



WATERBURY NAUGATUCK RIVER GREENWAY ROUTING AND FEASIBILITY STUDY

WATERBURY, CONNECTICUT

EXECUTIVE SUMMARY



WATERBURY
Development Corporation



FEBRUARY 2010

**This project has been funded by a grant from the
United Way of Greater Waterbury**

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James M. O'Rourke

M. Catherine Smith

William Wesson

Kevin R. Zak



For additional information about the Naugatuck River Greenway, please contact:

Waterbury Development Corporation

24 Leavenworth Street

Waterbury, CT 06702-2121

203.346.2607

www.wdconline.org

All photos courtesy of the Alta Planning + Design team, unless otherwise noted.

EXECUTIVE SUMMARY

The Naugatuck River Greenway project will redefine the City of Waterbury. The Greenway is a proposed 7.1-mile linear corridor that will transform the center of an historic industrial urban corridor into a new green infrastructure for the City's future. This project can extend to the north and south to become a key piece of a 44-mile greenway running along the Naugatuck from Torrington to Derby. The proposed Greenway features a trail for transportation and recreation along the river with trailheads, access points and linkages to downtown, the future Intermodal Transportation Center and adjacent neighborhoods. Creating this project will require meeting significant challenges, but significant community support exists. The Greenway will establish a new connection between the City and the river, serving as the centerpiece of the economic redevelopment of Waterbury, transforming it into a 21st century city.

The Naugatuck River is an important connection to the City's past, present and future. The word Naugatuck means "lone tree by the fishing place" in Algonquin, and the river was a source of life in the region before European settlers arrived. The river provided power, water and energy to drive the mills of the industrial revolution and the World War II era foundries that made Waterbury the "Brass City". Today, many people in Waterbury are not connected to the river, and the river is largely inaccessible within the City's former industrial landscape. At the same time, the river is still a beautiful, green ribbon running through the City. With the implementation of this Plan, the City will move forward to make the Naugatuck River a cornerstone of Waterbury's redevelopment.

The study area for the Greenway is defined as the area within the municipal boundaries of Waterbury along the 7.1-mile corridor of the Naugatuck River. The corridor is flexible in its extent to the east and west sides of the river, with general boundaries being between the river and Route 8 and Thomaston Avenue/South Main Street – an area that is approximately one-half-mile wide for the length of the project area. The corridor width varies to allow for a full range of opportunities, including the potential for trails on both sides of the river, along highway and rail corridors and other potential alternatives. A water trail for non-motorized canoe and kayak use is also a key element of the greenway concept.

Significant environmental issues in the study area exist due to the City's industrial past; a review of these conditions was developed in 2006 as a King's Mark environmental review. There is no continuous public right-of-way that is currently available for trail use



Vestiges of Waterbury's industrial past — such as the Anamet site — offer opportunities for the future.



Proposed water trail elements will attract kayakers and canoeists to the river.

along the length of the corridor, and cooperative agreements with landowners will be a key to the project’s success. Based on extensive data analysis, field review and community input, six alternatives were considered in the development of this Study, with Option E being chosen as the preferred alignment. The six options included:

Option A: King’s Mark ERT Recommended Alignment

The Environmental Review Team (ERT) report included a text description of a potential route; the consulting team illustrated this as a baseline alternative. This alternative emphasized the experience of the river as a natural corridor and shows the trail switching between the east and west banks of the river at several locations.

Option B: East River Bank Alignment

This concept showed a continuous trail on the east bank between downtown and the river. This route provides important connections to downtown, the future Intermodal Transportation Center and other destinations in the center of the city. The East Bank option was included as a concept in the ConnDOT preliminary plans for future reconstruction of the I-84 “Mixmaster” interchange.

Option C: West River Bank Alignment

This option considered a shared-use path along the west side of the river, primarily between Route 8 and the river’s bank. South of the Waste Water Treatment Plant, the Greenway becomes a “rail with trail” configuration in this concept.

Option D: Roadway Corridor Alignment

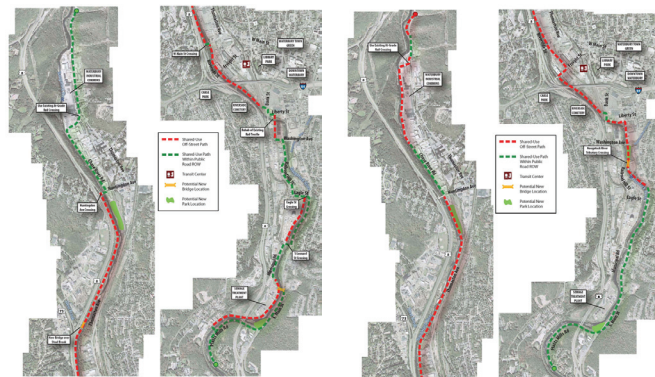
This alternative looked at locating the trail within existing public road rights-of-way in order to assess if an on-road route could reduce the challenges associated with land acquisition in the corridor.

