



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



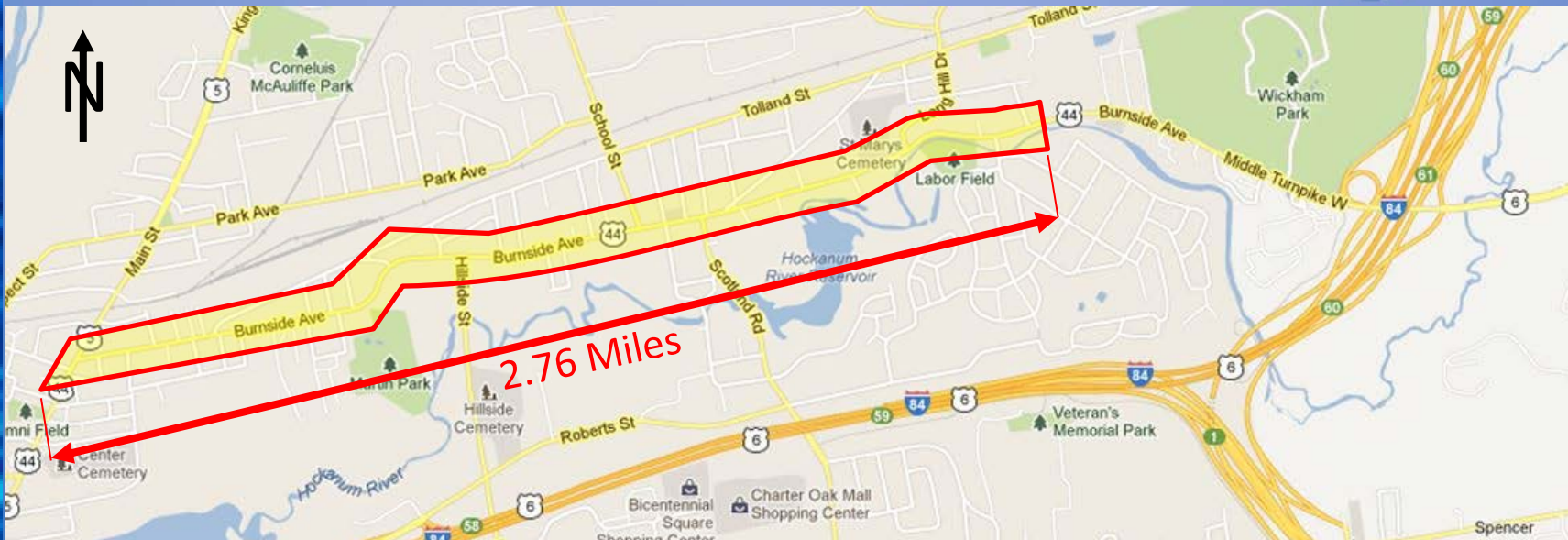


Agenda

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



Location Map





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/ Original Scoping

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

