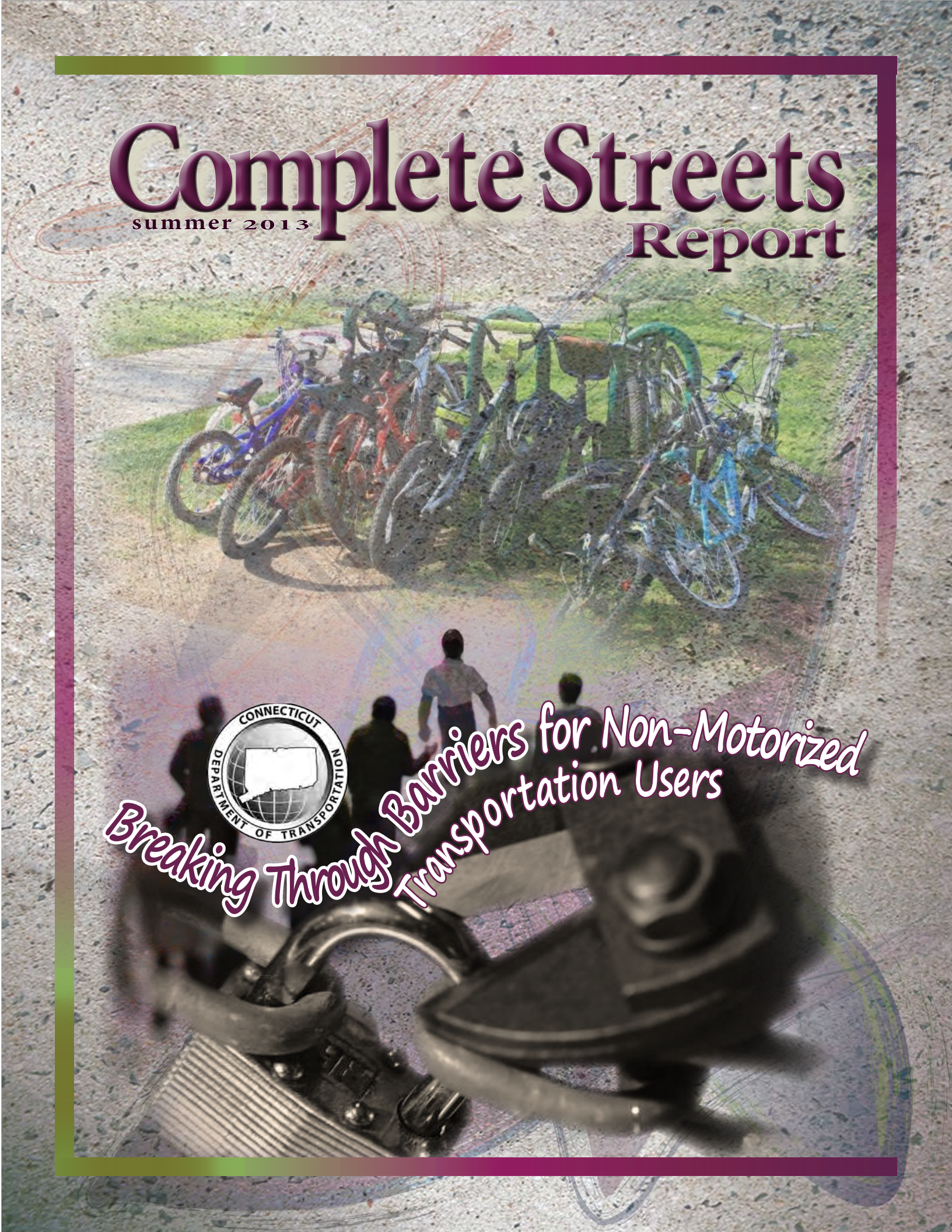
Complete Streets Report

summer 2013



Breaking Through Barriers for Non-Motorized Transportation Users

CONNECTICUT DEPARTMENT OF TRANSPORTATION

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In Cooperation with the

U.S. Department of Transportation's
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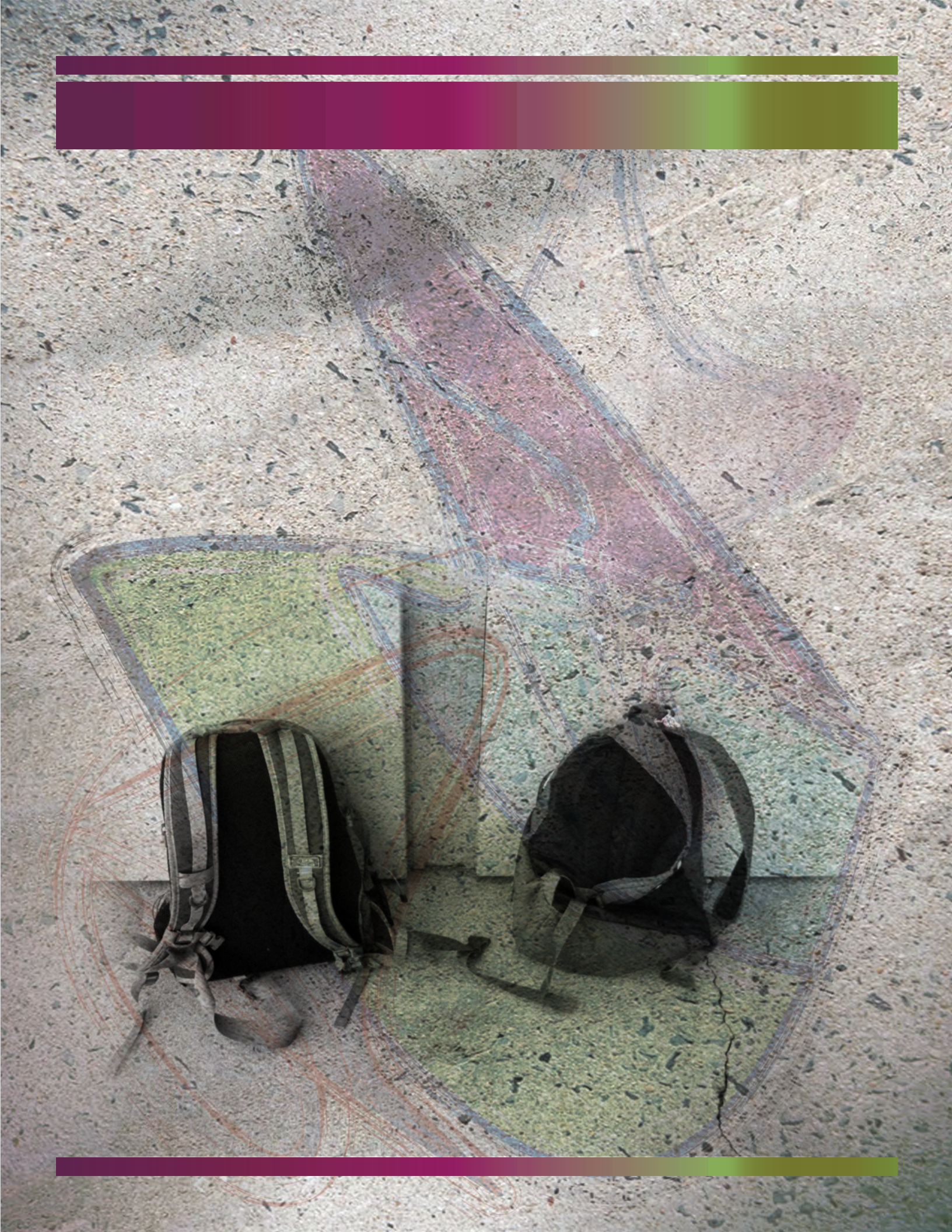

Exciting News!

Dear Non-Motorized Transportation Enthusiasts,

It is with great pleasure that I share with you the Department of Transportation's first-ever report on Complete Streets. We are proud to be part of this evolving movement of transportation system planning, design and engineering.

This is a national effort to reconnect ourselves and our communities through healthier, more active living. Non-motorized transportation facilities are just a small component in this effort but an important foundation.

We thank all of our partners and non-motorized transportation advocates for their assistance, support, and shared knowledge as well as their continued perseverance. Their efforts to identify problem areas and work with community business and government leaders, regional planners and State agency staff toward prudent, reasonable solutions are much appreciated.

Striving to provide a safe and efficient intermodal transportation network that improves the quality of life and promotes economic vitality for the State and the region remains our agency mission. Initiatives that are in line with the Complete Streets concept will help to achieve these goals and break through barriers to non-motorized transportation.

