



Stratford Pathways Study & Plan Housatonic River Greenway Project

Prepared by the
Greater Bridgeport Regional Planning Agency
Revised February 2008

1.0 Overview and Purpose of Study

The town of Stratford completed an update of its *Plan of Conservation and Development (POCD)* in December, 2003. A major focus of the update was waterfront development and public access to the waterfront. This resulted in the preparation of the *Waterfront Vision Plan* (2004). To involve the public in the process and bring together elected officials, town employees, residents and business representatives, two public workshops were held. While there was general consensus on most issues, two topics received unanimous support:

- Improve maintenance and upkeep of existing town land along the waterfront; and
- Construct the Greenway beginning with the segment from Stratford Point to Bond's Dock.

In addition to the public workshops, an attitude survey was sent out to all town residents. The results indicated strong support for developing a bicycle and pedestrian trail along the Housatonic River shoreline and expanding/enhancing public access to the waterfront.

From these public outreach efforts, the following goals and objectives were included in the *Waterfront Vision Plan*:

- Maximize public access to the waterfront area.
- Maintain existing scenic views of the Housatonic River and Long Island Sound.
- Protect natural resources, including salt marshes, wetlands, natural vegetation areas and wildlife habitats.
- Encourage a broad range of active and passive recreational uses.

- Promote future economic development, where feasible and consistent with the policies of the *Coastal Management Act*.
- Reduce maintenance costs.

Despite this widespread public support for developing a north-south greenway within the Housatonic River corridor and the project's consistency with the goals of the *Waterfront Vision Plan*, town officials understand that it will not be feasible or practical to attempt to construct the entire trail all at once. Financial resources are unlikely to be available for the entire project and, while some sections would be easy to construct, other segments will require additional study and assessment before an alignment would be determined.

Recognizing these constraints, **this report developed a general implementation schedule consisting of short-term, mid-term and long term actions.** The focus of the initial or short-term greenway development efforts is on the area of town between the Birdseye Street boat launch area and Short Beach Park, specifically from the boat launch area to the Stratford Army Engine Plant (SAEP) property. This area has tremendous potential for maximizing public access to the waterfront and providing active and passive recreational opportunities. In addition, except for the Beacon Point Marina property, the properties in the study area are owned by the town of Stratford. The site consists of:

- Birdseye Street Boat Launch Area - Public boat launch with vehicle and boat trailer parking.
- Stratford Wastewater Treatment Plant - Located at the corner of Birdseye Street and Beacon Point Road; it is currently undergoing expansion toward the south.
- Hunter Haven Property - Undeveloped and overgrown parcel; partially used by the town for yard waste composting and recycling storage area.
- DeLuca Field - Lighted softball field with bleachers, concessions and parking used by the Stratford Brakettes women's softball team and other local teams.
- Honeywell Parcel - ±5-acre undeveloped site next to DeLuca Field and used for overflow parking for the ballfield.

The proposed concept and site plan for the area envisions reclaiming the Hunter Haven property and developing a landscaped public park with seating areas, playgrounds, walking trails, scenic overlooks, and improvements to the ballfield. The greenway would pass through the new park and provide a curvilinear path for bicyclists and pedestrians. New connections would be constructed between the greenway and the various natural features in the area as well as to Main Street (Route 113). The town has initiated efforts to clean-up and remediate the site and completed the removal of much of the overgrown vegetation. Also, as part of the wastewater treatment plant expansion project, a portion of the site of will be regarded. The town

has received some funds to implement the concept plan from the Long Island Sound license plate grant program and has applied for grants from the Housatonic River restoration fund. The estimated cost of the project is ±\$529,000 (2003 dollars).

With initial efforts to develop a greenway well underway, the town became interested in identifying opportunities for extending it throughout the town. The Greater Bridgeport Regional Planning Agency was asked to provide technical assistance to help prepare a town-wide bikeway and pedestrian pathway plan. The *Plan* would expand and augment past trail planning and design work and integrate Hunter Haven site plan as part of a comprehensive greenway vision. It was also intended to supplement regional trail planning efforts by identifying connections to trails and greenways in surrounding communities and regions.

The overall purposes of this planning project were to:

- Promote and encourage the use of bicycling and walking as viable modes of transportation.
- Identify opportunities for developing a multi--use trail or greenway within the Housatonic River corridor
- Increase public access to the waterfront and provide connections to the Housatonic River.
- Enhance bicycle and pedestrian safety.
- Provide scenic and aesthetic views and a relaxed, slow-paced travel corridor.
- Identify trail connectors and safe routes over or around high volume arterials and dangerous areas.
- Determine how to connect activity centers (town parks, open space, municipal offices, schools and commercial services) with the trail system, not only within the town but to regional networks.

2.0 Housatonic River Greenway Vision

The overall vision for the Housatonic River Greenway is to designate a “greenway” from Stratford Point in the south end to Roosevelt Forrest in the north end, with a connections to Long Beach (south end) and the Merritt Parkway (north end). **This vision was established through participation with the Stratford Greenways Committee and coordination with the planning department. Three public workshops/forums were held to solicit input from the general public. Participants were asked to review and discuss proposed alignments and offer suggestions on possible alternative routes. This process resulted in a general consensus regarding the feasibility of implementing the greenway with an understanding that it will require a substantial commitment by the town to design, construct, operate and maintain the system and that implementation will occur over time and necessitate a phased approach.**

The **general concept for the "greenway"** consists of an alignment within the Housatonic River corridor. However, it will not be feasible for the "greenway" to always follow along the river or be within its viewshed. Instead, the proposed route connects to the river where possible and spur trails link the main path to scenic overlooks or small public parks that would provide a place for users to sit, rest and enjoy the views. These small parks are referred to as "*pocket*" parks and are an integral to the objective of increasing public access to the waterfront. Potential locations of the "*pocket*" parks include greenway termini, public open space that the trail passes through and at the ends of town-owned rights-of-way that lead to the river or shore.

Unlike some more traditional rails-to-trail projects that are built primarily on a separate right-of-way, the Housatonic River Greenway will consist of a combination off-road, multi-use trails, on-route bicycle routes and pedestrian walkways. This is necessitated by the development and land use patterns in Stratford. Where feasible, road-separated multi-use trails will be built, but these sections will be limited to areas where public right-of-way exists and through municipal parks. For the most part, pedestrians will be accommodated on existing sidewalks that already provide good coverage and connections throughout the town. In some areas, these sidewalks will require rehabilitation, upgrade or extension and up-to-date pedestrian control devices, including pedestrian actuated signals and crosswalks, will be installed.

Because of the phased implementation approach necessitated by financial constraints, the "greenway" was divided into sections based on logical termini that would define independent, stand-alone trail segments. Eight sections were identified that form the main spine of the corridor. Several inter-town connections were also devised to allow users ways to access trail systems in adjacent communities.

While it is the goal of the "Plan" to accommodate all users of all ages and abilities safely, this is not feasible or practical. Some sections are more suitable for experienced bicyclists who are more comfortable riding in traffic and have an ability to negotiate congested areas. All users need to understand their abilities and limitations and use their own discretion in deciding whether or not a specific section is safe to ride. It is incumbent on all users to use caution while biking or walking within the "greenway" and be aware of their surroundings.

Potentially hazardous areas or road sections along the corridor were identified. These areas were deemed dangerous for various reasons, including road conditions, high traffic volumes, high travel speeds, intensity of development (frequent and closely spaced commercial driveways), constrained road width (no or narrow shoulders), awkward road geometry (curves, poor sight lines, grade, multiple travel lanes) and excess number of conflict points. Some of the problem areas that needed to be addressed included:

- Stratford Town Center from East Broadway to rail station - high traffic volumes, on-street parking, commercial development, driveway conflicts.

- I-95 and New Haven rail line - these facilities create barriers.
- US Route 1 and Route 113 (Main Street) intersection - high traffic volumes, separate turning lanes, large intersection (three approach lanes in each direction).
- Longbrook Avenue at US Route 1 (Barnum Avenue Cut-off) - narrow road, road curvature, narrow bridge over New Haven rail line tracks.
- Paradise Green - awkward road geometry, high traffic volumes, commercial development, numerous driveway conflicts.
- River Road (Route 110) and Main Street Putney intersection (south junction) - high traffic volumes, high travel speeds, sight lines.
- River Road (Route 110) - high traffic volumes, high travel speeds, limited shoulder width.
- Main Street Putney (north section) - narrow width, retaining walls, awkward intersection at Route 110.
- Merritt Parkway at Route 110 interchange area - high traffic volumes, road cross section (four-to-five lanes with separate turn lanes), limited shoulder width, numerous conflict points.
- US Route 1 (Barnum Avenue Cut-off and Ferry Boulevard) traffic circle - complex traffic patterns (numerous merge and diverge points), high traffic volumes, limited shoulder width.

As stated above, one of the goals of the *Plan* is to provide safe routes around these problem areas. Alternative routes were not always obvious and often unconventional alignments were suggested. Some of these may not be easily approved, accepted or even feasible. However, they offer the best available path and, in some cases, were intended to generate discussion and inspire the consideration of creative solutions to a difficult problem. Possible methods for "bridging" problem areas that are considered in the *Plan* are:

- Aligning the trail through commercial parking lots - agreements would be required with the property owners to allow the trail to pass through the development and the town may need to permit a possible reduction in parking.
- Using available right-of-way adjacent to the New Haven rail line - acceptable setback and fencing from the tracks needs to be maintained.
- Using available land behind the Stratford Crossing shopping center and adjacent to the New Haven rail line - the use of this land may need to be approved by the US Environmental Protection Agency since the parcel was formerly designated a superfund site.
- Use of available right-of-way along the Merritt Parkway and crossing of ramps - approval from ConnDOT will be required.

3.0 Bicycle Facilities Design Approach

To a varying extent, bicycles will be ridden on all roadways where they are permitted; therefore, the most common bikeway is a shared roadway facility. Because of this, all roads that are open to bicyclists should incorporate design treatments that will enhance bicycle riding qualities. It is not necessary to specifically designate roads as bicycle routes or provide bicycle lanes. Rather, all roadways should be maintained and upgraded to ensure bicycle travel can occur safely and conveniently. The type of accommodation depends on the type of road and characteristics of traffic. On low volume, residential streets, bicyclists can easily become integrated with the few vehicles on the road and may not require any separation. The road is a shared-space used by vehicles, bicyclists and pedestrians. At the other end of the road system, special treatments are necessary and greater separation is required to accommodate bicyclists on higher-volume, higher-speed arterials.

The adopted design approach reflects the design bicyclist, that is, what type of rider the facility is designed for, the type of facility and actions needed to make the roads more user friendly to bicyclists.

Bicyclists can be group into one of three categories ranging from young children to the *advanced bicyclists*. In between are *basic bicyclists* who represent the average adult rider. Because of their abilities, *advanced bicyclists* can best be and more easily accommodated on existing roads with the proper accommodations. They are generally able to operate within the roads right-of-way and under most traffic conditions. They have confidence in riding with traffic and do not feel threatened or perceive a safety hazard. This group of riders prefers the freedom of choice to decide how to complete



Bike facilities need to accommodate a variety of users, from children to basic adult bicyclists advanced riders.

Source: Pedestrian and Bicycle Information Center.

Photos: Dan Burden

their bicycle trip as well as the directness and speed advantages of using higher class roads.

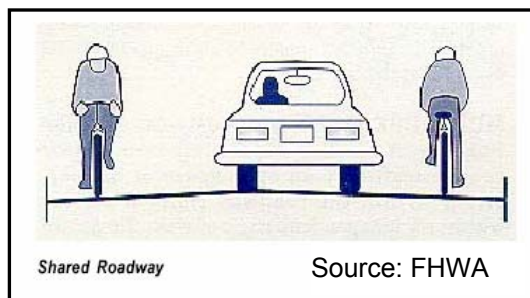
Because only about 5% of the bicycling public is considered *advanced bicyclists*, special attention must be given to the needs of both *basic bicyclists* and children. These riders are best served by a network of neighborhood streets and designated bicycle facilities. The design treatments needed to enhance both groups' bicycling enjoyment are similar. Bicyclists classified in these groups are generally less confident of their ability to ride in traffic and feel unsafe riding on higher volume and higher speed roads. They prefer low volume, low speed roads or designated bicycle facilities with well-defined separation from motorized traffic. For these reasons, the design approach for these groups focuses on providing a network of designated bicycle facilities.

The need to implement specific design treatments depends on the traffic characteristics of the adjacent roadway. High traffic volumes and operating speeds represent greater potential risk from passing motorized vehicles and create an uncomfortable feeling. Generally, the higher the traffic volume and speed, the greater need to implement extensive design treatments to accommodate *basic bicyclists*.

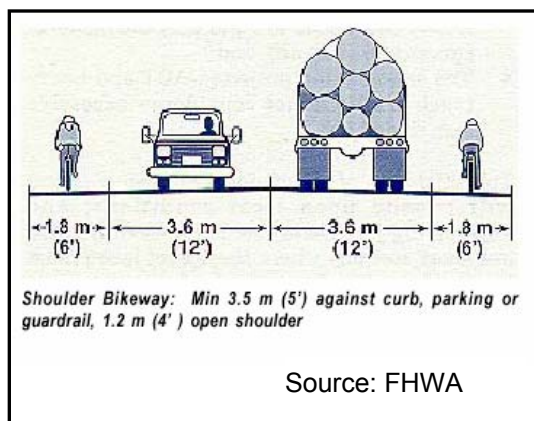
There are basically three types of bicycle facilities: bicycle routes; bicycle lanes and bicycle paths. Bicycle routes and bicycle lanes are dedicated facilities located on-the-road and share space with motorized vehicles. Bicycle paths are specialized, off-road facilities that typically accommodate multiple users.

- **Bicycle Routes:** Provide the minimum level of route designation and separation from motorized vehicles. Bicyclists share the road with motorized traffic and are carried in the same direction of traffic. No special treatments are made at intersections or where there is on-street parking. These facilities are either unmarked or signed with a standard bicycle route sign along both sides of the road. The shoulder edge line is often used to define the bicycle route. There are three bicycle route applications:

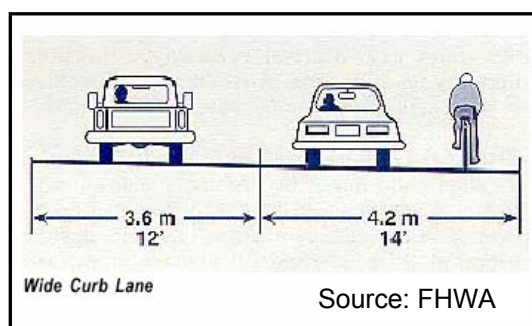
1. **Shared Roadway:** The bicyclist uses the same lane as motorized vehicles and are acceptable in low volume, low speed neighborhoods. These generally do not require special signing unless the road is being used to connect special bicycle facilities.



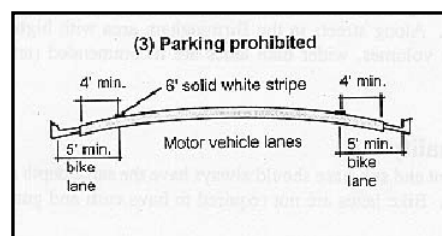
2. **Wide Shoulder Lane:** The bicyclist uses the curb edge of an outside travel lane that is at least 14 feet wide. This type of facility is more appropriate along low speed, low volume roads. When speed and volumes are high, they do not provide sufficient separation and comfort level to *basic bicyclists*.



3. **Shoulder Bikeways:** The bicyclist uses the paved portion of the road to the right of the edge line. The shoulder lane provides some level of separation between traffic and bicycles because of the edge line. Where bicycle use is relatively high, the shoulder should be maintained with a smooth, clear surface and free of debris. If the shoulder lane is to be designated as a bicycle route, a minimum width of four feet should be provided. A minimum five-foot width is necessary if a guard rail is present. Signs should be installed when the shoulder narrows below the four-foot minimum.



- **Bicycle lanes:** Are defined as the portion of the road specifically designated by striping and signing for preferential or exclusive use by bicycles. Bicycle lanes are always one-way facilities and carry bicycles in the same direction as adjacent traffic lanes. The minimum width is five feet, although narrower lanes are acceptable for short sections or where necessary. On-street parking is generally prohibited along bicycle lanes and always prohibited in a designated bicycle lane. When designated, the parking lane should be located to the right of the bicycle lane with the bicycle lane between the travel and parking lanes. At intersections, the striping and signing need to encourage positioning bicyclists in the proper lane whether to go straight, turn left or turn right.



Bike lanes are designated only for bicycle use. Width and design features depend on whether or not parking is provided or allowed.

Source: North Carolina Bicycle Facilities Planning & Design

- **Bicycle path:** A bicycle path is physically separated from the road and follows an independent right-of-way. Two-way flow is provided and they accommodate a range of users, including bicyclists, walkers, in-line skaters, wheelchairs, and strollers. One-way sections are typically not allowed, although short one-way section may be acceptable as long as they are clearly designated, strictly enforced and limited to areas where it is necessary. These facilities are often referred to as **multi-use paths** because they are used by more than just bicyclists. Although these trails provide a low stress, a safe environment and a place where novice riders and children are separated from motorized vehicles, the mix and volume of users can often create challenges with a variety of potential conflicts, especially in urban settings where usage would expected to be higher. Care and attention needs to be given to the design of the trail and user rules need to be established and enforced. It is the responsibility of all users to know and understand the rules and follow trail etiquette so that all may enjoy the trail. Also, speed limits may need to be set to ensure that the speed differential between users is not excessive.

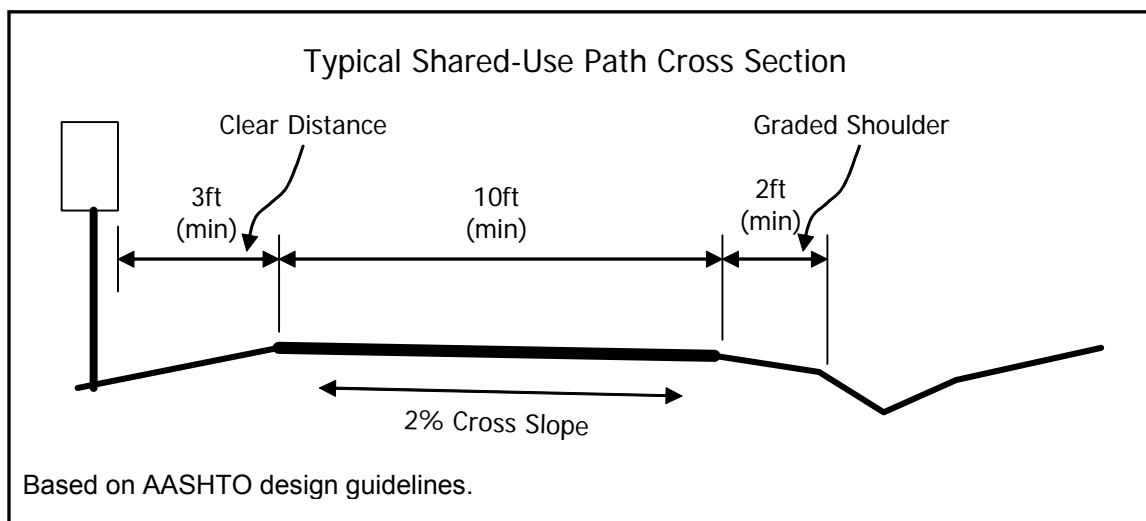


An urban multi-use trail in Bridgeport (above) and rural trail in Monroe (below).



Multi-use paths are the highest form of facility and, as such, require special design considerations. The guidelines developed by AASHTO (*Guide for the Development of Bicycle Facilities*, 1999) should be used and followed when designing these paths. The guidelines provide a good starting point for multi-use trail design. Although sound engineering judgment should be followed, flexibility in design is essential. The following are the basic design guidelines:

1. Under most circumstances, the desired width is 10 feet, but an eight-foot width is adequate in some cases. Given the variety of users, an eight-foot width is generally ***not*** considered adequate, especially when heavy use is expected.
2. A two-foot shoulder should be provided, with a three-foot clear area. This provides clearance between bicyclists and fixed objects adjacent to the path, as well as a refuge for pedestrians.



3. Good separation (minimum of five feet) should be provided between the path and the road. Aligning the path immediately adjacent to the roadway is not recommended because it can create operating and safety problems. If a path is located along the roadway, a suitable and distinct physical divider should be installed to confirm that the path functions as a separate facility.
4. The path should avoid frequent intersections with streets, because path-street intersections require special treatments, destroy momentum and trail continuity, and increase conflicts. Special features may include physical layouts that slow bicyclists as they approach an intersection, removable barriers that prevent entrance by motorized vehicles, crosswalks and other markings, and warning and regulatory signs both on the trail and on the road, .
5. The vertical clearance along the path should be at least eight feet.
6. The desirable horizontal alignment of the path is dependent upon the design of the typical bicyclist. A design speed of 20 mph should be used as a minimum for a paved path and 15 mph for unpaved trails. The selected designs speed will determine minimum stopping sight distance, vertical curve sight distance and the horizontal sight distance.
7. How the path crosses intersecting streets needs to be carefully designed. It is best for the path to cross the street away from other street intersections. This limits any conflicts with turning vehicles and existing traffic control. The type of traffic control needs to be identified and properly located.
8. The maximum average grade should be less than 5% for paved trails and less than 3% for unpaved paths. Steeper grades are acceptable for short distances. It may be necessary to widen the path to allow bicyclists to dismount and walk their bikes on very steep grades.

