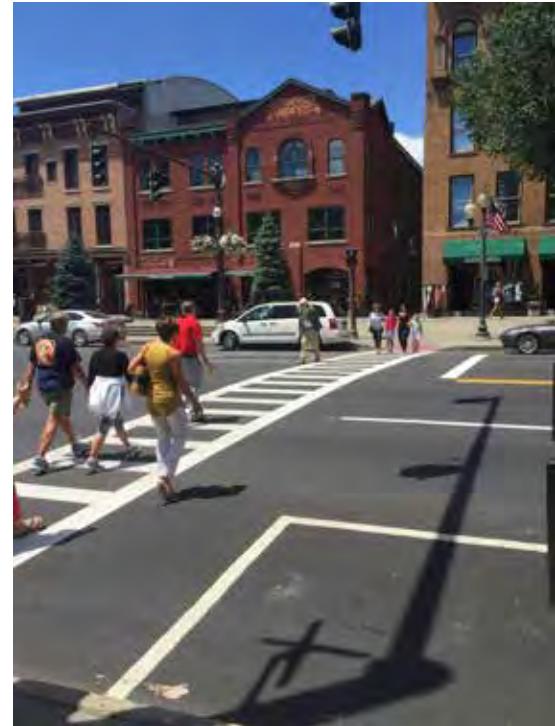


Adopted by City Council December 20, 2016



2016 Saratoga Springs Complete Streets Plan



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EXECUTIVE SUMMARY

Saratoga Springs has one of America's best Downtowns, 94 miles of sidewalks, an award winning "main street," a compact urban form, and has been designated a Bronze-Level Walk Friendly Community. A Complete Streets Policy has been adopted, there is a significant amount of community support, and the timing is right to move from this foundation to the next level of being a great city for walking, bicycling, and transit. The City of Saratoga Springs is primed to implement and maintain a successful Complete Streets initiative. The key elements of this program are as follows:

1. **Adopt an updated version of the Complete Streets Policy.** The policy is provided as an appendix to this plan, and is based on national best practices and NY State legislation.
2. **Integrate Complete Streets Advisory Board actions with City departmental activities.** Review the annual paving program with Public Works in January-February to identify potential opportunities, and coordinate with Public Safety to confirm striping/signage plans.
3. **Collaboration between the Complete Streets Advisory Board's, City boards and community organizations.** Conduct periodic meetings with the City Council, Planning Board, and Downtown Special Assessment District.
4. **Include Complete Streets policies in the updated Unified Development Ordinance.** These include typical street cross sections, ADA compliance details, and streetscape elements.
5. **Ensure Mobility for all Seasons.** Ensure that winter sidewalk, transit stop and curb ramp maintenance programs support safe and accessible mobility. Enforce the City's sidewalk maintenance, installation and snow removal requirements. Develop a central concrete purchasing program for homeowners to voluntarily fix sidewalks. Support



Avenue of the Pines



neighborhood based programs to hire youth or underemployed citizens to remove snow and plant street trees. Develop a ‘spot’ maintenance program to provide small scale improvements such as pothole repairs, bike racks, storm grates, crosswalk markings and other maintenance items.

This Complete Streets plan is based around providing four ‘layers’ of infrastructure: 1. Pedestrians Sidewalks and Crossings, 2. On-Street Bikeways, 3. Greenways and Trails and 4. Transit Connections. Each of these layers is presented in the plan with options for improving the City’s infrastructure to Bronze, Silver and Gold level Complete Streets. The decisions as to which level of improvement is provided on which streets will depend on the context of each project, community support, and available resources.

Saratoga Springs will implement the City’s complete streets initiatives with a phased approach over time. This approach will include three primary elements: 1. “Stand Alone” projects 2. “Integration” within ongoing infrastructure management and 3. “Education” through professional training and community outreach. Each of these elements are described as follows.

1. Stand Alone projects are capital investments within the community specifically funded to create Complete Streets. These projects will involve construction or major reconstruction of street and roadway infrastructure, and they can be funded through grants or City capital budget items. Per the City’s Complete Streets Policy, all capital projects on streets and roadways within Saratoga Springs will include the appropriate elements of complete streets for all modes of travel. Projects of this type will generally be included on the Capital District Transportation Committee’s (CDTC) Transportation Improvement Program (TIP). Complete streets are included as part of the selection criteria by CDTC for projects to receive federal transportation funding.

2. Integration within ongoing infrastructure management will enable the City to implement Complete Streets along with other public and private infrastructure projects. These types of projects include multiple types, including:

City Projects: Annual Paving Cycle - A portion of the City’s streets are repaved each year. It is important to integrate Complete Streets within pavement maintenance projects. The incremental cost of signage, striping and intersection improvements is often a small percentage of larger projects. It is recommended that during the winter of each year, the Department of Public Works meet with the City’s Complete Streets Advisory Committee to review upcoming paving projects to ensure that appropriate elements are included.



Private bench near Oklahoma track

County Projects: County roads within the City generally include paved shoulders and open drainage. In previous projects (Meadowbrook Road, for example), the County has used an 11 foot travel lane and 4 foot shoulder as the typical cross



Henry Street Bikefest 2015

section. Continuing this practice as typical will support complete streets, and in some locations (such as Geyser Road and Crescent Avenue), narrower travel lanes with wider shoulders and potential sidepaths are possible, provided that a maintenance agreement for these facilities is in place.

State DOT Facilities: The state highways that run through Saratoga Springs have significant potential to serve as complete streets. In some cases, State DOT has already marked shoulders as bikeways (Route 50 / Ballston Ave.) and improved pedestrian crossings (Route 50 Arterial). Complete Streets projects on state owned facilities that involve larger capital projects are required to go through a formal scoping process, and to comply with the NY State Complete Streets legislation.

Private Property: City code requires private property owners to maintain sidewalks in good condition. Over time, not all property owners have maintained their sidewalks, and in some neighborhoods sidewalks have gaps between existing sections. There are a range of options for improving these conditions.

Sidewalk Gaps: It is recommended that the City set up a program for bulk purchasing of concrete to allow property owners to share in reduced material costs. The City can also consider installing missing sections or replacing sidewalk that are in poor condition and having property owners reimburse the City through their property tax bills.

Sidewalk Maintenance: Especially during the winter, it is important to ensure that sidewalks are well maintained. The Downtown area provides sidewalk maintenance through the Special Assessment District. Some property owners do an excellent job of snow removal, but there are often locations where sidewalks and intersection are not kept clear of snow and ice. Options for improving these conditions include having neighborhoods share the cost of snow maintenance equipment, hiring youth or underemployed people to shovel and plow sidewalks, or expanding municipal resources for winter maintenance.

Curb Ramps and ADA: Because compliance with the ADA is a civil rights issue and a potential legal liability for the City, it is recommended that an ADA curb ramp and intersection crossing program be developed as part of the City's ADA Transition Plan. This program can include an annual budget for improving a percentage of the City's sidewalks,



curb ramps, and accessible crossings each year.

Development Review: As new private sector projects are developed, complete streets can be included in the development review process. This is an important consideration at the Site Plan Review stage, and is the responsibility of the Planning Board. Context sensitive solutions can be implemented for each of the City's streetscape type and either included in approved site plans or provided through a developer mitigation fee that is utilized for ongoing projects.

3. Education programs can be implemented in Saratoga Springs through professional training and community outreach. Key elements of these programs can include:

Consultant Training: provide Complete Streets training for planners, designers and engineers to ensure that projects proposed in Saratoga Springs include the appropriate design elements. The City can use completion of this training as a requirement for firms doing work on projects in the City.

“Share The Road” Bumper Stickers: a simple but effective way to encourage safe mobility in the community is to provide a “Share the Road” message that can be displayed on City owned vehicles, public transit, school buses and resident’s cars. This is a simple way to communicate that Complete Streets is part of the Saratoga Springs community.