Option E: Hybrid Greenway Alignment

This alternative integrated concepts identified in the first four routing options. The hybrid route features a trail that is as close to the river as possible, based on opportunities and constraints, and maximizes connectivity, safety, economic development potential, and the other factors identified in the study criteria.

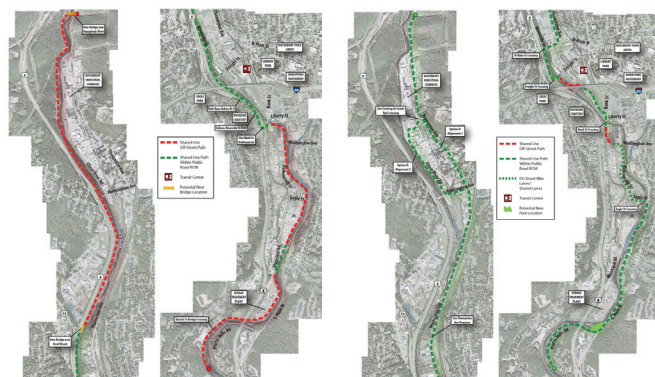
Option F: River Loop Alignment

This option is a long-term vision to create a continuous trail along both sides of the river. This option can be developed in phases as opportunities become available to complement the primary alignment and create a trail system that connects the entire river corridor.



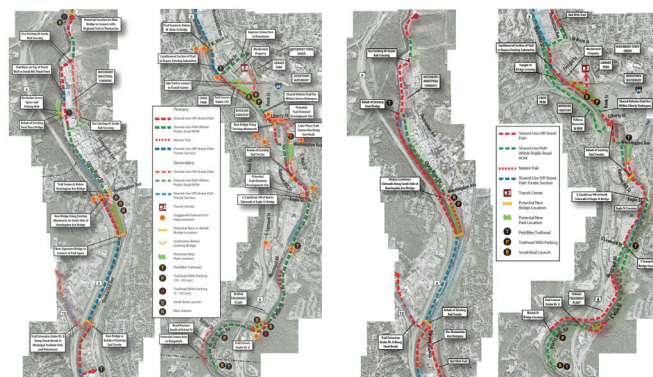
Option A

Option B



Option C

Option D



Option E

Option F

Option E: Preferred Greenway Alignment

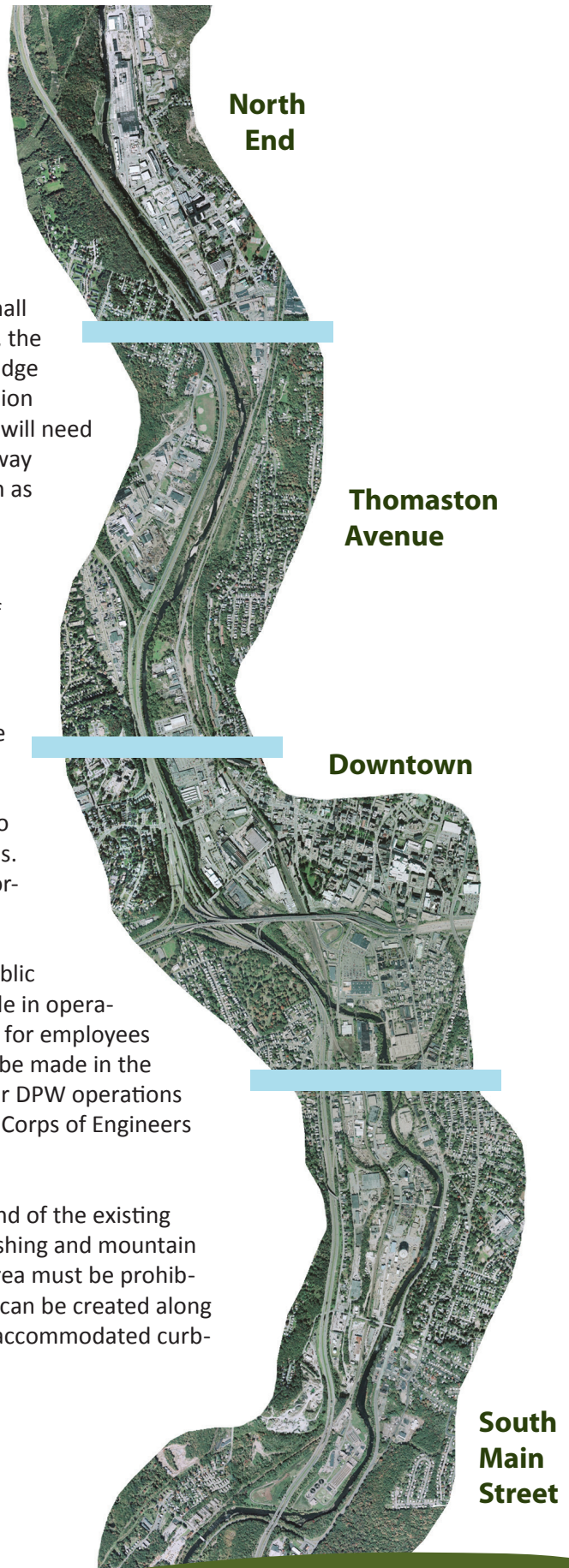
Based on evaluation of the six options using criteria developed for the Study, the recommended Waterbury Naugatuck River Greenway route alignment is Option E, the Hybrid. The proposed Greenway includes 10 trailheads, six small parking areas, four new paddlecraft put-ins, four new bridges, the rehabilitation of three existing rail trestle bridges, and two bridge underpasses, all with a potential cost of \$19 to \$24 million dollars. There are approximately 56 property easements that will need to be negotiated. The major elements of the proposed greenway route are shown on page 7 and described from north to south as follows.

