

Implementation of the bus route in Tampere(FI)

Topic

Tampere Bus Route, Finland

Summary

Tampere is a city in the South of Finland, about 180 kms north of Helsinki, with a population of 190,000. Tampere is the third largest city in Finland and can be classified as a medium sized regional capital in European level.

Case Study

Tampere metropolitan area (population of 275,000), the second largest regional centre in Finland, includes Tampere and five adjacent municipalities. The public transport of the city is 90% performed by the local municipal transport company (Tampere City Transport) having a fleet of 160 buses.

Introduction

The most important goals of transport policies in Tampere are:

- increasing the amount of cycling
- changing modal split towards bus
- improving the economy and quality of life in the city
- improving accessibility to facilities and mobility of people
- improving the quality of street environments.

Basic facts

The demonstration site for the implementation of the bus route improvements was chosen due to its characteristics. It is a high travel demand corridor-running due south for 8 kms and due west for 8 kms from the city centre. The 18 kms long bus route 26 is typical cross-town bus route. There are 42 bus stops in both directions on route 26, which means that the average distance between bus stops is 440 m. The average travel time from one terminus point to another is 45 min according to the timetable and the journey speed is 24 km/hour. About 7,500 passengers use the route 26 during a typical working day according to the latest passenger counts. The Tampere test site was a typical cross-town bus corridor, and the following type of measures were implemented: junction arrangements, 1,5 kms bus lane, bus stop arrangements (shelters, lay-by, boarder), low floor articulated buses, traffic signal prioritisation and re-building the Central Square. Most of measures implemented focused on making public transport faster and more reliable.

Users and stakeholders

For the implementation of the above-mentioned measures, special inter-departmental groups for each part of the scheme have been organised. Their role was to co-ordinate the Municipality's technical services. The Traffic Planning Unit was responsible for the monitoring and evaluation work. The Unit had the freedom of deciding the particular projects to be pursued based on the recommendations received from Tampere City Transport and the Municipality. The key political body in charge of the budget was the City Board.

Implementation set-up

Originally it was intended that 12 measures would be implemented along the corridor during the project. Three measures were abandoned (exclusive lane for buses at a junction, combining bus stops, enforcement of the use of bus lanes in the city centre), because they would have reduced the public transport service level if they had made the buses faster. There were also various organisational and budget related reasons not to implement these measures. The implementation of another three measures was delayed. Unfortunately these measures were the most important measures to make the route 26 faster: exclusive lanes for buses passing traffic signals (2 cases) and traffic signal prioritisation at some junctions. These measures were delayed due to organisational and institutional reasons and the obstruction of residents. The weather in Finland was very cold during the spring of 1998 and this fact also delayed implementation.

Exclusive bus lanes passing traffic signals were planned to be constructed at two junctions: at Lempääläntie and at Pispalan Valtatie Street. Buses could pass traffic signals from the right side using these new lanes. Implementation was delayed and lanes will probably be constructed later. Lane arrangements were made in summer 1998 at the junction of Pispalan Valtatie and the Nokia motorway to make the junction easier and faster for buses. An exclusive bus lane was constructed towards the city centre. Earlier there were two lanes for vehicles turning left and one lane for those driving straightforward or turning right. Now there are two left turning lanes, one lane for vehicles driving straight forward (general traffic lane) and a combined lane for buses driving straight forward and vehicles turning right. Thanks to this new exclusive bus lane, buses can drive straight up to the junction passing private cars. This bus lane continues after the junction, while the general traffic lane (straightforward over the junction) ends.

As a result of the lack of space, the general traffic lane ends almost immediately (about 30-40 m) after the junction. This creates problems and conflicts, because cars try to drive fast and merge to join the continuing lane before the buses. There are also quite a lot of private cars, which illegally use this new bus lane when crossing the junction. Junction and lane arrangements were also made in Hämeenpuisto-park in autumn 1996: a turning lane was constructed for cars turning left from Pirkankatu to Kortelahdenkatu and the street Kauppakatu was cut off. Pispalan Valtatie Street has now 4 lanes along the section between Satakunnankatu and Rajaportti. There is overall 1.5 km of bus lane at this section. 4 high quality bus stop shelters were installed at Lempääläntie in Multisilta. A bus stop boarder was also built at Tammelan Puistokatu Street, outside the corridor. Low floor buses were introduced at route 26 during the year 1997. Traffic arrangements (including bus prioritization) relating to the proposed Tampere Multi-Modal Passenger Terminal were simulated using the HUTSIM simulation program.

Public transport priority at Pirkankatu between Mariankatu and Satakunnankatu was implemented using the SPOT-technique. SPOT optimises public transport prioritisation

at several signal controlled junctions taking traffic situation into account. Other examples of local SPOT controllers exist in Torino, Italy. There are no great changes as far as travel speed and delays are concerned. This could be expected, because only detailed design measures were implemented. It seems apparent that the most effective way to make route 26 faster is to implement traffic signal prioritisation. It is difficult to reduce bus stop delays, but it should be possible to reduce traffic signal delays (currently about 30% of all delays).

Results

The main results were:

- Measures implemented have no direct overall effect on travel time or bus patronage or on modal split
- Effects of some improvements have demonstrated that in a city like Tampere where congestion is not a major problem, it is possible to cut down a large share of delays with relatively small scale measures concentrating at junctions. For example an exclusive bus lane at junction reduced mean bus delay from 24 sec to 19 sec.
- Bus passengers perceive the measures to be beneficial in terms of public transport quality. Passengers especially like low floor buses.
- The experience gained at this demonstration has led to a wide program of similar improvements in other corridors in Tampere

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