Professional Drivers: the City can provide training on safe driving and respect for pedestrians and bicyclists for staff, taxi drivers and other professionals who drive public vehicles in the City. This can help ensure that safety is one of the City’s most important Complete Streets program elements.

With these initiatives, the City’s historic foundation as a walkable community and the support of public, private and non-profit partners, Saratoga Springs will be a great place for Complete Streets.



Lake Avenue Bike to School Event 2015



Chapter 1: Introduction





1.1 INTRODUCTION

The Saratoga Springs Complete Streets Plan provides a framework for including all modes of mobility on existing City streets, State and County routes. This plan complements or further progresses the City's adopted policies and plans including: Greenbelt Trail Plan (2013), Climate Smart Communities Pledge (2011), the Complete Streets Policy (2012), and the Comprehensive Plan (2015). The purpose of the Complete Streets Policy is to ensure that new and updated public and private projects are planned, designed, maintained and operated to enable safe, comfortable and convenient travel to the greatest extent possible for users of all abilities including pedestrians, bicyclists, motorists and transit riders. This plan provides the planning tools, design guidance, and public input to make all of our streets Complete Streets.

The Complete Streets Policy and this plan support a series of immediate, medium and longer-term actions. The City's Complete Streets Advisory Board assists with the City's implementation efforts, and a Complete Streets Checklist is now utilized to review proposed capital projects to ensure that Complete Streets accommodations are consistently integrated. The Geyser Elementary Safe Routes to School project, the new trail crossing between the YMCA and Saratoga Spa State Park and new sidewalks provided by private development along South Broadway are examples of pedestrian and bicyclist infrastructure that are being created within the City through this ongoing process.

The Saratoga Springs Pedestrian, Bicycle, and Transit Plan, herein referred to as the Complete Streets Plan, was established as an important goal within the Complete Streets Policy and is the guiding document for the development of a safe network of pedestrian, bicycle and transit routes linking activity centers and neighborhoods within the City, as well as to a larger regional network. The network will develop in phases over time, with identified "Bronze, Silver and Gold" levels of quality that are linked to established national benchmarks. These improvements will make walking, bicycling and riding transit more viable modes of transportation, helping the City meet sustainability goals and contributing to the unique quality of life in the City.

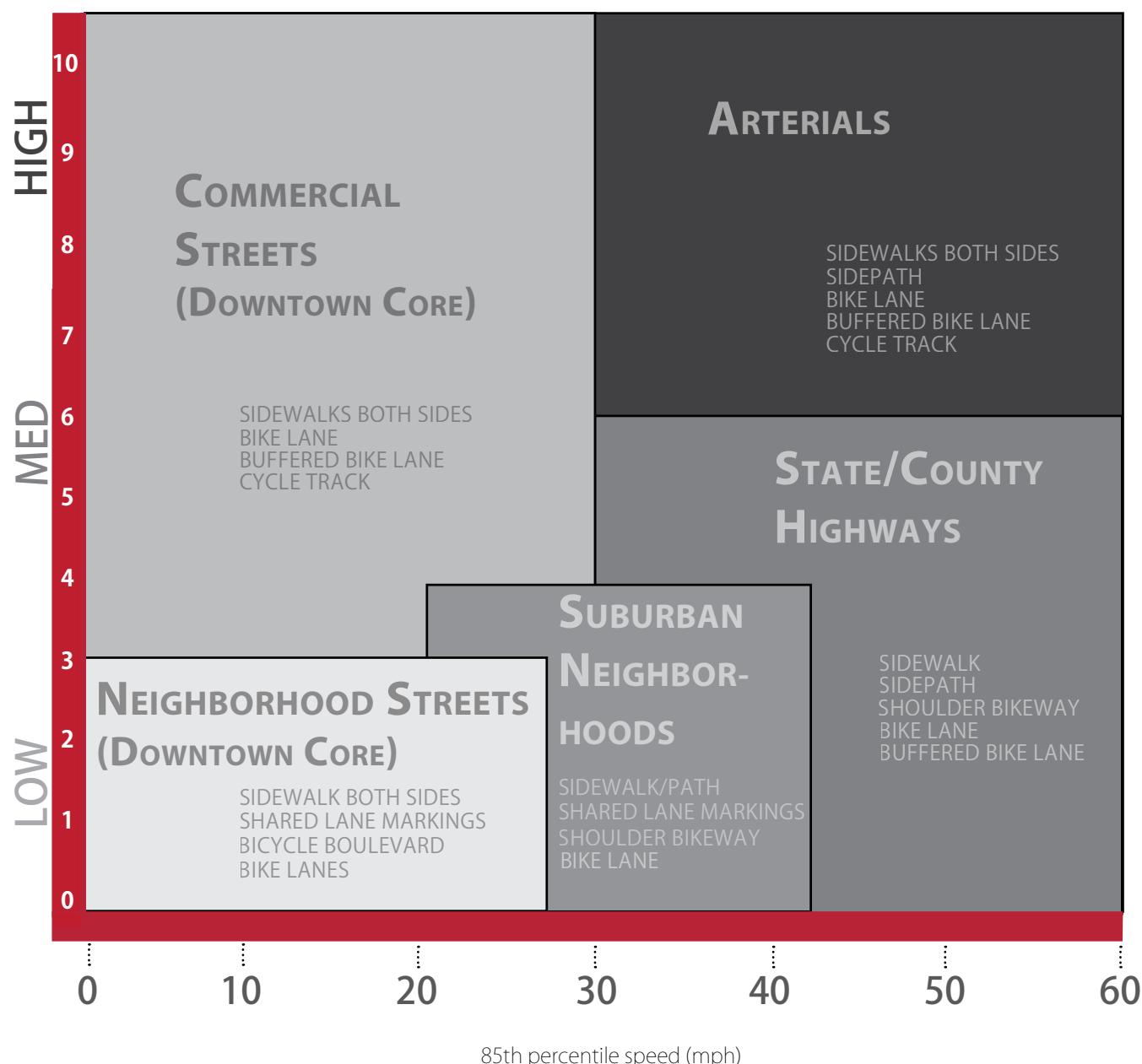
It is important to note that creating Complete Streets in Saratoga involves multiple partners including City departments, County and State agencies, schools, businesses, and citizens. The context of each street, road, and highway needs to be considered along with ownership and management of these facilities. For this reason, the plan uses a flexible approach so appropriate designs can be used. The Manual of Uniform Traffic Control Devices (MUTCD), AASHTO, and NACTO guidelines will provide the framework for this approach.

The plan identifies priority routes and types of infrastructure required for various streets based on the location of significant active transportation destinations, especially schools, downtown, parks, and other locations. Preferred treatments corresponding to street typologies are identified and will serve as an important reference document to ensure that multi-modal facilities are provided during capital projects, maintenance and reconstruction, as well as when important land use decisions are made. Making these connections part of a seamless, interconnected network within the City is key to creating the safe, healthy and successful "City in the Country" that Saratoga Springs residents, businesses and visitors enjoy.

1.2 PLAN FRAMEWORK

The following chapters propose a complete streets system and strategy for the City of Saratoga Springs. Complete Streets is not “one size fits all” but rather an approach to infrastructure that allows anyone to move within the City equally, no matter their mode of travel. While most, if not all streets, should provide facilities for pedestrians, bicyclists, and motor vehicles, these streets will not look the same throughout the city. Low speed residential roads do not all require sidewalks for walkers to feel comfortable, and bike lanes may only be needed on a high volume roadway for cyclists to feel safe.

In addition to specific recommendations to provide a multi-modal network, each of the following chapters provides a range of treatments for different types of roadways that can be found throughout the City. These treatments are classified as bronze, silver, and gold to indicate a higher level of comfort and protection for users. As is shown in the specific recommendations, not all roadways need to start or be at a gold level, but a solid system that includes a mix of these types will provide good facilities for all users.