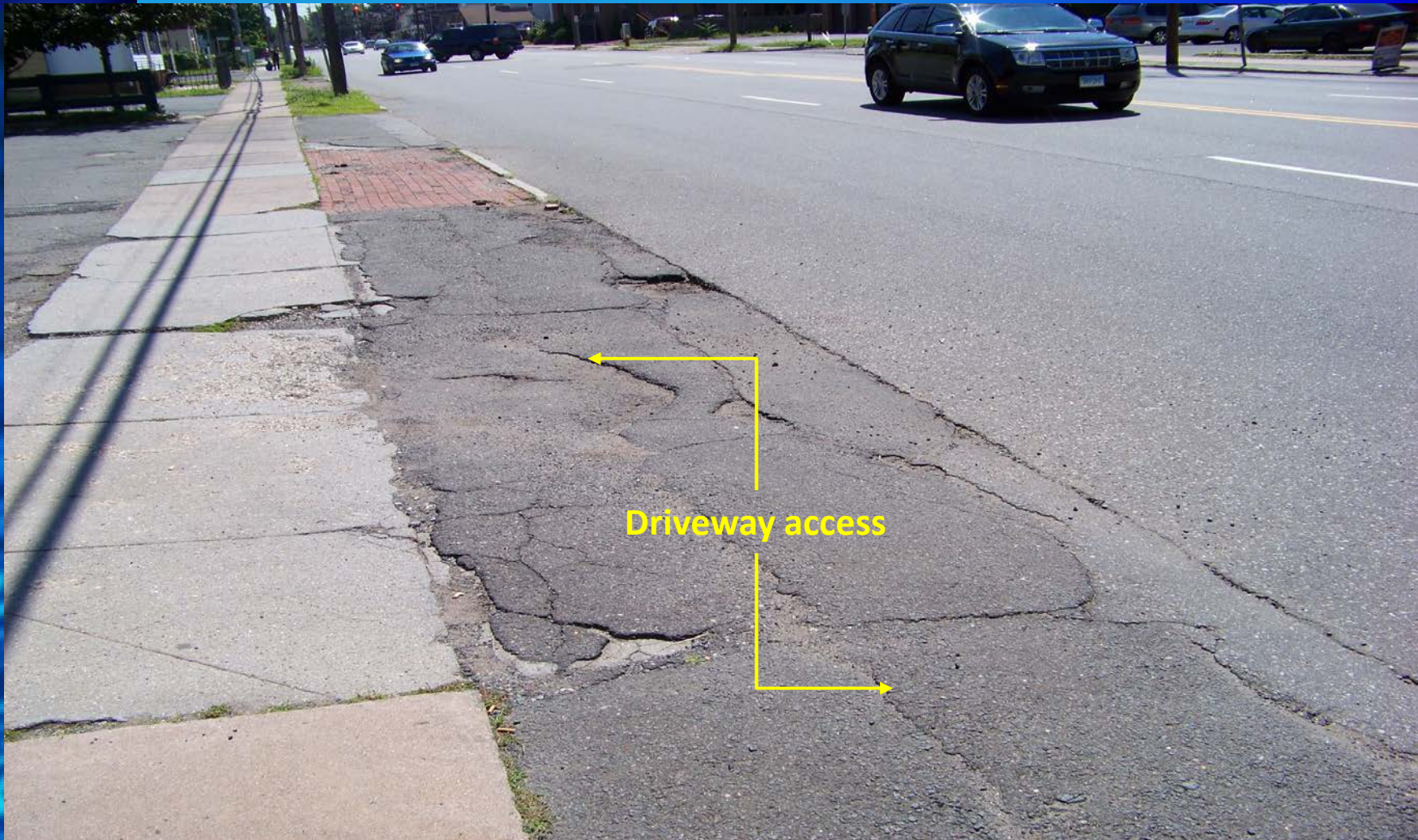
Existing Conditions (Overall)





Corridor Considerations

Vehicles





Corridor Considerations

Bicyclists





Corridor Considerations

Pedestrians



Pedestrian Accessibility



Corridor Considerations

Pedestrians

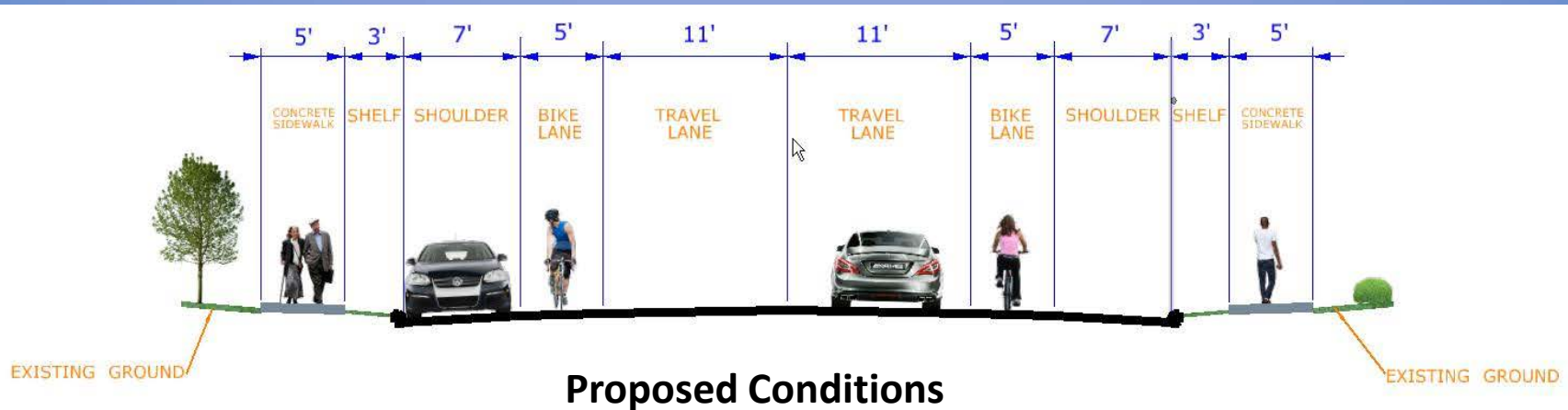
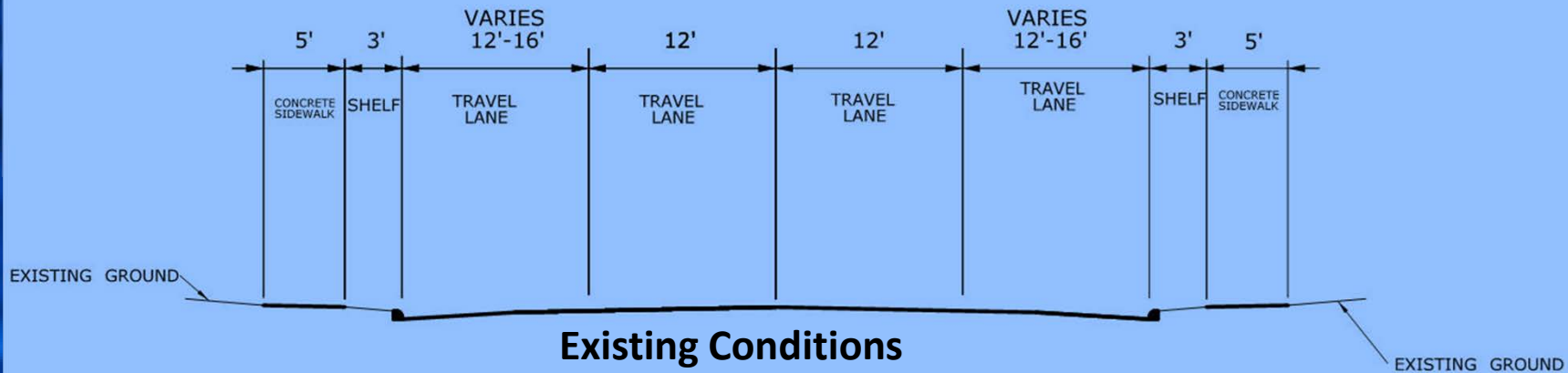


