COMPLETE STREETS NEEDS ASSESSMENT AND PRIORITIZATION PLAN

DRAFT

TOWN OF WILLIAMSTOWN, MA

September 2017

PREPARED BY:
Berkshire Regional Planning Commission (BRPC)
& the Town of Williamstown

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1. INTRODUCTION

The Town of Williamstown recognizes the need for a multimodal approach to transportation investments, as there is a growing awareness that street design is traditionally focused on automobile travel rather than providing safe accommodations for bicycles and pedestrians. As nonmotorized transportation for travel and recreation becomes increasingly popular, the need to accommodate cyclists and pedestrians in Williamstown is readily apparent.

Complete Streets are roadways designed to safely and comfortably accommodate all users, regardless of age, ability or mode of transportation. Users include motorists, cyclists, pedestrians, and all vehicle types, including school buses, emergency responders, and freight and delivery trucks among others. In addition to providing safety and access for all users, Complete Street design treatments take into account accommodations for disabled persons as required by the Americans with Disabilities Act (ADA). Design considerations for connectivity and access management are also taken into account with regards to nonmotorized users of the facility.

Enhancements to the multimodal network must be done in a balanced and context-sensitive approach that looks at a wide range of factors from safety to livability; and economic development to connectivity. All of these criteria must be considered when thinking about Complete Streets improvements that accommodate all users and all abilities. Complete Streets components include typical roadway design features such as traffic calming, bicycle lanes, sharrows, wayfinding, safe crossings, landscaping, sidewalks, and/or wide shoulders to accommodate nonmotorized travelers in more rural areas. However, not all streets need to include every Complete Streets element. Certain criteria generally dictate which design features are appropriate. In other words, the appropriate level of roadway completeness depends upon its context and function. Complete Streets can be planned as a retrofit to existing streets or incorporated into the design of new streets.

This report has three key expected outcomes. The first is to support Williamstown's Complete Streets Policy, adopted by the Board of Selectmen on July 15, 2016. The second is to evaluate existing conditions for nonmotorized users of the transportation system. The third is to recommend an implementation strategy for Complete Streets projects that follows a template designed by MassDOT to fulfill the requirements for a Complete Street Project Prioritization Plan.

The newest federal transportation legislation, the Fixing America's Surface Transportation (FAST) Act, supports the multimodal approach to transportation planning and programming, and encourages communities to consider all users of the system in designing a safe, and well-connected system. MassDOT's Complete Streets Funding Program has provided Williamstown with the opportunity to look at existing conditions, potential improvements, and implementation strategies that support Complete Streets in Williamstown.

MassDOT Complete Streets Funding Program

Technical assistance to the Town of Williamstown by BRPC was made possible through funding from MassDOT's Complete Streets program. The Complete Streets program was "authorized by the 2014 Transportation Bond Bill, [and] offers Massachusetts municipalities incentives to adopt policies and practices that provide safe and accessible options for all travel modes." Technical assistance funding of up to $50,000 was available to communities to "conduct a needs assessment, network gap analysis, and/or safety audit to determine a targeted investment strategy for Complete Streets infrastructure."[1]

[1] Mass. Dept. of Transportation (MassDOT). 2016. Complete Streets Flyer. Available from: http://www.massdot.state.ma.us/Portals/8/docs/CompleteStreets/flyer.pdf

To participate and maintain eligibility in the funding program, communities were required to proceed through three tiers of the program. At Tier 1, a Town employee was required to attend a Complete Streets 101 training session and the Town had to adopt a policy affirming the community's commitment to Complete Streets in all aspects of transportation design and construction. At Tier 2, communities were required to draft a prioritization plan that outlined at least 15 eligible projects programmed over a 5-year period. This needs assessment and prioritization plan prepared by BRPC and the Town of Williamstown Complete Streets Committee meets the requirements for the town's Tier 2 eligibility. At Tier 3, communities were required to submit projects to MassDOT for potential construction funding. Up to $400,000 is available in construction funding yearly through the Complete Streets program. However, this funding is distributed like a grant, with no guarantee of funding from year to year.

Eligible Roadways and Project Types

The MassDOT Complete Streets funding program provides potential funding for projects of four main project types including: traffic and safety; bicycle facilities; transit facilities; and pedestrian facilities. For a complete list of eligible project types, refer to MassDOT Complete Streets Program Guidance.[2] Additionally, only locally maintained roadways are eligible for potential funding, state highways and roads maintained by other entities are not. However, this assessment examines complete streets needs on all roadways within the Town of Williamstown, regardless of jurisdiction, in an effort to ensure maximum connectivity throughout the transportation network. While some projects identified may not be eligible for funding, this needs assessment will become a tool to advocate for future changes to state roadways.

Table 1.1 Eligible Complete Streets Infrastructure

If a project or element does not appear in this list it may still be eligible for funding. The applicant should provide justification for the decision based upon the classification of comparable projects.			
S - Traffic & Safety	**B - Bicycle Facilities**	**P - Pedestrian Facilities**	**T - Transit Facilities**
S1. Pavement markings or signage that provides a new separate accommodation for bicycle, pedestrian, or transit modes	**B1**. Improvement of shared use paths (non-safety related)	**P1**. Sidewalk repairs (tree roots, uplifted panels, etc.)	**T1**. Improving transit connections for pedestrians, including: ramps, providing and/or moving crosswalks, signing
S2. Removal of protruding objects (pedestrian path of travel, bicycle, vehicular or transit facility)	**B2**. Designated bicycle lanes	**P2**. Providing ADA/AAB compliant curb ramps	**T2**. Improving transit connections for bicyclists, including: providing secure bicycle parking, signing
S3. Pedestrian signal & timing (minor updates)	**B3**. Bicycle parking fixtures and/or shelters at transit and other locations	**P3**. Detectable warning surfaces	**T3**. Transit shelter
S4. Changing pedestrian signal timing (i.e., lead pedestrian interval)	**B4**. On-street bicycle parking	**P4**. Pedestrian wayfinding signs	**T4**. Transit signal prioritization
S5. Radar speed feedback ("Your Speed") signs	**B5**. Provide bicycle-safe drain grates and other hardware	**P5**. Providing new sidewalks	**T5**. Bus pull-out areas

[2] Available from: http://www.massdot.state.ma.us/highway/DoingBusinessWithUs/LocalAidPrograms/CompleteStreets/FundingProgram.aspx

S6. Reducing corner radii to lower vehicle speeds and/or decrease pedestrian crossing distances	**B6**. Bicycle boulevards	**P6**. Providing pedestrian buffer zones	**T6**. Railroad grade crossings improvements (signs, flange way fill, etc.)
S7. Additional regulatory signing (for existing regulations)	**B7**. Bicycle wayfinding signs	**P7**. Pedestrian Refuge Islands	**T7**. Transit contra-flow lanes
S8. Speed humps/speed tables	**B8**. Shared lane markings (sharrows)	**P8**. Curb extensions at pedestrian crossings	**T8**. Park-n-ride facilities
S9. Street lighting	**B9**. Bike route signs	**P9**. Crosswalks	**T9**. Transit-only lanes
S10. Road diets	**B10**. New shared use paths	**P10**. Widening existing sidewalks	**TO**. Transit Facilities - Other
S11. Speed attenuation devices	**B11**. Designated Separated Bicycle Lane	**P11**. Accessible pedestrian signals	
S12. Roadway resurfacing or micro surfacing if restriping for new bicycle lanes	**B12**. Elimination of hazardous conditions on shared use paths	**P12**. New or improved crossing treatments at intersections, midblock, etc. including RRFB's and HAWK signals	
S13. Intersection reconstruction – reducing complexity and crossing distance	**B13**. Intersection treatments (bicycle signals, bicycle detection, bike lane extensions, turn boxes)	**P13**. New pedestrian accommodations at existing traffic signals	
S14. New curbing or edging on uncurbed streets.	**BO**. Bicycle Facilities - Other	**P14**. Interim public plazas	
S15. Addition of or widening of shoulders		**P15**. Traffic re-routing to create pedestrian zones	
S16. Intersection signalization (major updates/upgrades & new Installation)		**P16**. Providing medians with ADA/AAB-compliant design	
S17. Traffic calming measures		**PO**. Pedestrian Facilities - Other	

Economic Benefits of Complete Streets

Complete streets improvements and aspects of nonmotorized transportation have shown some impressive economic benefits to communities and regions. A 2012 report from Vermont estimated that biking and pedestrian related activities were associated with over $53 million in direct economic impact and helped support over 1,000 jobs[3]. Implementing Complete Streets policies can stimulate private investment, especially in retail districts.[4] Other communities have seen direct increases in retail sales following complete streets investments.[5] Studies have shown increases in property values following the addition of bike lanes along streets, as well as higher values in walkable neighborhoods in general.[6] Other research has found that every dollar spent on bike infrastructure returns between four and five dollars in benefits. New York City found that construction of bicycle infrastructure resulted in fewer vacancies along those streets. Finally,

[3] https://headwaterseconomics.org/trail/84-bicycling-walking-vermont/
[4] https://smartgrowthamerica.org/resources/economic-revitalization-benefits-of-complete-streets

[5] https://smartgrowthamerica.org/complete-streets-pay-off/
[6] http://vibrantneo.org/wp-content/uploads/2014/03/VibrantNEO_EconomicBenefitsofCompleteStreets.pdf

investments in nonmotorized transportation simply put more money into residents' pockets. When residents are able to use cheaper transportation options, like biking and walking, they are free to use money that would otherwise go to fuel or vehicle maintenance in other ways.

Public Health and Safety Benefits

Complete Streets are intended to provide safe access for all roadway users, including motor vehicles, bicyclists, and pedestrians; creating infrastructure that respects all users, improves access and safety for all. An evaluation of Complete Streets in Victoria, British Columbia, reported that reversing the planning priorities from a primary focus on automobile traffic to a focus on pedestrian and bicycle users, resulted in improved public fitness and health. [7] The interventions implemented to improve pedestrian safety included road diets that reduced the number of lanes, increased bicycle and pedestrian facilities, reduced speeds, and compact development types that improved pedestrian access.

In 2015, Smart Growth America (SGA) surveyed 37 different states, regions, and counties in the U. S. that have participated in Complete Street projects. Among those surveyed, 70% of the projects reported a reduction in collisions, and approximately 56% of these projects also reported a reduction in injuries resulting from collisions. These projects also reported an increase in pedestrian and bicycle traffic, with no change in motor vehicle traffic. Rates of collision and injury decreased despite the increase in pedestrian use, suggesting that the projects improved pedestrian safety. [8]

It is well established that physical activity promotes longevity, decreases risk of chronic conditions, and improves mental health and well-being, while relieving stress.[9,10] Access to an active living system can improve a community's health through promoting physical activity and recreational activity while reducing poor health outcomes. An active living system that is used for commuting can help to reduce cardiovascular risk by 11%, increase daily steps, and increase time spent walking.[11] Researchers have correlated communities that report higher rates of walking and cycling to work with more daily physical activity and lower rates of obesity and diabetes.[12] Cycling and walking have been recognized as an important means to promote health since they are the most common forms physical activity as well as active transport. An increase of one-hundred minutes of cycling per week, reduces the mortality risk by 10% when compared to non-cyclists. An increase of one-hundred and sixty-eight minutes of walking per week, reduces the risk of early mortality by approximately 11%.[13]

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[7] Litman, T. (2010). *Evaluating public transportation health benefits*. Retrieved from http://www.vtpi.org/tran_health.pdf

[8] Anderson, G., Searfoss, L., Cox, A., Schilling, E., Seskin, S., & Zimmerman, C. (2015). Safer streets, stronger economies: Complete streets project outcomes from across the United States. *Institute of Transportation Engineers, 85* (6), 29-36.

[9] Centers for Disease Control and Prevention. (2015b) *Physical activity and health*. Retrieved from http://www.cdc.gov/physicalactivity/basics/pa-health/index.htm

[10] American Heart Association. (2015). *Physical activity improves quality of life.* Retrieved February 11, 2016, from http://www.heart.org/HEARTORG/HealthyLiving/PhysicalActivity/%20StartWalking/Physical-activity-improves-quality-of-life_UCM_307977_Article.jsp#.WHZ9qf4zXVl

[11] American Public Health Association. (2010). *Active transportation: Benefitting health, safety and equity.* Retrieved February 8, 2016, from http://www.apha.org/~/media/files/pdf/topics/transport/apha_active_transportation_fact_sheet_2010.ashx

[12] Pucher, J., Buehler, R., Bassett, D. R., & Dannenberg, A. L. (2010). Walking and cycling to health: A comparative analysis of city, state, and international data. *American Journal of Public Health, 100*(10), 1986-1992.

[13] Schepers, P., Fishman, E., Beelen, R., Heinen, E., Wijnen, W., & Parking, J. (2015). The mortality impact of bicycle paths and lanes related to physical activity, air pollution exposure and road safety. *Journal of Transport & Health*, 2 (4), 460–473.

Background

The Town of Williamstown developed this report with the support of their Complete Streets Committee, and technical assistance provided by the Berkshire Regional Planning Commission.

The Town of Williamstown's Complete Streets working group was established in 2016, after the town adopted their Complete Streets Policy. Participants in the working group have included:

- Jason Hoch, Town Manager
- Tim Kaiser, Public Works Director
- Andrew Groff, Director of Community Development

Complete Streets have many benefits including safety, multimodal transportation options, economic development, environmental benefits, public health, and accessibility. The Complete Streets working group discussed these benefits and how completing the streets in Williamstown can better the community as a whole, for residents and visitors alike.

2. PLANNING FRAMEWORK

Implementing Williamstown's Complete Streets Policy will have various benefits that are experienced by many different stakeholders. With full-scale implementation of Complete Streets elements, the community can see benefits in safety, increased transportation options, support for the Town's economic vitality, environmental benefits, public health impacts, and accessibility for persons with disabilities.

Vision and Intent

As it states in the Town of Williamstown's Complete Streets Policy:

> *The purpose of the Town of Williamstown's Complete Streets Policy is to accommodate a wide range of road users by creating a road network that meets the needs of individuals utilizing a variety of transportation modes. The policy will be applied as a guide in decision-making in related infrastructure planning and construction. The Town recognizes the health, safety, economic viability, and numerous other benefits that can be achieved through application of Complete Streets principles. In order to advance its efforts to provide safety and accessibility for all the users of our public rights of way, including pedestrians, bicyclists, BRTA and Intercity transit riders, motorists, commercial vehicles, and emergency vehicles and for people of all ages and of all abilities the Town shall utilize Complete Streets design principles to the maximum extent practicable in decisions regarding its public rights of way.*

Goals and Objectives

The goals and objectives of this Complete Streets Project Prioritization plan, guided by the Williamstown Complete Streets Committee, were developed to provide safety, comfort, mobility, and accessibility for all users of the street network, including pedestrians, cyclists, other nonmotorists, transit riders, motorists, commercial vehicles, and emergency vehicles.

- **Economic Vitality** | Enhance urban area and village center so it is walkable, bikeable, and can be used by all modes.
- **Usability** | Ensure active mode improvements are user friendly and encourage people to walk and bike in low-stress, safe environments.
- **Access to Public/Civic Facilities** | Promote connectivity to public facilities, such as town buildings, libraries, parks, and recreation areas.
- **Community Character** | Develop a multimodal transportation system that is sensitive to the aesthetics and character of Williamstown, while creating a livable community for all.
- **Public Safety and Traffic Calming** | Promote safety and traffic calming measures in Williamstown to encourage access for all modes, reduce speeds in activity hubs, and promote attractive streetscapes.
- **Connectivity** | Provide transportation choices by improving system connectivity within and between modes.

- **Aging in Place/Age Friendly** | Promote connectivity to senior housing and other affordable housing, Council on Aging facilities, and other areas as identified.

Performance Measures

Mode Share

The Town of Williamstown currently sees a commute mode-share dominated by automobile travel (62% of commuters). However, unlike many other communities in the Berkshires, Williamstown has a high proportion of workers that walk to work (nearly 30%). The mode-share is described in **Table 2.1**. The Town would like to see modest increases in all modes other than automobile.

Table 2.1 Williamstown Mode-Share for Commuters

Mode	Percent of Commuters
Car	61.6%
Transit	0.9%
Bicycle	0.3%
Walk	28.8%
Taxi, Other (motorcycle, etc.)	1.3%
Work from Home	7.1%

Source: 2011-2015 American Community Survey

During the development of their planning framework, the Williamstown Complete Streets Committee developed system-wide performance measures for each of their eight goals. The performance measures, listed by goal area, are shown in **Table 2.2**.

Table 2.2 Annual System Performance Measures

Goal	Performance Measure	Data Source
Economic Vitality	Annual number of improvements in Census Urban Area.	Williamstown Public Works
Usability	Number of, or linear feet of roadway(s) with dedicated pedestrian and cycling facilities or improvements.	Williamstown Public Works
Access to Public / Civic Facilities	Number of projects connecting to or adjacent to public facilities.	Williamstown Public Works
Community Character	Number of residents within 1/4 mile of a dedicated active mode facility.	Mass GIS
Public Safety and Traffic Calming	Annual number of citations for speeding.	Williamstown Police Dept.
Connectivity	Share of non-automobile commuters (ACS).	U. S. Census ACS
Aging in Place / Age Friendly	Number of projects connecting to or adjacent to senior housing, Council on Aging facilities, and other selected locations.	Williamstown Public Works

Related Plans and Initiatives

The Town of Williamstown worked with the Berkshire Regional Planning Commission (BRPC) in 2017 to develop this Complete Streets Prioritization Plan, which examines needs for Complete Streets in the town and maps out potential projects for implementation. Other existing plans were consulted as well, as referenced below.

Williamstown Master Plan

The Williamstown Master Plan was created in 2002. Major findings and recommendations of the plan include:

- Functional pedestrian link between Spring and Water Streets be developed
- Existing public open spaces in town (Field Park, the Village Green, school grounds) do not invite gathering and lingering, and are hard to travel to and between by foot or bike.
- A plan be developed to create and foster the use of bike paths for recreation transportation within the town
    - Local roads should be considered as bicycle routes
    - Erect "share the road" signs along key bike routes
    - Provide bicycle racks at key locations
    - Provide adequate paved shoulder or bicycle lands along Routes 2, 43, and 7
- Water Street be developed to give access to the Green River with walking paths, picnic areas and boat launches. Linear Park be extended and foot bridges built to give access to the east side of the river
- Non-vehicular modes of transportation be encouraged and accommodated, including bike paths and bike racks
- Using as a basis the work already completed ("Town Center: From Chapin Hall Drive to Spring Street" and "Main Street – Williamstown Downtown Assessment"), create an active and vital village center - determine what we want our village center to be in terms of products and services offered as well as public gathering places. This should include an inventory and preservation plan for the Village Green (Main Street from Green River to Field Park) with an eye toward reduction in signage, putting overhead wires underground, removing wooden poles and converting lighting to some non-interstate highway style fixtures

Short Term Projects

Field Park

Under this plan, the existing one-way operation is maintained at the rotary. An island is recommended on the Route 2 westbound and the Route 7 southbound approaches to enforce the one- way traffic flow. Additional design improvements are also recommended at the rotary to further facilitate turning movement by large vehicles. In addition, yield signs are recommended on the Route 7 approach from the north and the Route 2/7 approach from the south to guide safe approaches at the rotary.

Cole Avenue Intersection

Traffic signal operations at this intersection were noted as problematic because the left-turn phasing on the Route 2 eastbound approach follows the through movement (lag phase), so motorists are at times trapped in the middle of intersection. To address this safety concern, it is recommended that a lead left-turn phase be provided to first clear the left-turn vehicles through the intersection.

Raised Pedestrian Crosswalks

There are eight pedestrian crossings on Route 2 between Water Street and Field Park. Because these crossings are used by many Williams College students, it is recommended that two raised pedestrian crosswalks be constructed on Route 2 - one approximately 200 feet east of Field Park and the other approximately 200 feet west of Water Street. Consideration should be given to using a different pavement texture at these crosswalks. Special paving identifies the crosswalk as a place where pedestrians and vehicles meet. Raised pavements alert pedestrians and motorists to use caution as they enter these marked areas. Special pavement treatments, however, should not present safety hazards to wheelchairs, pedestrians, bicycles, or motorcycles. The raised crosswalks will reduce vehicle speed, improve pedestrian visibility and emphasize pedestrian priority, and reduce pedestrian-vehicle accidents.

Long Term Projects

Field Park

The Route 2/Route 7 link from the south would be realigned to the north to become a two-way road. The west Main Street approach would be realigned to meet the newly constructed road at a right angle. The Route 2 westbound approach would shift to the north, to create a four-way intersection operating under a traffic control signal (as supported by a signal warrant analysis). Curb extensions (neck downs) could be considered at the intersection to enhance pedestrian safety. Crosswalks, handicap ramps, and pedestrian signals are also recommended at this intersection. The existing roadway link south of the rotary would be eliminated and become part of the open space at Field Park. Access to the Milne Library would be via a newly constructed driveway on South Street.

Realign Adams Road and Install Signal at Intersection with Route 2

Adams Road (west end) currently intersects Route 2 at a skewed angle. Recommended safety and operational improvements at this intersection include realigning the Adams Road approach to provide turning lanes, and installing an actuated traffic control signal when warranted.

Install Signal at Water Street/Route 2 Intersection

Traffic analysis of this intersection indicates that motorists exiting Water Street often experience very long delays due to a continuous flow of traffic on Route 2. To improve flow and safety at this intersection, an actuated traffic control signal should be considered. The operation of this signal should be coordinated with the traffic signal at the Cole Avenue intersection. Along with traffic signalization, the following measures are also recommended:

- Curb and sidewalk extensions to reduce the crossing distance for pedestrians
- Strengthen the intersection corners with landscaping and street furniture - trees, planters, benches, and lighting fixtures
- Install textured crosswalks on all approaches
- Improve handicap accessibility.

Route 2 Access Management Plan

Known as an Access Management Action Plan, this strategy is one well suited for this segment of Route 2 corridor to ease congestion and improve safety within this commercial district. Vanasse Hangen Brustlin (VHB) has reviewed the Berkshire Access Management Guidelines published by the Berkshire Regional Planning Commission in April 2002 and endorses its incorporation into the Williamstown Master Plan. Access management strategies recommended in the Guidelines for Route 2 between the North Adams line and Wally Bridge in Williamstown include:

- Increasing crosswalk visibility with new signs, improved markings and in-pavement reflectors
- Considering locations for new crosswalks and "neck-down" techniques
- Adding safety warning signs

• Consolidating business-access driveways
• Adding new trees as a traffic calming measure and to create a more attractive "gateway" to Williamstown
• Constructing a new sidewalk on Adams Road to provide safe access to the bus stop.

Strategies for Economic Growth 2015

The plan makes one mention of complete streets related projects in connection with economic grown. The plan calls for the town to "encourage the expansion of bike trails in the Northern Berkshire region to include Williamstown."

Williams College Bicycle and Pedestrian Master Plan (Draft)

The Williams College Draft Bicycle and Pedestrian Master Plan was prepared by Alta Planning & Design in the Summer of 2014.[14] The plan addresses Williams College's desire to improve the infrastructure and landscape on campus and promote more environmentally sustainable transportation on campus, within Williamstown, and nearby destinations. The overarching goal is to promote and support non-vehicular commuting and circulation, develop opportunities for engagement with the natural environment, promote healthy activities, and improve safety for cyclists and pedestrians.

Section 1 - Existing Conditions

This section gives an overview of for bicyclists and pedestrians, trail conditions, student circulation, bicycle parking, and various programs offered by Williams College. The college has made strides towards becoming and bicycle/pedestrian friendly campus with wide paths between residential and academic buildings and numerous crosswalks. Bike/Pedestrian activity on campus is high, particularly on days with good weather.

The plan identifies opportunities and constraints and offers a plan to make circulation more efficient and desirable. Some of the chief constraints include lack of bicycle facilities on Route 2 for east/west travel and difficulty in crossing for north/south bound pedestrians, especially at night due to poor lighting. The steep terrain on the Williams campus impedes both cyclists and walkers and makes ADA compliance difficult. Narrow streets create a variety of bottlenecks around campus for cyclists and walkers.

Williams offers event throughout the year to promote cycling, including Bike to Work Day and National Walk to Lunch Day. There is a wellness program that promotes cycling and walking, a student run bike rental program, and two bicycle repair stations for community use.

Williams has completed a Bicycle Friendly University Self-Assessment. Their current Score Card ranks them at 4.5 out of 10; acknowledging their need for improvement as discussed in this plan.

