Route 6 Hop River Corridor Transportation Study

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The Final Plan is the result of a collaborative effort among local officials, local stakeholders, and regional and State planners. This effort was guided by the Regional Economic Development Council (REDC) with representation from each of the four participating towns, including:

**Bolton:**
- Joyce Stille, Administrative Officer, REDC Chairperson
- John Pagini, Director of Community Development
- Cathy Teller, Economic Development Commission

**Coventry:**
- John Elsesser, Town Manager
- Eric Trott, Director of Planning and Economic Development

**Andover:**
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- Leigh Ann Hutchinson, Planning & Zoning Commission
- Elaine Buchardt, Selectwoman, Economic Development Commission

**Columbia:**
- Carmen Vance, First Selectwoman
- Jana Butts, Town Planner
- Vera Englert, Economic Development Commission, Planning & Zoning Commission, Business Owner

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CRCOG and REDC also express their appreciation for the support and input of the following:
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- Timothy Ackert, State Representative, District 8
As a result of the dedication and cooperation of all those involved in the development of the *Route 6 Hop River Corridor Transportation Study*, the recommendations in the Plan have received acceptance/endorsement by the following:

- Andover Board of Selectmen, on August 1, 2012.
- Coventry Town Council, on August 6, 2012.
- Bolton Board of Selectmen, on August 7, 2012.
- Columbia Board of Selectmen, on August 21, 2012.
- CRCOG Transportation Committee, on September 10, 2012.
- CRCOG Policy Board, on October 24, 2012.
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Executive Summary

Introduction

The Route 6 Hop River Corridor Transportation Study was undertaken by the Capitol Region Council of Governments (CRCOG) in cooperation with the towns of Bolton, Coventry, Andover and Columbia; the Windham Region Council of Governments; and the Connecticut Department of Transportation (CTDOT). The study and its recommendations were developed by a study team composed of CRCOG staff, members of the Regional Economic Development Council (REDC), and CRCOG’s technical consultant, CHA.

The study corridor included approximately 11 miles of US Route 6 and 2 miles of Route 66 East located between Notch Road in Bolton and the Willimantic River at the Columbia-Windham town line (see map at right). The study evaluated existing and future conditions in this corridor relative to vehicular and multimodal safety, mobility, and accessibility. In addition, the study identified future development opportunities and strategies that build upon and complement the recommendations of REDC’s Route 6 Regional Economic Development Strategy and Master Plan Study (see description below, right).

The result of the study is a comprehensive set of recommendations and an implementation plan that will support the long-term viability of the corridor as a regional transportation link and economic growth opportunity.

This summary highlights the key findings of the existing and future conditions assessments of the study and provides a synopsis of the recommendations plan.

Summary of Community & Stakeholder Involvement

The active involvement of the REDC, CTDOT, and a broader group of community stakeholders – including local residents, area business owners, and other town representatives – was a cornerstone of the study process. This involvement provided input and guidance for the study and included:

- Public Meetings in May 2010, December 2011, and June 2012 (6 total).
- Stakeholder Workshops in June/July 2011 (3 total).
- CTDOT Coordination Meetings (3 total).
- REDC Coordination Meetings (18 total).

Route 6 Economic Development Strategy and Master Plan Study

The REDC’s study, completed in 2010, provided a unified vision for future development in the Route 6 Hop River corridor that was developed through public involvement and consensus building across the four participating towns. The study also defined targeted areas for future development in the corridor and proposed a new Corridor Zone to promote growth in these areas while preserving the historic, scenic, and environmental resources of the corridor.
Summary of Key Findings

Existing and Future Conditions Assessment

The Route 6 section of the study corridor is a critical regional link between the eastern end of I-384 in Bolton and the western end of the Route 6 expressway in Columbia. As such, it serves a significant level of interstate and regional through-travel, as well as local travel and access. The Route 66 East section of the study corridor parallels the Route 6 expressway in Columbia and links the Route 6 section of the corridor to Willimantic. This route generally serves local travel.

The existing and future conditions assessment included an evaluation of roadway conditions; traffic volumes and operations; travel speeds; pedestrian, bicycle, and transit accommodations; accident history; and safety issues in the corridor. Data analysis and field review of corridor conditions were supplemented by local stakeholder input to identify key issues and areas of concern, including:

- **Travel speeds.** Speeds, particularly in reduced speed areas (45 mph or lower), generally exceed the posted speed limit by 10 mph or more, creating safety concerns for all roadway users.

- **Junction of Route 6/44 and Notch Road intersection.** Limited access between Route 6, Route 44, and Notch Road with safety concerns at Notch Road intersection.

- **Route 6/66 intersection.** Intersection encourages high speeds from the expressway; is a high accident location; and is visually unappealing with excessive pavement.

- **Intersection delays.** Traffic volumes on Route 6 create long delays at unsignalized side road intersections and traffic growth will exacerbate these delays. Eight of the nine unsignalized intersections studied are expected to operate poorly under future traffic conditions. Delays at signalized intersections are generally acceptable and are expected to be acceptable under future conditions; the Route 6/66 intersection, however, will require capacity improvements.