- Pedestrian Circulation Path
- Pedestrian Amenities
- Sidewalk Condition Assessment



Design Implementation

Roadway Cross Sections





Typical Section of Roadway

Proposed





Typical Section of Roadway

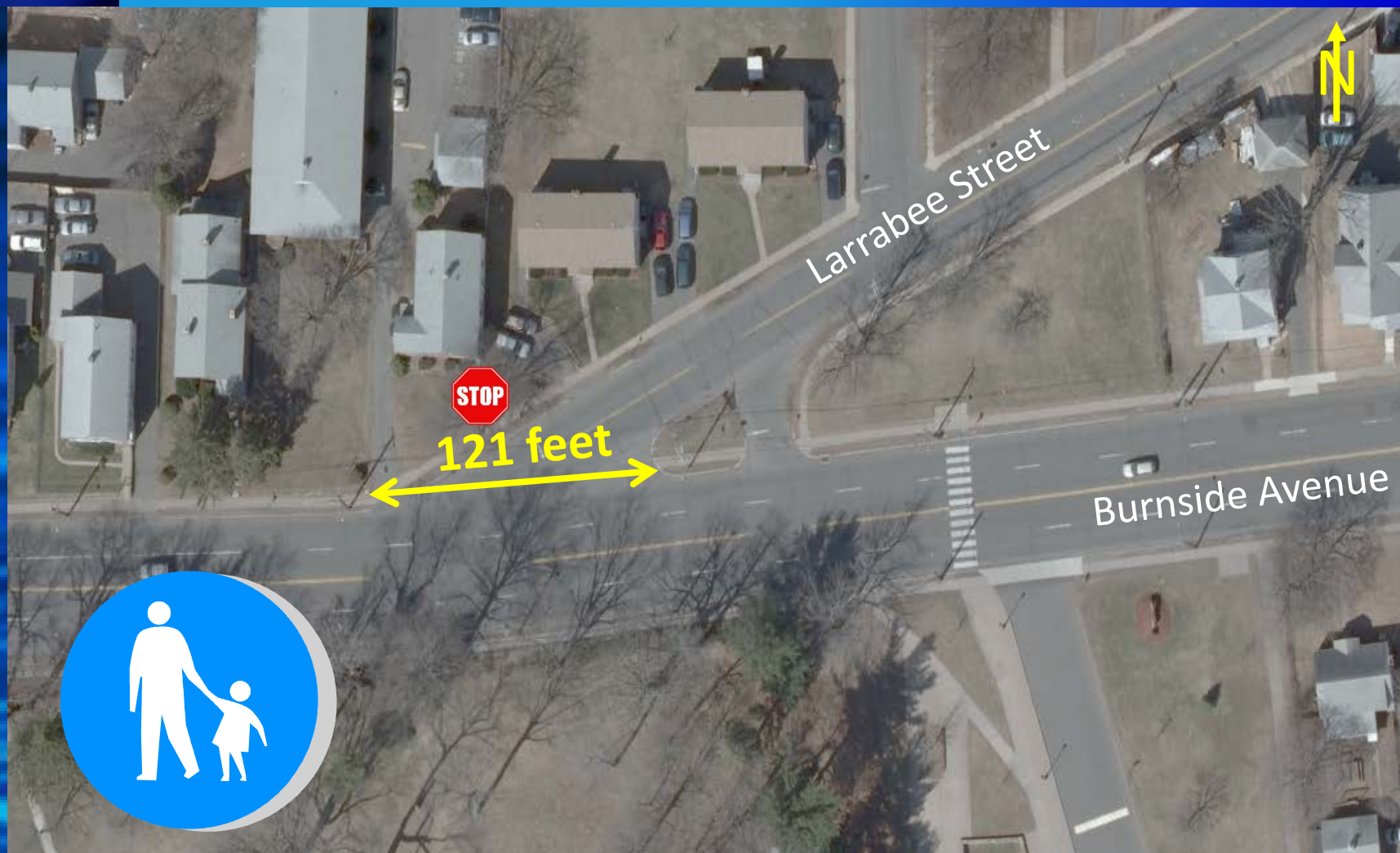
Constructed





Route 44 at Larrabee Street

Existing





Route 44 at Larrabee Street