Section 2 - Campus Circulation

This section offers several recommendations on route improvements; describing various North-South and East-West routes with improvements including installation of shared use paths, counterflow bike lanes, sidewalk improvements, lane widening, trails, lane markings, and crosswalks. This section also makes recommendations for a campus wayfinding system, campus events relating to bike/ped use and safety, bicycle registration, and bicycle rentals.

[14] Williams College Draft Bicycle and Pedestrian Master Plan, Alta Planning & Design, 722 Cambridge Street, Boston, MA 02141.

Route Improvement Summaries

Route 1 (North-South)
This route is a combination of existing paths and driveways that connects Mission Park to the Unified Science Center as it passes Williams and Sage Halls, the Paresky Student Center, and Morgan Hall. The following recommendations are proposed:

Install a counterflow bike lane and shared lane on Chapin Hall Drive, between Mission Park Drive and the Pareksy Student Center; possibly extending along Chapin Hall Drive to Route 2.

Widen the pathway between the Pareksy Student Center and Route 2 to 12'.

Install a crosswalk across Chapin Hall Drive at Route 2 and a new curb ramp at the sidewalk leading to the Paresky Center.

Install shared the road signage on Lab Campus Drive.

Route 2 (East-West)
The path between the Gladden resident hall area, the Paresky Student Center, the new proposed green, and the Library is heavily traveled. The Recommendations to improve this route include:

Install a shared use path and yield to pedestrian signs along the existing walkway to bypass the existing stairways.

Provide a 12' wide path between the Paresky Student Center and the Library along the south side of the proposed green. Grades should be no more than 5% to be ADA compliant.

Route 3 (North South)
This North-South Route extends most of the length of campus, connecting the proposed Williamstown-North Adams trail and athletic fields to the North and Spring Street to the South. Bicycle and pedestrian accommodations across the bridge will facilitate a connection to Pine Cobble. Recommendations include:

Install shared lane markings on Stetson Road between the athletic fields and Mission Park Drive. Improve traffic calming, or construct a shared use path along the west side of Stetson Road from the athletic fields to Mission Park Drive.

Install crosswalk across Lynde Lane at Stetson Road.

Install shared use path along Stetson Road and crosswalks to connect to Library Drive.

Install a counterflow bike lane, shared lanes, and new crosswalks on Spring Street.

Route 4 (East-West)
Route 2 is a primary east-west route for vehicles, pedestrians, and cyclists through the campus and is the highest traffic east-west route. Cyclists often use the sidewalks to avoid riding on Route 2. Recommendations along the corridor include:

Widen the northern sidewalk to 10', consistent with sidewalks located in front of the Thompson Memorial Chapel.

Work with Williamstown to install 10' travel lanes and 5' bike lanes in either direction on Route 2 when the roadway is resurfaced. Use green lanes at cross streets.

Plant additional trees along Route 2 and the sidewalk paths on either side.

Route 5 (North South)
This North-South route extends from Route 2 to Latham Street. The trail to the south will facilitate a connection to the natural surface trails at Stone Hill, which also connect to the trails at Bee Hill in Taconic Trail State Park. Proposed improvements include:

Widen the primary pathway to 12' to accommodate multiple uses.

Reconfigure the shared use path behind Driscoll Dining Hall to provide a grade of 5% or less for ADA compliance.

Provide green shared lanes through the parking lots for the Chapman Rink and Towne Field House or reconfigure with angled parking to allow space for a shared use path.

Construct a natural surface trail along the creek between Latham Street and the Golf Course.

Route 6 (East-West)
This East-West route connects the western resident halls and support buildings, in front of the Unified Science Center, to the Lasell Gym and Chapman Rink. Recommendations include:

Install shared lane markings and signage on Chapin Court. Grade and repave the path between the street and the parking area for ADA and bicycle access.

Install shared lane markings on Stetson Court between Chapin Court and the parking lot to the south. Install a midblock crosswalk across Stetson Court at Chapin Court.

Construct a shared use path between Stetson Street and Hoxsey Street, following the path currently in use by students and staff.

Install a path that bypasses the existing stairway that leads to the Unified Science Center and/or install a Dutch rail to facilitate carrying a bicycle up and down the stairway.

Install a short path segment to the south of the stairs that are located south of the Morgan Hall, leading to Spring Street.

Route 8 (East-West)[15]
This route follows Walden Street from Spring Street to Hoxsey Street, and then connects to the Health Center and Agard House. To facilitate this route, the following recommendations are proposed:

Install a counterflow bike lane eastbound and shared lane westbound on Walden Street.

Install a crosswalk and curb ramps along Walden Street across Morley Drive.

Install share the road signage on the driveway to the north of the Health Center connecting to Agard House.

Section 3 - Bicycle Parking and Storage
Section 3 makes key recommendations to move existing bicycle racks to better locations, replace them with more efficient racks, provide cover where possible, and supply additional indoor storage. An increase of the current number of bike racks from approximately 500 to approximately 1,500 and increasing the number of repair stations is recommended.

[15] There is no Route 7 in the draft plan.

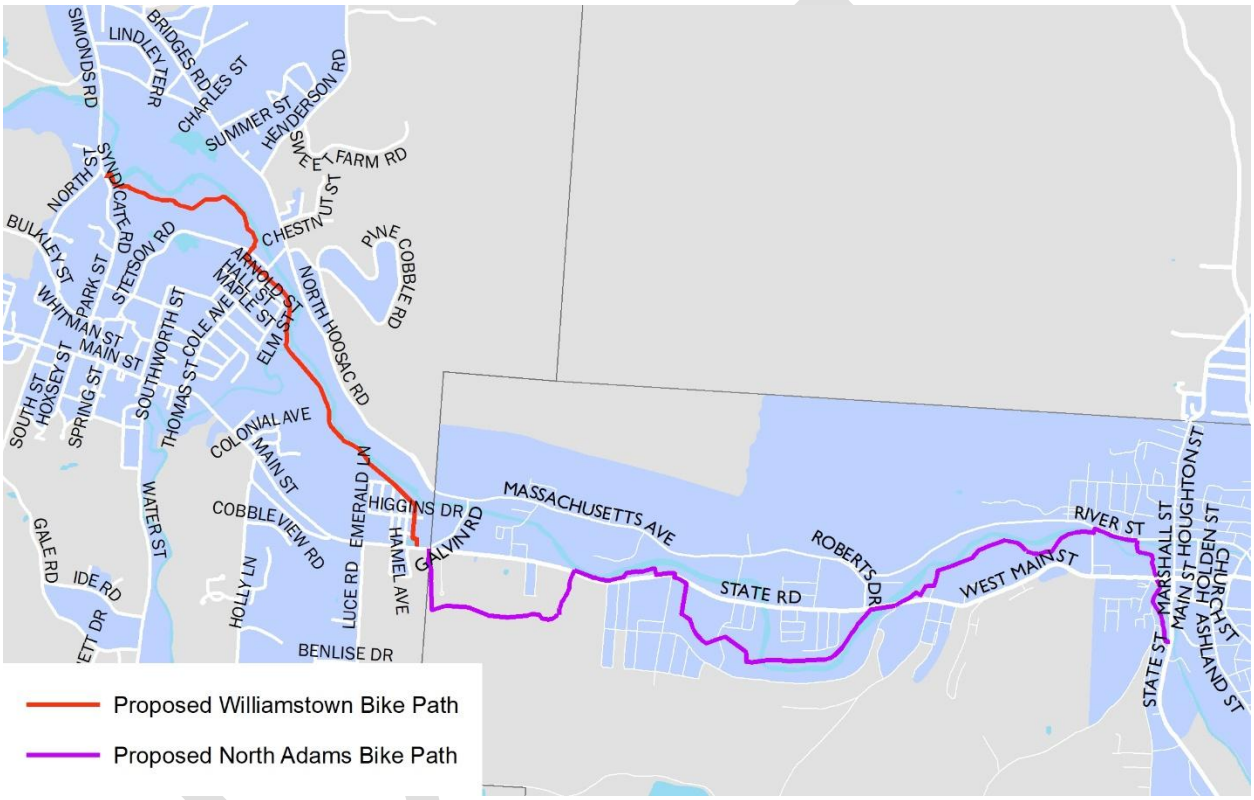
Section 4 - Design Guidelines

The final portion of the plan offers detailed, but not Williams College site specific, design guidelines for bicycle and pedestrian improvements, including those discussed in the Campus Circulation section above.

Mohawk Bike/Pedestrian Trail

The Mohawk Bike / Ped. Trail is a proposed off-road shared-use path that would travel between Syndicate and Galvin Roads in Williamstown. The proposed trail is roughly two miles in length. The project is currently scheduled for $4.9 million in federal funding through the regional TIP in FY2019. The trail is envisioned as the first segment in a future shared-use path between Williamstown and North Adams that will eventually connect with the Ashuwillticook Rail Trail in Adams.

Figure 2.3 Proposed Mohawk Bike / Ped. Trail and Future North Adams Shared-use Path



Planned Road Maintenance

Table 2.3 is a summary of planned roadway maintenance provided by the Williamstown Dept. of Public Works.

Table 2.3 Five Year Road Maintenance Plan

Five Year Road Maintenance Plan		
2017		
Location	Project	Cost
Ide Road	Mill, tack, and overlay	$103,606
West Main Street (from Cold Spring Bridge to Northwest Hill intersection	Mill, tack, and overlay	$116,527
Bridges and Sand Springs Road (from Route 7 to intersection with North Hoosac)	Mill, tack, and overlay	$182,532

Birch Lane	Shimmed and overlay	$9,490
Sidewalks on Hall Street		
Sidewalk on Church Street		
2018		
Thornliebank Road	Mill, tack, and overlay	$91,691
Thornliebank Circle	Mill, tack, and overlay	$20,968
Buxton Hill Road	Mill, tack, and overlay	$60,399
Upper Luce Road (from peak of hill to North Adams line)	Full depth reclamation	$222,318
Sidewalk on Maple Street		
2019		
South Street	Engineering for drainage system analysis and upgrade; full depth reclamation	TBD
Moorland Street	Mill, tack, and overlay	$39,796
School Street	Mill, tack, and overlay	$43,213
Longview Terrace	Mill, tack, and overlay	$123,046
2020		
Cole Avenue	Mill, tack, and overlay	$270,225
Park Street (Main Street to Whitman)	Mill, tack, and overlay	$58,622
Candlewood Drive and Holly Lane	Mill, tack, and overlay	$90,825
2021		
Spring Street	Mill, tack, and overlay	$101,872
Elm Street	Mill and overlay	$43,695
Hall Street	Mill and overlay	$36,977
Linden Street	Mill and overlay	$39,220
Maple Street	Mill and overlay	$38,392
2022		
Stratton and Luce Road	Cold in place recycling CIPR	$466,060
DPW Road	Chip seal	TBD
Woodcock Road	Crack seal, shim, and chip seal	TBD
Sweetbrook Road	Crack seal, shim, and chip seal	TBD
Oblong Road	Crack seal, shim, and chip seal	TBD
Torrey Woods Road	Crack seal, shim, and chip seal	TBD

Walk Audit Summaries

In recent years, town residents have completed walk audits in various parts of town using online resources to score and rate walkability. Residents utilized the Shape Your World survey and the AARP Walk Audit Toolkit. The results of the audits can be seen here.

1. **Southworth Street/Spring Street (Neighborhood Design Score – 8)**

- Connectivity
    - Well-connected sidewalks
    - Clear of obstacles
    - Grid pattern
    - Public transit available
- Proximity and access to amenities
    - Sufficient population to support businesses and services
    - Mix of homes and businesses
    - Different styles of housing

- Aesthetics
    - Route is attractive and pleasant
    - Landscaping attractive
    - Benches and places to rest along route
    - Points of interest along route
- Safety
    - Pedestrian crossings well marked
    - Sufficient number of crossings
    - Sidewalks separated from road by tree lawns
    - "Eyes on the street" – people about and houses facing the street

2. Waterman Place (Neighborhood Design Score – 8)

- Connectivity
    - Well connected sidewalks
    - Good repair
    - Wide sidewalks
    - Clear of obstacles
    - Grid pattern
    - Easily navigated by wheelchairs or strollers
    - Public transit available
- Proximity and access to amenities
    - Close to shopping, services, schools, parks and playgrounds, recreation facilities, and workplaces
    - Different styles of housing
- Aesthetics
    - Route is attractive and pleasant
    - Landscaping attractive
    - Benches and places to rest along route
    - Points of interest along route
- Safety
    - Pedestrian crossings well marked
    - Sufficient number of crossings
    - Street signs visible
    - Sidewalks separated from road by tree lawns
    - Well-lit at night
    - "Eyes on the street" – people about and houses facing the street

3. Water Street (Route 2 – Meacham Street) (Neighborhood Design Score – 6)

- Connectivity
    - Sidewalk on NE side in rough shape, especially over Green River; improves south of this area
- Proximity and access to amenities
    - Close to shopping, services, schools, and recreation facilities
    - Mix of homes and businesses
    - Different styles of housing
- Aesthetics
    - Points of interest along route
- Safety
    - Street signs visible

4. **Water Street (Route 2 – Meacham Street) (Overall Rating – Fair)**

- Crossing Streets and Intersections
    - No pedestrian signal at crossing
    - Needs traffic signal
    - Crosswalk poorly marked
- Sidewalks
    - Sidewalks not continuous
    - Sidewalk broken or cracked
    - No buffer between traffic and sidewalk
    - No ramps or curb cuts (northern end of Water St.)
    - Sidewalk blocked by low hanging trees
- Driver behavior
    - Speeding
- Safety
    - Cars speeding
    - Too much traffic
    - Crosswalks needed at Latham, Linear Park, and near Cable Mills
- Comfort and Appeal
    - Need shade trees
    - Need grass and landscaping
    - Need benches and places to rest
    - Some run-down buildings

5. **Cole Avenue (Loop route Cole/Route 2/Southworth/Church St.) (Overall Rating – n/a)**

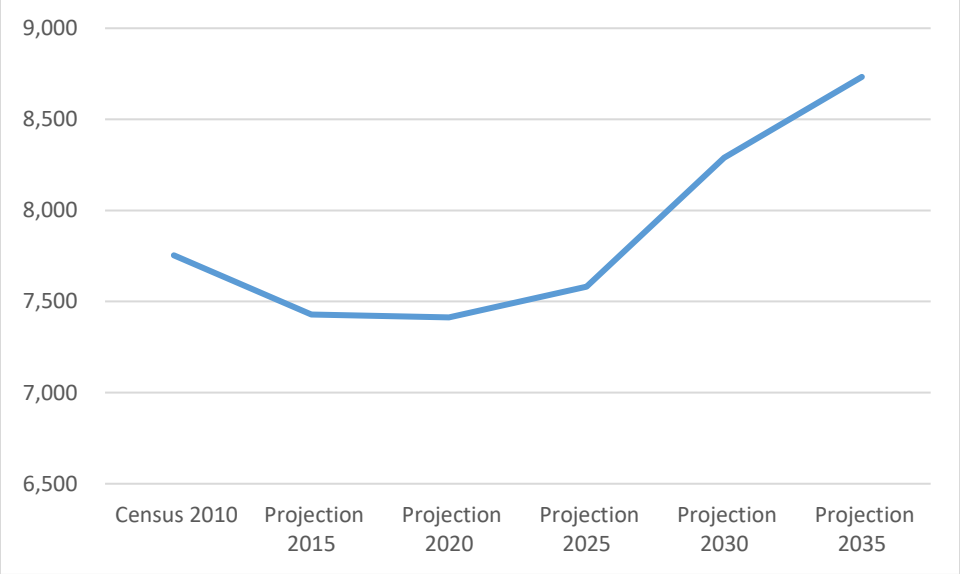
- Crossing Streets and Intersections
    - Pedestrian signal (Cole at Route 2) doesn't give slow walkers enough time to cross
- Sidewalks (Church Street between Southworth and Cole)
    - Sidewalk broken or cracked with large holes
    - No buffer between traffic and sidewalk
    - Sidewalks interrupted by driveways
    - Ramps or curb cuts are misplaced
    - Curb cuts aren't textured or marked (Manning St. intersection)
    - Sidewalk blocked by poles by church St. Apartments
    - Respondent provided extensive and detailed notes on sidewalks
- Driver behavior
    - No responses
- Safety
    - No responses
- Comfort and Appeal
    - No responses

3. EXISTING CONDITIONS

Sociodemographic Profile

The Town of Williamstown is a mid-size town of 7,605 residents, which has seen population loss since 2000. From the US. Census estimate of population in 2010 (7,754), the UMass Donahue Institute predicts that the population of the town will reverse the trend and grow to 8,733 residents by the year 2035, an increase of 12.6% (see **Figure 3.1**). This is in contract to most of Berkshire County, which has been declining in population since the 1970s; and all but a few municipalities, which are predicted to decline in population over the next few decades.

Figure 3.1. Population Projection



According to recent data, over 32% of the population is over the age of 55, and by 2025 it is expected that approximately 35% of the population will be over the age of 55. As aging in place becomes more popular among seniors, the composition of the population is important to consider when addressing things like wayfinding, walkability, and roadway safety. Additionally, as a rural community with a small village center, Complete Streets improvements could be seen as a form of public health infrastructure, enabling active transportation for older residents and creating a connected network of town parks and recreation areas.

Climate

There are about 185 sunny days per year and about 90 precipitation days per year,[16] the latter of which may make travelling by bicycle or foot difficult at times throughout the year. Berkshire County receives snowfall throughout the winter months, and is at a higher elevation than most of Massachusetts. That said, the summer months aren't as hot on average as the rest of the state, and many are great days to travel using active modes.

[16] http://www.bestplaces.net/climate/city/massachusetts/williamstown

Topography

Williamstown owes much of its character to the natural landscape it inhabits. The hills to its west, east and north and the Hoosic River in the north protect the town from the world outside its borders. Settlement is mostly clustered in the valley and along the Hoosic River.

The primary slopes of Williamstown occur in north-south patterns corresponding to the mountain ranges which border the town. Slopes of 15 percent and greater account for almost 58% percent of the land area. The descent from mountain peaks to the river is as much as 2700 feet and mostly occurs over a horizontal distance of around 4.5 miles. The rate of descent begins fast but decreases towards the valley bottom - as is reflected by steeper slopes concentrated around the higher elevations on the western portion of the town. Since mountain ranges border the town, many scenic hillsides extend outside the periphery of the town.

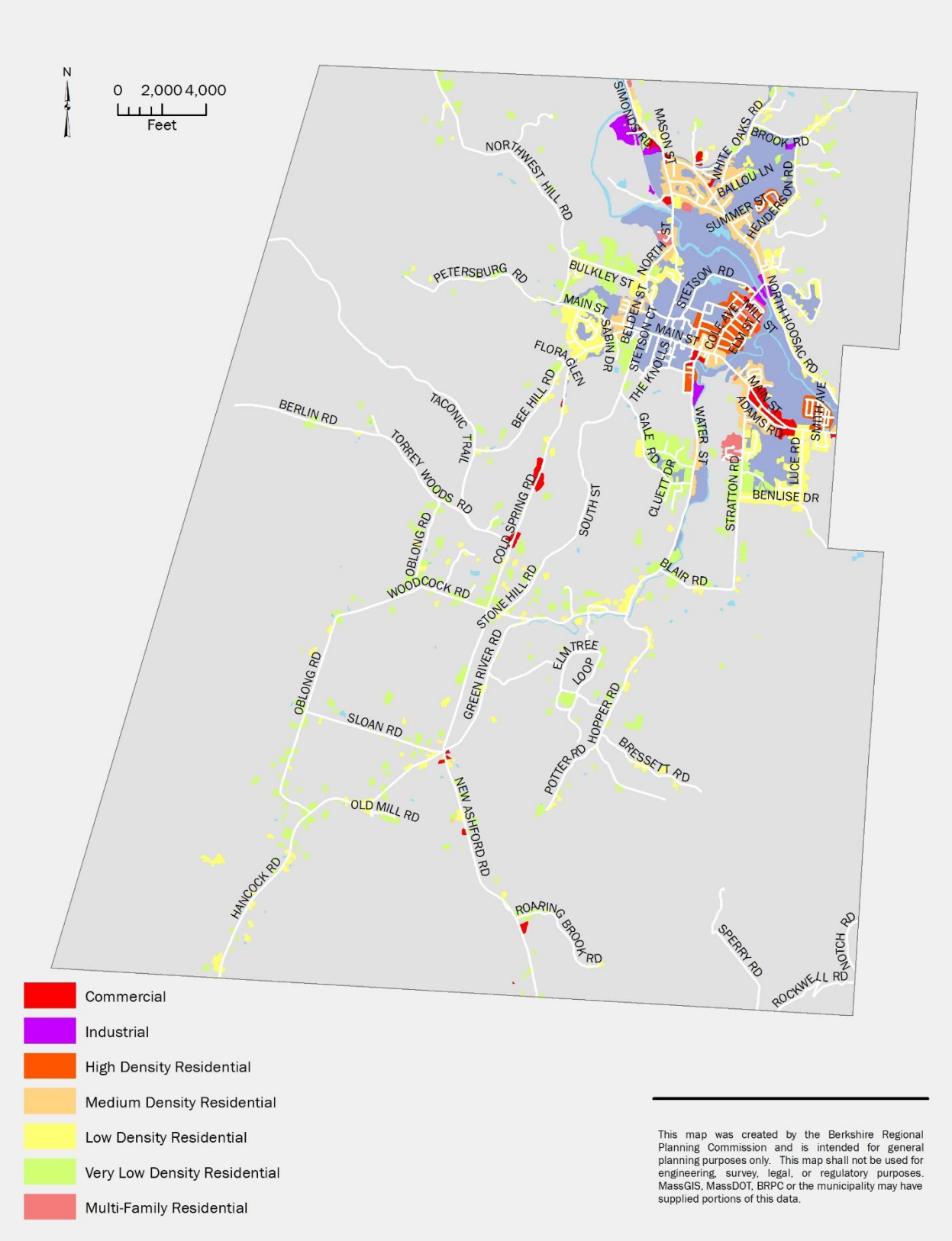
Land Use Characteristics

The Town of Williamstown is a suburban community with an average population density of approximately 162 residents per square mile, based on the 2015 US Census Population Estimate, the population for the town (7,605) and the town's total land area (46.8 square miles).

Neighborhood Density

Neighborhood density can be seen in **Figure 3.2**. The densest neighborhoods in Williamstown include those in the center of town along Main Street, Cole Avenue (which includes some multi-family residential structures), and North Hoosac Road. Aside from a few instances of multi-family residential housing, rural streets surrounding the village have low or very low residential density.