Complete Streets can also be “green” streets. The integration of green infrastructure into the streetscape serves not only to mitigate stormwater and improve environmental quality but can also have a traffic calming effect, increase surrounding property values, and creating an aesthetically pleasing experience. The added value of green infrastructure, whether street trees, rain gardens or permeable pavers, provides a healthier, more attractive, and safer roadway. Strategically introducing green infrastructure – such as permeable pavement, rain gardens, and biorentention cells – into the public right of way will slow, absorb, and divert stormwater runoff from conventional stormwater systems.

For example, curb extensions at intersections shorten crossing distance for pedestrians, slow traffic, and provide space for incorporating green infrastructure into the landscape. Another green facility type is a landscaped median such as Union Avenue. Planting additional trees or rain gardens along the corridor would strengthen the connection between Congress Park and the Race Track, creating a vibrant environment that reflects the local culture while enhancing the safety features of the streetscape for all modes of travel. It is recommended that where feasible the City look at the existing conditions and opportunities to incorporate green infrastructure into their Complete Streets efforts as a sustainable and cost-effective method to affect mobility, community, and the environment.

The graphic as well as the cross sections by Street type can be used to determine appropriate treatments as roadway projects outside the proposed network arise, or if a higher level of protection is desired or becomes warranted.

The City of Saratoga Springs has the opportunity to implement and maintain a successful Complete Streets initiative. The key elements of this program are as follows:

- 1. Adopt an updated version of the Complete Streets Policy.** The policy is provided as an appendix to this plan, and is based on national best practices and NY State legislation.
- 2. Integrate Complete Streets across City Departments.** Review the annual paving program with Public Works in January-February to identify potential opportunities, and coordinate with Public Safety to confirm striping/signage plans.
- 3. Collaboration between the Complete Streets Advisory Board and land use boards.** Conduct periodic meetings with the Planning Board, Zoning Board and Downtown Special Assessment District.
- 4. Include Complete Streets policies in the updated Unified Development Code.** These include typical street cross sections, adopting the NACTO Guide, ADA compliance details, and streetscape elements.
- 5. Maintain Complete Streets for all Four Seasons.** Ensure that winter sidewalk, transit stop and curb ramp maintenance programs support safe and accessible mobility. Enforce the City’s sidewalk maintenance and snow removal requirements. Develop a central concrete purchasing program for homeowners to voluntarily fix sidewalk sections. Support neighborhood based programs to hire youth or underemployed citizens to remove snow and plant street trees.

INFRASTRUCTURE LAYERS

This Complete Streets plan is based around providing four ‘layers’ of infrastructure: 1. Pedestrians Sidewalks and Crossings, 2. On-Street Bikeways, 3. Greenways and Trails and 4. Transit Connections. Each of these layers is presented in the following sections.

Pedestrian Sidewalks and Crossings:

Sidewalk gaps and improvements to crossings are identified throughout the City. ADA compliance is required by federal civil rights law, and a framework for the City’s ADA Transition plan is provided. Since sidewalks are legally the responsibility of private property owners, a collaborative program will be needed to ensure that safe and continuous pedestrian mobility is provided.

On-Street Bikeways:

Bicyclists have the legal right to all city, county and public streets and roadways in Saratoga Springs, except the Route 50 Arterial and the Northway. Each street has the potential for improvements including shared streets, paved shoulders, dedicated bike lanes, neighborhood greenways, and intersection improvements. Each of these street types are identified with typical sections and recommendations for all streets in the City.

Greenways and Trails:

The City’s officially adopted Greenbelt Trail Master Plan provides the perimeter “wheel” for non-motorized mobility. The Complete Streets network will be the “spokes” that connect to the “hub” in downtown. There are multiple locations where the Greenbelt Trail crosses roadways, and improvements for these locations have been identified.

Transit Connections:

Improvements for safe access to transit include additional bus shelters, a potential ‘trolley hub’ downtown and enhanced access to the Amtrak station/bus terminal on West Avenue.

These improvements are presented in maps for each of the Complete Streets layers, with an index of improvements that can be provided over time as “bronze”, “silver”, and “gold” levels for each street. This will allow the City to make phased improvements through both integrated elements of capital projects as well as with stand-alone projects when resources are available. Note that each roadway may have some sections that can be developed at different levels based on the local context, with key factors including right-of-way width, traffic volumes, motorist speed, truck traffic volumes and other elements.

SPECIAL STREET TYPES



Alleys

There are a number of alleys throughout the City of Saratoga Springs that are used for motorist, pedestrian, and bicycle travel. The alleys often serve traffic in both directions, but often only have a single lane. In residential areas, alleys are important neighborhood places. In the City's downtown some alleys have been converted to create public open spaces. It is important for the City to maintain the framework of blocks and alleys as part of the Complete Streets program.

Pedestrian Zones / Open Streets:

Caroline Street, Henry Street, Putnam Street (Greenbelt Trail Connector), Phila Street, Division Street (From Franklin Square to Broadway), and Beekman Street all are used at various times as pedestrian priority streets. In the long term, the City can utilize combinations of these streets at different times and seasons to create a coordinated network of 'open streets' with limited, slow-speed access for motor vehicles and deliveries, and a priority as pedestrian oriented public spaces.

Broadway:

In downtown Saratoga Springs, Broadway is the City's "Main Street." It has often been cited as one of the great streets in the US, and the community was honored with a National Main Street Award. The core of downtown is generally considered to be from Congress Park to Van Dam Street. Broadway is also a signed New York State Highway touring route for Routes 9, 50 and 29. Its current configuration from Circular Street to Van Dam Street is four travel lanes, with significant truck traffic, bus/trolley stops and regulated but un-metered on-street parallel parking on both sides. Bicyclists are not permitted on downtown sidewalks, but often ride on them due to traffic issues. There are multiple locations where ADA compliance is an issue, and there are community concerns about parking, deliveries and truck traffic. Broadway is the site of the City's major parades, including Fourth of July, Flag Day, and Memorial Day, as well as major events including the Firecracker 4 and Thanksgiving Turkey Trot running races.

For the annual Victorian Streetwalk on the first Thursday of December, Broadway becomes a pedestrian-only street between Congress Park and Lake Avenue, Broadway is the center of town. The Streetwalk is often the largest crowd of the year downtown, with reported attendance of more than 15,000 people in 2015. It is the only night of the year that motor vehicles are not allowed on Broadway, and special transit shuttle system is



Firecracker 4 2016 along Broadway



Caroline Street during Chowderfest

used to bring people downtown by bus from remote parking areas. There are also other festivals which do not restrict motorists' use of Broadway, such as the annual Hats Off Festival during the opening and closing of the summer racing season. On these nights, the sidewalks on Broadway are often significantly overcrowded. Additionally, Chowderfest drew in almost 45,000 people in 2016.

In the short term, relatively simple improvements can be made on Broadway (without major construction) to improve ADA curb ramps, bicycle parking, street trees, signal timing, bus shelters and winter maintenance can be accomplished through the ongoing efforts of the Downtown Special Assessment District and the Downtown Business Association. It is possible that back-in angled parking can be provided at the widened section of the street in front of the Adelphi Hotel, valet parking could be used (and has been proposed by the restored Rip Van Dam Hotel, and 'parklets' can be provided to add small café spaces, bike parking corrals or sitting areas at key locations.

