Evaluation of pedestrian, bicycle, transit, and vehicular access for selected sites in Franklin County.

Franklin Regional Council of Governments
September 2014
Franklin County Complete Streets Project
Part 2
September 30, 2014

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Franklin County Complete Streets Project Part 2

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Franklin County Complete Streets Part 2

Project Background

This project is a follow-up to the previously completed 2011-2012 Franklin County Complete Streets Project. The objective of this study is to conduct complete streets analyses for additional areas of Franklin County. In particular, the focus is to evaluate locations in the region where infrastructure improvements would promote mode shift from automobiles to alternative forms of transportation. The study included identifying locations, completing evaluations, and compiling recommendations for bicycle, pedestrian and/or transit oriented improvements.

As part of the previously completed 2011-2012 Franklin County Complete Streets Project, five locations were chosen, analyzed and improvements recommended. As a result of that previously completed work, improvements were incorporated into several developing transportation roadway and intersection projects to make the locations better for all transportation users. The goal of this current complete streets work is to identify additional areas for improvements in Franklin County. To accomplish this, the following actions were to be completed:

- Identify locations where there are intersections and roadway improvements planned that could benefit from bicycle, pedestrian and/or transit access improvements.
- Identify locations that are high volume transit access points to examine.
- Conduct a “Complete Streets” assessment of ways to improve bike, pedestrian and transit access for the chosen locations.
- Prepare a summary of recommendations of ways to improve the infrastructure for all mode users and encourage mode shift of these sites.
- Complete a summary of the next steps in order to move the recommendations to implementation, including the preparation of a MassDOT Project Need Form if improvements could be eligible for Federal Aid.

Granite curb at a cross walk that is an obstacle for pedestrians.
What is Complete Streets?

The concept of the “complete street” is a roadway that has safe access for all users including pedestrians, bicyclists, motorists and transit riders. Complete streets are defined as streets for everyone. All users must be able to safely move along and across a complete street. Complete streets are easy to cross, walk to shops, and bicycle to work. They allow buses to run on-time, and are safe for people of all ages to walk to and from their destinations.

By adopting a complete streets policy, communities direct their transportation planners and engineers to routinely design and operate the entire right of way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation project will make the street network better and safer for drivers, transit users, pedestrians, and bicyclists. (Source: The National Complete Streets Coalition).

Locations

The intent of this project is to select potential locations and/or areas where roadway or intersection improvements are already being planned and additional improvements that encourage mode shift could be added to the project. Additionally, the other areas to be studied include locations that are higher volume access points or major transit stops where improved bicycle and pedestrian facilities would provide better access to transit.

The following locations were analyzed as part of this project:

- In Conway at the intersection of Route 116 (Main Street) and Whately Road;
- In Erving on Route 63 near the Senior Center and the Elementary School;
- In Greenfield at the transit stop interface at Cherry Rum Plaza;
- In Greenfield on Leyden Road (from Nash’s Mill Road to the transit stop at Leyden Woods) and on Nash’s Mill Road near the swimming area;
- In Orange on Main Street from the intersection of East, West and North Main Street to the Walmart, with particular attention to the bus stops and transit access along this corridor;
- In Orange on North Main Street from the downtown intersection of East, West and North Main Streets to Dexter Park and School;
- In Orange on Water Street connecting East Main Street to South Main Street;
- In Orange on West River Street; and
- In Sunderland at the intersection of Route 116 (River Street and Amherst Road) and Route 47(North Main Street and South Main Street).

The following are summaries of issues identified and ideas for improvements at each of the locations that were studied.
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**Conway**

*Conway Center - Deerfield Street and Whately Road*

**Background**

Route 116 travels through Conway center. The area near the intersection of Deerfield Road, Whately Road and Main Street (Route 116) was assessed. There is a town recreation area on Whately Road south of the intersection with Deerfield Road. The Town Hall, library, church, coffee shop, and bank are located within the town center in Conway close to the area that was assessed. There are also residential neighborhoods, which consist of single and multi-family structures nearby. The buildings in the town center along Main Street are close to the sidewalk and roadway. There is no transit service to Conway. Parking facilities include driveways, parking lots, and some on-street parking spaces. There is no on-street parking in the area near Main Street and Whately Road.

Route 116 is an east west travel route through Conway. Traffic counts were completed near the area that was assessed. The average annual daily traffic in both 2005 and 2006 at a location 100 feet north of Main Street was 3,900. At a location 300 feet south of Dexter Street, a count completed in 2003 shows the average daily traffic volume was 1,980.

In 2006, streetscape improvements were completed on Route 116. The streetscape improvements were part of the reconstruction of Route 116, and included sidewalks and the addition of gateway elements, including benches, trash receptacles, plantings, interpretive signs and signs at the entrances to the downtown along Route 116 in Conway Center. The project area included Route 116, Elm Street, and River Street, and incorporated elements to enhance the town center as a gathering space. These elements constituted approximately $488,000 of the total road reconstruction cost.
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Observations

Site visit on July 11, 2014
A site visit to Conway was completed on July 11, 2014. The visit/assessment began in front of the Town Hall on Academy Hill, and proceeded to the intersection of Main Street, Deerfield Road and Whately Road.

Route 116 at Academy Hill Road (in front of Town Hall)

- The pavement markings on Route 116 (Main Street) near the Town Hall are faded and cracked.
- The crosswalks near the Town Hall, and at the intersection of Main Street and Elm Street, are two solid lines. Crosswalks painted with a striped configuration such as continental or zebra configuration, are recommended by the Americans with Disabilities Act (ADA) because they are more visible. The line painting is in good condition.
- There are accessible curb-ramps at crossing locations, but some need to be updated for better ADA accessibility.
- The sidewalk is in good condition. Near the major intersection there are weeds growing up through the cracks that may be a tripping hazard.
- There is a path behind the Town Hall that leads to the town recreation area. The path turns to gravel and grass. It is unclear where an ADA compliant entrance to the recreational area is located. At the time of the site visit, a major reconstruction of the recreation area was being completed.
- There are bike parking racks located on the grass area in front of Town Hall.
- There are benches near the Town Hall and library.
- On Academy Hill Road, the sidewalk terminates south of the Town Hall. There is an access to the recreation area beyond the Town Hall on Academy Hill Road, but it was unclear if this is going to be a permanent access point because the area is under construction.
- During the site visit, pedestrians were sitting on the granite wall in the traffic island.
- The traffic on Elm Street was observed to be traveling at fast speeds.
Route 116 (Main Street) to the northwest of the Whatley Road intersection

- There is a new sidewalk that was completed as part of the 2006 Route 116 streetscape and road reconstruction project.
- There is a 1 or 2 foot grass buffer area between the sidewalk and roadway.
- The shoulders on Route 116 are narrow (1 foot).
- There is not pedestrian level lighting. There was one overhead “cobra” light observed in this section of the roadway.
- One bicyclist was observed riding during the time of the site visit.
- Generally, the road surface where bicyclists ride was in good condition.
- There is a drainage structure in the shoulder of the Route 116 westbound travel lane that is a hazard to bicyclists.
- The travel speeds appeared to be faster than the 20 miles per hour (MPH) speed limit that is posted on the sign in the westbound travel lane.
- There are no signs alerting westbound vehicles to the presence of pedestrians that may be in the crosswalks at the bottom of the hill.
- There is no walkway from the sidewalk to the recreation parking area. The driveway pavement is in poor condition.
- There is a wide separation between the sidewalk and street at the intersection with Whatley Road.
- Bike racks are located at the recreation area.
- There is no crosswalk from Parsons Road (on the east side of Route 116) to the sidewalk/recreation area. The slope on Route 116 at the top of the hill limits the sight distance. It was difficult to determine the best location for a crosswalk.

During the site visit numerous pedestrians were observed walking. The recreation area plans were discussed with pedestrians who were walking and are residents of the area (they said that they walk regularly). They noted that the Town plans to put in a stairway from the sidewalk down to the recreation area.
Shelburne Falls Road
While the site visit was being completed on Whately Road, two residents who walk daily commented on the need for a sidewalk on Shelburne Falls Road. A site visit to Shelburne Falls Road was completed to observe the conditions. The speed limit is 30 MPH, and it has two 12-foot travel lanes. It is about a 1 mile distance from Route 116 to Reed’s Bridge Road. It appears that there is space on the southeast side of the road for a sidewalk.