North End

Beginning at the City line with Thomaston on the east bank of the river, a trailhead along Thomaston Avenue provides river access for the water trail (a put-in for canoes and kayaks) and a small parking area. The trail will proceed south parallel to the road, then follow the river adjacent to the floodwall at the Waterbury Industrial Commons (WIC) site. A potential platform for the Railroad Museum of New England's Naugatuck Railroad can be established at the existing at-grade crossing to provide intermodal connections between trail and rail services. Historic interpretation of the railroad heritage will be an important element at this location.

The WIC will be the new home of the City's Department of Public Works (DPW), providing an opportunity to highlight DPW's role in operations and maintenance of the trail, as well as providing access for employees to use the trail. At the same time, careful consideration must be made in the detailed design of this section to assure safety and security for DPW operations and to coordinate trail development within the existing Army Corps of Engineers flood management easement along the river.

A second trailhead and rest area will be located at the west end of the existing steel truss bridge at the WIC site, which provides access for fishing and mountain biking. Public access to the abandoned utility station in this area must be prohibited. A small river rapids viewing area and whitewater course can be created along the river behind the WIC. Parking for these amenities will be accommodated curbside along Commons Court.



The decision to recommend the primary Greenway alignment near the top of the Army Corps of Engineers flood wall adjacent to the WIC site was made very carefully to coordinate with the future DPW facility planned for the site. This section of trail will begin at the existing steel truss bridge and run adjacent to the top of the wall within the existing Army Corps easement towards the northern edge of the WIC property. From the northern end of the WIC site, the Greenway will return to grade and continue through a portion of the parcel to the north, cross the active railroad tracks at an existing at-grade crossing and connect to the trail parallel to the west edge of Thomaston Avenue.

The design of the Greenway in this section offers a unique opportunity for walkers and cyclists to enjoy views of the river and experience walking or riding safely next to the flood wall high above the river's edge. The trail will be constructed on earth fill at the same approximate elevation as the top of wall. For a portion of the segment, where adjacent structures create pinch points, the earthen fill will be supported by a retaining wall on the east edge. This high-level viewing area will create an interplay between nearby industrial uses—the Naugatuck's heritage—and recreational use of the river—the Naugatuck's future. Coming from the north, this section of the Greenway (along with the nearby reused steel truss bridge) will form a unique gateway, signifying one's symbolic entry into the City of Waterbury.

Security will be an important design consideration to prevent encroachment onto the future DPW facility from the trail and to provide physical separation along the length of the WIC property. At the same time, access to the trail will be an important benefit to employees at the WIC who want to walk or bike to work or enjoy some lunchtime physical activity. In addition to the trail's alignment at the top of the flood wall, fencing, warning signs, and security cameras can protect the fleet of vehicles and equipment that will be stored on the site. Fencing and signage will also create a clear distinction between the parking and driveways specifically dedicated for DPW use and areas available for public access. The clear separation will keep trail users away from DPW operations.



The existing steel truss bridge offers a unique opportunity to access the open space and fishing holes along the west bank of the river.

“In Waterbury, a cyclist without a greenway is like a football player without a field.”

Alberto Fernandez - Waterbury Resident

The existing 23-foot-wide Army Corps maintenance easement along the wall will be preserved. The Army Corps has indicated that the Greenway trail does not present a conflict with the easement as long as maintenance-vehicle access is maintained, subsurface features such as footings and drains remain undisturbed, and that no trees or permanent structures are planted or placed within the easement.

Thomaston Avenue Section

South of the WIC, the trail will run along the west side of the Chase River Road right-of-way and will continue south towards Huntingdon Avenue. At the Huntingdon Avenue Bridge, a new pedestrian/bike bridge will carry the trail across the river to the west bank, utilizing the existing bridge abutments to support the new structure. The main trail can be routed below the existing bridge using switchbacks to avoid the at-grade crossing of this busy road. Safety enhancements can be provided at street level to improve access for pedestrians and bicyclists who prefer to cross at grade. Additionally, intersection improvements at Colonial Avenue and the on/off ramp will enhance pedestrian and bike connections from the nearby neighborhoods to the trail.