In the long term, it is important to note that Broadway will need to continue competing with other "main streets" and downtowns. Glens Falls recently completed its Centennial roundabout, Church Street in Burlington is one of the nation's best pedestrian streets, State Street in Schenectady was reconstructed with a new streetscape, and Madison Avenue in Albany is in the process of a 'road diet' to convert the street from four lanes to three lanes with new bike lanes in both directions. The revitalization of Saratoga Springs in the 1980s and '90s was accomplished by local leaders who knew that the design of our downtown streets was a critical part of the City's future. While a proposal to



re-design Broadway to change from four lanes to three lanes with new roundabouts at Congress Street and Van Dam was not successful a decade ago, it is important for the community to think about the changing character of Broadway in the future.

Route 50 – The Arterial

From Van Dam Street nearly to the Northway, Route 50 is a 4 lane arterial section that prohibits pedestrians and bicyclists from using the roadway. Improvements to the Excelsior Avenue corridor now provides for a sidepath to allow cyclists to connect and cross over the Northway. Farther south between West Avenue and the Spa State Park, the road has a similar cross section but does not prohibit non-motorized use. A planning study was completed to improve the southern section. There have been significant safety issues along the arterial. According to crash data, there has been one crash involving a bicyclist and six crashes involving pedestrians, two of which had fatal outcomes, on the northern and southern portions of Route 50. Improved pedestrian and bicyclist access including safe crossings and movement on and/or parallel to this route are important.

1.3 COMPLETE STREETS TYPOLOGY

The following table lists the primary streets in Saratoga Springs by type. For each street, a series of proposed conditions are identified. Note that while the City can adopt guidelines from NACTO, the MUTCD is still a standard, and the State will still utilize the AASHTO guides for projects in their jurisdiction. Since these guidelines continue to evolve over time, the “Bronze, Silver, Gold” framework will allow each facility to be improved in accordance with the design guidelines adopted by its respective jurisdiction. The street typology provides general guidelines for applying the bronze, silver and gold street treatments within the context of each neighborhood and the respective agencies responsible for that facility. The key to successfully implementing the Complete Streets Plan is all parties (including public agencies and property owners) must recognize that pedestrians, bicyclists and motor vehicles will be accommodated on all streets, and that a variety of options are available to achieve this. At a minimum, all city streets will accommodate pedestrians and bicyclists.

This will generally mean that local streets will have sidewalks and slow speed shared lanes or will be traffic calmed to allow safely shared street space. Streets with higher traffic volumes and speeds will provide greater separation between travel modes, including dedicated bike lanes or side paths. With a flexible approach that involves applying best practices, a combination of geometric design, traffic calming and law enforcement will achieve the right balance of available space, vehicle speeds and traffic volumes to create complete streets. The following chapters provide additional details for each ‘layer’ of Complete Streets infrastructure: pedestrians, bikeways, trails, and transit.

PEDESTRIAN, BICYCLE, AND TRANSIT LEVELS KEY:

- “G”: Gold level facilities
- “S”: Silver level facilities
- “B”: Bronze level facilities
- “---”: More commonly found in “Transit Level” column. No specific level is given as there are no transit routes or facilities along that particular street segment. When found in the “Bicycle Level” and “Transit Level” columns for school zones, bicycle and transit facilities should refer to the recommendations from the corresponding street segment. For example, the Caroline Street Elementary school has “---” for both bicycle and transit level recommendations. It should be assume that this area should adopt the bicycle and transit recommendation level for the street segment encompassing the school zone.

Street Name and Segment Description	DOT Functional Class	Jurisdiction	Street Typologies	Pedestrian Level	Bicycle Level	Transit Level
1st St (State St to N Broadway)	Major Collector	City	Neighborhood Street	G	S	---
5th Ave	Local	City	Neighborhood Street	G	S	---
Ballston Ave (West Ave to North Line Rd)	Principal Arterial Other	NYS DOT	Transit Corridor & Thoroughfare	B	B	B
Ballston Ave (West Circular to West Fenlon)	Principal Arterial Other	City	Transit Corridor & Thoroughfare	G	G	G
Ballston Ave (West Fenlon to West Ave)	Principal Arterial Other	City	Transit Corridor & Thoroughfare	S	S	S
Beekman St (Church St to Lake St)	Local	City	Neighborhood Street	G	S	---
Beekman St (Lake St to W Circular)	Local	City	Commercial Core	G	B	---
Broadway Ave (Congress Street to North Broadway)	Principal Arterial Other	City	Commercial Core	G	B	S
Broadway Ave (West Circular to Congress Street)	Principal Arterial Other	City	Transit Corridor & Thoroughfare	G	S	S
Broadway/Rt 9 (West Circular to West Fenlon)	Principal Arterial Other	City	Transit Corridor & Thoroughfare	S	S	S
Broadway/Rt 9 (West Fenlon to Crescent St)	Principal Arterial Other	City	Transit Corridor & Thoroughfare	S	B	B
Broadway/Rt 9 (St Peters Catholic Senior High School)	Principal Arterial Other	City	School Zone	G	---	---
Brook Rd	Major Collector	County	County Road & Highway	B	B	---
Caroline St (Broadway to Henry St)	Local	City	Commercial Core	G	S	---
Caroline St (Henry St to Henning Rd)	Local	City	Neighborhood Street	G	G	---
Caroline St (Caroline Street Elementary)	Local	City	School Zone	G	---	---
Church St/Rt 9N (Broadway to Bensonhurst Ave)	Minor Arterial	City	Transit Corridor & Thoroughfare	G	G	G
Circular St (Broadway to Union Ave)	Major Collector	City	Transit Corridor & Thoroughfare	S	B	B
Circular St (Lake Ave to High Rock Ave)	Major Collector	City	Transit Corridor & Thoroughfare	S	B	B
Circular St (Spring Street to Lake Ave)	Major Collector	City	Transit Corridor & Thoroughfare	S	B	B
Circular St (Union Ave to Spring St)	Major Collector	City	Transit Corridor & Thoroughfare	S	B	B
Clark St	Major Collector	City	Neighborhood Street	G	B	---
Clement Ave (State St to Carriage House Ln)	Major Collector	City	Neighborhood Street	G	G	---



Street Name and Segment Description	DOT Functional Class	Jurisdiction	Street Typologies	Pedestrian Level	Bicycle Level	Transit Level
Clinton St (Church St to Van Dam St)	Major Collector	City	Neighborhood Street	S	G	---
Clinton St (Clement Ave to Daniels Road)	Major Collector	City	County Road & Highway			
Clinton St (Van Dam St to Clement Ave)	Major Collector	City	Transit Corridor & Thoroughfare	G	S	S
Congress St	Local	City	Commercial Core	G	S	---
Crescent Ave (I-87 to Rt 9P)	Major Collector	County	County Road & Highway	B	S	---
Crescent Ave (Nelson Ave to I-87)	Minor Arterial	County	County Road & Highway	B	S	---
Crescent Ave (South Broadway to Nelson Ave)	Major Collector	County	Transit Corridor & Thoroughfare	S	S	S
Crescent St	Minor Arterial	City	Neighborhood Street	S	S	---
Denton Rd (Clement Ave to Bloomfield Rd)	Local	City	County Road & Highway	S	S	---
Denton Rd (Bloomfield Rd to Locust Grove Rd)	Local	City	County Road & Highway	B	S	---
Division St (Broadway to Clinton St)	Local	City	Commercial Core	G	B	---
Division St (Clinton St to Outlook Ave)	Local	City	Neighborhood Street	S	S	---
Division St (Division Street Elementary School)	Local	City	School Zone	G	---	---
East Ave	Major Collector	City	Transit Corridor & Thoroughfare	G	G	G
Excelsior Ave (Rock St to Marion Ave)	Local	City	Commercial Core	S	G	---
Excelsior Ave (Marion Ave to End)	Local	City	Neighborhood Streets	G	B	---
Excelsior Spring Ave	Local	City	Neighborhood Streets	S	S	---
Geyser Rd	Minor Arterial	County	Transit Corridor & Thoroughfare	S	S	S
Geyser Rd (Geyser Rd Elementary School)	Minor Arterial	County	School Zone	G	---	---
Gick Rd	Major Collector	City	County Road & Highway	S	S	---
Gilbert Rd	Local	City	County Road & Highway	B	B	---
Grand Ave (Franklin St to West Ave)	Local	City	Neighborhood Street	S	G	---
Grand Ave (West Ave to Western City Border)	Major Collector	City	County Road & Highway	S	S	---
Henning Rd	Major Collector	City	County Road & Highway	S	S	---
Henning Rd (BOCES)	Major Collector	City	School Zone	S	---	---

