Priority and Informatics in Public Transport

Fact Sheet

Project Information

PROMPT

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Project closed

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Specific programme of research and technological development (EEC) in the field of telematic systems in areas of general interest - Transport services -, 1990-1994

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No data

EU contribution
No data

Coordinated by
Wootton Jeffreys Consultants Ltd
United Kingdom

Objective

The primary objective of the project is to develop and evaluate strategies for giving active priorities to buses and trams in fixed, dynamic and real time adaptive urban traffic control systems.

A second objective is to allow other cities the opportunities to benefit from the results of the project. At the end of the project, European industry will be able to exploit the results and systems to the benefit of other cities.
Strategies are being developed for giving active priorities to buses and trams and

emergency vehicles in fixed, dynamic and real time adaptive urban traffic control systems.
The project is based on 3 major European cities: London, Turin and Gothenburg. Each city has an advanced urban traffic control system which collects dynamic traffic data and uses advanced algorithms to control the road traffic. Each city is also considering or already installing real time bus priority and bus location systems. Thus each city provides an appropriate site for testing different priority strategies and algorithms.

In London a review has been made of existing and potential priority facilities in the SCOOT system. User requirements have been specified for active bus priority and of a system architecture has been developed. Finally simulation requirements have been specified for offline evaluation.

In Turin methods have been developed for improving the accuracy of journey time predictions and an assessment has been made of the use of priority features with respect to the needs of the public transport authority. Initial specifications have been put forward for the design of fields trials.

In Gothenburg requirements for public transport priority have been specified and preliminary system architecture is under development. In addition sites for field trials have been selected.

Finally, the possibilities for the integration of techniques and strategies across each city have been defined.
Technical Approach

The project is based on 3 major European cities: London, Turin and Gothenburg. Each city has an advanced urban traffic control system which collects dynamic traffic data and uses advanced algorithms to control the road traffic. Each city is also considering or already installing real time bus priority and bus location systems. Thus each city provides an appropriate site for testing different priority strategies and algorithms.

In Turin, bus/tram priority is already operational within UTC. The research here will concentrate on analysis and testing, via field trials in new areas, of methods to improve elements of the system, such as journey time prediction, fleet regularity algorithms and other issues which will also be relevant to other cities.

In London and Gothenburg, real time bus priority systems are committed but less well developed. The work in these cities will follow five basic steps:

specification of the techniques for giving active priority to buses within the UTC system of the city

the development of the techniques and the testing off-line of various alternatives by simulation
the detailed design of the system for the field trial
carrying out of the field trial and its evaluation
the preparation of a report on the evaluation and the comparison of results of the different sites.

Integration of the activities across the cities and systems is intended to ensure that results are exchanged between projects and the alternative systems are compared and advice given to other cities on the benefits to be obtained from any of the systems.

The work will:

assess the effectiveness of selective vehicle detection in adaptive and fixed time UTC systems
assess and evaluate the achievable level of bus and tram priority in successful European UTC systems
evaluate the effects of bus and tram priority on public and private traffic
provide recommendations for bus and tram priority system designs
improve the efficiency of public transport systems with consequential benefits in both safety and environmental terms
define user requirements and possible control strategies
evaluate alternative techniques and select the most appropriate system for public transport priority and UTC
verify the applicability of the systems developed in the field trials to other European cities.

Key Issues

further development of extensive urban traffic control infrastructures
developing links between vehicle location systems and UTC systems
development of techniques for giving priority to buses and trams
promoting of efficiency in public transport systems
assessment of integration possibilities for techniques, algorithms and strategies

Expected Achievements

completion of off-line evaluations of priority options
design and implementation of field trials in each of the 3 cities
assessment of the results and recommendations on strategies

Expected Impact

The project is aimed at improving public transport systems, giving passengers a better service with lower journey times and increased reliability, resulting in increased bus use. Also, the development of strategies and control systems for use in other European cities.

Contribution to Standardisation

The objectives of the project have the potential to establish strong links with European standardisation bodies. The project will be compliant with existing standards from CCITT in utilising established data transmission protocols in the traffic control systems proposed.

Further strong, and possibly formative, links will be gained from the project's involvement in developing the strategies and objectives to be attained in the provision of priority to public transport systems and the establishment of roadside-to-vehicle communication links. The outcome of this may have direct consequences on the future directive of CEN/CENELEC policies.

Fields of science (EuroSciVoc)

engineering and technology > electrical engineering, electronic engineering, information engineering > electronic engineering > **control systems**

social sciences > social geography > transport > **public transport**

Programme(s)

FP3-DRIVE 2 - Specific programme of research and technological development (EEC) in the field of telematic systems in areas of general interest - Transport services -, 1990-1994

Topic(s)

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