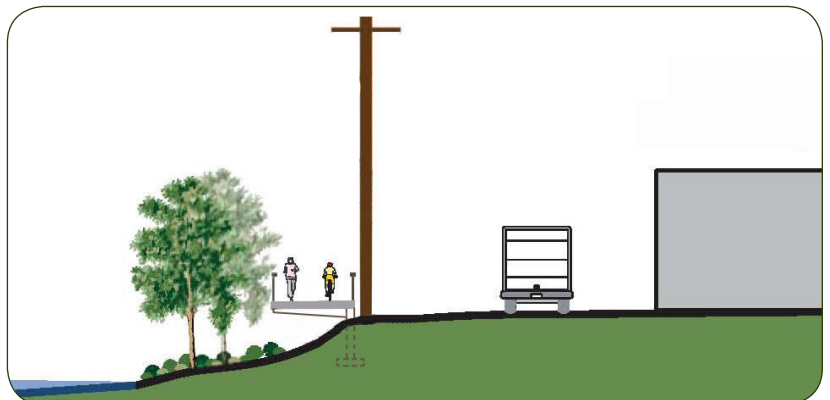
A key right-of-way in this section will need to be negotiated at the Hychko property, which is currently a scrap yard for motor vehicles. Ideally, this negotiation will include public access to create a loop trail on both sides of the river in this section. A new pedestrian-bike span across the river at the southern end of the existing scrap yard can serve as a signature design element for the Greenway. The scrap yard can be the source of materials for a 'found art' sculpture park and trailhead, featuring vehicles such as the 1950s era Waterbury transit buses stored on site. The trail will continue south between Route 8 and the river as an elevated section, built on piers where necessary, to preserve the natural setting and avoid flood waters. At the mouth of the Steele Brook, a potential connection exists to a proposed spur trail heading west under Route 8 towards Municipal Stadium and Watertown. The



Narrowing the wide travel lanes along Chase River Road provides the necessary space to accommodate the greenway trail at the top of the river bank.



Chase River Road existing conditions



Due to topographical and floodway constraints, the trail will run on top of the existing retaining wall behind the Colonial Plaza Shopping Center (at right).

main Greenway trail will cross the river using a new bridge adjacent to an existing railroad trestle and continue along the east bank of the river towards downtown.

Due to challenges of topography, floodway conditions and proximity of existing buildings, the trail is proposed as an elevated trestle section behind the existing Colonial Plaza shopping center. Coordination with potential redevelopment can create new opportunities for trail-oriented business in this section. This site offers an existing retail zone with direct access from the trail for a bakery, bike shop, convenience store, restaurant or other related services. A trailhead at this location will capitalize on these opportunities. Due to the difficulty of making a connection to the Colonial Plaza in its current configuration, a short spur trail located just north of the shopping center will connect the trail eastward to Thomaston Avenue.

Downtown Section

The trail will then continue as a trestle section south to West Main Street, which will require improvements for both pedestrian and bicyclist crossings at the existing signal to the west, as well as an undercrossing below the West Main Street bridge. This will serve as the primary trail route. Heading south, careful coordination will be required to maintain security at the CL&P transformer substation. Key access easements from CL&P and MacDermid Corporation will be needed.

Because of the relatively low traffic volumes on Freight Street, the Greenway will cross at grade. This connection, just east of the Freight Street bridge, could include either a high visibility crosswalk and median refuge island or a pedestrian-actuated traffic signal (more detailed traffic analysis will be required before a final determination is made). The refuge island and the areas where the trail intersects the sidewalks will provide space for cyclists and pedestrians to wait for vehicular traffic to stop. From this point, on-street bikeway enhancements (bike lanes) and sidewalk improvements are recommended on Freight Street to link to the Green and the rest of downtown. (Similar treatments should also be considered along West Main Street.) This will ensure that important downtown destinations are connected to the trail, including the YMCA, the Mattatuck Museum, City Hall, Palace Theater, UConn, the hospital and downtown businesses.



