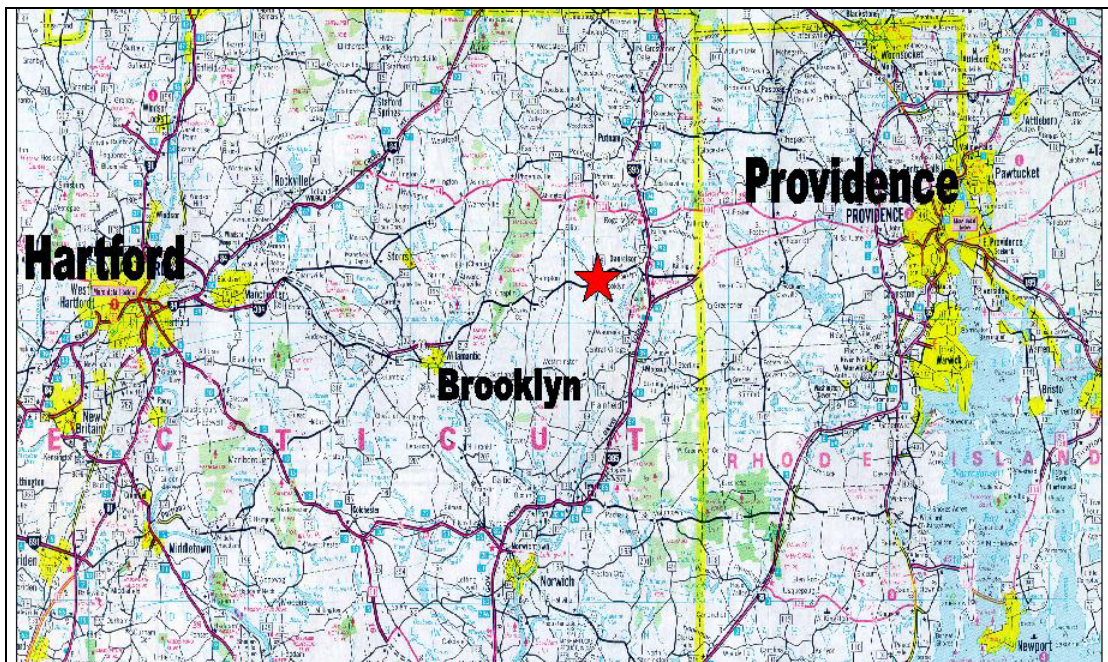


# RECONSTRUCTION OF U.S. ROUTE 6 BROOKLYN, CONNECTICUT

## HISTORY/BACKGROUND

U.S. Route 6 is the primary regional arterial carrying traffic the 74 miles between Hartford, Connecticut and Providence, Rhode Island. The 5-mile section, centered in Brooklyn is about halfway between the two capitol cities.



Existing Route 6 Corridor between Hartford, CT and Providence, RI

The need for a corridor improvement was recognized in the 1950's. An expressway was proposed running parallel to the existing Route 6 in the late 1970's. In the early 1980's the expressway between Hartford and Providence had been rejected due to environmental impacts to the Scituate Reservoir in Rhode Island. With the rejection of a continuous expressway between Hartford and Providence, a decision was made to upgrade the existing east-west corridors in eastern Connecticut. A total of 11 projects were initiated in 1986 to address the 23-mile portion of Route 6 between Windham and the state line of Rhode Island. All improvements to the Route 6 corridor have been implemented except the 5-mile portion in Brooklyn.

This project is centered around the crossroads of U.S. Route 6 and Route 169. Route 169 is designated as a Connecticut Scenic Road and a National Scenic Byway. The Center of Brooklyn is designated as the Brooklyn Green Historic District and is listed in the National Register of Historic Places.

## EXISTING CONDITIONS

U.S. Route 6 through Brooklyn is functionally classified as a rural principal arterial, with existing traffic volumes ranging from 8,000 to 10,000 vehicles per day, and projected volumes for the year 2020 ranging from 11,900 to 14,400 vehicles per day. Operating speeds are generally high. The existing roadway is narrow, with little or no shoulders, and the pavement has deteriorated due in part to the high volume of truck use on the roadway and an inadequate pavement structure. The rolling terrain and residential area through which U.S. Route 6 meanders has resulted in poor horizontal and vertical geometry. Because of this, sight distances and other safety characteristics are inadequate for the speed and volume of traffic on this arterial highway.

