Location

This roadway lies at the southern end of New York State Route 9A, which begins at Battery Place and extends north to link with U.S. Route 9 in Peekskill, in Westchester County. Despite its relatively short length, this arterial roadway is of integral importance to the regional transportation system, serving the central business district of Manhattan.

Description

The New York State Department of Transportation (NYSDOT), in cooperation with the Federal Highway Administration (FHWA), reconstructed a 5-mile section of the Route 9A from Battery Place to 59th Street along the western edge of Manhattan (New York County).

The Route 9A Reconstruction faced a unique contextual challenge. The old West Side Highway Improvement Project (circa 1975-1985) had been defeated in the courts, and the project team had to embrace the “Westway’s” opponents, involving them in the design and construction, while providing for the transportation needs of local residents, commuters, commerce and industry.

A full at-grade landscaped boulevard is the result of 13 years of project development, which included an Environmental Impact Statement. It is a successful marriage of attractive and functional landscape architecture and an efficient transportation route.

The landscaped boulevard, beginning at the east side, includes a wide sidewalk and an adjoining planting strip of trees. The trees are located within a granite block band, which is edged with a granite curb. Sidewalk widenings at the corners, or ‘bulbouts’, are provided for safe pedestrian movement and to define mid-block parking. The pavement is a 50-year, transverse tined, concrete
design. Low concrete barriers (510 mm) define the wide, raised, planted median which includes trees, shrubs and ground cover. The palette of plantings varies along the length of Route 9A, providing a different character within each neighborhood. Bollards outline the pedestrian median refuges. Low plantings are strategically located in the median to allow view corridors to the Hudson River. At the west edge of the southbound roadway is a planted buffer similar to the median. A wide asphalt bikeway with granite paver drainage strips at the edges is accented by a grouted piled stone wall which separates it from the planting strip and walkway and in most areas. Granite paver details highlight the major and minor pedestrian entrances to a future linear park. Classically designed dark green roadway and bikeway light poles, traffic signals, and post-mounted traffic signs are included in the project. For compatibility, overhead sign structures are also painted dark green.

**Coordination, Community/Outside Agency Outreach and Partnering**

Development of the design for the Route 9A Reconstruction Project was coordinated with related regional and local planning efforts. These include Metro Mobility, the regional transportation improvement plan; the New York State Air Quality Implementation plan; local and regional transit improvement plans; the New York City Waterfront Revitalization Program and Comprehensive Waterfront Plan; and local and regional greenway, bikeway, and walkway plans.

The Route 9A Design Advisory Committee, which met monthly during the design phase, was a partnership involving concerned citizens, businesses, community board representatives, NYC agency officials, public and private utilities, Battery Park City, the Port Authority, the Hudson River Waterfront Panel, the Hudson River Park Authority, the NYSDOT Route 9A Design Group, NYSDOT Region 11 and Albany representatives, and design consultants. In addition, the planned work of the former Hudson River Park Conservancy, which is now the Hudson River Park Trust, was coordinated with the project.

Other public actions in the vicinity of the project included the completion of Battery Park City and the high-density development of several publicly owned sites adjacent to the corridor. We met with these groups early and throughout the design process. This brought everyone’s concerns to our attention so we were able to address them. Our design product was enhanced by continuous feedback from the community and agency groups.
During construction, Partnering, Task Force and Construction Coordination Meetings were held to continue the interaction of all concerned parties. The six segments of the project had monthly Partnering meetings, held by the Engineers-in-Charge, that involved the Contractor, the inspection forces, the designer, the full-time community relations/outreach consultant representatives, and the coordinating consultant. These parties addressed critical construction issues in a proactive manner.

Task Force meetings were also held monthly by the Engineers-in-Charge, involving the Contractor, the inspection forces, Community Board representatives, adjacent business owners and operators, local residents, the New York City Department of Transportation Project Coordinator, a Hudson River Park Trust representative, NYSDOT design and construction supervision representatives, the design consultants, the community relations/outreach consultant, and the coordinating consultant. At the Task Force meetings, design revisions were presented and developments in pending issues were discussed.

Monthly Construction Coordination Meetings were presided over by the NYSDOT Director of Construction for Region 11 or the Construction Area Supervisor. These meetings included all Engineers-In-Charge, all Contractors, City Agency representatives, the NYC DOT Project Coordinator, a Hudson River Park Trust representative, the NYSDOT design representatives, the consultant designers and the coordinating consultant. Periodic Maintenance and Protection of Traffic (MPT) coordination meetings were held to meet traffic and safety needs during construction. These meetings involved the NYCDOT Project Coordinator, NYCDOT Traffic Signals, the NYC Police Department, the Engineers-In-Charge, the NYSDOT MPT coordinator, the Construction Area Supervisors, the Contractors, and the coordinating consultant.