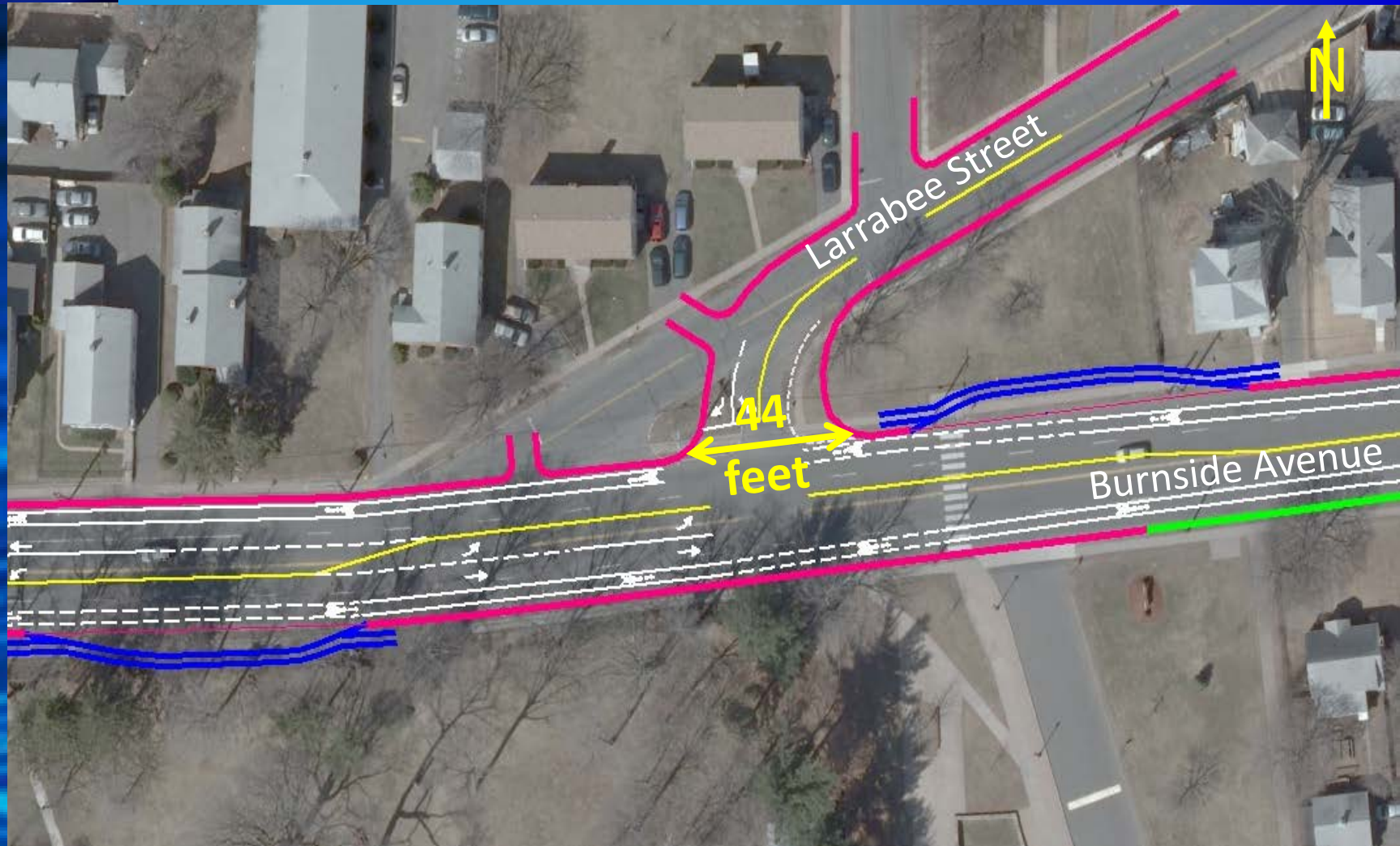
Existing Street View





Route 44 at Larrabee Street

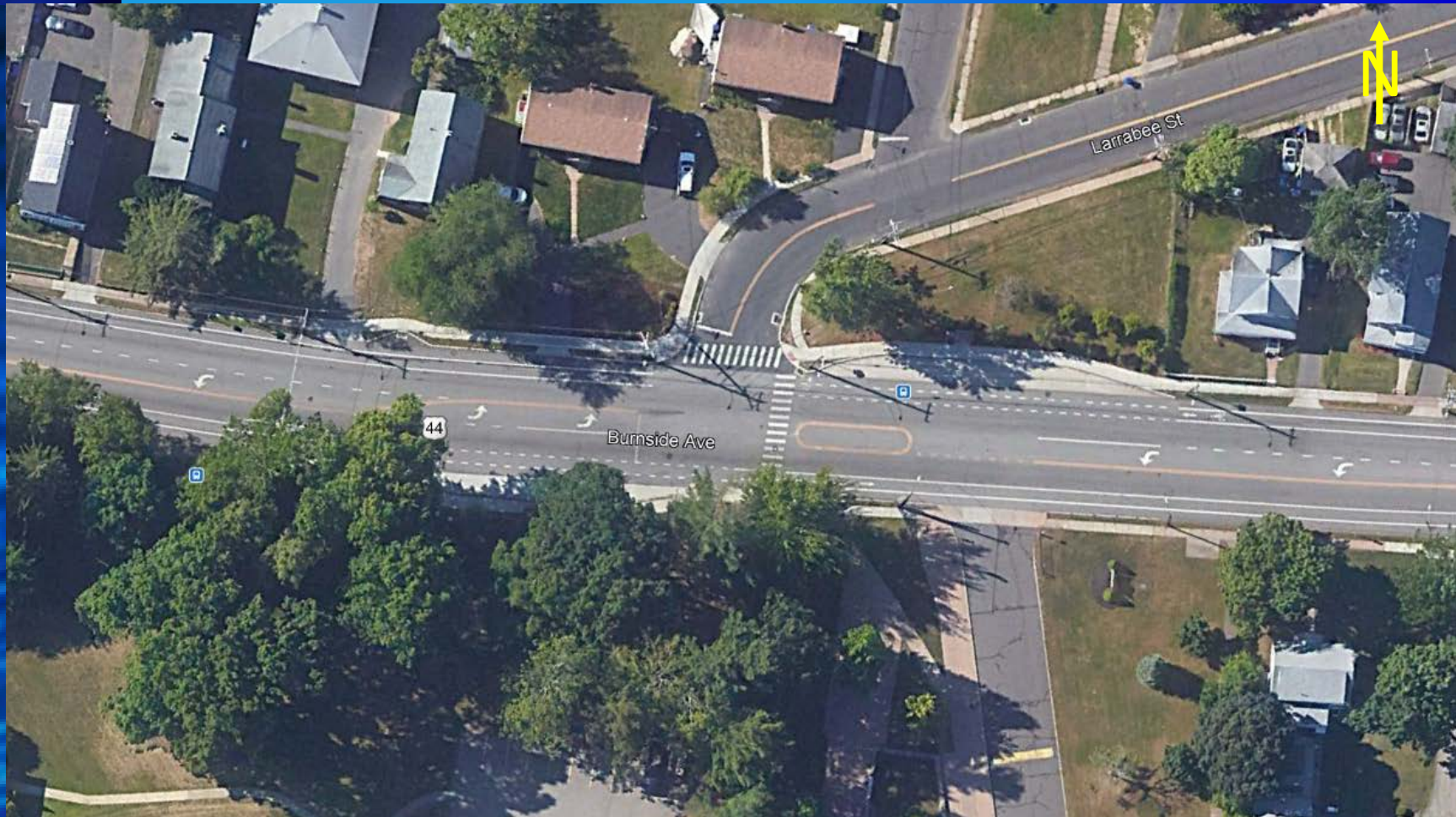
Proposed





Route 44 at Larrabee Street

Constructed





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



WALK IT
BIKE IT



Safe Routes
Connecticut Safe Routes to School





Community Engagement

Outreach