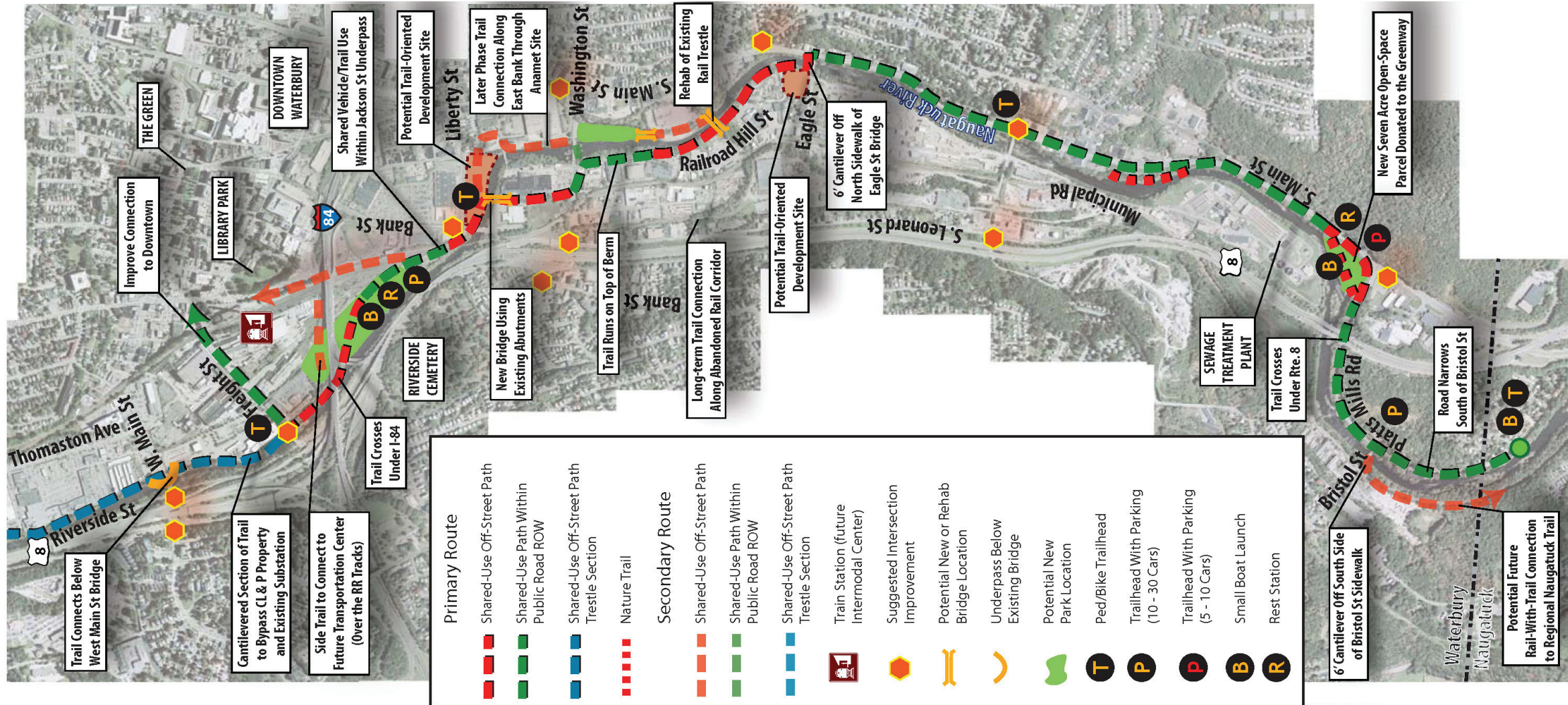
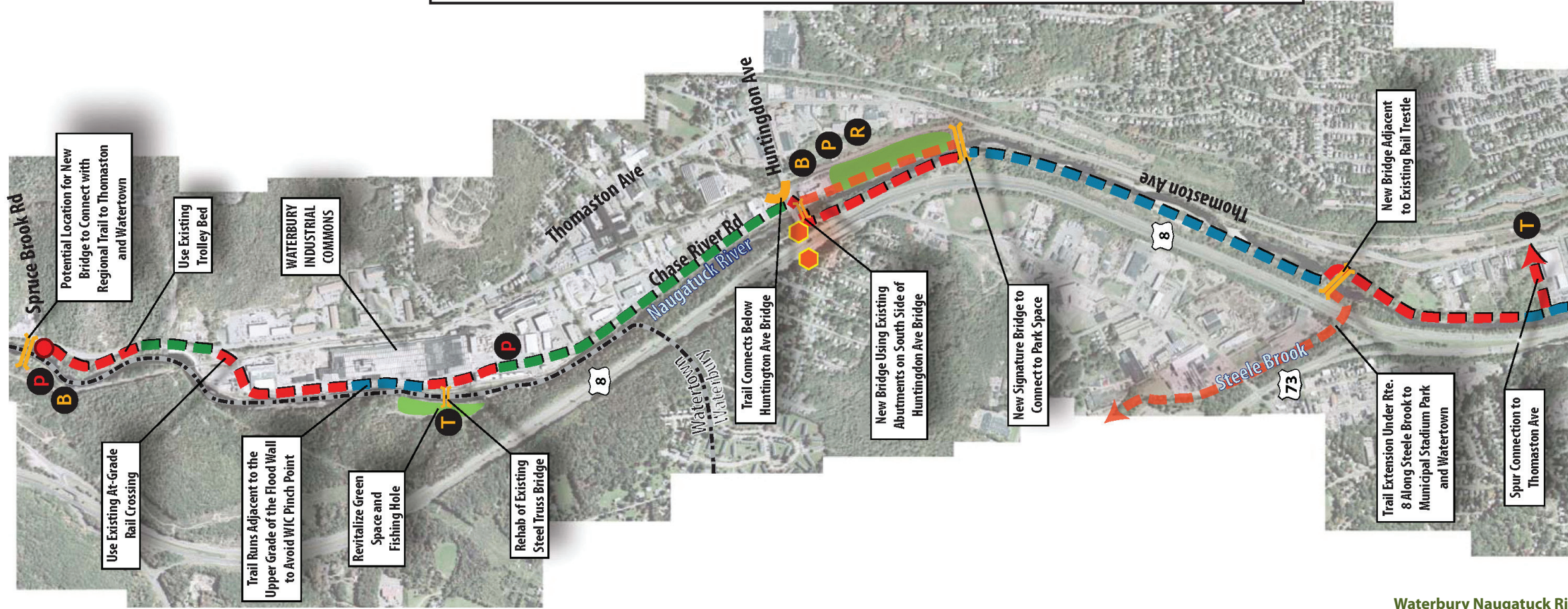
The new park and sculpture garden adjacent to the Mixmaster will include a put-in for paddlecraft.