We recognize that, as an agency and a society, we have been motor vehicle centric for decades in our business practices, infrastructure and thinking. As such, it will take a concerted effort to realize a widespread system of Complete Streets in Connecticut. To do this, the Department, with our many partners, will continue to build on our past achievements, make progressive steps that prioritize Complete Streets and apply what we learn to the real world.

Happy reading.

Sincerely,

James Redeker
Commissioner

Message from the Commissioner

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Achievements

The Department achieved the following in the past year…

- spent greater than one percent on projects containing items that improve accessibility for pedestrians and cyclists in compliance with Public Act 09-154;
- maximized available shoulder widths on State routes by reducing travel lane widths to eleven feet by re-striping 162 two-lane miles as part of paving projects;
- signed approximately 82 miles of East Coast Greenway routing on State roadways; and
- broke ground on CTfastrak.

Real World Application

The Department applied Complete Streets concepts through its work to advance several initiatives…

- Reduced Travel Lanes Widths for Increased Shoulder Widths;
- ADA Upgrades at Signalized Intersections;
- Cyclist Friendly Amenities for Transit Riders;
- Signage for the East Coast Greenway;
- Multi-Use Trail Feasibility Studies;
- East Hartford "Road Diet";
- Stratford Sidewalk Project; and
- Safe Routes to Schools Projects.

Progressive Steps

The Department, in an effort to attain an improved, more multi-modal transportation network consistent with our vision, made progressive steps to employ Complete Streets strategies by…

- participating in and hosting Complete Streets training events for designers;
- establishing an internal task force to plan the Department's path forward;
- including tools, such as the Bicycle and Pedestrian Travel Needs Assessment Form, as part of routine project development and design practices; and
- implementing updated agency policies and programmatic guidelines relating to project design and eligible activities for funding.

Example Complete Streetscape
Recent reconstruction of Route 6 and 44 in Manchester,
with addition of sidewalks, five foot wide shoulders for bikes and bus turn out areas

The Department has embraced the Complete Streets philosophy and has begun the process of formalizing this through the creation of policies, revisions to design manuals, and education of staff.

Traditionally, while pedestrians and other users have been considered during the planning and design of roads, motor vehicle users have been the prime consideration for designers.

This has created a motorized vehicle dependent society.

The Complete Streets movement is changing the emphasis of design such that non-motorized users are considered equally with motorized users.

- This can mean including provisions such as sidewalks, bike lanes, wider shoulders, pavement markings, signing, traffic signal enhancements, bus turn-outs, and appropriate landscaping.
- The focus for these efforts is typically in urban and suburban areas where the development and population density best support it, but the Department is adopting Complete Streets on a statewide basis, wherever practical.

Complete Streets involves designing and operating roads for all users, notably including pedestrians, cyclists, disabled citizens, and transit users.

While the idea of Complete Streets is generally considered to have widespread support, it does present some philosophical conflicts with regards to State routes, which are almost exclusively higher volume roads.

State routes have a long established primary purpose of mobility, to enable efficient travel on a regional or statewide basis, while local and lower level roads are intended more for access to property.

Therefore, adopting a Complete Streets program at the State level presents different challenges than a municipally established program.

Design Considerations

Although there are no federal design standards for bicycle facilities, the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities or a modification thereof, serves as a design guide.

As with most guides, the AASHTO guide cannot address every possible scenario so designers often need to apply engineering judgment where specific information is not provided.

Internal Task Force

In recognition of the importance of access for as well as the safety of non-motorized transportation users, the Department established a Complete Streets Committee in 2012.

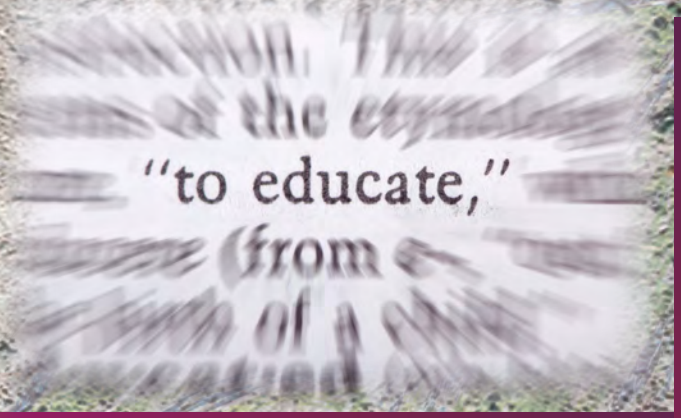
The committee is tasked with several responsibilities, whereby the scope of involvement will relate to items such as traffic calming, road "diets", bicycle and pedestrian accommodations, and coordination with municipal plans of development:

- defining the goals of the Complete Streets program;
- providing training and considering pilot projects;
- consolidating a number of associated efforts and overseeing the need for and development/updates of manuals, policy statements;
- revising the Bicycle and Pedestrian Travel Needs Assessment Form; and
- eventually, future initiatives will include the development of a Complete Streets Manual that integrates with the Department's Highway Design Manual.

The committee is comprised of representatives of several different agency units with subcommittees that sometimes include external partners.

Training Events

Initial Complete Streets training events commenced in 2012 and consisted of both workshops and a structured course for designers.



Workshops

Department staff attended three Complete Streets workshops sponsored by CT Main Street.

The first and third workshops were held in Hartford and were attended by a select group of Department representatives having direct involvement in the Department's Complete Streets efforts.

The second workshop was held at the Department's headquarters building in Newington and was attended by most of the agency's Highway Design unit.

Department representatives made presentations at the first and second workshops, discussing the need for Complete Streets, the Department's past and present efforts to consider all users, and the challenges associated with accommodating all users, including public resistance.

Sponsored Course

The Department sponsored a two-day Bicycle Facility Design course hosted by the National Highway Institute (NHI Course No. 142046).

Attendance was representative of many areas within the Department, regional planning organizations, and municipalities as well as the Connecticut Bicycle and Pedestrian Advisory Board.

This training provided planners and designers with techniques for applying existing standards and dealing with other technical issues involved.

The course identified the availability of federal, State, and local transportation funding for bicycle facilities that serve transportation and recreational users.

The course also illustrated how this funding is affecting a dramatic increase in the number of bicycling and shared use facilities being planned and built.

Bicycle and Pedestrian Travel Needs Assessment Form

Another recent change implemented in the design process involves the use of a "Bicycle and Pedestrian Travel Needs Assessment Form".

This form was created by an ad-hoc group of Department engineers.

The intention was to provide a consistent format for documenting efforts of agency staff in the consideration of cyclists and pedestrians.

Prior to implementation of the form, many designers considered non-motorized transportation users.

However, there was often no documentation of this work and no record of what accommodations were made during the design.

This was especially true for long duration projects with multiple design team members.

The form is also used as documentation of compliance with Public Act 09-154, which requires that "accommodations for all users shall be a routine part of the planning, design, construction and operating activities of all highways…"

Through group discussion and consensus, common non-motorized transportation issues that arise or result from transportation projects were identified.

By prompting the design engineer with relevant questions, the form generates early consideration of non-motorized transportation users in the development of a project.

Questions included on the form relate to developments that typically generate bicycle and pedestrian traffic, accessibility issues during construction, and the types of provisions that can be made to help the affected users.

Here is a sampling of topics covered in the form:

- suitability of the project area for bicycle travel according to the State bicycle map;
- identification of town roads located in a regional or municipal bicycle plan;
- identification or proximity to roadways included in the Department's Americans with Disabilities Act (ADA) transition plan;
- history of bicycle or pedestrian accidents/incidents in the project area;
- potential crossings for cyclists and/or pedestrians within the project area;
- potential parallel alternative routes for cyclists and/or pedestrians;
- unique or primary access nearby for cyclists and/or pedestrians;
- significant destinations located on the project corridor that cyclists or pedestrians typically access;
- anticipated development by local government entities or other organizations for bicycle facilities or generators;
- bicycle and pedestrian travel generators in project vicinity; and
- accommodations made as well as a checklist of organizations coordinated with on project design.

This assessment form was added in 2008 to the agency's list of required documents for submittal along with the Preliminary Design Statement. After an initial period of use, additional streamlining is being pursued to simplify the form and provide improved guidance for consistent understanding of the questions and application of the principles.

The Bicycle and Pedestrian Travel Needs Assessment Form was created by agency staff.