9. The MUTCD provides recommendations on the type, style and location of acceptable traffic control devices, including appropriate signing and pavement markings. Traffic signals may be necessary to cross high-speed, high-volume arterials where trail use is heavy. The type and installation of all signs and pavement markings need to conform to the MUTCD.
10. Structures along the path should be the same width as the path plus two feet of clear area on either side of the path. Bridges to be built for the exclusive use by bicyclists and other trail users can be designed to pedestrian load standards. Railings, fences or barriers should be installed on both side of the structure and be at least 42 inches in height.
11. Access by any motorized vehicles, other than authorized maintenance, emergency and patrol vehicles, should be prohibited and restricted. Lockable/removable gates or barriers should be installed at intersection crossings, but they should be spaced to allow bicycles to enter without stopping or dismounting.

4.0 Pedestrian Facilities Design Approach

The basic design elements for pedestrian facilities need to consider the road type, the cross section, and intersections and other crossings. On low-volume, low speed residential streets the design should encourage sharing the space. There is not a need to over design the road or pedestrian facilities. Instead, the residential road should be scaled so that people are comfortable walking in the road and sharing the space with vehicles. This means narrower lanes and less pavement. By contrast, on high volume streets, there should be good separation from the road and traffic, but the road design should not encourage or promote excessive speeds. On a higher capacity arterial, medians and creating boulevards provide a more welcoming area for pedestrians and serve as a refuge while crossing.

There needs to be a balance in the use of the road right-of-way between motorized traffic, bicyclists and pedestrians. How the right-of-way is configured will influence how friendly it will be to pedestrians to walk and how many people will be willing walk in the area. Although road shoulders provide space for bicyclists, they result in wider roads and take space away from the pedestrian area. It also promotes higher traffic speeds, sending the wrong signal to drivers.

To improve the pedestrian environment and enhance safety, various engineering devices and treatments can be considered. Pedestrian treatments are most appropriate where pedestrian activity is high, although all areas can benefit when the needs of pedestrians are considered. A wide range of "tools" exist that can provide a safer path for walking along and across a street and encourage people to walk instead of driving their car.

Sidewalks and walkways are the most common pedestrian facility. They create a separate facility for pedestrians from the roadway and provide a much safer area to

walk, run, skate, etc. The minimum width of a sidewalk is five feet, but it should be at least eight feet in dense urban and downtown areas where a higher concentration of pedestrians is likely. To be effective and encourage greater walking, sidewalks and walkways should be continuous along both sides of the road and connect and lead to points of interest. A four-to-six foot wide buffer zone should be provided between the road and the sidewalk. Street lighting could also be installed to increase comfort and safety at night. More intense lighting is needed at intersections and crosswalks. An eight-foot minimum clearance should be maintained. Sidewalks and walkways are most appropriate anywhere to provide a safe place for pedestrians to walk.

Landscaping the buffer between the sidewalk and the street can dramatically alter the "atmosphere" of the street environment. Wide streets with little or no landscaping induce drivers to travel more quickly through the area and provide no sense of place. The planting of trees, bushes and flowers has the effect of "visually" narrowing the road and providing a more pleasant street environment for all. This "visual" narrowing of the road and providing the motorist something pleasing to look at can reduce travel speeds, as well as, enhance pedestrian and bicycle safety. The types of trees and plants should be appropriate for the area and be tolerant of high activity, vehicle exhaust and road salts. They should not interfere with overhead utilities or cause sidewalks to buckle. Landscaping can be combined with the use of textured materials to further enhance the area. Maintenance of the landscaped area is important, and this is an issue that, if neglected, can cause areas to become unattractive quickly. Good vertical clearance above the sidewalk is also essential. Low hanging branches or other obstructions over the sidewalk impede walking and make pedestrians feel uncomfortable. The vertical height above the sidewalk area should be maintained at a minimum of eight feet.

Sidewalks are not, however, considered acceptable for use by most bicyclists and designating a sidewalk as a bicycle path is not a satisfactory policy. Sidewalks are designed for pedestrians and for their speed and maneuverability. The higher speeds of bicycles cannot be safely accommodated on sidewalks. The commingling of pedestrians and bicyclists can result in conflicts; sudden changes in direction by pedestrians leave bicyclists little time to react and pedestrian are sometimes uncertain where on-coming bicyclists are going. Also bicyclists on sidewalks are not readily visible to motorists and when they enter the roadway right-of-way, they will be approaching traffic from an unexpected direction. Fixed objects located on sidewalks such as utility poles, sign posts, and newspaper vending machine also pose a hazard. The use of sidewalks as a part of a bicycle route is acceptable for short distances and in certain exceptional situations where no alternatives are feasible. One acceptable occurrence is over narrow bridges; however, to reduce potential conflicts, bicyclists should be required to dismount and walk their bicycles.

Despite these inherent conflicts, state law does not specifically prohibit bicyclists from riding on sidewalks; instead, laws require bicyclist to yield to pedestrians on a sidewalk and emit an audible signal when overtaking them. Municipalities, however,

do have the right to enact ordinances to prohibit the operation of bicycles on sidewalks.

Although not appropriate for most bicyclists, sidewalks can provide a safer place for children to ride their bikes. It is acceptable and reasonable for young children to use sidewalks, especially as they are beginning to learn how to ride. At a young age, these beginning bicyclists ride at slow speeds comparable to a pedestrian and they often ride under adult supervision. Also many parents feel that their children are safer on a sidewalk as opposed to sharing the road with motorized traffic. However, the question is at what age children should be encouraged to use the road instead of the sidewalk. A key to this is providing safe and proper bicycle facilities, either on-the-road or as separate path.

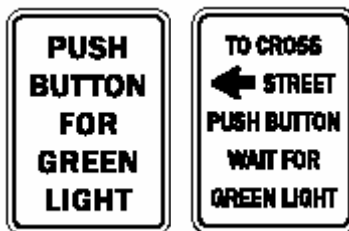
There are many appropriate features that could be installed along sidewalks to enhance the walkway environment and pedestrian safety. These include:

- **Marked Crosswalks:** Marked crosswalks define and delineate the location where pedestrians should cross the street. Crosswalks are most often installed at intersections controlled either by all-way stop signs or a traffic signal. Although mid-block locations are not uncommon, their placement between intersections raises safety issues because drivers do not expect pedestrians in the middle of the road and may be unaware of state law that requires motorists to yield to pedestrians in a marked crosswalk. Warning signs often supplement crosswalks to inform motorists of their responsibilities to yield to pedestrians. This is especially important at non-intersection locations. Although state law requires motorists to yield to pedestrians in a crosswalk, pedestrians also have a responsibility to use caution when crossing a busy street and to cross when opposing traffic has a red light or when permitted by a pedestrian signal.
- **Traffic Signals:** Traffic signals, in addition to controlling the movement of traffic at an intersection, provide gaps in the traffic flow to allow pedestrians to cross the street. At many signalized intersections, pedestrian activated push buttons provide concurrent walk intervals that allow pedestrians to cross on the red signal and traffic to move on the opposing-street. The red phase is also lengthened, if necessary, to ensure enough time for pedestrians to cross the street. Separate pedestrian phases are sometimes included in the cycle to provide an exclusive interval when all traffic is stopped. This is generally warranted where pedestrian activity is high and traffic prevents sufficient gaps in the flow. The time allocated to pedestrians to cross the street is based on an average walk speed (4 feet/second) and width of the road. More time is added if the percentage of children or elderly in the pedestrian flow is high. A separate pedestrian phase is safer for pedestrians but it impacts the flow of traffic and increases vehicle delay. Also pedestrian have to wait a longer time for the signal to cycle through its phases before the pedestrian phase starts. This may cause pedestrians to become impatient and either not use or wait for

the walk interval. A concurrent pedestrian signal provides better service to pedestrians, but conflicts with left turning vehicles remain.

A number of features should be installed at signalized locations to enhance pedestrian safety:

- " Push buttons mounted on a pedestal at crossing points.
 - " Signal heads that displays symbols to indicate when to walk and not to walk mounted on the pedestal and oriented in the direction of pedestrian travel to provide a clear indication when it is safe to cross.
 - " Accessible pedestrian signals to accommodate persons with visual and/or hearing disabilities, including an audible message that emits a sound (buzz, whistle, beep or chirp) to indicate when the walk interval begins and tactile arrows to point the direction of travel.
 - " An illuminated push button that lights when pressed to provides feedback that the pedestrian signal is working.
 - " A supplemental countdown clock that displays how much time remains for the walk cycle.
 - " *"Leading Pedestrian Interval"* at concurrent pedestrian locations to provide an extended period of red time to the concurrent traffic movement to allow pedestrians to begin crossing the street before conflicting traffic can proceed.
 - " Embed lighting in the pavement and orient it towards the direction of travel to enhance visibility of crosswalks. When a pedestrian activates the signal, the lights flash at a constant rate to warn motorists. This application is only appropriate at mid-block locations not controlled by yield or stop signs or a traffic signal and where traffic volumes and speed warrant the additional warning.
- **Warning and Regulatory Signs:** Warning and regulatory signs and pavement markings need to be installed in conjunction with pedestrian features. Advance warning signs and markings let motorists know what to expect and that a pedestrian treatment is located ahead. Pedestrian signs inform walkers where and when to cross and provide information on the meaning of pedestrian signal displays. However, too many signs may cause non-compliance or confusion. The message(s) need to be clear and well understood. All signs and marking must conform to MUTCD regulations.



- **Traffic Calming:** A wide variety of actions exist to change driver behavior and make the street environment safer for pedestrians. These engineering actions are referred to as “traffic calming” techniques. The objectives of the traffic calming are to control or reduce traffic speed, divert traffic, and improve pedestrian safety. While many of the volume control measures, which create street closures or divert traffic, would enhance pedestrian safety by reducing vehicle conflicts, speed reduction strategies have a greater impact on pedestrian safety. Appropriate traffic calming treatments for pedestrian safety include the following:
 - " **Raised Crosswalk:** A raised crosswalk is essentially a speed table located at an intersection that has been painted and/or marked as a crosswalk.
 - " **Raised Intersection:** A raised intersection is a flat, raised area, covering the entire intersection with ramps on all approaches.
 - " **Textured Pavement:** This treatment provides a coarse and uneven surface on the road.
 - " **Intersection Curb Extensions:** Neck downs or bulb outs are curb extensions at intersections to narrow the width of the road.
 - " **Center Island Narrowing:** Raised center islands are placed in the middle of a street at an intersection or at a mid-block location to narrow the road width and provide a refuge for pedestrians while crossing.

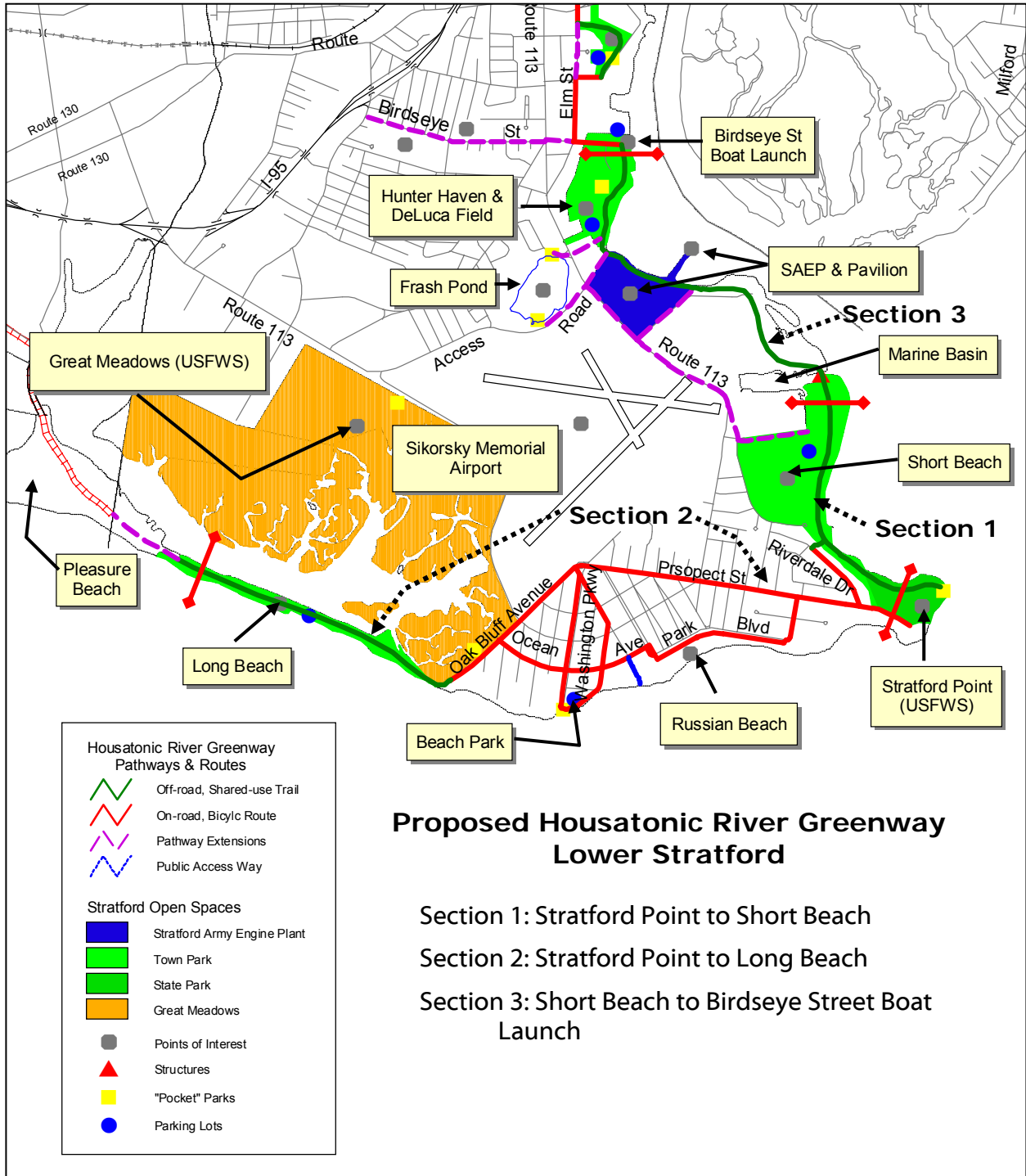
5.0 Housatonic River Greenway Route Descriptions

The planned “greenway” would start at Stratford Point in the south end of town and end in Roosevelt Forrest in the north end. Connections would be included to Long Beach (south end) and the Merritt Parkway (north end). The planned alignment is divided into eight main sections and five trail extensions. The total length of the “greenway” is estimated at ±16.2 miles. The design and layout of these sections would be consistent with the design approach and guidelines described above and, to the greatest extent practical, adhere to federal and state design guidelines. Each section is described as follows:

■ Section 1: Stratford Point to Short Beach:

- Trail Type: Multi-use
- Section Length: ±6,100 feet (1.16 miles)
- Trail Surface: Paved with soft shoulders
- Bicycle Route Surface: Not Applicable

- Grade: Level
- Safety Concern: Low, acceptable for all ages - Separated from traffic; few conflicts but use caution traveling through parking areas.



- **Description:** The concept plan for the Housatonic River Greenway envisions beginning the multi-use trail at Stratford Point. The trail would extend from a rest or viewing area within the Stratford Point parcel to and through Short Beach Park, a distance of about 1.2 miles. The new trail would be constructed as close to the waterfront as practical. A permanent easement would be obtained from Sporting Goods Properties for the trail through Stratford Point. Public access would be limited in this area for trail use only in order to maintain a protected breeding ground for migratory birds and other wildlife. Most of the property is grass fields with only a few trees, so a viable alignment for the trail would be easy to establish. At the starting point, a small scenic overlook and rest area would be built, consisting of benches and a small landscaped area for users to rest and enjoy the views of Long Island Sound and the Housatonic River. Town-owned property (an extension of Short Beach) abuts Stratford Point. At the property line, the trail would continue as a multi-use trail along the waterfront and generally at the rear of several houses located along Riverdale Drive. An environmental assessment of this connecting section needs to be conducted to determine the quality and diversity of and potential impacts to the vegetative cover, soils and wetlands. The generalized cover map developed by the Connecticut Department of Environmental Protection shows this area as consisting of exposed sand and ground, grass and shallow water and mud flats. A more detail assessment and survey needs to be completed to identify vegetation and specific environmental features, as well as possible impacts, before construction begins.



Existing walkway from Short Beach Park to Riverdale Drive (top) and public land along waterfront behind Riverdale Drive (bottom).

There are 14 houses along Riverdale Drive that may be marginally impacted by the trail. Despite the potential impact, the trail would be setback from these properties as much as practical and a natural barrier of grasses would be maintained. Because Riverdale Drive curves away from the river, setbacks from

some of these homes would be as much 300 feet from the trail. This part of the trail would extend about 1,000 feet and then join with an existing walkway between the parking lot for Short Beach and Riverdale Drive. The existing walkway is about six feet wide with vegetation cut-back about two feet on each side. This path would be widened to provide at least 14 feet of clear space to accommodate a 10-foot bicycle trail and shoulder space for walkers. Once within the more developed areas of Short Beach Park, an alignment for the trail would be established through the parking lot and along the access roads to the north end of the park at the Marine Basin.

- **Point of Interest - Stratford Point:**

Stratford Point is located at the southern most point in the town and at the mouth of the Housatonic River and jutting into Long Island Sound. The property is approximately 28 acres in area and has about 2,600 feet of shoreline along both Long Island Sound and the Housatonic River. Stratford Point is privately owned by Sporting Goods Properties, a subsidiary of DuPont. In the past, it had been owned by Remington Arms and used as a gun club. This former

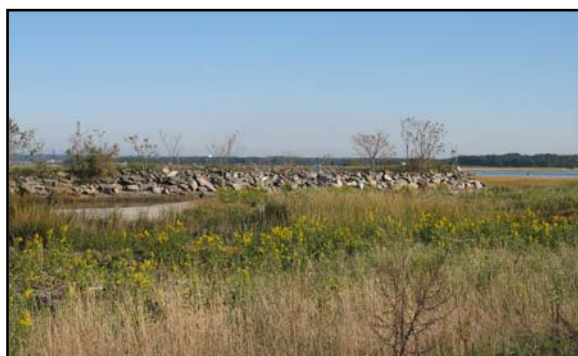


Stratford Point – US Fish & Wildlife Service

use created an environmental hazard from the accumulation of lead pellets and necessitated a clean-up of the property. Sporting Goods Properties has placed a conservation easement on the property to ensure that it will not be subdivided and developed. About nine acres has been set aside to protect a breeding ground for migratory birds. Once the environmental clean-up has been completed to all parties' satisfaction, this area is expected to be transferred to and administered by the US Fish and Wildlife Service (USFWS). The town needs to continue to work with the USFWS, as well as the Connecticut Audubon Society, to determine how best to accommodate public access on the site.

- **Point of Interest - Short Beach Park:**

Short Beach Park is a municipal-owned and managed recreation area offering beach access along Long Island Sound at the mouth of the Housatonic River. The entire area is approximately 109 acres and offers a wide variety of both active and passive recreational activities. The beach area extends about 1,000 feet and has a concession stand, bathrooms and three picnic



Mouth of Marine Basin at north end of Short Beach Park

pavilions. In addition to the beachfront, passive activities include a paved walkway along the waterfront and through marsh grass areas from the parking lot to Riverdale Drive. Active recreation includes a 9-hole, par 3 golf course, a miniature golf course, two little league fields, a regulation lighted softball field, seven beach volleyball courts, eight tennis courts, a skateboard park, two basketball courts, and a soccer field.

■ Section 2: Stratford Point to Long Beach:

- **Trail Type:** Multi-use, Boardwalk & Bicycle Routes
- **Section Length:** ±16,950 feet (3.21 miles) - bicycle routes
±1,800 feet (0.34 miles) - multi-use trail sections
±4,400 feet (0.83 miles) - boardwalk
- **Surface:** Paved with soft shoulders; boardwalk in Long Beach
- **Bicycle Route Surface:** Marked, on-road shoulders with sidewalks
- **Grade:** Level
- **Safety Concern:** Low-to-moderate, acceptable for all ages - Low-to-moderate traffic volumes on bicycle route sections, few conflicts but caution is needed walking or bicycling along shared-road sections and at intersections.
- **Description:** This section of the Housatonic River Greenway would branch off from the walkway that leads to Short Beach and would follow Riverdale Drive, Prospect Street, and Oak Bluff Avenue as an on-road bicycle route. Parts of Prospect Street and Oak Bluff Avenue are state Route 113. The trail would then enter the Long Beach area. Once in Long Beach, a road-separated trail would be built along the park access road and the parking lot. To protect the beach and dune system and provide access through the undeveloped areas, the construction of boardwalk should be considered. The trail would end in the vicinity of the Bridgeport town line, but extension into and through Pleasure Beach should be considered. A one-way spur loop, operated in a counter-clockwise direction would be provided from Prospect Street along Washington Parkway, Beach Drive, Jefferson Street and Pauline Street to provide a connection to Beach Drive Park. This area offers users a place to rest



Long Beach toward Pleasure Beach in Bridgeport.

and enjoy expansive views of Long Island Sound. The total distance of this branch trail is about 4.4 miles.

