Trondheim. Toll Ring system. Norway

Description

The Trondheim Toll Ring surrounding the city centre came into operation in October 1991. 11 toll stations were built, of which only one was manually operated. The fee system includes time differentiated tolls, a slightly higher fee during the morning peak hours, free passage after 5 pm and in the week-ends), and there are no monthly passes. The revenues are earmarked for a transport investment package financed by 60% user fees and 40% state funds.

Background

Cities all over the world struggle with the same traffic problems, like congestion, traffic accidents and air pollution. This was also the situation in Trondheim, Norway’s third largest city with a population of 173,000. The main traffic problem in Trondheim was the lack of a safe road system with sufficient capacity to handle the traffic demand. This caused traffic problems in the city centre and the nearby residential areas. As much as 50% of the traffic in the city centre was just going through the centre without any stops. In the years between 1983 and 1987, a traffic growth of 25% was registered. Although the growth decreased from 1987 to 1990, it was easy to predict a total collapse in the near future if nothing was done to reduce the growth and improve the transport system. The politicians in Trondheim wanted to do something with these problems. In 1987 the city council decided to go for a road pricing or tolling system as one part of a new transport plan for the city. The transport plan is covering all types of city transport. The project was approved by the National Parliament in the start of 1990. Before this, the Parliament proposal had been prepared and discussed both by the local and central authorities. The solution of the problems was found to be the following:

- A new and better main road system outside the city centre
- A safe and better road network for pedestrians and cyclists
- Improved mass transit service

Implementation

This solution was worked out in a development plan for the future infrastructure. It became a plan for extending the
present main road system, building new roads around the city centre, an extended and new road system for pedestrians and cyclists and different ways of giving priority to public transport. The new system should be financed partly by implementing a toll ring around the city. The following goals were emphasised both of the local and central authorities:

- The toll or road pricing system should have very low operating costs
  - The system should be used as a traffic regulation tool, inbound traffic should pay a higher rate during peak hours in order to distribute the traffic in time.
  - The system should be based on no-stop electronic payment system
  - The justice of the system should be emphasised in order to avoid refusal of users and/or subscribers
  - The necessary equipment should be compressed in such a manner that it was possible to place it everywhere, even in the streets of the city centre

**Results (so far)**

The system was opened October 14th 1991. The Trondheim Toll Ring Project was well marketed prior to the opening, and 90 % of the motorists entering the city centre use the electronic payment system. The revenues are being used to finance road infrastructure, improved public transit and new facilities for pedestrians and cyclists in Trondheim. The first year after the opening, inbound traffic during toll hours declined with 10 percent and weekday bus travel increased by 7 percent. The traffic situation in the city centre is significantly better now than 10 years ago.

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It is not possible to conclude that the toll ring had an effect on air quality. Observed variations in PM10 levels are most likely due to changing weather conditions. In total the charging scheme brought in €215 million over the period 1991-2005. Annual operations costs were 10-11% of gross revenues throughout the period of operation.

City centre trade did not seem to be negatively affected. Opinion polls on the attitudes to the Trondheim toll ring indicated decreased opposition after implementation. Six months prior to implementation about 70% of the respondents objected to the toll ring.
Two months after implementation the negative share had dropped to below 50% and during the summer of 1992 the negative share was 35%. During 2005, the last year of operation, the negative share was again slightly below 50%.


**Keywords**
acceptability of demand management
road pricing - congestion charge
road pricing - cordon charge
traffic control management