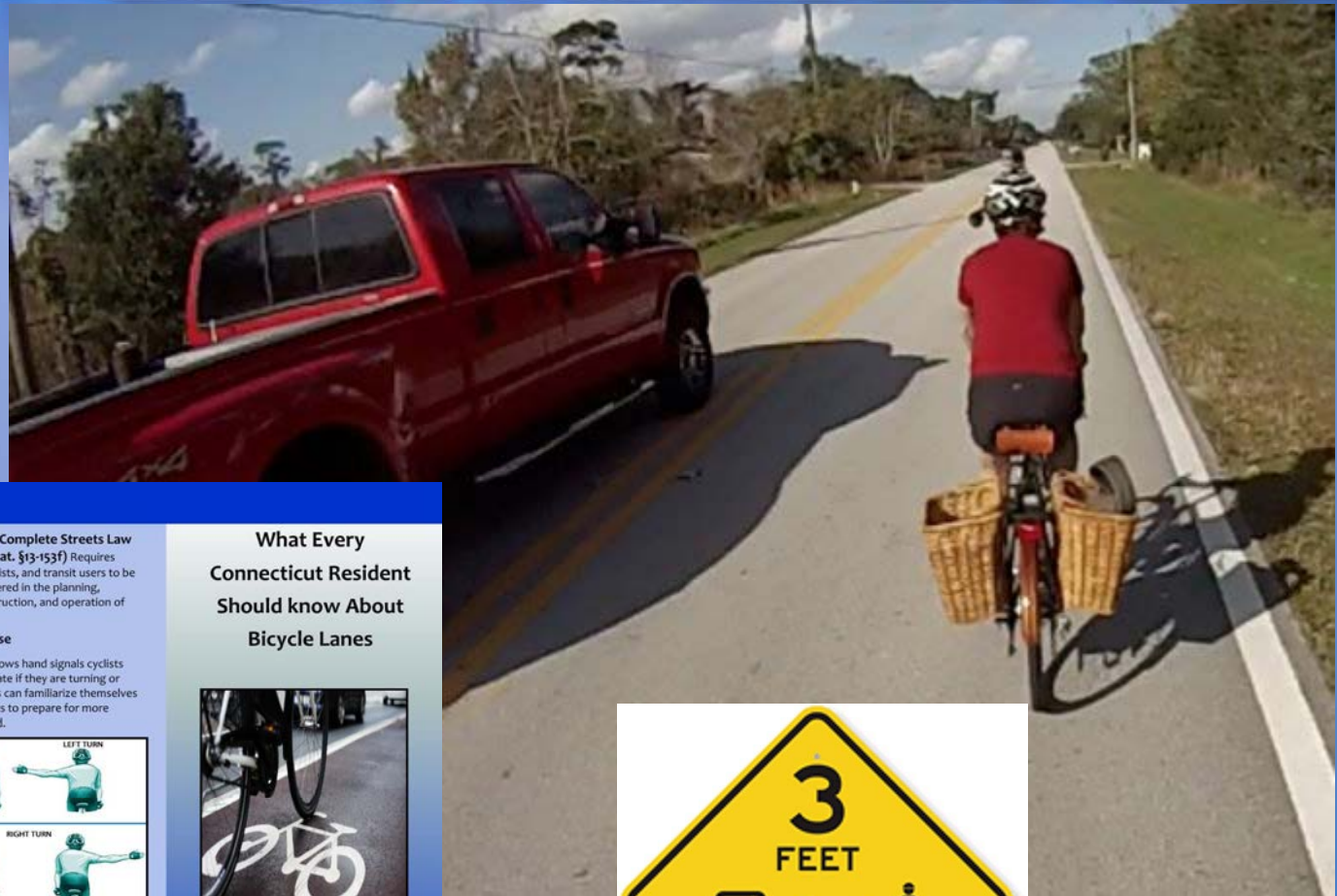
- Stakeholder Meetings
- 4 Billboards Installed
- Outreach Events Conducted
- Educational Classes Conducted





Community Engagement

Education

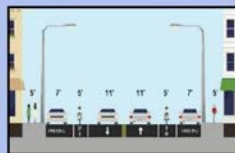


CT State Laws

Bicyclists 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 bicyclist can result in injury or death.

Conn. Gen. Stat. § 14-232

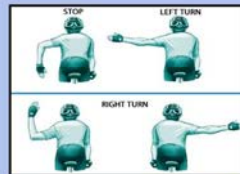
A "safe distance" means not less than three (3) feet when the driver of a vehicle overtakes and passes a person riding a bicycle. These laws ensure that when vehicles pass bicycles, they allow adequate space to avoid sideswiping the cyclists and/or forcing the cyclists to overcorrect themselves.