Figure 3.2. Neighborhood Density



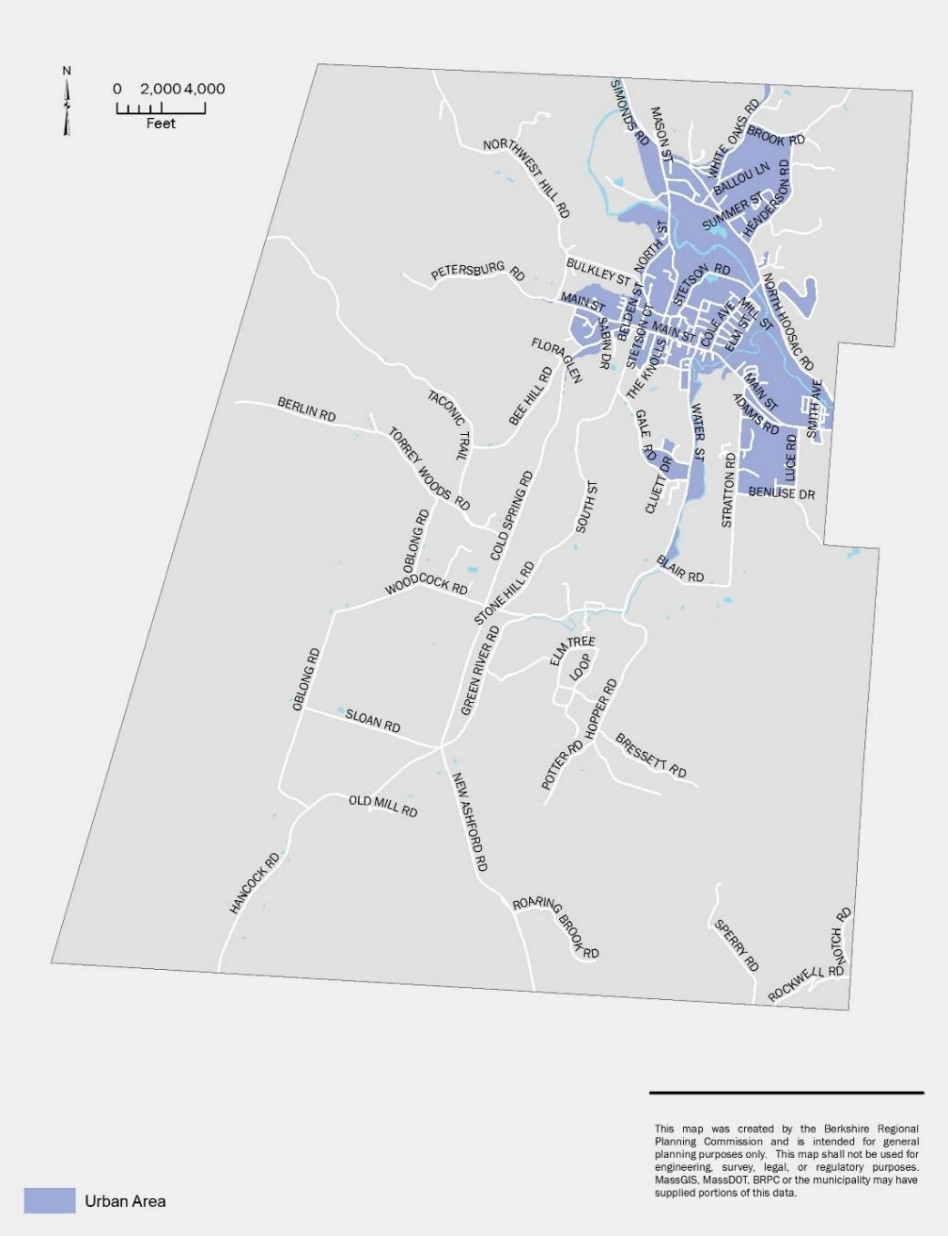
Urban Area, Residential Villages, and Town Features

The Town of Williamstown has one village center, downtown, which is part of the Adams-North Adams Urban Cluster as defined by the U.S. Census Bureau (see **Figure 3.3**). Most major shopping/retail is conducted either along Main Street (Route 2) or on Spring Street.

Williamstown is primarily suburban, and has a moderate population density. The Williamstown School District covers students from Pre-Kindergarten through Grade 6 at the Williamstown Elementary School and the Mount Greylock Regional School District covers grades 7-12 at Mount Greylock Regional High School. Williamstown Elementary is in the center of town, while Mount Greylock is on Route 7 heading south towards Lanesborough, the other member of the regional school district.

The town offers many recreational opportunities including the Hoosic River, Mount Greylock State Reservation, hiking trails on properties owned by the Trustees of Reservations, Williams College, and Williamstown Rural Lands Foundation. There are also playing fields at Williams College, Williamstown Elementary School, and Mount Greylock Regional High School. The town also has a public library and post office in the downtown.

Figure 3.3. Williamstown Urban Area



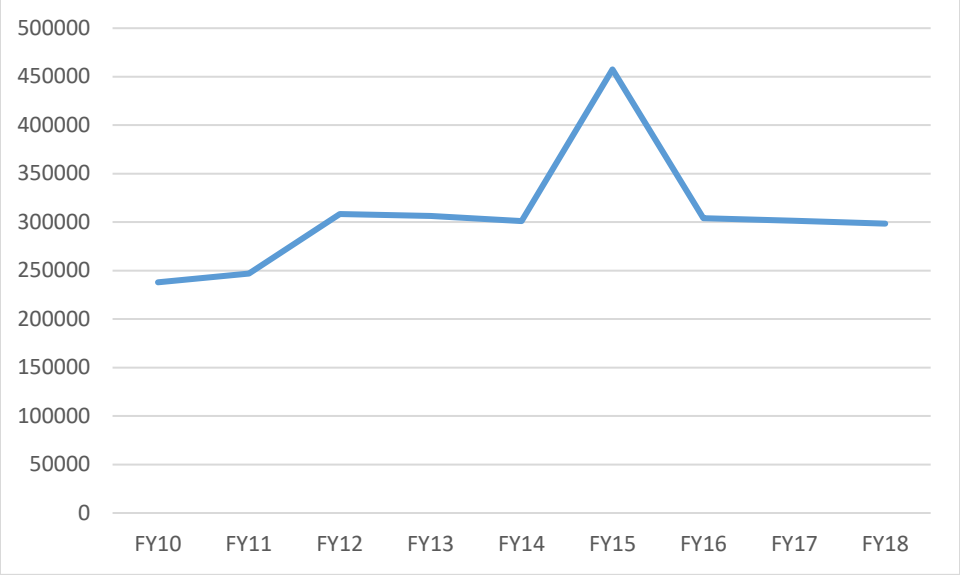
Fiscal Conditions

In Massachusetts, the Chapter 90 highway funding program was enacted in 1973 to entitle municipalities to reimbursement of documented expenditures on approved highway projects. Funds are provided through state Transportation Bond Issues, and can be used for a variety of project types and municipal uses including preservation and improvement projects that create or extend the life of capital facilities, garages, salt sheds, buildings for storage of equipment, and road building machinery, equipment and tools.

Chapter 90 apportionments fluctuate from year to year and are distributed based on a formula that factors in road miles (58.33%), population (20.83%) and employment (20.83%). In Williamstown, Chapter 90 funding is generally around $300,000 each fiscal year (FY), with a significant increase in 2015 to over $457,000 due to

additional statewide funding that fiscal year that was allocated by the Governor Baker administration (see **Figure 3.4**).

Figure 3.4. Chapter 90 Apportionment FY2010-FY2017



Transportation Conditions

Road Network

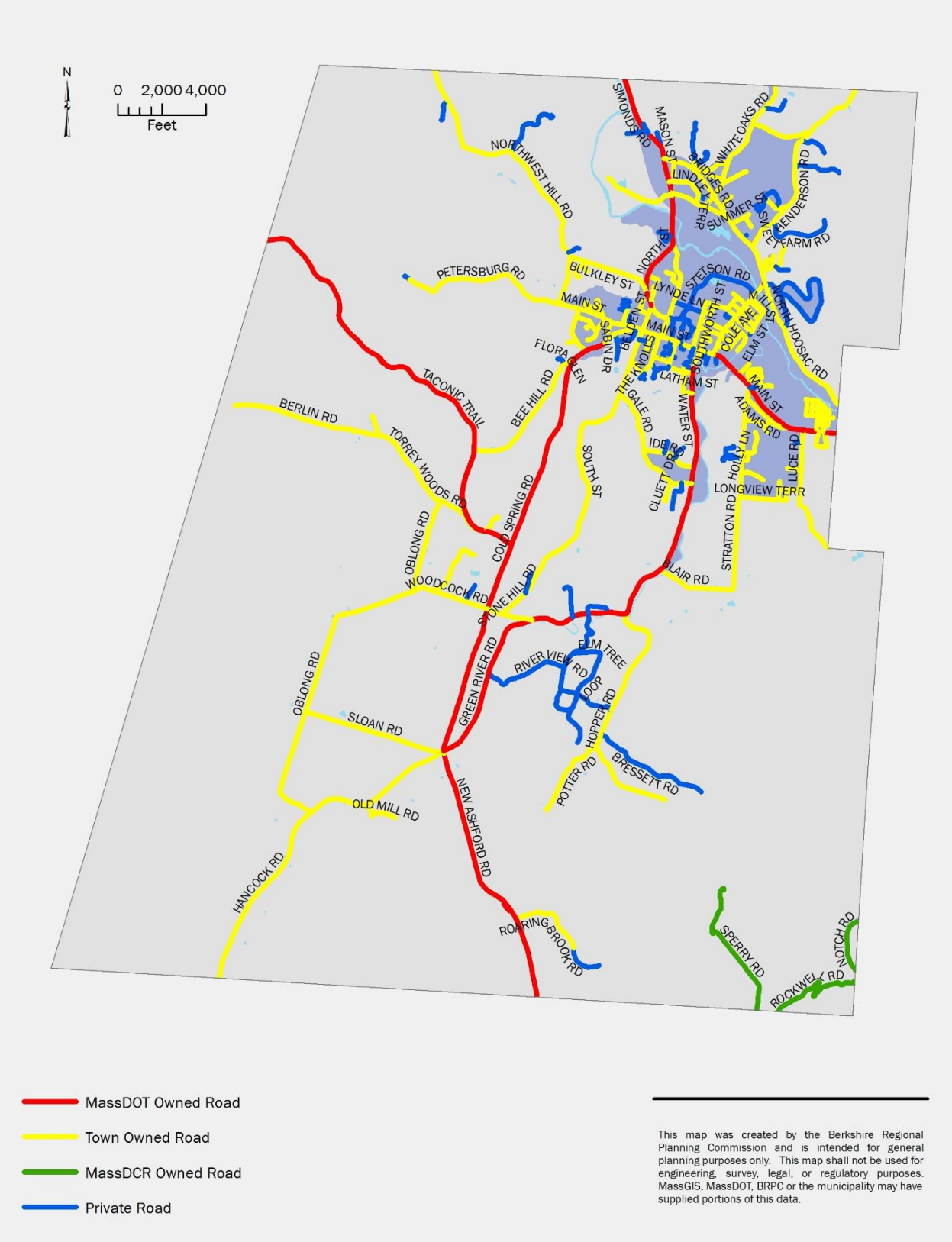
There are 96.46 miles of road in Williamstown, of which 21.26 miles are under MassDOT's jurisdiction, 17.26 miles are privately owned, and the remaining 57.94 miles are town accepted roads (see **Table 3.1**). The 21.26 miles of MassDOT road consists of Route 7, Route 2, Route 43 and the roads on Mount Greylock State Reservation. The private roads are largely grouped around Williams College, Green River Road and North Hoosac Road, but are also scattered throughout town (See **Figure 3.5**).

Users of the roads include private motor vehicles, freight/commercial vehicles, emergency vehicles, bicyclists, pedestrians, and school bus riders.

Table 4.1 Williamstown Road Jurisdiction

Jurisdiction	Mileage	Percent of Roads
MassDOT	21.26	22.0%
Town	57.94	60.1%
Private	17.26	17.9%
Total	**96.46**	**100.0%**

Figure 3.5 Roads by Jurisdiction



Functional Classification

Functional classification is a way of grouping roadways into classes or systems based on character and type of traffic service they are intended to provide. All roadways are grouped into one of three classes (arterial, collector or local), and provide for transportation based on a spectrum between overall mobility and land access. Arterials provide for travel over long distances, but offer a lesser degree of land access than local or collector roads. Conversely, local roadways provide a high degree of land access, but traverse shorter distances and provide less overall mobility (see **Table 3.2**).

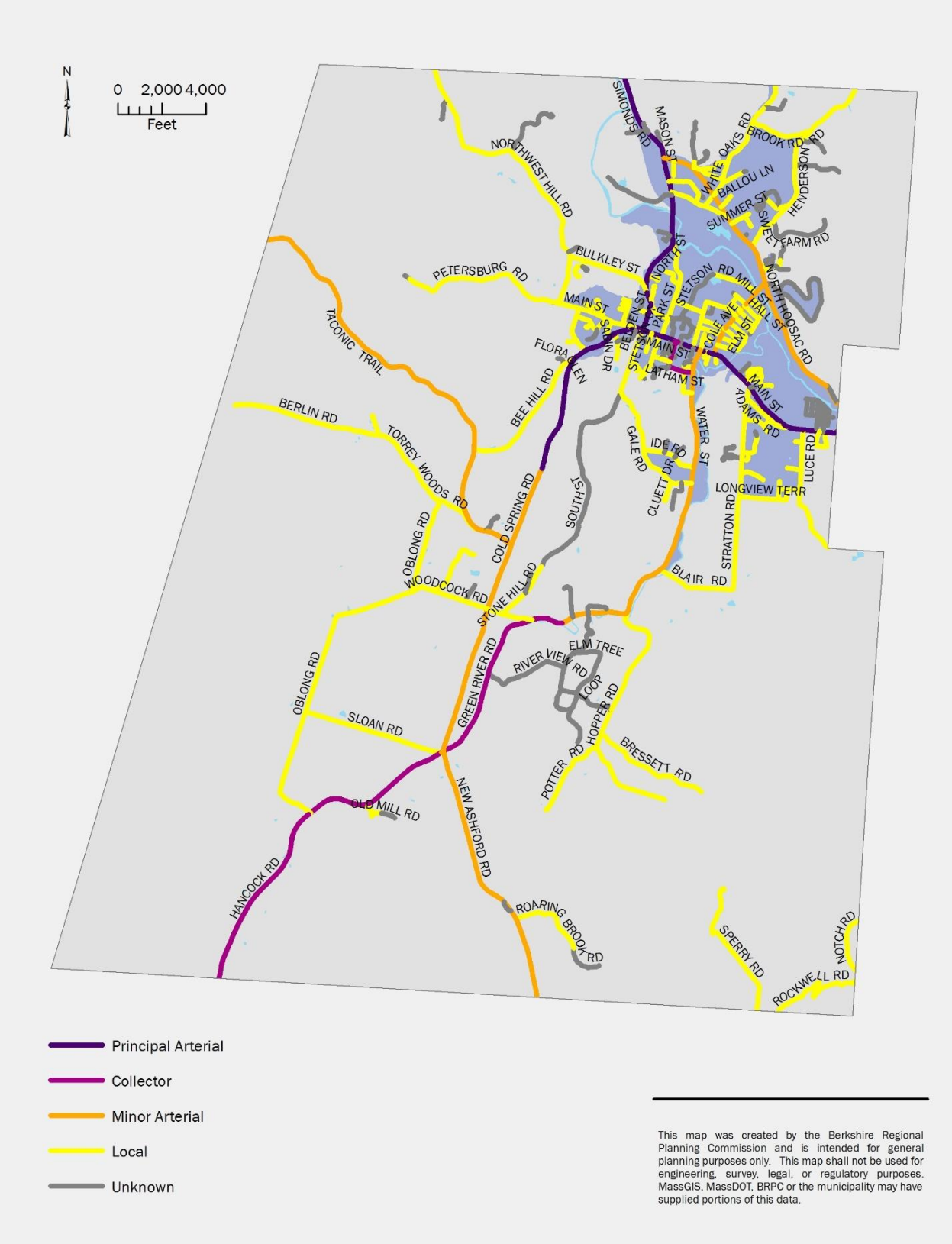
Table 3.2 Functional Classification Descriptions[17]

Functional System	Services Provided
Arterial	Provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.
Collector	Provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.
Local	Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.

Within Williamstown, parts of Route 7 and Route 2 are considered principal arterials. The remaining parts of Route 7 and Route 2, along with the northern part of Route 43, North Hoosac Road, and Cole Avenue are considered minor arterials. The remaining portion of Route 43, Spring Street, and Latham Street are considered Collectors. The remaining roads are considered local roads (see **Figure 3.6**).

[17] Table adapted from Federal Highway Administration, Flexibility in Highway Design. Available from: http://www.fhwa.dot.gov/environment/publications/flexibility/ch03.cfm

Figure 3.6 Roads by Functional Classification

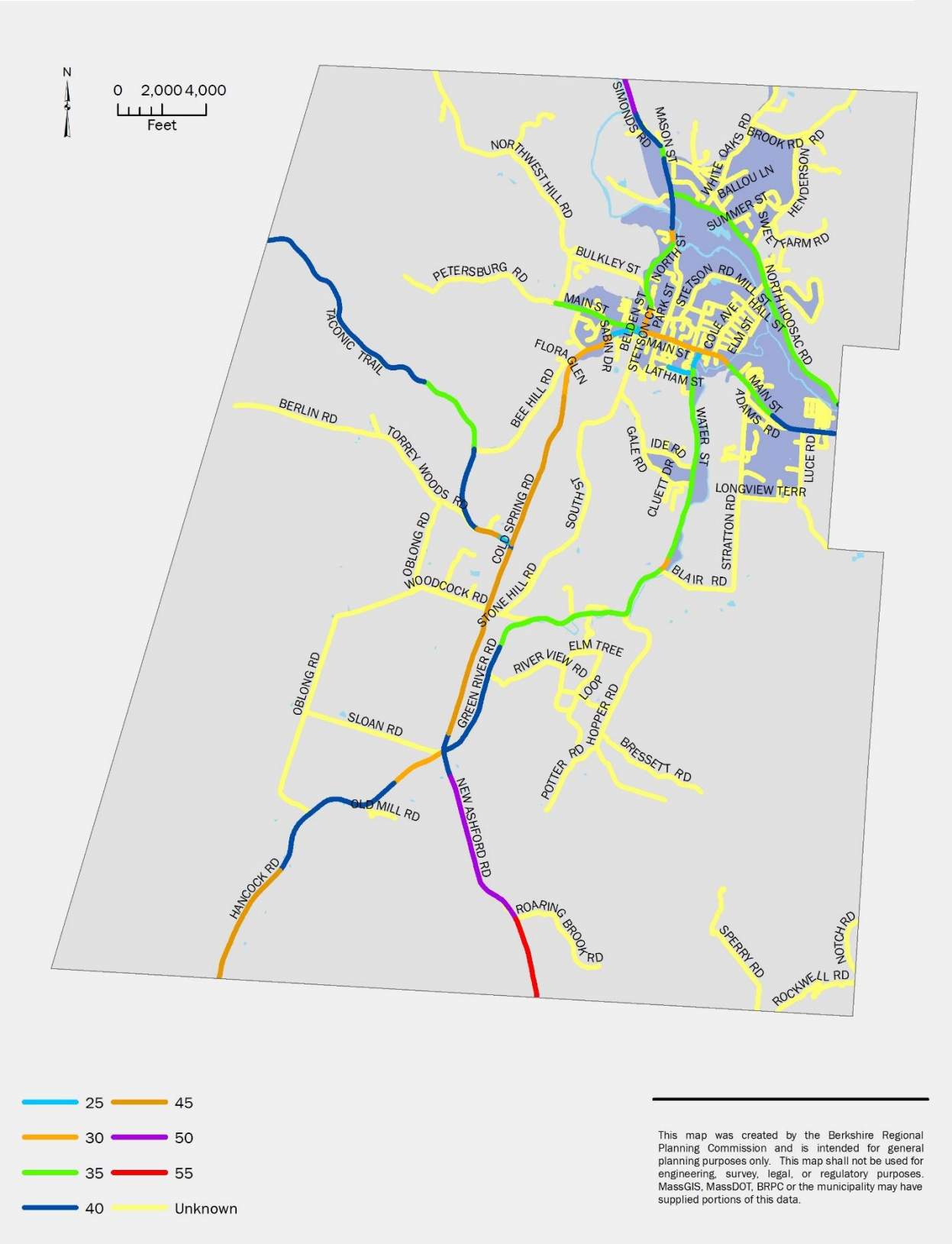


Speed Limits

Speed limits, in conjunction with other factors like traffic volume, shoulder width, sight distance, have an impact on both the actual and perceived safety of nonmotorized travelers when they travel along a roadway without a dedicated facility. When speeds are higher, the severity of accidents involving nonmotorists is drastically increased, and separation from fast moving vehicle traffic is preferred. On low-volume roadways with high speed limits, ensuring safety for nonmotorized travelers within the corridor is critical for safety (actual and perceived). When speeds are high and there is little room to accommodate nonmotorists, looking at parallel routes, or separate facilities is important.

Route 7 south of Route 43 and north of North Hoosac Road have speed limits over 50, while other arterials and collectors tend to be in the 30-40 mph range. Downtown has speed limits in the 25-30 mph range. Most of the local roads in town do not have a posted speed limit. A map of speed limits is shown below in **Figure 3.7**.

Figure 3.7 Speed Limits



Road Surface Type

Road surface type has potential implications for Complete Streets improvements, specifically for pedestrian and bicycling facilities. Generally, unpaved (dirt or gravel) roadways are considered exempt from many potential improvements. Unpaved roadways cannot be striped, and thus rely solely on warning signage to convey information, which means that elements such as bike lanes or shared lane markings cannot be added to these roadways. Moreover, pedestrian facilities, such as sidewalks are generally not included along unpaved roadways, unless they are in the form of an informal path alongside the roadway.

In general, vehicle speeds on unpaved roadways are lower due to road width and the surface type. Traffic volumes are generally lower as well. Low traffic speeds and volumes can make these roadways ideal for pedestrians, particularly recreational walkers. However, the surface type may create issues with accessibility as required by the Americans with Disabilities Act (ADA). ADA regulations requires that all accessible floor and ground surfaces be "firm, stable and slip resistant" and other ADA guidance notes that "most loose materials, including gravel will not meet these requirements unless properly treated to provide sufficient surface integrity and resilience[18]." Additionally, unpaved roads are sometimes used by cyclists, particularly those who ride mountain bikes with wider tires, and may be preferred due to relatively low traffic volumes. The narrow tires of many road bikes limit their use on unpaved roadways.

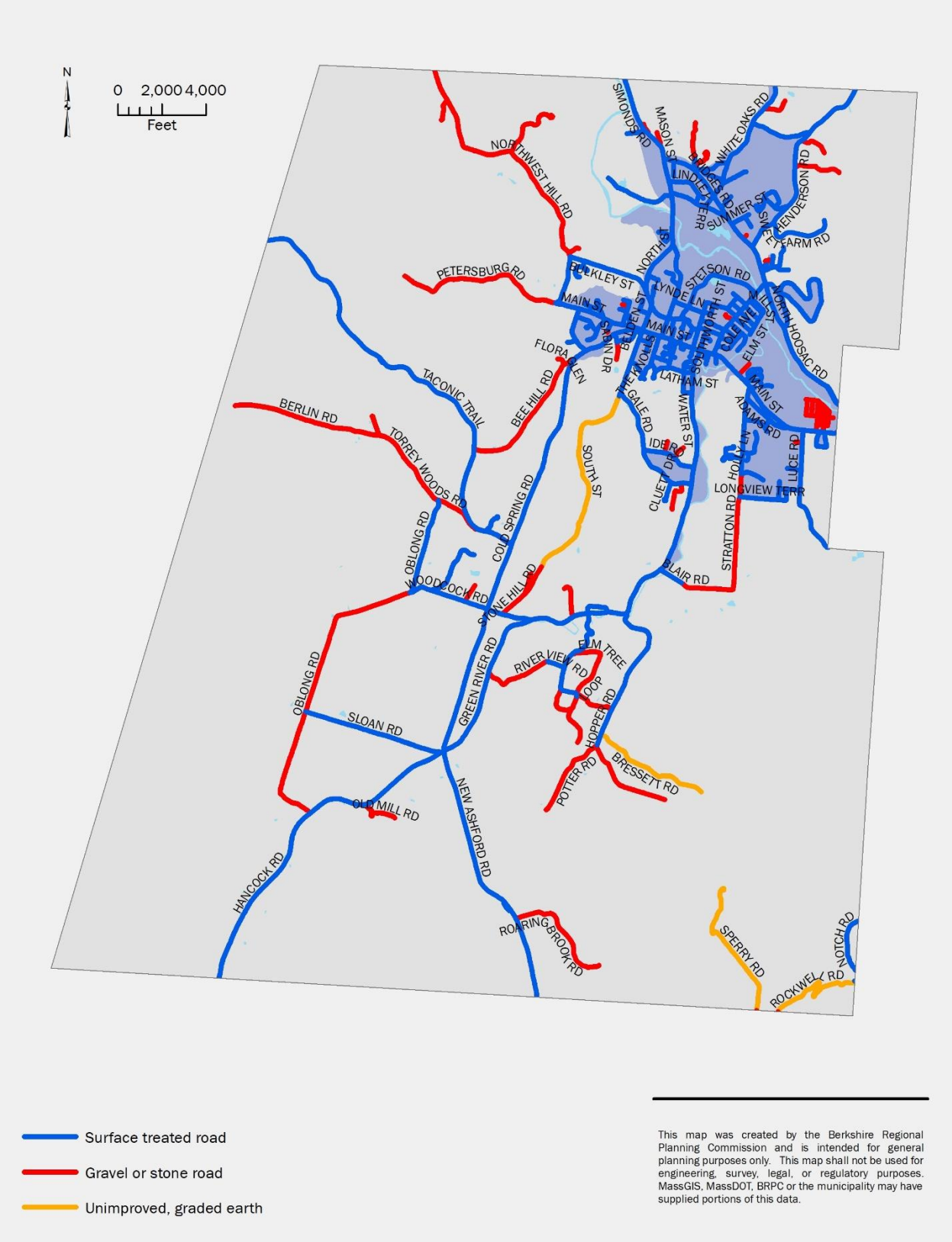
The majority (70.3%) of roads in Williamstown are paved, while about a smaller percentage of the roads (24.4%) are gravel or stone, mostly the private roads and lower volume roads on the outskirts of town. The unknown roads include the roads in the state reservation as well as discontinued roads (See **Table 3.3** and **Figure 3.8**).