Many operational problems have resulted from the narrow widths and sharp curves:

- There is no ability for through-vehicles to pass around turning or stopped vehicles, or for emergency avoidance maneuvers.
- Police enforcement of speed limits and other traffic laws is severely restricted.
- Access to driveways has become difficult and poses safety concerns.
- Local mail delivery must be made from a mail vehicle stopped in the travel way.
- There is little roadside clear zone, important for the safety of errant vehicles. Rock outcrops, trees, culvert ends, and other hazards exist in close proximity to the traveled way.



Existing conditions along Route 6 in Brooklyn

The existing pavement structure is also deficient, consisting of a series of overlays and chip seals over a poorly drained subbase. The ability for this pavement to continue carrying the loads produced by high traffic volumes, high speeds, and a high percentage of heavy trucks is limited.

Drainage problems exist as well. The few roadway drainage systems that exist are not adequate to prevent excessive flows in the traveled way. As a result, there are problems with erosion and sedimentation along the roadside, and on private property. Also, many of the cross culverts are undersized, not meeting hydraulic capacity requirements for significant rainfall events. Due to a combination of these factors, subsurface water is causing problems in several areas, including chronic pavement failures and winter icing.

## PROPOSED IMPROVEMENTS

The purpose and intent of this project is to improve traffic capacity and address poor geometric conditions. Specific objectives include:

- Provide useable (8-foot) shoulders.
- Improve substandard geometry.
- Increase the roadside clear zone.
- Enhance safety and traffic operations at two signalized intersections.
- Provide adequate pavement structure for current and future traffic conditions.
- Provide improved surface and subsurface drainage facilities to reduce flooding of the travel ways, and minimize erosion and sedimentation of the roadside environment and private property.

Route 6, east and west of the Brooklyn Green Historic District, will be reconstructed full depth to a uniform 40' width, consisting of two 12' travelways with 8' shoulders. Substantial improvements in vertical geometry will be provided, with minor horizontal alignment improvements. Surface and subsurface drainage will be upgraded as required.

The 40' roadway width will be tapered to 32' prior to the western limit of the proposed West Brooklyn Historic District. The 32' roadway, composed of two 12' lanes with 4' shoulders will be carried to the eastern limit of the Brooklyn Green Historic District. Local widening to 40' in the vicinity of the Brooklyn prison, gas/auto repair, and commuter lot will be to provide bypass capability at those high volume driveways. The horizontal curve at Harris Avenue will be realigned. At the Brooklyn Green, three of the five side road intersections will be closed; one of which may be used as an entrance only for the Town Hall parking lot.