A possible side trip from this section would include an on-road bicycle route along Ocean Avenue and Park Boulevard. This spur trail would provide an alignment with views of Long Island Sound and pass the Russian Beach area, a privately-owned open space that protects several natural features and provides scenic vistas. The Russian Beach open space is comprised of beach and dunes along the shore, interspersed with intertidal flats, and coastal bluffs.

- **Point of Interest -Beach Drive Park and Seawall:** The proposed spur from Prospect Street would provide a link to Beach Drive Park. This public park

(about two acres) provides access to the waterfront and consists of a narrow beach along Long Island Sound. A seawall and walkway separates the beach from the roadway. Angled, on-street parking is allowed along Beach Drive, but spaces are unmarked. A marked, one-way bicycle lane would be installed on the north side of Beach Drive (opposite side from the sidewalk and seawall) to separate bicyclists and pedestrians. The sidewalk and seawall area would be reserved for walkers only to ensure

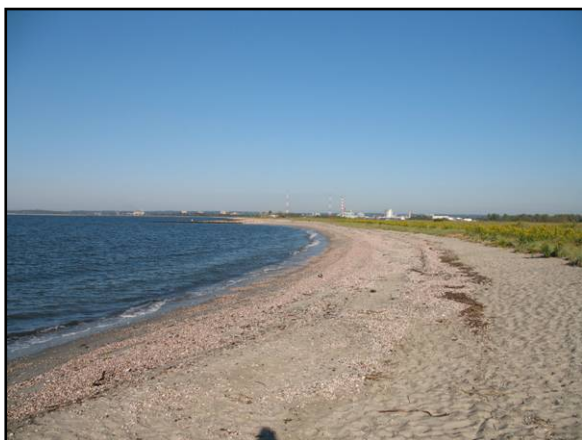


Seawall & Beach along Beach Drive

a slower pace and a place to sit and relax. Bicyclists would be required to dismount their bikes and walk. Bicycle racks would also be installed for those wanting to spend a longer time in the area. Bicycle routes would be installed along Washington Parkway, Jefferson Street and Pauline Street and sidewalks installed or upgraded, as necessary. The on street parking spaces would be striped along Beach Drive to better delineate uses of the Beach Drive.

- **Point of Interest - Long Beach:** Long Beach is a natural barrier beach, separated from the mainland by Lewis Gut and the Great Meadows Marsh. It extends from the end of Oak Bluff Avenue to the Bridgeport town line, a distance of about 1.5 miles. Barrier beaches are constantly changing due to erosion, wave action and shifting dunes, but generally contain several habitats for plants and wildlife. Long Beach includes: sparsely vegetated beach; sand dunes dominated by American beachgrass (*Ammophila breviligulata*) and seaside goldenrod (*Solidago sempervirens*) [*"Northeast Coastal Area Study of Significant Coastal Habitats," US Fish and Wildlife Service*]. The Piping Plover is a rare and endangered bird that nests along Long Beach. These habitat areas are closed during breeding seasons. The west end of the barrier beach for years had been rented to cottage owners for seasonal use. These lease arrangements

have been terminated by the town and the area has been vacated. However, the cottages remain. Town has been discussing the sale of most of Long Beach to the US Fish and Wildlife Service. The USFWS would be required to ensure public access, remove the existing cottages and build a boardwalk. This would preserve the area in a natural, undeveloped state. Beyond the cottage area lies Pleasure Beach, located in the city of Bridgeport. Access to this end of the area had been via a swing-bridge that connected with Seaview Avenue across Johnson Creek. A fire damaged most of the bridge in the 1990s. It is now locked in the open position to allow vessels to access Lewis Gut. Since it spans a navigable waterway, a replacement bridge must be moveable or high enough to allow boats to pass through the channel. This requirement has resulted in the cost of a new bridge to be estimated at between \$20-and-\$30 million. The planned greenway would provide access to both the west part of Long Beach and Pleasure Beach in Bridgeport. If the bridge to the mainland of Bridgeport were rebuilt, it is recommended that the Stratford greenway be extended through Pleasure Beach and continued into Bridgeport, eventually connecting with the regional Housatonic Railroad Trail in downtown Bridgeport.



Long Beach

- **Point of Interest - Stewart B. McKinney National Wildlife Refuge:** The Stewart B. McKinney National Wildlife Refuge is a multi-unit refuge spread along the Connecticut shore of Long Island Sound. It was established as a breeding ground for migratory birds and other wildlife, for research, and for education. The Great Meadows Salt Marsh, located between Long Beach, Lewis Gut, the Sikorsky Memorial Airport and Route 113 (Lordship Boulevard), is included in the refuge. The Great Meadows Salt Marsh is an important open space because it contains the largest block of unditched high salt marsh (± 225 acres) left in Connecticut. The marsh system, a remnant of a much larger system, includes both regularly-flooded and irregularly-flooded estuarine tidal marsh, of which about 60% is low marsh dominated by saltmarsh cordgrass (*Spartina alterniflora*) and 40% is high marsh characterized by saltmeadow cordgrass

(*Spartina patens*) [*"Northeast Coastal Area Study Significant Coastal Habitats of Southern New England and Portions of Long Island New York", US Fish and Wildlife Service Southern New England - Long Island Sound Coastal and Estuary Office, 1991.*] In some areas the marsh is finely dissected by tidal creeks and channels, with several small ponds, salt pannes and tidal mud and sand flats. It provides wildlife habitat for shellfish, birds, fish and other animals and is an important wintering, nesting and migration habitat for many waterfowl species. Although the greenway does not provide direct access to the Great Meadows Marsh, it is an important natural feature that is within the view-shed of the greenway. It may be possible to extend the greenway along Oak Bluff Avenue and Lordship Boulevard as an on-road bicycle route with an adjacent sidewalk and provide seating and rest areas along the way.



Great Meadows Salt Marsh – Stewart B. McKinney National Wildlife Refuge

■ **Section 3: Short Beach to Birdseye Street Boat Launch Area:**

- Trail Type: Multi-use
- Section Length: ±8,250 feet (1.56 miles)
- Surface: Paved with soft shoulders
- Bicycle Route Surface: Not Applicable
- Grade: Level
- Safety Concern: Low, acceptable for all ages - Separated from traffic; few conflicts.

- **Description:** This section of the Housatonic River Greenway offers the greatest opportunity for providing access to the waterfront with a trail separated from busy sections of Route 113. It would extend from Short Beach Park, through the Stratford Army Engine Plant (SAEP) property, the Hunter Haven parcel and the Stratford wastewater treatment plant to the Birdseye boat launch. The trail would provide a 10-foot paved trail with a minimum of two-foot soft shoulders and clear area along each side. There would only be one road crossing over its entire length, a distance of about 1.6 miles. The concept plan includes the construction of a timber or steel bridge over the mouth of the Marine Basin. This crossing would offer outstanding views of the Housatonic River, with the bridge elevated above the surrounding landscape to allow small boats to continue to access the basin.



Illustrative bridge that would be built over the mouth of Marine Basin

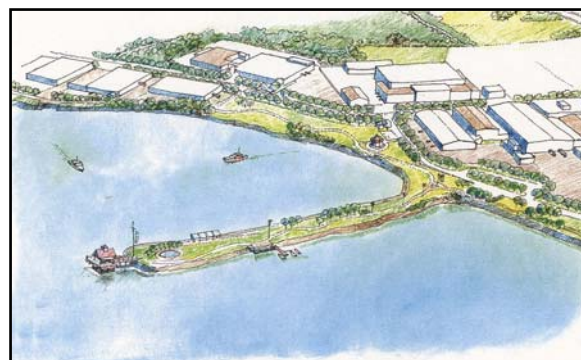
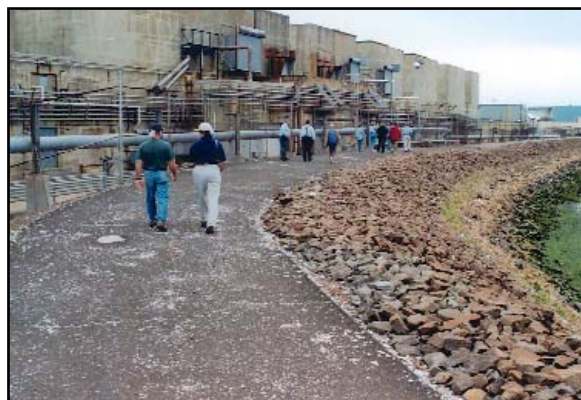
- **Point of Interest - Marine Basin Area:** This area encompasses the land between Short Beach Park and the Stratford Army Engine Plant. It consists of the Marine Basin, a small embayment off the shore of the Housatonic River, and vacant land owned mostly by the city of Bridgeport. The Marine Basin covers about 13 acres and receives drainage from the surrounding land as well as from a portion of the airport property. The mouth of the basin is about 60 feet wide and the entrance channel extends for about 400 feet before widening to roughly 400 feet. It extends for another 1,400 feet. At one time, the Marine Basin was used by float planes and associated with the Sikorsky Memorial Airport. In more recent years, there have been some discussions about the development of the basin as a marina for small boats. However, at this time, there no tangible plans for this reuse of the area and dredging would most likely be required to provide a more navigable depth at its entrance. There may be some issues with bridging the mouth of the Marine Basin because it could possibly preclude the development of a marina. However, until a viable marina plan is put forward, the concept of bridging the Marine Basin should be pursued. After crossing the Marine Basin, the path



Mouth of Marine Basin

would pass through land owned by the city of Bridgeport and others. Ownership of the right-of-way needs to be determined and an agreement with the city is needed to allow the trail to cross its property. Another issue is the presence of three waterfront houses. There is a private access road from Main Street to these properties. The town could consider acquiring and improving the access road to accommodate part of the trail.

- **Point of Interest - Stratford Army Engine Plant (SAEP):** The SAEP is a relatively large, contiguous industrial site owned by the US Army with several large buildings used in the manufacture and rehabilitation of turbine engines. The plants were closed in the 1995 as part of the military base realignment and closure program. The US Army is responsible for the clean-up, reuse and redevelopment of the site and is soliciting bids for the property from prospective developers. A previous agreement between the town, the US Army and a preferred developer was terminated and a new selection process has been initiated. While most of the site will be re-used for various commercial and economic redevelopment activities, the agreement includes the reservation of ±15 acres along the waterfront for recreational uses. The greenway concept incorporates the reserved land and recommends locating the trail along and on top of an existing dike that runs the length of the property along the river. The dike is paved and wide enough to accommodate the trail. However, it needs to be rebuilt, rehabilitated and environmentally remediated before it will be safe for pedestrians and bicyclists to use. The dike is 8-to-10 feet higher than the land inward from it. Therefore, fencing needs to be installed along these sections of the dike. The US Army has completed cleaned-up and remediation of an 850-foot jetty that juts into the river from the SAEP dike. The work involved removing contaminated soil, bringing in clean fill, and placing new rip-rap along the jetty. Footings, foundation and conduit were also installed along the jetty for future amenities, including benches, 30-foot pavilion (gazebo), and lighting. A spur trail would be provided along the jetty.



Walkway on dike through SAEP (top) and rendering of proposed jetty landscaping and gazebo (bottom).

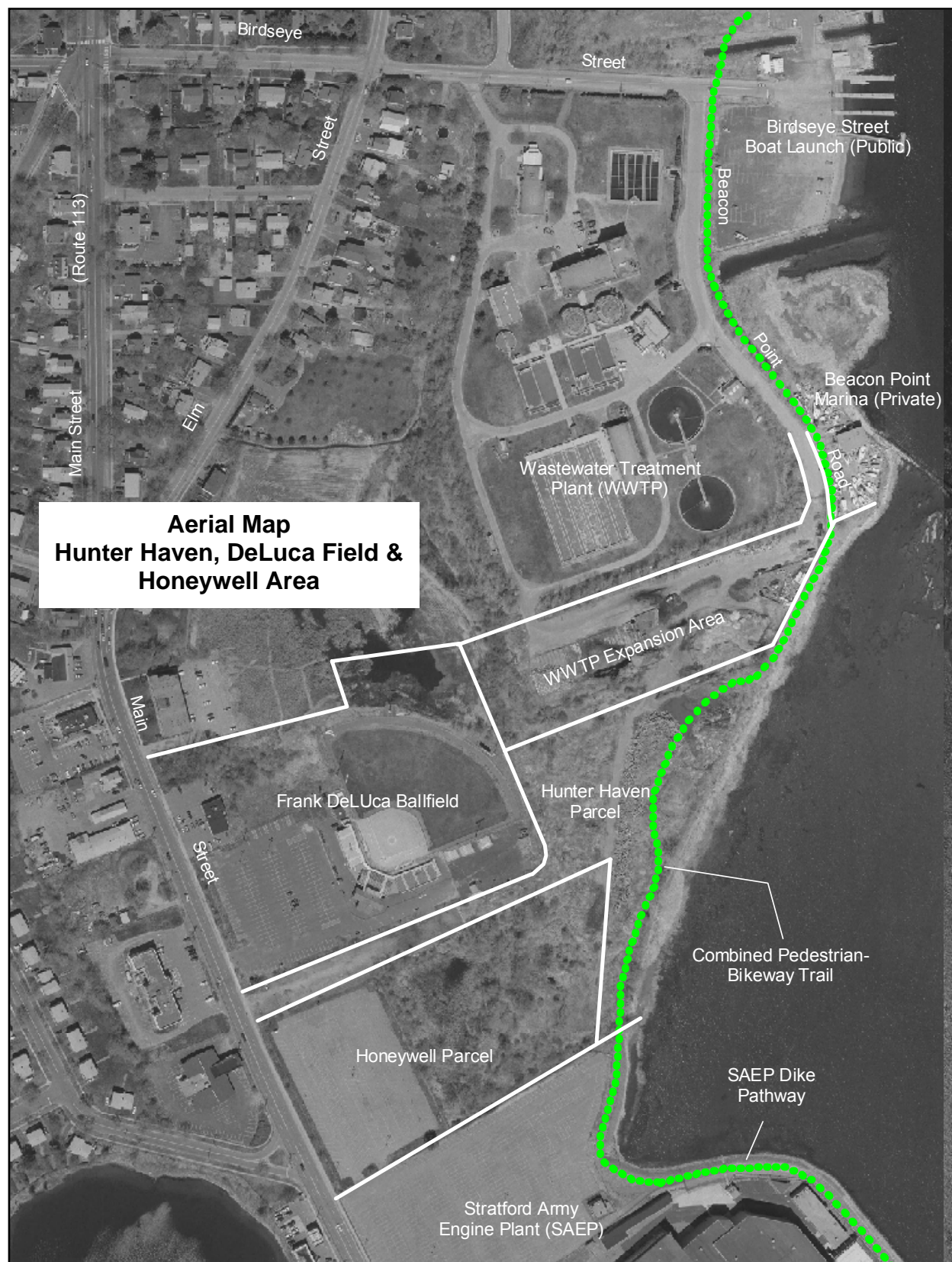


Renderings of landscaping, trail and gazebo along jetty behind SAEP – Waterfront Vision Plan.

- Point of Interest - DeLuca Field, Hunter Haven and Honeywell Parcels:** DeLuca Field and the Hunter Haven and Honeywell properties are town-owned and maintained parcels situated between the SAEP and the wastewater treatment plant. The area has about 500 feet of frontage along the Housatonic River. Because of its location, the site has a great opportunity for increased access to the riverfront and for opening views of the shore. DeLuca Field includes a lighted softball field with dugouts and bleachers. It is used almost daily during the summer months and serves as the home field for the Stratford Brakettes, a women's fast-pitch softball team. Located next to DeLuca field is the Honeywell property. It is used primarily for overflow parking for those attending a softball game. The Hunter Haven parcel lies between DeLuca Field and the river. It had been used by the town to store yard waste and convert it to mulch. Because of the potential of this area, the town completed a detail assessment of the Hunter Haven parcel and adjacent properties, and prepared a site plan for developing it for recreational purposes (refer to: *Waterfront Vision Plan*, December 2004). The proposed site improvements include general clean-up and re-grading, the construction of separated bicycle and walking trails, and provision of seating areas. The town has begun rehabilitation of the site in conjunction with the expansion and reconstruction of the wastewater treatment plant. Ground has also been broken on the construction of the seating areas and other site improvements to allow the public to access and enjoy the waterfront. An application for funds to construct the trails is pending.



View of Housatonic River from the Hunter Haven property.



Specific planned improvements to the Hunter Haven site are:

- " Constructing a 14-foot curvilinear trail through the property connecting Beacon Point Road and the planned walkway behind the SAEP property. The site plan recommends locating the trail away from the river to create a visual experience varied from the planned trail through the SAEP, which will be aligned directly along the riverfront and will be relatively straight and narrow.



- " Re-grading and landscaping the property to develop picnic areas, playgrounds, etc.

- " Installing special treatments at trail entry points, including planted medians to separate bicyclists and pedestrians, textured pavement to define "safety zones", bicycle racks and trash receptacles.



Rendering of the proposed trail through the Hunter Haven property – Waterfront Vision Plan.

- " Improvement and expansion of the DeLuca ballfield area.
- " Creating a wetlands overlook area.
- " Installing furniture and seating area to provide views of the river.
- " Establishing trail connections to Main Street (Route 113) via the access road and sidewalks, with an extension to Frash Pond.
- " Providing vehicle parking areas at DeLuca Field and along Beacon Point Road for park and trail users.



- **Point of Interest - Frash Pond:** Frash Pond is a small fresh water pond (about 24 acres) located at the intersection of Main Street (Route 113) and Access Road. It is surrounded by residential and commercial development and there is only limited of access. A small commercial strip is located along a section of the east edge of the pond and a service driveway behind the shopping center runs directly along the edge of the pond with virtually no setback from the water. For safety reasons, a chain-link fence circles the pond to prevent anyone from entering the water. Despite these characteristics, Frash Pond presents an opportunity for providing a rest area along the greenway. As part of the concept plan for the Housatonic River Greenway, a connection/link from Hunter Haven would be constructed to Frash Pond, either along Access Road or McPadden Drive. A small rest/seating area along the shore of the pond would be built. The connector would be directly aligned with either road from the opposite side of Main Street to allow users to cross without users having to travel on Main Street or make turns. If Access Road is selected for the connector, the traffic signal at Main Street would be retimed and reprogrammed to add a pedestrian actuated phase. Painted crosswalks across Main Street and regulatory signs would be installed. There is not a traffic signal or crosswalks at McPadden Drive. If this location were selected for the pathway connection to Frash Pond, new crosswalks would need to be installed and an assessment would need to be completed to determine if pedestrian signals are warranted.



Frash Pond

- **Point of Interest - Birdseye Boat Launch:** The Birdseye Street boat launch area provides public access to the Housatonic River for boaters. The area was designed to accommodate vehicles with boat trailers and the paved parking lot is marked for both car and trailer spaces. Demand is seasonal, peaking during the summer and on weekends. During other times of the year, the boat launch area provides a place for visitors to come and enjoy scenic views of the mouth



View of Housatonic River from Birdseye Street boat launch.

of the river and Long Island Sound. The trail would continue from the Hunter Haven property along Beacon Point Road. The preferred alignment would be to build the trail as a road-separated facility along the east side of the road. Depending on the available right-of-way, the width of the path may need to be narrowed from the desirable 14-foot width and be located directly adjacent to the road. A guiderail and buffer would be provided between the road and the trail along Beacon Point Road. Once within the boat launch area, the trail would be marked and located so as to minimize conflicts with boaters entering and exiting the facility and parking their cars and trailers. Under this scenario, the trail would cross Birdseye Street at Beacon Point Road, and over or around a drainage channel. A new or expanded parking area for trail users would be constructed on the north side of the boat launch area on vacant land adjacent to an existing car only parking area. This alignment would avoid the high activity parking area near the boat launch and provide some degree of separation from boaters. A picnic and rest area would also be provided at this location to take advantage of the scenic views. The trail would continue as an on-road facility from the boat launch area along Birdseye Street.



Parking area on north side of Birdseye Street Boat Launch.