- **South Street.** Configuration of intersection with Route 6 is undesirable and a safety concern. Existing curvature and grades on South Street are also safety concerns.

- **Route 66 East.** Travel speeds, inadequate shoulders for bikes, poor curve delineation, and intersection of Cards Mill Road are safety concerns.

- **Pedestrian and bicycle facilities.** There is no access through the junction of Route 6/44. There is one crosswalk with limited pedestrian accommodations at Long Hill Road in Andover. There are no bicycle warning signs on Route 6 or Route 66 East.

- **Hop River Trail access.** Trail identification and signage are lacking in the corridor, and direct access and trailhead accommodations are limited.

- **Traffic growth.** CRCOG’s traffic forecast for the future condition shows that traffic volumes on Route 6 are expected to increase between 21% and 36% by 2030, with highest growth in the west. Volumes on Route 66 East are expected to increase approximately 14%.
Focus Area Recommendations

Five locations in the corridor (see map at right) were identified by stakeholders as focus areas for in-depth study, including:

- **Bolton Notch**, located at the junction of Route 6 and Route 44 in Bolton.
- **Bolton Crossroads**, located near Bolton Ice Palace and Munson’s Chocolates in Bolton.
- **Coventry Ridge**, located west of South Street and north of Route 6 in Coventry.
- **Historic Andover**, located west of Long Hill Road and north of Route 6 in Andover.
- **Lighthouse Corners**, located at the intersection of Route 6 and Route 66 in Columbia.

The recommendations developed for these focus areas propose to significantly change the character of Route 6 and/or adjacent land uses to address transportation issues, and to complement the long-term visions developed for these areas under the REDC’s 2010 study. The focus area recommendations are generally comprehensive in that they address all of the various safety, mobility, and accessibility issues within the focus area.

Creating Village Context at Bolton Crossroads, Historic Andover, and Lighthouse Corners

Recommendations at these focus areas include transportation and land use measures and strategies to create village context. The recommendations also aim to effect changes in driver behavior to encourage slower speeds and provide safer travel conditions on Route 6 while making these areas more attractive and accessible for development.

Village elements in the Bolton Crossroads, Historic Andover, and Lighthouse Corners focus areas include:

- Village-scale mixed-use development and density.
- Parking provided on side or rear lots.
- Low-speed arterial design for Route 6 with speed mitigation measures.
- Sidewalks and bike-safe shoulder along Route 6.
- Small networks of local streets to provide access between Route 6 and new developments.
Bolton Notch

The preferred concept modifies the layout of the existing junction of Route 6 and Route 44 to improve connectivity between Bolton Center and Routes 6 and 44 via Notch Road, and to accommodate full access (from both eastbound and westbound directions) between Route 6 and Route 44. The preferred concept also provides opportunities for improved bicycle and pedestrian connectivity within the junction via a shared use path that would connect Route 44, Route 6, Notch Road, and the Hop River Trail.
Bolton Crossroads

The preferred concept is derived from the original Bolton Crossroads concept (at right) that was included in the Corridor Master Plan developed under REDC’s 2010 Study. Similar to the original concept, the preferred concept illustrates potential development opportunities located near the Bolton Ice Palace that are consistent with the development that would be accommodated within the context of a node as it is defined in the proposed Corridor Zone.

The preferred concept includes provisions for a small network of local streets and physical changes to Route 6 that will accommodate and support the community’s long-term vision for a pedestrian and bicycle-friendly mixed-use village in this area. The physical changes to Route 6 include access management measures and speed mitigation measures to promote safety, and streetscape improvements to create a western gateway, or sense of arrival, for travelers as they enter the Route 6 Hop River corridor. The preferred concept also includes a new street connection between Route 6 and Route 44 that will provide access for additional development opportunities. The village layout, as shown, is a conceptual plan that illustrates one possible development scenario. It is anticipated that full build-out of the village would involve private development efforts and could occur in phases over the course of several decades.
Coventry Ridge

The preferred concept relocates South Street to the west to provide an improved intersection with Route 6 and to accommodate access to developable lands. In support of the community’s vision for a future development node in this location, the relocated South Street provides access to a key undeveloped 100-acre Coventry parcel located northwest of the existing Route 6/South Street intersection. By relocating South Street, the existing undesirable intersection with Route 6 is eliminated; roadway conditions on South Street are improved for local through traffic, adding increased visibility to the Coventry Ridge development; and the new South Street intersection becomes the “gateway” to Coventry from the Route 6 Hop River corridor.
**Historic Andover**

The preferred concept for Historic Andover includes provisions for a small network of local streets, physical changes to Route 6, and improved accessibility to the Hop River Trail that will accommodate and support the community’s long-term vision for a pedestrian and bicycle-friendly mixed-use village in this area with strong ties to the Hop River Trail. The physical changes to Route 6 include access management measures and speed mitigation measures to promote safety, and streetscape improvements to create a gateway to Historic Andover in the Route 6 Hop River corridor.