The form provides a valuable resource for the design engineer to address the needs of cyclists and pedestrians.

Sidewalk Policy

The Department, along with many of the states in the country, is changing the focus for the design and operation of its roads from motor vehicle dominant to shared use, giving equal consideration to all users, including cyclists and pedestrians.

In Connecticut, consideration of pedestrian needs has traditionally involved providing sidewalks where needed and requested by the local municipality, along with providing for pedestrian crossings at signalized intersections.

Recently, the Department's policy on sidewalks was updated to allow these components to be considered for federal and State funding shares similar to other eligible features of a project.

However, the Department's previous sidewalk policy required the municipality to provide the non-federal share (typically twenty percent) of the cost of any new sidewalks and did not allow for exclusive sidewalk projects.

That policy has been updated and the cost of new sidewalks is treated the same as for other eligible features of the project.

For example, if the project funding is eighty percent Federal and twenty percent State, the sidewalks would be funded the same way, with no additional cost to the municipality.

Moreover, exclusive sidewalk projects are now allowed and are prioritized along with traditional road projects.

Sidewalks are important components of the transportation system for non-motorized transportation users.

Prior to Repaving and Restriping - State Route 99 NB 2009

Following Repaving and Restriping - State Route 99 NB 2012

The reduced travel lane width is almost imperceptible to the motorist.

Eleven-Foot Travel Lanes

The Department is making every effort to provide adequate space on State roadways for non-motorized transportation users.

As such, new striping that reduces the existing travel lane width is being performed as part of many routine paving projects.

Whenever possible, the goal is to provide a minimum shoulder width of four to five feet with travel lanes no less than eleven feet and no more than twelve feet.

The new eleven-foot lanes leave additional space in the outer shoulder width available for other users.

State Route 99 SB 2009 - Prior to Repaving and Restriping

State Route 99 SB 2012 - Following Repaving and Restriping

However, the wider shoulder amounts to a much valued buffer for the cyclist or pedestrian.

The Department's Office of Traffic reviews each project to determine appropriateness before reducing travel lane widths for a given roadway section.

The Vendor-in-Place (VIP) program for state-funded paving projects is making the biggest contribution to this initiative and allows a change in roadway function without the cost of property takings.

In 2012, 162 two-lane miles of roads were restriped to eleven-foot lanes – amounting to ninety percent of the total 180 two-lane miles paved.

The reduced travel lane width is almost imperceptible to the motorist. The wider shoulder, however, amounts to a much valued buffer for the cyclist or pedestrian.

Cyclist Friendly Amenities for Transit Riders

The Department continues to pursue additional cyclist friendly amenities on transit vehicles and at transit facilities.

Bicycle racks are available on all buses in the CTTransit fleet and on a number of transit district fleets.

For example, all CTfastrak buses will be equipped with racks either internally or externally.

MetroNorth M-8 Rail Car Bicycle Rack Demonstration

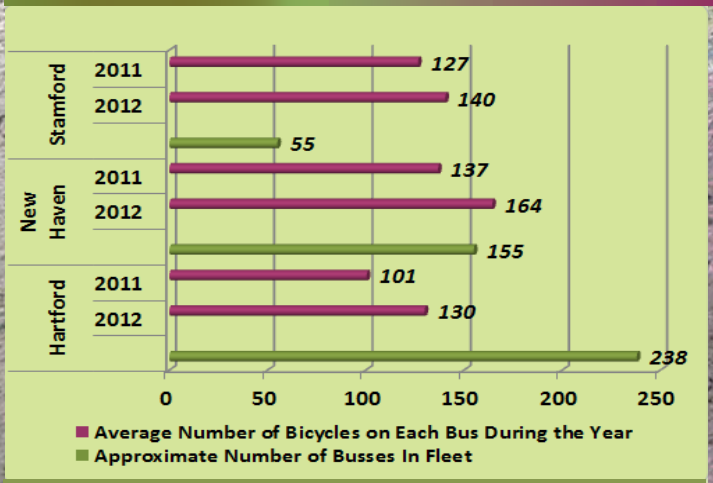
Riders are Given a Lesson on Securing Bicycles Safely to the New Racks by Bus Operator on their First Use
Note that riders must be able to lift and set their own bicycle safely and securely onto the rack, this is not a service that will be provided by bus operators.

Also, plans are being finalized to have bicycle racks installed on the new rail cars (M-8's) after delivery and, as funding becomes available, lockers or storage racks are being installed at train stations to respond to commuter use patterns.

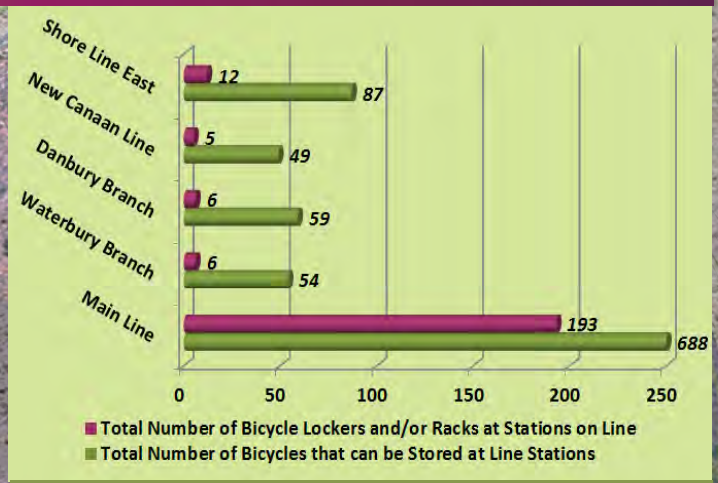
As commuter patterns are changing, bicycle use is becoming increasingly popular with transit riders and, often, a necessity.

Fairfield Metro Station - T Style Bike Racks

Westport Train Station Downturn Bike Rack



Annual Use of Bicycle Racks per CTTransit Bus
Data courtesy of CTTransit and Capitol Region Council of Governments



Inventory of Bicycle Storage Opportunities At Rail Stations Along Connecticut Rail Lines

ADA Upgrades at Signalized Intersections

The American with Disabilities Act (ADA) is a law that protects the civil rights of persons with disabilities.

The design and operation of traffic control signals must take into consideration the needs of vehicular traffic and pedestrians, including persons with disabilities.

The latest guidelines prescribe that pedestrian street crossings, curb ramps or blended transitions, detector warning surfaces, pedestrian signals and pedestrian pushbuttons are readily accessible to and usable by pedestrians with disabilities.

As part of the Department's ADA transition plan, steps are being taken to evaluate and improve accessibility, as necessary, at state-maintained traffic control signals.

There are approximately 3,200 state-maintained traffic control signals.

Since there continue to be funding, manpower and time constraints, priority has been given to improve accessibility at traffic signals at known locations where visually impaired pedestrians could benefit the most from ADA upgrades.

Berlin - Intersection of Route 372 with Porters Pass and Burnham Street

A total of 192 priority locations have been identified; 123, of which, are in the Department's District 1 region.

The Department plans to design and construct ADA upgrades at signalized locations in District 1 under State Project DOT01710372.

Based on present schedules, the project is tentatively scheduled to be advertised for construction in 2014.

The ADA upgrades in District 2, 3 and 4 are planned for future years.

East Coast Greenway (ECG) Signage

The East Coast Greenway (ECG) is a national effort to connect Florida to Maine for non-motorized transportation users.

In Connecticut, the ECG trail traverses the State from the New York border at the southwestern coastal edge through central Connecticut to the northeastern corner where it enters Rhode Island.

To the extent practical, off-road trails are being accommodated, with over 25 percent of the route complete.

However, where trail system gaps exist, on-road connections are utilized to connect the route.

In the event that a multi-use trail receives public support for construction along the Merritt Parkway following the ongoing study, this section would be an invaluable addition to the off-road network.

Also, sections of the Farmington Canal Heritage Greenway, including sections not yet completed, are anticipated to serve as East Coast Greenway.

Coordination regarding the section from Simsbury to Hartford is underway to safely route the ECG on a series of roadways.

The Department has committed to posting signage for the East Coast Greenway route through Connecticut by the end of 2014, including several interim routes.

- In 2012 approximately 82 miles of the ECG were signed from the Rhode Island border to the Connecticut River.
- In 2013 another 125 miles will be signed allowing cyclists to enjoy a fair portion of the ECG without having to rely solely on queue sheets.