Table 3.3 Williamstown Road Surface

Surface Type	Mileage	% of Roads
Paved	67.8	70.3%
Gravel/Stone	23.55	24.4%
Unknown	5.8	5.3%
Total	**96.47**	**100.0%**

[18] https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/guide-to-the-ada-standards/chapter-3-floor-and-ground-surfaces#3021

Figure 3.8 Roads by Surface Type



Pedestrian Conditions

Sidewalk Network

Overall, Williamstown has good pedestrian connectivity, particularly in the village center (see **Figures 3.9 and 3.10**). The village center is a hub from which a few sections of sidewalk radiate outward towards surrounding neighborhoods. Outside of downtown, sidewalks extend on Route 2 eastward to North Adams, on Route 7 north to just past North Hoosac Road, and on North Hoosac Road between Route 7 and Cole Ave. There is also a small sidewalk on Route 7 just south of Route 43.

Figure 3.9 Existing Sidewalk Network

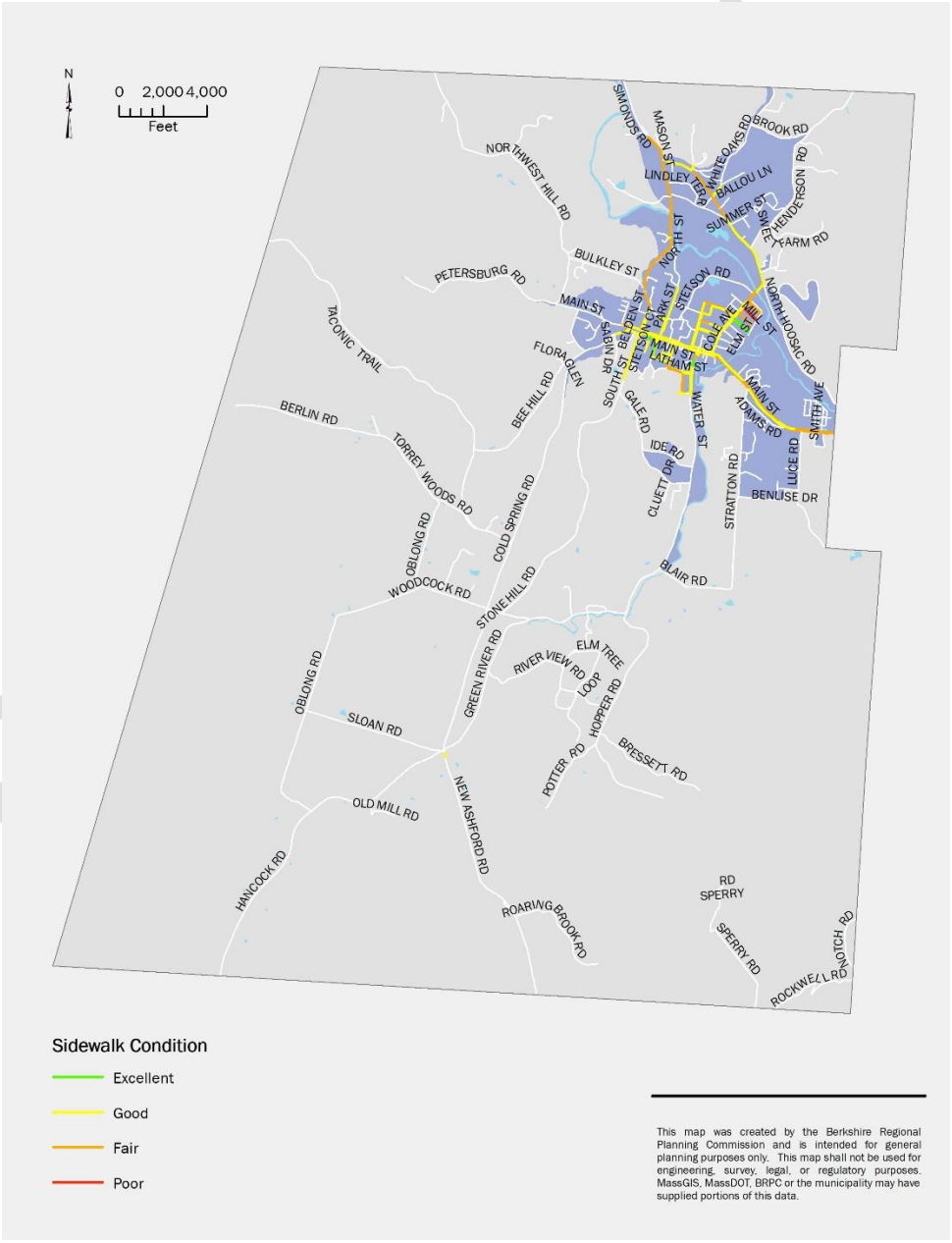
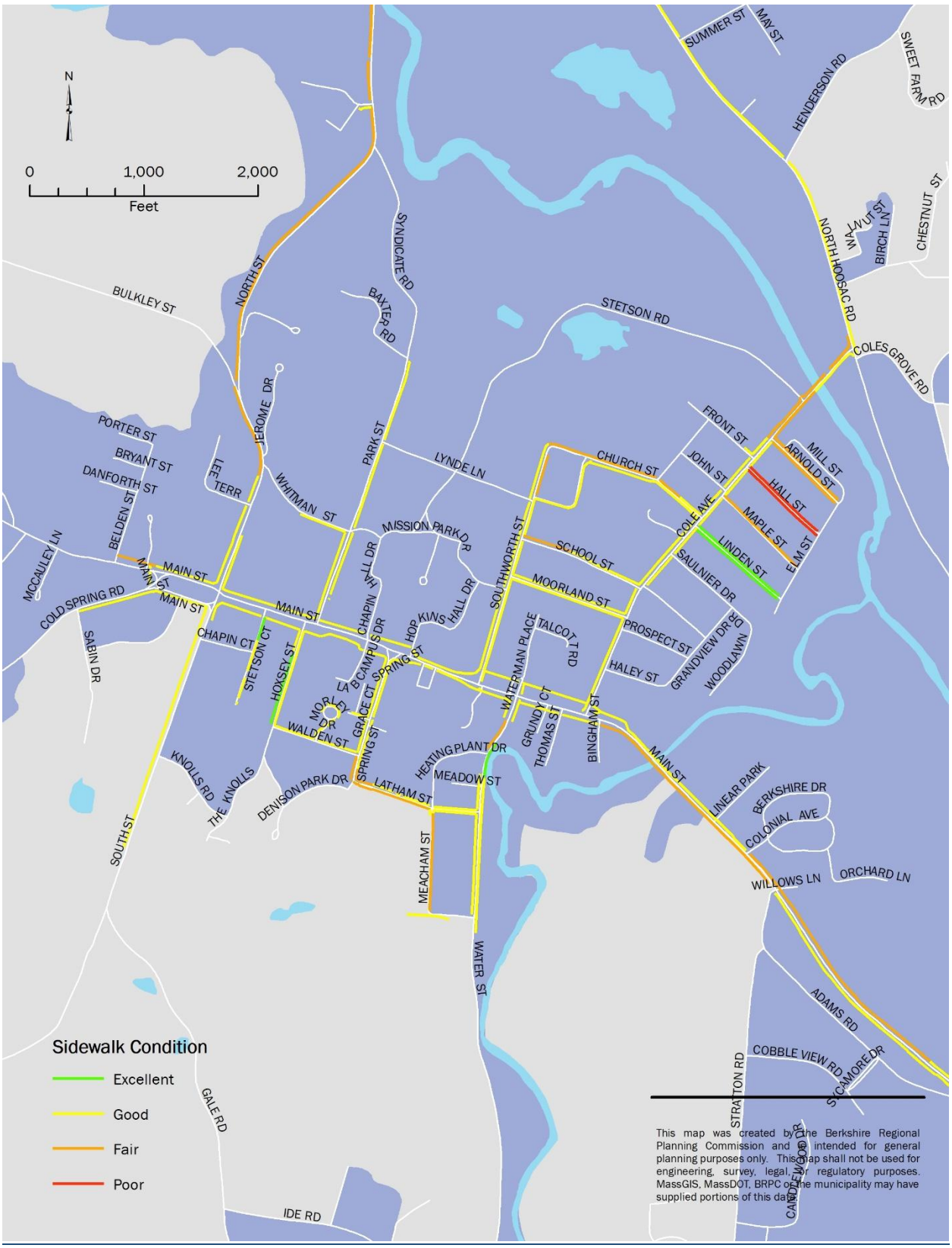


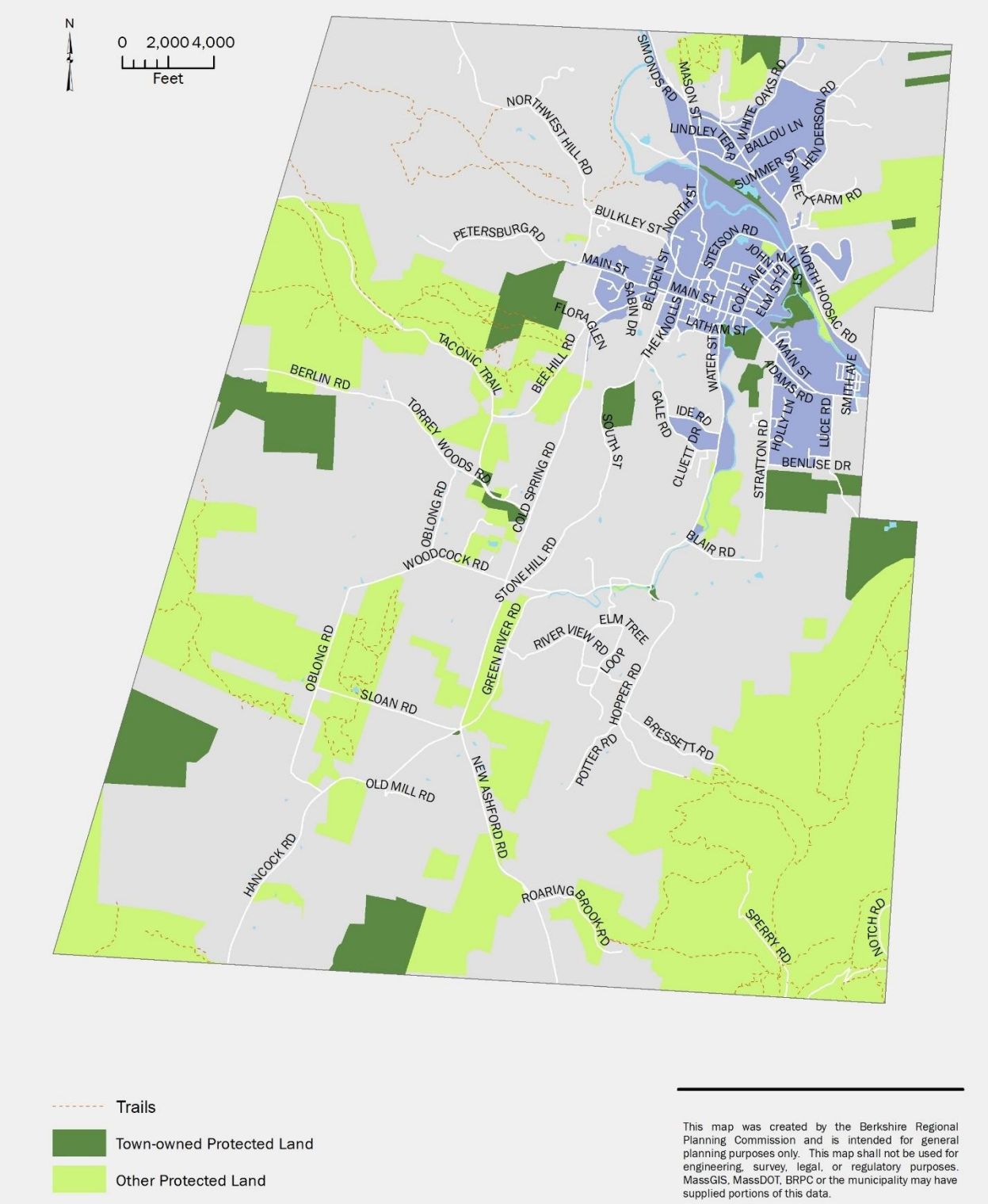
Figure 3.10. Existing Downtown Sidewalk Network



Off-Road Pedestrian Network and Trails

Williamstown is home to many trails and areas with protected land for recreation. Open space and trails can be seen in **Figure 3.11**.

Figure 3.11 Open Space and Trails



Bicycle Conditions

On-Road Bicycle Conditions

The only roadway with dedicated bicycle facilities is a portion of Route 2 in Williamstown. MassDOT striped new bicycle lanes on this roadway in the last few years. See **Figure 3.12**

Figure 3.12. Existing Route 2 Bike Lanes

Western New England Greenway

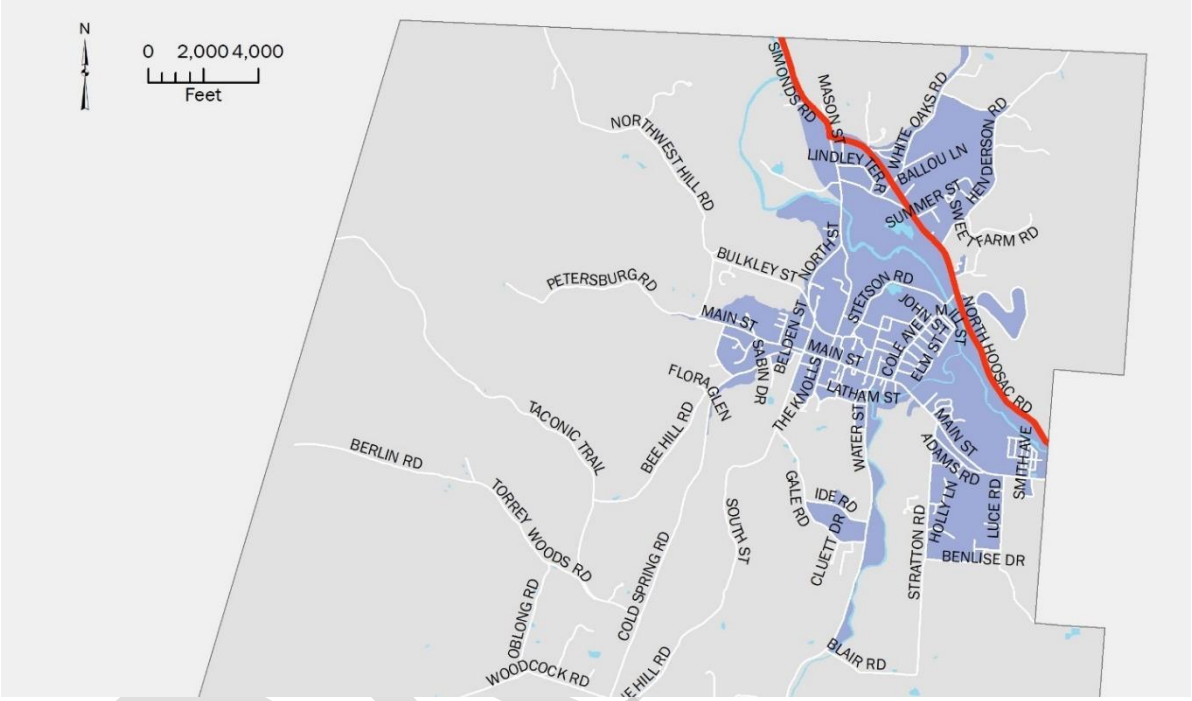
The Western New England Greenway, or U.S. Bicycle Route 7, is a multi-segment, multi-state bike route that links New York City and Montreal.[19] The route largely follows Route 7 through the western portions of Connecticut, Massachusetts, and Vermont. The route links with East Coast Greenway at the Merritt Parkway near Norwalk, CT at its Southern terminus, and with Quebec's Route Verte at its northern terminus at the Canadian Border. The Greenway passes through the length of Berkshire County moving from north to south. Most of the route is located along existing roadway, but the Greenway also takes advantage of existing shared-use paths, such as the Ashuwillticook Trail, which passes through Lanesborough, Cheshire, and Adams. North of Adams, at the northern end of the Ashuwillticook Trail, the Greenway continues along Route 8. In North Adams, the Greenway travels through the center of the city, along Marshall St, before turning east on River St. and Massachusetts Ave. as it makes its way toward Williamstown (**Figure 3.13**). Once additional shared use path mileage is constructed, the route will likely be updated to include the off-road facilities.

[19] http://wnegreenway.org/

In Williamstown, Massachusetts Avenue changes name to N. Hoosac Street at the Williamstown/North Adams town line. The greenway continues along this route with the name changing from N. Hoosac to Bridge Street, and again from Bridge Street to Sand Springs Road. At the end of Sand Springs Road, the greenway rejoins Route 7 northbound towards Pownal, VT and Bennington, VT.

There are plans to add wayfinding and signage to the multi-state route in the coming years. The effort will be coordinated across state lines to ensure a consistent look and feel to the route. This effort is not yet underway as of 2017, but is a short- to mid- term plan of the Western New England Greenway's Executive Committee.

Figure 3.13. Western New England Greenway Route



Shoulder Width Study

As part of this planning effort, BRPC conducted a shoulder width study (**Table 3.4**) to determine if existing roadways have available width to accommodate future bike facilities. Existing width of pavement was taken using ArcGIS. From the pavement width, two 11' vehicle lanes were assumed and the remaining width assumed to be that available for shoulder on each side of the roadway. Measurements were taken on all roadways with the functional class of collector or greater. Field measurements were also taken along Main St. and Cole Ave. to verify existing conditions.

This study indicates that bike lanes may be feasible in key areas. Most state controlled roads have wide shoulders which could accommodate bike lanes. Given the extreme width of many as well as the speed limits on these roadways designating them as bike lanes may not be practical, as cyclists may already be accommodated by the generous shoulder alone.

On town-maintained roadways a few key findings from the study are:

- A one-way bicycle lane may be feasible by narrowing vehicle lanes and restriping North Hoosac Rd. from Simonds to Cole Ave. As this is currently part of the New England Greenway route, it may be part of a long-term strategy to provide better accommodation for cyclists along this roadway.

- Two-way bike lanes may be feasible by restriping Cole Ave. As Cole Ave. is proposed to intersect the future Mohawk Bike Ped. Trail, this roadway could be a key way to connect the trail with the college and Williamstown's commercial areas. However, on-street parking exists along the northern portion of Cole Ave. On-street parking areas should be consolidated or reduced if bike lanes are to be added to this roadway.
- Two-way bike lanes are feasible on western portions of Main St. However, only if vehicle lane widths are reduced to 10'. Long-term shoulder widening is likely needed to better accommodate cyclists along Main St. The generous right-of-way along Main St. also means that other cycling facilities, such as a shared-use path, could be constructed to accommodate cyclists.

Table 3.4 Shoulder Width Study

Road	Owner	Type	Shoulder Width			On-street parking?	Bike Lane one way?	Bike Lane two way?
			Min.	Max.	Avg			
Hancock Road (Route 43)	Town	Collector	4.0	7.0	5.5		X	X
New Ashford Road (Route 7 S of Town Center)	State	Arterial	11.0	14.0	12.6		X	X
Cold Spring Road - 5 Corners to Taconic Trail	State	Arterial	4.0	11.0	6.3		X	X
Cold Spring Road - Taconic Trail to Square	State	Arterial	3.0	9.0	5.1		X	X
Taconic Trail (Route 2)	State	Arterial	3.0	9.0	5.6		X	X
Green River Road (Route 43)	State	Collector / Arterial	0.0	3.5	1.5			
North Street (Route 7 N of Town Center)	State	Arterial	4.0	7.0	5.1		X	X
Simonds Road (Route 7 N of Town Center)	State	Arterial	5.0	12.0	7.0		X	X
North Hoosac Road - Simonds Road to Cole Ave	Town	Collector	1.0	5.0	2.3		X	X
North Hoosac Road - Cole Ave to NA Town Line	Town	Collector	1.0	2.0	1.5			
Cole Ave	Town	Collector	3.0	9.0	5.8	X	X	X
Main Street - Square to Cole Ave	Town	Arterial	3.0	13.0	7.1		X	X
Main Street - Cole to NA Town Line	State	Arterial	5.5	13.0	8.9		X	X

Notes: If on-street parking is present, overall available road width for bike facilities may reduced. Addition of bike facilities along roadways with on-street parking would require elimination, reduction, or consolidation of on-street parking
If average available shoulder is > 2' but < 4' then a bike lane on one side of the road *may* be feasible.
If average available shoulder is 4' or greater then bike lanes on both sides of the roadway *may* be feasible.
All measurements taken using ArcGIS. Detailed field measurements and further engineering study are needed to confirm these widths and feasibility of bike facilities. Presence of curb or guardrail may impact bike facility feasibility. More detailed study is needed to confirm.

Bicycle Competency Mapping

Competency mapping is method of classifying roadways that indicates the level of experience that is generally required for cycling on the roadway and accounts for various roadway characteristics including shoulder width, traffic speed and volume, or the presence of existing facilities, such as bike lanes. BRPC evaluated all roadways in the town as part of this planning process. A flow-chart explaining the categorization process is described in **Figure 3.14**, and a description of the five competency levels can be found in **Table 3.5**. Final mapped competency levels are found in **Figure 3.15**.

The levels rank competency needed to safely cycle on a road, and describe both the easiest and the most difficult areas to ride. The levels enable a quick reading of how useable the existing roadway network is for residents of and visitors to the Williamstown area. For example, most cyclists will be able to use Level 1 categorized routes, but far fewer will feel comfortable using level 4 or 5 roadways. The resulting map shows the roads that are most difficult to navigate, and is useful for identifying gaps and barriers to nonmotorized travel as well as the planning of alternative routes on easier to travel routes to bypass higher competency level roadways.

Table 3.5 Bicycle Competency Levels[20]

Competency Level	Route Ease/Safety	Usability
Level 1	Easiest routes	Learning to bike, beginner, casual, experienced, expert - **everyone**
Level 2	Easy routes	Beginner, casual, experienced, expert – **most people**
Level 3	Moderately difficult routes	Casual, experienced, expert – **confident, but cautious riders**
Level 4	Difficult routes	Experienced, expert – **experienced riders**
Level 5	Most difficult	Expert (rider with a lot of experience riding on-road) – **expert riders, with caution**

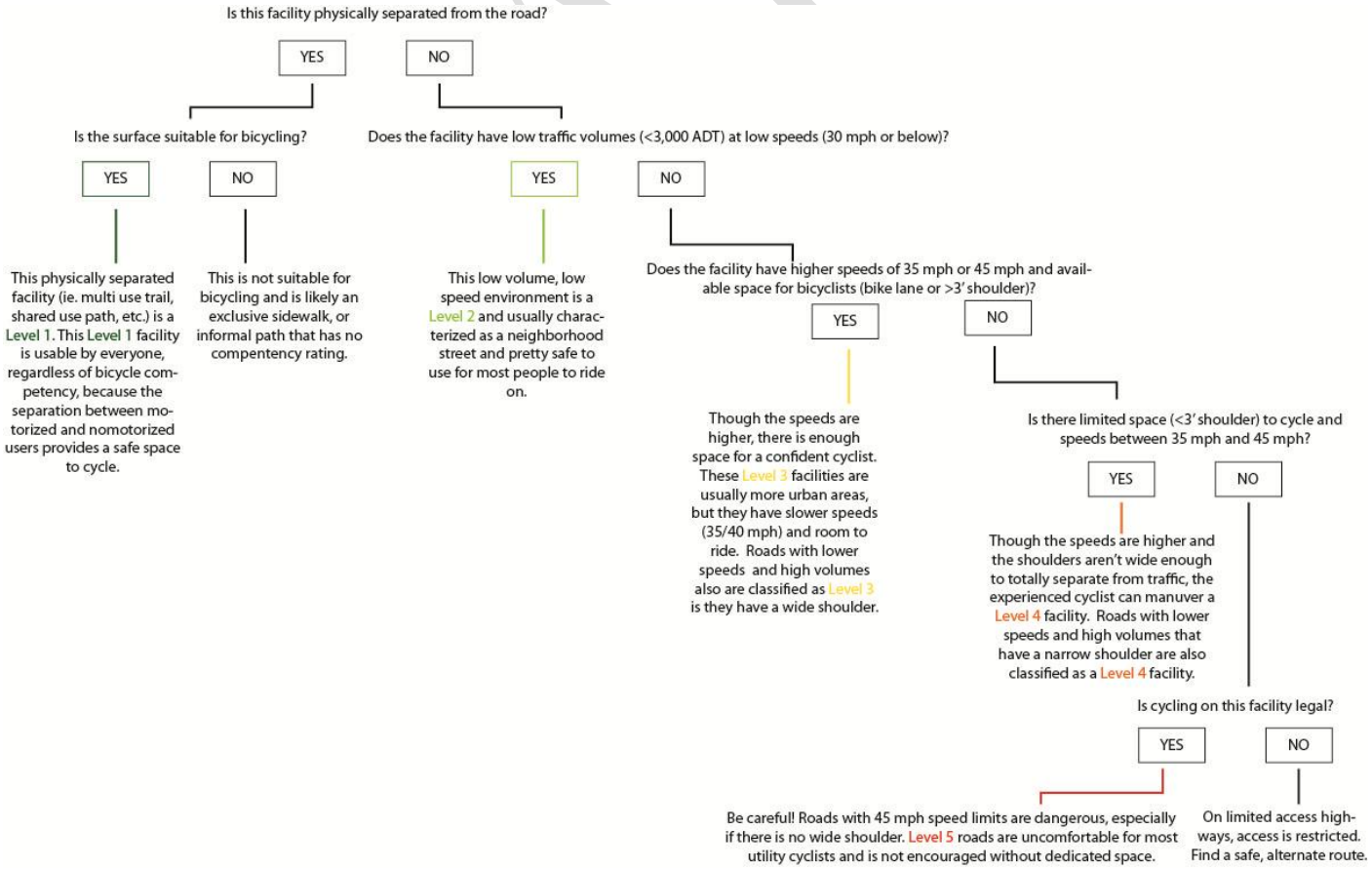
There is only one section of on-road bike lane in Williamstown, and there is only one planned Level 1 facility in Williamstown - the Mohawk Bike/Ped. Trail - at present there is only one section of existing bike lane in the town. This is a major barrier for those that are interested in bicycling but have little to no experience. Planning and constructing a shared-use path would provide east-west connectivity within Williamstown and to neighboring communities, such as North Adams. Separated shared-use paths are user friendly, and safe for cyclists uncomfortable on roadway facilities.