Possible Solutions
It was not clear that there were any major improvements needed within the area evaluated at Deerfield Road, Whately Road and Main Street. The following minor improvements are recommended:

- Improve all of the existing cross-walk markings to be ADA compliant (painted in the continental or ladder design).
- Improve the handicapped accessible curb-ramps to remove obstructions and update the tactile surfaces to be in compliance with all ADA standards.
- Re-install the drainage structure that is located in the shoulder of the Route 116 westbound travel lane. It poses a hazard to bicycles because the existing structure does not cover the entire open drainage hole (there is a gap), and the grates run parallel to the roadway. It is possible that a bicycle tire could get caught in the gap area or the parallel grates.
- Investigate installing a crosswalk at Parsons Road for further safety of pedestrians.

Additionally, as a result of the site visit and discussions with residents of Conway who walk regularly, the following is recommended:
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- Construct a sidewalk on Shelburne Falls Road from Main Street to Reeds Bridge Road.
- Improve the curb-cut and sidewalk at the corner of Main Street and Shelburne Falls Road in order to accommodate pedestrians and the café’s sidewalk seating area.

Next Steps
- Explore the possibility of installing a sidewalk on Shelburne Falls Road from Main Street to Reeds Bridge Road by identifying right-of-way and width limitations.
- Explore possible funding sources for the construction of a sidewalk on Shelburne Falls Road.
- Bring the drainage grate that is hazardous to bicycles located on the east side of Route 116 to the attention of MassDOT District 1 to see if it can be reset to eliminate the existing gap and incorrect orientation as part of their routine maintenance work.
- Discuss options for painting the crosswalks on Route 116 with a more highly visible marking option.

Erving

**Route 63 at the Senior Center and Elementary School**

**Background**

The Erving Connecticut River Scenic Byway Streetscape Improvement Project is currently in the MassDOT contracting process. The proposed project will design and construct improvement to the sidewalks and streetscape on Route 63 in Erving, extending from the Montague/Erving town line on the Route 63 bridge over the Millers River to the Erving Senior Center. The project is approximately one mile in length. The project area includes the Erving section of Millers Falls, and is adjacent to the residential neighborhood known as Ervingside.

The streetscape and sidewalk improvements include in-fill sidewalks, landscaping elements, signs, and other pedestrian improvements, as desired by the Town. The project is intended to improve pedestrian access and safety on this section of Route 63 (the Connecticut River Scenic Byway) in Erving.

This assessment focused on the northernmost section of the streetscape project area near the Erving Senior Center and the Erving Elementary School. The analysis closely examined the potential for better bicycle and pedestrian infrastructure. There are currently no existing sidewalks along this section of Route 63.

Previously completed traffic counts were considered in order to get a sense of the traffic volumes and level. On Route 63, two tenths of a mile north of Semb Drive the average annual daily traffic count...
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(AADT) was 2,700 in 2004 and 2,400 in 2007. On Semb Drive 250 feet west of Route 63 the average annual daily traffic count was 1,020 in 2001, 1,060 in 2004 and 1,150 in 2007.

Observations

A site visit was conducted on November 5, 2013, and the following observations were made:

- There is a 4 foot wide concrete sidewalk along the driveway to the Senior Center, but it does not connect to the roadway or have a curb-ramp at the end of the driveway.
- There is not a sidewalk on Route 63 to the north of the Senior Center driveway.
- Vehicles were observed traveling at high speeds on Route 63, which makes crossing a challenge for pedestrians. The speed limit is posted as 50 miles per hour on a sign located to the north of the Senior Center driveway.
- There is a 1½ foot wide shoulder on Route 63 on both sides of the street.
- There is room for a sidewalk on the west side of Route 63.
- There is very limited space on the east side of Route 63 for a sidewalk.
- There is a large drainage structure on the east side of Route 63 across from the north entrance to the school that poses a hazard for bikes because of the parallel direction of the grates.
- There is no sidewalk in front of Erving Elementary School.
- There is no sidewalk connection between the Erving Elementary School and the Erving Senior Center.
- The southbound sidewalk ends at the southernmost driveway to the Erving Elementary School.
- Erving Elementary School is enrolled in the Safe Routes to School program.
- There is only sidewalk access to the school at the south entrance. North of the school there is not a sidewalk.
- It is not known if there are bicycle parking racks at the school and at the Senior Center.
- The signs near the school on Route 63 may not be in compliance with the MUTCD requirement for a school zone.
- The signs at the Senior Center may not be geared for pedestrians accessing the Senior Center.
- The FRTA demand response bus was observed pulling into the Senior Center parking lot during the site visit. It was not clear where the bus stop is and whether there are additional pedestrian infrastructure needed to improve the connection.

Possible Solutions

- Construct a sidewalk on the west side of Route 63 in front of the Erving Elementary School that connects to the Senior Center.
- Include a buffer/planting strip between the sidewalk and Route 63 where possible to provide separation from the high speed traffic on the road.
- Correct the large drainage structure that poses a hazard for bicycles on Route 63 near the north entrance to the Erving Elementary School by repositioning it to be perpendicular to the travel lane.
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- Create curb-ramps at all driveway/sidewalk/roadway intersections in compliance with all ADA requirements.
- Check that all signage is in compliance with MUTCD requirements for the school zone and also for pedestrian activity near the Senior Center.
- Create better sidewalk connections at the Elementary School from both directions.
- Explore opportunities to improve the infrastructure where the FRTA demand response buses drop off passengers at the Senior Center. Facilitate a conversation between the FRTA, the town highway department and the Erving Senior Center on how to better accommodate the drop-off.

Next Steps

- Provide input and comments to the designer chosen to complete the Erving Streetscape and Sidewalk Project once onboard.

Greenfield

Leyden Road and Nash’s Mill Road

Background

Leyden Road and Nash’s Mill Road in Greenfield are heavily traveled pedestrian routes. Nash’s Mill Road leads to the Green River Swimming and Recreation Area, a popular city park that includes a swimming area, play structure, picnic tables, pavilion, basketball hoops, restrooms and showers. Access to the Riverside Greenway Bikepath is located across the street from the park. The Green River Swimming and Recreation Area is one of the most widely used town parks in Greenfield.

Leyden Road is an urban collector roadway. Leyden Road connects to Conway Street, a north-south route to downtown Greenfield, and intersects with Nash’s Mill Road within a ½ mile of the Greenfield Swimming and Recreation Area and the terminus of the Riverside Greenway Bike Path. Additionally, there are densely developed residential neighborhoods, including an affordable housing development on Leyden Road and the surrounding area. Leyden Road is served by the Franklin Regional Transit Authority’s (FRTA) Route 21 Greenfield Community Route bus.

The City of Greenfield is exploring installing a sidewalk on Leyden Road because pedestrians are often walking along it between Leyden Woods (residential development) and Nash’s Mill Road/Conway Street. Greenfield has a 3-year project to connect a water main from Leyden Road to this site. As part of the water main project there is the possibility of installing sidewalks and other improvements. According to the MassDOT Road Inventory File, the right-of-way is 60 feet wide and the paved roadway is 30 feet wide.
In 2005, an average annual daily traffic count (AADT) of 3,500 was recorded on Leyden Road at a location that is 250 feet south of Pickett Lane and within the section of Leyden Road that is being examined.

In 2012, the FRCOG conducted an Environmental Justice Analysis that showed that 19.4% of households in the Leyden Woods block group do not have access to a vehicle, and that 22.7% have a household income that is below the Federal Poverty Level. This analysis is required by Title VI of the Federal Civil Rights Act of 1964 and examines whether protected classes, such as low income households and minorities, are disproportionately impacted by transportation projects.

The 2012 Environmental Justice Analysis further provided information on the travel time to work. Approximately twenty-one percent of the workers in the block group have a travel time to work that is less than 10 minutes, and 53% are between 10 and 29 minutes to work.

Observations

A site visit was completed on November 19, 2013, and the following observations were made about the walkability and bikeability of the area.