Department maintenance crews are installing ECG signs on state roads, while the Department of Energy and Environmental Protection (CT DEEP) agreed to install signs on all trail portions and the individual municipalities are responsible for installing signs along their roads.

Check out www.greenway.org for national updates on the East Coast Greenway.

East Coast Greenway
LINKING CITIES
MAINE TO FLORIDA
GREENWAY.ORG

Andover - New Pedestrian Bridge over Route 316 with East Coast Greenway Signage

The East Coast Greenway (ECG) is a national effort to connect Florida to Maine for non-motorized transportation users.

This has been the first joint venture of its kind for Connecticut – a true team effort between the Department, the CT DEEP and the East Coast Greenway Alliance.

East Hartford "Road Diet"

In response to accidents involving cyclists and upon a request from the Town of East Hartford, the Department investigated options to improve bicycle safety along a 2.76-mile stretch of the U.S. Route 44 (Burnside Avenue) in East Hartford corridor.

The section, extending between U.S. Route 5 (Main Street) and Mary Street, is currently striped for four lanes, two in each direction, with parking permitted in the outside travel lane.

This area has been identified as a viable location for a "road diet" to improve bicycle operations and safety (State Project DOT00420315).

Not every project is a candidate for this type of design.

Several highlights for why this design is believed to be a good fit for this corridor are as follow:

- traffic volumes are low enough to reduce travel lanes;
- increased capacity and level of service can be provided at intersections via dedicated turn lanes;
- the available roadway width is currently wide enough to accommodate sharing the road with pedestrians/cyclists; and
- this has been a coordinated and cooperative process with area stakeholders promoting similar goals and interests.

A road diet is a relatively new engineering technique consisting of re-striping an existing multi-lane road to eliminate one or more vehicular travel lanes in order to provide a dedicated bicycle lane.

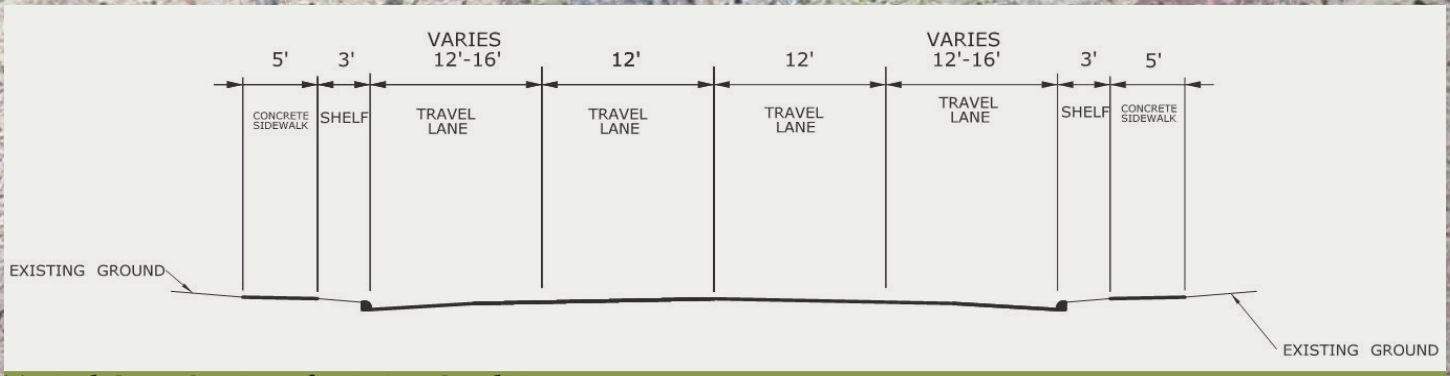
The proposed road diet will reduce the four vehicular lanes to two lanes, with dedicated turn lanes at selected intersections.

The following design components are anticipated to be included:

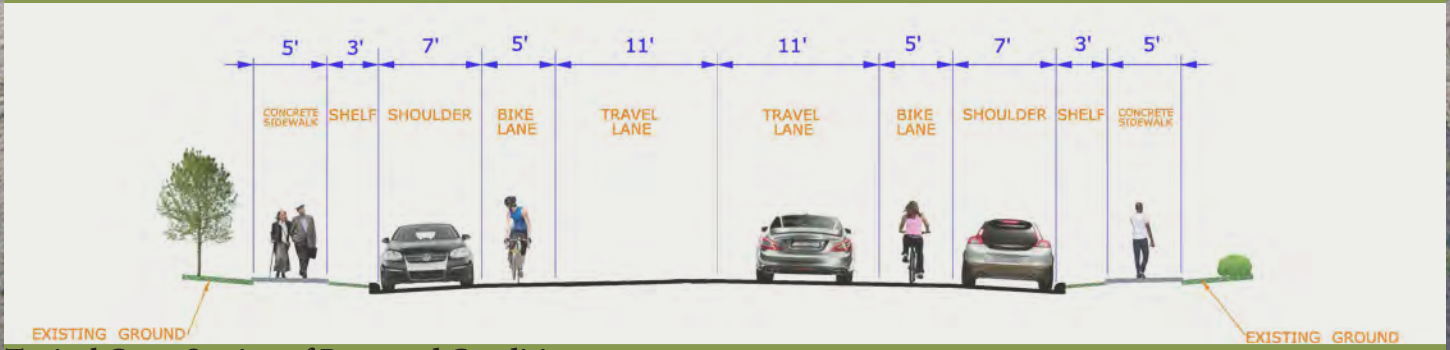
- dedicated bicycle lanes;
- dedicated turn lanes at key intersections;
- several formal bus turnouts;
- consolidation of a number of bus stops;
- improvements to several side street crossings; and
- accommodation of on-street parking.

An educational component is also being incorporated that will likely include:

- advertising with CTTransit;
- printed safety material for distribution;
- a limited number of safety material purchases, such as bicycle lights, helmets and reflective stickers, to be supplied to local law enforcement for distribution;
- community outreach activities on safe bicycling practices to discourage wrong way riders, riding without helmets, and riding without a light during low light conditions; and
- community outreach on safe driving practices on roadways with bicycle lanes.

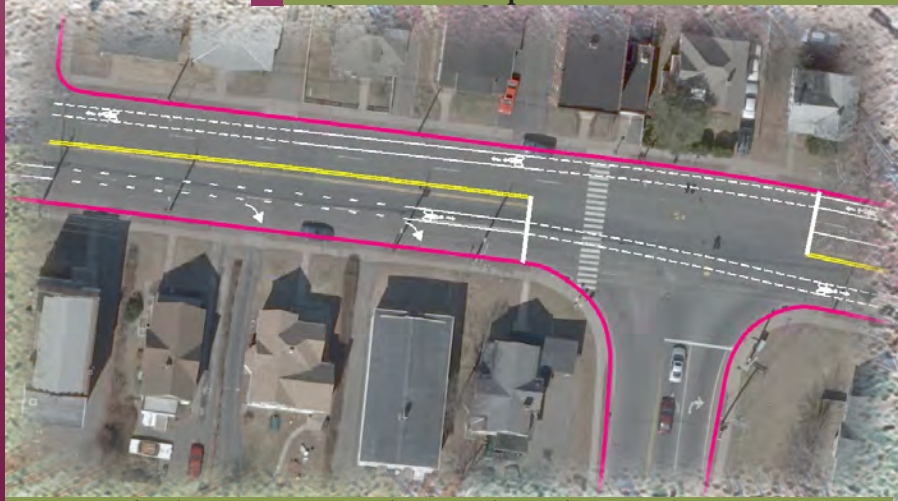


Typical Cross Section of Existing Conditions

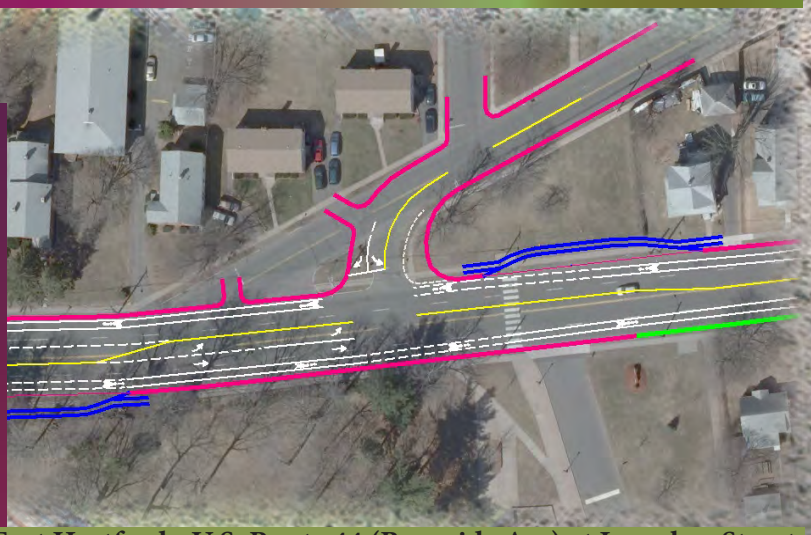


Typical Cross Section of Proposed Conditions

East Hartford - U.S. Route 44 (Burnside Ave) at U.S. Route 5 (Main St.), Improved Intersection and Accommodation of Bike Lane



East Hartford - U.S. Route 44 (Burnside Ave) Typical Cross Street Intersection with Striping for Dedicated Bike and Turn Lanes



East Hartford - U.S. Route 44 (Burnside Ave) at Larrabee Street, Proposed "T"-Intersection to Improve Safety, especially for Crossing Pedestrians, Includes Bus Turnout

Additionally, an added benefit of this project is improved connectivity with other nearby systems for non-motorized transportation users.