[20] Adapted from Pikes Peak Area Council of Governments. 2015. Regional Nonmotorized Transportation System Plan.

There are many Level 2 facilities in Williamstown and these are usually low-volume neighborhood streets where cyclists have room to ride and aren't exposed to higher speed motorized vehicles. These streets present few barriers to cyclists, except when there is a complicated intersection without adequate crossing time/space. Attention to how and where these Level 2 facilities connect to, and/or cross other facilities is paramount, especially in areas where Level 2 facilities are in proximity but do not connect to major destinations, and/or retail/commercial areas. While not included in the classification, topography plays a role in examining bicycle competency. The many residential neighborhoods that surround Williamstown and the Williams College campus are great places for cyclists to explore; however, they are found on some of the town's steepest terrain.

Level 3 facilities are sparsely located around Williamstown. There are small portions along higher volume roadways, like Route 2 and Route 43, and their presence suggests an opportunity to improve Level 4 facilities and maximize connectivity for cyclists desiring movement in and across the town. The lack of Level 3 facilities that are continuous and well-connected is a barrier for the majority of interested cyclists in choosing active transportation. Even one intersection that is impassable or dangerous along a route can prohibit the choice to ride a bicycle for a daily trip. Improving the connectivity between Level 3 facilities would provide increased connectivity and route choice for cyclists in Williamstown. The lack of dedicated facilities on major north-south and east-west routes is a barrier to cyclists across the town. Ensuring ease of use on major routes (Route 2, Route 7, and Route 43) is necessary to provide a spine to the bike network in the town; investments to these facilities should be considered to improve the bike network for most users.

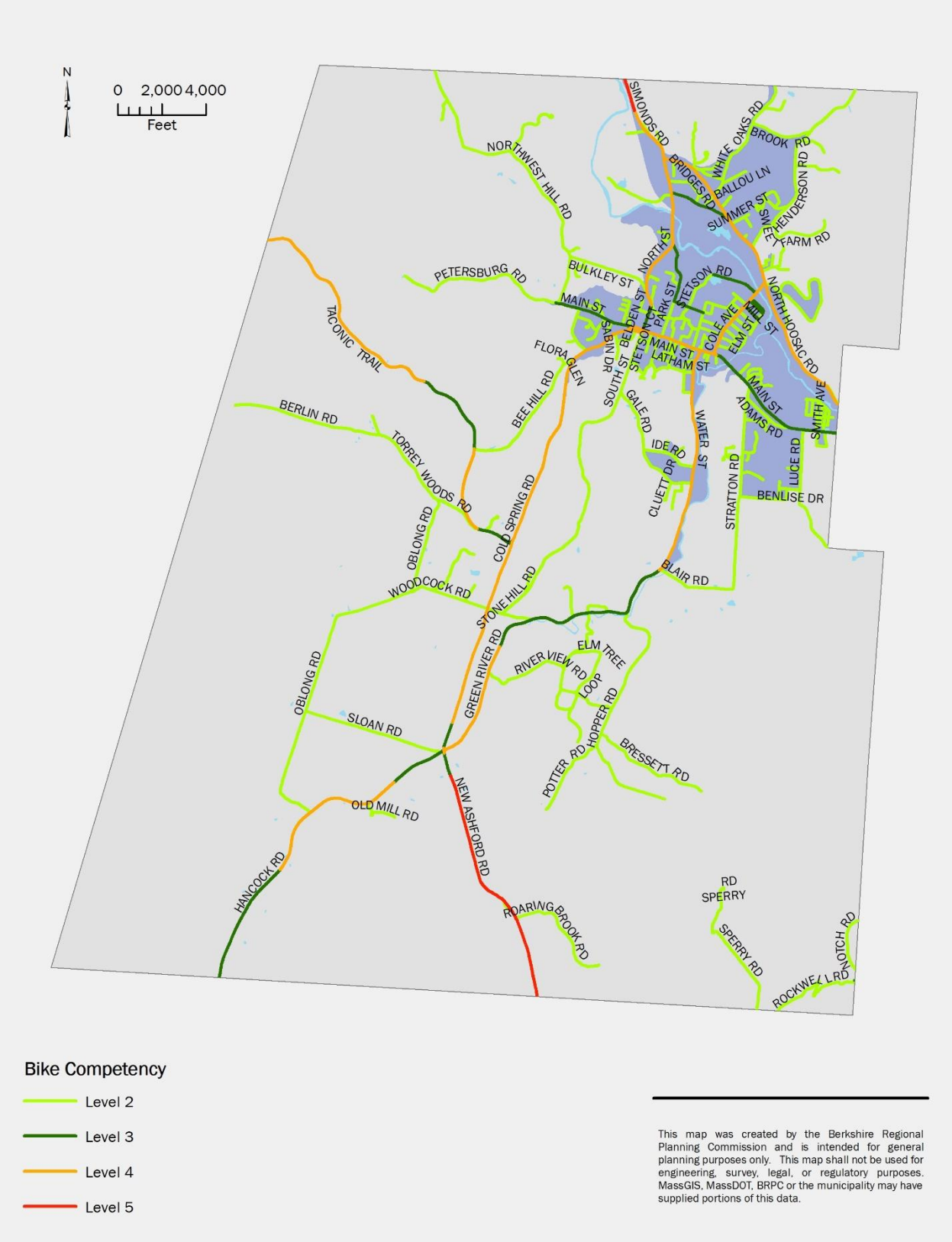
Figure 3.14. Bicycle Competency Classification Methodology



Level 4 facilities are highlighted on almost all of the major routes, including the Western New England Greenway, in and around Williamstown. These facilities are generally difficult to ride on, and for non-experienced riders, a deterrent. Level 4 facilities suggest major barriers for cyclists, whether in the form of high speeds and volumes or lack of separation from motorized traffic. Safety improvements and dedicated facilities should be considered on these roadways so that riders are separated from the higher volumes/speeds. Route 7, Route 43 (Water Street/Green River Road), and the Western New England Greenway are level 4 facilities where potential improvements could be made.

Finally, level 5 facilities are found on portions of Route 7 at the north and south ends of town. These are areas where vehicle speeds and traffic volumes may deter all but the most experienced riders.

Figure 3.15. Bicycle Competency Map



Off-Road Bicycle Conditions

There are no official off-road bicycle trails in Williamstown, however off-road bicyclists sometimes use some of the hiking trails seen in **Figure 3.11**.

Bicycle Parking

Williams College Bike Parking

The Williams College Draft Bicycle and Pedestrian Master Plan (Williams Plan)[21] reports that bike racks are available throughout the Williams campus and are clustered around activity centers. More than two thirds of the buildings on campus have a bike rack with capacity for five bicycles. There are four types of bike racks on campus – comb racks, wave racks, hanger racks, and pin racks. The older comb racks are the most predominant, with capacity for 265 bicycles, followed by wave racks (184 bicycles), hanger racks (59 bicycles), and pin racks (30 bicycles). Of these, all of the hanger racks and slightly less than half of the comb racks are covered. In addition to the bike racks, there are two repair stations that provide an air pump and basic tools. See **Table 3.6**.

In spite of the 500+ capacity in the current bike rack inventory, 60% of students say there are not enough bike racks. This may be due to racks being unable to achieve their design capacity. Older comb type racks are designed for 10 bicycles, but the newer wave type racks designed for 9 bicycles tend to have higher capacity.

The Williams Plan recommends increasing capacity to 1,500 and replacing existing racks with more efficient designs. The plan also recommends increasing covers and shelters for bike racks, providing additional indoor storage, and increasing the number of repair stations from two to five.

Table 3.6 Williams College Bike Rack Inventory

Comb Rack		Wave Rack		Pin Rack		Hanger Rack	
Covered	Open	Covered	Open	Covered	Open	Covered	Open
125	140	0	184	0	30	59	0
Total Bike Racks			538				
Total Covered Bike Racks			184				
Total Open Bike Racks			354				
Total Repair Stations			2				
Source: Williams College Draft Bicycle and Pedestrian Master Plan							

Signage/Wayfinding

While Williams College utilizes some wayfinding to help with campus navigation, there is no existing town-wide system.

Safety

Safety is a major reason many communities look at Complete Streets improvements, and though safer infrastructure is one component in improving the safety of users, there is also a behavioral component that

[21] The Williams College Draft Bicycle and Pedestrian Master Plan, prepared by Alta Planning + Design, Summer 2014.

must be supported through encouragement and education. Recent accident data was collected and reviewed to determine what types and under what conditions accidents are occurring.

Accident Data and Crash Clusters

Crash data is available for a three-year period from 2012 to 2014. Crashes are grouped into four types based on damage including, fatality, non-fatal injury, property damage only (PDO) and when information is unavailable the crash type is listed as "not reported." Accident statistics can be seen in **Table 3.7**.

MassDOT uses crash data collected over a three-year period to identify areas that have multiple crashes, these locations are called Crash Clusters. Each cluster is given a rating that measures the "equivalent property damage only" crashes. "Equivalent property damage only" is a method of combining the number of crashes with the severity of crashes based on a weighted scale where a fatal crash is worth 10, an injury crash is worth 5 and a property damage only crash is worth 1. The Massachusetts Department of Transportation identifies "crash clusters" using crash reports provided by its Registry of Motor Vehicles Division. They determine the locations of clusters by grouping crashes that occur within a certain distance of each other (25 meters for vehicle crashes and 100 meters for bike and pedestrian crashes). The clusters are ranked based on the sum of the Equivalent Property Damage Only (EPDO) values of the crashes within the clusters.

As seen in **Figure 3.16**, the most significant crash clusters during the 2011-13 period are found along Route 2 and Route 7. This is partly due to the high volume and speed of vehicle traffic and the many turning and stopping movements to and from businesses and the college. Other clusters are less severe due to the lower speeds. As noted in **Table 3.7** the majority of accidents result in property damage only (75%). Seventy-three percent of accidents occurred on dry roads.

Crashes related to Bicycles and Pedestrians - Injury versus Property Damage Only (PDO)

The intersection of Main St. and Water St. is both a pedestrian and a bicycle crash cluster. There is another bicycle crash cluster located immediately west of this intersection as well. See **Figures 3.17 and 3.18.** Of the six recorded pedestrian and bike crashes that occurred between 2012 and 2014, all but one occurred under dry, clear, daylight conditions.

Table 3.7 Williamstown Accident Statistics, 2012-2014

WILLIAMSTOWN ACCIDENT STATISTICS 2012 - 2014					
CRASHES BY TYPE	**2012**	**2013**	**2014**		**NOTES**
Total Crashes	41	57	117		Rapid increase
Fatality	0	2	1		
Non-fatal Injury	9	12	22		
PDO	31	41	93		
Not reported	1	2	1		
COLLISION TYPE	**2012**	**2013**	**2014**		**NOTES**
Angle	10	11	29		
Head-on	1	4	9		
Not Reported	0	0	1		
Rear-end	10	8	24		
Read-to-rear	0	0	1		
Sideswipe	3	7	6		
Single Vehicle Crash	17	27	47		
DAY OF WEEK	**2012**	**2013**	**2014**		**NOTES**
Sunday	4	8	11		20% Wednesday
Monday	9	9	17		

Tuesday	4	6	17		
Wednesday	11	9	24		
Thursday	4	11	18		
Friday	1	9	17		
Saturday	8	5	13		
TIME OF DAY	**2012**	**2013**	**2014**		**NOTES**
4 AM - 10 AM	12	14	21		Daytime
10 AM -4 PM	19	23	49		
4 PM - 10 PM	7	16	35		
10 PM - 4 AM	3	4	12		
MONTH	**2012**	**2013**	**2014**		**NOTES**
January	7	9	15		
February	1	4	13		
March	3	5	11		
April	2	3	2		
May	4	5	9		
June	5	6	9		
July	6	2	13		
August	3	7	12		
September	2	3	7		
October	2	3	10		
November	3	4	11		
December	3	6	11		
WEATHER	**2012**	**2013**	**2014**		**NOTES**
Clear	26	30	55		Mostly clear
Clear/Cloudy	1	0	0		Increasing cloudy, snow/ice, rain
Clear/Other	2	0	0		
Cloudy	5	9	20		
Cloudy/Other	0	0	0		
Cloudy/Rain	1	3	5		
Cloudy/Snow	1	0	2		
Rain	2	5	11		
Snow/Ice	2	9	20		
Other	1	1	4		
ROAD SURFACE	**2012**	**2013**	**2014**		**NOTES**
Dry	28	33	70		
Wet	5	8	23		
Ice	1	6	6		
Snow/Slush	4	9	15		
Sand/Dirt/Mud	2	1	2		
Not Reported	1	0	1		
*PDO = property damage only					
Data Source: MassDOT 2011-2013 Crash Data					

Figure 3.16. Accident Locations

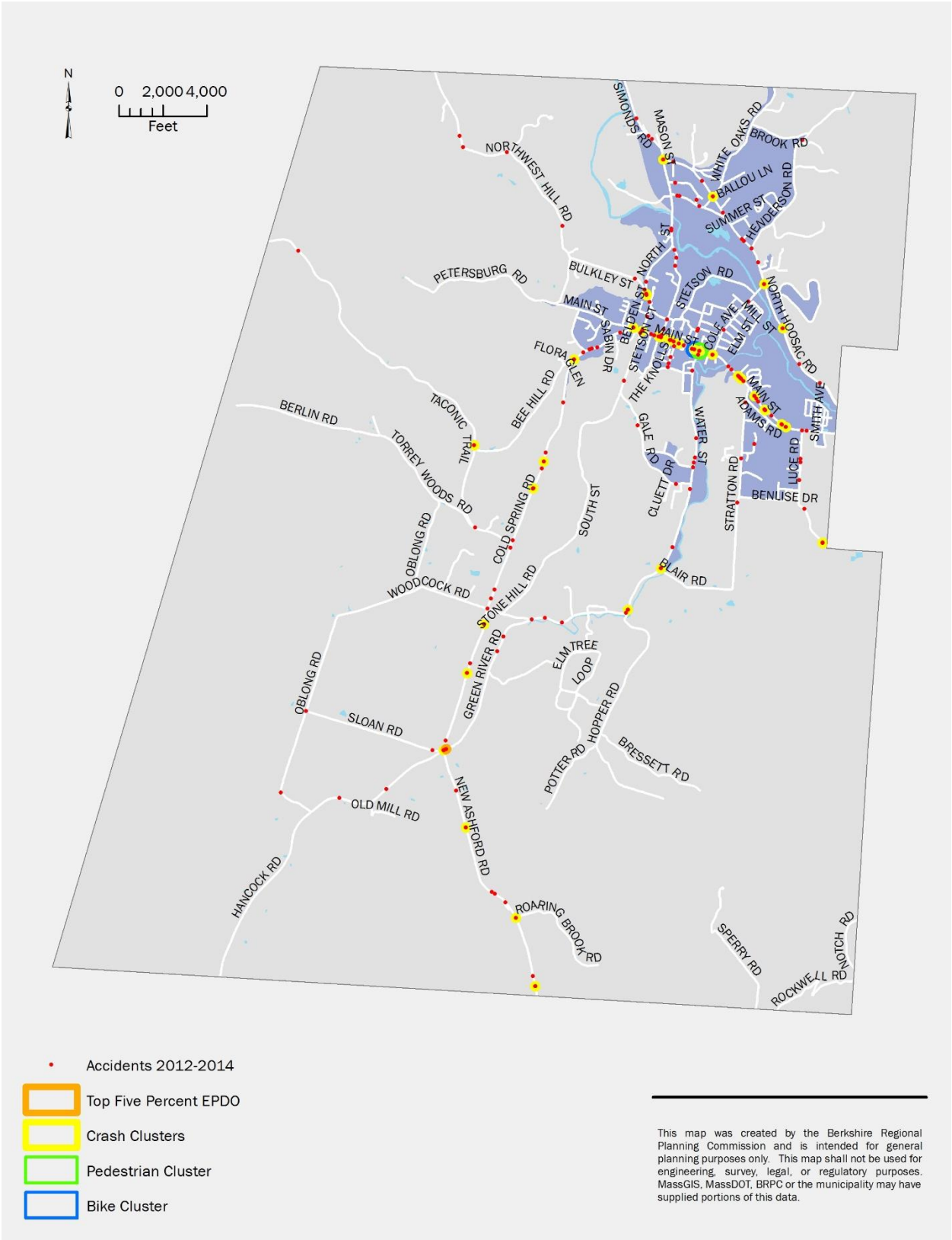


Figure 3.17 Pedestrian Crash Clusters

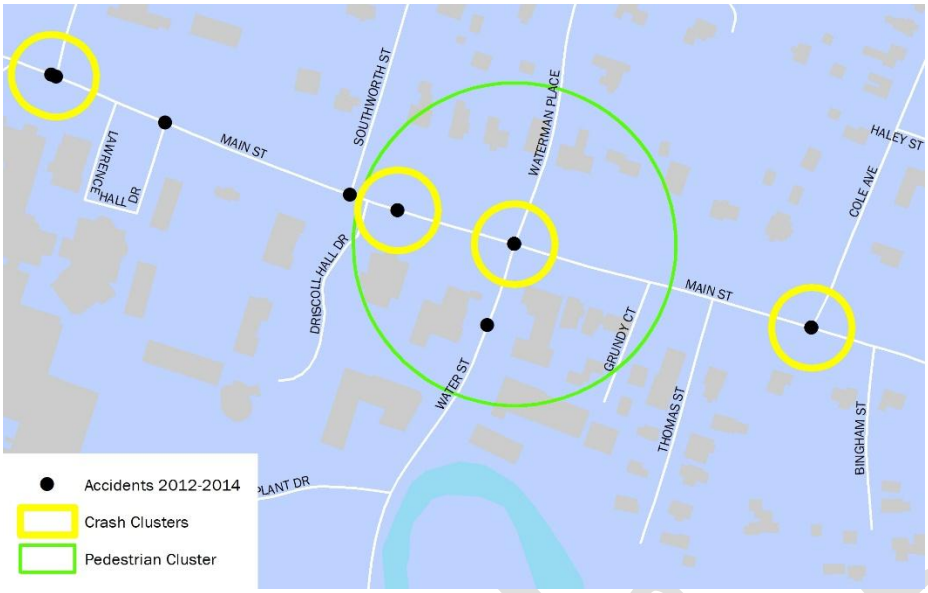
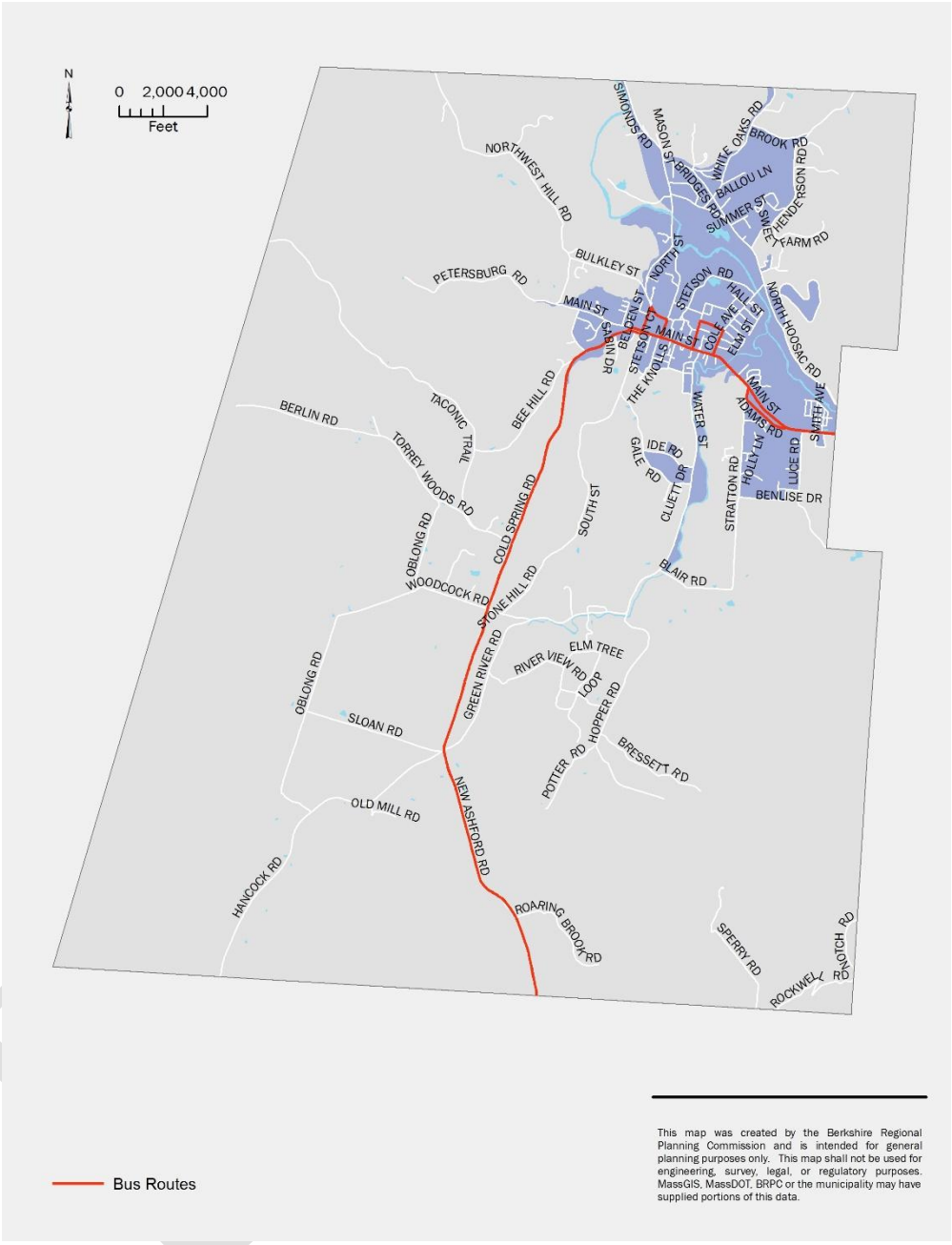


Figure 3.18 Bicycle Crash Clusters

Public Transportation (BRTA Bus Route)

Berkshire Regional Transit Authority (BRTA) operates a bus route (see **Figure 3.19**) that connects the center of Williamstown to North Adams and to Pittsfield. Bus Route 3 travels to North Adams on Route 2 from the center of town. Bus Route 7 comes from Pittsfield on Route 7 and then turns onto Route 2 and heads towards North Adams. Anyone wishing to ride can hail the bus, which will stop and let passengers board so long as it is safe to do so.

