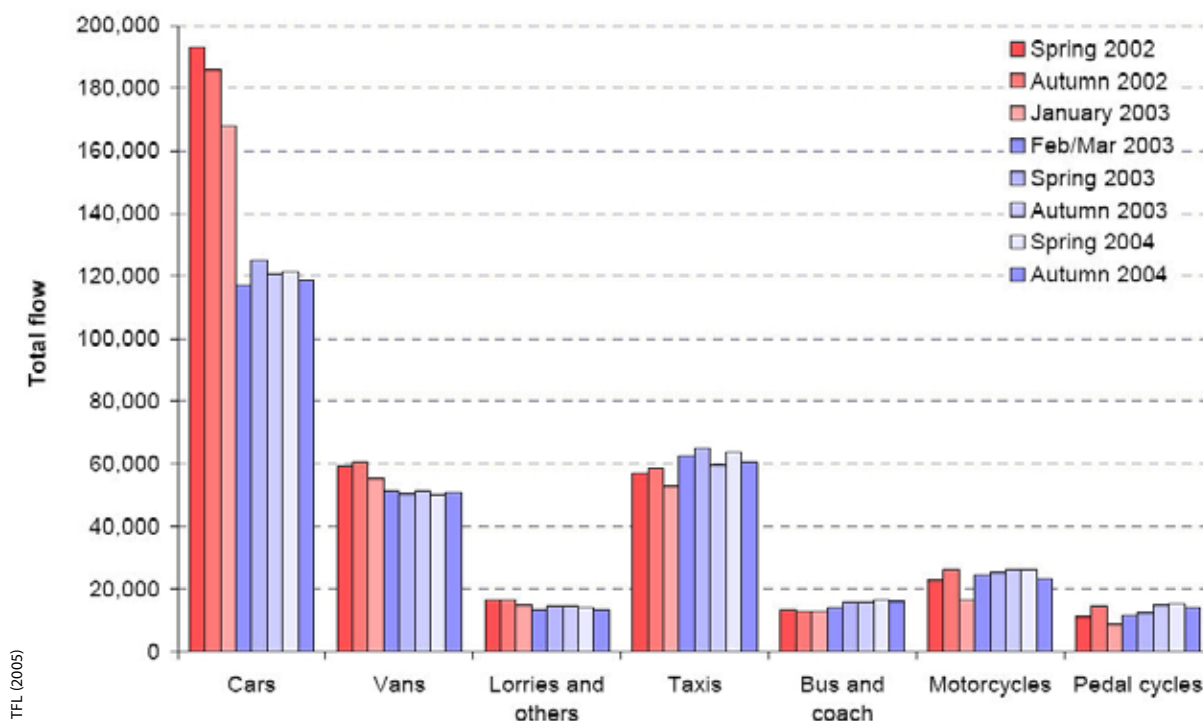


Traffic Effects



Why are traffic effects important?

One of the most often cited objectives of implementing road user charging is a reduction in congestion. Following the introduction of such a scheme, we therefore need to gather data to enable us to understand the following:

- changes in traffic flows overall, by mode and by location
- changes in traffic flows by time of day
- changes in speed or delay by location.

What information is provided by traffic effects to support implementation and decision making?

Analysis of this data enables an understanding of the potential changes in underlying behaviour such as switching to new destinations and trips not made due to road user charges. It can also be used to test the accuracy of the predictive models used during the design process.

Such information can also be used in the short term to design complementary traffic management measures to deal with any adverse impacts arising from traffic rerouting.

Reductions in traffic flows and in congestion due to the scheme can be used to demonstrate that some of the objectives of the scheme (e.g. congestion reduction and environmental protection) have been achieved. Robust data can be used also to dispel rumours and misperceptions and provide facts to counter objections and increase acceptability of the scheme.

Results of case studies of implementation of RUC in various cities have shown that urban road user charging has to a large extent been able to satisfy the policy objective of reducing congestion. This demonstrates that a package involving road user charging can be effective.

Those urban road user charging schemes which have aimed to reduce traffic have typically reduced traffic entering the charged zone by between 15% and 25%. Changes in the Norwegian Toll Rings, which aimed to generate revenue rather than reduce traffic, have been much smaller. Effects on speeds and congestion have been more variable. The London scheme introduced in 2003 reduced congestion by 30% initially, but this has since been eroded by extraneous factors which have temporarily reduced road network capacity (see graphic above).

What further research is needed?

Whilst road user charging is founded upon the notion of reducing congestion, there is no accepted definition of what a "reasonable" level of congestion is and how congestion should best be measured. Optimal congestion does not



mean the total removal of congestion from the network as this would imply always supplying costly excess capacity. Further research could usefully examine whether more robust measures of congestion are justified.

It is often assumed that the changes in the traffic can be deduced by comparing the before and after scenario or by monitoring the changes year on year. However, it is often difficult to disentangle the effects of the congestion charging scheme from those of other policy measures and of exogenous factors.

What can we conclude at present?

The following DOs and DON'Ts should help to increase the likelihood of a successful road user charging implementation.

DOs

Establish a baseline set of "before" traffic flows and speeds or delays

Survey traffic flows and speeds or delays regularly in the period immediately after implementation to identify the need for any remedial measures

Use the evidence to allay any misconceptions on the effects of urban road user charging

Collect such information annually over a prolonged period to identify any long term effects

DON'Ts

Do not decide to collect "after" data simply because the scheme appears to be working

Do not conduct surveys at different times of the year as this might introduce extraneous effects and confuse the picture