



Complete Streets Pilot Testing in 1R Projects

CHALLENGE:

The application of Complete Street concepts is often mistakenly believed to require costly roadway reconstruction projects. Under this misconception, the integration of bicycle, pedestrian, and transit needs are often disregarded when simple resurfacing projects are developed. A process which identifies appropriate roadway corridors and integrates these Complete Street concepts into the more common “1R” resurfacing projects would allow communities to more readily implement a Complete Street application to enhance the roadway for all users with little additional cost to the community.



Colchester Ave, Burlington, Vermont (above)

With the Chittenden County Regional Planning Commission and the City of Burlington, RSG analyzed a four-lane section (left) of Colchester Avenue for a Complete Streets application. The corridor, which carries 20,000 vehicles per day was ranked as a High Crash Location and serves the region’s largest hospital and university, was successfully converted to a three-lane section with a two-way left turn lane and bike lanes in both directions (right). The Complete Streets pilot test and final application was conducted as part of the City’s programmed resurfacing project.

INITIATIVE:

RSG has developed a process for integrating a Complete Street cross-section into an existing programmed 1R project. Three recent projects with VTrans—in Burlington, South Burlington, and Norwich—illustrate the success of this approach.

- **Corridor Identification:** Determining the appropriate site is critical. Considerations should include peak hour volumes, existing roadway lane configuration, bicycle and pedestrian activity, transit service, intersection spacing, corridor connections, and community acceptance. Ideally a variety of travel data are collected during the “Before” period, including traffic volumes, travel times, and queuing behavior.
- **Complete Street Concept Analysis:** The operation at bottleneck intersections and the functioning of the revised street configuration within the corridor is crucial for understanding how the design concept will operate. Microsimulation and queue modeling is strongly recommended to understand how travel demand will respond to the change in capacity and will point to specific areas where modifications to the design may be warranted.
- **Signage and Striping Design:** A set of design plans illustrating the new striping layout and sign locations incorporating Complete Streets features such as bicycle lanes are recommended to ensure the proper placement of the new features.

INITIATIVE (cont.):

- **Pilot Test:** After the asphalt surface is cold planed and the first course of pavement is placed, temporary striping and signs can be installed to test the Complete Street section. It is recommended that the vehicle volumes, speeds, queues, and general operating characteristics are monitored for at least a month in this period to reflect the “After” condition.
- **Final Section:** Based on the results of the Pilot Test, the Complete Streets application can be permanently installed, or the corridor may be reverted to its original section design. In all applications we have undertaken, the Complete Street section has been retained as the final section.



Williston Road, South Burlington, Vermont (above)

During the Vermont Agency of Transportation’s resurfacing project of US-2 (NH 2624(1)), the City of South Burlington asked RSG to analyze a four-lane segment (left) of the highway for a potential road diet. The analysis indicated that the roadway corridor would operate efficiently with fewer lanes; however, the intersections needed to maintain their capacity. A pilot test was conducted following the first course of paving for a one-mile segment of the highway in which temporary striping and signs were placed to denote the new two-lane section with a two-way left turn lane and bike lanes (right). After a monitoring period, the City decided to extend the Complete Streets section ½ mile east for the final paving course.

RESULT:

The Complete Street Pilot Testing process has been successfully implemented in several communities across Vermont. The results are cost effective, community led projects that meet the needs of bicyclists, pedestrians, transit operators, and personal vehicles at a minimal investment to the community.



Contact Information

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Main St., Norwich, Vermont

VT-10A, carrying 15,000 vehicles per day between I-91 in Norwich, VT over the Connecticut River to Hanover, NH, was selected for a road diet analysis. The analysis concluded that a through lane (left) could be removed to create an up-hill bicycle lane. The proposed section was piloted and monitored during a resurfacing project, with this road diet section (right) being implemented in the final paving.