Nash’s Mill Road:
- There is no sidewalk on Nash’s Mill Road near the swimming area although there appears to be room to install a sidewalk within the right of way.
- To the east of the bridge on Nash’s Mill Road, there is an approximately 3-foot wide asphalt sidewalk on the south side of the street that is in very poor condition.
- There is a very narrow shoulder on Nash’s Mill Road.
- Traffic was observed traveling too fast on Nash’s Mill Road.
- At the eastern end of Nash’s Mill Road, there is approximately 9 feet of grass between the guardrail that is on the side of the road and the fence that borders the Greenfield Swimming and Recreation Area property where a sidewalk could be constructed.
- The bridge on Nash’s Mill Road has a sidewalk on one side (the north) which ends on the west side of the bridge.
- The bridge on Nash’s Mill Road is reduced to one lane pending repairs.
There are 9-foot lanes with limited or no shoulders on Nash’s Mill Road.

Leyden Road
- There is no sidewalk on Leyden Road.
- The distance between the Nash’s Mill Road/Leyden Road intersection and Leyden Woods is 8/10 of a mile, which is a walkable distance.
- On Leyden Road, there is a very limited ½ foot shoulder.
- The speed limit on Leyden Road is 35 miles per hour, but the vehicles appear to travel at faster speeds.
- While completing the site visit, pedestrians were observed walking on Leyden Road.
- There is a dirt area on the west side of Leyden Road that looks like it is used as a bus stop.
- There is also a softball field on Leyden Road that may be a destination for pedestrians.
- Conway Street connects to Leyden Road at the southern end, and there is the potential to construct a sidewalk on Conway Street (at the intersection of Nash’s Mill Road and Leyden Road) and continue south towards downtown over the bridge (over Interstate 91). There is also the potential to construct a bike lane.

Community feedback from Leyden Woods residents (May 27, 2014)
FRCOG staff attended a meeting hosted by the Greenfield Town Council Community Relations and Education Committee at the Leyden Woods affordable housing complex on May 27, 2014 to discuss transportation issues and the needs of residents. The housing complex is located directly off of Leyden Road on Leyden Woods Lane. It is approximately 1 mile north of the intersection with Nash’s Mill.
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Road. The following are comments received at the meeting that relate to pedestrian, bicycle, and transit access along Leyden Road and Nash’s Mill Road:

- According to the Leyden Woods Property Manager, more than half of the 200 families who live at Leyden Woods do not own a vehicle.
- Many people walk along Leyden Road, despite that fact that it is dangerous. One resident noted that he used to bike, but no longer does because of how dangerous it is.
- The poor condition and lack of a complete sidewalk was noted as an issue on Nash’s Mill Road.
- One resident said it was too difficult and dangerous for her to walk her children to the playground and swimming area.
- The lack of shoulders on Leyden Road makes it difficult for bicycling.
- If a sidewalk were constructed, residents would probably use it for biking as well as walking.
- A bus pull off area along Leyden Road would be helpful, and would improve the safety for those who are waiting and boarding the bus at the stop. Although there are not designated bus stops on Leyden Road, a number of people get on and off the bus along Leyden Road near a side street.
- Speeding was noted as a problem on Leyden Road.

**Possible Solutions**

- Construct a sidewalk on Leyden Road from Nash’s Mill Road to Leyden Woods Lane.
- Improve the existing bus stop that is currently dirt. Include a pull-off area for the bus at or near this bus stop location when designing the sidewalk on Leyden Road. Designate the stop as an “official” bus stop and note this on the bus schedules. Add a bus stop sign and a shelter and/or bench.
- Construct/improve the sidewalk on Nash’s Mill Road. Extend the sidewalk to the bike path crossing and swimming area. If possible, construct the sidewalk away from the edge of the road (with a grass buffer in between).
- Explore options to construct a bike lane on Conway Street from the intersection of Nash’s Mill Road and Leyden Road headed towards downtown Greenfield (and Main Street).
- Construct all curb-cuts to meet ADA compliance guidelines.
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- Install highly visible crosswalk treatments at crossing locations to make the entire area more pedestrian assessable.
- Assess where the existing signs meet the MUTCD regulations for an active pedestrian area, and propose improved signage to alert cars to the existence of pedestrians in the area.
- Coordinate with the City of Greenfield so that any proposed improvements to the sidewalks will best accommodate pedestrians and bicycles.
- Explore the installation of sharrows near the intersection of Nash’s Mill Road and Leyden Road in order to alert the motorist to the presence of bicycles on the roadway.

Next Steps
- Coordinate with the City of Greenfield so that any proposed improvements to the sidewalks will best accommodate pedestrians and bicycles.
- Coordinate and explore possible improvements through MassDOT and if there is any funding available.

Greenfield

Better Access to Transit at the Cherry Rum Plaza

Background
Cherry Rum Plaza is located in Greenfield on Route 5/10 (Bernardston Road). The Franklin Regional Transit Authority (FRTA) makes a regular stop at the Cherry Rum Plaza on bus Route 21 Greenfield Community and bus Route 41 Charlemont/Greenfield. This location was chosen to be examined because it was noted during an analysis of FRTA routes and stops during September 2013 that there could be improvements to develop better interface between the transit service and walking and bicycling from the site.

Observations
A site visit was completed on November 5, 2013.

- There is no sidewalk/path leading into the shopping plaza from Bernardston Road (Route 5/10).
There is no bus shelter within the Cherry Rum Plaza.

There are no bike racks.

There are no signs to inform the public where the bus stop within the shopping center is located.

There is not a clear route for bicycles and pedestrians into the shopping plaza or through the parking lot.

There are no bicycle and/or pedestrian connections into the shopping plaza.

There is no connection to the Four Corners School, which is located across Bernardston Road.

The sidewalk on Bernardston Road ends at the driveway to Cherry Rum Plaza and does not connect to any pedestrian facilities in the shopping plaza.

Possible Solutions

- Encourage the owner of Cherry Rum Plaza to create a sidewalk or path through the shopping plaza to better connect the sidewalk on the road to the transit stop that is across the parking lot near the shops within the mall.

- Encourage the FRTA to work with the owner of the Cherry Rum Plaza to install signs so that transit passengers know where the bus stop is located.

- Install signs at the bus stop location within the plaza with information on the routes.

- Explore if it is possible to install a bus shelter.

- Create a better connection for bicycles and pedestrians into the shopping plaza from the roadway or sidewalk.
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- Encourage the owner of Cherry Rum Plaza to install bicycle parking racks near the bus stop at the plaza.

Next Steps
Discuss potential bus stop improvements with the FRTA.

Greenfield

Turners Falls Road

Background

Turners Falls Road in Greenfield is a steep winding hill that leads from east Greenfield into the village of Turners Falls in Montague via the White and 5th Street Bridges. The route is frequently traveled by pedestrians and bicyclists, but it does not have a sidewalk for pedestrians, or bike lane or shoulder to accommodate bicycles. The steep topography of the route contributes to the challenging conditions for all roadway users. On the west side of Turners Falls Road, there is a steep incline with rock outcroppings. On the east side of the road, there is a steep drop down a hill to the Connecticut River. Turners Falls Road intersects with Loomis Road at the top of the hill in Greenfield. The westernmost end of Turners Falls Road is one-way east-bound (headed towards Turners Falls). Traffic headed west-bound on Turners Falls Road turns right onto Loomis Road which intersects with Route 2A (French King Highway) at a traffic light. The intersection of Loomis Road and Route 2A is just south of the Stop and Shop Supermarket.

On numerous occasions, concerns over the frequent and regular use of this route (Turners Falls Road and Loomis Road) by pedestrians and the lack of infrastructure were expressed to the FRCOG. It was often noted that the route is often used by young people who are walking to work at the Stop and Shop or other commercial establishments on High Street in Greenfield.

Turners Falls Road links to 5th Street and Canal Street in Turners Falls. It is also a link to the Canalside Trail Bikepath. This route is an important gateway to Turners Falls. The route has a high volume of vehicular, pedestrian and bicycle traffic. The Downtown Turners Falls Livability Plan (2013) recommended improvements to the 5th Street Gateway including:

- A new sidewalk on the southwestern side of 5th Street connecting to Avenue A;
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- A better defined crosswalk for pedestrians and the bikepath;
- Bump-outs to connect the bikepath to the new 5th Street sidewalk;
- A better defined the parking lot entrance (to improve circulation and make the crossing safer for all users); and
- A revitalized hillside across from the bridge with plantings and welcome signage providing directions and information.