Mixmaster existing conditions

“To connect people and nature along the Naugatuck River in Waterbury.”

Mission of Waterbury Naugatuck River Greenway Trail



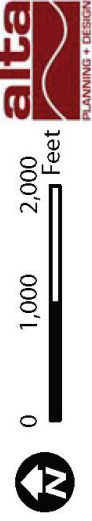
Primary Route	
	Shared-Use Off-Street Path
	Shared-Use Path Within Public Road ROW
	Shared-Use Off-Street Path Trestle Section
	Nature Trail
Secondary Route	
	Shared-Use Off-Street Path
	Shared-Use Path Within Public Road ROW
	Shared-Use Off-Street Path Trestle Section
	Train Station (future Intermodal Center)
	Suggested Intersection Improvement
	Potential New or Rehab Bridge Location
	Underpass Below Existing Bridge
	Potential New Park Location
	Ped/Bike Trailhead
	Trailhead With Parking (10 - 30 Cars)
	Trailhead With Parking (5 - 10 Cars)
	Small Boat Launch
	Rest Station

Option E: Hybrid Greenway Alignment

Naugatuck River Greenway Routing and Feasibility Study

Waterbury, CT

Source: Aerial photos obtained via Google Earth Pro
 Author: Tony Salamone
 Date: 11/2/10



At the southern end of downtown, the Study recommends the long-term development of a spur connection to the train station and future Intermodal Transportation Center site, using either a new pedestrian/bike bridge or the I-84 elevated structure to carry the trail over the multiple railroad tracks (at a minimum clearance of 22.5 feet). This is a key transportation connection, providing access to Metro North commuter trains and local bus service. This spur trail will also provide improved access from the trail to Library Park and the area surrounding City Hall. In the short term, the improvements along Freight Street will provide a connection to the train station and downtown. Additionally, a rail-with-trail spur along the east side of the tracks has strong potential to link the train station with the Greenway underpass at Jackson Street. The potential also exists to extend the Naugatuck River Railroad tourist train service to the Intermodal Transportation Center if a 1,000-foot-long track easement can be created along the sidings of the historic train station and the landmark Waterbury clock tower.

The trail will continue at-grade under the I-84 structure and along a proposed new Jackson Street shared-use (vehicles and bikes) corridor with a crossing under the existing railroad trestle bridge. The area between I-84 and the trestle has significant potential as a new urban environmental park and sculpture garden. This would create a connection between downtown and the river. The underutilized property immediately to the south east of the Bank/Liberty street intersection is an opportunity for new trail-oriented development project such as a restaurant, kayak rental or bike shop.

South of downtown, the trail will cross the river on a new bridge using the existing abutments from a former railroad trestle and continue south along an abandoned railroad corridor to Washington Avenue. The trail will pass by a power plant facility recently developed by the FirstLight Company. It is utilized intermittently, typically when the power system has reached peak load during hot summer days and demand for power spikes. When activated, the small power plant is loud and a potentially unpleasant facility to pass by on foot or bicycle. To help mitigate this concern, additional landscaping and a minimum 10' sound wall should be built along the east edge of the Greenway up to Washington



Unique lighting should be incorporated into the trail design at the design innovation zones such as at the Jackson Street underpass.



Jackson Street underpass existing conditions

Avenue. The wall will also provide additional security for FirstLight’s facility and ensure greenway users are not trespassing into a potentially hazardous area. The sound wall can be designed to feature interpretative panels describing the area’s role in electrical power generation. After a jog to the east, the Greenway will continue south along an at-grade section utilizing the wide portion of riverfront land on the west bank of the river parallel to Railroad Hill Street. On the opposite bank, a new trailhead and small riverside park can be created at the east end of the Washington Avenue bridge.