![Proposed View – West along New Local Street from Long Hill Road](image)

The village layout, as shown, is a conceptual plan that illustrates one possible development scenario. It is anticipated that full build-out of the village would involve private development efforts and could occur in phases over the course of several decades. The relocation of the existing town maintenance garage would be required to accommodate the new local streets and development illustrated in the plan.
Lighthouse Corners

The preferred concept for Lighthouse Corners (intersection of Route 6 and Route 66 in Columbia) replaces the existing signalized intersection with a two-lane modern roundabout to improve traffic safety and operations while complementing the future village character that is envisioned by the Town for this area. The future village – including new mixed-use development opportunities and improved multimodal accommodations – would be integrated with and designed to complement existing businesses in the area, including the Lighthouse building (from which the name “Lighthouse Corners” was inspired) and Columbia Plaza.

The village layout, as shown, is a conceptual plan that illustrates one possible development scenario. Any development plans or future transportation improvements for this area should be carefully laid out to maintain the prominence of the existing Lighthouse building and to integrate it and other existing businesses into a future village setting. The intent of providing future development opportunities within the context of a village setting is to support the overall economic viability of the area and to complement existing businesses by creating an attractive, accessible, and desirable commercial destination for local and regional patrons, commuters, and residents.
Other Access & Safety Recommendations

The study includes a variety of recommendations to improve vehicular access and safety in other locations outside the limits of the five Focus Areas. These recommendations are categorized into side road intersection improvements, access management improvements and policies, Route 66 East safety measures, and incident management considerations, as described below.

Side Road Intersection Improvements

Recommendations are provided for nine side roads in the corridor to address a number of existing issues including long peak hour delays, limited sight distances, needs for improved warning signage, and accident history. Specific recommendations vary by location, but include:

- Modifying side road approaches to accommodate concurrent left and right turns.
- Providing mitigation for limited sight distances, such as installing dynamic intersection warning signs.
- Installing road name plaques on intersection warning signs.
- Reconfiguring the Cards Mill Road intersection (at right).

Access Management Improvements and Policies

The goal of the access management components of this study is to encourage CTDOT, the towns, and private property owners to pursue and implement practical and feasible access improvements to the benefit of traffic flow and overall safety in the Route 6 Hop River corridor. The recommendations include:

- Corridor-wide access design guidelines that better define the physical standards for commercial driveways in the corridor.
- Supplemental access management language for the proposed Corridor Zone.
- Site-specific commercial access improvements – such as consolidation and narrowing of existing driveways – for existing commercial establishments.

Route 66 East Safety Measures

Accident data, speed data, and local experience support the need for measures to address vehicular speeds and safety issues on Route 66 East. As such, improvement recommendations include:

- Implementing speed mitigation measures and vehicular access improvements between Flanders Road and Windham town line.
- Striping narrower 11 ft travel lanes to encourage slower speeds and improve lane delineation.
- Implementing curve safety measures such as new warning signs and sight line improvements.
- Installing new guardrail systems to better protect against run-off-the-road accidents.
- Providing safety and access measures for pedestrian and bicycle activity.

Incident Management Considerations

Because Route 6 is a vital link between I-384 and the Route 6 expressway for interstate travel, further consideration could be given to treating Route 6 in the study area like an interstate with respect to incident management. Specifically, it is recommended that diversion route planning for the Route 6 corridor be considered by state, regional, and local stakeholders.
Multimodal Recommendations

A primary goal of this study was to plan for complete streets in the Route 6 Hop River corridor by providing multimodal recommendations for safer and more convenient accommodations for pedestrians, bicyclists, and transit users. The recommendations include pedestrian and bicycle improvements, Hop River Trail improvements, and transit access and convenience improvements, as outlined in this section.

Pedestrian and Bicycle Improvements

Various improvements have been integrated into the large-scale and long-term preferred concepts for Bolton Notch, Bolton Crossroads, Coventry Ridge, Historic Andover, and Lighthouse Corners in Columbia that will encourage reduced speeds and increase driver awareness of both pedestrians and bicyclists within these areas. In addition to these, the study includes the following recommendations for smaller-scale improvements to pedestrian and bicycle facilities in the corridor:

- **Shared use path, Bolton Notch.** Construct a path along the north side of Route 6/44 between Bolton Notch State Park trailhead and Quarry Road, with crossing improvements at Quarry Road.

- **Sidewalk and crossing improvements, Andover.** Upgrade pedestrian crossing at Long Hill Road. Construct sidewalk between Park and Ride lot and Long Hill Road.

- **Bike route designation and warning signage.** Designate Route 6 as a state bike route and provide bike route markers. Provide bike warning signs on Route 66 East.

- **Shoulder improvements.** Delineate 11 ft lanes to maximize available shoulder widths. Widen the overall pavement surface in the future to accommodate 5 ft shoulders and 11 ft lanes throughout.

- **Bike parking.** Provide bike lockers at Park and Ride lots and bike racks at key destinations in future village locations.