- Point of Interest - Stratford Bikeway:** A bikeway along Main Street was established in 1979 from about Sniffens Lane to and into Short Beach, a distance of about 3,000 feet. It is about eight feet wide and is generally separated from the road by a 12-to-24 inch buffer. Although the bikeway remains in use and is effective in providing a safe facility separated from Main Street, its condition is fair-to-poor and is in need of rehabilitation and upgrading. Some of the identified problems include cracked pavement, sand, debris, and grass growing into the path. In addition, there are physical features (signs, poles, fencing, etc.) that intrude in the travel space and pose hazards to

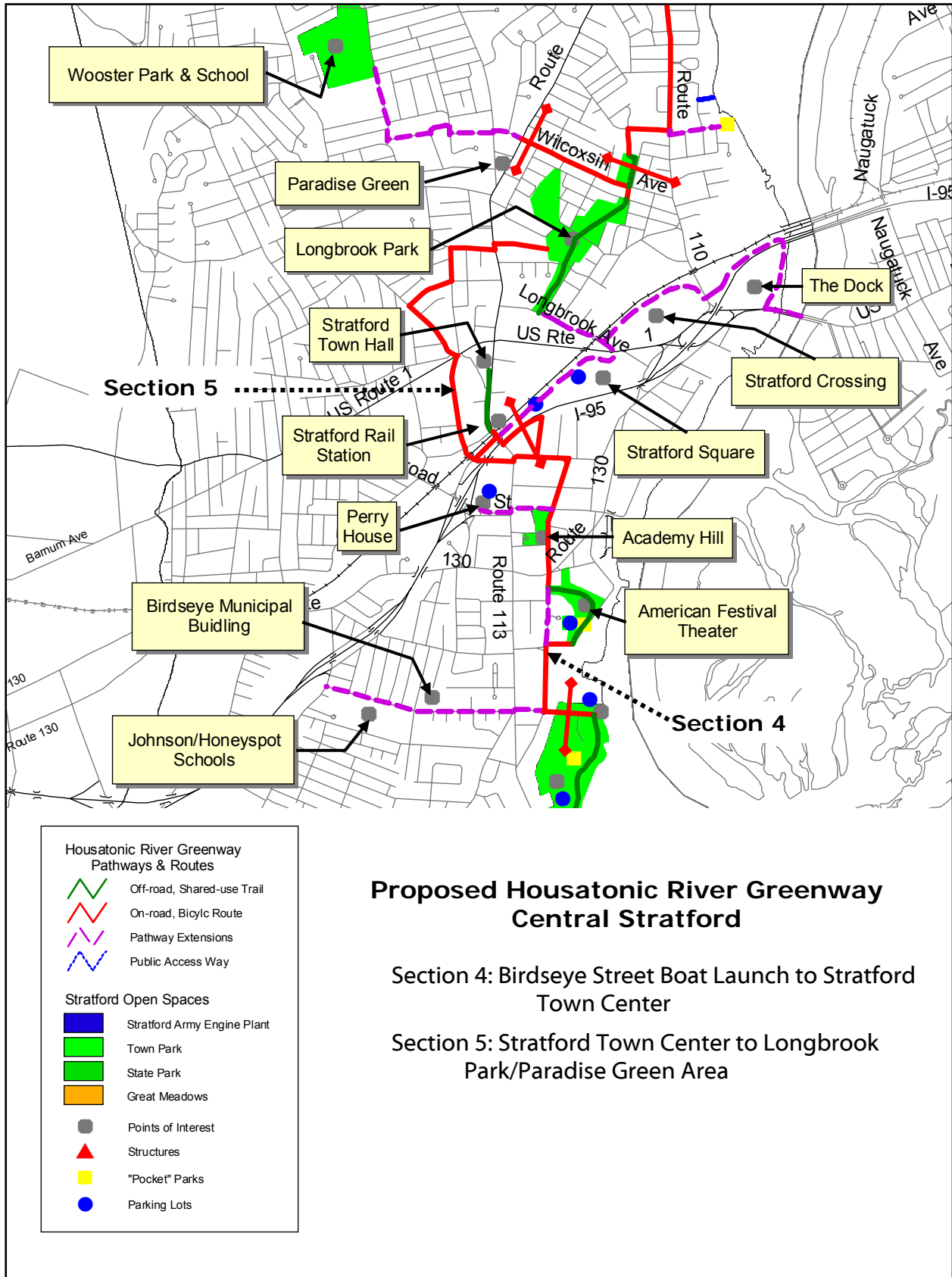


Existing Stratford Bikeway runs from Sniffens Lane to Short Beach Park.

users. By current design standards, the bikeway does not meet minimum guidelines for a two-way bikeway that would accommodate both pedestrians and bicyclists. Despite these conditions, the bikeway does offer a safer path for bicyclists traveling this section of Main Street which has four travel lanes, no-to-minimum shoulder width, and high traffic volumes. It could also provide an alternative route around the Marine Basin area and connect Short Beach Park with the Hunter Haven property if efforts to construct the greenway through the SAEP are delayed. The bikeway would need to be rehabilitated, upgraded and widened to current design guidelines, and extended to the Hunter Haven property (about 2,100 feet) before it would be incorporated in the greenway concept. Extending bikeway to access to Hunter Haven will require reconstruction of the existing sidewalk, widening it to at least an 8-foot width with a two-foot buffer from the road and relocating or eliminating obstacles within the path, including trees, posts, utility poles, and fences.

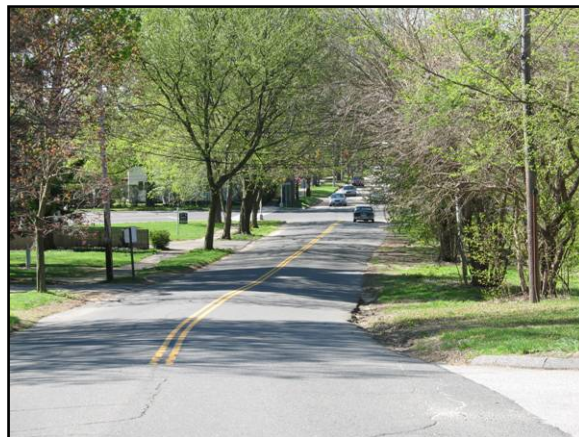
■ **Section 4: Birdseye Street Boat Launch Area to Stratford Town Center:**

- **Trail Type:** Multi-use & On-Road Bicycle Routes
- **Section Length:** ±10,900 feet (2.07 miles) - bicycle routes
±1,850 feet (0.35 miles) - multi-use trail sections
- **Trail Surface:** Paved
- **Bicycle Route Surface:** Marked, on-road shoulders with sidewalks
- **Grade:** Level
- **Safety Concern:** Moderate; mostly shared on-road facility - conflicts with traffic and several intersection crossings.
- **Description:** This section of the Housatonic River Greenway presents several challenges, because land use patterns in the area preclude developing a road-separated, multi-use trail. Almost the entire section would be aligned as a shared-road facility for bicyclists and adjacent sidewalks for pedestrians. The length of this section is about 2.4 miles, but roughly 2.1 miles is in form of bicycle routes. Another critical area to negotiate is the Town Center. Several characteristics would it more difficult for bicyclists to travel through this area safely - higher traffic volumes, median divided roadway, on-street/angled parking, numerous commercial driveways. To avoid the heart of the Town Center, a by-pass route is being suggested. The proposed alignment would be along the follow roads:



- " From the Birdseye Street boat launch, provide sidewalks and marked bicycle route along Birdseye Street to Elm Street.

- " Align the trail as a bicycle route along both sides of Elm Street from Birdseye Street to East Broadway - the road has sufficient width to accommodate the bike route without reconstructing it with wider lanes. It may be possible to narrow the travel lanes to 11 feet, if necessary. There is a fairly wide green space between the road and residences in the area, especially along the west side of Elm Street.



Elm Street in vicinity of Academy Hill; on-road section.

It may be possible to provide a 14-foot wide path through this area. However, given the relatively short distance of this section, the need to transition from an on-road facility to a road separated path and back to an on-road bike route would create a high number of conflict points, increase safety concerns and require bicyclists to move from one side of the road the other to maintain flow in the proper direction. In addition, the off-road path would not be in keeping with the character of the residential neighborhood.

- " Use the existing sidewalk along Elm Street for pedestrians. The condition of the sidewalks needs to be assessed and evaluated, and upgraded, rehabilitated or extended as necessary.

- " Provide an alternate alignment along the south end of Shore Road and through the American Festival Theater property. Shore Road from Elm Street to the theater property is wide enough to accommodate walkers and bicyclists within the shared right-of-way of the road. This is acceptable because the traffic volumes are very low. If necessary, a sidewalk would be provided, but it would not



Shore Road behind American Festival Theater.

be necessary to add bike route pavement markings. The trail would wind through the park and emerge back onto Elm Street near the theater's entrance driveway. A seating/rest area with benches and bicycle racks would be built within the theater property to allow users to enjoy the views from the park as well as the property itself. The alignment through the theater property will require coordination with the group that is charged with rehabilitating the theater and grounds to determine how it would be incorporated into the renovation plans.

" At the end of Elm Street, continue the bicycle route along East Broadway.

" As an alternative to guiding bicyclists to Main Street and directly through the Town Center, separate northbound and southbound by-passes are suggested. In the northbound direction, the bicycle route would turn onto Sutton Avenue, a short distance from Main Street. At the end of Sutton Avenue there is an access road that extends to Main Street. It is adjacent to the I-95 retaining wall and continues



Access way from Sutton Avenue – prohibit parking & vehicle access & develop bikeway.

behind retail and commercial buildings off of Main Street. Currently, cars park along both sides of the roadway. It is recommended that parking along the entire length of the roadway be prohibited (and enforced) and that the short section (± 300 feet) between Sutton Avenue and the access to the commercial parking lot be closed to motorized traffic. The section behind the commercial and retail buildings would remain open to traffic in one-way outbound direction to accommodate deliveries. Parking would be prohibited along this section. A bicycle lane would be marked through the area. At Main Street, bicyclists would then be directed under I-95 and to the New Haven bound (outbound) parking lot of the Stratford railroad station. Pedestrians would follow existing sidewalks to and along Main Street to the rail station through the Town Center. In the southbound direction, the bicycle route would be aligned from the rail station parking across Main Street and along Linden Avenue and Church Street to East Broadway. This allows bicyclists to cross Main Street at a traffic light and eliminates need for turns. Linden Avenue and Church Street are one-way streets and the bicycle route would flow in the same direction. On street parking is prevalent along both roads, mostly by

rail commuters who cannot obtain a permit in the rail lots or choose not to pay for parking at the station. As part of the project to construct a new parking garage at the Stratford rail station, on-street parking should be prohibited on Linden Avenue and Church Street. This would allow for marking a six-foot bicycle lane along the path with no parking to conflict with bicyclists.

In addition to the alignment described above, a spur pathway would be developed from Elm Street along Broad Street and West Broad Street to the Perry House. This historic home (c. 1690) has been renovated and is being used as a tourist information center. Because of its convenient access to I-95, proximity to the town center and available parking supply, the Perry House would be viable gateway for the greenway.

- **Point of Interest - American Festival Theater:** The American Festival Theater, formerly the American Shakespeare Theater, opened in 1955 and was the venue for many years for a wide variety of musical and theatrical performances, with a focus on Shakespearian plays. Although it has been closed for many years, the theater remains a town landmark. The theater was built in the style of the original Shakespearian theater and the ±11-acre site has impressive views of the Housatonic River and Long Island Sound. When it closed, the state assumed ownership of the property and administered it as a state park, but the theater remained closed due to deterioration and unsafe conditions of the building. Title has since been transferred to the town of Stratford. The town has been working in recent years to negotiate an agreement with a private group to renovate the theater and stage performances. Given the theater's proximity to the river and its location within the greenway corridor, the feasibility of aligning the trail through the site needs to be pursued and made part of any agreement on the rehabilitation and redevelopment of the property. Constructing the trail through the site will ensure some public access to this important town landmark and guarantee public enjoyment of the scenic views from the theater.



American Festival Theater

- **Point of Interest - Academy Hill:** Academy Hill is a town park located along Elm Street south of Broad Street. The green space is reserved for passive recreation activities. A World War II memorial and an historic cemetery are located within the park. It lies within the Academy Hill Historic District and is

the location of the Stratford Historical Society's headquarters and museum as well as several monuments. The planned trail would remain aligned along Elm Street and there are no plans to construct an off-road multi-use path through the area.

- **Point of Interest - Perry House:**

Perry House (*circa 1690*) is an historic home located on West Broad Street near the Town Center area. It shares a parcel with the Baldwin Senior Center and town library and has good access to I-95, via Exit 32. The town has renovated the structure and it is operated by the Perry House Foundation. Visitor tours are made of the house and it is available for rental to host various programs. A visitor information center is also housed in the house, operated by the Chamber



Perry House on West Broad Street.

of Commerce. Its convenient location to I-95 and proximity to the town center make it ideal for providing tourist information. A connection would be provided from the Perry House to the greenway so that users could obtain information on town attractions and then access the greenway.

- **Point of Interest - Birdseye Municipal Complex:** The Birdseye Municipal Complex is houses several municipal departments, including the departments of Health and Community Services, and provides meeting room space for various organizations.

- **Section 5: Stratford Town Center to Longbrook Park/Paradise Green Area:**

- **Trail Type:** On-Road Bicycle Routes
- **Section Length:** ±6,800 feet (1.77 miles) - bicycle routes
±3,000 feet (0.57 miles) - multi-use trail sections
- **Trail Surface:** Paved
- **Bicycle Route Surface:** Signed, shared-road & sidewalks
- **Grade:** Level
- **Safety Concern:** Moderate-to-high; areas of concern include crossings of Barnum Avenue (US Route 1) and Main Street (Route 113), **need to place trail**

on Nichols Avenue (Route 108) and use of on-road routes over most of the section.

- **Description:** This section of the Housatonic River Greenway extends the greenway from the town center area through Longbrook Park and to the vicinity of Paradise Green. Because of the land use patterns in the area, the trail is oriented away from the Housatonic River and opportunities to construct a road-separated, multi-use trail are limited. It is aligned as an on-road facility over its entire length to Longbrook Park and uses existing sidewalks for pedestrians. Crossings of two state highways pose some concerns and enhanced pedestrian features need to be installed at these locations to provide better safety and protection for users. Longbrook Park offers an opportunity of constructing a road-separated path to connect Longbrook Avenue and Wilcoxsin Avenue; however, the park is well developed with multiple recreational uses. A trail alignment through the park must be selected with respects to the existing facilities and in way that compliments these activities. The proposed alignment of this section is as follows:

" Continue the on-road bicycle route along Linden Avenue to King Street and follow King Street to Barnum Avenue (US Route 1). It would continue across Barnum Avenue at a signalized intersection and onto Nichols Avenue (Route 108). Despite high traffic volumes, wide shoulders on Nichols Avenue would provide sufficient space for a bicycle route. At Hillside Avenue, the trail would turn right and continue to King Street. From King Street, it would follow North Avenue to Main Street. It would cross Main Street at a signalized intersection and continue onto Beers Place. A connection would be built at the end of Beers Place to the proposed off-road trail through Longbrook Park.

" Longbrook Park begins at the south end of Elliott Street at Longbrook Avenue. A green space is located along Elliott Street extending between Longbrook Avenue and Hurd Avenue. An off-road trail would be built through the green space and then through Longbrook Park. The exact alignment through Longbrook Park needs to be determined.



Longbrook Park along Elliott Street

It would preferable to align the trail through the less developed areas of the park and around existing active recreational facilities - ballfields, tennis courts, playgrounds. A preliminary field

review suggests the east side as the better area for the trail. This area has more recreational activities but also more undeveloped spaces. The west side of the park has more houses along its border and would likely be impacted to a greater extent by the trail. Under this, scenario, the trail would exit the north end of the park in the vicinity of Beacon Street. For either alignment, the design needs to be carefully coordinated with the town's parks department to ensure compatibility with existing facilities and resolve any potential impacts with the greenway passing through the park.

- " The trail would continue as an on-road facility along Beacon Street to Wilcoxson Avenue. A spur trail would be provided along Wilcoxson Avenue, as an on-road bicycle route, to provide access to the Paradise Green area while the main trail would continue along Beacon Street and through the Wilcoxson Elementary School property.

The length of this section is about 2.5 miles.

Because of traffic volumes and major highway crossings, the on-road alignment may not be the best option for this area. As an alternative, the use of the parking lots of the Stratford railroad station and the Stratford Square shopping center is suggested as a possibility to minimize the length of trail that would be located on-the-road and reduce possible vehicle-bicycle conflict points. It also would include aligning the trail along a narrow section of Longbrook Avenue that also would create a potential safety concern. However, this alternative would require substantial coordination and cooperation among the town, the owner of the shopping center and the ConnDOT to resolve access and use issues. It would also require flexibility and innovative planning to implement a trail alignment that would not strictly adhere to established design guidelines for bicycle facilities. However, this alternative may offer a better and safer route through a developed and congested area. It should not be rejected without further study to assess its practicality and determination of feasibility.

The possible alignment is described as follows:

- " Mark a path for the trail through the outbound parking lot of the Stratford rail station from Main Street to the east end of the lot.
- " Construct a trail from the end of the rail station parking lot through the parking lot for the Stratford Square shopping center to the access driveway of the



Outbound (south side) parking lot at Stratford railroad station

shopping center from Barnum Avenue Cut-off. This would involve removing the existing fencing at the east end of the rail lot and aligning the path along an existing walkway that connects to the Stratford Square Shopping Center. The trail would then be built along the northwest edge of the parking lot, possibly on land within the New Haven rail line right-of-way. The tracks are separated from the parking lot by 90-to-100 feet. It may be feasible to relocate the chain link fence and locate the trail within a part of this setback area. Safety concerns regarding the proximity of the trail to the New Haven rail line would need to be addressed and resolved. A number of parking spaces along the edge the lot would be lost but several field visits suggest ample parking supply and the parking reduction may not cause unacceptable impact. The potential lost of parking spaces, however, would need to be evaluated before this option is implemented.



Parking lot of Stratford Square shopping center along New Haven rail line.

- " Mark a path to the access driveway of the shopping center from Barnum Avenue Cut-off. Land constraints and elevation differences preclude developing a separate bicycle path from the shopping center directly to Longbrook Avenue. However, the use of this driveway allows bicyclists to cross Barnum Avenue Cut-off at a traffic light and continue directly onto Longbrook Avenue. A sidewalk would be built along the driveway and a pedestrian phase and signals would be installed at the intersection to better protect bicyclists and pedestrians as they cross Barnum Avenue Cut-off.

- " The path would continue along Longbrook Avenue to Elliott Street and into Longbrook Park. Longbrook Avenue is fairly narrow from Barnum Avenue Cut-off, over the New Haven rail line to the vicinity of Cottage Place. The width precludes marking bicycle route lines along the shoulder area; although a sidewalk is in place along the south edge of the road. The sidewalk ends at the west side of the railroad bridge. Special warning and speed control features or some form of traffic calming would be installed in this area to highlight the need to share the road and slow traffic down. However, these features cannot impede traffic too much because of the location of the Stratford Police Department west of the area and to prevent reducing response times of the police. Despite potential difficulties in traveling through the area and the increased possibility of bicycle-vehicle conflicts, this section is short (only about 400 feet) and design treatments would adequately inform users and travelers about the potential hazards. After crossing the railroad bridge, bicycle route markings would be added and sidewalks built to Elliott Street.



Longbrook Avenue – curve near US Route 1 intersection (upper) and over New Haven line bridge (lower).



This alternate route would be slightly shorter than the on-road alignment.

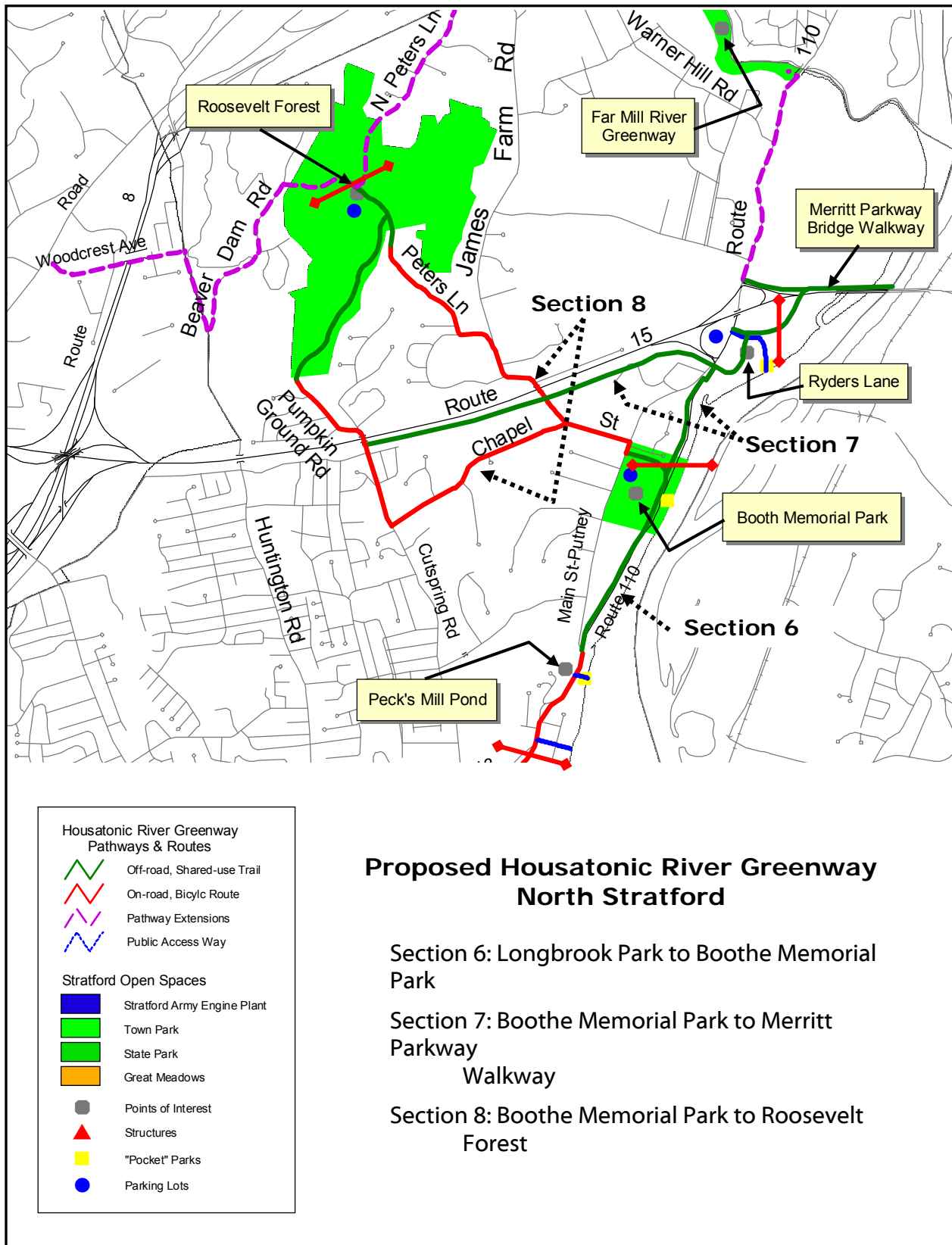
- **Point of Interest - Stratford Rail Station:** The Stratford rail station is one of four stops by the Metro-North Railroad along the New Haven rail line in the Greater Bridgeport planning region. About 75 trains stop at the station each day. It consists of two wooden structures that date from the time of when the New Haven line was built. A small, in-door waiting area is provided in the in-bound station building. No ticket office is available. Permit and day parking is available in two lots, one lot located on each side of the tracks. The capacity of these lots is ± 317 spaces. Plans are being advanced to build a ± 600 -space parking garage on the in-bound (New York) side of the tracks. This project will relieve the parking shortage experienced at the Stratford rail station and help reduce the waiting list for a commuter parking permit. The town should

coordinate efforts to develop the Housatonic River Greenway with the design plans for the new parking garage to determine the feasibility and opportunities for aligning the trail through the rail station as described above and to ensure bicycle facilities and amenities are incorporated into the project.