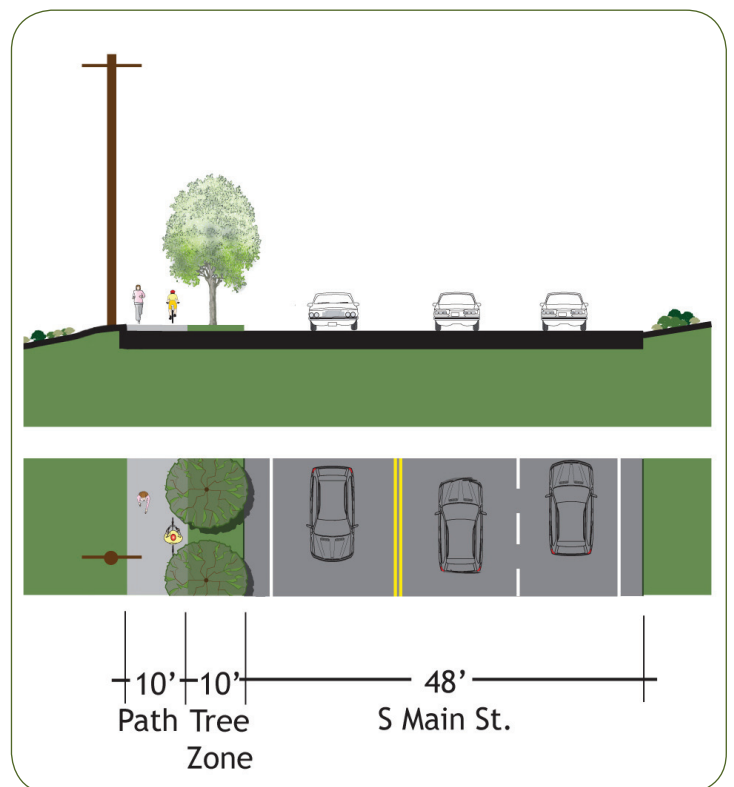
In the long term, this Study recommends a loop in this area with trails on both banks of the river if additional funding is available. The secondary, east-bank portion of the loop could cross on a cantilevered sidewalk on the south side of the existing Washington Avenue bridge, creating a ten-foot wide path connection across the river. It could utilize an easement through the abandoned Anamet Factory site, potentially supporting a redevelopment of this property in the future. At the north end of the Anamet site, the trail could either divert around the existing industrial building that sits directly atop the river bank, go through the building, or swing out over the river on a cantilevered section. Beyond that, the secondary trail is likely to continue west along Liberty Street and connect with the primary greenway trail near the Liberty and Bank intersection.

The trail will continue south along Railroad Hill Street for a short stretch and then along an easement adjacent to the river, eventually leading to a redevelopment parcel at Eagle Street that could be an ideal location for a brew pub or cafe. A cantilevered section will be required at this point to bypass an existing building very close to the river’s edge and connect to the Eagle Street bridge. Because of the very narrow existing sidewalks, the trail will cross the Eagle Street bridge on a widened north sidewalk to connect to South Main Street.

If widening the north sidewalk is not possible structurally, an alternative is to route the trail below the Eagle Street bridge, where there is clearance for the Greenway. A new pedestrian/bike bridge could then be built immediately downriver from the existing bridge to connect to South Main Street on the east bank. Because the river is relatively narrow in this section, the net cost of a new bridge may be similar to the cost of the cantilevered section (though additional funds would be needed for the additional underpass

“Lone tree by the fishing place”

Algonquin definition of Naugatuck



Low traffic volumes along South Main Street provide the opportunity to reconfigure the roadway to three travel lanes and the greenway trail.

connection).

North of the Eagle Street bridge there is an abandoned rail line and trestle sitting high above the grade of the river's east bank and connecting to a berm on the west bank. Called the Poughkeepsie Rail Spur, its right-of-way connects to the Waterbury train station to the northwest and runs along a tributary of the Naugatuck River northeast to the Brooklyn neighborhood. This corridor has potential to serve as a spur trail from the core greenway route along the river. As such, efforts should be taken to preserve the right-of-way and the existing trestles over the tributary near Washington Avenue, the Naugatuck River, over Railroad Hill Avenue and the adjacent Main Line that carries Metro North commuter trains. This corridor could eventually connect with the proposed spur from the train station south to the Jackson Street greenway underpass. Additionally, the existing lot at the corner of South Leonard Street and Porter Street could be used as a parking area for the future trail.

South Main Street Section

Since it was superseded by Route 8, South Main Street carries very little traffic for a roadway that contains four lanes in most areas south of Eagle Street. Because of this, the trail will be created within the existing right-of-way and a 'road diet' plan will reallocate the roadway to maintain two or three travel lanes rather than four. A small nature trail loop can be extended in this section to provide both a quiet experience along the river while keeping the more direct travel route for the trail along the road. Interpretation of active local industry can be provided at viewpoints looking across the river towards the Yankee Gas distribution facility. Intersection improvements at Washington, South Leonard and Piedmont streets will enhance pedestrian and bike connections from nearby neighborhoods.