Hop River Trail Improvements

A number of Hop River Trail improvements have been integrated into the large-scale and long-term preferred concepts for Bolton Notch, Bolton Crossroads, Historic Andover, and Lighthouse Corners in Columbia. In addition to these, the study includes the following recommendations for smaller-scale improvements to trail accessibility and visibility:

- **Trail identification and directional signage.** Provide auto-scale and pedestrian-scale signs on Route 6 and Route 66 East to direct users to existing trail access.

- **Trail marker and directional signage.** Provide signs along the trail to guide users along the trail and to nearby points of interest.

- **Safer trail crossings.** Install adequate warning signage and crosswalk markings at trail crossings on side roads.

- **Trail access improvements.** Improve trailhead and parking accommodations in Andover. Provide new trailhead near Flanders Road and trail access improvements near Willimantic River in Columbia.

- **Kings Road gap mitigation.** Provide new trail directional signage and pedestrian warning signs on Kings Road and Flanders Road to direct users around the closed Hop River Bridge.

- **Trail surface improvements.** Provide a uniform trail width and surface throughout the corridor.
Transit Access and Convenience Improvements

Recommendations for Historic Andover and Lighthouse Corners in Columbia include Park and Ride improvements that will enhance multimodal accessibility and connectivity, while providing greater parking capacity in the long-term. In addition to these improvements, the study includes recommendations for other, smaller-scale opportunities to improve the convenience and accessibility of utilizing transit service and ridesharing in the corridor. Specifically, these recommendations include:

- **Park and Ride lighting.** Repair and maintain lighting at the existing Park and Ride lots in Andover and Columbia.

- **Bike parking.** Install bike lockers at the existing Park and Ride lots in Bolton, Andover, and Columbia. Consider providing a canopy shelter and lighting for new bike racks.

- **Bike racks for buses.** Equip CTTransit Express buses that service the corridor with bike racks.

- **Real-time bus tracking.** Provide a real-time bus tracking system for buses that service the Park and Ride lots to accommodate tracking of bus schedules and locations from a smartphone or computer.

Green Infrastructure Recommendations

Green infrastructure – such as green streets and low impact development practices – should be incorporated into the subsequent planning, design, and construction of future improvements in the Route 6 Hop River corridor. Given the proximity of the Hop River, its floodplains, and adjacent wetlands to a number of the improvement recommendations of this study, the implementation of innovative and environmentally-sensitive stormwater management practices will help minimize the potential impacts that runoff from new street surfaces, parking lots, and rooftops could have on these resources.

Specific green infrastructure measures that could be utilized in the corridor include open vegetated channels, bioretention areas, porous pavements, rain barrels and cisterns, and green roofs.

Example porous pavement treatment.
Source: CTDEEP
Implementation Plan

The Implementation Plan outlines an improvement program that consists of 27 potential projects and initiatives of various sizes and priorities that could be implemented over time to accomplish the improvement recommendations of the study. Projects in the program are defined by location, type, and priority. The location is specific to one of the four participating towns or is considered multi-town. The type is classified as small, medium, or large based on implementation time, complexity, and approximate construction cost of the project. The priority is assigned based on the transportation needs and benefits of the project; top priorities are indicated with three stars (★★★). The improvement program is summarized in Table ES-1.

