Anatomy of a Complete Streets Project

Case Study : Project No. 0042-0315

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Anatomy of a Complete Streets Project

Case Study: Project No. 0042-0315

Bicycle and Pedestrian Improvements on U.S. Route 44 (Burnside Avenue) from U.S. Route 5 (Main Street) to Mary Street

Town of East Hartford
Agenda

- Project Location
- Project Background
  - Purpose and Need
  - Scoping
  - Stakeholder Involvement
- Corridor Consideration
- Design Implementation
- Community Engagement
- Before and After Study
- Q&A
Location Map

2.76 Miles
Project Background

November 2011
- Citizen contacted CTDOT about 3 bicycle fatalities over recent 18-month period
- CRCOG/Town worked a grant for education and bike lights
- CTDOT/CRCOG initiated traffic study in corridor

January 2012
- CTDOT met with town officials to discuss converting Route 44 from 4 to 2 lanes with left-turn lanes at signalized intersections

March 2012
- CTDOT investigated 3 options to accomplish work
  - adding work to a nearby project (Project 42-292: Route 44 S curve realignment)
  - future VIP paving project
  - a stand-alone project

April 2012
- CTDOT elected to pursue standalone HSIP project to enhance the safety of all road users

January 2015
- CTDOT Completed Design

October 2016
- Construction Completed
Purpose and Need

Enhance the safety of pedestrians and cyclists

Original Scope

- Reduce crashes on corridor especially bike and pedestrian crashes
- Provide a typical cross section of two 11’ travel lanes, two 5’ bike lanes, and two 7’ parking lanes on a 2-mile section on Route 44. At intersections, provide 10’ turn lanes
Identifying Stakeholders

- Town of East Hartford
- Local law enforcement
- Regional Planning Organization – Capital Region Council of Governments
- Children’s Medical Center, Injury Prevention Center (CMC-IPC) program staff (agreed to design safety materials for the program)
- CT Transit
- BikeWalk CT
Corridor Considerations

Existing Conditions (Overall)

- Driveway Curb-cuts
- On-street Parking
- Sidewalks
Corridor Considerations

Bicyclists
Corridor Considerations

Pedestrian Accessibility
Corridor Considerations

- Pedestrian Circulation Path
- Pedestrian Amenities
- Sidewalk Condition Assessment
Design Implementation

Roadway Cross Sections

Existing Conditions

Proposed Conditions
Typical Section of Roadway
Route 44 at Larrabee Street

Existing

121 feet

Route 44

Larrabee Street

Burnside Avenue

STOP
Route 44 at Larrabee Street

Constructed
Revised Scoping

Original Scope
- Reduce crashes on corridor especially bike and pedestrian crashes
- Provide a typical cross section of two 11’ travel lanes, two 5’ bike lanes, and two 7’ parking lanes on a 2-mile section on Route 44. At intersections, provide 10’ turn lanes

Additional Scope
- Realign traffic signals and replace loop detectors
- Provide ADA complaint sidewalk ramps
- Reconstruct existing deteriorated sidewalk
- Provide bus turn-outs
- Realign Larrabee Street to normalize geometry and reduce crossing distances for pedestrians
- Community Engagement
Community Engagement

- Stakeholder Meetings
- 4 Billboards Installed
- Outreach Events Conducted
- Educational Classes Conducted
Community Engagement

Education

CT State Law:
Bicycles have the same rights and responsibilities as drivers of motor vehicles. As a motorist, you should drive carefully around a cyclist because the slightest mistake by you or the cyclist can result in injury or death.

A "safe distance" means not less than three (3) feet when the driver of a vehicle overtakes and passes a person riding a bicycle. These laws ensure that when vehicles pass bicycles, they allow adequate space to avoid side-swiping the cyclists and/or forcing the cyclists to overcompensate themselves.

What Every Connecticut Resident Should Know About Bicycle Lanes

For more information, please visit:
www.burnsideave.com

Safe Routes
Connecticut School Walk Network

CT Complete Streets Law
(Conn. Gen. Stat. § 14-53j) requires pedestrians, cyclists, and transit users to be routinely considered in the planning, designing, construction, and operation of all roads.

Hand Signal Use
The following shows hand signals cyclists may use to indicate if they are turning or stopping. Drivers can familiarize themselves with these signals to prepare for more bikes on the road.

U.S. Route 44
Burnside Avenue
East Hartford, CT

3 FEET
IT'S THE LAW

ACTIVE CT
Community Engagement

Education

FREE Bicycle Safety Courses

PIZZA PRIZES GAMES FUN

U.S. Route 44
Burnside Avenue
East Hartford, CT

East Hartford Bike Lane

Informational Guide

Check Behind You for Traffic Before Exiting the Bike Lane

- Check the mirrors for traffic.
- Use a turn signal or give a hand signal.
- Look both ways before exiting the bike lane.

A.B.C. Bike Checklist

- Always
- Be seen
- Check

Wear a Properly Fitted Helmet

This fulfills the bicycle law in Connecticut.

Checklist

- Check mirrors
- Check lights
- Check brakes
- Check reflectors

For more information, visit
www.safetravel.com
www.burnsideavenue.com

What is a Bicycle Lane?

- A bicycle lane is a section of a street next to the travel lane reserved for cyclists.

Rules for Motorists

- When turning right, motorists should always yield to cyclists going straight and wait until they clear the intersection or driveway.
- Motorists, once the car is passed through the intersection, the motorist should yield the right turn, but this is not possible, a driver should never pass a cyclist and "feed" them by making a turn in front of them.