- Once completed, this project will provide a dedicated bike lane from Main Street in East Hartford to Mary Street, at which point, the road is already a two-lane road with wide shoulders to accommodate bicycles.
- Approximately 1.25 miles farther to the east, the Charter Oak Greenway intersects Route 44 near the Interstate 84 interchange. The greenway runs roughly parallel to Interstate 384 and currently extends to the east into Manchester where it terminates opposite Porter Street.
- Two additional projects are currently in design to extend the Charter Oak Greenway into Bolton where it will connect with the Hop River Trail, which, in turn, extends to Columbia, near the Windham town line.

Project development, including public outreach, has been initiated and the end of preliminary design is already underway.

Coordination meetings with town officials and representatives of CTTransit have been held to review a number of issues, including removal of on-street parking in isolated areas, consolidation of bus stops, construction of bus turn-out areas, and reconstruction of one side street approach to Route 44.

The project currently is scheduled for construction in 2014.

However, some of the work being considered may require the acquisition of additional right of way (property), which would defer construction by approximately one additional year.

A review of the traffic volumes using this road indicates that, despite the loss of a travel lane in each direction, the road will still operate at an acceptable level.

In some instances, operations will even improve as a result of the establishment of exclusive turn lanes and the provision of the bus turn out areas for pick up or drop off of passengers.

Putnam Bridge Access across the Connecticut River

Work is underway to rehabilitate the William H. Putnam Bridge carrying Route 3 over the Connecticut River.

The Putnam Bridge connects the Town of Wethersfield on the west with the Town of Glastonbury to the east.

In addition to resurfacing the bridge deck and a number of repairs to the bridge, parapet barriers and center median, there will also be a sidepath added along the south side of the bridge.

Access points, such as this, for safe passage of pedestrians and cyclists to cross the Connecticut River are limited.

This bridge walkway will be key for non-motorized transportation users, especially during off seasons when the nearby ferry is not running.

The limits of the current construction project end in the vicinity of the bridge itself.

As such, the connection to the bridge walkway from the nearby transportation network and communities is still left to complete.

The Department is currently working with stakeholders through an advisory committee on a Putnam Bridge Multimodal Trail Connections Feasibility Study.

This is an effort to advance planning work and evaluate options for this connection. Members of the committee include representatives of:

- the two riverside communities as well as nearby East Hartford,
- the regional planning organization,
- Goodwin College, and
- local bicycle and pedestrian advocacy groups.

The study process will facilitate implementation of the trail by addressing community needs, priorities and fiscal constraints early.

The study began in late 2012 with existing data collection, field reconnaissance, and advisory committee selection.

It is anticipated that the study will continue through 2013, including public meetings on preliminary alternatives development, selection of preferred alternatives and preparation of a final report.

Check out www.ct.gov/dot and navigate to Bikes and Pedestrians for study updates.

Boosting year-round transportation and recreational utility by maximizing user accessibility, connectivity, comfort, and security is a project goal.

Currently Available Routes for Non-Motorized Travelers from Naubuc Avenue in Glastonbury to Downtown Wethersfield:

8 miles via the Charter Oak Bridge (Hartford)
9 miles via the Rocky-Hill Glastonbury Ferry
27 miles via the Portland Bridge (Middletown)
versus the proposed 2-mile Putnam Bridge sidepath.

Location of the path termini will be carefully considered to ensure connectivity to sidewalks, bicycle and transit facilities as well as popular origins/destinations, while maintaining safety and accommodating trailhead amenities and parking.

Glastonbury - Naubuc Avenue and Putnam Boulevard

Glastonbury - CTTransit Route along Naubuc Avenue

Efforts are being made to consider and minimize impacts to environmental resources, private property, and existing infrastructure.

Glastonbury - Naubuc Avenue and Glastonbury Boulevard Crosswalk with Pedestrian Button

Wethersfield - Great Meadow Road Bicycle Route

CTfastrak

CTfastrak is Connecticut's bus rapid transit (BRT) solution to Interstate 84 congestion in the New Britain to Hartford corridor.

CTfastrak will be a 9.4-mile dedicated roadway for transit that will serve as the spine of central Connecticut's regional transit system and express bus service.

Construction of the CTfastrak system began in May 2012.

The system is scheduled to open for passenger service in February 2015.

CTfastrak will provide fast, frequent service within the most heavily-traveled area between New Britain and Hartford, and a key transit link to connect multiple routes throughout the CTtransit system.

BRT is an innovative, high capacity, cost-effective public transit solution that can significantly improve travel times through heavily-congested areas by using dedicated transit roadways or lanes to avoid traffic and quickly transport passengers to their destinations.

Rapid transit systems are not designed to be drive-in facilities.

Many CTfastrak riders are expected to access the system by walking, riding a bike, taking a connecting bus, or getting dropped off at a station.

Features of CTfastrak include:

- a dedicated 9.4-mile roadway for buses with transit-only ramp connections to Interstate 84 to expedite travel;
- eleven landscaped stations, each with pedestrian friendly crossings and storage racks for bicycles;
- modern, 60-foot vehicles using the latest environmentally-friendly technology and equipped with bicycle carriers;
- frequent, daily service on the CTfastrak line from 4:30 a.m. to 1:30 a.m.; and
- a five-mile multi-use trail from New Britain to Newington junction for pedestrians and cyclists.

The Department is working closely with the local communities, regional planning organizations and other stakeholders to improve connections to the stations as well as the parallel multi-use trail.

CTfastrak Map Showing Breakdown of Route by Construction Contracts
Note Proposed Five-Mile Long Multi-Use Trail Running Parallel to Route

Check out www.ctfastrak.com for more information about CTfastrak.

Rapid transit systems are not designed to be drive-in facilities.

Many CTfastrak riders are expected to access the system by walking, riding a bike, taking a connecting bus, or getting dropped off at a station.

While many users will be coming from and going to the stations in the communities near the stations, many other passengers will be coming onto CTfastrak from express buses in surrounding communities, such as Bristol, Plainville, Cheshire, Southington and Waterbury, where there are existing park and ride facilities.

Since the buses can travel "off-track," CTfastrak circulator and connector buses can travel into nearby communities, picking up riders and delivering them to major destinations, without the need for riders to drive to a station.

Bus routes connecting with CTfastrak will be designed to offer faster local bus trips and one-seat rides to major employment, shopping, cultural, educational, and healthcare destinations.

By operating in a permanent, dedicated guideway, while allowing buses to enter and depart the line, the CTfastrak system offers the speed of a rail system with the flexibility of bus service to meet transit demand and provide passengers convenient point-to-point service to their destinations.

Highlights of the new CTfastrak transit service plan include:

- a Bristol to Hartford shuttle and express bus service offering fast, direct service to New Britain and Hartford;
- frequent round trip shuttle and direct service from CTfastrak stations to Central Connecticut State University;
- improved access to Elmwood, Westfarms and UConn Health Center;
- new, fast access from the Waterbury, Cheshire-Southington area to New Britain and Hartford; and
- shuttle bus service between Saint Francis Hospital and Hartford Hospital via the Sigourney Street Station.

CTfastrak is anticipated to make transit use much more convenient– with fast, frequent, direct service from outlying areas to popular destinations along the corridor, including employment centers, hospitals, schools and cultural attractions.