Table ES-1. Summary of Improvement Program

<table>
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<th>Project Location and Description</th>
<th>Project Type</th>
<th>Approx. Constr. Cost</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bolton</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. <em>Bolton Notch – Interim Safety Improvements at Notch Road</em></td>
<td>Small</td>
<td>$200,000</td>
<td>★★</td>
</tr>
<tr>
<td>Mitigate safety concerns at Notch Road by improving intersection warning signage and sight lines.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. <em>Bolton Notch – Low-speed Boulevard Improvements</em></td>
<td>Medium</td>
<td>$3.0 million</td>
<td>★</td>
</tr>
<tr>
<td>Relocate the Route 6/44 expressway terminus westerly and implement low-speed boulevard improvements along Route 6/44 overlap to encourage slower speeds.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. <strong>Bolton Notch – Notch Road Ext. and Route 6/44 Improvements</strong></td>
<td>Large</td>
<td>$25 million</td>
<td>★★★</td>
</tr>
<tr>
<td>Modify the junction of Route 6 and Route 44 to enhance safety and to improve connectivity between Route 6, Route 44, and Notch Road.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. <em>Bolton Notch – Pedestrian and Bicycle Improvements</em></td>
<td>Small</td>
<td>$300,000</td>
<td>★★</td>
</tr>
<tr>
<td>Construct a new shared use path along westbound Route 44 to improve pedestrian and bicycle connectivity through Bolton Notch.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. <strong>Bolton Crossroads – Route 6 Speed Mitigation</strong></td>
<td>Medium</td>
<td>$2 million</td>
<td>★★★</td>
</tr>
<tr>
<td>Implement low-speed village arterial improvements along Route 6 between Bolton Notch and eastern limit of the future village to encourage slower speeds.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. <strong>Bolton Crossroads – Phase 1: Route 6-Route 44 Connector</strong></td>
<td>Medium</td>
<td>$3 million</td>
<td>★</td>
</tr>
<tr>
<td>First phase of a three-phase program to implement the transportation elements of the Bolton Crossroads Focus Area recommendations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. <strong>Bolton Crossroads – Phase 2: Village Streets West</strong></td>
<td>Medium</td>
<td>$3.5 million</td>
<td>★★</td>
</tr>
<tr>
<td>Second phase of a three-phase program to implement the transportation elements of the Bolton Crossroads Focus Area recommendations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. <strong>Bolton Crossroads – Phase 3: Village Streets East</strong></td>
<td>Medium</td>
<td>$3 million</td>
<td>★★</td>
</tr>
<tr>
<td>Third phase of a three-phase program to implement the transportation elements of the Bolton Crossroads Focus Area recommendations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Location and Description</td>
<td>Project Type</td>
<td>Approx. Constr. Cost</td>
<td>Priority</td>
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<tr>
<td>------------------------------------------------------------------------------------------------</td>
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<tr>
<td><strong>Coventry</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Coventry Ridge – Phase 1: Site Access (Future Reloc. South Street)</td>
<td>Large</td>
<td>$10 million</td>
<td>★</td>
</tr>
<tr>
<td>First phase of a two-phase program to implement the transportation elements of the Coventry Ridge Focus Area recommendations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Coventry Ridge – Phase 2: Relocated South Street</td>
<td>Large</td>
<td>$7 million</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Second phase of a two-phase program to implement transportation elements of the Coventry Ridge Focus Area recommendations.</td>
<td></td>
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<tr>
<td><strong>Andover</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11. Historic Andover – Pedestrian and Speed Mitigation Improvements</td>
<td>Small</td>
<td>$2 million</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Upgrade pedestrian crossings at Long Hill Road and construct new sidewalk to connect Park and Ride lot to Long Hill Road. Implement low-speed village arterial improvements along Route 6.</td>
<td></td>
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</tr>
<tr>
<td>12. Andover – Hop River Trail Access Improvements, Route 6</td>
<td>Small</td>
<td>$5,000</td>
<td>★</td>
</tr>
<tr>
<td>Provide new trail identification and directional signage improvements on Route 6 for trail parking and access in Andover.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13. Historic Andover – Phase 1: Village Streets East</td>
<td>Large</td>
<td>$6 million</td>
<td>★ ★</td>
</tr>
<tr>
<td>First phase of a two-phase program to implement the transportation elements of the Historic Andover Focus Area recommendations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Historic Andover – Phase 2: Village Streets West</td>
<td>Large</td>
<td>$3 million</td>
<td>★ ★</td>
</tr>
<tr>
<td>First phase of a two-phase program to implement the transportation elements of the Historic Andover Focus Area recommendations.</td>
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</tr>
<tr>
<td><strong>Columbia</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>15. Lighthouse Corners – Phase 1: Roundabout</td>
<td>Large</td>
<td>$10 million</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Phase 1 of a two-phase program to implement transportation elements (two-lane roundabout at Route 6/66) of the Lighthouse Corners recommendations.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>16. Lighthouse Corners – Phase 2: Village Streets</td>
<td>Medium</td>
<td>$5 million</td>
<td>★ ★</td>
</tr>
<tr>
<td>Phase 2 of a two-phase program to implement transportation elements (new local streets) of the Lighthouse Corners recommendations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Lighthouse Corners – Route 66 East Flooding Mitigation</td>
<td>Medium</td>
<td>$750,000</td>
<td>★</td>
</tr>
<tr>
<td>Two-phase project to address flooding issues on Route 66 East in Columbia. Specifically, Phase 1 – Investigation; Phase 2 – Mitigation.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>18. Columbia – Route 66 East Roadway Improvements</td>
<td>Medium</td>
<td>$4.5 million</td>
<td>★ ★</td>
</tr>
<tr>
<td>Provide speed mitigation, curve safety, and shoulder improvement measures on Route 66 East to improve safety for motorists, bicyclists, and pedestrians.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Columbia – Cards Mill Road Intersection Improvements</td>
<td>Small</td>
<td>$600,000</td>
<td>★ ★ ★</td>
</tr>
<tr>
<td>Reconfigure the intersection of Cards Mill Road and Commerce Drive with Route 66 East in Columbia to address existing safety issues.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Columbia – Hop River Trail Access Improvements, Route 66 East</td>
<td>Small</td>
<td>$30,000</td>
<td>★</td>
</tr>
<tr>
<td>Improve trail access from Route 66 East by providing a new trailhead east of Flanders Road, and improving existing access just east of the Willimantic River.</td>
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</tr>
</tbody>
</table>
Table ES-1. Summary of Improvement Program

