

# Abstracts of Papers

## DUAL-MODE SYSTEMS AND THEIR PROGRESSIVE APPLICATION IN FRANCE

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Exclusive right-of-way transit lines are constructed and planned in a few French cities, but it is believed that general and fast relief in urban transportation should occur by improving bus performance in terms of speed and reliability, especially in medium-sized cities (200 000 to 500 000 people) where conventional Metro lines represent heavy investments. About 20 cities in France could be equipped with more progressive track systems of the dual-mode type. The three strategies of progressive equipment are as follows:

1. Pre-Metro—city center equipped first,
2. Bremen-Göteborg—suburban ring equipped first, and
3. Bus-on-freeway—such as the Shirley Highway operation near Washington, D.C.

Plans for public transport systems for medium-sized French cities indicate a tendency to consider the Bremen-Göteborg strategy as a first choice when local policy allows it and the pre-Metro and bus-on-freeway strategies as second choices. Three major issues are

1. Town planning constraints for dual-mode systems in France,
2. Basic functional specifications desired for the vehicles and the system, and
3. Objectives for the research and development program now starting.

Although in its infancy, dual-mode technology will likely receive increased national effort between now and 1980. Its advantages will be strengthened by emerging traffic planning in the central city and development of pedestrian zones in many French cities.

## A PRACTICAL, PROGRESSIVE, AND EVOLUTIONARY SOLUTION TO TRANSPORT PROBLEMS: DUAL-MODE SYSTEM IN EVRY

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The new town of Evry, located to the south of Paris, installed its public transportation system on an exclusive right-of-way bus lane in the main part of the city. This led to the choice of a dual-mode system intended to provide attractive service to be used by at least 45 percent of the people traveling within the town. The reserved lane is shaped like a huge figure eight across the town. It penetrates to the limit of housing, factory, and shopping areas, linking them with the existing small towns situated within the limits of the new town, the public administrative offices, and the center of the city under construction.

At the time the master plans were prepared, the planners retained the flexibility of using a variety of different transport systems based on the dual-mode concept. A study was made of existing and planned equipment and systems from the simple bus operating on a reserved lane to the most sophisticated computer-controlled automatic system. The objectives of the study were

1. To identify a rapid and comfortable transit system for all commuters in the town at a reasonable cost for the community and for the commuters and
2. To select an evolutionary transportation system that could be adapted to the development of the town and to foreseeable technical innovations.

Logical and mathematical models were developed to compare the systems proposed, giving for each of them the capital and operating costs, the quality of the service offered, and the sensitivity of demand to the variation of the quality of service. The analysis revealed that greatest attention is given to the effect on cost, design, and appearance of the busway with respect to variations in use of automatic devices (including an automatic steering device), speed and type of vehicles, traffic signal system, and unauthorized vehicles in the busway.