New Britain Station Rendering Showing Pedestrian-Friendly Facilities

Public Open House on Project

Additionally, CTfastrak is expected to improve recreational opportunities, and encourages walking and bicycling to places in the community.

Constructions Activities for Center Pier at Flatbush Avenue

Feasibility Study for a Merritt Parkway Trail

The Department is currently undertaking a feasibility study for a multi-use trail along the entire length of the Merritt Parkway (Route 15) from the New York State Line in Greenwich to the Housatonic River in Stratford.

The study is being funded by a 1.3 million dollar grant from the National Scenic Byways Program.

The Merritt Parkway is a National Scenic Byway and is also listed on the National Register of Historic Places.

As a historic and cultural resource, the road provides both challenges and opportunities for a trail.

The study is being coordinated with a number of stakeholders in the area with interests in the Merritt Parkway corridor.

Check out www.ct.gov/dot and navigate to Merritt Parkway Trail Study from ConnDOT News and Announcements on the home page.

The alignment is expected to be generally located adjacent to the northbound direction of the road where the available right of way is much wider to accommodate the use.

The development of a trail along the Parkway, with ADA compliant access points, would allow more people to enjoy the byway experience, its intrinsic qualities and resources, and link visitors to other modes of transportation by way of local bus routes.

There are two major bus loops servicing points near the Merritt Parkway, the Greater Bridgeport and Greater Norwalk lines, with most buses equipped with bicycle racks.

The anticipation is that this trail could serve as an alternative east-west system - connecting daily commuters and general users via a non-motorized pathway to major urban centers, commuter trains, Amtrak's Northeast Corridor, and even ferry service to Long Island from Bridgeport.

Anecdotal information suggests that a trail was considered as part of the original design for the Merritt Parkway, but was removed from the plans as a result of funding limitations.

Among others, the following have been actively involved in the study, which has drawn interest and recognition from other states across the country:

- East Coast Greenway,
- Keep Stamford Moving, and the
- Merritt Parkway Trail Alliance.

The following organizations were invited to participate in the process, many of which have already offered input:

- local governments,
- Southwestern Regional Planning Agency,
- Greater Bridgeport Regional Council,
- Merritt Parkway Advisory Committee,
- Merritt Parkway Conservancy,
- Connecticut State Historic Preservation Office, and the
- Connecticut Department of Energy and Environmental Protection.

Merritt Parkway Multi-Use Trail Conceptual Drawing Approach to Bridges

During the initial phase of the study, the Department met with officials from each of the eight municipalities through which the Merritt Parkway passes. Public workshops were then held in all but one of the municipalities.

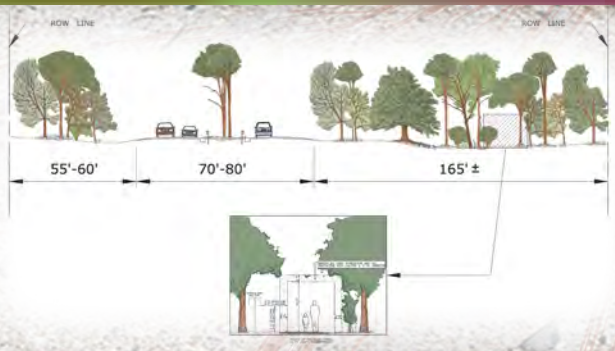
Those workshops provided the public an opportunity to discuss initial concerns as well as the potential benefits of such a facility.

The Department is currently using the information gathered at those workshops to aid with drafting a conceptual alignment for a trail.

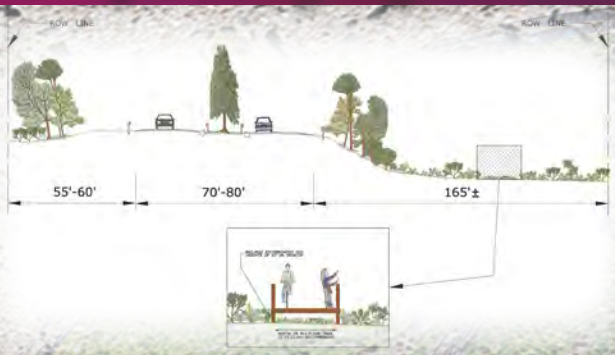
The Parkway was designated prior to the development of the federal guidance and policy on Byways.

...should accommodate, wherever feasible, bicycle and pedestrian traffic including overlooks ...should consider the accommodation of tour buses, and service facilities, such as food.

The Parkway is missing these important components.



Merritt Parkway Multi-Use Trail Conceptual Drawing Typical Cross-Section At-Grade



Merritt Parkway Multi-Use Trail Conceptual Drawing Typical Cross-Section Grade Difference

Methods for crossing the various roads and waterways are being evaluated - taking into consideration the concerns expressed by the public and, wherever practical, trying to take advantage of local features such as existing grade to avoid fills or cuts.

Future steps will include a series of public informational meetings where the conceptual design will be presented for review and comment.

An Environmental Assessment will then be prepared which will document the findings of the study for possible future decision making purposes.

The next phase of the study, involving a series of public meetings, is expected to commence in 2013 and the entire study is expected to be completed in 2014.

The Department is currently in its second decade of rehabilitating the roadway itself, incorporating pavement rehabilitation, wood guiderail, bridge repair and restoration along with needed safety improvements and replanting.

A well-traveled, albeit narrow, walking path is visible in the corridor along the roadside.

Space for pedestrians is limited by guiderail and steep slopes.

Stratford - U.S. Route 1 Facing Eastbound

Addressing Stratford Sidewalks

In Stratford, the urbanized area of U.S. Route 1 (Barnum Avenue Cutoff) between Route 113 (Main Street) and Ferry Boulevard is heavily developed with a mixture of large and small retail establishments.

Route 1 crosses over the Metro North railroad line less than half a mile east of the Stratford Rail Station near the center of this section of roadway.

Sidewalks are currently provided along much of the section, but significant gaps also exist, most notably on the approaches to the bridge over the rail line.

The gaps in sidewalk are the result of challenging conditions, including the rail line crossing, itself, and the steep embankments that exist along the roadside.

In addition, many smaller developments in the area have wide driveway aprons that a pedestrian must cross without the benefit of a defined sidewalk.

Stratford - U.S. Route 1 Facing Eastbound

These deficiencies would often discourage pedestrian activity, yet observations indicate that many people walk along this busy four-lane road.

Funding is being sought to initiate a project that will complete the sidewalk network in this area and address these barriers.

The current estimated cost is between one and two million dollars.

The design and construction of this project would be challenging, likely requiring retaining walls, pedestrian structures, and significant grading work.

However, any improvements would significantly enhance pedestrian operations as well as serve existing transit systems in the area.

Alternative Systems

Although some might argue that multi-use trail systems are not a component of Complete Streets, there is room in the definition for both on-road and off-road systems for non-motorized transportation users.

The Department is committed to making our roadway systems safer routes for pedestrians and cyclists.

However, alternative systems, such as multi-use trails, can offer safe, healthy, functional and aesthetically pleasing travel ways for these users when designed with the community in mind.

Multi-use trail systems can offer good alternatives if design considerations include:

- originations/destinations of trips,
- adequate entrances/exits from the system, and
- safe connections and crossings with the nearby roadway network or available transit.

The added benefit of separation from motorized traffic provides a safer facility in many cases and also buffers users from vehicle generated pollutants and noise, making the trip more enjoyable and healthier.

Farmington Canal Heritage Greenway

One of the most popular multi-use trails in Connecticut is the Farmington Canal Heritage Greenway which stretches from New Haven north to the Massachusetts border, with some gaps.

The segments from New Haven to Cheshire and from Farmington to Massachusetts the trail are essentially complete.

A connection is missing, a distance of approximately 4.6 miles, from the trail's current terminus at Cornwall Avenue in Cheshire northerly across Interstate 691 into Southington where it could converge with an existing section of the trail.

The Department is undertaking two projects that will complete the trail junctions and the Town of Cheshire is addressing the midsection to address this gap.

- The Department is designing approximately three miles of trail from Cornwall Avenue to Route 68 and 70 and from Jarvis Street in Cheshire to the existing trail in Southington. Construction is currently expected to begin in the fall of 2015.
- The Town of Cheshire is designing the section from Route 68 and 70 to Jarvis Street, a distance of approximately 1.5 miles.

The trail roughly follows the path of the Farmington Canal which was originally used by barges pulled by horses and later converted to a rail bed.