Connecticut's Complete Streets Law (Conn. Gen. Stat. §13-153f) 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.



For more information, please visit:

www.burnsideave.com

SafeRoutes
Connecticut Safe Routes to School



What Every Connecticut Resident Should know About Bicycle Lanes



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





Community Engagement

Education

Check Behind You for Traffic before Exiting the Bike Lane

Check behind you before merging left into traffic to make a turn or going straight through an intersection. When a bike lane stops at an intersection, you should look over your left shoulder for oncoming traffic.

A B C Bike Checklist

Air

- Inflate tires to rated pressure.
- Check air pressure with a gauge.
- Spin the wheel to check for tears and repair any damage.

Brakes

- Check levers.
- Inspect brake pads.
- Check for brake wear.

Cranks and Chain

- Tighten cranks if they are loose.
- Check chain for rust or debris.

Wear a Properly Fitted Helmet

Follow the 2-V-1 rule:

2-V-1 Rule



Ensure that your helmet is securely fastened and properly fitted.

Use Hand Signals, Bike Lights and Reflectors

To make your ride safer, consider investing in bike lights and reflectors. Always use the correct hand signals when riding your bike:

A Left Turn: Fully extend your left arm out.

A Right Turn: Fully extend your right arm out or bend your left arm up at a right angle with your hand flat.

Slowing Down or Stopping: Extend your left arm out facing down at a right angle with your hand open.



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

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East Hartford Bike Lane Informational Guide



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

What is a Bicycle Lane?

- A bicycle lane is a portion of a street next to the travel lane reserved for cyclists.
- Bike lanes are designated with bicycle pavement markings and arrows that direct cyclists in the direction to travel.

How Should Motorists and Cyclists Operate on a Roadway with a Bike Lane?

- Vehicles are not allowed to drive or park in the bicycle lane. Vehicles are only allowed to cross the bike lane when entering or exiting driveways.
- Bicyclists are reminded to follow the rules of the road and obey all traffic control devices, including signals and stop signs.

Rules for Motorists

- When turning right, a motorist should always yield to bicyclists going straight and wait until after they clear the intersection or driveway.
- Ideally, once the cyclist passes through the intersection, the motorist should then begin their right turn, but if this is not possible, a driver should never pass a cyclist and "hook" them by making a turn immediately in front of them.

CT State Laws on Bike Lanes

Conn. Gen. Stat. § 14-286a: Rights, duties and regulation of cyclists: Every person riding a bicycle upon the traveled portion of

a highway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of any vehicle.

Conn. Gen. Stat. § 14-232: 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 seek to ensure that when passing bicycles, vehicles allow adequate space to avoid sideswiping bicyclists or causing them to overcorrect to avoid a vehicle.

Riding in Bike Lanes

Riding in bike lanes provides a certain amount of separation from the motor vehicle traffic and gives cyclists an added sense of comfort while riding in urban areas.



When riding in a bike lane that is leading up to two left turning lanes and one right turning lane, remain in your lane. This is so you are protected from any vehicle that may be turning.

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



Ride in the Right Direction

Always ride the same direction as other traffic. It is extremely dangerous and illegal to ride the wrong way in a bike lane.

Be Aware of the Door Zone

Some bike lanes may be close to parked cars or cars may park close to the lane and the door can reach into the bike lane.



FREE Bicycle Safety Courses

PIZZA PRIZES
GAMES FUN

CLASS	DATE	LOCATION	TIME
Youth and Adult Cycling Skills Course	August 2	East Hartford Cultural Center	3-7 PM
Youth and Adult Cycling Skills Course	August 6	East Hartford Cultural Center	2-6 PM
Youth and Adult Cycling Skills Course	August 8	East Hartford Cultural Center	3-7 PM
Youth and Adult Cycling Skills Course	August 20	East Hartford Cultural Center	10 AM-2 PM
Youth and Adult Cycling Skills Course	August 24	East Hartford Cultural Center	3-7 PM
Youth and Adult Cycling Skills Course	August 28	East Hartford Cultural Center	2-6 PM

****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

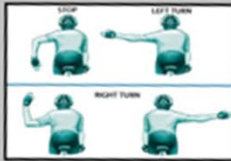
Enforcement

Continuing Education

CT General Statutes § 14-286c

(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 safest, 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) **Signaling:** Each person riding on the road must motion **before** turning, by extending 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.



(c) **Signaling Requirements:** No person riding a bike who is intending to make a right or left turn shall be required to make such signal continuously.