<table>
<thead>
<tr>
<th>Project Location and Description</th>
<th>Project Type</th>
<th>Approx. Constr. Cost</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multi-town</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. <strong>Gateway Signing (Bolton, Andover, Columbia)</strong></td>
<td>Small</td>
<td>$40,000</td>
<td>★</td>
</tr>
<tr>
<td>Install gateway signing and associated landscaping in key locations in the Route 6 Hop River corridor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. <strong>Route 6 Side Road Intersection Improvements</strong></td>
<td>Small</td>
<td>$100,000</td>
<td>★</td>
</tr>
<tr>
<td>Address safety and corridor access issues at side roads on Route 6 by providing signing, pavement marking, and minor pavement improvements.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>23. <strong>Program of Bicycle Safety Improvements</strong></td>
<td>Small</td>
<td>$15,000</td>
<td>★★</td>
</tr>
<tr>
<td>Provide bike route designation and signing on Route 6 and bike warning signage and new edge lines on Route 66 East to improve accessibility and safety for bicyclists.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. <strong>Hop River Trail Surface Improvements</strong></td>
<td>Small</td>
<td>$1 million</td>
<td>★★</td>
</tr>
<tr>
<td>Improve trail accessibility by providing a uniform trail surface along its length in the Route 6 Hop River corridor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. <strong>Program of Hop River Trail Signing Improvements</strong></td>
<td>Small</td>
<td>$30,000</td>
<td>★</td>
</tr>
<tr>
<td>Provide new Hop River Trail signing on Route 6, Route 66 East, and side roads to improve awareness of, and access to, the trail.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. <strong>Park and Ride Lot Improvements</strong></td>
<td>Small</td>
<td>$75,000</td>
<td>★</td>
</tr>
<tr>
<td>Provide various maintenance, bike parking, and bus shelter improvements at the three Park and Ride lots in the corridor to improve the convenience and comfort of using bus transit.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. <strong>Express Bus Improvements</strong></td>
<td>Small</td>
<td>$50,000</td>
<td>★</td>
</tr>
<tr>
<td>Provide bike racks and bus tracking technology to improve access and convenience of using bus transit in the Route 6 Hop River corridor.</td>
<td></td>
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</tr>
</tbody>
</table>
1 Introduction

The *Route 6 Hop River Corridor Transportation Study* was undertaken by the Capitol Region Council of Governments (CRCOG) in cooperation with the towns of Bolton, Coventry, Andover and Columbia; the Windham Region Council of Governments; and the Connecticut Department of Transportation (CTDOT). The purpose of the study was to develop a comprehensive transportation plan for the corridor that:

- Addresses the safety, mobility, and access needs of all corridor travelers, residents, business owners, and patrons while preserving the character of the corridor;
- Provides recommendations and strategies for transportation and land use that build upon and complement the recommendations of the Route 6 Regional Economic Development Council’s *Route 6 Hop River Corridor Economic Development Strategy and Master Plan Study* (see Section 1.2.2 for details);
- Evaluates and mitigates the potential effects of future development on traffic growth;
- Supports the long-term viability of the corridor as a regional transportation link and economic growth opportunity.

1.1 Study Corridor

The study corridor included approximately 11 miles of US Route 6 and 2 miles of Route 66 located between Notch Road in Bolton and the Willimantic River at the Columbia-Windham town line (see Figure 1-1). Because this corridor parallels the Hop River valley and includes segments of both US Route 6 and Route 66, it is generally referred to in this document as the *Route 6 Hop River corridor*.

The Route 6 section of the study corridor is part of the National Highway System and is a critical regional roadway link between the eastern end of I-384 in Bolton and the western end of the Route 6 expressway in Columbia. The Route 6 corridor is signed in Connecticut and Rhode Island as the designated route for travel between Hartford, Connecticut and Providence, Rhode Island. As such, the route serves a significant level of interstate and regional through-travel, as well as commuter travel to employment centers in the greater-Hartford area.

The Route 66 section of the study corridor, which is locally known as *Route 66 East* (and is referred to as such throughout this document), parallels the Route 6 expressway in Columbia and links the Route 6 section of the study corridor to Willimantic, generally serving shorter trips between local destinations rather than serving a significant level of interstate travel.

Locally, both Route 6 and Route 66 East provide access to residential, commercial, industrial/manufacturing, and recreational uses in Bolton, Coventry, Andover, and Columbia.
As shown in Figure 1-1, Route 6 is one of two major east-west routes connecting I-384 to points east. US Route 44 is the other major route and continues north of Route 6 from I-384 serving destinations in northern Coventry and Mansfield, including the University of Connecticut in Storrs (via Route 195).

Regional east-west travelers between I-384 and the Route 6 expressway can utilize Route 44 and Route 31 as an alternate route to the Route 6 section of the study corridor. Local interconnectivity is limited between Route 6 and Route 44 in Bolton and Coventry, with only a few local roads and streets providing direct and indirect connections between them.

Other important regional connections from Route 6 include Route 316, which provides access to Hebron and other communities to the south, and Route 87, which connects the corridor to Norwich and other points to the southeast.