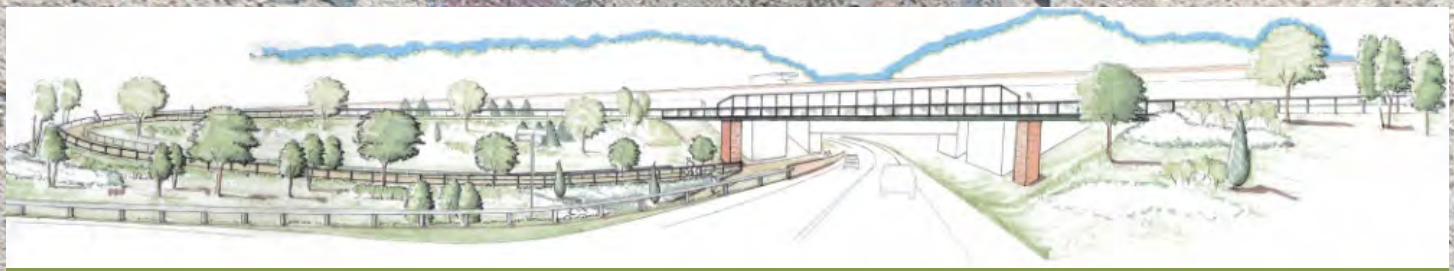
Consequently, a number of businesses which used this corridor for freight deliveries are settled in the area.

As such, coordination with these business owners and municipal officials is ongoing.

One of the challenges in developing this greenway will be minimizing the impact on these businesses while also providing a safe and pleasant path for the trail users, including families on bicycles, joggers and walkers.

An old railroad bridge will be converted to carry bicycle and pedestrian traffic as a means of crossing Interstate 691.

The trail roughly follows the path of the Farmington Canal which was originally used by barges pulled by horses and later converted to a rail bed.



Manchester - Charter Oak Greenway Shared Use Path Rendering for Camp Meeting Road

This will be an important connection and a significant step towards completing a network of trails for non-motorized users, particularly those residing east of the Connecticut River.

Charter Oak Greenway

The Charter Oak Greenway is a multi-use path, located within the Interstate 384 corridor, which currently runs from Forbes Street in East Hartford to Porter Street in Manchester.

Approximately three miles farther east, the Hop River State Park and Valley Falls Trail meet near Freja Park in Bolton.

The Department is currently designing an extension of the Charter Oak Greenway that would close the gap between these trail systems.

This will be an important connection and a significant step towards completing a network of trails for non-motorized users, particularly those residing east of the Connecticut River.

This section presents a number of design challenges, most notably the need to cross two high-volume roadways, Camp Meeting Road in Manchester and Route 6 and 44 in Bolton.

After reviewing many alternatives, the designers have determined that two bridges for carrying bicycle and pedestrian traffic over these roads are the preferred solution for providing a safe, efficient, and pleasant experience.

The design of the bridges, including inclusion of decorative and aesthetic treatments, will be coordinated with officials from both municipalities.

Construction is expected to begin in 2015, after the necessary property purchases have been completed and environmental permits have been obtained.

Pequonnock River Trail

The Pequonnock River Trail is being extended southerly through Trumbull by the Department.

An old railroad bridge immediately east of the Route 25 interchange provides a convenient way for the trail to cross the Merritt Parkway.

However, new grade separated crossings at the on and off ramps between the Merritt Parkway and Route 25 will be required.

The scenic and historic nature of the Merritt Parkway necessitates a sensitive approach to this task.

New tunnels under these parkway ramps will provide crossings without significantly changing the motor traveler's experience from the parkway.

Coordination with stakeholders, such as the Merritt Parkway Conservancy and Merritt Parkway Advisory Committee, has already been initiated and will continue as the project design advances.

Construction is currently expected to begin in the fall of 2015.

Sections of the trail to the north and south are being designed by the town of Trumbull.

Trumbull - Railroad Bridge over Merritt Parkway

Trumbull - View of Merritt Parkway from Future Trail

The Pequonnock River Trail is being extended southerly through Trumbull by the Department.

Sections of the trail to the north and south are being designed by the Town of Trumbull.

Check out www.walkitbikeit.org for additional details on the Safe Routes to School Program.

Walk/Bike to School Events 2012 in Connecticut

Safe Routes to Schools (SRTS) Program

Initiated in 2006, the Connecticut Safe Routes to Schools (SRTS) Program is designed to empower schools and communities to make walking and bicycling to school a safe and routine activity.

Walking or biking to school plays a valuable part in keeping children physically active and healthy.

The goals of the program are:

- to enable and encourage children, including those with disabilities, to walk and bicycle to school;
- to make bicycling and walking to school a safer and more appealing transportation alternative; and
- to facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of primary and middle schools.

New Haven - Fair Haven School SRTS Project: (Left) Taken 2009 Before Project Initiation (Others) Taken 2012 After

The program has been funded by the federal government and continues to be an option under the most recent federal transportation legislation.

The Department, from federal fiscal years 2005 through 2012, has programmed approximately twelve million dollars in total SRTS improvements.

Typical projects are comprised of new sidewalk installations and/or upgrades to existing pedestrian and bicycle crossings in the vicinity of schools.

Six projects, funded from prior program years, were completed in 2011-2012.

In addition, a portion of SRTS funding has been utilized for planning services for eligible schools statewide.

With this initiative, SRTS planning workshops and traffic engineering site assessments have assisted over 35 participating schools in developing SRTS master plans, eleven in the 2011-2012 period.

Several schools have also taken advantage of the bicycle and pedestrian educational resources and classes available through SRTS program.

Levels of physical activity in children (as well as adults) have declined in the past several decades as a result of advances in technology that require less movement.

Childhood obesity is now a growing concern.

Showing New Curb Extensions, Crosswalks, Pavement Markings, Speed Humps and Sharrows in Vicinity of School

Share the Road Campaign

The Share the Road campaign strives to improve the knowledge of all roadway users, promote safe travel and minimize the likelihood of crashes.

Public Act 08-101 was made effective October 1, 2008, and requires Connecticut motorists to allow at least three feet of separation when overtaking and passing cyclists.

Failure to do so could cause motorists to receive a fine and, much worse and more importantly, it could cost a life.

Because of the large disparities in size, weight and speed between bicycles and motor vehicles, cyclists are at a tremendous disadvantage in collision with a car or truck.

However, cyclists are not the only transportation system user at risk.

The program is also applicable to motorcyclists, pedestrians and equestrians and, even, operators of farm equipment who utilize the roadway network.

This law strives to increase motorist awareness of bicycles, and to make conditions safer by preventing collisions.

The Department continues to promote the Share the Road campaign message, with the added focus and interest in the safety of all roadway users.

Check out www.ct.gov/dot and navigate to Bikes and Pedestrians for Share the Road materials.

In addition to cyclists,
other at risk users include
motorcyclists, pedestrians and equestrians
and, even, operators of farm equipment,
who all utilize the roadway network.

"THREE-FEET" PASSING RULE IT'S THE LAW!

Roadway users travel via a variety of modes
and, although, some motorists
still do not heed the law,
the Department continues to make notable progress
promoting the importance of sharing the road.

Improving Bicycle and Pedestrian Access

Accommodations for all users are required to be a routine part of the planning, design, construction and operating activities of highways in the State.

Public Act No. 09-154, now recorded as Connecticut General Statute Section 13a-153f, established this as formal rule via "An Act Improving Bicycle and Pedestrian Access".

Of the total amount of funds received in any fiscal year for the construction, restoration, rehabilitation, or relocation of roads, the Department as well as municipalities, with few exceptions, are required to expend at least one percent to provide facilities for all users.

Since inception of the rule in October 2010, the Department has exceeded the one percent requirement.

Facilities for all users notably include, but are not limited to, bikeways and sidewalks with appropriate curb cuts and ramps for pedestrians and cyclists.

The Department tracks a Performance Measure for this one percent rule.

The measure chronicles the percent and total amount of dollars spent and/or programmed to be spent, on projects that contain amenities to improve accessibility for pedestrians and cyclists.

The Department identified 41 projects awarded in State fiscal year (SFY) 2012 that included elements for pedestrians or cyclists, such as sidewalks and ramps, pedestrian signals, push buttons, signs, and pedestrian/bicycle trails.

The total dollars programmed for these items is approximately 11.2 million dollars.

This equates to approximately 1.72 percent of the total funds awarded on State and municipal projects during the SFY for the construction, maintenance and repair of roads.