Figure 3.19 Williamstown BRTA Bus Route



4. NEEDS

Qualitative system gap analysis was performed based on field observations, existing planning documents,GIS data, and aerial imagery. The analysis looks at on- and off-road networks and has identified gaps in the network and intersections that are barriers to nonmotorized travel. This is a baseline to be used for the identification of potential Complete Streets Improvements in Williamstown.

Major Challenges

Lack of Cycling Infrastructure

While much of downtown Williamstown is served by existing sidewalks, bicycle facilities are very limited. Many roadways lack the width to be able to easily install bicycle facilities, and are constrained by steep topography, making future reconstruction costly and complicated. Currently only Route 2 east of downtown has dedicated bike lanes. The proposed Mohawk Bike / Ped. Trail will create a major east-west off-road facility when completed. The town should plan for nonmotorized connections to this future facility as well as for long-term north-south bike facilities.

Pedestrian Crossings

Williams College generates a significant amount of pedestrian traffic around its campus. The town should seek out ways to improve and enhance crossings, such as by installing rapid rectangular flashing beacons (RRFB) to warn drivers about pedestrians in the roadway, curb extensions, and high visibility crosswalks.

Location-specific Gaps and Barriers

Location specific gaps and barriers are either point-specific locations such as a crosswalk, lack of ADA ramps or an entire intersection that presents a barrier to nonmotorized travel and is unsafe for vulnerable users. This might be due to inadequate crossing treatments, confusing geometry, long crossing distances, lack of crosswalks or traffic control devices. Generally, these are areas that provide access to or within major destinations or are desirable in connecting residential areas to primary activity centers.

Sidewalk Condition

For a map of existing sidewalk and sidewalk condition, please refer to **Figure 3.10** in Existing Conditions. Of the 15.6 miles of sidewalk network, over 64% are in good or excellent condition. However, roughly a third of sidewalk miles were rated as either fair or poor. (see **Table 4.1**).

Table 5.1. Williamstown Sidewalk Condition by Mile

Condition	Mileage	% of Sidewalk
Excellent	0.58	3.7%
Good	9.43	60.4%
Fair	5.28	33.8%
Poor	0.31	2.0%
Total	**15.6**	**100.0%**

Sidewalks that are in fair or poor condition, representing sidewalks most in need of repair or replacement in Williamstown include sidewalks along North Street, Simonds Road, Bridges Road, Cole Avenue, Main Street, and others (see **Table 4.2**).

Table 4.2 Sidewalk Williamstown in Fair and Poor Condition

Sidewalk Segment	Mileage	Condition
Adams Road	0.01	Fair
Arnold Street	0.30	Fair
Bridges Road	0.48	Fair
Church Street	0.23	Fair
Cole Avenue	0.32	Fair
Hall Street	0.31	Poor
Latham Street	0.17	Fair
Main Street	1.60	Fair
Maple Street	0.17	Fair
Meacham Street	0.16	Fair
North Street	1.03	Fair
School Street	0.08	Fair
Simonds Road	0.56	Fair
Southworth Street	0.07	Fair
Spring Street	0.05	Fair
Water Street	0.06	Fair

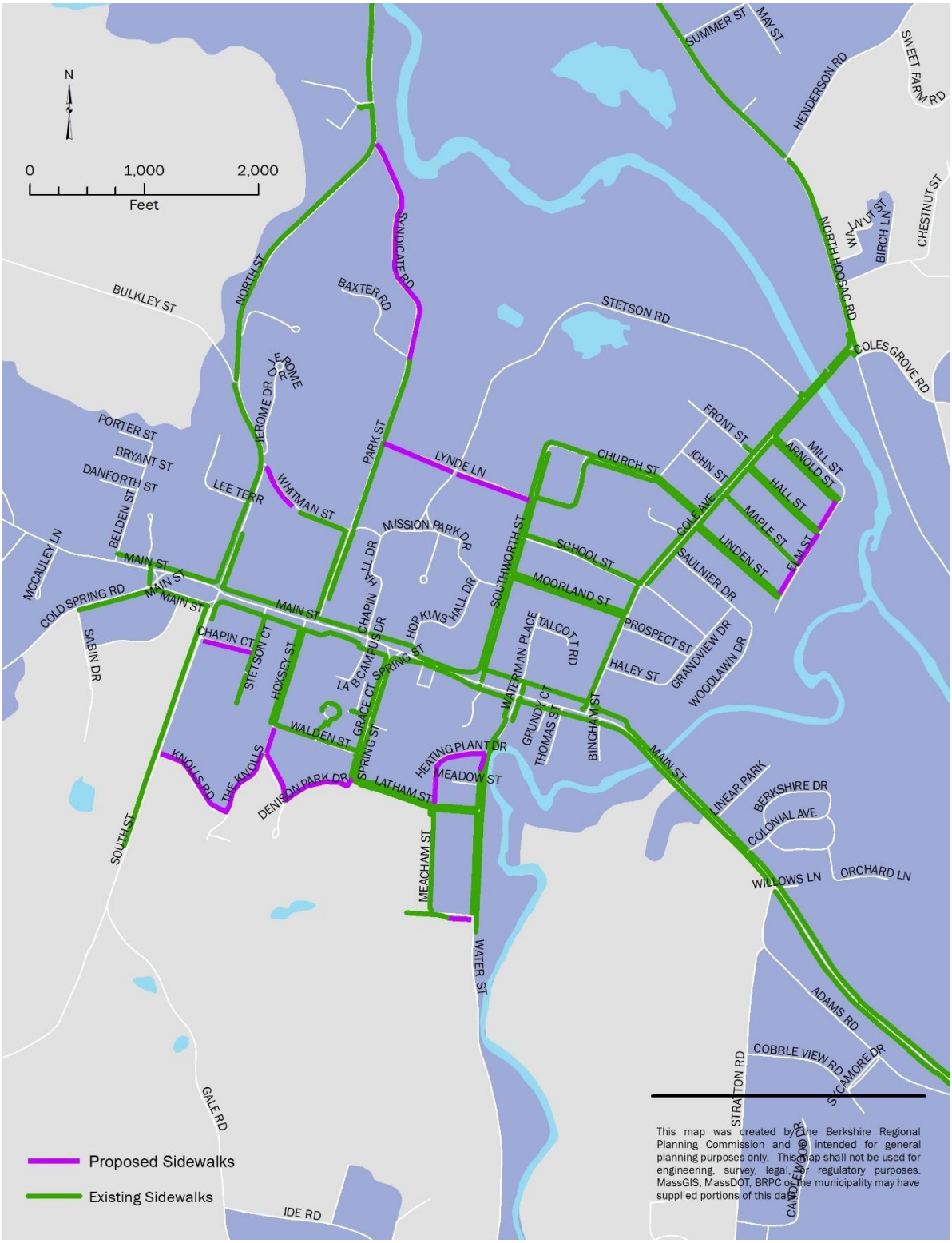
Sidewalk Gap Analysis

BRPC mapped locations of existing sidewalk and identified gaps within the network (**Figure 4.1**). Gaps were identified by connecting two segments of existing sidewalk through the shortest possible route. This method does not examine existing conditions, such as Right-of-Way width or existing topography that will affect potential construction. Moreover, gaps were only assessed from street to street or along streets containing a large sidewalk gap along both sides. Smaller sidewalk gaps, such as a gap in sidewalk along one side of a street, where sidewalk on the opposite side is continuous, were not identified. For identified gaps see **Table 4.3**.

Table 4.3. Sidewalk Gaps

Sidewalk Gaps	Feet	Miles
Chapin Court	436.4	0.08
Denison Park Drive	1115.6	0.21
Elm Street	867.5	0.16
Heating Plant Drive	791.3	0.15
Lynde Lane	1340.9	0.25
Meacham Street	197.9	0.04
Syndicate Road	2032.8	0.39
The Knolls	1659.8	0.31
Water Street	164.3	0.03
Whitman Street	425.4	0.08

Figure 4.1 Sidewalk Gaps



Intersections

Several intersections in Williamstown were identified by the Complete Streets Committee as being unsafe for both drivers and pedestrians and in need of possible redesign and reconfiguration. Some intersections were identified as crash clusters and many of these intersections are currently in a "Y" configuration, where two roadways meet at an acute angle. Reconfiguring and redesigning these intersections to make the roadways meet at a 90º (right) angle could help to improve safety for drivers as well as reduce the distance needed to cross the intersection for pedestrians. The Federal Highway Administration (FHWA) states that:

> *"There is broad agreement that right-angle intersections are the preferred design. Decreasing the angle of the intersection makes detection of and judgments about potential conflicting vehicles on crossing roadways much more difficult. In addition, the amount of time required to maneuver through the intersection increases, for both vehicles and pedestrians, due to the increased pavement area"*[22]

Right angle intersections can also provide a measure of traffic calming by preventing drivers from treating Y-intersections as a "merge lane" by requiring them to complete a full stop before proceeding through the intersection. Some intersections in Williamstown that could benefit from reconfiguration include:

Main St. (Rte. 2) / Water St. (Rte. 43)

The intersection of Main St. and Water St. was identified as a difficult intersection for drivers and nonmotorized users. The intersection is also noted as both a pedestrian and bicycle crash cluster. The town is considering reconstructing this intersection as a roundabout. See **Figure 4.2**.

Figure 4.2. Intersection of Main St./Water St.

[22] https://www.fhwa.dot.gov/publications/research/safety/humanfac/01103/ch1.cfm

Cold Spring Rd. (Route 7) and Hancock Rd (Route 43)

The intersection of Route 7 and Route 43, also known as the 5-corners, was also noted as confusing intersection for users, due to high vehicle speeds, lack of pedestrian facilities, and generous turn lanes.

Figure 4.3 Intersection of Route 7 and Route 43

Sand Springs Rd. and Bridges Rd.

This intersection of three roadways is confusing for both drivers and nonmotorized users. Generous turning radii and a large paved area make this area difficult for pedestrians to cross. There is also a lack of any regulatory signage (Stop, Yield, etc.) at this intersection.

Figure 4.4 Intersection of Sand Springs Rd. and Bridges Rd.

North Hoosac Rd. and Bridges Rd.

This Y-shaped intersection was noted for high vehicle speeds. It was also reported that drivers on North Hoosac Rd. heading eastbound often do not come to a full stop before turning right onto Bridges Rd.

Figure 4.5 Intersection of North Hoosac Street and Bridge Street

5. GENERAL RECOMMENDATIONS AND POTENTIAL IMPROVEMENTS

This section outlines some general recommendations that are not site-specific and may occur at a higher level than the project level. These recommendations are intended to outline opportunities to support Complete Streets in Williamstown and are known as the "5 E's."

Engineering + Design

This element broadly covers some of the design and engineering recommendations that will enhance multimodal accommodations, and encourage people to utilize active modes.

Complete Streets improvements can come in many forms, whether signage or entire sidewalks, the different elements are based on their context and needs. Improvements are for a variety of modes, whether motorists, cyclists, or pedestrians, Complete Streets are for everyone.

Below are recommendations for general and specific improvements to the transportation network that support Complete Streets principles and goals. Recommended projects that were also included on the town's Tier 2 list have been noted throughout this section. Any improvements will likely need design and/or engineering and it is encouraged that the Town reference the following detailed best practices, as applicable, which include but are not limited to:

- MassDOT Project Development and Design Guide
- FHWA Manual of Uniform Traffic Control Devices (MUTCD)
- AASHTO A Policy on the Geometric Design of Highways and Streets
- NACTO Urban Street Design Guide
- NACTO Urban Bikeway Design Guide
- NACTO Transit Street Design Guide
- ITE Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
- US Access Board Streets and Sidewalks Guidelines
- AASHTO Guide for Planning, Designing, and Operating Pedestrian Facilities
- National Complete Streets Coalition Resources

These improvements may be paid for by a variety of funding sources, which include but are not limited to:

- MassDOT Complete Streets Funding Program
- Chapter 90 Funds
- MassWorks Grants
- Federal TIP Funds (STBGP, CMAQ, TA Set-Aside, etc.)

General Multimodal and Nonmotorized Recommendations

View Every Repaving Project as an Opportunity to "Complete the Street"

During every repaving project, the town should assess the condition of the existing sidewalk, the width of the existing lanes and shoulder, streetscape amenities (trash receptacles, trees and shrubs, bike racks, lighting, wayfinding signs, etc.) and determine if low-cost improvements could be added to each project.

Additionally, shoulder widening and lane narrowing are crucial ways to improve cycling and walking on roadways that do not have dedicated nonmotorized facilities like sidewalks or bike lanes. Paved shoulders have benefits for vehicle drivers, cyclists and pedestrians.[23] Shoulders are often an option to accommodate nonmotorized travelers in low density areas where dedicated facilities aren't feasible. Wide shoulders are

[23] http://safety.fhwa.dot.gov/ped_bike/tools_solve/walkways_brochure/

shown to increase the safety for nonmotorized travelers by separating them from the vehicle lane, although shoulders, speeds can increase. Cyclists report feeling more comfortable having extra space that is outside the vehicle lane, and an extra 4-6 feet[24] can provide them with precious separation from moving vehicles.

The Town of Williamstown should evaluate the usage of wider shoulders to accommodate bicycle and pedestrian travelers where dedicated facilities are infeasible. Providing paved shoulders as part of routine resurfacing, restoration, rehabilitation, and/or reconstruction work on roadways is a way to implement the Williamstown Complete Streets Policy given due consideration. Based on guidance from MassDOT, shoulder widths to accommodate pedestrians and cyclists should be at least 4' wide for a Case 4 Shared Bicycle/Pedestrian Accommodation.[25]

Many paved roadways in Williamstown are not striped to delineate vehicle lanes and road shoulders. The town should stripe its paved roadways to delineate lanes and shoulders more clearly. Pavement striping is one of the cheapest ways to reduce vehicle speeds[26] and in areas without dedicated pedestrian and cycling facilities, can help to define the road shoulder for these users. Consider also lane widths throughout town. For collector type roads, the FHWA and MassDOT note that vehicle lane widths can range from 10-12' in width[27,28]. For local roadways, guidance from these agencies notes that lane widths can be 9-12' in width.[29]

Jeff Speck is one designer who has been working to make "10 not 12" the new mantra for lane width in urban areas. Mr. Speck visited North Adams and Williamstown in 2015 as part of an MCLA lecture series and to promote his work on urban walkability.[30] Writing in a recent article for Atlantic Magazine's online publication CityLab,[31] Speck urges municipalities to move toward a 10' lane width standard that will reduce pedestrian crossing distances and make it easier to fit bike lanes on existing roadways. Speck cites the American Association of State Highway and Transportation Officials (AASHTO) Green Book (A Policy on Geometric Design of Highways and Streets) which states that:

> *For rural and urban arterials, lane widths may vary from 10 to 12 feet. 12-foot lanes should be used where practical on higher-speed, free-flowing, principal arterials. However, under interrupted-flow (signalized) conditions operating at lower speeds (35mph or less), narrower lane widths are normally quite adequate and have some advantages[32].*

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[24] https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/8_paved_shoulders.pdf

[25] https://www.massdot.state.ma.us/Portals/8/docs/designGuide/CH_5.pdf

[26] https://nacto.org/docs/usdg/roadway_striping_as_a_traffic_calming_option_kahn.pdf

[27] https://www.massdot.state.ma.us/Portals/8/docs/designGuide/CH_5_a.pdf (See Exhibit 5-14)

[28] http://safety.fhwa.dot.gov/geometric/pubs/mitigationstrategies/chapter3/3_lanewidth.cfm (See Table 3)

[29] The Vermont Agency of Transportation (VTrans) recently issued a Highway Safety and Design Engineering Instruction stating Vermont state highways "should have a maximum lane width of 11 (eleven) feet for all directions of travel." Noting that when "greater widths are used shoulder widths are typically reduced, resulting in a shoulder width that is less than ideal for bicycle traffic." http://vtrans.vermont.gov/sites/aot/files/highway/documents/structures/HSDEI%2015-103%20-%2011%20Foot%20Lane%20Width.pdf

[30] http://www.mcla.edu/About_MCLA/news_events/pressrelease/2015September/jeff-speck-to-give-presentations

[31] http://www.citylab.com/design/2014/10/why-12-foot-traffic-lanes-are-disastrous-for-safety-and-must-be-replaced-now/381117/

[32] AASHTO. A Policy on Geometric Design of Highways and Streets, pg. 473, AASHTO, Washington, D.C., 2004.

As most speed limits in the village center are relatively low (35 mph or below), lane widths could likely be reduced, providing additional room for dedicated bicycle facilities or, at a minimum, wider shoulders for both cyclists and pedestrians. The town should contact an engineer to verify appropriate lane widths before future repaving or restriping projects.

In Williamstown, the recommendation is to install striping or restripe the following locations to both create dedicated bike facilities, or in areas without adequate width, calm traffic and delineate the shoulder for both pedestrians and cyclists.

- Cole Ave. create dedicated bike lanes between Main St. and the future Mohawk Bike / Ped. Trail. Bike lanes along Cole Ave. may necessitate reducing or consolidating areas of on-street parking. (*Project 11)*
- Along Stratton Rd. to delineate the existing shoulder and provide accommodation for bicyclists and pedestrians (*Project 10*).
- Along the popular walking route created by Bulkley St., Northwest Hill Rd., and West Main St. to calm traffic and provide accommodation for nonmotorized users (*Projects 17-19*)
- South St., to provide a dedicated bike facility connecting to the Clark Art Institute.

Use the 2016 Municipal Modernization Act to Reduce Speed Limits in Key Areas and Prioritize Nonmotorized Users

The Town should consider lowering speed limits in specific areas where pedestrian safety may be at risk. Studies have correlated increased risk of injury or death with rising vehicle speeds. Risk of death from a collision at 23 mph is only 10%. However, as vehicle speed increases to 32 mph, the risk of death during a collision increases to 25%, and at 42 mph rises to 50%.[33] Moreover, high vehicle speeds can act as a deterrent to potential pedestrians and cyclists.

The 2016 Municipal Modernization Act[34] gives municipalities greater flexibility and control over reducing speed limits and establishing 20 mph "safety zones" on local roadways. Municipalities can now opt-in to the statutory 25 mph limits on local roadways within a "thickly settled" area or business district without conducting a traffic study. MGL Chapter 90, Section 1 defines a thickly settled or business district as, "the territory contiguous to any way which is built up with structures devoted to business, or the territory contiguous to any way where dwelling houses are situated at such distances as will average less than two hundred feet between them for a distance of a quarter of a mile or over."[35] Additionally, safety zones of 20 mph can be established near adjacent to land uses where "where vulnerable road users are likely to be present" – such as parks and playgrounds, senior housing and centers, hospitals and medical facilities, high schools and higher education centers, and daycare facilities.[36] Pursuing a 25 mph statutory speed limit in areas of the town would not alter the speed limit on roads with "special speed regulations" – essentially those roads with existing posted speed limits. The City of Pittsfield recently utilized the new legislation to reduce speed limits along North St.[37]. Refer to **Figure 3.7** for mapped speed limits throughout town. Most "unknown" speed limits are likely statutory speed zones where the town could pursue a reduced 25 mph speed limit.

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[33] https://www.aaafoundation.org/sites/default/files/2011PedestrianRiskVsSpeed.pdf
[34] http://www.mass.gov/dor/docs/dls/city-town/2016/16ctown-aug18.pdf
[35] http://www.massdot.state.ma.us/highway/Departments/TrafficandSafetyEngineering/SpeedLimits/FrequentlyAskedQuestions.aspx
[36] http://www.massdot.state.ma.us/highway/Departments/TrafficandSafetyEngineering/SpeedLimits/FrequentlyAskedQuestions.aspx
[37] http://www.berkshireeagle.com/stories/pittsfield-trims-speed-limit-on-north-street-from-30-to-25-mph,498393

Evaluate and invest in Intersection Reconstruction Projects and Safety Enhancements

Intersections are important nodes in the town's transportation system that warrant special attention. In terms of ensuring the transportation system is for people, rather than just vehicles, it is critical for cyclists, pedestrians, and transit drivers/passengers to pay attention to intersections. Evaluating the intersections that were identified in this plan, whether for improvements or reconstruction, should include a comprehensive approach that considers a variety of factors like:

- **Speed**: if speeds are high, traffic calming should be considered in downtown or areas with key destinations, additionally if speeds are a concern at mid-block crossings communities should consider RRFB or other more visible crossing treatments. Speed is also a factor when identifying the appropriate bicycle facility type and should be considered when looking at any on-street facility. Advance stop lines may also be helpful at intersections to better separate pedestrians and vehicles as they cross the street.
- **Volumes**: in intersections that see high volumes, pedestrian signals should be used whenever warranted. If there are high volumes of right turning traffic, right-turn-on-red restrictions may be necessary to protect pedestrians crossing. If volumes are high and bicycle demand is prevalent it may be worth considering bike boxes to encourage bicycle movement.
- **Crossing Distance**: where crossing distance is long it is important to provide pedestrians a refuge island so they can safely navigate across the lanes of traffic, often designers opt to minimize the crossing distance by providing curb extensions. For cyclists, at intersections, bicycle facility treatment should be clear (dashed through, painted through, etc.) so cyclists and motorists can clearly demarcate their space on the roadway.
- **Signalization**: traffic signals create a pause in traffic flow to allow for pedestrians to safely cross the street. Signals should be used when warranted and are important at high-use, mid-block crossings, multi-lane roads, and/or congested intersections. At signalized intersections pedestrian signal timing should be customized for the given intersection, considering leading pedestrian intervals where appropriate. There are a variety of signal enhancements that benefit nonmotorized travelers and can include: bicycle/pedestrian detectors, bike visible signals, countdown timers for pedestrians, etc.
- **Signage**: signs can provide vital information and improve safety. Ensuring adequate wayfinding is available for pedestrians, and that signs for vehicles are highly visible/well maintained is critical. Pavement markings for cyclists and vehicles should be maintained to ensure facilities are safe and effective for all travelers.

As discussed in the **Needs** section, intersections can be reconstructed to improve safety and visibility as well as reduce pedestrian crossing distance and the overall complexity of the intersection. In Williamstown several intersections could benefit from reconstruction, with the end goal of changing "Y"- or other-shaped intersections into safer 90º (right) angle, or "T"-shaped intersections or roundabouts. Several other intersections could benefit from other safety enhancements, such as reducing corner radii.

Priority intersections identified by the Williamstown Complete Streets Working group for reconstruction or other safety improvement include:

- Reconstruction of the intersection of Water St. and Main St. as a roundabout (*Project 1*)
- Reducing turning radii to calm traffic at intersections along a popular walking route – Bulkey St /Northwest Hill (*Project 15*) and West Main St. / Northwest Hill (*Project 22*)
- Intersection of Sand Spring Rd. and Bridges Rd. to reduce turning radii, add sidewalk and crossings and reduce pedestrian crossing distance (*Project 5*)

Advocate for Complete Streets Improvements on State Roadways

Projects on state owned roadways were scored and ranked during the planning process to see how these projects compared to others in the community. The town should advocate to MassDOT to advance and construct these projects. The Town of Williamstown should submit these projects, in writing, to the District 1 Highway Director. These projects include:

- Extending sidewalk along Route 7 both north and south of existing sidewalk limits. Extending sidewalk in these locations will help to connect residential areas to existing sidewalk, the college, and public amenities in the village center.

Consider a Wayfinding System in Town

Wayfinding is an important element that supports all transportation modes. Ensuring all users of the transportation system can easily navigate the network is critical to the use of nonmotorized and motorized travelers. In the Town of Williamstown, the recommendation is to include wayfinding signage for popular walking loops as well as to help nonmotorized users navigate between town amenities, public facilities, major destinations and other attractions in Williamstown. Wayfinding can also educate residents and visitors about aspects of town including cultural, historic, and environmental features. A wayfinding system could encourage residents to walk for exercise, or to walk instead of drive to businesses and services in the town center.

Moreover, developing a town wayfinding system is a unique opportunity to "brand" the town as part of economic development activities and creates a coordinated system for navigating the area. Wayfinding can create a consistent and distinct system that conveys the town's "story" and "personality" to visitors.

Typically, wayfinding systems include simple directional signage as well as detailed "nodes" that convey more in-depth information, such as through interpretive signage or kiosks. These signage systems and locations are unified through design elements such as fonts and typography, imagery, and color scheme. The town should consult a designer who will assist the town in developing a wayfinding system and in planning sign locations and content. Additionally, wayfinding content, such as maps, should be integrated into the town's website to ensure that visitors can use mobile phones to navigate the town and explore destinations online before visiting the community.