Street Name and Segment Description	DOT Functional Class	Jurisdiction	Street Typologies	Pedestrian Level	Bicycle Level	Transit Level
Henry St (Lake Ave to Spring St)	Local	City	Commercial Core	S	S	---
High Rock Ave (Circular St to Excelsior Ave)	Major Collector	City	Transit Corridor & Thoroughfare	G	G	G
High Rock Ave (York St to Circular St)	Local	City	Neighborhood Street	G	G	---
High Rock Ave (Lake Ave to York St)	Local	City	Commercial Core	G	G	---
Hutchins Rd	Major Collector	City	Neighborhood Street	B	B	---
Jefferson St (Crescent St to Crescent Ave)	Local	City	Transit Corridor & Thoroughfare	S	B	---
Jefferson St (Lincoln Ave to Crescent St)	Major Collector	City	Neighborhood Street	S	S	S
Lake Ave/Rt 29 (Broadway to Circular St)	Principal Arterial	City	Commercial Core	G	S	S
Lake Ave/Rt 29 (Circular St to East Avenue)	Principal Arterial	City	Transit Corridor & Thoroughfare	S	S	S
Lake Ave/Rt 29 (East Avenue to Ritchie Pl)	Principal Arterial	City	Transit Corridor & Thoroughfare	S	S	S
Lake Ave/Rt 29 (I-87 to City Border)	Principal Arterial	NYSDOT	County Road & Highway	B	S	---
Lake Ave/Rt 29 (Lake Ave Elementary School)	Principal Arterial	City	School Zone	G	---	---
Lake Ave/Rt 29 (Ritchie Pl to I-87)	Principal Arterial	NYSDOT	Transit Corridor & Thoroughfare	S	S	S
Lake Ave/Rt 29 (St. Clements School)	Principal Arterial	NYSDOT	School Zone	G	---	---
Lincoln Ave (Frank Sullivan Pl to Broadway)	Local	City	Neighborhood Street	S	S	---
Maple Ave (East Ave to Catherine St)	Local	City	Neighborhood Street	S	B	---
Maple Ave (Marion Ave to East Ave)	Major Collector	City	Neighborhood Street	B	B	---
Maple Ave/Rt 9 (Maple Ave Middle School)	Minor Arterial	NYSDOT	School Zone	S	---	---
Maple Ave/Rt 9 (Marion Ave to Northern City Border)	Minor Arterial	NYSDOT	Transit Corridor & Thoroughfare	S	S	---
Marion Ave (Rt 50 to Excelsior Ave)	Major Collector	City	Transit Corridor & Thoroughfare	G	S	---
Marion Ave/Rt 9 (Rt 50 to Maple Ave)	Minor Arterial	NYSDOT	Transit Corridor & Thoroughfare	S	S	---
Meadowbrook Rd	Local	City	County Road & Highway	B	S	---
N Broadway	Major Collector	City	Neighborhood Street	G	G	---



Street Name and Segment Description	DOT Functional Class	Jurisdiction	Street Typologies	Pedestrian Level	Bicycle Level	Transit Level
Nelson Ave (High Rock Ave to Union Ave)	Minor Arterial	City	Neighborhood Street	G	S	---
Nelson Ave (Union Ave to Crescent Ave)	Minor Arterial	City	Transit Corridor & Thoroughfare	S	S	S
Nelson Ave Ext	Major Collector	County	County Road & Highway	B	S	---
Phila St (Broadway to Henry St)	Local	City	Commercial Core	G	S	---
Phila St (Henry St to Nelson Ave)	Local	City	Neighborhood Street	G	S	---
Rowland St Exd	Major Collector	City	County Road & Highway	B	B	---
Rt 9N (Bensonhurst Ave to West Ave)	Minor Arterial	NYS DOT	Transit Corridor & Thoroughfare	S	S	S
Rt 9N (West Ave to City Border)	Minor Arterial	NYS DOT	Transit Corridor & Thoroughfare	B	B	B
S Broadway/Rt 9 (Crescent Ave to Southern City Border)	Principal Arterial	NYS DOT	County Road & Highway	G	G	B
S Broadway/Rt 9 (Crescent St to Crescent Ave)	Principal Arterial	NYS DOT	Transit Corridor & Thoroughfare	S	S	S
S Franklin St (Beekman St to Washington St)	Local	City	Neighborhood Street	S	S	---
Seward St	Local	City	Neighborhood Street	S	S	---
Spring St (Broadway to Circular St)	Minor Arterial	City	Commercial Core	G	B	B
Spring St (Crescent St to Nelson Ave)	Local	City	Neighborhood Street	S	S	---
Stafford Bridge Rd	Major Collector	County	County Road & Highway	S	G	---
State Hwy 50 (I-87 to Weibel Ave)	Minor Arterial	NYS DOT	Transit Corridor & Thoroughfare	B	B	B
State Hwy 50 (Marion Ave to I-87)	Principal Arterial Expressway	NYS DOT	Transit Corridor & Thoroughfare	B	B	B
State Hwy 50/Rt 9 (Broadway to Marion Ave)	Principal Arterial Expressway	NYS DOT	Transit Corridor & Thoroughfare	B	B	B
State Rte 9p (East Ave to I-87)	Minor Arterial	NYS DOT	Transit Corridor & Thoroughfare	B	S	---
State Rte 9p (I-87 to Crescent Ave)	Minor Arterial	NYS DOT	County Road & Highway	B	S	---
Union Ave (Congress Park to Nelson Ave)	Minor Arterial	City	Transit Corridor & Thoroughfare	G	B	B
Union Ave (Nelson Ave to East Ave)	Minor Arterial	City	Transit Corridor & Thoroughfare	G	B	---
Van Dam St	Local	City	Transit Corridor & Thoroughfare	S	B	B

Street Name and Segment Description	DOT Functional Class	Jurisdiction	Street Typologies	Pedestrian Level	Bicycle Level	Transit Level
W Circular St	Major Collector	City	Neighborhood Street	S	S	---
W Circular St (Saratoga Springs High School)	Major Collector	City	School Zone	G	G	---
Washington St/Rt 29 (Walnut Street to Broadway)	Principal Arterial	City	Transit Corridor & Thoroughfare	S	B	---
Washington St/Rt 29 (West Ave to Walnut Street)	Principal Arterial	NYSDOT	Transit Corridor & Thoroughfare	S	B	---
Washington St/Rt 29 (Western City Border to West Ave)	Principal Arterial	NYSDOT	Transit Corridor & Thoroughfare	B	B	B
Weibel Ave	Minor Arterial	City	Transit Corridor & Thoroughfare	S	S	S
West Ave	Minor Arterial	City	Transit Corridor & Thoroughfare	S	S	S
West Ave (Saratoga Springs High School)	Minor Arterial	City	School Zone	G	---	---



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Chapter 2:

Pedestrian Network & Facilities





2.1 PEDESTRIAN NETWORK & FACILITIES

INTRODUCTION

Complete Streets principles provides for a transportation network that accommodates pedestrians with a variety of needs and abilities. An analysis of the existing pedestrian conditions throughout the City and input from the public informed the recommendations included in this chapter.