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 are reminded to use hand signals to inform motorists of their intentions.
- A person shall not operate a vehicle on or across a bicycle lane, except to enter 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.

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Connecticut Safe Routes to School



East Hartford Police Bike Lane Informational Guide



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





Before and After Study

- **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

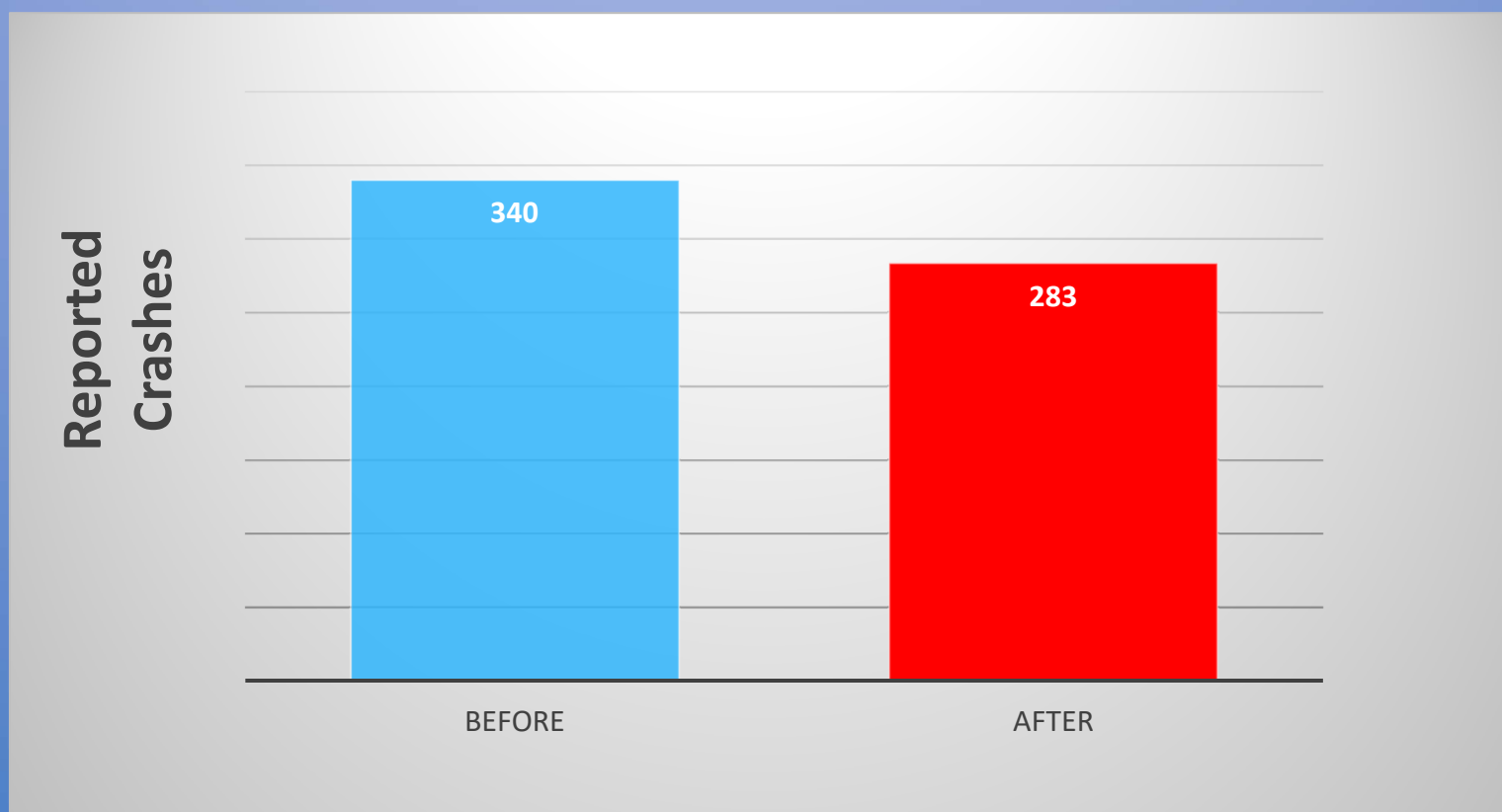


Before and After Study

Crash Analysis

3 – Year Period

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





Before and After Study

Crash Analysis

CRASH TYPE

REPORTED CRASHES





Before and After Study

Speed and Average Daily Traffic

Speed

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

	Speed (mph)	
	Before	After
Eastbound	40.8	40.4
Westbound	41.2	40.9

- No significant change in 85th percentile speeds

Average Daily Traffic

Vehicles per day

Before	After
11,000	13,600

+ 24%





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



Question and Answers