- **Point of Interest - Stratford Square Shopping Center:** Stratford Square is an open air shopping center comprised of a variety of small-to-medium sized retail stores, a multi-screen movie theater, health/fitness club and restaurants. It is located on Barnum Avenue Cut-off (US Route 1) with access points from Barnum Avenue Cut-off and Veterans Boulevard.
- **Point of Interest - Longbrook Park:** Longbrook Park is a ±38-acre town-owned park that provides a wide variety of active recreational facilities, including Penders Field, a football and baseball facility used by Stratford High School teams. The park is irregularly shaped, roughly in the shape of a “Y”, extending from Longbrook Avenue to Wilcoxson Avenue. A small pond (Brewsters Pond) is located in the northwest section of the park, while most of the recreational facilities are located in the northeast part.

■ **Section 6: Longbrook Park to Boothe Memorial Park:**

- **Trail Type:** Multi-use & On-Road Bicycle Routes
- **Section Length:** ±7,400 feet (1.40 miles) - bicycle routes
±5,750 feet (1.09 miles) - multi-use trail sections
- **Trail Surface:** Paved, with soft shoulders
- **Bicycle Route Surface:** Marked, on-road shoulders with sidewalks
- **Grade:** Level
- **Safety Concern:** Moderate-to-high; areas of concern include traffic volumes and vehicle speeds along Route 110, and crossing Route 110 at Route 113 and at Main Street Putney.



- **Description:** This section of the Housatonic River Greenway extends the greenway from Longbrook Park to Boothe Memorial Park and uses a combination of on-road bicycle routes, existing sidewalks and road separated multi-use paths. Because of land use patterns along this section, most of the trail is aligned as an on-road facility. Opportunities to construct road-separated, multi-use trail sections are limited; however, it may be feasible to provide an off-road path along River Road (Route 110) from the south end of Main Street



Steep grade at Boothe Park & River Road.

Putney to Boothe Memorial Park and northward to the Merritt Parkway, as well as through the park to Main Street Putney. The available right-of-way along River Road (Route 110) needs to be determined, but there appears to be sufficient space along the west side of the road to build a path. Even if land is available, the construction of the trail along River Road may be problematic, because of rock outcrops, drainage issues, wetlands or stream crossings. The width may be reduced but an adequate and proper buffer would need to be installed to separate the road and the trail. An engineering study needs to be completed of this section to determine the feasibility of aligning the trail along River Road and identifying physical and environmental constraints. The alignment through Boothe Memorial Park would also need to be assessed in greater detail to determine feasibility. The primary concern is the steep elevation difference between River Road and Main Street Putney.

It may also be possible to construct an off-road trail within the corridor of Raven Brook, a small stream that runs in a northwest-to-southeast direction between Main Street (Route 113) and East Main Street (Route 110). Ownership of the surrounding land and environmental issues - flood zone, buffer, conservation set-backs - need to be further investigated. This alignment would shift the trail from the East Main Street (Route 110) corridor to the Main Street (Route 113) corridor.

The total length of this section is about 2.5 miles, with roughly 1.4 miles in the form of on-road bicycle routes. However, if the River Road alignment is not feasible, it would be necessary to continue the trail along Main Street Putney as an on-road route. The proposed alignment of this section is as follows:

- " Construct a multi-use path from Wilcoxson Avenue through the Wilcoxson Elementary School property to Greenlawn Avenue.

" Mark an on-road bicycle route along Greenlawn Avenue and Wakelee Avenue to East Main Street (Route 110) and continue along East Main Street to Main Street (Route 113) and follow Main Street (Route 113) with a bicycle route to vicinity of Main Street Putney. A spur pathway would be provided from Wakelee Avenue, across East Main Street and along Brookside Drive. A small "pocket" park with a seating area could be built to provide a view of the Housatonic River along Brookside Drive.

" Construct an off-road trail from the vicinity of Main Street Putney along the west side of River Road (Route 110) to Boothe Memorial Park. The off-road trail would begin in Peck's Mill Pond Park, located just south of Main Street Putney. Rest/seating areas would be built in this park and on the east side of Main Street on town-owned, riverfront land. Special crossing treatments would be installed at the start of this section to safely carry users across Main Street. The intersection of Main Street Putney at River Road was recently realigned. The area of the closed section of the road could be reused for trail access and vehicle parking.



Along Brookside Drive – provide scenic overlook.

" At Boothe Memorial Park, the trail would be shifted into and through the park with an outlet onto Main Street Putney. The alignment through the park needs to be determined and sensitive to the existing facilities and buildings. One concern is the steep grade change between the elevation of River Road (at ±30 feet) and that of the main entrance to the park (at ±130 feet). The trail may need to be built with a series of switchbacks to maintain a reasonable grade.



Pecks Mill Pond – provide small seating area.

- **Point of Interest - Peck's Mill Pond Park:** Peck's Mill Pond Park is an undeveloped public open space that preserves an historic mill pond. The ±14.0-acre site is dominated by the pond and the land remains in a natural setting. However, public access is limited. The parcel also includes public open space on the east side of Main Street along the riverfront that is under-utilized.



Pecks Mill Pond.

- **Point of Interest - Boothe Memorial Park:** Boothe Memorial Park is a ±32-acre historic park that preserves the former Boothe homestead, which dates back to 1663. The park consists of a unique collection of historic buildings, including the Boothe home and carriage house, blacksmith shop, chapel, clock tower museum, a trolley station and an old toll booth from the Merritt Parkway. Also on-site are the Boothe Memorial Observatory, the Boothe model railroading society, picnic areas and playgrounds. It is listed on the National Register of Historic Places.



Boothe Memorial Park – grounds and historic buildings.

■ **Section 7: Boothe Memorial Park to the Merritt Parkway:**

- **Trail Type:** Multi-use & On-Road Bicycle Routes
- **Section Length:** ±3,950 feet (0.75 miles) - multi-use trail sections (Alternative 1)
±2,300 feet (0.44 miles) - bicycle routes (Alternative 2)
±5,100 feet (0.96 miles) - multi-use trail sections (Alternative 2)
- **Trail Surface:** Paved, with soft shoulders

- **Bicycle Route Surface:** Marked, on-road shoulders with sidewalks
- **Grade:** Level-to-gradual grades
- **Safety Concern:** Moderate-to-high; areas of concern include traffic volumes and vehicle speeds along Route 110 and crossing Route 110 at the Merritt Parkway northbound ramps.
- **Description:** This section of the Housatonic River Greenway extends the trail to the new walkway along the Merritt Parkway and on the north side of the new Sikorsky Memorial Bridge over the Housatonic River. The new walkway extends from Main Street (Route 110) across the bridge and into Milford. It has two access points; one on either side of the Merritt Parkway overpass of Main Street. However, neither access point is easily accessible to the proposed Housatonic River Greenway. The critical aspect of this section is how best to connect the greenway to the Merritt Parkway walkway. Two possible alternatives are presented, although neither is without reservations or difficulties:
 - " The first alternate route (Alternative 1), pending an engineering assessment, would continue the off-road trail along the west side of River Road from the branch into Boothe Memorial Park. At some point before the intersection with Main Street Putney (north junction), the trail would cross Route 110 and continue along the east side of the road. A crossing location in advance of the intersection would reduce potential conflicts from turning vehicles, avoid the awkward geometry at Main Street Putney and the Merritt Parkway ramps, and be along a narrower section with a lower daily traffic volume ($\pm 12,800$ vehicles per day) than north of the ramps ($\pm 24,100$ vpd). However, because of the traffic volumes and speed of traffic, it may be appropriate to install an actuated pedestrian/traffic signal at the crossing and other pedestrian safety features to protect trail users. This would require a detail signal warrant assessment. Additional possible safety features that should be considered include installing a marked cross walk, a raised concrete refuge island, painted advance warning center-island and advance warning signs. The proposed features would be similar to the design for crossing Route 111 in Trumbull of the Housatonic Railroad Trail. The concept of extending the trail along the east side of Route 110 may be constrained, however, by insufficient land, uneven terrain, several open drainage channels, stream crossings, and rock outcroppings.
 - " The second alternative (Alternative 2) would extend bicycle routes along Main Street Putney to Chapel Street to a new off-road trail along the south side of the Merritt Parkway. There appears to be sufficient right-of-way to build the trail; however, the topography needs to be

determined to ensure the trail meets design grade guidelines. The trail would continue across Route 110 in the vicinity of the Merritt Parkway northbound ramps. The existing traffic light would be modified to include a separate, actuated phase for trail uses.



Unused right-of-way along the south side of the Merritt Parkway from James Farm Road – consider building trail through area to Route 110.

" After crossing Route 110, the trail would continue along Charlotte Street and Oronoque Place and through or behind the Ryders Lane shopping center. It would then join with the south section of the Merritt Parkway walkway. This alternate route may be constrained by its location through a commercial development.

" A spur pathway would be provided along Ryders Lane to a new "pocket" park with a seating area at the end of the road. This rest area would provide a view of the Housatonic River.



View of the Housatonic River from the end of Ryders Lane – opportunity to build a small "pocket" park with benches.

The walkway over the new Sikorsky Memorial Bridge provides a connection between Stratford and Milford for non-motorized modes - walking and bicycling - and provides users expansive views of the Housatonic River. An objective of the Housatonic Greenway Plan is to make a connection to the walkway so it can become an integral part of a larger trail network. However, opportunities to provide a connection to the Merritt Parkway walkway are limited and several problems and issues need to be addressed regardless of which



Walkway over the Merritt Parkway – looking towards Milford.

alternative alignment for the greenway is selected. The critical concerns are the crossing of Route 110 and the Route 15 northbound off-ramps. Regardless of which alternate route is selected, crossing Route 110 poses a safety concern at either point. The cross section of Route 110 through this section is complex; consisting of four-to-five lanes, with multiple turn lanes and traffic signal phasing. In fact, there are signs at the Main Street Putney intersection that prohibit pedestrians from crossing at this location. Traffic volumes are high, especially in the vicinity of the Merritt Parkway interchange, and travel speeds exceed posted speed limits.

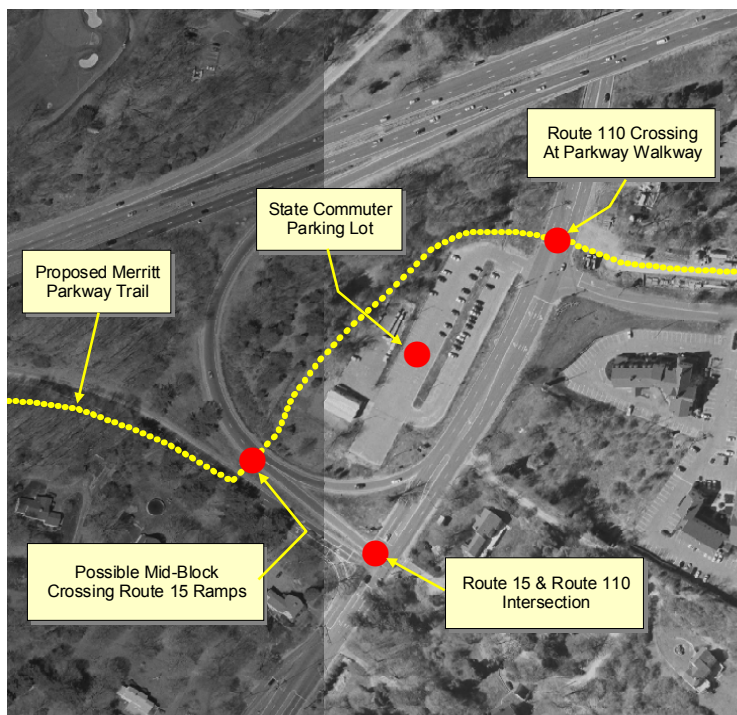
The south section of the walkway starts at the intersection of Route 110 and Ryders Lane. A crosswalk extends across the south leg of Route 110 between Ryders Lane and the state commuter lot. It would be reasonable to expect many trail users to park in the commuter lot and cross Route 110. An actuated pedestrian signal is available to stop traffic and allow pedestrians to cross safely under an all red phase. A crosswalk and pedestrian signal also exists on Ryders Lane. The pedestrian signals are in good condition and up-to-date; however, enhancements may be warranted given the likely increase in the amount of pedestrian and bicycle activity. Also, the condition of the crosswalks is fair with the paint worn and faded. Again, given the likely increase in pedestrian activity, these crosswalks require enhancement and it may be reasonable to install special features that make



Route 110 crosswalk from the state commuter lot at the start of the walkway over the Merritt Parkway.

the crosswalks more visible to on-coming traffic. Improvements are also needed between the parking lot and the Route 110 crosswalk. Currently, there is no path from the commuter lot to the crosswalk and the chain-link fence along the edge of the lot extends all the way to the entrance driveway. This forces anyone parking in the lot and wanting to cross Route 110 to walk around the fence onto the driveway to access the crosswalk. The fence needs to be removed in the vicinity of the crosswalk and pedestrian signal and a pedestrian path defined.

Neither of the alternatives offers an ideal alignment or would be easy to build. Perhaps the best option for connecting to the Merritt Parkway walkway would be to align the trail through the commuter lot, but it is locked in by the Parkway, the northbound ramps and Route 110 with virtually no pedestrian or bicyclist access. An alternative that should be given some consideration if the trail is built within the Merritt Parkway right-of-way is a crossing of the northbound off-ramps at a mid-point location away from the intersection with Route 110. The trail would then pass through the state



Aerial photo of the Merritt Parkway & Route 110 interchange area showing possible crossing of ramps & alternate alignment of the trail to connect with Parkway walkway.

commuter parking lot, cross Route 110 at the traffic light at Ryders Lane and be aligned opposite the access point for the Merritt Parkway walkway. Although locating the trail crossing away from the intersection would result in bicyclists and walkers crossing the ramps at an uncontrolled location, it would provide a shorter crossing distance and fewer conflicts. The cross section of the ramps at Route 110 stretches for ± 260 feet and consists of three exit lanes with a right-turn cut-off and two separate entrance lanes, one for each direction of traffic from Route 110 including a large radius, loop-ramp for southbound traffic. By contrast, the cross section of the mid-point location would be only about 70 feet wide and require users to cross only three lanes of entering and exiting traffic. **When crossing, pedestrians and bicyclists would only have to be concerned with vehicle movements in two directions. By contrast, at Route 110 six separate vehicles movements would need to be considered. Ideally, a**

grade-separated structure should be installed to carry the trail over the ramps. However, that option is likely to be a long term action. In the meantime, special features would be installed, such as, advance warning signs, flashers, and marked crosswalk to warn motorists and protect users as they crossed the ramps. The crossing of the Merritt Parkway ramps may create unacceptable safety risks for both vehicles and trail users and grade-separating the trail may be cost prohibitive. As with the other alternatives, the feasibility and safety of this option needs to be evaluated in more detail.

The total length of this section is about 0.75 miles for Alternative 1 and 1.4 miles for Alternative 2, with roughly 0.4 miles in the form of on-road bicycle routes.

- **Point of Interest - Merritt Parkway Walkway:** The Sikorsky Memorial Bridge carries the Merritt Parkway over the Housatonic River. The bridge was replaced with a new span that eliminated the steel grid deck and replaced it with a solid concrete structure. It was also widened to six lanes and provides lane continuity between the Milford Parkway (I-95 connector) and Route 110 ramps. As part of the project, a pedestrian and bicycle walkway was built on the north side of the bridge and connects Stratford to Milford. It is a paved facility, measuring about eight wide, with a clear space along both sides of the path and chain-link fence along the outside edge. There are two main sections that form a horseshoe shape extending from Route 110 on each side of the Merritt Parkway overpass and under the bridge. The south section runs along Ryders Lane and crosses under the bridge along the riverfront to continue as the north section, which lies between the southbound off-ramp and the Sikorsky



Merritt Parkway walkway – south section (top), under bridge (middle) and north section (bottom).

Aircraft plant. A connection is made from the north side section up to and over the bridge. The two starting points of the walkway are separated by about 1,050 feet along Route 110 and there is no practical or safe to walk or bicycle between these two points - Route 110 has a four-lane cross section, the underpass of the Merritt Parkway is narrow with no shoulders, users need to cross the southbound ramps, and traffic volumes are about 25,400 vpd. On the Milford side, the access point is from Wellington Road. The draft pedestrian and bicycle trails plan for the city of Milford indicates that the Merritt Parkway walkway would connect with the proposed west loop trail network as well as the East Coast Greenway (ECG).

- **Point of Interest - Ryders Landing Shopping Center:** This commercial and retail center is comprised of a variety of small retail stores, restaurants and offices.

■ **Section 8: Boothe Memorial Park to Roosevelt Forest:**

- **Trail Type:** Multi-use & On-Road Bicycle Routes
- **Section Length:** ±7,200 feet (1.36 miles) - bicycle routes (Alternative 1)
±1,600 feet (0.31 miles) - multi-use trail sections (Alternative 1)
±4,300 feet (0.82 miles) - bicycle routes (Alternative 2)
±7,900 feet (1.50 miles) - multi-use trail sections (Alternative 2)
- **Trail Surface:** Paved, with soft shoulders along Merritt Parkway; soft, compacted stone dust in Roosevelt Forest
- **Bicycle Route Surface:** Marked, on-road shoulders with sidewalks
- **Grade:** Level-to-gradual grades
- **Safety Concern:** Moderate; shared-road facility over most of its length but volumes fairly low, narrow road width along Peters Lane.
- **Description:** This section of the Housatonic River Greenway extends the trail to Roosevelt Forest, the planned terminus of the greenway. Because of development and land use patterns, the entire path to Roosevelt Forest would be aligned on roads as marked bicycle routes with adjacent sidewalks. Once in the forest, the trail would be shifted from the road and built as an off-road, multi-use trail. A direct route from Boothe Memorial Park would follow: Main Street Putney to Chapel Street to James Farm Road to Peters Lane. The total length of this section is about 1.7 miles, with roughly 1.4 miles in the form of on-road bicycle routes.

There are sidewalks along most of Chapel Street and James Farm Road to Peters Lane. It may be possible to widen the sidewalks and clear and remove all obstructions to accommodate both bicyclists and pedestrians. This action would depend on the availability of sufficient right-of-way. If not, both roads are wide enough to carry a marked bicycle route.

Unlike Chapel Street and James Farm Road, Peters Lane is very narrow, the pavement is in poor condition and there are currently no sidewalks. Substantial improvements and upgrades are necessary before it could handle a bicycle route and pedestrian walkway. Also, the intersection at James Farm Road is awkward, joining at a skewed angle with an initial down grade. Some improvements and/or realignment would be required. The feasibility and cost of upgrading the Peters Lane and adding bicycle and pedestrian features needs to be assessed and determined. Once into Roosevelt Forest, the trail would be built away from the road and in the forest.



Roosevelt Forest – one of the main trails through the forest.

Because of the condition of Peters Lane and the need to improve and widen the road, **an alternative alignment for the trail would be to continue along Chapel Street to Cutspring Road and then onto Pumpkin Ground Road. From the cul-de-sac at the end of Pumpkin Ground Road, the trail would enter Roosevelt Forest along an existing access point and follow an established hiking trail. It would be widened, re-graded and improved to accommodate a multi-use function of the greenway. To minimize impacts, a soft surface would be used along this section. The extent of improvements to the existing trail needs to be assessed and determined. These roads are in better condition and better able to accommodate both bicyclists and vehicles.**



Access to Roosevelt Forest from Pumpkin Ground Road.