Since inception of the rule in October 2010, the Department has exceeded the requirement.

Given the complex nature of managing many projects and other more pressing financial priorities, it continues to be difficult to track and report all related activities, so this estimated contribution is likely a conservative number.

The standard use of the new Bicycle and Pedestrian Travel Needs Assessment Form will likely help to better document these activities for more complete reporting in future years.

Addressing Gaps in the State Network of Multi-Use Trails

Options continue to be evaluated for closing the gaps in the statewide trail network.

A five-year program for connecting sections that achieve a continuous and interconnected network for non-motorized transportation users is under development.

The need and the interest is there but available funding for design, rights-of-way (property) and construction continues to be a major obstacle.

The Department, in cooperation with the Connecticut Department of Energy and Environmental Protection (CT DEEP), intends to focus initially on the East Coast Greenway and the trails that will help Connecticut bridge this national network as well as several other major interregional trails.

Trumbull - Pequonnock River Trail

Realistically, the Department cannot complete all of the segments and trails listed alone.

It will take a coordinated effort of stakeholders to continue to raise funds for these efforts.

It will also be a work in progress for many years to come. However, headway is already being made.

As part of this process, the Department reviewed the existing trail system to determine the areas where gaps or extended areas of missing trail exist and identified the following:

- Charter Oak Greenway - East Hartford/Manchester Connection to the Capital
- Charter Oak Greenway - Manchester and Bolton Notch Connection
- Hop River Trail - Coventry to Andover
- Airline State Park Trail in Northeastern Connecticut - Putnam through Windham
- Quinebaug River Trail - Killingly
- Farmington Canal Heritage Greenway - Cheshire
- Farmington Canal Heritage Greenway - Farmington to Plainville
- Route 11 Greenway
- Groton to Preston Bikeway
- Housatonic River Trail (Massachusetts border to shoreline)
- Naugatuck River Greenway Trail (Massachusetts border to Housatonic River Trail)
- Pequonnock River Trail (Trumbull)
- Norwalk River Valley Trail

For decades, the construction of major trails in Connecticut has relied on individual communities to design and construct segments, piecing them together as funds were raised.

One of the lessons learned has been that, with limited funding and more complex right-of-way (property), environmental, cultural and historic issues facing multi-use trail development as well as conflicting interests across municipal boundaries, a new approach is necessary.

Manchester - Charter Oak Greenway

As such, in 2011, the Department updated agency policy and guidance materials relating to the federal Transportation Enhancement Program.

While still allocating fifty percent of program funds for local projects, the Department initiated changes that would also make program funds available for closing gaps in the statewide trail network through State sponsored projects.

Realistically, the Department cannot complete all of the segments and trails listed alone.

It will take a coordinated effort of stakeholders to continue to raise funds for these efforts.

It will also be a work in progress for many years to come. However, progress is already being made and should help to motivate interest.

Subsequent to the policy change, the Department worked through the 2011-2012 period to initiate or advance design activities on four projects towards this goal.

Cheshire - Farmington Canal Heritage Greenway

The projects are as follow:

- Charter Oak Greenway from Porter Street in Manchester to Valley Falls Greenway in Bolton, a distance of approximately three miles (State Project DOT00760217);
- Farmington Canal Heritage Greenway from Cornwall Avenue to Routes 68/70 and from Jarvis Street in Cheshire to the Southington town line, a distance of approximately three miles (State Project DOT00250144);
- Farmington Canal Heritage Greenway in the Town of Cheshire from Routes 68/70 to Jarvis Street, approximately 1.5 miles (State Project DOT00250135); and
- Pequonnock River Trail in the vicinity of the Merritt Parkway ramps in the Town of Trumbull, an approximate 4500 foot extension of trail (State Project DOT01440191).

Killingly - Quinebaug River Trail

The new federal transportation bill, Moving Ahead for Progress in the 21st Century (MAP-21), was enacted in late 2012 and resulted in some changes to the Transportation Enhancement Program rules as well as reduced the level of available funding.

The Department is not letting this "bump in the path" stop its momentum to close the statewide trail system gaps.

The Department remains committed to fully funding and constructing the initiated projects.

The Department will continue to work closely with the CT DEEP, regional planning organizations, municipalities as well as other stakeholders to complete a network of interconnected statewide trails, including identifying funding for these improvements.

Most notably, the East Coast Greenway will be the primary focus in the coming years as it is considered a critical segment in the national effort to connect Florida to Maine.

Assistance with Local and Regional Priorities

At the same time that the Department was initiating statewide trail projects, the regional planning organizations throughout Connecticut were reviewing and prioritizing local project applications for funding under the Transportation Enhancement program.

To help implement these projects, the Department reviewed its sidewalk policy and made changes.

It also relaxed rules under other programs, such as the Surface Transportation Program, to allow regions access to funds for multi-use trails previously restricted to capital improvements.

In 2012, the Department made considerable strides reviewing each region's highest priority project with the intention of initiating these projects under the program.

Again, changes as a result of MAP-21 are altering eligible activities and the available funding for these projects but the Department remains committed to assisting the regional planning organization in achieving their local project goals.

The Department recognizes that there are many other trails of regional and local significance required for non-motorized transportation users' connections.

What's Next

The Department anticipates undertaking additional Complete Streets initiatives in the coming years, including…

- pursuing State capital funding to support a five year fifty million dollar program to supplement other limited federal funding sources for an expanded statewide network of multi-use trails;
- implementing policies and funding to support multi-modal trips; and
- installation of bicycle racks and lockers at public transportation facilities.

Every small success in achieving Complete Streets will further break through barriers for non-motorized transportation users.

Challenges Yet to Face

The Department and its partners will continue to face challenges to Complete Streets efforts, including…

- achieving safety for all users within a complex transportation network, while balancing differing priorities, needs and perceptions of stakeholders;
- funding and resource limitations, including agency responsibilities related to many other unfunded mandates;
- changes to federal program rules with implementation of Moving Ahead for Progress in the 21st Century (MAP-21);
- limited available rights of way (property) along necessary systems, including topographic constraints; and
- sensitive environmental, cultural or historic resources in the vicinity of projects.

Quick References

Department's Website
www.ct.gov/dot

See Something, Say Something
On a bus, tell the driver.

In a train or at a train station, tell a conductor or a transit worker.

Tell a police officer or call the local police department.

For imminent threats, call 9-1-1.

If there is not an authority nearby, call 1-866-HLS-TIPS (1-866-457-8477).

Local Technical Assistance Program
www.t2center.uconn.edu/lpa

National Highway Safety Administration
www.nhtsa.gov

CT Highway Safety Programs
www.ct.gov/dot navigate to Travel Resources > Safety > Travel Safety Information

Adopt a Highway
www.ct.gov/dot navigate to Programs and Services > Community Services

CTTransit
www.cttransit.com

CTrides Commuter Service
www.ctrides.com

nuride Commuter Rewards
www.ctrides.com

CTfastrak
www.ctfastrak.com

Share the Road Campaign
www.ct.gov/dot navigate to Bikes and Pedestrians

Safe Routes to School
www.walkitbikeit.org

Transportation Enhancement Program
www.ct.gov/dot/tep

Recreational Trails Program
www.ct.gov/deep/rectrails

Rails to Trails Organization
www.railstotrails.org

East Coast Greenway
www.greenway.org

BikeWalk Connecticut
www.bikewalkct.org

CT Main Street
www.ctmainstreet.org

Pedestrian and Bicycle Information Center
www.pedbikeinfo.org

League of American Bicyclists
www.bikeleague.org

CT Bicycle and Pedestrian Board
www.ct.gov/dot navigate to Bikes and Pedestrians

FHWA Pedestrian and Bicycle Safety Tools
safety.fhwa.dot.gov/ped_bike

Performance Measures
www.ct.gov/dot navigate to Publications > Other

Long Range Transportation Plan (LRP)
www.ct.gov/dot/lrp

Master Transportation Plan (MTP)
www.ct.gov/dot/mtp

Statewide Transportation Improvement Program (STIP)
www.ct.gov/dot/stip

Public Involvement Procedures (PIP)
www.ct.gov/dot/pip

Various State Transportation Maps
www.ct.gov/dot navigate to Publications > Maps

CT Tourism
www.ctvisit.com

CT Fast Facts
www.ct.gov/dot navigate to Publications > Other

REFERENCE SERIES: Transportation in Connecticut
www.ct.gov/dot navigate to Publications > Pamphlets