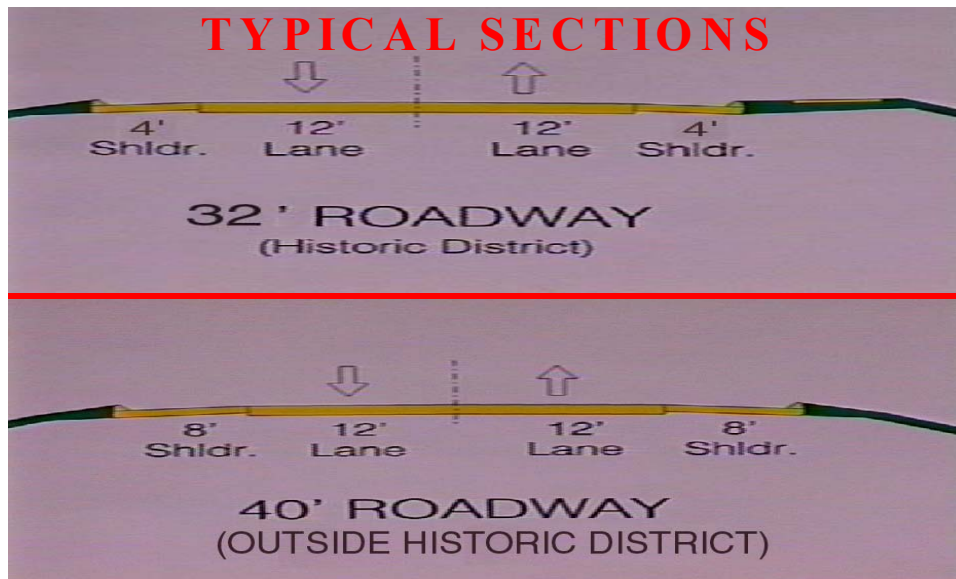
Existing Brooklyn Green Configuration



Proposed Reconfiguration at Brooklyn Town Green

The potential for traffic speeds to increase through the town center is a concern, several measures are proposed that may limit speeds through this section. Shoulder widths tapering to 4', together with special signing and roadside landscaping, will be used to demarcate the passage into the historic district(s). At the town's request, sidewalks will be incorporated on the south side of Route 6 throughout both Historic Districts.

The reduced roadway width, the provision of sidewalks, and special signing and landscaping are intended to reinforce the village center/pedestrian environment.



Typical Sections

At the Route 6/169 intersection, the signal will be upgraded, but no additional lanes are proposed. A signal will be provided at the Church Street intersection with Route 6. In conjunction the signal, left turn lanes on Route 6 will be provided. All other intersections will remain unsignalized with stop-control for local roads.

The proposed improvements were carefully designed to avoid or reduce any adverse effects to adjacent resources such as inland wetlands, historic properties, the 150 year old copper beach tree, and stonewalls. (A more complete identification of project constraints/community interests is included in the section entitled "Key Project Issues".) These resources have benefited by many design revisions resulting in substantial reduction of resource disruption while still maintaining design guidelines. In order to achieve this reduction, several desirable highway safety and operational improvements were eliminated:

- A westbound climbing lane from the vicinity of Laurel Hill Road to about a ¼ mile west of Windham Road was eliminated.
- Shoulder widths were reduced, from 8 feet to 4 feet, between Blackwell Brook and the garden shop east of Prince Hill Road (including the Creamery Brook area).
- The design speeds were reduced, permitting the alignment to follow the existing terrain to a much greater degree than in previous proposals.

The proposed improvements represent the culmination of many years of planning and design efforts. Throughout the planning phase, including the preparation and approval of a Federal Environmental Assessment/Section 4(f) document, the Department has coordinated with state and federal regulatory agencies, town officials, and the affected community. The current proposal was the only one of several alternatives studied, including several new alignments bypassing the Brooklyn Center, which was acceptable

and feasible to most community groups. In terms of impacts to inland wetlands, historic properties and roadside scenery, the current proposal affects far less resource area than any other “build” alternatives.

## **Key Project Issues**

- **Design Issues**

Deciding between an alignment that would either utilize the existing Route 6 corridor or bypass the Brooklyn center through residential neighborhoods

Selecting a design speed that will minimize impacts and still provide a safe design consistent with driver expectancy. The goal was not to facilitate expressway speeds.

Providing a climbing lane in the western end of the project

Refinement of horizontal and vertical alignment to find the best fit between the many conflicting design constraints such as: front yards, driveways, stonewalls, trees, and wetlands

- **Environmental Issues**

Stony, Blackwell, Creamery, and Long Brooks all cross Route 6 within the project limits

Coordination with Army Corp Of Engineers, Environmental Protection Agency, U.S. Fish and Wildlife, State Department of Environmental Protection, and local wetland commission

Mitigating inland wetland impacts

- **Sociological/Economical/Historical Issues**

Minimizing impacts to historical properties and landmarks

Design for future town development

Promote business/pedestrian traffic in the Town Green area by providing additional parking and sidewalks.

- **Public Involvement/Coordination Issues**

Re-establish a productive working relationship that gave the public an opportunity to communicate their concerns

Keep an open, honest dialogue with Town officials and the public and meet with them to discuss relevant design issues that would effect them