1.2 Study Overview

From serving General Jean-Baptiste de Rochambeau and his army’s march to Yorktown, Virginia in 1781 to connecting thousands of employees to the workplace in present-day, the Route 6 Hop River corridor has been, throughout its history, a critical piece of the local, regional, and interstate transportation networks. This study effort, in conjunction with previous planning efforts conducted by the Route 6 Regional Economic Development Council (REDC), provides a comprehensive set of recommendations to support the future viability of the corridor relative to the transportation needs it serves and the future viability of the corridor as an economic growth opportunity.

This section discusses key information to provide background context for this study effort, and presents an overview of the REDC, its previous study efforts, and the study process undertaken for this study. The specific goals and objectives of the study are presented in Section 1.3.

1.2.1 Background

Expressway Plans

In 1953, Connecticut’s long range transportation plan first introduced the notion of constructing an expressway parallel to Route 6 through eastern Connecticut to serve interstate travel demands and to relieve traffic on existing Route 6. By 1968, the Federal Highway Administration (FHWA) designated the proposed expressway I-84 which would continue 64 miles from East Hartford to Providence, Rhode Island. In 1970 and 1971, nine miles of expressway were constructed from East Hartford to Manchester and five miles were constructed through Willimantic (Willimantic Bypass). In the 1980s, Rhode Island abandoned plans to complete its part of I-84 and CTDOT renamed the East Hartford to Manchester segment to be I-384 and the Willimantic Bypass segment to be part of Route 6.¹

Throughout this time, the construction of an expressway that would connect I-384 and the Route 6 expressway remained part of CTDOT and FHWA plans. By the late-1990s, CTDOT had evaluated more than 130 alignment alternatives for the planned expressway, but each was opposed by the United States Army Corps of Engineers (USACOE), the Environmental Protection Agency, or local representatives. Federal funding for an expressway was ultimately withdrawn in 2002 after an impasse was reached between the USACOE and CTDOT regarding a preferred alignment alternative.²

¹ http://www.kurumi.com/roads/ct/index.html
Route 6 Improvements

With the knowledge that the expressway alternative was unlikely to be constructed in the near future, CTDOT invested in the design and implementation of a series of projects to improve safety and operations along existing Route 6 between Route 44 in Bolton and Route 66 East in Columbia. These projects were completed between 1999 and 2005 and provided:

- 12 ft travel lanes and 8 ft shoulders along mainline Route 6;
- Left turn lanes on Route 6 at many side road intersections and right turn lanes at select side road intersections;
- Side road intersection modifications to improve approach alignments and eliminate redundant intersections; and
- Sight line improvements through site-specific clearing, mainline alignment and profile modifications, and wider shoulders.

As part of this study, the accident history along Route 6 within the limits of these improvements was assessed to understand whether they have been effective in reducing accidents in the corridor and to identify locations where safety issues still persist. A comparison of accident trends for the pre-improvement (before 2005) and post-improvement (after 2005) conditions indicates that the average number of annual accidents decreased approximately 26% in the corridor as a result of the improvements. A detailed comparison of these accident trends is provided in Appendix 2.6. A detailed evaluation of the most recent accident history and existing safety concerns is presented in Section 2.1.5.

1.2.2 Route 6 Regional Economic Development Council (REDC)

In 2005, representatives from the towns of Andover, Bolton, Coventry, and Columbia met to discuss a regional approach to economic development along the Route 6 Hop River corridor. Through the subsequent adoption of a Memorandum of Understanding by the participating towns, the REDC was created to pursue the following goals:

- Create a unified vision for the Route 6 corridor;
- Make recommendations to member towns for appropriate economic development;
- Make recommendations to member towns for coordinated zoning within the corridor;
- Market properties within the corridor through literature, website and other media; and
- Apply for grants where appropriate or recommend grants to member towns.

In 2009, the REDC received a grant from the Connecticut Department of Economic and Community Development to prepare the Route 6 Hop River Corridor Economic Development Strategy and Master Plan Study. Published in 2010, the study provided a unified vision for future development in the Route 6 Hop River corridor that was developed through public involvement and consensus building across the four member towns. The study also defined targeted areas for development in each town and proposed a new Corridor Zone to promote growth in these areas while preserving the historic, scenic, and environmental resources of the corridor.

3 http://www.theroute6hoprivercorridor.com/p_description.html
1.2.3 Study Process and Participants

CRCOG developed a study process for the Route 6 Hop River Corridor Transportation Study that maintained consistency with the REDC’s previous planning initiative in the Route 6 Hop River corridor and facilitated the active involvement of study team members and other stakeholders in the development of the study and its recommendations. Study team members included members of the REDC and other town representatives; CRCOG; Windham Region Council of Governments (WINCOG); CTDOT, and CRCOG’s technical consultant, Clough Harbour & Associates LLP (CHA). Other corridor stakeholders included a broader group of study participants, local residents, area business owners, community groups, and anyone with an interest in the study and its recommendations.