Cycling Recommendations

Plan for Future Shared-use Paths in Town

A shared-use path (also referred to as a multi-use trail) is the safest facility type for both bicyclists and pedestrians, as they provide physical separation from the roadway. Additionally, separated facilities encourage users of all ages and abilities to utilize active modes. Generally, shared use paths are at least 8' wide, and can be paved or unpaved. The Town of Williamstown should think about shared-use paths when planning off-road facilities, so that a greater number of residents and visitors can utilize them for transportation and recreation. Williamstown currently has plans to construct a shared-use path north of the village center stretching from Syndicate Rd. to Route 2. While the future Mohawk Bike / Ped. Trail will create a major easy to use bicycle facility in the community, it will not pass very closely to town commercial areas, such as Water St. and Spring St., or the college.

In Williamstown the recommendation is to:

- Consider future shared-use path along Main St. between Field Park and Cole Ave. This will create an easy to use facility that connects the college and commercial areas. (*Project 8*)

Consider Shared-Lane Markings or "Sharrows" and Advisory Bike Lanes as a way to Accommodate Cyclists on Narrow Roads

Sharrows are a relatively new pavement marking intended to increase safety for cyclists, however while they function as an accommodation, they should not be seen as bicycle facility. According to FHWA, they "help convey to motorists and bicyclists that they must share the roads on which they are operating"[38]. Sharrows are typically spaced every 250' along a roadway and are not recommended along roads where the speed limit is 35mph or higher. Along roads with on-street parking, sharrows are typically located 11' from the face of curb to prevent conflicts between cyclists and vehicle doors and 4' from the face of curb on roads with no on-street parking.

Sharrows have several uses. They can help improve bicycle positioning relative to parked cars and indicate the preferred path of travel. Sharrows also help to close gaps between other bicycle infrastructure, such as two sections of bike lane that cannot be connected due to lack of available space. Another common use for sharrows is along on the downhill lane of a roadway that that has one uphill bicycle lane. Finally, sharrows are often used on roadways were vehicle speeds are relatively low, and help facilitate the "shared" roadway condition that gives them their name.

Sharrow installations and the research surrounding them have seen mixed benefits. Evaluation of sharrow use by the FHWA found that cyclists using streets installed with sharrows stayed further from the curb and further from parked vehicles, reducing the potential for injury and conflicts. Vehicles traveling along roadways with sharrows also tended to stay further away from the curb.

However, a recent study of cycling infrastructure in Chicago revealed few if any safety benefits for cyclists resulting from sharrow installation. In fact, the researchers found that "injuries in blocks with sharrows only declined about 20 percent—less of a decrease than occurred in Chicago blocks where no bike infrastructure was created at all, nearly 37 percent. [39]" This research indicates that sharrows should not be used indiscriminately, and are not a substitute for actual cycling infrastructure such as bike lanes or shared-use paths. As one resources notes "the sharrow is a great new tool, but it should be used intelligently. We should be prudent about using this new option so that it continues to be a sharp tool in our bikeway toolbox.[40]

Advisory Bike Lanes are an emerging road treatment in North America. This treatment consists of a two-way vehicle lane. The two-way vehicle lane lacks a center line or stripe dividing it into two traffic lanes. Generally this vehicle lane is much narrower than on conventional roadways. On either side of the roadway is a bike lane, delineated from the vehicle lane by dashed lines. When approaching oncoming motor vehicles, motorists must merge into the Advisory Bike Lane. If a bicyclist is present, motorists must slow and yield to bicyclist traffic prior to entering the Advisory Bike Lane.[41]

Advisory Bike Lanes are currently allowed as an experimental traffic control device by FHWA. To install them, municipalities must seek approval prior to construction. While installing Advisory Bike Lanes is cheap, consisting only of paint and signage, there are limits to their application. Design guidance states that "Advisory Bike Lanes may operate best on streets that are straight with few bends, inclines, or sightline

[38] https://www.fhwa.dot.gov/publications/research/safety/pedbike/10041/10041.pdf

[39] https://www.citylab.com/solutions/2016/02/sharrow-safety-bike-infrastructure-lane-chicago/460095/
[40] http://www.bikede.org/2011/03/14/four-solid-uses-for-sharrows/
[41] http://altaplanning.com/wp-content/uploads/Advisory-Bike-Lanes-In-North-America_Alta-Planning-Design-White-Paper.pdf

obstructions. Motorists must have a clear sight distance of oncoming vehicles.[42]" Moreover, they are best applied to low-volume (< 5000 ADT), low-speed roadways (35 mph or slower).

Along with sharrows, Advisory Bike Lanes could make up components of a robust bicycle network within Williamstown, given the constraints imposed by topography, limited resources, and other existing conditions.

In Williamstown, the recommendation is to evaluate Latham St. as a potential location for Advisory Bike Lanes (*Project 13*). This project will require approval from FHWA as these facilities are considered experimental. If they prove to be successful, the town should explore their use on other roadways where dedicated bike facilities are infeasible.

Consider Shoulder Widening as part of future TIP Projects or other Major Reconstruction to add Bicycle Facilities to Existing Roads

Williamstown has many narrow roadways where existing lane widths cannot be reconfigured to accommodate bicycle lanes or other facilities without significantly widening the roadway. Shoulder widening can be an expensive construction task, particularly when grades and topography around roads are steep and constrained. The town should invest in shoulder widening along key sections of roadway to accommodate new bike lanes in the long-term.

In Williamstown the recommendation is to consider future shoulder widening along Main St. to provide dedicated bike lanes (*Project 2*). Bike lanes here will create a dedicated facility that parallels future shared-use path and will help extend existing bike facilities already found on Route 2. The town is also considering extending Walden St. west to South St. along Williams College property. This street extension will also provide sidewalk and bike lanes. Creation of this new roadway will help solve circulation issues in the village commercial area and will also create a better nonmotorized connection between commercial areas and the Clark Art Institute on South St. (*Project 3*).

Ensure Bike Parking and Amenities at Town Facilities and Open Space Areas

Bicycle parking is a key street furnishings element to the usability of bicycles for transportation. If there is nowhere to safely park a bicycle, people will be less likely to rely on it for transportation. Bicycle parking is good to have in in village center areas for visitors to shops and restaurants. There are many options for bicycle parking, and for reference see the Association of Pedestrian and Bicycle Professionals' *Essentials of Bike Parking*.[43] Bicycle repair stations are another component of cycling infrastructure that include tools and an air pump for repairing or maintaining bicycles. Repair stations can help cyclists "in a pinch" who may not have a set of tools on hand, and show that the town is bike friendly and encourages cycling.

In Williamstown, the recommendation is to provide bike parking at town facilities, and at access points to open space areas, such as major trailheads. The town should also consider installing a bike repair station somewhere in town, perhaps along the route of the New England Greenway.

Consider Expanding the Williams College Bike Share Program

Williams College currently operates a bike rental program that is open to students, faculty, and staff through the college's "Purple Bike Coalition"[44]. The town has been interested in expanding this program to make it available to the public, with a bike share dock and station to be located at the future Williams Inn location on Spring / Latham St (*Project 20*). Bike share programs have many benefits. They can help improve the image

[42] http://altaplanning.com/wp-content/uploads/Advisory-Bike-Lanes-In-North-America_Alta-Planning-Design-White-Paper.pdf
[43] http://www.apbp.org/?page=publications
[44] http://sites.williams.edu/bikes/

of cycling in a community, transforming the culture of biking in positive ways[45]. They can also help expand transportation options for low-income residents and promote towns as tourist and recreation destinations.

Pedestrian Recommendations

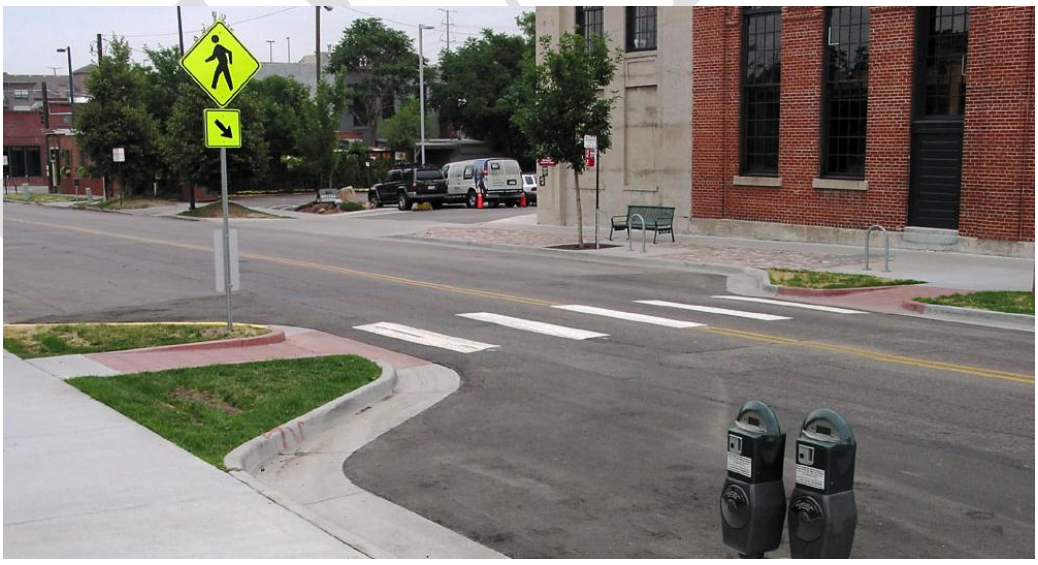
Calm Traffic and Enhance Crossings in the Village Center

Traffic calming takes elements of design and landscaping together to slow down cars and increase awareness of pedestrians and cyclists. This can improve nonmotorized safety, enhance walkability and crossings, stormwater management, and contribute to the beautification of the natural character in rural areas. Traffic calming comes in many different forms and may include vertical deflections (speed humps or raised intersections), horizontal shifts (traffic circle or chicane), and/or roadway narrowing (choker or center island). These treatments are often accompanied by visual enhancements like trees, plantings, wayfinding, and/or street furniture. Additionally, the town should consider permanent physical traffic calming measures, such as curb extensions, RRFB, and crossing islands, in the village center.

Curb Extensions

Curb extensions are sometimes referred to as "bulb-outs" or "bump-outs". These are areas where curb and sidewalk extend out into the roadway, usually the width of an on-street parking space. Curb extensions reduce the pedestrian crossing distance and also make pedestrians more visible to traffic by allowing them to move closer to vehicle lanes without actually stepping out into traffic. Curb extensions have also been found to slow and calm passing traffic. Curb extensions often include streetscape features such as bollards and plantings which can help make them more aesthetically pleasing. Curb extensions are currently found along Spring St. in Williamstown, as well as in other Berkshire communities like Pittsfield, Lee, and Great Barrington (see **Figure 5.1)**.

Figure 5.1 Curb Extension



Rapid Rectangular Flashing Beacons (RRFB)

RRFB are placed at unsignalized mid-block crossings. These beacons generally provide a button or motion activated flashing light that alerts drivers that pedestrians are using the crosswalk. They serve only as warning

[45] https://www.itdp.org/wp-content/uploads/2014/07/ITDP_Bike_Share_Planning_Guide.pdf

signs, and do not force driver compliance. However, RRFBs have been shown to effectively increase the rate of drivers yielding to pedestrians.

Figure 5.2 Rapid Rectangular Flashing Beacon

Pedestrian Refuge Islands

Pedestrian refuge islands, also known as crossing islands or "pork-chop" islands are typically raised areas between opposing lanes of traffic. They allow for separation between pedestrians and traffic at intersections or mid-block crossings. They are typically raised medians or islands, though lower-cost versions can be made of pavement markings only. In addition to enhancing crossings, refuge islands can also help calm traffic.

In the Town of Williamstown, the recommendation is to include curb extensions, RRFB, and refuge islands at key pedestrian crossing locations, including:

- RRFB at six mid-block crossings along Main St. (*Project 4*)
- RRFB and curb extensions at crossings along Park St. (*Project 6 and 7 – listed as two options for the town*)
- Enhancement of the painted refuge island at the intersection of South St. and Route 2/7 (Field Park) with removable delineator posts (*Project 9*). Removable delineator posts will allow the town to calm traffic and call attention to pedestrians at this intersection during the busy summer months and remove them during the winter. The town should also consider mounting the post bases flush with existing pavement or slightly below grade so that snow plows do not disturb them.

Maintain and Complete the Sidewalk Network

Sidewalks are a critical component of village areas and as such, ensuring pedestrian movement and access improves connectivity, improves public health and safety, and promotes increased economic development. Sidewalks should be vertically and horizontally separated from the roadway. It is desirable for a sidewalk through zone to be a minimum of 6 feet, although 5 feet is acceptable if right-of-way does not allow it. The minimum of 5 feet is due to ADA requirements, to ensure all ages and abilities can use the facility. In non-village centers it may be more advantageous to look at combining pedestrians and cyclists on a shared use path.

In the Town of Williamstown, the recommendation is to install or repair/replace sidewalks in the following locations. Moreover, the town should review sidewalks in fair or poor condition listed in **Table 4.2** and replace these as funds become available.

- Syndicate Rd. – extension of sidewalk from current end of sidewalk north to Route 7. (*Project 12*)
- Bridges Rd. – from the intersection of Sand Springs Rd. west to Route 7 (*Project 14*)
- South St. – extension of sidewalk from current end of sidewalk south to the driveway of the Buxton School (*Project 21*)
- Along Meacham St. from current end of sidewalk east to Water St. (*Project 16*)

Education

Education is an important component of implementing any new traffic pattern, nonmotorized infrastructure, or trail. Safety increases as more people become aware of the rules of the road (see Enforcement section below), and as options become safer people are more likely to use facilities. Educating residents and visitors is an important part of encouragement too (see below), as visitors may not be aware of new facilities, sidewalks, or trails connecting them to key destinations.

Encouragement

With new multimodal options, users must be encouraged to utilize multimodal infrastructure. Whether it is Bike to School day or a weekend walk to the library, the opportunities should be encouraged and highlighted so residents and visitors are aware of the multimodal options. Encouragement may mean designated a Bike to Work day, or distributing walking maps to residents that show where safe sidewalks, paths, or trails exist and connect to their key destinations.

Host a Complete Streets Demonstration day

The town should consider installing temporary curb extensions, temporary wayfinding, and other "pop-up" projects to field test different ideas and get feedback from the public regarding potential projects. These projects can also build interest in and involvement around in public infrastructure projects, while further activating the village center with events. The town could also collaborate with Williams College, designers, and other organizations to construct a temporary parklet or other public space that would transform an existing parking spot for a temporary period. While the town would lose one parking space for a time, the temporary space could be used to expand outdoor dining, promote other local business, or simply create an attraction to generate interest in the village center area, particularly during summer months. Municipalities around the globe participate in similar activities as part of Park(ing) Day[46], held yearly on the third Friday of September.

Enforcement

Ensuring the rules of the road are enforced across all modes of transportation is an important component of ensuring safe travel for all. There are key violations that occur by vehicle drivers and cyclists which impact the safety of the road for everyone. Massachusetts General Law addresses some of the key rules of the road for motorists and cyclists across the Commonwealth, and enforcing these laws is important for vehicle drivers and cyclists alike. Cyclists must adhere to the rules of the road (ex. obeying traffic signals) and there are special regulations outlined in the Massachusetts General Law[47] that guide cyclist behavior:

- Cyclists may keep right when passing a motor vehicle moving in the travel lane.

[46] http://parkingday.org/

[47] [47] https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIV/Chapter85/Section11b

- Cyclists must signal by either hand the intention to stop or turn, except when the use of both hands is necessary for the safe operation of the bicycle.
- Cyclists may ride on sidewalks outside of business districts when necessary in the interest of safety (unless expressly prohibited). When cyclists ride on sidewalks, they must yield the right of way to pedestrians and give an audible signal before passing any pedestrians.
- Cyclists riding together may not ride more than 2 abreast, but on a road with more than one lane in the direction of travel, must ride within a single lane.
- Cyclists must only ride on or astride a permanent seat attached to the bicycle, although passengers may ride on a permanent seat attached to the bicycle or in a trailer towed by the bicycle.
- Cyclists may not transport anyone between the ages of one to four (or weighing 40 pounds or less), on a bicycle except in a "baby seat." Cyclists may not transport any person under the age of one year.
- Cyclists and passengers 16 and younger must wear a helmet.
- Cyclists must give an audible warning whenever needed to insure safe operation of the bicycle, however the use of a siren or whistle is prohibited.
- Cyclists must park the bicycle in a manner as not to obstruct vehicular or pedestrian traffic.
- Cyclists cannot be drawn by another moving vehicle, nor can they tow any other vehicle or person except when a bicycle trailer is property attached to the bicycle that allows for firm control and braking.
- Cyclists cannot carry a package/bundle except in or on a basket, rack, trailer, or other device designed for such purposes. The operator shall keep at least one hand upon the handlebars at all times.
- Bicycles must be equipped with a braking system that enables the operator to bring the bicycle traveling at a speed of 15 mph to a smooth, safe stop within 30 feet on a dry, clean, hard, level surface.
- Cyclists riding between one-half hour after sunset to one-half hour before sunrise, must display to the front of the bicycle a white light from a distance of at least 500 feet, and to the rear a red light or reflector visible for no less than 600 feet when directly in front of lawful lower beans of motor vehicle headlights.
- Cyclists riding between one-half hour after sunset to one-half hour before sunrise, must display a reflector on each pedal of the bicycle or, around each angle a reflective material visible from the front and rear for a distance of 600 feet.
- Cyclists riding between one-half hour after sunset to one-half hour before sunrise, must display a reflector on each pedal of the bicycle or, around each angle a reflective material visible from the side for a distance of 600 feet.
- Cyclists many not operate a bicycle in the public way with handlebars raised so that the operator's hands are above their shoulders while gripping them.
- Cyclists must report any accident involving either personal injury or property damage in excess of $100, or both, to the police department in the community in which the accident occurred.

Because bicycles are more commonly used as a mode of transportation for many people, it is important the rules of the road are understood and enforced. Additionally, there are laws[48] outlining motorist's responsibility as they relate to bicycle travel:

- Drivers of motor vehicles must slow down and pass cyclists at a safe distance and at a reasonable and proper speed.

[48] https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIV/Chapter90/Section14

- Drivers of motor vehicles that overtake and pass a cyclist proceeding in the same direction shall not make a right turn at an intersection or driveway unless the turn can be made at a safe distance from the cyclist at a speed that is reasonable and proper.
- Drivers of motor vehicles approaching for a left turn on a two-way street must do so yielding the right of way to any vehicle approaching from the opposite direction, including a bicycle on the right of other approaching vehicles, which is within the intersection or so close thereto as to constitute an immediate hazard.
- Drivers and passengers of motor vehicles shall not open a door of the motor vehicle unless it is reasonable safe to do so without interfering with the movement of other traffic, including cyclists and pedestrians.

Evaluation

Per the Town of Williamstown's Complete Streets Policy, it is important to integrate Complete Streets elements into the daily operations, planning, design, and implementation of transportation projects. To make this easier, the Complete Streets Committee developed a checklist for the Highway Department to refer to during the project development process

Context

- What is the adjacent land use? Are there any activity centers that might attract cyclists or pedestrians?
- What is the available right-of-way? How is it allocated by mode?
- What are the challenges for the project to address bicycle and pedestrian travel?

Function

- What is the functional classification of the roadway?
- What connections does the roadway provide?
- Are there options for nonmotorized users on/near the facility (ex. path, multi-use trail, sidewalk)?

Safety

- What is the crash history at or along the project area?
- Is there a high percentage of crashes involving nonmotorized travelers?
- Is there a difficult crossing or intersection for nonmotorized travelers?

Formalize a Complete Streets Review and Implementation Process

The Town of Williamstown should formalize a review process that ensures that its Complete Streets policy is implemented. The Public Works Director should begin project proposals yearly by formulating a budget and identifying roadway needs. This initial project list should be reviewed by key staff members including the Town Manager, Community Development Director, and others, such as the Selectboard. After this initial review, staff should organize a site visit to discuss potential complete streets improvements and evaluate other means to enhance the overall project value. Moreover, key staff members, such as the Public Works Director or Community Development Director, should draft a yearly memorandum that evaluates implementation progress based on the performance measures listed in **Table 2.2** and describing each Complete Streets project.

Invest in Pedestrian and Cycling Counters to Drive Data-Based Transportation Decisions

A variety of pedestrian and cyclist counting products[49,50] exist today which free municipalities from total reliance on volunteer based counting methods. The town could purchase and install these counters at key locations such as the village center, town parks, and the future Mohawk Bike/Ped. Trail. Counters would allow the town to obtain continuous data about the number of individuals using sidewalks or traveling by bicycle. Additionally, it could supplement these counters using traditional hand counts organized with volunteers at regular intervals during the year.

[49] http://www.eco-compteur.com/en/products/pyro-range/pyro-sensor
[50] https://www.trafx.net/products.htm

6. PRIORITIZATION PLAN AND IMPLEMENTATION

Methodology

In an effort to develop a data-driven process to guide the prioritization of Complete Streets projects in Williamstown, the Complete Streets Committee developed a planning framework that outlined: goals, performance measures, evaluation criteria/scoring, and weighting. This framework ensured the goals were measurable, and that scoring of the projects directly related to the plan's goals. The Committee was asked to weight and rank each goal, and that was integrated into the multi-criteria analysis used to prioritize the Town's improvements. Based on combined weighting and ranking scores from each committee member, projects related to the safety and traffic calming goal areas received the greatest weight. Projects related to the goal area of context sensitivity were weighted the lowest.

The planning framework matrix can be seen in **Table 6.1**.

Table 6.1. Planning Framework Matrix

SYSTEM			PROJECT-SPECIFIC	
Goal Area/Theme	Goal	System Performance Measure	Project Scoring	Weight
Economic Vitality	Enhance urban area and village center so it is walkable, bikeable, and can be used by all modes.	annual number of improvements in Census Urban Area	0 - not in US Census designated urban area 1 - project connects to urban area 3 - project is located within urban area	**1.93**
Usability	Ensure active mode improvements are user friendly and encourage people to walk and bike in low-stress, safe environments	number of, or linear feet of roadway(s) with dedicated pedestrian and cycling facilities or improvements	0 - project does not improve biking or walking 1 - project addresses ONLY biking or walking 3 - project addresses BOTH biking and walking	**1.24**
Access to Public / Civic Facilities	Promote connectivity to public facilities, such as town buildings, libraries, parks, and recreation areas.	number of projects connecting to or adjacent to public facilities	0 - project is not adjacent or connects to a public facility, park, or other recreation area 1 - project is adjacent or connects to at least ONE of the following: public facility, park, or other recreation area 3 - project is adjacent or connects to at least TWO of the following: public facility, park, or other recreation area	**1.18**
Community Character	Develop a multimodal transportation system that is sensitive to the aesthetics and character of Williamstown, while creating a livable community for all.	number of residents within 1/4 mile of a dedicated active mode facility	1 point given to each of the following: - Project is located in either medium or high density residential area (Y/N) - Project provides a shared-use path (Y/N) - Project has landscape/streetscape component that enhances community character (Y/N)	**1.75**

Public Safety and Traffic Calming	Promote safety and traffic calming measures in Williamstown to encourage access for all modes, reduce speeds in activity hubs, and promote attractive streetscapes.	annual number of citations for speeding	0 - project has no traffic calming component 1 - project has traffic calming component that impacts ONE of the following: speed reduction, streetscape improvement, encourages access for all modes 2 - project has traffic calming component that impacts TWO of the following: speed reduction, streetscape improvement, encourages access for all modes 3 - project has traffic calming component that impacts ALL of the following: speed reduction, streetscape improvement, encourages access for all modes	**1.58**
Connectivity	Provide transportation choices by improving system connectivity within and between modes.	share of non-automobile commuters (ACS)	0 - does not address connectivity within or between modes 1 - addresses existing gap, barrier, and/or connectivity between modes 2 - addresses more than one existing gap, barrier, and/or connectivity between modes 3 - addresses more than two existing gaps, barriers, and/or connectivity between modes	**1.58**
Aging in Place / Age Friendly	Promote connectivity to senior and other affordable housing, Council on Aging facilities and other areas as identified	number of projects connecting to or adjacent to senior housing, Council on Aging facilities, and other selected locations	0 - project is not adjacent or connect to senior housing, COA, a school, or other destination 1 - project is adjacent / connects to at least ONE of the following: senior housing, COA, a school, or other destination 3 - project is adjacent / connects to at least TWO of the following: senior housing, COA, a school, or other destination	**0.74**

Project Selection and Final List

Using the final scores (weighted and unweighted), the Committee developed its final list of projects to submit to MassDOT. It should be noted that some recommended projects are located on MassDOT owned roads, cooperation with MassDOT District 1 will be necessary to move these projects forward. The Town of Williamstown will submit these projects, in writing, to the District 1 Highway Director. For the final Tier 2 list, see **Table 6.2** below; for the complete list of potential improvements, see **Appendix B**.