Sidewalk installation recommendations are included for specific streets. These locations have been identified as gaps in the current pedestrian network. Closure of these sidewalk gaps will create a connected pedestrian network that provides access to key destinations throughout the City.

Additionally, this chapter provides a variety of recommendations for street and intersection typologies in order to help the city improve the current pedestrian conditions. Recommendations are divided among three categories; bronze, silver, and gold. These levels represent the concepts in the Design Recommendations and Guidelines section of this report (see page 3-12). Ultimately, every street and intersection in Saratoga Springs should aim to reach the ‘gold standard,’ relative to its street typology, but short term actions can be achieved at the ‘bronze’ and ‘silver’ levels.

As Complete Streets are meant to be safe and accessible to all users, it is important to address the needs of those with limited mobility so they may take advantage of the City’s pedestrian network. The recommendations included in this chapter will help ensure that pedestrian facilities throughout Saratoga Springs are ADA compliant.

A variety of policies and programs are recommended to promote safety and use of the new pedestrian network, including:

- Best Practices in Street Design
- Educational Programs and Informative Signage
- Encouragement Events
- Enforcement Strategies



SIDEWALK RECOMMENDATIONS

The table to the right indicates the major gaps in the City's current pedestrian network. The sidewalk gaps are listed, including its length in both feet and miles.

These streets provide vital connections to key destinations throughout Saratoga Springs. Closure of sidewalk gaps along these streets will create a more connected and complete pedestrian network. Outside the one mile radius of downtown, priority streets are those where connecting sidewalks would provide safe access to local destinations.

For example, Jefferson Street runs between the Five Points, a central location within a residential area that leads to the downtown core, and the Racino, a growing attraction in the City. There are, however, no complete pedestrian facilities along Jefferson Street. The addition of sidewalks along this street will provide a direct connection between the Racino, a residential area, and the abundance of amenities in Downtown Saratoga Springs.

Sidewalks should first be installed along one side of each street and sidewalk materials can include concrete, brick, stone or other ADA compliant materials. After each of the streets listed provide pedestrian facilities on at least one side, the City can then begin installing sidewalks along the opposite side, where they do not currently exist. This will result in a complete and connected pedestrian network.

Street	Feet	Miles
Adams St.	202	0.04
Arrowhead Rd.	765	0.14
Ballston Ave.	1,158	0.22
Bowman St.	85	0.02
Church St.	4,566	0.86
Congress Ave.	660	0.13
Crescent Ave.	21,000	4.00
Crescent St.	2,757	0.52
Dyer Switch Rd.	569	0.11
East Ave.	1,540	0.29
Elbern St.	514	0.10
Empire Ave.	502	0.10
Excelsior Ave.	439	0.08
Excelsior Spring Ave.	1,630	0.31
Finley St.	711	0.14
Foxhall Dr.	137	0.03
Grand Ave.	5,992	1.13
Greenfield Ave.	109	0.02
Hyde St.	135	0.03
Jackson St.	74	0.01
Jefferson St.	2,249	0.43
Kaydeross Park Rd.	1,600	0.30
Kirby Rd.	1,797	0.34
Lake Ave.	742	0.14
Madison Ave.	915	0.17
Maple Ave.	763	0.14
Middle Ave.	581	0.11
Pine Rd.	1,424	0.27
Schuyler Dr.	227	0.04
Seward St.	1,512	0.29
State St.	323	0.06
W. Fenlon St.	1,559	0.30
Webster St.	88	0.02
Weibel Ave.	5,000	0.95
TOTAL	34,014	6.45

SARATOGA SPRINGS COMPLETE STREETS PLAN

PEDESTRIAN FACILITIES

Sidewalk Recommendations

Sidepath or Trail

Recommendations

Existing Sidewalk

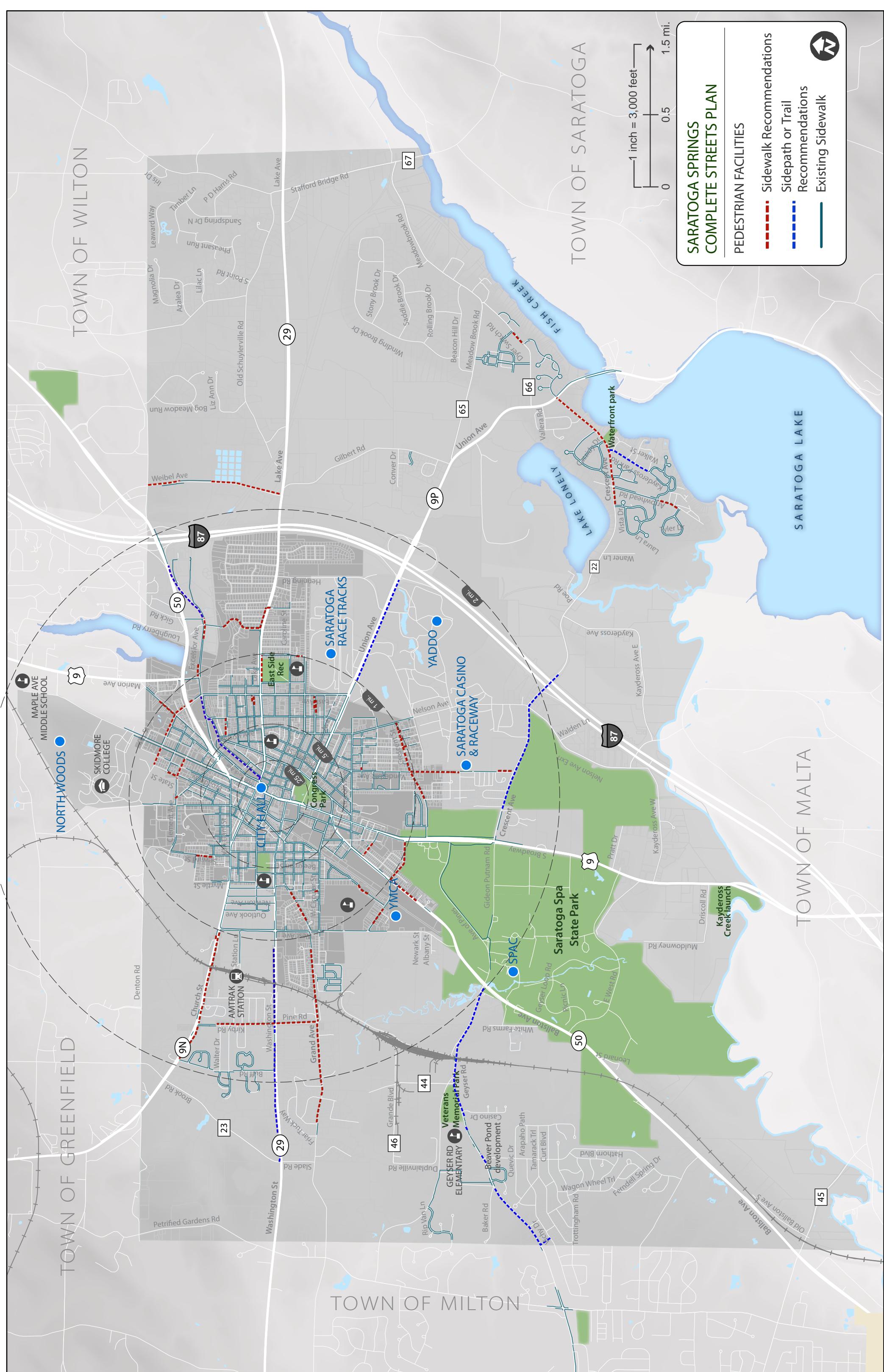
SARATOGA LAKE

TOWN OF MALTA

TOWN OF WILTON

TOWN OF SARATOGA

1 inch = 3,000 feet
0 0.5 1 mi.
1.5 mi.