A long term goal of the regional transportation plan is to construct a multi-use trail along and within the right-of-way of the Merritt Parkway. Instead of using

Chapel Street, aligning the trail within the Merritt Parkway right-of-way should be advocated. A new multi-use trail would enter the available right-of-way of the Merritt Parkway from Chapel Street and pass behind Flood Middle School. It would continue to Cutspring Road, a distance of about 0.75 miles.

Overall, this alternate route would be slightly longer than the initial concept but it would require less rehabilitation of existing roads and has the potential for developing a longer proportion of the trail as a road-separated, multi-use trail. The total length of this alternate route is estimated at ± 2.3 miles, with about 1.5 miles as an off-road trail, if the land along the Parkway is used.

- **Point of Interest - Roosevelt Forest:** Roosevelt Forest is a ± 295 -acre, town-owned forest preserve located in the north end of Stratford. The park was established during the depression era as a WPA project. In more recent years, the town has acquired adjacent properties or has received property via donations. The exact boundaries are currently unclear and the update of the town plan of development recommended that the town review its properties in the vicinity of the forest, determine which should be included and establish clear boundaries. The main access to the forest is from Peters Lane. This entrance leads to a parking lot and picnic area. There are three other secondary access points, located from North Peters Lane (north), Pumpkin Ground Road (south) and Beaver Dam Road (west). Although the trailheads are fairly obvious, they are not clearly marked as leading into Roosevelt Forest. Parking at these points is limited to on-street parking. The forest is crisscrossed by a network of hiking trails totaling about five miles. The trails are fairly wide and easy to follow. Mountain biking is also a popular activity.



Main entrance to Roosevelt Forest along Peters Lane. The road is narrow & needs improvement.



The secondary access points to Roosevelt Forest are not clearly marked

■ Inter-town Connections & Pathways:

One of the purposes of the pathways plan is to identify opportunities to extend planned greenway sections to connect with existing, planned or proposed trails and paths in adjacent communities. The town of Stratford is bordered by the cities of Bridgeport, Milford and Shelton and the town of Trumbull. Each municipality has or is planning some type of trails within their communities.

In the Greater Bridgeport planning region work continues on developing and constructing the Housatonic Railroad Trail (HRT). The HRT consists of a continuous multi-use path from Long Island Sound to the Monroe-Newtown town line, aligned generally along the path of the abandoned Housatonic Railroad line and parallel to the Pequonnock River. Three sections have been completed and are open for use, while the design phase for a major extension is schedule to begin in 2008. Once completed, the trail will extend a distance of about 16 miles and provide access to a number of activity centers. Among the key points of interest are several local and state parks, the Bridgeport Zoo, downtown Bridgeport and Trumbull Center. The trail also provides access to and connects with various public transit operations, such as, Metro-North commuter railroad, GBTA local bus service, Port Jefferson ferry service, and interstate rail and bus service.

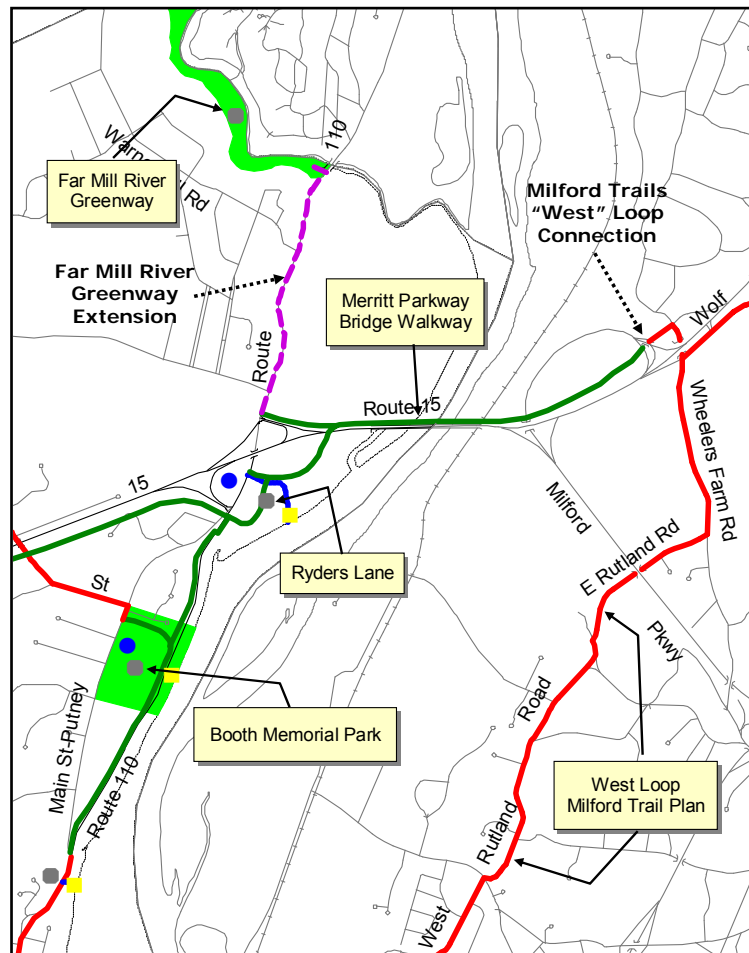
Future extensions of the trail are being considered that will continue it through the east end of Bridgeport to Pleasure Beach and the south end to Seaside Park.



Housatonic Railroad Trail – timber bridge over Pequonnock River in Monroe (upper); start of Pequonnock Valley in Trumbull (lower).

Another significant inter-regional trail project that warrants connection to the Housatonic River Greenway is the proposed multi-state *East Coast Greenway (ECG)*. The ultimate goal of the *ECG* is the development of a continuous, off-road path that would connect all major cities along the east coast from Maine to Florida. The proposed path of the *ECG* suggests two possible connection points with the Housatonic Greenway. The interim on-road route for the *ECG* crosses into Stratford over the Washington-Devon Bridge on US Route 1 and then follows Route 130 to Bridgeport. The long term plan for the *ECG* envisions developing a multi-use trail along the Merritt Parkway within the available state-owned right-of-way. This proposal includes using the new walkway over the Sikorsky Memorial bridge. In addition, the draft pedestrian and bicycle trail plan for the city of Milford incorporates the *ECG*. The proposed "West Loop" of the Milford on road bicycle route system connects with the Merritt Parkway pedestrian and bicycle walkway at Wellington Road and with the interim *ECG* on-road route at US Route 1 and Naugatuck Avenue in Devon.

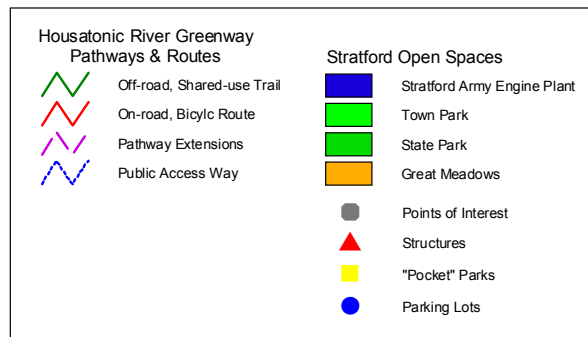
These factors illustrate the prospects of making trail connections beyond the town. Possible trail extensions are described below:



Proposed Housatonic River Greenway Inter-town Connections & Extensions

Extension: Merritt Parkway to Far Mill River Park/Greenway & Shelton

Connection: Merritt Parkway Walkway to Milford Trails "West" Loop



- **Milford Trails “West” Loop Connection:** The draft pedestrian and bicycle trail plan for the city of Milford indicates two possible connection points to the Housatonic River Greenway in Stratford: over the Sikorsky Memorial Bridge and along the Washington-Devon Bridge (US Route 1) in the Devon section. As described above, the new pedestrian and bicycle walkway on the Sikorsky Memorial Bridge crosses into Milford and would connect with the proposed “West Loop” of the Milford on road bicycle route system at Wellington Road and then continue along Wheelers Farm Road, East Rutland Road, West Rutland Road and Naugatuck Avenue to US Route 1.
 - " **Trail Type:** Multi-use
 - " **Section Length:** ±7,100 feet (1.34 miles)
±1,800 feet (0.34 miles) - on-bridge
 - " **Trail Surface:** Paved
 - " **Bicycle Route Surface:** Not Applicable
 - " **Grade:** Level-to-moderate
 - " **Safety Concern:** Moderate; separated from Parkway traffic but speed and volume require caution; traffic conflicts at Route 110 access point
- **Shelton Connection -Far Mill River Park Extension:** The city of Shelton has a number of established hiking trails throughout the community. The largest system is found in the Shelton Lakes Greenway, a 450-acre linear park located in the center of the city from Huntington Center towards downtown Shelton. It encompasses three reservoirs and ±10 miles of trails. Other smaller units with shorter marked trails are spread throughout the city, including the more recently completed Shelton River Walk, a 0.3 mile brick walkway along the Housatonic River in downtown Shelton. However, at this time, none of these trails could be connected to the proposed Housatonic River Greenway and there are no concrete plans to extend River Walk trail south along River Road (Route 110) toward Stratford.

Despite this and concerns regarding high traffic volumes (greater than 30,000 vpd), road configuration and limited right-of-way, extending the trail north from the terminus at the Merritt Parkway near the Sikorsky Aircraft plant along Route 110 to the Shelton town line should be considered. The corridor is included as part of the state-designated Housatonic Riverbelt Greenway and long term concept plans include building a trail along Route 110 to downtown Shelton.

An extension in Stratford would consist of a road-separated facility, with a four-foot buffer from the road and an 8-foot paved path. This reduced-width layout would require less right-of-way while still providing protection for trail users. The extension would continue from the north section of the Sikorsky

Memorial Bridge walkway along the east side of Route 110 and between the road and the parking lot of the Sikorsky Aircraft plant. There are two main access driveways to the plant's parking lots. Because of the high employment of Sikorsky, these driveways are wider than typical commercial driveways to handle the high use during peak work shift changes. Special features would need to be installed across these driveways to provide safety and reduce and minimize conflicts between trail users and vehicles entering and exiting the Sikorsky Aircraft plant. Although the times of peak trail use would not coincide with peak times for vehicle moving in and out of the plant, these features would help limit disruption of traffic flow.

The proposed trail extension would continue to the vicinity of the Shelton town line and end at the Far Mill River Park and Greenway. This will require a crossing of Route 110. Although the traffic volumes are lower than the ADTs farther south near the Merritt Parkway, they are in the $\pm 17,000$ vpd range and travel speeds remain fairly high. These factors will necessitate the installation of a pedestrian crosswalk, at a minimum, with sufficient advance warning and including the possibility of textured material make it more visible, to provide protection while crossing Route 110. It may also be appropriate to install actuated flashers and/or a pedestrian actuated signal.



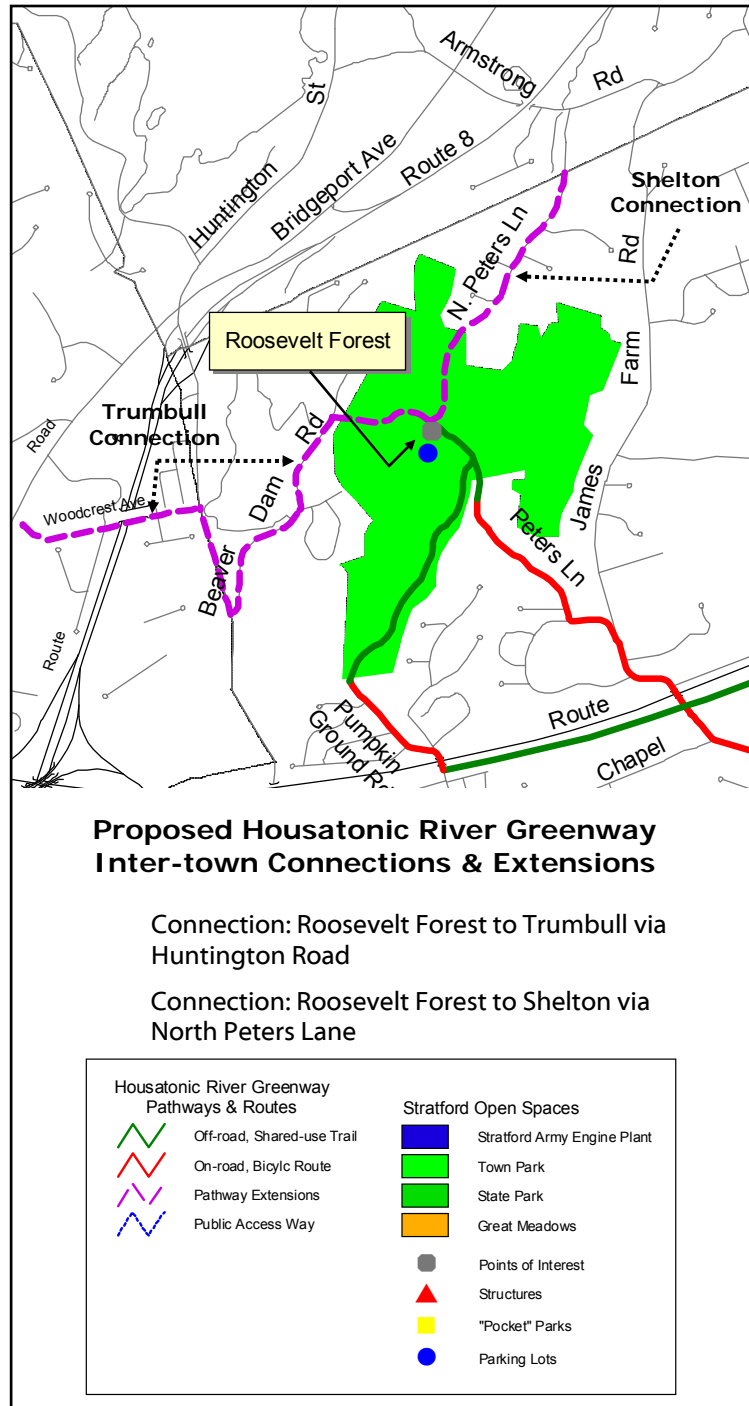
The Far Mill River Park would serve as the terminus for the greenway extension, but access to the park's trails needs to be improved

The Far Mill River Park and Greenway is a 46-acre open space, set in a relatively deep gorge that protects a 1.1-mile section of the Far Mill River from Route 110 along the boundary between Stratford and Shelton. It is undeveloped but offers unmarked trails. Pine Tree Lane (a private, dirt road) provides access to the park. A sign identifying the park is located along Route 110, but the trailhead is not marked and the location of the trail is not clearly apparent. In fact, a private road and no trespassing signs serve discourage entering the area beyond the road. To provide better public access to the park, the trailhead and the public accessway need to be clearly marked and delineated.

- " **Trail Type:** Multi-use
- " **Section Length:** $\pm 4,700$ feet (0.89 miles)
- " **Trail Surface:** Paved, with two-to-four foot buffer from road
- " **Bicycle Route Surface:** Not Applicable

- " **Grade:** Level
- " **Safety Concern:** Moderate-to-high; high traffic volumes & Route 110 crossing

- **Trumbull Connection:** The regional long range transportation plan for the Greater Bridgeport planning region includes concepts for developing an on-road bicycle route network throughout the region and assessing the feasibility of a multi-use trail along the Merritt Parkway. Sections of the proposed on-road bicycle route system and the Merritt Parkway Greenway would be incorporated into and coincide with planned alignments for the Housatonic River Greenway. Because of the large, multi-level and complex set of ramps for the Route 8 and Route 15 interchange area, it is necessary to align the Merritt Parkway Greenway around the interchange via on-road routes in Trumbull. To connect the Merritt Parkway Greenway to proposed bicycle routes in Trumbull, the trail would be extended westward through Roosevelt Forest and along Beaver Dam Road to Huntington Road. The bicycle route would continue on Huntington Road and cross into Trumbull along Woodcrest Avenue and Wheeler Drive to Shelton Road.



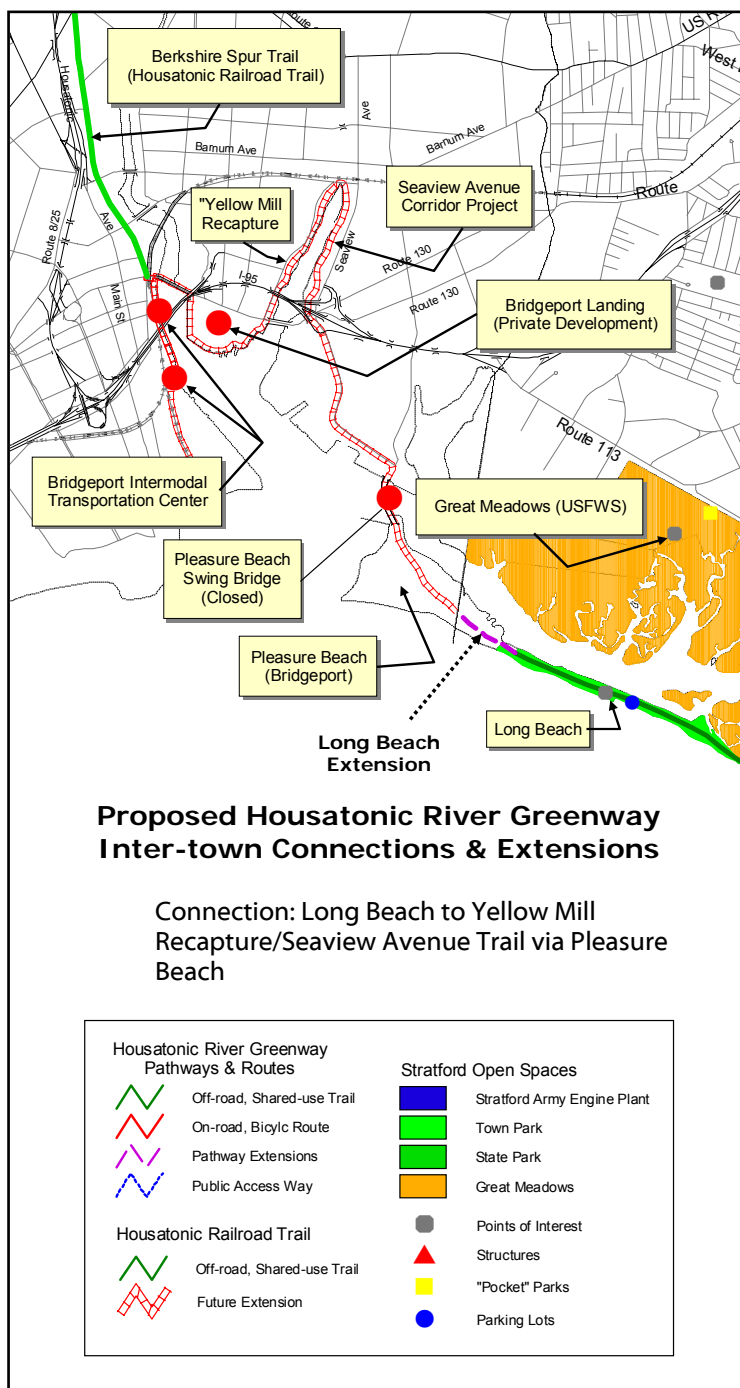
- " **Trail Type:** Multi-use & On-Road Bicycle Routes
- " **Section Length:** ±5,400 feet (1.02 miles) - bicycle routes
±1,600 feet (0.28 miles) - multi-use trail sections
- " **Trail Surface:** Soft, compacted stone dust
- " **Bicycle Route Surface:** Paved, on-road shoulders with sidewalks
- " **Grade:** Level
- " **Safety Concern:** Moderate; traffic conflicts along bicyclist route sections & intersection crossings



Connections to Trumbull, via Beaver Dam Road and Huntington Road, and Shelton, via North Peters Lane, would be provided from Roosevelt Forest by upgrading existing trails.

- **Shelton Connection - Roosevelt Forest Extension:** As described above, the city of Shelton currently does not have any bicycle routes or multi-use trail sections that would connect conveniently with the Housatonic River Greenway; however, there are opportunities to extend sections of the greenway to the Shelton border for future connections. A possible connection would be to upgrade the trail in Roosevelt Forest that extends to North Peters Lane. It would then be aligned along North Peters Lane as a bicycle route to the Shelton town line in the vicinity of Armstrong Road. The north end of North Peters Lane near Armstrong Road (in Shelton) is very narrow and may need improvement. This extension would be about 4,500 feet (0.85 miles) in length.
 - " **Trail Type:** Multi-use & On-Road Bicycle Routes
 - " **Section Length:** ±2,100 feet (0.40 miles) - bicycle routes
±2,400 feet (0.45 miles) - multi-use trail sections
 - " **Trail Surface:** Soft; compacted stone dust
 - " **Bicycle Route Surface:** Paved, on-road shoulders with sidewalks
 - " **Grade:** Level

- " Safety Concern: Low; traffic conflicts would be minimal; north end of North Peters Lane is narrow.
- **Long Beach Extension:**
 The planned greenway would include a branch section from Stratford Point to Long Beach (Section 2). Although it has an undefined terminus, this section would end somewhere in the park and in vicinity of the Bridgeport town line. The west end of the barrier beach is Pleasure Beach owned by the city of Bridgeport. A possible future extension of the Housatonic Railroad Trail project would follow along the waterfront through the Bridgeport east end (as part of the redevelopment of Steel Point and the Seaview Avenue Corridor Project) to Pleasure Beach. If this extension is built, the Long Beach greenway section would also be extended as a multi-use trail into Pleasure Beach to connect with the south end of Seaview Avenue and the Bridgeport trail. This connection would create access to the regional, north-south trail network, downtown Bridgeport and the public transportation modes that serve the downtown area, including local service, commuter rail service (Metro-North Railroad), and passenger ferry service to Long Island. Making this connection is dependent on the replacement of the Pleasure Beach



Bridge over Johnson Creek or construction of an alternate connection to the mainland.

