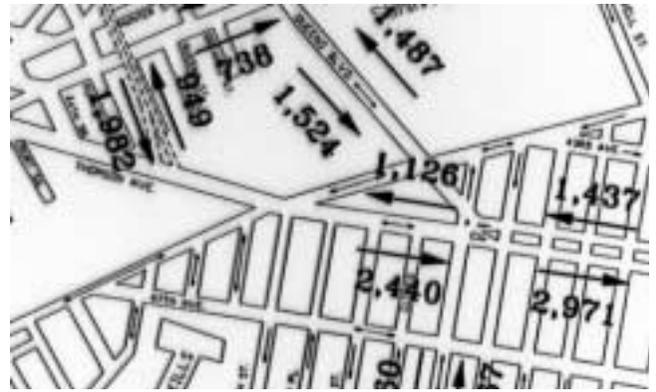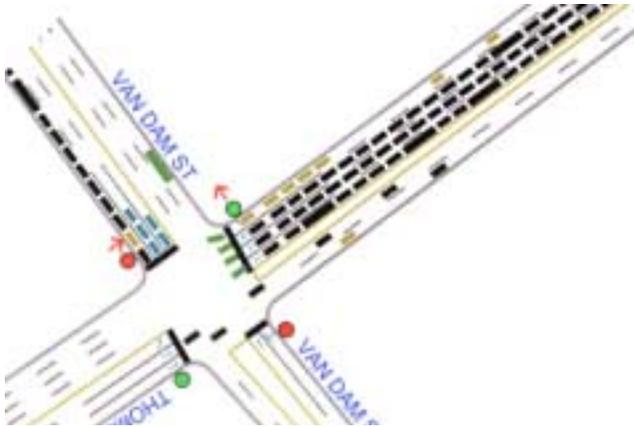**TRANPLAN Regional Travel Model Sub-Area**

Area Traffic Volumes

Simulated Vehicular Queue

Observed Vehicular Queue

MODELING MANY SCENARIOS FINDS WAYS TO *IMPROVE* TRAFFIC DURING REBUILDING OF QUEENS BOULEVARD BRIDGE

Konheim & Ketcham worked over a 15-year period with Ammann & Whitney to develop the least disruptive scenarios for rehabilitating the Queens Boulevard Bridge, a span over the Sunnyside Rail Yards in Long Island City that is a critical approach to Midtown Manhattan. Under three contracts, K&K analyzed the traffic impacts of numerous alternative lane closure methods and traffic diversions. In Phase I, K&K built an LIC area traffic network from detailed traffic counts and tax block-level land use data.

In Phase II, K&K built a TRANPLAN simulation model from scratch using the data collected in Phase I. In Phase III, we extracted from the regional travel model a subarea, stretching from western Queens and Brooklyn across the river to Manhattan, to assess the effects on the East River crossings of 14 construction projects that were scheduled concurrently with the reconstruction of the Queens Boulevard Bridge. K&K also used a microscale traffic operations model to assess effects of diverted traffic on local streets in LIC, to optimize signals and test the effect of changing lane geometry on levels of service. This model included animated graphics that proved very helpful in explaining the project to the public and to decision-makers. The simulation model was also used to estimate mileage and delay-related societal costs of the reconstruction, which NYCDOT used as a basis for determining contractor performance-based incentives. To account for the change in conditions at the time of construction, K&K worked at DOT's side to fine-tune traffic diversion schemes to minimize impacts on the community. The consequence was, according to local businesses, smoother traffic flow for the duration of construction.

Reference: Tom Li, Project Manager for the Prime Consultant Ammann & Whitney 212-627-1190
Construction Cost: $85,000,000   K&K Fee: $650,000