

Assessment of Methodological Alternatives for a Regional Freight Model in the NYMTC Region

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Freight transportation has recently been pushed to the forefront of transportation planning by the confluence of several significant trends. Economic globalization, electronic commerce and the Internet are profoundly changing the geographic realm and the features of economic markets. Just In Time production systems are stressing the importance of freight systems as conveyors of high priority goods. Increased awareness among community leaders, environmental professionals and legislators about the health effects of truck traffic pollution is adding pressure for an enhanced consideration of freight transportation as part of the transportation planning process.

Yet effective integration of freight transportation planning faces significant methodological challenges. These include:

- the inherent complexity of freight transportation;
- the commercially sensitive nature of the data that is required to develop models;
- a general lack of interest on the part of practitioners and researchers;
- underfunding of freight transportation research and education.

A number of Metropolitan Planning Organizations (MPOs) are becoming increasingly interested in structuring formal freight transportation planning procedures. As a result, there is renewed interest in the development of freight transportation models that are needed to support the planning process. This research project originated from the interest of the New York Metropolitan Transportation Council (NYMTC) in strengthening its freight transportation modeling capabilities to support its emergent freight transportation planning process.

The main objective of the study was to assess the different freight transportation modeling methodologies. The final report begins with a definition of the main objectives and scope of the regional freight model, followed by a discussion of the main freight transportation issues in the NYMTC region, and the potential role of the regional freight model. The report discusses the main methodological alternatives, including a brief description of the different models and a preliminary assessment of: (a) data requirements; (b) staff requirements; (c) computing power required; (d) adequacy to NYMTC's conditions; (e) practicality; and (f) conceptual validity.

Lessons learned from this project contributed to the following publication:

J. Holguín-Veras, E. Thorson, K. Ozbay, "Preliminary Results of Experimental Economics Application to Urban Goods Modeling Research," *Transportation Research Record*, No. 1873 (2004).

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