- " Trail Type: Multi-use
 - " Section Length: ±3,900 feet (0.74 miles)
 - " Trail Surface: Paved, with soft shoulders; boardwalk over beach & dune areas
 - " Bicycle Route Surface: Not Applicable
 - " Grade: Level
 - " Safety Concern: Low, acceptable for all ages - Separated from traffic
- Milford Trails *ECG* Connections: The draft pedestrian and bicycle trail plan for the city of Milford includes an on-road bicycle route along Naugatuck Avenue that serves the western part of the city (referred to as the "West" Loop). In addition, the interim *East Coast Greenway* coincides with the "West" Loop along the shoreline and is aligned as an on-road route. The interim *ECG* continues over the Washington-Devon Bridge, into Stratford, around the US Route 1 traffic circle and then along Route 130 to Bridgeport. However, because of development patterns (numerous commercial driveways), high traffic volumes approaching 40,000 vpd) and complex travel patterns created by the US Route 1 and Route 130 traffic circle (multiple travel lanes, several weave sections and traffic signals), this area *is not* deemed appropriate for bicycle and pedestrian use, and, as such, the Housatonic River Greenway was aligned away from and northward of this area. Although sidewalks are provide along both sides, the use of the Washington-Devon Bridge by bicyclists is not viewed as safe given the four-lane cross section, lack of shoulders and ±24,000 vpd traffic volume.

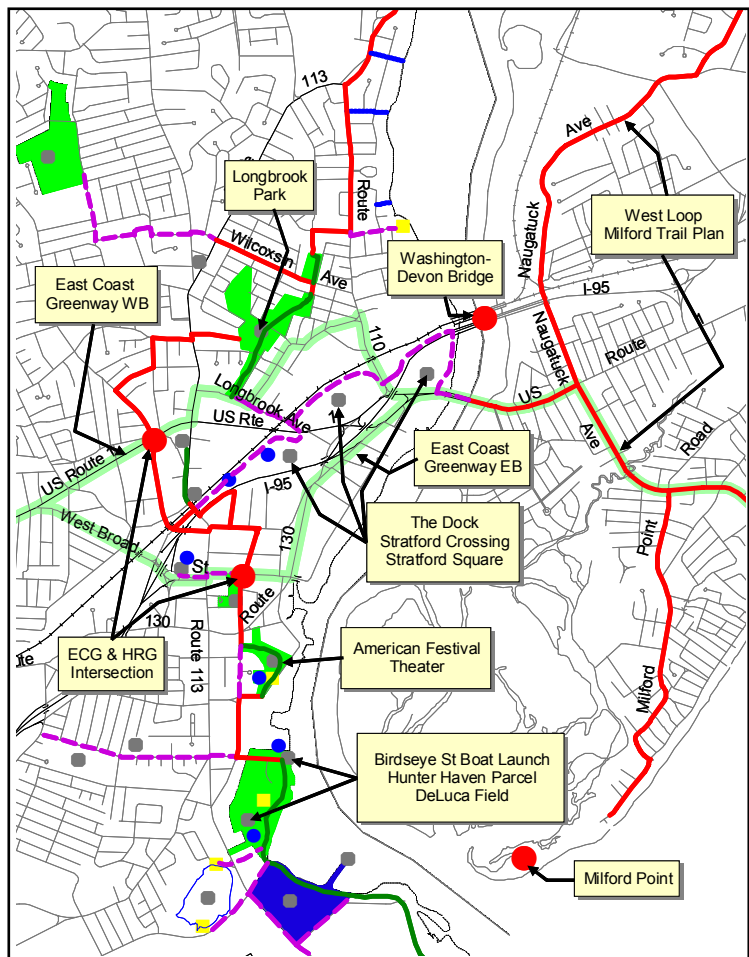


Washington-Devon Bridge (US Route 1) – an existing underpass currently closed (left) and sidewalks over the bridge, but no shoulders (right).

As the Housatonic River Greenway is currently planned, a connection to the ECG could be made at intersection of Route 130 and Elm Street in the vicinity of the American Festival Theater property. A spur pathway could be developed that would connect the ECG at the Washington-Devon Bridge, but it would require special attention to ensure safety and coordination with several commercial property owners to allow the trail to travel through their parking lots.

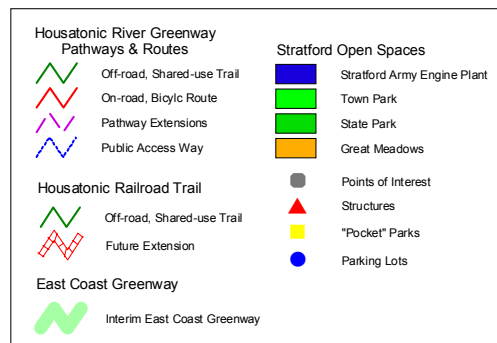
The concept would include aligning the spur trail from the Stratford rail station through the parking lots of the Stratford Square, Stratford Crossing and The Dock shopping centers. The town would need to negotiate a path through these private shopping centers and ensure adequate separation from main vehicle travel ways to minimize potential conflicts. The path would use the existing underpass to cross under the bridge. The underpass would be re-opened and upgraded. This would allow users to cross US Route 1, separated from traffic.

Because of its four-lane cross section over the bridge, lack of shoulders and high traffic volumes ($\pm 24,000$ vpd), special attention would be necessary to place the trail over the Washington-Devon Bridge. Although it is generally not



Proposed Housatonic River Greenway Inter-town Connections & Extensions

Connection: East Coast Greenway & "West" Loop Bicycle Route (Milford) at Devon



recommended for bicyclists to use sidewalks, it is sometimes appropriate to place a bicycle route on sidewalks over bridges. To reduce conflicts, bicyclists would be *required* to dismount and walk their bikes across the bridge. A public right-of-way from the underpass to the top of the bridge would need to be designated and maintained. The town should work private owners to designate a small number of parking spaces in the vicinity of the bridge for trail users. It is also recommended that a "pocket" park with seating area be built at the Washington-Devon Bridge to enhance and expand public access to the waterfront in this area. These suggestions are especially important given the current development plans for the area.

- " Trail Type: Multi-use & On-Road Bicycle Routes
- " Section Length: ±8,700 feet (1.65 miles) - marked path through parking lots
±700 feet (0.13 miles) - on-bridge
- " Trail Surface: Paved, marked through parking lots
- " Bicycle Route Surface: Paved, existing sidewalks on bridge
- " Grade: Level
- " Safety Concern: Moderate-to-high; traffic conflicts through parking lots & high traffic over bridge - may want to require bicyclists to dismount and walk bikes on sidewalk over bridge

6.0 Trailside and Greenway Amenities

The planned "greenway" as described in this report is intended to achieve the objectives of the town's *Plan of Conservation and Development* as well as its *Waterfront Vision Plan*. The "greenway" vision plan demonstrates that, although it will not be possible to separate bicyclists and pedestrians from motorized traffic at all times, it is feasible to develop and establish a safe environment for people to walk and ride the length of Stratford, from south to north and to gain access to the town's extensive waterfront.

In total the planned "greenway" would extend about 16.2 miles, consisting of a combination of multi-use trails and on-road bicycle routes. Roughly 8.4 miles or ±51.8% would be in the form of road-separate trails, free from motorized traffic. Possible extensions to connect to neighboring communities would add another 7.9 miles to the "greenway."

To ensure maximum use of the trail system, various amenities would be installed along all trail sections and at key points. The suggested amenities will enhance the experience of users and provide route guidance and information about activities and points of interest. The recommended amenities include:

- **Greenway Information Kiosk:** Large display signs would be installed at the main entry or access points to the “greenway.” The kiosk would provide information on the trail as well as on the points of interest along the way. It would also display the rules and regulations, hours of operation and contact information. Different types of kiosks could be designed depending on location. A timber kiosk with cedar shingles (*photo example at right*) would be more appropriate in park and rural areas, while a sleek, more modern steel sign would be better suited to urban, high activity areas.



Illustration of the type of information kiosk that would be installed at gateways along the greenway – Waterfront Vision Plan.

- **Route Marker & Wayfinding Signs:** Smaller signs that identify the trail as the Housatonic River Greenway and provide route guidance along its entire length would be installed at all entry points, important intersections and set intervals along the path as a reminder to users that they are still on the greenway. This is especially important along on-road route sections. Directional arrows would supplement the main plate to indicate the movement to stay on the trail. These would be required where there are turns or forks in the trail and at intersections to reinforce the proper direction. On-road route markers would need to conform to or at least be consistent with the *Manual on Uniform Traffic Control Devices (MUTCD)*.



Distinctive & unique trail marker adopted by the East Coast Greenway with supplemental directional arrow. A similar type of trail marker would be designed for the Housatonic River Greenway.

- **Regulatory & Warning Signs:** The *MUTCD* provides the standards and guidelines for the installation of regulatory and warning signs and pavement markings. The construction of the greenway will require the installation of various signs to control the movement of motorized traffic, pedestrians and bicyclists, especially at intersections. Warning signs will also be required to inform users of changes in the trail condition and possible hazards. The placement, application, dimensions, color and wording on these signs are specified in the *MUTCD*.

- **Mile Markers:** Mile marker posts would be installed at a standard interval, such as every half-mile or mile, to let users know where they are along the trail.
- **Information Signs:** It may be appropriate to provide information signs at major intersection to point the direction to various recreational, cultural and service activities and other point of interests along the trail, including such services as restaurants or grocery stores.



Illustration of the type of information sign that would be installed along the greenway to highlight nearby attractions— Waterfront Vision Plan.

- **Rest Areas or “Pocket” Parks:** An important goal of the greenway project is to provide better public access to the waterfront. Although it is not possible to align the trail solely along the Housatonic River, an effort has been made to connect the greenway to the river and shoreline whenever possible. At these locations, small public parks (referred to in this report as “pocket” parks because of their small size and limited facilities) would be established or created. Depending on the available public land as well as the surrounding land use, the number and type of amenities would be limited. At some areas, users would be encouraged to stay awhile, whereas at others, a quick visit would be all that would be desired. Benches would be installed to provide a place to sit and rest and enjoy the scenic views of the waterfront. Secure bicycle racks and trash and recyclable receptacles would also be provided to allow users to spend more time in the area. A common intent and feature of these pocket parks is to provide a scenic overlook

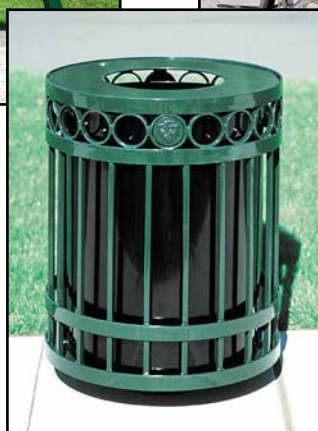


The layout of the rest areas and amenities provided would vary based on function & available land. The intent is to provide scenic overlooks, public access to the water and a places to rest.

for users to enjoy.

Possible locations for these public “pocket” parks would be at:

- " Stratford Point
 - " Long Beach
 - " Great Meadows Salt Marsh - Stewart B. McKinney National Wildlife Refuge (location and access need to be determined)
 - " Frash Pond
 - " Hunter Haven Parcel
 - " Birdseye Street Boat Launch
 - " American Festival Theater
 - " Along Brookside Drive from East Main Street
 - " Pecks Mill Pond
 - " End of Ryders Lane
 - " Along Merritt Parkway walkway
- **Trailside Amenities:** To enhance the enjoyment of the greenway, various amenities would be installed at pocket parks and along the trail. Items include: benches, trash and recycling receptacles and bicycle racks.



Types of amenities that would be installed along the greenway – benches, trash receptacles & secure bicycle racks.

- **Parking Areas:** Off-street parking areas would be developed and designated for trail users at various points along the greenway. The Housatonic River Greenway will begin, end and pass through several established municipal parks; therefore, parking for trail would be readily available. Some space in these existing parking areas would need to be designated for trail users and separated from parking areas for park users. Some parking spaces would be reserved for persons with disabilities. Suggested parking lot locations include the following:
 - " Short Beach
 - " Long Beach
 - " Along Beach Drive
 - " DeLuca Field
 - " Birdseye Street Boat Launch
 - " American Festival Theater
 - " Perry House/Baldwin Center
 - " Stratford Rail Station (south side lot) - weekends only
 - " Boothe Memorial Park
 - " State Commuter Parking Lot at Route 15 and Route 110
 - " Roosevelt Forest, including a few spaces designated on-street near the secondary access points
 - " Adjacent to the Washington-Devon Bridge

It may also be possible to negotiate a shared-use parking agreement with the owners of the Stratford Square shopping center to designate spaces for trail users or allow trail user to parking anywhere in the center's parking lot.

- **ADA Accessibility:** Although it may not be feasible or practicable to ensure that the greenway is 100% ADA accessible, efforts need to be made to ensure the trails are as accessible to persons in wheelchairs as much as possible. Almost the entire greenway has a level grade with a smooth, paved surface and it would be mostly ADA compliant. ADA efforts would focus on providing ADA-accessible routes from parking areas to the trails, locating handicapped parking spaces near trail heads and installing ramps and barrier free connections at intersections. An assessment of accessibility would be conducted and greenway sections would be rated based on a difficulty criterion. This information would be posted on the kiosks and users would decide for themselves which sections to use. **Curb ramps would be installed at all intersections and a detectible warning material would be applied to mark the boundary between the sidewalk and the street. At signalized intersections, pedestrian controls would be enhanced to include audible tones to indicate when it is permissible to walk.**

- **Greenway Maps and Brochures:** An information brochure and trail map for the Housatonic River Greenway would be prepared. The brochure and map will establish a common and consistent naming convention for the greenway, including the design of a distinctive logo, identify sections of the trail, describe the areas the sections pass through and present information on the activities and points of interest located along and near the greenway. It would also include the rules and regulations and describe user etiquette.

7.0 Phased Implementation of the Greenway

The cost to construct the planned “greenway” will depend on the types of facilities selected and the preferred alignment. At this point, the concept plan is not sufficiently detailed nor are the site conditions adequately known to develop reasonable and accurate cost estimates. **Costs would also be contingent on the extent to which existing sidewalks would have to be rehabilitated or enhanced and whether or not any of the roadways designated as bicycle routes would need widening or resurfacing.**

A generalized cost for the entire project can be estimated based on comparable trail projects being implemented in the region and throughout the state. However, the cost should be considered with caution and used solely for planning purposes. **Based on this approach, the total estimated cost to develop and construct the Housatonic River Greenway is in the range of ±\$7.0 million and ±\$10.5 million, depending on alignment and features provided. These costs represent very preliminary estimates and will be better defined during the design phase and as specific actions are identified. Also, several engineering and environmental assessments are necessary for several sections. The results of these studies will, most likely, significantly affect construction costs. However, the preliminary costs provide an order of magnitude approximation of the investment that would be required to construct and implement the greenway and provide valuable information that the town will need as it decides whether or not to proceed with or advance the greenway concept plan.**

The preliminary costs represent a substantial investment by the town; an investment that would be beyond the financial resources of the town to commit in any one year. For this reason, the development of the Housatonic River Greenway needs to be viewed as a long term project that will be implemented in phases. This is why the greenway was divided into sections with well defined and logical beginning and ending points. The trail sections facilitate a phased-financing approach that allows the town to implement portions of the project relative to funding availability.

The suggested implementation schedule consists of three general time frames:

- **Short-Term - 1-to-5 years:** The sections included in the short-term time frame offer the best opportunities for demonstrating the benefits and popularity of developing the greenway. Work has already begun on these sections and the alignments are well defined and agreed upon. Implementation should proceed

relatively quickly. Three sections are included in the short-term implementation schedule:

- " Section 1 from Stratford Point to Short Beach
 - " Section 3 from Short Beach to the Birdseye Boat Launch (includes the Hunter Haven parcel)
 - " Section 4 from the Birdseye Boat Launch to the Stratford Town Center
- **Mid-Term - 5-to-10 years:** The sections included in the mid-term time frame schedule require additional planning and study before implementation can be started. Alignment issues also need to be resolved, but these sections should be able to advance to implementation in a reasonable time frame:
 - " Section 2 from Stratford Point to Long Beach
 - " Section 5 from the Stratford Town Center to Longbrook Park/Paradise Green Area
 - " Extension: from Stratford Town Center to Washington-Devon Bridge via shopping center parking lots
 - " Inter-town Connection: East Coast Greenway and "West" Loop Bicycle Route (Milford) at Devon
 - **Long term - >10 years:** The sections included in the long-term time frame schedule require technical engineering studies to determine feasibility and resolve significant alignment issues. Innovative solutions will be needed to address difficult areas. These sections will also require a significant financial investment to be able to advance to implementation:
 - " Section 6 from Longbrook Park to Boothe Memorial Park
 - " Section 7 from Boothe Memorial Park to the Merritt Parkway Walkway
 - " Section 8 from Boothe Memorial Park to Roosevelt Forest
 - " Inter-town Connection: Merritt Parkway Walkway to Milford Trails "West" Loop
 - " Extension: Merritt Parkway to Far Mill River Greenway and Shelton
 - " Inter-town Connection: Roosevelt Forest to Trumbull via Huntington Road
 - " Inter-town Connection: Roosevelt Forest to Shelton via North Peters Lane
 - " Inter-town Connection: Long Beach to Yellow Mill Recapture/Seaview Avenue Trail via Pleasure Beach

8.0 Rules and Regulations

The Housatonic River Greenway is intended for non-motorized vehicles, pedestrians and other human powered conveyances, such as in-line skaters. Shared-use sections of the greenway will provide separation from motorized vehicles. The perception on these sections is that they are much safer and do not pose any significant hazards. In reality, these trails attract a wide range of users with differing abilities, behaviors and travel speeds. The co-mingling of all levels of bicyclists, pedestrians and skaters can create safety concerns, especially as the number and density of users increases. Conflicts can arise when:

- Parents do not supervise or pay enough attention to small children who wander along the wrong side of the trail.
- Bicyclists ride in a reckless manner or ride too fast for the conditions and density of users on the trail.
- A group of walkers take-up the entire or a good portion of the trail's width making it difficult for others to pass.
- Owners allow their pets to wander unleashed or allow them to wander across the trail while leashed.
- Users are inattentive to others on the trail and unaware of the abilities and needs of others.

To avoid conflicts and accidents, all users need to follow certain rules and regulations observe trail etiquette and be considerate of others. Adherence to these rules, regulations and behavior will enhance the enjoyment of using the greenway and reduce the potential for conflicts.

Allowed activities on shared-use trails would typically include walking, bicycling and in-line skating, as well as strollers and wheelchairs. Winter activities, such as ski touring and snowshoeing, may be allowed when conditions permit such activities. Motorized vehicles, including dirt bikes, bikes with helper motors, ATVs, and snowmobiles, would be prohibited, as would horseback riding. Pets would be required to be leashed at all times and under the control of their owners.

General greenway etiquette involves the following actions:

- All using the greenway need to be considerate of all trail users.
- All using the greenway must respect private property and stay on the trail.
- Park only in designated areas. Parking in some municipal parks requires a user fee or is restricted to town residents.

- All using the greenway need to work to “*keep the trail clean*” and adhere to the principle of “*pack out all you pack in.*”
- Pet owners need to “*clean-up after your animal(s).*”

For their and others safety, bicyclists need adhere to the following rules and regulations while riding a bicycle:

- Keep right, except to pass; when passing, warn others with an audible sound that you are approaching.
- Travel at a safe and reasonable speed – do not travel too fast; maintain control at all times - keep both hands on the handlebars, never carry passengers unless the bicycle is designed to or in a properly designed carrier; and never ride in a reckless manner.
- Yield to pedestrians.
- Never ride more than two abreast and then only when conditions allow. Generally, it is always best to ride in a single file.
- Wear an approved bicycle helmet and wear it properly. Children under 16 years old are required to wear a helmet; parents and adults should be encouraged to wear a helmet to set a good example and because it is a good idea.
- Use proper hand signals to let others know when you are turning, slowing down or stopping.
- Be aware of changes in trail conditions and watch for potential hazards.

Portions of the proposed greenway will include on-road bicycle routes. When riding on the road, bicyclists need to use caution and be more attentive to motorized traffic. The rules that bicyclist need to follow are more consistent with motor vehicle laws. The basic principle is that bicyclists need to “*consider themselves a vehicle.*” The on-road bicycle rules and regulations include the following:

- Obey all traffic laws – ride in the direction of traffic and in designated bicycle routes or lanes.

Recommended Activities



Prohibited Activities



- Stop for all stop signs and traffic lights - if car would stop, you should stop.
- Make intentions known to motorists by using proper hand signals when turning,

slowing down or stopping. This is especially critical at busy intersections. Bicyclists need to inform motorists if they are turning left, right or continuing straight. For left hand turns, bicyclists need to move into the travel lane and position themselves in the left side of the lane.

- Walk bicycle while in a crosswalk. If a pedestrian facility is used to cross a street, then you should act as a pedestrian.
- Avoid riding on a sidewalk – only young children and novice riders should use a sidewalk.