**Project Highlights, Noted Accomplishments and Successes**

The planning for Route 9A sought to raise the quality of transportation service, improve safety, and provide solutions for existing and anticipated future roadway demands. The reconstructed roadway considers the specific concerns of local areas while devising overall improvements for the corridor. The Route 9A project provides effective, safe transportation service that is cost-effective, maximizing the project’s benefits and supporting the surrounding community, while minimizing the adverse impacts. The work included reconstruction to meet applicable standards for design and safety, a landscaped urban boulevard, a continuous bikeway/walkway, redesigned pedestrian crossings with ample refuge areas, and a more balanced roadway in terms of traffic service.

Roadway design was developed to address the transportation problems and needs in the Route 9A corridor. These include at-grade reconstruction to enhance safety, increase capacity at critical locations, and reduce traffic and pedestrian conflicts. In one area, a closed median was constructed to discourage through-traffic from using local streets. At Battery Park City, a future pedestrian bridge at Morris Street and the relocation of a ramp from the World Trade Center garage are included. In another area, the realignment of the roadway to eliminate sharp curves necessitated the acquisition of...
several commercial or industrial properties and a small portion of a park. The full adjacent block was acquired and the intermediate street was closed. A park four times larger, an urban oasis, was created in partnership with, and to meet the needs of, the community.

Reconstruction substantially benefitted pedestrians and bicyclists by providing a walkway/bikeway along the length of Route 9A from the Battery to W. 57th Street, and by improving crosswalks, transportation service, safety, and access to the waterfront. Foundations within the roadway area were constructed for the future pedestrian bridge at the USS Intrepid Museum.

In some locations, special features have been developed to address a particular planning or design issue. Features were developed to improve congested conditions in the Gansevoort meat market, as follows:

- The existing northbound meat market service road was reversed to ease maneuvers for tractor trailers backing into docks by eliminating through traffic from the service road. The turning movement from Route 9A was moved north, which required the acquisition of an entire block.
- The roadway alignment was shifted west to increase the width of the meat market service road by 20 feet at critical points.
- Off-street truck parking was provided to replace on-street parking that was removed.

Transportation amenities such as bus drop-offs and turn-arounds, Transportation Systems Management (TSM) and Intelligent Vehicle Highway Systems (IVHS) components were provided or accommodated. The design includes a computerized traffic-responsive signal system provided by New York City’s Advanced Traffic Management System and increased numbers of pedestrian crossings to the waterfront. Infrastructure and Variable Message Sign footings were included so that the planned IVHS strategies and technologies can eventually be integrated into New York City’s Advanced Traffic Management System. TSM, low-cost improvement measures intended to maximize the efficiency of the roadway system, were included to enhance the capacity of the road by adding lanes to eliminate bottlenecks and addressing other safety and operational deficiencies. The overall effect of construction on traffic on Route 9A and throughout the study area will be beneficial. No new vehicle trips to the central business district were generated. Diversion of vehicles from the inland streets to Route 9A reduced vehicle-hours of travel and increased average speeds throughout the project area. Level of service along Route 9A also improved with the reconstruction, reducing congestion. Traffic safety along Route 9A was substantially improved.

The reconstructed roadway will also improve overall air quality in the area. Carbon monoxide concentrations will be decreased by reducing overall traffic congestion in the area. In addition, the new roadway will decrease the total pollutant burdens of carbon dioxide, hydrocarbons, and nitrogen oxides that contribute to regional air pollution. The project will cause no perceptible increase in noise in the corridor.
The evolving 50-year pavement design was adapted for urban use. Special details were developed to accommodate many underground utility lines and structures in a coastal landfill with potential long-term settlements. Telescoping manhole castings were installed on the pile-supported sewer manholes to accommodate settlement. These details were incorporated into the recently released Metric Standard Sheets issued under EB 00-057.

Reinforcement and replacement of the 100-year old underground utility system was an integral part of the project. A two mile water main was constructed in cooperation with New York City to complete a leg of the water transmission network under the streets of Manhattan. Distribution water mains were replaced and services were reconnected. 100-year old brick sewers were lined. Regulators on the combined sewers, directing flow to the interceptor sewers, were upgraded. Tidegates on the river outfalls of the combined sewers were relocated out of the roadway area. Eighty year old cast iron gas mains were replaced with polyethylene mains. A major portion of the electrical distribution system was replaced, and a new telephone duct and manhole system was constructed to accommodate fiberoptic service.

Many of these successes are attributed to the extensive outreach programs that were an important part of this project.

**Responsible Individuals**

The project was the result of years of creative, diligent, arduous, context sensitive effort by hundreds of dedicated Federal, State, City, Consultant and community participants, possibly too many to list in limited space. The last two Directors of the Route 9A Project were Douglas Currey, P.E., now Regional Director of Region 11, and Sonia Rivera, P.E., now Director of Operations for Region 11. The Region 11 Director of Construction is Subimal Chakraborti, P.E., and the Route 9A Construction Supervisor is Manuel J. Silva, P.E. The Route 9A Project Landscape Architect is Heather Sporn, RLA and the Route 9A Project Manager is Shilpan Patel, P.E.