SARATOGA SPRINGS COMPLETE STREETS PLAN

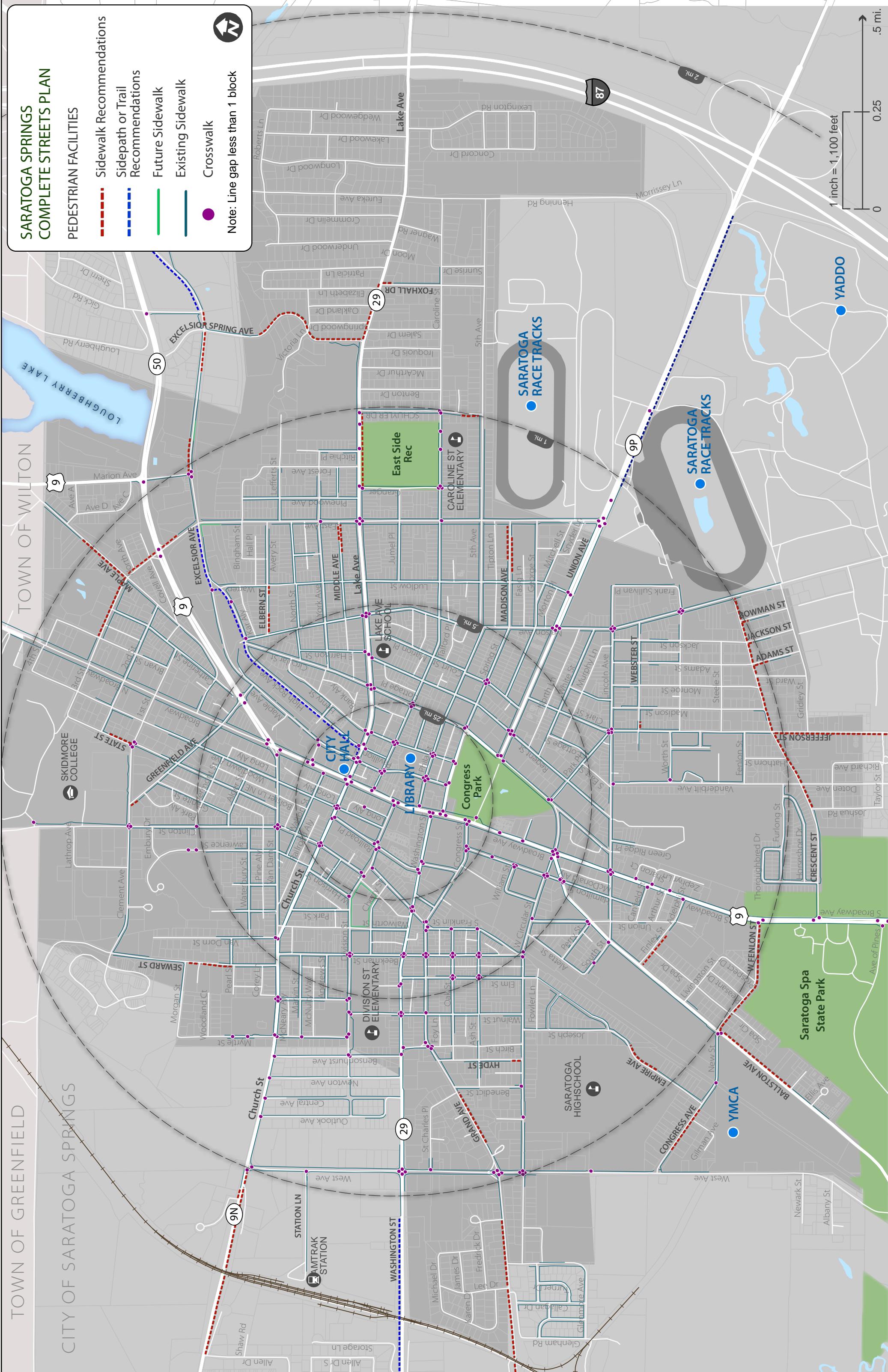
PEDESTRIAN FACILITIES

- Sidewalk Recommendations
 - Sidepath or Trail Recommendations
 - Future Sidewalk
 - Existing Sidewalk
 - Crosswalk
- Note: Line gap less than 1 block



1 inch = 1,100 feet

.5 mi.
0.25
0



2.2 DESIGNS & GUIDELINES



COMPLETE STREET CLASSIFICATIONS

There are a number of different street classifications for corridors in urban areas. These classifications will each have different users, different needs, and different challenges, resulting in a set of different recommendations to improve pedestrian accessibility. The following lays out the classifications that most roads within the City of Saratoga Springs will fall into. Included is a description of each roadway, a number of example roads within Saratoga Springs that meet the criteria of the roads, and what enhancements can be made to them to improve pedestrian access.

Depending on the street type, these improvements can include:

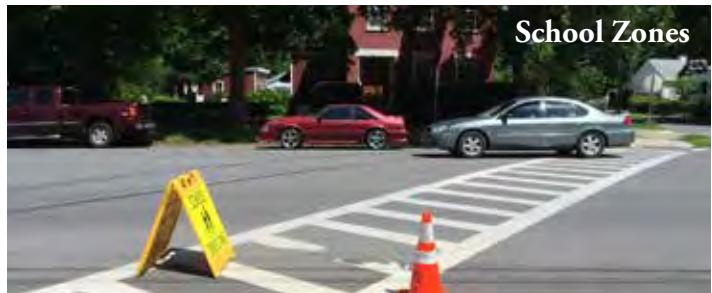
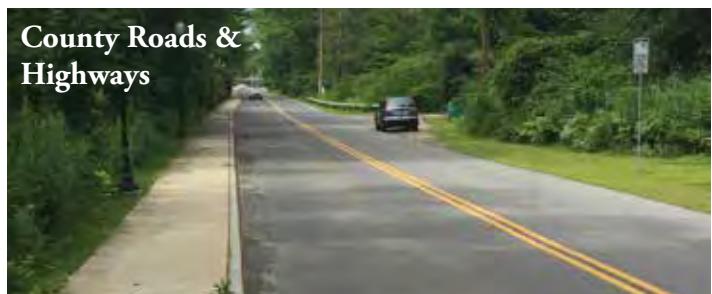
- sidewalks
- crosswalks
- bump-outs
- vegetated buffers
- signage
- lighting

The improvements are listed as ‘bronze,’ ‘silver,’ and ‘gold.’ Gold represents the ideal improvements in a full-build scenario. Silver and bronze represent intermediary phases that can be implemented to eventually achieve the ‘gold’ standard. It is important to realize that the bronze and silver phases, while they are improvements to the current conditions and can achieve a great deal in creating complete streets, they should not be viewed as desired final outcomes. The City should continue to strive for excellence and push towards achieving a ‘gold’ standard on every street.

The corridor classifications are as follows:

- Neighborhood Streets
- Commercial Core
- Transit Corridors & Thoroughfares
- County Roads & Highways
- School Zones

**Note: Pedestrian recommendations on Transit Corridors and Thoroughfares can be found in the Transit Recommendations Chapter.*



VISUALIZING IMPROVEMENTS

BRONZE



Station Lane connects West Avenue to the train station. The low speed limit, low volume, and accessibility to transit stations make it a favorable street for pedestrians. However, it cannot achieve a designation higher than bronze due to the missing sidewalk on one side of the street, lack of street furniture and bus stop amenities, and inadequate lighting.

SILVER



Caroline Street can be used as an example of a silver-level street in Saratoga Springs. Sidewalks are present on both sides of the street and are separated from traffic by a grass buffer, mature street trees provide shade, and together establish safe and comfortable pedestrian conditions on both sides of the street. Improvements such as lighting, traffic calming, ADA compliant curb ramps and street furniture can be added to help the street achieve gold-level status.

