the need for the charge. Figures produced by the Urban Traffic Control Unit show that congestion in 11 of the 14 centres in Greater Manchester had fallen since 2001. Opponents pointed out that it would cost motorists up to £1,200 (£1,440) a year to enter and exit the congestion zones. Moreover, many of the actual costs of running the scheme were unknown and the technical details of the scheme were to be outlined after the referendum. This led to some misunderstanding of the actual proposals. The level of borrowing to match the £1.2bn (£1.4 bn) government investment in public transport was also considered by opponents to be high.

It is difficult to categorically state the reasons for the negative referendum result but commentators have offered a number of possible reasons:

- The public misunderstood the proposals and thought that the congestion charge would apply anytime, anywhere.
- The debate never focused on public transport improvements, just on the congestion charge.
- The public did not believe that public transport would get better.
- The current economic climate meant that people were less likely to vote for something that is perceived as another tax.
- Greater Manchester’s governance structures did not assist with the prospect of delivering an ambitious transport project as a number of councils would have to agree on the proposals before they were accepted.
- Assurances to the business community were not given as fully as they should have been and thus many were against the charge.
- Campaigners for the congestion charge did not fully focus on the health benefits of the scheme.

The European Commission

The Commission should publish guidance for authorities interested in road user charging as a policy option based on CURACAO’s findings. It should give financial support to:

- cities to finance feasibility studies addressing ways to reduce congestion and improve the environment including road user charging options and to support research and demonstration projects in provincial cities that specifically address key issues: acceptability, governance requirements for effective implementation, economic and equity impacts;
- educational campaigns, training schemes and toolkits explaining the rationale for urban road user charging as one option in the panoply of measures available to transport planners, and encouraging citizen and stakeholder involvement in discussion of approaches to tackling sustainable mobility issues; and
- research into the standardisation and interoperability of URUC systems and technologies.

The Commission should bear in mind the need for governance structures which enable city authorities both to implement road user charging and the policy instruments which complement it, and to collect and use scheme revenues in accordance with policy objectives.
Continued from page 1

CURACAO key achievements

Traffic Network:
• A 14 -23% reduction in the number of vehicles entering the zone.
• A reduction of up to a third in delays in the zone.

Environment:
• A 13 -21% reduction in CO\textsubscript{2} emissions in the zone.
• A 8-18% reduction in pollutant emissions in the zone.

CURACAO Case Studies

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>CITY</th>
<th>SCHEME TYPE</th>
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Project Partners

The CURACAO project partners are:
• Transport & Travel Research Ltd
• ISIS (Rome)
• ITS, University of Leeds
• Technical University of Dresden
• SINTEF
• Goudappel Coffeng
• WSP
• POLIS
• The Regional Environmental Center for Central and Eastern Europe
• CERTU
• SESTRAN
• ATAC (Rome)
• City of Stockholm
• Public Roads Administration (Norway)
• Bristol City Council

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