Turners Falls Road is functionally classified as a minor arterial. It is a county layout and a federal aid roadway. The speed limit is 30 miles per hour. There are no pedestrian or bicycle facilities. Pedestrians, bicyclists and individuals with physical disabilities are frequent users of Turners Falls Road and Loomis Road. Historical traffic counts have been completed on Turners Falls Road at three locations. Counts were completed east of Stone Farm Road on the one-way section of the road annually from 2002 to 2011 and the Average Annual Daily Traffic varied from 2800 to 3400 as follows: 3300 (in 2002), 3,100 (in 2003), 3,000 (in 2004), 3,100 (in 2005), 3,100 (in 2006), 3,100 (in 2007), 3,000 (in 2008), 2,800 (in 2009), 3,400 (in 2010), 2,800 (in 2011). The counts completed on Turners Falls Road one half mile east of High Street on the two-way section were 7,400 (in 2001), 7,400 (in 2002) and 7,200 (in 2008). The AADT from the MassDOT website for Turners Falls Road was recorded as 2,510 (in 2011), 2,708 (in 2012), and 2,869 (in 2013).

According to the 2012 Environmental Justice Analysis Summary Report, Turners Fall is an Environmental Justice Target Area. Approximately 18% of the households within the block groups do not have access to a car. Twenty-one percent of the population lives less than 10 minutes in travel time to work. Close to 50% are between 10 and 29 minutes from work.

Concerns for the large number of bicyclists and pedestrians using this route has prompted a number of recent planning related actions to be taken. During July 2014, a Road Safety Audit (RSA) was completed for Turners Falls Road. According to the Federal Highway Administration, a RSA is defined as “a formal safety examination of an existing or future road or intersection by an independent, multidisciplinary team.” This RSA team was comprised of representatives of the FRCOG, MassDOT, City of Greenfield Highway and Fire Departments, and engineering consultant Stantec. A site visit was completed on July 10, 2014. The RSA recommends some improvements at the Turners Falls Road and Loomis Road intersection, reexamining the YIELD sign, upgrading the pavement markings, and constructing a slight realignment of the road to improve the sight distance. The RSA further recommends:

- Improving pedestrian access at the Turners Falls Road and Loomis Road intersection by locating crosswalks across roadways serving single directions of traffic and posting YIELD to pedestrian signs in advance of the pedestrian crossings;
- Improving pedestrian and bicycle mobility and safety by evaluating context sensitive design on the two way segment of Turners Falls Road north of the intersection that features narrower lanes and reduced design speeds where standard widths are not possible;
- Improving pedestrian/bicycle mobility by evaluating “share the road” signing and markings; and
- Improving safety for all users by trimming vegetation and augmenting/relocating signage on corners at the bottom of the hill to make them MUTCD compliant regarding the number of chevrons.
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**Summary of Crash Statistics**
The crash statistics were examined in order to determine if there is a specific safety concern. There were a total of 25 crashes reported* on Turners Falls Road between 2007 and 2011. This number includes reported crashes that meet reporting criteria which are crashes that resulted in an injury or fatality or resulted in at least $1,000 property damage. This figure also includes crashes that were located within the study area. The most crashes (9) occurred during 2010.

*Due to resource constraints, the RMV was unable to manually input all 2009 crashes into the MassDOT crash database. Therefore, the 2009 data set shows a significantly lower number of crashes in the database because operator reported crashes were not entered into the system. Twenty-two of the crashes occurred in Greenfield and three in Montague. Although the crashes occur throughout the year, October and August were the months with the most crashes (4).

**Total Reported Crashes by Year**

<table>
<thead>
<tr>
<th>Year</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Crashes</td>
<td>2</td>
<td>5</td>
<td>1*</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

Ten of the reported crashes occurred in the morning during commute times (7:00 a.m. and 9:00 a.m.). Five of the crashes occurred between 4:00 p.m. and 5:00 p.m. Fifteen of the crashes had property damage only, and ten had non-fatal injuries. Eight of the incidences were rear-end type crashes and seven were single vehicle crashes. Only one of the crashes occurred in snow conditions and two in icy conditions. Ten occurred when the roadway was wet and twelve under dry conditions.

Nineteen of the crashes occurred in daylight. Weather conditions do not seem to be a factor because the highest number of crashes occurred with clear weather conditions. Nine of the crashes occurred when the weather conditions were clear.
The White Bridge and the 5th Street Bridge
There are two bridges at the bottom of the hill where Turners Falls Road connects with 5th Street in Turners Falls. The White Bridge is in Greenfield and crosses over the Connecticut River. The 5th Street Bridge is in Turners Falls in Montague and crosses over the canal. Both of the bridges are owned by MassDOT. According to the most recent 2014 MassDOT’s bridge listing, the White Bridge was built in 1936 and is currently classified as functionally obsolete. The 5th Street Bridge was built in 1954, rebuilt in 1992, and is currently classified as structurally deficient.

Observations
The following observations were made during site visits completed on November 5, 2013, and November 19, 2013:

5th Street Bridge in Turners Falls
- The Canalside Trail Bicycle Path is located at the east end of the 5th Street Bridge in Turners Falls.
- The sidewalk on the 5th Street Bridge is not compliant with ADA requirements. At the western side of this bridge there are two steps.
- The driveway/truck access for Southworth Paper Company crosses the pedestrian access to the bridge.

White Bridge in Greenfield
- The pavement is in poor condition leading to the east side of the White Bridge.
- The bicycle and pedestrian infrastructure near the White Bridge is in need of improvements.
- There is a sidewalk only on the north side of the White Bridge, but it is in poor condition.
- The railing on the White Bridge is too low.
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- The sidewalk on the White Bridge is narrow (4 feet wide), in very poor condition and there are debris and obstacles.
- There is a very large hole in the sidewalk on the White Bridge (the river is visible through the hole) that is a tripping hazard.
- There is a large curb on the west side of the White Bridge that poses a tripping hazard for pedestrians, and from the dirt and tire tracks nearby it appears that the curb is run over by cars often.
- The sharp right turn at the west side of the White Bridge is very tight and dangerous for all users.

**Turners Falls Road**

- There is no sidewalk on Turners Falls Road.
- The pavement width varies 28 feet, 24 feet and 34 feet.
- The total length of the stretch of Turners Falls Road that was examined is nearly a mile at 4,600 feet.
- There is a very narrow shoulder (1 ½ feet or less) on Turners Falls Road for the entire length.
- There is a major rock outcropping that narrows the road and restricts potential right of way at that location.
- Turners Falls Road widens half way up the hill and it seems as though there may be room for a sidewalk or a shoulder.
- The lower part of the road is narrow, but there may be a way of constructing a sidewalk on the west side of the road.
- The vegetation on the west side of Turners Falls Road is sometimes overgrown in the summer making visibility difficult and forcing pedestrians further into the travel lanes. In addition, there is poison ivy growing in the vicinity that creates a problem for pedestrians on the west of the roadway.
The shoulders and roadway width are narrow. In front of the driveway for 270 Turners Falls Road, the shoulder width is approximately two feet on both sides. At that location the lanes are 12 feet wide. It was noted by the neighbor that traffic backs up on Turners Falls Road when trucks are unloading – causing accidents.

There is debris in the shoulders of the roadway.

The shoulder decreases to approximately ½ feet wide where there is rock outcropping.

The speed limit for vehicles traveling up Turners Falls Road towards Greenfield is 35 mph.

The speed limit for vehicles traveling down is 40 mph, and drops to 20 mph with no warning near the bottom of the hill (close to the sharp right turn at the White Bridge).

There are no sign or pavement markings warning users about the sharp curve ahead.

During the site visit, cars appeared to be going too fast for the conditions in both directions.

It was noted that people walk through the woods to get to the Stop and Shop, instead of walking along Turners Falls Road.

During the site visit (about 30 minutes) two pedestrians and two cyclists were observed using the route.

There is an abandoned road that has some potential as a pedestrian path – although it is very steep and isolated.

A neighbor who lives near the bottom of the hill stated that vehicles travel at excessive speeds on Turners Falls Road, and that there are frequent accidents of drivers running into the guardrails.
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- There are telephone poles that are close to the west side of the road.