Shared-use trails are designed to be used by various users and, unlike sidewalks which are intended for the almost exclusive use by pedestrians, walkers and bicyclists, as well as others, need to coexist. Although bicyclists and other wheeled travelers need to yield to pedestrians, walkers must remember that they are sharing the greenway with others and they must avoid walking in a way that prevents others from passing or moving around easily. Pedestrian etiquette includes:

- Staying to the right as much as possible and walking no more than two abreast, unless conditions allow.
- Moving onto the soft shoulder part of the trail when being over-taken by a bicyclist.
- Keeping a short leash on pets and not allowing them to wander across the trail.
- Keeping an eye on small children and not allowing them to wander across the trail.
- Obey *all* traffic laws – use designated crosswalks to cross intersections and activate and use pedestrian control signals where provided.

9.0 Maintenance Plan and Activities

The design and construction of shared-use trails and greenways typically involve some financial assistance from federal and state programs. However, the trail owner needs to commit to maintaining the trail both in the short term and long term. Short term maintenance includes on-going or recurring activities to ensure the trail is safe to use, the surface is smooth and free of debris and all areas are clean and kept in good condition. Long term activities involve general rehabilitation of the trail infrastructure to extend the life of the trail. This includes repaving/resurfacing asphalt sections, repairs to and painting of structures, and rehabilitating the trail base and sub-base. The cost of recurring maintenance activities could be included as part of existing park or public works department budgets, but long term needs will be more expensive and require careful financial planning.

To enhance the enjoyment of using the greenway and reduce liability (refer to following section), it is necessary to operate and maintain the trail in a state-of-good repair. What are considered good maintenance practices vary from jurisdiction-to-jurisdiction and the costs may be hard to determine. However, minimum maintenance is required to insure the trail is safe to use by the public, as well as to protect the community's investment in the trail. Much of the following information and discussion is extracted from the RTC report *Rail-Trail Maintenance and Operation: Ensuring the Future of Your Trail - A Survey of 100 Rail-Trails*, July 2005.

A good maintenance and operation plan will include a detailed schedule for labor, materials/supplies and equipment. Maintenance duties include mowing, trail edging, removing fallen trees and branches, cleaning and repairing surface, cleaning rest areas and access points and repairing acts of vandalism. Some activities are recurring while others will be in response to natural (weather and storm-related) or man-made (vandalism) damage.

A critical and vital element of the operations plan is the daily patrol of the trail. The patrols are important to provide a sense of security for trail users as well as to inspect trail condition. A detailed log should be maintained that records when the patrol was made and identifies any problem areas or damage that requires the attention of maintenance personnel. Corrective actions and when they were made would also be entered into the log. Temporary signs should be installed to warn user of trail conditions that may pose a hazard and require caution. The results of the *RTC* survey indicated that about 75% of the trails were patrolled by the police or park rangers, while the remaining 25% used volunteer patrols. Fortunately, the statistics show that trails are inherently safe and few crimes are reported. Only a few of the respondents reported any crimes against personal property with none against persons. Vandalism, mostly damage to signs, graffiti and theft, was the most often reported crime. About two-thirds of the survey respondents reported that some vandalism had occurred along the trails, while one-third indicated that littering, dumping and trespassing, mostly involving illegal all terrain vehicles, had also occurred.

Addressing vandalism can be a time consuming and costly maintenance activity; it is an intermittent and non-recurring action that is often not easy to budget or plan for. When it occurs it is important replace or repair the damaged items quickly to demonstrate a willingness to maintain the trail at a high level and an unwillingness to tolerate any damage to the trail system. Communities can reduce or minimize the effects of vandalism by:

- Anchoring signs and posts securely.
- Using materials that are less susceptible to vandalism - steel post as opposed to wooden; washable material as opposed to material that is not easily cleaned.
- Limiting the placement of signs in remote areas.

- Covering unique or intricate signs with Lexan to protect it.

A range of maintenance activities need to be performed regularly, either by municipal employees, possibly by existing park or public works personnel, or volunteer organizations that may want to adopt sections of the trail. The types of recurring maintenance activities include the following:

- Vegetation control: Although a natural setting enhances the aesthetics along the trail, vegetation does not stay beside the trail. In addition, trees often grow along the tree and create a canopy, but they also drop leaves and branches. Vegetation control activities include:
 - " Clean-up of fallen debris, especially after storms.
 - " Mowing the clear zone typically provided along both sides of the trail. Typically, mowing is done weekly or bi-weekly, depending on conditions. Regular mowing will deter the spread of vegetation onto the trail. Structures, such as signs, in the area to be mowed should be limited to reduce interference and need for manual trimming.
 - " Leaf removal.
 - " Pruning tree limbs and shrubs - a minimum nine-foot vertical clearance along the trail should be maintained.
 - " Tree removal - unhealthy trees pose a safety hazard and should be removed. Also, clearing of saplings or strategic removal of a large tree can improve the health and vitality of the woodlands.
 - " Removal of invasive plant species and weed control. This may involve the application of herbicides.
 - " Planting trees, shrubs and flowers.
- Litter removal and trash collection: A decision needs to be made regarding whether or not to provide trash receptacles at rest areas, access points and along the greenway. Although they provide a place for users to place their trash and may reduce litter, they can become unattractive very quickly if the garbage is not collected regularly. Efforts should be made to encourage trail users to pack out their own trash, thereby, reducing the volume to be collected. To reduce collection efforts, trash cans should be concentrated at key access points and rest areas. If the town is unable or unwilling to collect trash on a regular basis, then trash receptacles should not be provided at all. In either case, some litter will be left along the trail by inconsiderate users, so it will be necessary for maintenance crews to pick it up to keep the trail clean.
- Trail and bicycle route surface: Debris, sand and all other foreign objectives need to be removed from the trail and route surface. This includes street

sweeping during the spring to pick-up sand left on the roads during winter. A more regular surface cleaning may be necessary along shared-use sections near beach areas due to shifting beach sand. It may also be necessary to repair and patch potholes along paved sections and regarding soft trail surfaces. In the long term, trails will need to be resurfaced. Data from the *RTC* survey indicate the average life of a paved trail surface is about 17 years, while a soft trail needs resurfacing about every nine years. The cost of repaving an asphalt trail needs to be included in the operations and maintenance plan.

- **Snow removal:** During the winter, snow and ice can accumulate on the trail and the town needs to decide whether or not to remove the snow and treat the surface. The *RTC* survey found that the majority of trail managers do not remove snow from the trails and that those who do, only partially remove it.
- **Drainage:** Culverts and drainage channels need to be cleaned periodically to ensure proper drainage and reduce the likelihood of water flowing or ponding over the trail.
- **Bridge and structure:** Most trails will have at least one bridge as well as other structures along the alignment. These structures need to be inspected at a regular interval, typically every three-to-four years, and require periodic painting.
- **Pavement markings:** Various pavement markings would be installed along the shared-use sections of the greenway, at road crossings and to delineate the on-road bicycle routes. To be effective, the markings need to be maintained in good condition and remain visible.
- **Information kiosks:** To minimize maintenance of these signs, the trail map, rules and regulations, emergency contact information and historic/interpretive information should be static and not require continual update. These displays should be sealed or covered to protect against discoloration or fading from ultra-violet rays. If other information is provided on or at the kiosk, such as take-away brochures, community announcements, listing of trailside services and paid advertisements, it is important to ensure the information is current and efforts need to be made to keep the supply of hand-outs sufficient, remove out-of-date announcements and material, and make sure the area is neat and orderly.
- **Trailside amenities:** A variety of amenities will be installed along the greenway, including route, guide, regulatory, warning and information signs, benches, picnic tables, bicycle racks, rest areas and restroom facilities. These items need to be maintained and replaced or repaired when damaged. As mentioned above, signs are susceptible to vandalism and need to be replaced quickly if damaged. A decision must be made about providing restroom facilities, either permanent or portable. Installing these facilities will increase

maintenance responsibilities. If the town does not want to properly clean and maintain restrooms, then none should be provided.

The preceding discussion provides a long list of maintenance functions the town must perform. However, some maintenance activities can be reduced through good design and proper construction. During construction, organic material should be removed and a good, compacted base and sub-base installed. This typically includes adding a quality aggregate that is free of organic matter. A good base and sub-base will reduce growth of vegetation. It is also important to construct a clear zone on both sides of the trail. The clear zone would reduce the chances of vegetation from intruding onto the trail. Removing trees and shrubs from the clear zone will reduce the need to remove debris and make mowing more efficient. Proper drainage along, across and under the trail is vital. Good drainage will prevent water from undermining the trail base and reduce the chances of frost heaves and cracking. The trail should be sloped or crowned so that water flows off the surface. The use of good quality material that is capable of withstanding heavy use is the key. Less expensive or poorer quality items will only increase maintenance costs in the long run and necessitate more frequent repair and replacement.

The cost to operate and maintain a trail is often hard to determine. These costs may be combined with an overall park budget and not broken-out for a specific trail. Also, maintenance may be provided, to some degree, by volunteer groups so the total cost would be under represented. The *RTC* survey found that the vast majority of trail managers reported annual operating and maintenance costs of \$25,000 or less. When most of the patrol and maintenance functions were performed by the local government, the average cost was estimated at ±\$2,000 per mile.

10.0 Liability Issues

Often, municipalities planning or considering the development of shared-use trails and other bicycle facilities are concerned about their liability and threats of civil actions in the event of an accident or personal injury. Liability includes general concerns about users getting hurt and situational concerns about hazards posed by specific areas along the trail.

Generally, liability has not been a problem and surveys of trail managers by the *Rails-to-Trails Conservancy (RTC)* have demonstrated that rail-trails do not pose a significant risk in terms of legal liability. This reflects the fact that trails are inherently safer than other transportation facilities. More importantly, however, is the fact that most trail managers have taken appropriate action to design and construct the trails in accordance with accepted design practices, maintain the trail in a state-of-good repair, make users aware of any conditions or problems that do not meet standards, and find and correct problems in a timely manner. Adopting and following a sound maintenance policy that provides for regular inspection of the trail, detailed documentation of the inspections and corrective actions taken allows municipalities to manage risks and provides a good defense of a liability claim.

Three legal concepts are relevant to the discussion of trail use liability:

- **Recreational Use Statutes:** All states have enacted laws that limit liability to private landowners who open their property to the public for recreational use without charging a fee. If a fee is charged there is responsibility on the landowner to inspect property and identify and fix any hazards. Section 52-557f-i of the Connecticut State Statutes addresses landowner liability for recreational use of land. For many years, it was the belief that the provisions of this section covered both private and public landowners. However, in 1996, the Connecticut Supreme Court held that municipalities were not protected from civil actions by the recreational use statute. Their inclusion in the definition of landowner was not explicitly expressed. Efforts to modify state law to protect municipalities have not been successful.
- **Duty of Care:** This concept relates to what legal actions the landowner is required to make to protect persons who use or travel on his/her property from injury. In most cases, the exposure to liability is somewhat dependent upon the status of the user and relationship to landowner. Someone who wanders off the trail onto private property would be classified as a trespasser and their liability would be limited to cases of wanton, reckless and deliberate misconduct. On the other hand, in the case of children, there is a higher duty of care to limit attractive nuisances. In the case of allowing the public to use a trail that is on private land, the owner is immune to liability and duty of care as provided in the recreational use statutes. As this relates to shared-use trails, municipalities that regularly inspect the trails, correct problems in a timely manner, inform users of potential hazards, and post rules and regulations demonstrate the required duty of care to protect the public and limit their liability. These actions also demonstrate that the municipality is acting in a prudent manner to keep the trail safe and free of hazards.
- **Sovereign Immunity:** Government units are generally immune to liability but most states have waived this rights by enacting Tort Claims Laws that allow persons to sue for negligence in certain cases. In Connecticut, the Supreme Court has indicated that municipalities are not by sovereign immunity. Placing signs with rules and regulations and user responsibilities at access points reduces liability exposure. Install signs at situational hazards to warn users.

This brief overview of liability issues indicates that the town would not be immune or protected from liability by Connecticut recreational use statutes or the principles of sovereign immunity. To limit exposure to civil actions and manage risk, the town should do the following:

- Design and build the greenway in accordance with nationally accepted design standards and guidelines, especially those established by the *American Association of State Highway Transportation Officials (AASHTO)*.

- Install and locate regulatory, warning and information signs and pavement markings in conformity with the *Manual on Uniform Traffic Control Devices (MUTCD)*.
- Post rules, regulations and notices at access points; include emergency contact information and telephone numbers.
- Patrol trails on a daily basis and note any problems that need maintenance attention.
- Correct problems as soon as possible and inform/warn users of a problem until it can be fixed.
- Maintain detailed records about trail condition and document inspection and maintenance actions.
- Use public or volunteer patrols to report problems that need to be investigated by the trail management.
- Draft and prepare a liability waiver that would be posted at access points. It would notify users of potential hazards of using the greenway and inform them of their responsibilities for using the trail in a safe and prudent manner.
- Include the greenway under a town-wide liability insurance policy to help defray the legal costs of defending a nuisance lawsuit that would most likely be dismissed by the courts. A survey by the RTC found that about 75% of the trail managers indicated that liability insurance was purchased. The average coverage of the insurance was about \$3,000,000 at an average annual cost of ±\$2,100.

The following are the Connecticut state statutes pertaining to recreational use and pedestrian, bicycle and bridal paths.

Connecticut Recreational Use Statutes:

Sec. 52-557f. Landowner liability for recreational use of land. Definitions

As used in sections 52-557f to 52-557i, inclusive:

- (1) "Charge" means the admission price or fee asked in return for invitation or permission to enter or go upon the land;
- (2) "Land" means land, roads, water, watercourses, private ways and buildings, structures, and machinery or equipment when attached to the realty;
- (3) "Owner" means the possessor of a fee interest, a tenant, lessee, occupant or person in control of the premises;

(4) "Recreational purpose" includes, but is not limited to, any of the following, or any combination thereof: Hunting, fishing, swimming, boating, camping, picnicking, hiking, pleasure driving, nature study, water skiing, snow skiing, ice skating, sledding, hang gliding, sport parachuting, hot air ballooning and viewing or enjoying historical, archaeological, scenic or scientific sites.

Sec. 52-557g. Liability of owner of land available to public for recreation; exceptions

(a) Except as provided in section 52-557h, an owner of land who makes all or any part of the land available to the public without charge, rent, fee or other commercial service for recreational purposes owes no duty of care to keep the land, or the part thereof so made available, safe for entry or use by others for recreational purposes, or to give any warning of a dangerous condition, use, structure or activity on the land to persons entering for recreational purposes.

(b) Except as provided in section 52-557h, an owner of land who, either directly or indirectly, invites or permits without charge, rent, fee or other commercial service any person to use the land, or part thereof, for recreational purposes does not thereby: (1) Make any representation that the premises are safe for any purpose; (2) confer upon the person who enters or uses the land for recreational purposes the legal status of an invitee or licensee to whom a duty of care is owed; or (3) assume responsibility for or incur liability for any injury to person or property caused by an act or omission of the owner.

(1971, P.A. 249, S. 2-4; P.A. 73-70, S. 1, 2; P.A. 82-160, S. 228.)

History: P.A. 73-70 deleted language limiting applicability to owners of "five or more acres" of land and specified that landowner may make "all or any part" of land available for public use without liability; P.A. 82-160 rephrased the section.

Cited. 204 C. 435, 437. "... applies to all landowners municipal and private." 221 C. 256-262; decision reconsidered and overruled, see 238 C. 653 et seq. Connecticut recreational land use act, Sec. 52-557f et seq. cited. Id. Connecticut recreational land use act, Secs. 52-557f-52-557i cited. 226 C. 446-448, 450, 452, 453. Cited. 238 C. 653. Recreational land use act Sec. 52-557f et seq. cited. Id. Cited. Id., 687. Recreational land use act Sec. 52-557f et seq. cited. Id.

Cited. 7 CA 164-166, 168, 171. Void for vagueness doctrine does not require prior warning of civil immunity to potential claimants. 10 CA 86-89. Sec. 52-557f et seq. apply to all landowners including governmental entities; municipality's immunity under section extends to its employees. 24 CA 592-597. Sec. 52-557f et seq. cited. Id. Cited. Id., 832. Cited. 39 CA 280-282, 285-288. Sec. 52-557f et seq. cited. Id. Recreational Land Use Act cited. Id. Cited. 45 CA 17. Recreational Land Use Act cited. Id.

(c) Unless otherwise agreed in writing, the provisions of subsections (a) and (b) of this section shall be deemed applicable to the duties and liability of an owner of land leased to the state or any subdivision thereof for recreational purposes.

Sec. 52-557h. Owner liable, when.

Nothing in sections 52-557f to 52-557i, inclusive, limits in any way the liability of any owner of land which otherwise exists: (1) For wilful or malicious failure to guard or warn against a dangerous condition, use, structure or activity; (2) for injury suffered in any case where the

owner of land charges the person or persons who enter or go on the land for the recreational use thereof, except that, in the case of land leased to the state or a subdivision thereof, any consideration received by the owner for the lease shall not be deemed a charge within the meaning of this section.

Sec. 52-557i. Obligation of user of land

Nothing in sections 52-557f to 52-557i, inclusive, shall be construed to relieve any person using the land of another for recreational purposes from any obligation which he may have in the absence of said sections to exercise care in his use of such land and in his activities thereon, or from the legal consequences of failure to employ such care.

Other Connecticut Statutes Relating to Pedestrian and Bicycle Paths:

Sec. 13a-141: Bridle paths; pedestrian walks; bicycle paths.

(a) Upon written application made to the commissioner in such form as he prescribes, said commissioner may issue permits to private individuals, corporations or other organizations or to towns or other public authorities or agencies to construct and maintain, at the expense of the permittee or permittees, bridle paths, pedestrian walks, bicycle paths and suitable entrances to, and exits from, such walks and paths on the land owned by the state along any highway maintained by the state. Each such permit shall specify the location of the proposed walks and paths and entrances and exits which may be constructed and maintained thereunder. Each such permit may be revoked at any time, with or without cause, by the commissioner. All construction and maintenance work pursuant to each such permit shall be subject to the supervision and control of the commissioner or, if the permittee so desires and said commissioner consents thereto, the funds for such work may be deposited in advance with the commissioner and the construction and maintenance work may then be performed by the commissioner to the extent that funds so deposited will pay for the same, provided, if the work is performed by the commissioner, he shall furnish to the permittee, prior to the commencement of such work, an estimate of the cost thereof, with specifications of the work to be done. No fee shall be charged any resident of the state for the use of such walks and paths. If a town or other public authority or agency requests a permit to construct and maintain such path or walk the commissioner is authorized to contribute one-half of the cost of construction of such path or walk from funds available to the Department of Transportation, provided such town, public authority or agency agrees to assume the maintenance, responsibility, liability and supervision of such path or walk.

(b) When the selectmen of any town discontinue any highway or private way, or land dedicated as such, pursuant to section 13a-49, they may except from the operation of such discontinuance and reserve to the town and to the public such rights in such discontinued highway, private way or land dedicated as such, as may be reasonably necessary to construct and maintain a bridle path, pedestrian walk or bicycle path. Any such rights excepted and reserved to a town under this section shall be subject to the rights of property owners bounding a discontinued highway as are provided in section 13a-55.

Sec. 13a-141a: State-wide footpath and bicycle trail plan.

(a) The Commissioner of Transportation shall prepare and, when necessary, revise a state-wide plan for the establishment of footpaths and bicycle trails to be located adjacent to state and local roads except: (1) Where the establishment of such paths and trails would be contrary to public health and safety; (2) if the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use; or (3) where sparsity of population, other available ways or other factors indicate an absence of any need for such paths and trails.

(b) Said commissioner shall cause to be constructed and maintained such footpaths and bicycle trails adjacent to state roads as are designated in the state-wide plan prepared under subsection (a) of this section.

(c) Any private individual, corporation or other organization or any town or other public authority or agency wishing to construct and maintain a footpath or bicycle trail along any highway maintained by the state shall comply with the provisions of section 13a-141.

(d) No footpath or bicycle trail to be located, in whole or in part, within the boundaries of any transit district shall be constructed without the prior approval of such transit district. Any footpath or bicycle trail proposed by a transit district, whether or not said footpath or bicycle trail is included in the state-wide plan, shall be given priority in planning and construction.

Sec. 13a-153: State liability for bridle paths, pedestrian walks and bicycle paths and injuries thereon.

(a) No person, firm or corporation performing or engaged in performing work under the provisions of section 13a-141 or contributing any labor, services, supplies or materials in connection therewith shall have any claim against the state either (1) for compensation or payment for such labor, services, supplies or materials, except to the extent that funds for the payment thereof have been deposited with the commissioner as provided in said section, or (2) for any injuries or damages to person or property suffered or incurred while performing such work or in connection therewith.

(b) Each person, firm or corporation using the pedestrian walks, bicycle paths, bridle paths, entrances or exits provided for in section 13a-141, section 13a-141a, or using any lane or other part or facility of any highway, road, bridge or parking facility provided by the state for bicycle traffic or using the walk or path connections provided for in section 13a-142, shall do so at his or its own risk, and no liability shall accrue to the state or any agency or employee of the state for any injuries or damages to any person or property which may result, either directly or indirectly, from the use of such walks, paths, entrances, exits or connections.