South Main Street offers a prime opportunity to develop a mile-long section of the Greenway along a single parcel of land that is currently in public ownership. Traffic volumes are lower than the designed capacity of the roadway, which currently has four travel lanes for most of the stretch in which the Greenway trail is planned. Based on preliminary analysis, there is a strong possibility that South Main may not need more than one travel lane in each direction from Platts Mills Road to Eagle Street, provided that left turn lanes are incorporated where necessary to enable access to side streets and frontage properties. "Road



The green pavement of the Waterbury Naugatuck River Greenway trail (shown on Platts Mills Road) will help connect people with nature in the near future.



Platts Mills Road existing conditions

Diet” schemes such as this are becoming more common as cities throughout the country aim to provide complete streets with new facilities for pedestrians and cyclists. While the preferred design will require future study and negotiations with ConnDOT, the South Main Street corridor can accommodate a 10-12’ wide multi-use path whether a travel lane is removed from the roadway or not. If four lanes must remain, options to retain the trail on the east side of the river include the narrowing of the desired 10-15’ landscape buffer, the use of easements through the narrow parcels adjacent to the South Main right of way and possible use of trestle sections of the trail over wetland areas close to the river.

The west bank of the river south of Eagle Street is far less desirable as a location for the Greenway because of the following constraints:



View of Yankee Gas site along the Naugatuck River (source: Kevin R. Zak).

- In preliminary meetings with both the Yankee Gas Company and the Waste Water Treatment Plant facility, representatives expressed safety, security and access issues that would make it very difficult to incorporate the trail onto these properties.
- The Yankee Gas site is enclosed on its east edge by a two-layer security fence topped with barbed wire and razor wire (see photo). These security fences are placed directly on the property line and leave no space along the river bank for a shared-use trail.
- A portion of the Waste Water Treatment Plant’s open tanks lie very close to the edge of the river and would require a more expensive, engineered treatment to allow the multi-use path to continue past this constraint.
- A new river bridge would need to be built downriver from South Leonard Street to connect to the future seven-acre public park at the corner of South Main and Platts Mills Road. While this bridge could have the potential to be a new signature element for the Greenway, it would entail significant additional expense and permitting.
- The land uses on the west side of the river prohibit access to the river from adjacent neighborhoods or streets, and the trail would be located in an area that would present challenges to user safety and security.

The Waterbury Naugatuck River Greenway’s alignment on South Main Street offers one of the best opportunities for the path to be a highly-visible facility to the thousands who drive by on a daily basis.

The narrowing of the road, the row of new trees and the adjacent greenway will become an attractive gateway to the City for people heading downtown from the south. The overall streetscape improvements and the presence of walkers, joggers and cyclists could lead to economic development along the street, especially new businesses looking to serve users of the Greenway (convenience stores, cafes, bike shops, etc). These opportunities will be limited if the trail runs along the opposite side of the river.

Vehicle access and parking for the existing businesses on South Main Street will need to be carefully considered during subsequent design work for the trail. Consolidation of the long curb cuts along the west side of South Main near South Leonard will ensure safety at Greenway crossing points. In this area, space for a wide, tree-lined buffer adjacent to the trail may not be possible in order to preserve parking for the existing businesses. Most of the commercial buildings in this area lie very close to the river's edge, making it very unlikely for the trail to pass behind them along this less-than-quarter-mile stretch of South Main. As the trail is developed, these properties will have new opportunities to create trail-oriented businesses that capitalize on the Greenway.

The trail will continue within the South Main Street right-of-way to the intersection with Platts Mills Road. At this point, a new seven-acre nature park will be created, with a small parking area, a trailhead and water trail launching site. This park will be one of the signature natural areas along the trail and was graciously donated to the City by a property owner who supports the Naugatuck River Greenway. Important environmental educational opportunities exist at this site, as well as at the City's water treatment facility across the river from this location. The trail will continue at-grade along the west side of Platts Mills Road and connect to the existing trailhead and small boat launch just beyond the southern city limit. In addition, a future trail spur will cross the river on a cantilevered south sidewalk of the Bristol Street Bridge and continue southward adjacent to the railroad tracks, connecting to the Regional Naugatuck River Greenway, which will eventually run to Naugatuck and Beacon Falls.



Both community workshops were a great success with approximately two hundred participants and over a thousand comments recorded.

Conclusion

The Greenway has many champions and supporters in Waterbury. A catalyst for the project's success is the City's Greenway Advisory Committee (GAC), which consists of a cross-section of key organizations, agencies, and individuals charged with moving the project forward and maintaining public involvement. To guarantee public input and participation, a project website was maintained throughout the study to encourage public involvement. Local media provided coverage of the project and two well-attended community workshops were held at Kennedy High School to gather public input. With the support of community leaders, the Waterbury Naugatuck River Greenway Trail will achieve its mission "to connect people and nature along the Naugatuck River in Waterbury."

For additional information about the Naugatuck River Greenway, please contact:

*Waterbury Development Corporation
24 Leavenworth Street
Waterbury, CT 06702-2121*