**Possible Solutions**

- Complete a feasibility study for building a sidewalk on the west side of Turners Falls Road.
- Repair the pedestrian infrastructure on the White Bridge and the 5th Street Bridge to eliminate tripping hazards and other obstacles.
- Reconstruct the White Bridge and the 5th Street Bridge to better accommodate bikes and pedestrians.
- Construct improvements to the bridges to be ADA compliant.
- Reconstruct the 5th Street Bridge to eliminate the stairs on the western end of the bridge.
- Complete repairs to the curb at the east end of the White Bridge to eliminate hazards to pedestrians and bicycles.
- Conduct regular sweeping to remove sand and debris that accumulate on the bridge sidewalks.
- Repair the sidewalk on the 5th Street Bridge and provide a better interface with the bike path.
- Implement gateway improvements to Turners Falls at the 5th Street intersection.
- Realign the roadway lane markings on Turners Falls Road to narrow the travel lane and possibly shift it to the east in order to accommodate a bike shoulder and sidewalk.
- Encourage the Greenfield Police Department to increase a routine presence on Turners Falls Road in order to check vehicles speeds.
- Review existing signs and recommend new or replacements that would better alert drivers to the curve at the bottom of the hill and also to the presence of bicycles and pedestrians on the road.
- Install “Share the Road” signs on Turners Falls Road.
- Further explore the feasibility of the alternative route/trail that could potentially connect from Turners Falls Road to the back of the Stop and Shop property.

**Next Steps**

- Continue to work with Greenfield to design pedestrian and bicycle improvements along this route.
- Work with Greenfield to implement short-term improvements such as “Share the Road” and other signage and pavement markings that will improve the visibility and safety of bicycles and pedestrian along this route.
- Work with Greenfield and MassDOT to determine if there is funding available to complete larger road reconstruction/realignment to improve safety and create a space for bikes and pedestrians along this route.
Inquire with MassDOT when the two bridges would be rehabilitated and advocate for better pedestrian and bicycle facilities on the bridges.

Orange

Downtown Orange is very walkable. There are neighborhoods that are within walking distance of the commercial and civic establishments that are located in the center of the downtown. Better walking and bicycling infrastructure would improve access for all users. Four areas of downtown Orange were assessed as part of this Complete Streets Project. These four areas were chosen because they provide an important link to downtown or other essential services. In some cases the areas were noted as lacking good bike and/or pedestrian links to regional transit stops during public input sessions held as part of the Franklin Regional Transit Authority’s Comprehensive Service Analysis. The intention of this assessment is to provide recommendations to better serve all forms of transportation.

According to the 2012 Environmental Justice Analysis Summary Report, downtown Orange is an Environmental Justice Target Area. Each of the areas examined as part of this study is within or abuts the boundaries of the target area. The 2012 Environmental Justice Summary Report provides important information on the travel patterns of the residents of the U.S. Census block group that is part of the target area. For the downtown Orange target area, approximately 15% of the households do not have access to a car. Twenty percent of the population lives less than 10 minutes in travel time to work. Approximately 35% are between 10 and 29 minutes from work.

East Main Street (Route 2A)

Background

East Main Street (Route 2A) is a key travel route from downtown Orange to downtown Athol. It is the main commercial route in Orange. The site designs and access layouts of many of the businesses on this road are automobile-oriented. East Main Street also provides an essential access route for pedestrians and bicyclists. It is a connection to necessary services such as the grocery store and pharmacy for the population of this area. It is within walking distance of many residential areas. The FRTA Greenfield/Orange bus route (Route 32) travels on East Main Street and makes stops at the Walmart and Hannaford Supermarket (in Athol).
The high traffic volumes and speeds along East Main Street make walking and bicycling along the route unpleasant in some locations where there is no sidewalk or the sidewalk is narrow. The Average Annual Daily Traffic Counts at various points along the route are:

- Route 2A (Athol Town Line): 9,100 (in 2001), 10,000 (in 2007)
- Route 2A (400ft west of East Rd): 9,000 (in 2007)
- Route 2A [E. Main St] (250ft east of North Main St): 7,800 (in 2005), 7,800 (in 2006), 7,000 (2013)

Observations
The following observations were made during a site visit completed on April 1, 2014:

- The sidewalk on East Main Street (Route 2A) is not continuous. It is narrow and there are gaps in various locations along the route.
- There is no sidewalk on the south side of East Main Street (Route 2A) to the east of Anne’s Dairy.
- There are many locations where there are obstructions in the sidewalk or the walking path.

There is a well worn path on the side of East Main Street where pedestrians walk in the absence of a sidewalk.

There are many obstacles on the sidewalk near the intersection of Whitney Street that pose tripping hazards.

The FRTA bus stop is located at the far end of the Walmart building, which forces transit riders to walk a long distance through the traffic in the parking lot to reach the stop.
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- There is a wide grass and/or dirt area on the north side of East Main Street with room for a sidewalk, but there is either a narrow sidewalk or no sidewalk. Walking in the dirt or grass area poses a tripping hazard.
- There is no sidewalk from Route 2A connecting into the Walmart near the easternmost entrance (there are two driveways to Walmart from East Main Street).
- There is a bus stop at the far end of the Walmart parking lot, but there is no shelter or sidewalk leading to the bus stop through the parking lot. Pedestrians must walk a lengthy distance without a designated safe path through the parking lot to the far end to reach the bus stop.

Possible Solutions

- Construct a continuous sidewalk on East Main Street (Route 2A) from downtown Orange to the Athol town line to provide connections into the various businesses along the route and also provide connections to the FRTA bus stops.
- Construct highly visible cross-walks at locations throughout the area.
- Consider whether there is a need for pedestrian activated crossing signals at any locations in the project area in order to improve pedestrian safety on East Main Street.
- Construct ADA compliant curb-cuts and crossings throughout the area.
- Construct a wide shoulder or separate path for bicycles.

Next Steps

- Present these findings and recommendations to the town and MassDOT.
- Complete a preliminary engineering study to determine if pedestrian activated crossing signals are needed in the project area.
- Further assess the best design for addressing bicycle accommodation along this corridor.
Orange

North Main Street

Background

The area examined included North Main Street in Orange from the intersection of North Main, South Main, West Main and East Main Streets (Route 2A) to the Fisher Hill and Dexter Park Schools. Fisher Hill School is an elementary school which has grades Pre-K, Kindergarten, 1st and 2nd grade, and Dexter Park School has grades 3 and 4. The project area is approximately 1 mile long. The roadway and sidewalk are in poor condition. The North Main Street area connects the residential neighborhoods to the commercial downtown area in Orange, and is a walkable distance if the infrastructure were improved.

There is an existing town infrastructure improvement project on a .4 mile section of North Main Street from the School Street intersection to Lincoln Avenue. This MassDOT funded project consists of roadway reconstruction, rehabilitation and reconstruction of various retaining walls and two major drainage culverts, construction of ADA accessible sidewalks and wheelchair ramps, drainage system modifications and improvements; construction of curb and bituminous concrete berm installations; traffic signing; landscaping and streetscape improvements and other incidental work. The project area of this complete streets assessment overlaps with the boundaries of the MassDOT project, and also extends further south to the intersection of East and West Main Streets.

Traffic counts were completed in two separate locations within the complete streets project area. On North Main Street traffic counts were completed 100 feet north of East Main Street and the average daily traffic counts were 3,900 in both 2005 and 2006. Another count was completed on North Main Street 300 feet south of Dexter Street in 2003 and the count was 1,980. A count was completed in 2013 on West Main Street 200 feet west of North Main Street and the count was 4,000 vehicles per day.

Observations

A site visit was completed on April 1, 2014, and the following observations were made:

- The pavement markings for the crosswalks at the intersection of North Main, South Main, East Main and West Main Street are worn away.
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- The curb-cuts at the intersection of North Main, East Main and West Main Streets are not fully compliant with the ADA requirements. In particular, there are not tactile warnings at the curb-ramp.
- There is a utility pole and signal transformer box that is obstructing the crosswalk on North Main Street at the intersection with East and West Main Streets.
- The sidewalk on the east side of North Main Street is 5 feet wide.
- There is a tripping hazard near the building on the east side of North Main Street near the intersection.
- There is uneven pavement on the sidewalk in many locations along the route.
- The curb-ramps across Prospect Street near the town hall are in very poor condition, and the pavement marking for the crosswalk on Prospect Street is worn away.
- The roadway on Prospect Street is 37 feet wide near the town hall.
- The sidewalk on the east side of North Main Street is 5 ½ feet wide.
- The sidewalk on School Street is in very poor condition, and there are no curb ramps at the crossing.