Table 6.2 Final Complete Streets Project Prioritization (Tier 2) List

Project #	Project Type	Project Location
Project 1	Water St. Intersection Reconstruction	Reconstruction of the intersection of Water St. and Main St. as a roundabout to provide better accommodation for all users. Reconstruction will include associated sidewalk, crosswalk and pedestrian crossing island construction to enhance ADA accessibility. This intersection is a listed as a bike and pedestrian crash cluster location. It is also an important crossing location for Williams College students.
Project 2	Main St. Bike Improvements	Widening of Main St. / Route 2 to accommodate designated bike lanes (5' width).

Project #	Project Type	Project Location
Project 3	Walden St. Bike/Ped Extension	Construction of approx. 850' of new roadway between Walden St. and South St. New roadway will include 5' bike lanes along both sides, as well as ADA accessible sidewalk and crossings.
Project 4	Main St. Crossing Enhancements	Installation of solar powered RRFB at 6 mid-block crossings along Main St.
Project 5	Sand Springs / Bridges Intersection Reconstruction	Reconstruction of the intersection of Sand Springs Rd and Bridges Rd. to provide traffic calming and enhance safety for all users. Construction will include narrowing of the roadway, reductions in curb radii, as well as associated sidewalk and crosswalk work to provide ADA accessibility
Project 6	Park St. Pedestrian Crossing Enhancements - Option 1	Installation of curb extensions and RRFB at 3 crossings along Park St. Project will include associated sidewalk and crosswalk work to provide ADA accessibility.
Project 7	Park St. Pedestrian Crossing Enhancements - Option 2	Installation of solar powered RRFB at 2 crossings along Park St.
Project 8	Main St. Shared-Use Path	Construction of approx. 3400' of new 12' wide concrete shared-use path along Main St. to provide better accommodation for both pedestrians and cyclists.
Project 9	South St. Pedestrian Refuge Island	Installation of flush mounted removable delineator posts to define a pedestrian refuge island at the intersection of South St. and Route 7.
Project 10	Stratton Rd. Striping	Installation of recessed striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.
Project 11	Cole Ave. Striping	Installation of recessed striping to delineate designated bike lanes along Cole Ave.
Project 12	Syndicate Rd. Sidewalk Extension	Installation of approx. 2000' of new ADA accessible sidewalk along Syndicate Rd. The project will include associated retaining wall and drainage work.
Project 13	Latham St. Bike Accommodations	Restriping of Latham St. with advisory shoulders to provide traffic calming as well as bicycle accommodation.
Project 14	Bridges Rd. Sidewalk Replacement	Replacement of approx. 1400' of asphalt sidewalk along Bridges rd. with new ADA accessible sidewalk.
Project 15	Bulkley / Northwest Hill Intersection Safety Improvements	Reduction in corner radii at intersection to provide traffic calming along a popular walking route
Project 16	Meacham St. Sidewalk Extension	Installation of approx. 250' of new ADA accessible sidewalk along Meacham St. Work will include construction of 2 new curb ramps.
Project 17	Bulkley St. Striping	Installation of painted striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.
Project 18	Northwest Hill Rd. Striping	Installation of painted striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.
Project 19	West Main Striping	Installation of painted striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.
Project 20	Bike Share Program Infrastructure	Installation of bike storage and rental docking station for bike share program.
Project 21	Buxton School Sidewalk Extension	Installation of approx. 500' of new ADA accessible sidewalk and along South St. to the entrance of the Buxton School. Work will include construction of 2 new curb ramps.
Project 22	West Main/Northwest Hill Rd. Intersection Safety Improvements	Reduction in corner radii at intersection to provide traffic calming along a popular walking route.

Implementation

In an effort to ensure the Town of Williamstown is able to successfully implement their Complete Streets Policy, the Complete Streets Committee and BRPC staff developed several tables that detail short-term next steps, and annual steps that ensure timely implementation of Complete Streets projects in the Town of Williamstown. Annual implementation steps can be seen in **Table 6.3.**

Table 6.3 Yearly Implementation Tasks and Project Cycle

Action	Responsible Party	Timeline (Yearly)	Others Interested
Project Identification	Complete Streets Committee	Spring	Selectboard, Public Works Residents
Score and rank new projects, Revise Tier 2 List	Complete Streets Committee	Late Spring	Board of Selectmen, Public Works, Residents
Project Budgeting	Complete Streets Committee, Community Members	Summer or Fall	Selectboard, Finance Committee, Public Works
Prepare RFP for design needs on identified projects requiring engineering or design	Highway Dept.	Fall	Selectboard, Finance Committee, Complete Streets Working Group
Construction	Highway Dept.	Following Spring	Board of Selectmen, Complete Streets Working Group
Evaluate and document performance (See Performance Measures section)	Complete Streets Committee	Following Summer or Fall	Board of Selectmen, Public Works, Residents

APPENDIX A: COMPLETE LIST OF POTENTIAL IMPROVEMENTS

Table A1 outlines the complete list or "universe" of all potential complete streets improvements identified by the Williamstown Complete Streets Committee. Projects in this list were further refined into a final list for submittal to MassDOT. Project locations have also been mapped in **Figure A1**

Red text in the table denotes projects that are located along state highways, and which are not eligible for funding through the MassDOT Complete Streets Program. The town should work closely with MassDOT to advocate for and include these improvements in future state roadway work.

Table A1. Complete List of Potential Improvements

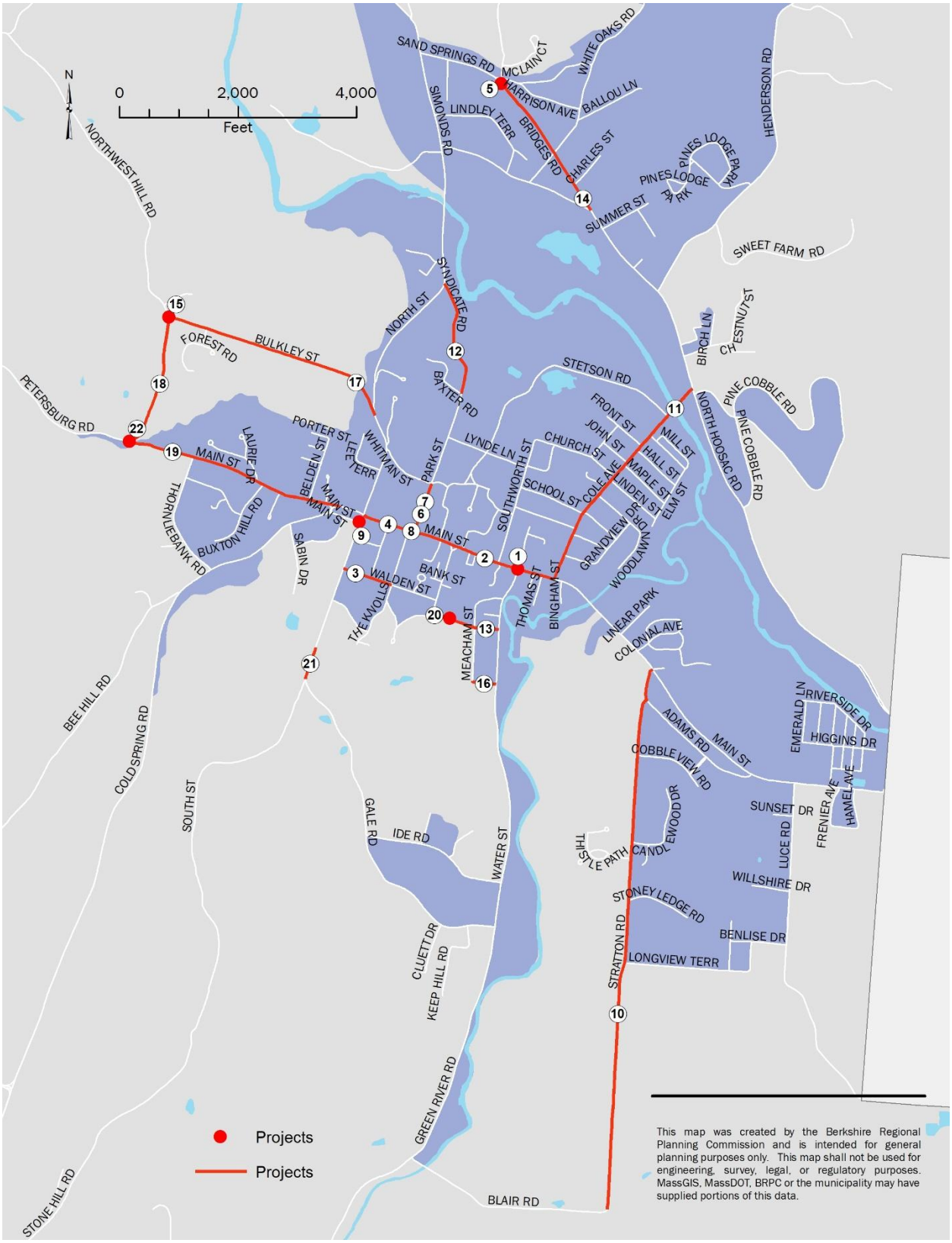
			Economic Vitality	Usability	Access to Public / Civic Facilities	Community Character	Public Safety and Traffic Calming	Connectivity	Aging in Place / Age Friendly	Score Unweighted	Score Weighted
PROJECT #	PROJECT TYPE	PROJECT LOCATION WEIGHT	1.93	1.24	1.18	1.75	1.58	1.58	0.74		-
PROJECT 1	Water St. Intersection Reconstruction	Intersection Reconstruction - possible roundabout	3	3	1	2	3	1	0	13	18.93
PROJECT 2	Main St. Bike Improvements	Widening of Main St. / Route 2 to accommodate bike lanes.	3	3	3	2	1	1	0	13	18.13
PROJECT 3	Walden St. Bike/Ped Extension	Extension of bike and ped. facilities between South St. and Walden St.	3	3	1	2	2	1	0	12	17.35
PROJECT 4	Main St. Crossing Enhancements	Installation of RRFB at 6 midblock crossings along Main St.	3	1	2	2	2	0	0	10	16.05
PROJECT 5	Sand Springs / Bridges Intersection Reconstruction	Reconstruction of Sand Spring and Bridges Rd to provide traffic calming and reduce pedestrian crossing distance.	3	3	0	1	3	1	0	11	16
PROJECT 6	Park St. Pedestrian Crossing Enhancements - Option 1	Installation of curb extensions and RRFB along Park St.	3	1	1	1	3	1	0	10	14.7
PROJECT 7	Park St. Pedestrian Crossing Enhancements - Option 2	Installation of four RRFB along Park St.	3	1	1	1	3	1	0	10	14.7

			Economic Vitality	Usability	Access to Public / Civic Facilities	Community Character	Public Safety and Traffic Calming	Connectivity	Aging in Place / Age Friendly	Score Unweighted	Score Weighted
PROJECT 8	Main St. Shared use path	Installation of shared use path along Main St.	3	1	2	2	1	1	0	10	14.47
PROJECT 9	South St. Pedestrian Refuge Island	Pedestrian refuge island (temporary/seasonal)	3	1	1	1	2	1	0	9	13.12
PROJECT 10	Stratton Road Striping	Striping of Stratton Rd. to provide traffic calming	3	3	0	1	1	0	0	8	12.84
PROJECT 11	Mt. Greylock Bike / Ped Accomodations	Bicycle and Pedestrian Accomodations to Mt. Greylock High School (state roadway - not eligible for funding)	0	3	1	2	2	1	1	10	12.3
PROJECT 12	Restripe Cole Ave.	Restriping to increase shoulder for bikes	3	1	1	1	1	1	1	9	12.28
PROJECT 13	Route 7 Sidewalk Extension	Extension of sidewalk approximately 2500' along Route 7 / Simonds Road to the Vermont Border (state roadway - not eligible for funding)	3	1	0	2	1	1	0	8	12.11
PROJECT 14	Syndicate Road Sidewalk Extension	Extension of sidewalk approximately 2000' along Syndicate Road.	3	1	0	2	1	1	0	8	12.11
PROJECT 15	Latham St. Bicycle Accomodations	Restriping of Latham St. with Advisory Shoulders to provide traffic calming as well as	3	1	1	1	1	1	0	8	11.54

			Economic Vitality	Usability	Access to Public / Civic Facilities	Community Character	Public Safety and Traffic Calming	Connectivity	Aging in Place / Age Friendly	Score Unweighted	Score Weighted
		bicycle and pedestrian accomodation									
PROJECT 16	Bridges Rd. Sidewalk Replacement	Replacement of approx. 1400' of asphalt sidewalk along Bridges rd	3	1	1	1	1	1	0	8	11.54
PROJECT 17	Bulkley / North West Hill Rd. Intersection Safety Improvements	Reduction in corner radii at intersection to provide traffic calming	3	3	0	0	1	0	0	7	11.09
PROJECT 18	Meacham St. Sidewalk Extension	Extension of Sidewalk along Meacham St.	3	1	0	1	1	1	0	7	10.36
PROJECT 19	Restripe Bulkley St.	Lane striping of Bulkley St. to provide traffic calming	3	1	0	1	1	1	0	7	10.36
PROJECT 20	Restripe North West Hill Rd.	Lane striping of North West Hill Rd. to provide traffic calming	3	1	0	1	1	1	0	7	10.36
PROJECT 21	Restripe West Main St.	Lane striping of West Main St. to provide traffic calming	3	1	0	1	1	1	0	7	10.36
PROJECT 22	Bike Share Program Infrastructure	Infrastructure (bike storage, etc) to support bike share program	3	1	1	1	0	1	0	7	9.96
PROJECT 23	Buxton School Sidewalk Extension	Extension of existing sidewalk approximately 950' along South St. to the Buxton School	0	1	2	1	1	1	1	7	7.67
PROJECT 24	West Main / North West Hill	Reduction in corner radii at intersection	1	3	0	0	1	0	0	5	7.23

			Economic Vitality	Usability	Access to Public / Civic Facilities	Community Character	Public Safety and Traffic Calming	Connectivity	Aging in Place / Age Friendly	Score Unweighted	Score Weighted
	Rd. Intersection Safety Improvements	to provide traffic calming									

Figure A1 Potential Improvements



APPENDIX B: MASSDOT COMPLETE STREETS PROJECT PRIORITIZATION PLAN

The following Appendix section (**Table B1**) is a copy of the Tier 2 Prioritization Plan that was submitted to MassDOT. Projects are identical to those found in **Table 6.2** but includes additional information such as estimated start and end locations, anticipated construction duration and other information.

Table B1 MassDOT Complete Streets Tier 2 Prioritization Plan

Project Details			EJ	Complete Streets Location			Project Origin and Type		Complete Streets Needs								Complete Streets Funding Request			Construction Schedule	
Rank	Project Name	Project Description	Environmental Justice Population	Project Limits	Project Start Location: X,Y Coordinates (MA State Plane meter)	Project End Location: X,Y Coordinates (MA State Plane meter)	Complete Streets Project Origin (planning documentation or supporting analysis)	Complete Streets Project Type (refer to the Eligible Projects Worksheet)	Safety	ADA Accessibility	Pedestrian Mobility	Bicycle Mobility	Transit Operations and Access	Vehicular Operations	Freight Operations	Will this project be in Coordination with other Communities? (list, if applicable)	Total Estimated Project Cost	Complete Streets Funding Requested	Other Funding Source(s) and Amount (if applicable)	Anticipated Construction Duration (number of months)	Desired Construction Start Date (month/year)
1	Water St. Intersection Reconstruction	Reconstruction of the intersection of Water St. and Main St. as a roundabout to provide better accommodation for all users. Reconstruction will include associated sidewalk, crosswalk and pedestrian crossing island construction to enhance ADA accessibility. This intersection is listed as a bike and pedestrian crash cluster location. It is also an important crossing location for Williams College students.	No	Intersection of Water St. and Main St.	60783, 941460		CS Needs Assessment	S13, S18, P2, P5, P7	X	X	X	X		X		No	???	$400,000.00	Town, Chap. 90, TIP	5	04/01/19
2	Main St. Bike Improvements	Widening of Main St. / Route 2 to accommodate designated bike lanes (5' width).	No	Main St. from Route 7 to Cole Ave.	59986, 941741	60966, 941405	CS Needs Assessment	S15, B2	X			X				No	$1,553,334.00	$400,000.00	1153334 (Town, Chap. 90, TIP)	4	04/01/22
3	Walden St. Bike/Ped Extension	Construction of approx. 850' of new roadway between Walden St. and South St. New roadway will include 5' bike lanes along both sides, as well as ADA accessible sidewalk and crossings.	No	Walden St. west to South St.	59882, 941461	60131, 941376	CS Needs Assessment	B2, P2, P5		X	X	X				No	$ 511,747	$ 263,565	248182 (Town, Chap. 90)	3	04/01/21

Project Details			EJ	Complete Streets Location			Project Origin and Type		Complete Streets Needs								Complete Streets Funding Request			Construction Schedule	
4	Main St. Crossing Enhancements	Installation of solar powered RRFB at 6 mid-block crossings along Main St.	No	Main St. from Route 7 to Cole Ave.	59986, 941741	60966, 941405	CS Needs Assessment	P12	X		X					No	$121,440.00	$110,400.00	11040 (Town, Chap. 90)	1	04/01/19
5	Sand Springs / Bridges Intersection Reconstruction	Reconstruction of the intersection of Sand Springs Rd and Bridges Rd. to provide traffic calming and enhance safety for all users. Construction will include narrowing of the roadway, reductions in curb radii, as well as associated sidewalk and crosswalk work to provide ADA accessibility	No	Intersection of Sand Springs Rd and Bridges Rd.	60697, 943958		CS Needs Assessment	S13, S6, P2,P5	X	X	X	X		X		No	$123,915.00	$112,650.00	11265 (Town, Chap. 90)	3	04/01/20
6	Park St. Pedestrian Crossing Enhancements - Option 1	Installation of curb extensions and RRFB at 3 crossings along Park St. Project will include associated sidewalk and crosswalk work to provide ADA accessibility.	No	Park St. from Main St. to Whitman St.	60250, 941650	60337, 941899	CS Needs Assessment	P2, P5, P12, S17	X	X	X					No	$161,500.00	$147,727.00	13773 (Town, Chap. 90)	3	04/01/21
7	Park St. Pedestrian Crossing Enhancements - Option 2	Installation of solar powered RRFB at 2 crossings along Park St.	No	Park St. from Main St. to Whitman St.	60250, 941650	60337, 941899	CS Needs Assessment	P12	X		X					No	$40,480	$36,800.00	3680 (Town, Chap. 90)	1	04/01/21
8	Main St. Shared-Use Path	Construction of approx. 3400' of new 12' wide concrete shared-use path along Main St. to provide better accommodation for pedestrians and cyclists.	No	Main St. from Route 7 to Cole Ave.	59986, 941741	60966, 941405	CS Needs Assessment	B10	X	X	X	X				No	$518,635.00	$400,000.00	118635 (Town, Chap. 90)	4	04/01/20
9	South St. Pedestrian Refuge Island	Installation of flush mounted removable delineator posts to define a pedestrian refuge island at the intersection of South St. and Route 7.	No	Intersection of South St. and Route 7 (Field Park)	59965, 941701		CS Needs Assessment	P7	X		X					No	$5,060.00	$4,600.00	460 (Town, Chap. 90)	1	04/01/18
10	Stratton Rd. Striping	Installation of recessed striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.	No	Stratton Rd. from Route 2 to Blair Rd.	61240, 938158	61475, 940936	CS Needs Assessment	S1, B0, P0	X		X	X		X		No	$72,990.00	$66,355.00	6635 (Town, Chap. 90)	1	04/01/19
11	Cole Ave. striping	Installation of recessed striping to delineate designated bike lanes along Cole Ave.	Yes	Route 2 to North Hoosac Rd.	60968, 941407	61684, 942388	CS Needs Assessment	S1, B0	X			X		X		No	$52,497	$47,725.00	4772 (Town, Chap. 90)	1	04/01/21
12	Syndicate Rd. Sidewalk Extension	Installation of approx. 2000' of new ADA accessible sidewalk along Syndicate Rd. The project will include associated retaining wall and drainage work.	No	Syndicate Rd. from sidewalk end to Route 7	60492, 942361	60402, 942929	CS Needs Assessment	P2, P5, P9	X		X			X		No	456480	349962	106518 (Town, Chap. 90)	3	04/01/21
13	Latham St. Bike Accommodations	Restriping of Latham St. with advisory shoulders to provide traffic calming as well as bicycle accommodation.	No	Latham St. between Spring and Water St.	60347, 941233	60684, 941149	CS Needs	S1, B0	X			X		X		No	$4,807	$4,370	437 (Town, Chap. 90)	1	04/01/21

Project Details			EJ	Complete Streets Location			Project Origin and Type		Complete Streets Needs								Complete Streets Funding Request			Construction Schedule	
							Assessment														
14	Bridges Rd. Sidewalk Replacement	Replacement of approx. 1400' of asphalt sidewalk along Bridges rd. with new ADA accessible sidewalk.	No	Route 7 to Sand Springs Rd.	61159, 943306	60696, 943959	CS Needs Assessment	P2, P5, P9	X	X	X			X		No	$ 93,368	$85,899.00	7469 (Town, Chap. 90)	3	04/01/20
15	Bulkley / Northwest Hill Intersection Safety Improvements	Reduction in corner radii at intersection to provide traffic calming	No	Intersection of Bulkley St. / Northwest Hill	58985, 942757		CS Needs Assessment	S6	X		X	X		X		No	$2,024.00	$1,840.00	184 (Town, Chap. 90)	1	04/01/20
16	Meacham St. Sidewalk Extension	Installation of approx.. 250' of new ADA accessible sidewalk along Meacham St. Work will include construction of 2 new curb ramps.	No	Meacham St. from sidewalk end to Water St.	60549, 940882	60669, 940867	CS Needs Assessment	P2, P5		X	X					No	$21,762.00	$20,021.00	1741 (Town, Chap. 90)	1	04/01/21
17	Bulkley St. striping	Installation of painted striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.	No	Bulkley St. from Route 7 to Northwest Hill Rd.	58985, 942758	60044, 942252	CS Needs Assessment	S1, B0, P0	X		X	X		X		No	$11,511.00	$10,465.00	1046 (Town, Chap. 90)	1	04/01/20
18	Northwest Hill Rd. striping	Installation of painted striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.	No	Northwest Hill Rd. from Bulkley to West Main.	58783, 942115	58985, 942760	CS Needs Assessment	S1, B0, P0	X		X	X		X		No	$7,463.00	$6,785.00	678 (Town, Chap. 90)	1	04/01/20
19	West Main striping	Installation of painted striping to delineate road shoulder, calm traffic, and accommodate cyclists and pedestrians.	No	West Main from Northwest Hill Rd. to Route 7 (Field Park)	58783, 942116	59865, 941783	CS Needs Assessment	S1, B0, P0	X		X	X		X		No	$10,752.00	$9,775.00	977 (Town, Chap. 90)	1	04/01/20
20	Bike Share Program Infrastructure	Installation of bike storage and rental docking station for bike share program.	No	Latham St.	90433, 941205		CS Needs Assessment	B0				X				No	$66,000.00	$60,000.00	6000 (Town, Chap. 90)	1	04/01/22
21	Buxton School Sidewalk Extension	Installation of approx. 500' of new ADA accessible sidewalk and along South St. to the entrance of the Buxton School. Work will include construction of 2 new curb ramps.	No	South St. from sidewalk end to Stone Hill Rd.	59687, 940892	59741, 941056	CS Needs Assessment	P2,P5,P9		X	X					No	$63,190.00	$57,446.00	5744 (Town, Chap. 90)	1	04/01/21
22	West Main / Northwest Hill Rd. intersection safety improvements	Reduction in corner radii at intersection to provide traffic calming.	No	Intersection of West. Main St. and Northwest Hill Rd.	58783, 942116		CS Needs Assessment	S6	X		X	X		X		No	$2,024.00	$1,840.00	184 (Town, Chap. 90)	1	04/01/20