Key aspects of the study process included CRCOG’s participation in the public involvement components of the REDC’s 2010 study – which consisted of attendance at REDC meetings and joint participation in public meeting presentations – and REDC’s continued involvement as members of the advisory committee for this study. Additionally, the study process included numerous mechanisms of public outreach by which stakeholders were kept apprised of the study progress and were provided the opportunity to interface with the study team and provide input to the objectives, direction, and recommendations of the study. These mechanisms included:

- **REDC Coordination Meetings:** REDC members, along with CRCOG and CTDOT staff, served as an Advisory Committee (AC) for this study. The AC was responsible for guiding the study process; reviewing technical documentation; overseeing public involvement activities; and providing input on the development of the corridor plan. More than 15 coordination meetings were conducted during the study concurrently with regular meetings of the REDC in Columbia Town Hall. These meetings were open to the general public.

- **CTDOT Coordination Meetings:** Three meetings were conducted during the study between the study team members and other technical staff from CTDOT. The purpose of these meetings was to maintain CTDOT’s involvement in the development of the study and to obtain input on the technical aspects of the improvement recommendations.

- **Stakeholder Workshops:** Three workshops were conducted in Summer 2011 with area residents, business owners, and other stakeholders representing Bolton/Coventry, Andover, and Columbia. The purpose of these workshops was to involve the local communities in the review of preliminary improvement concepts and to obtain input on preferred concepts.

- **Public Information Meetings:** Three sets of public information meetings were conducted during the study, including meetings in May/June 2010 (conducted concurrently with meetings for the REDC’s 2010 study), December 2011, and June 2012. The purpose of these meetings was to inform the general public of the study findings and recommendations; and to provide attendees an opportunity to pose questions to the study team and to provide comments and feedback on the study. Summaries of the public information meetings are provided in Appendix 1.1.
• **Project Website:** CRCOG maintained a Route 6 Hop River Corridor Transportation Study webpage on their website that provided regular study updates including access to reports and other study documents. The webpage also gave visitors an opportunity to join the study mailing list for direct notification of study progress and announcements.

• **Public Access Television Broadcasts:** Study team representatives participated in three interviews on the Community Voice Channel that were hosted by the REDC chairperson. These interviews included presentations and discussion on existing corridor conditions and preliminary corridor recommendations.

By responding to and incorporating constructive input from corridor stakeholders as a fundamental component of the early planning process, the study team developed recommendations that are generally accepted by corridor stakeholders.

### 1.3 Goals and Objectives

The study goals and objectives outlined below and on page 1-7 were developed with input from the Advisory Committee and reflect the overall desire for a safe and efficient transportation system that will support and promote the economic viability of the Route 6 Hop River corridor. The corridor recommendations, presented in Section 4, were developed to both satisfy these goals and respond to the key issues and areas of concern identified in Sections 2 and 3.

<table>
<thead>
<tr>
<th>Goal: Improve Corridor Safety for All Users</th>
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</thead>
<tbody>
<tr>
<td><strong>Objectives:</strong></td>
<td></td>
</tr>
<tr>
<td>• Address safety concerns and deficiencies in high accident locations and other areas of concern.</td>
<td></td>
</tr>
<tr>
<td>• Provide measures to manage vehicular speeds, particularly in areas of existing and future development nodes.</td>
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<tr>
<td>• Manage vehicular access to minimize conflicts on Route 6.</td>
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<tr>
<td>• Provide measures to promote safe use of corridor by pedestrians and bicyclists.</td>
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<table>
<thead>
<tr>
<th>Goal: Improve Mobility and Accessibility for All Users</th>
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<tbody>
<tr>
<td><strong>Objectives:</strong></td>
<td></td>
</tr>
<tr>
<td>• Mitigate traffic delays along Route 6.</td>
<td></td>
</tr>
<tr>
<td>• Improve side road access to and from Route 6.</td>
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</tr>
<tr>
<td>• Provide new and improved pedestrian facilities (where appropriate) to promote walkability within development nodes.</td>
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<tr>
<td>• Provide new and improved bicycle facilities (where appropriate) to promote bikeability in the corridor and to improve bike access to the Hop River Trail, Park &amp; Ride lots, and other destinations.</td>
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<tr>
<td>• Provide improved multimodal access for Park &amp; Ride lots and public transit services; examine opportunities for other Park &amp; Ride lot and transit service improvements.</td>
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</table>

4 http://www.crcog.org/transportation/current_stud/Route6.html
### Goal: Coordinate Land Use and Transportation Strategies and Recommendations

**Objectives:**

- Build upon the land use and transportation recommendations of the REDC’s *Route 6 Hop River Corridor Economic Development Strategy and Master Plan Study*.
- Develop transportation recommendations and promote land use strategies based on *smart growth* principles that provide compact development, incorporate mixed uses, and facilitate transportation choices.
- Support future economic development opportunities and associated transportation needs.

### Goal: Preserve Character and Context of Study Corridor

**Objectives:**

- Develop strategies and recommendations that are consistent with the existing rural, small community characteristics of the corridor.
- Minimize impacts to historic, environmental, and visual resources.