The sidewalk on the east side of North Main Street is uneven and there are tripping hazards.

The sidewalk across Prospect Street near the town hall is in very poor condition.
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- The sidewalk on the east side of North Main Street is 4 feet wide, patched in many places and there is a utility pole obstructing the travel way.

- There is no sidewalk on the west side of North Main Street north of Orange Historical Society (41 North Main Street).

- The sidewalk on the east side of North Main Street to the north of the Historical Society does not have curbing and is not delineated from the travel lane.

- North Main Street is 26 feet wide near the Historical Society building (41 North Main Street).

- Vehicles were observed traveling at excessive speeds during the site visit.

- There is on-street parking on both sides of North Main Street, but it is not well designated with signs or pavement markings.

- There is no crosswalk from the public parking lot on the west side of North Main Street to the east side of North Main Street.

- There are utility poles in many locations that obstruct the sidewalk.

- The roadway is excessively wide near the intersection of North Main Street and Dexter Street.

- The crosswalk on North Main Street leading to Dexter Street is long because of the excessively wide roadway.

Possible Solutions

- Reconstruct sidewalks and make improvements to create easier and less hazardous walking conditions on North Main Street.

- Construct sidewalks on both sides of North Main Street from the intersection of North Main Street, West Main Street and East Main Street to the intersection of North Main Street and Dexter Street.
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- Install handicapped accessible ADA compliant curb-ramps and crosswalks at the intersection of North Main Street and East and West Main Street, across Prospect Street near the Town Hall, across North Main Street to Dexter Street, as well as other crossing locations throughout the project area.
- Paint all crosswalks in a ladder or continental style to be more visible.
- Complete an inventory of signs on North Main Street and add signs in accordance with the MUTCD for all crosswalks and school zones.
- Relocate obstructions on the sidewalks such as utility poles.
- Paint bike lanes or Sharrows on North Main Street to provide a designated place for bicycles to ride.
- Widen the sidewalk and construct bump-outs at the intersection of North Main Street and Dexter Streets to provide more room for pedestrians and shorten the crossing distance.

Next Steps

Present these findings and recommendations to the town and MassDOT.

Orange

West River Street

Background

West River Street is located south of the intersection of North, South East and West Main Streets (Route 2A and Route 122) and the Millers River in downtown Orange.

West River Street and the intersection of West River and South Main Streets are important connections into downtown Orange. The Post Office is
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The Franklin Regional Transit Authority (FRTA) serves downtown Orange via Route 32 which provides service between Orange and Greenfield. Additionally, FRTA operates demand response service in Orange.

Observations

The FRCOG conducted a site visit and assessment of this area on April 1, 2014, and the following observations were noted:

- There are sidewalks on both sides of West River Street.
- The sidewalk on the south side of the street is 5½ feet wide, and the sidewalk on north side of the street is 6 feet wide.
- There are obstructions on the sidewalk such as fire hydrants and telephone poles in many locations.
- The travel lanes are wide for the length of West River Street, and the shoulders are narrow.
- The road is 61 feet wide at the intersection of South Main Street and West River Street.

The cross-walk on the west side of the intersection of River Street and South Main Street has worn away pavement markings and the pedestrian crossing signal is not visible while waiting to cross the street.

Telephone poles obstruct the sidewalk in many locations on West River Street. Also, note that the part of the travel lane that cars are using is visible in this picture by where the sand is worn away.
East River Street is 33 feet wide near the intersection with Cheney Street.

There are no street signs at the corner of South Main Street and West River Street that provide the street names.

The handicapped ramp at the corner of South Main Street and West River Street is non-compliant with the Americans with Disabilities Act requirements.

The pedestrian crossing signal at the intersection of East River Street and South Main Street, traveling north towards Main Street, is not facing the crosswalk and is hard to see from that crossing direction. It is positioned so that it faces into the middle of the intersection.

The sidewalk on the northwest corner of the intersection of Main and East River Street near the crosswalk is narrow.

The crosswalk paint is worn away and not visible.

The bushes are encroaching into the sidewalk on the north side of East River Street.

On-street parking is allowed on the street but not delineated.

The neighborhood to the east is residential.

Cheney Street intersects with West River Street within the project area. As previously noted, Cheney Street is also an access to Butterfield Elementary School.

Cheney Street has a sidewalk on the west side of the street, but there is not a sidewalk on the east side. Cheney Street is the walking route to the nearby Butterfield Elementary School.

There are no signs on Cheney Street for the nearby school zone.

At Cheney Street there is a crosswalk with worn away paint. There is no curb ramp to the sidewalk on the north side of the street.
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Possible Solutions

- Realign and or re-stripe the travel lanes to narrow the lanes and add a bike lane or wide shoulder in order to provide more room for walking and bicycling.
- Reconstruct the sidewalks in the project area to be wider.
- Widen the sidewalk at the intersection of West River Street and South Main Street, and add bump-out areas to shorten the crossing distance and provide a waiting area for pedestrians.
- Add pavement markings or textured crosswalk treatments at all crossings in the project area.
- Install ADA compliant curb-cuts at all crossing locations.
- Update the crossing signals at the intersection of East River Street and South Main Street so that they are properly aligned and visible.
- Construct a sidewalk on the east side of Cheney Street that would connect to Butterfield Elementary School.
- Install signs for a school zone on Cheney Street.

Next Steps

Present these findings and recommendations to the town and MassDOT.

Orange

East Water Street

Background

East Water Street in downtown Orange links South Main Street to East Main Street. This route travels near Memorial Park, Rodney Hunt Manufacturing, the Orange District Court and an FRTA transit stop on Route 32. It is an important walking link within the downtown area of Orange. There are already many pedestrians and bicyclists that travel this route. An average annual daily traffic count of 4,800 on Water Street was recorded in 2001 according to the MassDOT website.

The pavement markings on the cross-walk at the intersection of East Water Street and South Main Street are worn away.
Observations
A site visit was completed on April 1, 2014, and the following observations about the project area were noted:

- The crosswalk on South Main Street to Memorial Park is faded and not highly visible. It also crosses between on-street parking spaces, and the site distance while crossing is limited. The parked cars on either side of the crosswalk impede the visibility of the crossing.
- The curb-ramps at the crosswalk on South Main Street are not ADA compliant.
- East Water Street on the south side of the Memorial Park is 31 feet wide near the intersection with South Main Street.
- There is no sidewalk on Water Street to the south of Memorial Park on either side of the road.
- The area of pavement near the entrance to Rodney Hunt is very wide (69 feet) and there is no sidewalk.
- There is no sidewalk on East Water Street, on the southeast side near the railroad tracks, but the pavement is excessively wide.
- There is a pedestrian crossing gate on the railroad tracks on the west side, but it is not known if the crossing gate is up to the current ADA codes.
- There are no crosswalks near the FRTA bus stop/shelter that is behind the Orange District Court on East Water Street to guide pedestrians to the bus stop. There are no crosswalks that allow pedestrians to cross from the parking lot on the east side of East Water Street to the Orange District Court.
- East Water Street is 39 feet wide near the District Court.
- There are no bike lanes or pavement markings for bikes on East Water Street.
- There are no bike racks at the Orange District Court.
Possible Solutions

- Construct or improve sidewalks throughout the project area to make the sidewalks wider.
- Construct a sidewalk on the south side of East Water Street in front of the fire station and Rodney Hunt in order to better define the area for pedestrians and vehicles.
- Install a pedestrian safety gate and sidewalk at the railroad crossing.
- Install crosswalks for pedestrians near the Court House and parking area.
- Paint all crosswalks in a ladder or continental style to be more visible.
- Relocate obstructions in the sidewalks, such as utility poles.

Next Steps

Present these findings and recommendations to the town and MassDOT.