CT State Laws on Bike Lanes

C.G.S. Sec. 14-138a (2)(6)(a)(10)

- A bicycle lane shall be designated at all intersections and properly marked.

Use Hand Signals, Bike Lights, and Reflectors

- Make sure your bike is properly equipped with lights and reflectors.
- Always use the correct hand signal when exiting the bike lane.

A Left Turn Fully Opens Your Left Arm out in Front of Your Body and a Right Angle with Your Hand Flat.

Waving Down or Slapping: Extend your left arm fully straight and at a right angle with your head up.

What is a Bicycle Lane?

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Checklist

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- Check lights
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- Check reflectors

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It is always safest to position yourself in the outer lane of any vehicle lane, rather than inside the turn area. This is the best way to ride safely.

**East Hartford Cultural Center is located at 50 Chapman Place, East Hartford, CT 06108**

The Adult Bicycle Safety Course gives cyclists the confidence they need to ride safely and legally in traffic. Students will learn on-bike skills, including how to ride in a bike lane.

The Youth Bicycle Safety Course gives younger cyclists bike safety guidelines and practice in a fun and interactive environment. The course will provide in-class and on-bike instruction, followed by an optional recreation period.

Registration is FREE to East Hartford residents and employees. All levels welcome. Participants must have properly fitted helmets and bicycles.
Community Engagement

Continuing Education

CT General Statutes § 14-285c
(a) Left Turn: Each person riding a bike intending to make a left turn must approach as far right of that travel lane as he or she judges to be safe, proceed across the intersecting roadway, and make such a turn as close as possible to the curb on the far side of the intersection.

(b) Positioning: Each person riding on the road must position himself or herself behind the corresponding arm straight out in the direction he or she is turning. For right turns, one can hold up his or her left hand with the elbow at a 90-degree angle, as seen in the image below.

How Should Motorists and Bicyclists Operate When on a Roadway with a Bicycle Lane?
- A person riding a bike on the road has all of the rights and duties applicable to the driver of a car.
- Bicyclists must use hand signals to inform motorists of their intentions.
- A person shall not operate a vehicle on or across a bicycle lane, except to cross or leave adjacent property.
- Bicyclists are reminded to follow the rules of the road, ride with traffic, and obey all traffic control devices, including signals and stop signs.
- Motorists should drive carefully around a cyclist because the slightest mistake by the driver or the bicyclist can result in injury or death.

East Hartford Police Bike Lane Informational Guide

East Hartford Police
Bike Lane Informational Guide

U.S. Route 44
Burnside Avenue
East Hartford, CT

For more information go to
www.burnsideave.com

SafeRoutes
Walking School Bus®
What is a before and after study?
- Evaluation of the factors such as number and type of crashes, vehicle speeds, and volumes before the project compared to the same factors after the project.

Why conduct a before and after study?
- Helps determine if the project objectives were met.
- Used to determine if the project was cost effective.
- Results are used to inform other similar potential projects.
3 – Year Period

- Before (1/1/12 - 12/31/14)
- After (10/1/16 – 9/30/19)

Reported Crashes

<table>
<thead>
<tr>
<th></th>
<th>BEFORE</th>
<th>AFTER</th>
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<tbody>
<tr>
<td>Crashes</td>
<td>340</td>
<td>283</td>
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</table>
Before and After Study

Crash Analysis

CRASH TYPE

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<thead>
<tr>
<th>REPORTED CRASHES</th>
<th>BEFORE</th>
<th>AFTER</th>
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<tbody>
<tr>
<td>Angle</td>
<td>47</td>
<td>81</td>
</tr>
<tr>
<td>Backing</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Fixed Object</td>
<td>39</td>
<td>29</td>
</tr>
<tr>
<td>Front to front</td>
<td>55</td>
<td>6</td>
</tr>
<tr>
<td>Moving Objects</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Overturn</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Parking</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Pedestrian / Cyclist</td>
<td>9</td>
<td>97</td>
</tr>
<tr>
<td>Rear-end</td>
<td>115</td>
<td>11</td>
</tr>
<tr>
<td>Side-sweep (Opposite Direction)</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Side-sweep (Same Direction)</td>
<td>48</td>
<td>34</td>
</tr>
</tbody>
</table>

### BEFORE 47 11 39 55 4 2 1 5 9 115 4 48

### AFTER 81 4 29 6 10 2 0 0 9 97 11 34
Before and After Study

Speed

- Posted speed limit - 35 mph
- 85th Percentile Speed

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
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<tbody>
<tr>
<td>Eastbound Speed</td>
<td>40.8</td>
<td>40.4</td>
</tr>
<tr>
<td>Westbound Speed</td>
<td>41.2</td>
<td>40.9</td>
</tr>
</tbody>
</table>

- No significant change in 85th percentile speeds

Average Daily Traffic

<table>
<thead>
<tr>
<th></th>
<th>Vehicles per day</th>
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<tbody>
<tr>
<td>Before</td>
<td>11,000</td>
</tr>
<tr>
<td>After</td>
<td>13,600</td>
</tr>
<tr>
<td></td>
<td>+ 24%</td>
</tr>
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Lesson Learned

- Clearly Identifying the Purpose and need
- Identifying all design components early in the design process
- Getting involved with stakeholder early and often
- Community outreach activities on safe bicycling practices
  - Advertising
  - Informative Handouts
  - Safety - in person activities
- Before and After Study
  - Did the improvements address the purpose of the project