Sunderland

Sunderland Center – School Street and the Routes 47/116 Intersection Area

Background

Sunderland Center is at the crossroads of Routes 116 and 47, two major regional travel routes. Route 116 is a heavily traveled route between Amherst (the University of Massachusetts) and the Interstate-91 corridor, Greenfield and western Franklin County. Route 47 is a north/south route that connects to Route 63 and Route 2. Route 47 is also locally referred to as North and South Main Street. It is the center of the Sunderland Center Historic District, a National Register historic district.

The Complete Streets analysis also looked at the intersection of North Main Street and School Street, and the sidewalk on School Street. School Street connects to the Town Hall and the Sunderland Library which are important destinations in the town center.
The high traffic volume through Sunderland on Route 116 is a significant consideration to designing complete streets improvements. The Average Annual Daily Traffic (AADT) count on Route 116 is among the highest in Franklin County. Over the years, the following counts were recorded. On Route 116 (1/4 mile east of Route 47) in 2001 an AADT of 11,600 was recorded. Counts completed on Route 116 near the Deerfield town line were 17,300 (in 2001), 18,300 (in 2002) and 19,800 (in 2004). On Route 47 a count was completed 1/4 mile north of Route 116 in 2001 and the AADT was 4,300 and in 2010 the count was 4,450.

The character and layout of Sunderland center lends itself to walking and bicycling. There are some small-scale pedestrian oriented retail shops in the center including a neighborhood convenience store, the town hall, library, bicycle shop, hair salon, restaurants, and a church. Residential areas with single family and multi family dwellings are within walking distance of the center. The buildings are close to the sidewalk. Overall, the layout is walkable, but the heavy traffic volume and high travel speeds can be a deterrent.

Sunderland Center is served by the Pioneer Valley Transit Authority (PVTA). Route 31 travels from Amherst to Sunderland Center on Route 116 every 15 minutes. PVTA Route 46 also travels through Sunderland enroute from the University of Massachusetts to South Deerfield center and the Whately Park and Ride Lot. The 2014 PVTA Comprehensive Service Analysis for Route 31 noted that the stops at Sugarloaf Estates (a large scale apartment complex) and 7 Eleven have significant ridership. The Sugarloaf Estates stop serves an average of 189 riders a day and the 7 Eleven stop serves an average of 166 riders per day. The Sunderland Center stop at South Main Street serves 17 people per day. Access to transit and its interface with bicycle and pedestrian facilities in Sunderland Center is an important issue.

Overall, the topics of walkability and bikeability are of high priority to Sunderland. The Sunderland Community Pathways Committee is working to develop long range initiatives to better connect the sections of the town center, which are divided by Route 116, for bicyclists and pedestrians. The Community Pathways Committee provided input during the Complete Streets analysis. The group expressed an interest in re-designing the Routes 116 and 47 intersection to better connect the north and south areas of the town center, and was specifically interested in exploring the feasibility of constructing a roundabout at that location.

Transportation Chapter of the Sunderland Master Plan

Additionally, during 2014 the FRCOG completed a Transportation Chapter for the town of Sunderland’s Master Plan through the District Local Technical Assistance (DLTA) program. A goal of the development of the Transportation Chapter was to evaluate all modes of transportation. As part of the
planning process, a meeting was held on September 23, 2014, and input was provided on the priorities of the town. Improving accessibility for pedestrians and bicyclists, and making it safer and easier to cross Route 116 to connect the town center were expressed as important goals. This input received as part of the Transportation Chapter planning process was considered during the completion of the Complete Streets report.

Road Safety Audit Completed by MassDOT

A Road Safety Audit (RSA) was completed for the Routes 116 and 47 intersection on July 17, 2014. To be eligible for a RSA, a location has to be in the top five percent of the crash locations in the region. The RSA was organized by MassDOT and included the participation of the staff of the FRCOG and the Town of Sunderland. An engineering consultant was engaged by MassDOT to complete an assessment of the intersection and recommend improvements. Prior to the audit, the crash data for the intersection was reviewed. For the period between 2011 and May 2014, there were 19 crashes at the intersection of Routes 116 and 47. One of the crashes did involve a bicyclist who was injured. There were no crashes involving pedestrians. The recommendations of the RSA included the following pedestrian and bicycle suggestions:

- Consider relocating the crosswalk across the western leg of the Route 116 intersection closer to the intersection in order to place the wheelchair ramp on the radius of the corner. An angle that is tangent is a preferred location for the ramp. It does not appear the radius can be tightened due to truck turning requirements.
- Reconfigure pedestrian paths at the corners of the Routes 116/47 intersection to make their path more direct.
- Resurface all four crosswalks at the Routes 116/47 intersection with colored/textured material to enhance visibility.
- Install detectable warning panels on all wheelchair ramps.
- Install new pedestrian signals (count down) at the intersection of Routes 116 and 47.
- Restripe pavement markings for southbound Route 47 right turn lane.
- Prohibit right turns on red from southbound Route 47 to avoid vehicle/pedestrian conflicts during the exclusive pedestrian phase, and install a “Turning Vehicles Yield to Pedestrians” sign on all approaches.
- Paint “sharrows” (or Shared-Lane Marking) on the pavement approaching and departing the Routes 116/47 intersection on all legs to help guide bicyclists and increase driver awareness.
- Replace pedestrian signal equipment with ADA-compliant Accessible Pedestrian Signal (APS) equipment, including audible push buttons and countdown pedestrian signal heads. Relocate the pedestrian push button on the southwest corner of the intersection for the crosswalk across the southern Route 47 leg of the intersection closer to the ramp.
- Stripe “bike boxes” to increase the visibility of bicyclists and to better facilitate bicycles that are turning left. Also, adjust the detection zones for bicycles at the stop bars for all roadway approaches to the Routes 116 and 47 intersection. “A bike box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to
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get ahead of queuing traffic during the red signal phase (Urban Bikeway Design Guide, National Association of City Transportation Officials).”

- Consider reconstruction of intersection as a roundabout.

Observations

As part of the Complete Streets Analysis, a site walk and assessment was completed in Sunderland Center on July 11, 2014. The assessment was completed by the FRCOG planning staff members. Sara Snyder participated in the site walk and provided input as a member of the Sunderland Pathways Committee. School Street, the intersection of School Street and North Main Street, and the intersection of Routes 116 and 47 were assessed.

School Street was included in the Complete Streets assessment because it is an important route in Sunderland center that serves as a connection from the neighboring residential areas to the Town Hall and the Sunderland Public Library. The Sunderland Public Library parking lot is frequently used by people who put boats into the Connecticut River from the town access point at the end of School Street and also by recreational bicyclists.

**School Street**

- The sidewalk on School Street ends at the Sunderland Library, and does not extend to the end of the road where the boat ramp/access to the Connecticut River is located.

- The sidewalk surface on School Street is uneven and deteriorated in places. The section of the sidewalk near the library and the town hall is concrete. To the east of the Town Hall the sidewalk is asphalt. The asphalt section has cracks and uneven pavement.

- There is not pedestrian scale street lighting along this route. There are two cobra lights on utility poles.

- The crosswalk at the intersection of School Street and North Main Street is worn away, and the ramps are not Americans with Disability Act (ADA) compliant. The roadway crossing is very wide.
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- The angled parking near the Town Hall results in cars protruding into the street.

**North Main Street**

- The sidewalk is less than 6 feet wide.
- The sidewalk is in fair condition with some bumps, cracks, and weeds protruding.
- The roadway shoulders are very narrow near the Swampfield Historical Society building (just north of the intersection of North Main Street and School Street).

  ![Crosswalk Markings](image)

- A park and ride lot is designated in front of the Swampfield Historical Society building. No cars were parked there during the assessment. This park and ride lot is not listed on the MassDOT’s website: [http://www.massdot.state.ma.us/highway/TrafficTravelResources/ParkandRideMap.aspx](http://www.massdot.state.ma.us/highway/TrafficTravelResources/ParkandRideMap.aspx)
- There is a bike rack in front of the Corner Store.
- During the site visit there were approximately four cyclists observed traveling through the study area.
- North Main Street is signed as part of the Franklin County Bikeway Route.
- The posted speed limit on North Main Street is 35 miles per hour, but drivers appeared to be traveling faster than the speed limit.

**Route 116 and Route 47 Intersection**

- The lines and crosswalks at the intersection of Route 116 and 47 are faded and worn away.
- The curb-ramps and crossing locations on all four legs of the intersection are not ADA compliant and need upgraded pedestrian signals and curb-ramps.
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- The crosswalks at the intersection of Routes 47 and 116 are not highly visible.
- The curb-ramps are not in compliance with ADA requirements. There are not textured surface treatments at the curb-ramps, and the push buttons for the pedestrian signals are not within reach of the curb-ramp area.
- During the site visit cars were observed speeding through red lights to make it through the intersection.
- There are no bus shelters visible from intersection, but there is a bus stop located on South Main Street.
- The pedestrian crossing button on the northeast side of the intersection to cross Route 116 did not work.
- During the site visit farm vehicles were observed traveling through the intersection.
- The concrete sidewalk had grass growing up between the slabs and could pose a tripping hazard.

*South Main Street (Route 47 south)*
- The shoulders are narrow on South Main Street.
- The traffic speeds were observed to be fast.
- There are bus stop signs on both sides of the road and a bus pull-off area was visible on the west side of the road. There was not a bus shelter. The bus stop is approximately 1/10th of a mile from...
the intersection. There are no signs near the intersection or the park and ride lot informing people where to access the bus.

- The sidewalks south of the intersection of Routes 47 and 116 are asphalt and in poor condition. The sidewalks are approximately four feet wide.

*Amherst Road (Route 116 east)*

- The sidewalks at the intersection seemed to be in good shape structurally, but there were many weeds in the cracks which could be a tripping hazard.
- The sidewalk on south side of Amherst Road ends at the Sugarloaf Nursery. There is not a sidewalk headed south on Amherst Road (Route 116).
- There is a bus stop 2/10 of a mile from the intersection east of Garage Road. There is not a bus shelter.
- There are no signs near the main intersection informing the public where the bus stop is.
- The sidewalk on the north side of Amherst Road leading to Garage Road turns to asphalt, and is narrow and in poor condition.
- The shoulder on Route 116 is narrow (2 feet wide).

*Possible Solutions*

- Reconstruct and widen the sidewalk on School Street to provide a better space for walking.
- Improve the sidewalk, curb-ramps and cross-walk markings at the crossing of School Street at the North Main Street intersection to make the intersection more pedestrian friendly.
- Explore the option of adding curb extensions or bump outs across School Street at its intersection with North Main Street to shorten the crossing distance.
- Design gateways for the east and west approaches to the intersection of Route 47 and 116 on Route 116 to alert drivers of the village center.
- Repaint all crosswalks at the intersection of Routes 47 and 116 to be more visible by using a textured application, a different material or paint pattern such as the continental or ladder design.
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- Upgrade the pedestrian crossing signals at the intersection of Routes 47 and 116 to include more accessible activation buttons (within closer reach of the curb-ramps) and audible warning signals.
- Upgrade the pedestrian crossings and curb-ramps to be in compliance with ADA accessibility requirements, which will generally make the intersection more accessible to all pedestrians.
- Add Shared –Lane Markings (“Sharrows”) on Route 116 and Route 47 at the intersection to provide a better space for bicycles traveling through the intersection.
- Review the existing signs and determine if updated signs are needed which would call more attention to pedestrians and bicycles in the area.
- Complete a feasibility study for constructing a roundabout at the Route 116 and 47 intersection.
- Explore the feasibility of developing a bicycle and pedestrian link to the Elementary School property through the frontage that is on Route 116.
- Extend the sidewalk south on Route 116 on both sides of the road.
- Explore whether the curbs and curb-ramps at the intersection of Route 116 and 47 could be extended to provide more space for pedestrians waiting to cross the street, shorten the crossing distance and make the intersection more pedestrian friendly and slow the traffic.

**Next Steps**

- Work with the Sunderland Pathways Committee to prioritize the recommendations.
- Explore funding options for completing improvements at the intersection of Route 47 and 116 to better accommodate bicycles and pedestrians.
- Complete necessary MassDOT Project Need Form for recommended projects.

**Conclusion**

The recommendations of this report will be provided to the Towns where the assessment sites are located and the applicable MassDOT District offices in order to advance the improvement of these areas for all roadway users. The FRCOG will continue to work to evaluate and advocate for complete streets throughout Franklin County.

**Further Information on Complete Streets: A Tool Kit**

There is no singular design prescription for creating a complete street. Each street and/or intersection is unique, and requires an individualized review and recommendations. However, there are some possible solutions that provide a good starting point. The following are design options to consider that provide better access for specific users:

**Pedestrian Enhancements**

- Curb-ramps at crossing locations provide better accessibility.
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- High visibility painted crosswalks alert motorist to crossing areas. Continental or striped crossings improve yielding behavior.
- Curb extensions (also referred to as bump-outs) improve safety for pedestrians by offering a place to stand while waiting to cross the street and also shorten the crossing distance.
- Refuge islands increase pedestrian safety when crossing streets in some situations.
- Streetscape improvements including trees, benches and trash receptacles improve the environment for walking and encourage more people to walk.
- Special signs and pavement markings alert motorists of the presence of pedestrians.
- Painted areas provide a visibly enhanced location for pedestrians to wait to cross or walk.
- Signs at the entrances of community/downtown alert drivers to the presence of pedestrians.
- Tighter corner turning radii at intersections create compact intersections with slower turning speeds.
- Longer pedestrian signal phase timing improves access for pedestrians by allowing more time to cross the street.
- Narrower lane widths slow traffic and on-street parking can decrease the roadway width.
- Grass or landscaped buffer areas between the sidewalk and traffic makes the walking environment more pleasant.

**Bicycle accommodations**

- Bicycle lanes enable bicyclists to ride at their preferred speed without interference from traffic.
- Bike parking racks provide a place for people to leave their bicycles and encourage use.
- Consolidated driveways and other streetscape considerations better support bicycle traffic by reducing the number of conflicts.
- Signs make vehicle drivers more aware of the presence of bicycles.
- Bike boxes at signalized intersections position bicyclists in front of the traffic and help bikes to get through the intersection.

**Websites with additional information:**

http://www.smartgrowthamerica.org/complete-streets/implementation/factsheets/rural-areas-and-small-towns/


http://www.walkboston.org/sites/default/files/WBRuralWalking.TKit%20final.2.pdf

http://www.epa.gov/smartgrowth/sgia_communities.htm#id

http://www.epa.gov/smartgrowth/pdf/victordriggs.pdf#page=18

http://nacto.org/usdg/parklets/

http://nacto.org/usdg/intersection-design-elements/crosswalks-and-crossings/conventional-crosswalks/
http://nacto.org/usdg/intersection-design-elements/crosswalks-and-crossings/conventional-crosswalks/
Add pedestrian crossing sign to alert drivers of crosswalk at the bottom of hill

Repaint crosswalks & improve curb ramps

Town Recreation Area

Drainage Grate Hazard

Future study where to locate a crosswalk & create a waiting area

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.
Add sidewalk along Shelburne Falls Rd from center of town to Reeds Bridge Rd
Add "Slow Pedestrian" Sign
Curb Ramps
Drainage structure
Sidewalk

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.

Town of Erving
Complete Streets
City of Greenfield
Complete Streets

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.
Add sidewalk and crosswalks and provide walkway into & through parking area

Consider bus shelter with schedule information

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximations and are intended for planning purposes only, not to be used for survey.

City of Greenfield
Complete Streets
Add sidewalk where wide enough and re-stripe roadway to provide for shoulder.

Fix curb and repair sidewalk.

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.
Town of Orange
Complete Streets

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS, and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.
Sidewalk improvements
Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.

Town of Orange Complete Streets

Sidewalk improvements

Repair Pedestrian Lights at all 4 crosswalks

Butterfield Elementary School

Post Office

Area of Detail

Orange
Add sidewalk where wide enough and re-stripe roadway to provide for shoulder.

Orange Riverfront Park

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS, and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.
Sidewalk/crosswalk improvement & sharrow marking

Consider bumping curbs out

Sources: Map produced by the Franklin Regional Council of Governments Planning Department. GIS data sources include MassDOT, MassGIS and FRCOG. Depicted boundaries are approximate and are intended for planning purposes only, not to be used for survey.