GOLD



The pedestrian crossing at Broadway and Caroline Street is an example of a gold-level improvement. To create “gold” level complete streets, all of the elements need to be high quality, including safe crossings, street trees, appropriate traffic speeds, ADA compliance, street furnishings, parking and lighting.



TYPICAL CROSS-SECTIONS - PEDESTRIAN INFRASTRUCTURE

The following recommendations will improve pedestrian access along Saratoga's streets, from its low-volume residential streets to those located in the heart of Saratoga's commercial district.

Neighborhood Streets

Outside of the busy commercial core, there are a number of low-volume neighborhood corridors. The corridors may or may not be striped, have on-street parking, and are generally lined with residential driveways. They also receive low, if any, bus or heavy vehicle traffic and have a good number of street trees that fill the corridor.

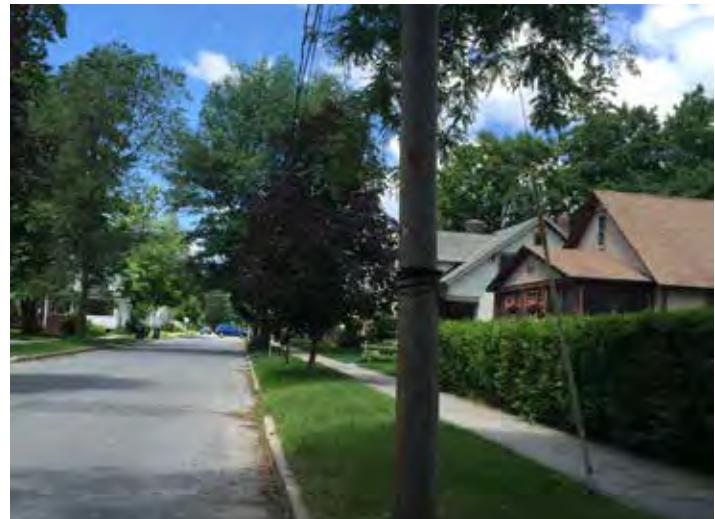
To improve pedestrian access along these streets sidewalks should be provided along them, especially in school zones. Installing pedestrian facilities, including sidewalks and safe crossings, reduces conflict between motorists and pedestrians, making the street safer and more comfortable for all users. Travel speeds and volumes along neighborhood streets can also be managed through the installation of traffic calming features. Street trees, as promoted by the City's Urban and Community Forest Master Plan, and pedestrian scale lighting should be installed as well to enhance the overall pedestrian environment.

Examples:

- Court Street
- Oak Street
- Broadway (North of Van Dam Street)

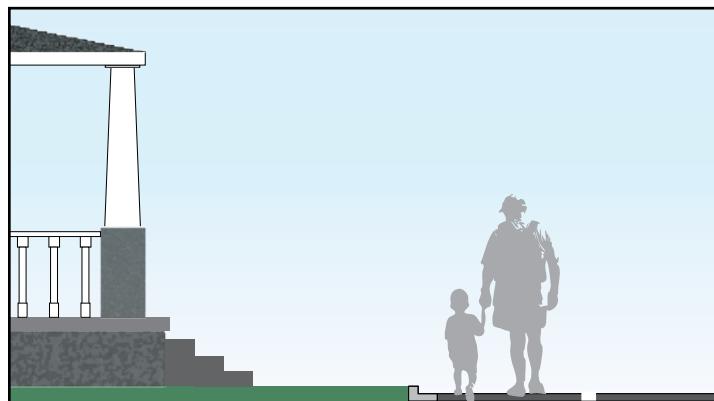


This section of Church Street is lined with sidewalks and provides neighborhoods west of Broadway with a connection to downtown.



This portion of Caroline Street is an example of good pedestrian access on neighborhood streets.

Neighborhood Streets - Recommendations by Level



Bronze Level

Improvements:

- 4' or wider striped shoulders on both sides or 5' continuous sidewalk on one side.
- Posted and Operating Speeds of 30 mph or less.
- ADA compliance for all sidewalks, ramps, and crossings

Silver Level

Improvements:

- Sidewalks on both sides.
- ADA compliance at all intersections
- Gaps in street trees and pedestrian lighting fixtures are 50% filled.
- 5' grass buffer between sidewalk and the street.



Gold Level

Improvements:

- Full ADA compliance for sidewalks & crossings.
- Sidewalks present through driveways.
- Gaps in street trees filled and pedestrian scale lighting fixtures are 100% filled.





Commercial Core

While many of the transit corridors, thoroughfares, and other street classifications make up the commercial core's street network, the high density, large pedestrian volumes, and unique character of the core presents unique scenarios that must be addressed separately.

Since these streets carry high pedestrian volumes, sidewalks and crosswalks should be made wide enough to accommodate the high volume of users. Additionally, crossings should be clearly marked to highlight crossing areas and improve pedestrian safety. At intersections, bump-outs can be installed to reduce crossing distances, as well as pedestrian actuated signals to facilitate crossing. Streets furnishings, street trees, banners and wayfinding can also be installed to further enhance the pedestrian environment.

Examples:

- Church Street/Lake Avenue
- Broadway
- Railroad Place
- Weibel Avenue
- West Avenue
- South Broadway

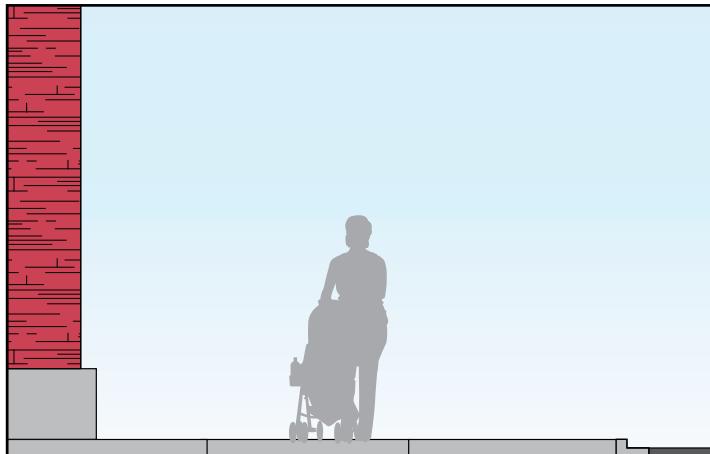


Pedestrian facilities are vital along Broadway in the City's commercial core.



The wide sidewalks and abundance of pedestrian facilities along Broadway improve conditions for all users

Commercial Core - Recommendations by Level



Bronze Level

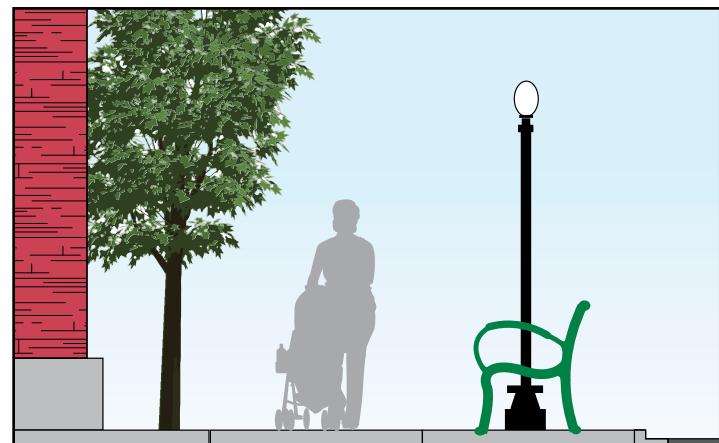
Improvements:

- Sidewalks on both sides.
- Some street trees and lighting present.
- Curb ramps and crosswalks at most or all intersections.
- New construction must be ADA compliant

Silver Level

Improvements:

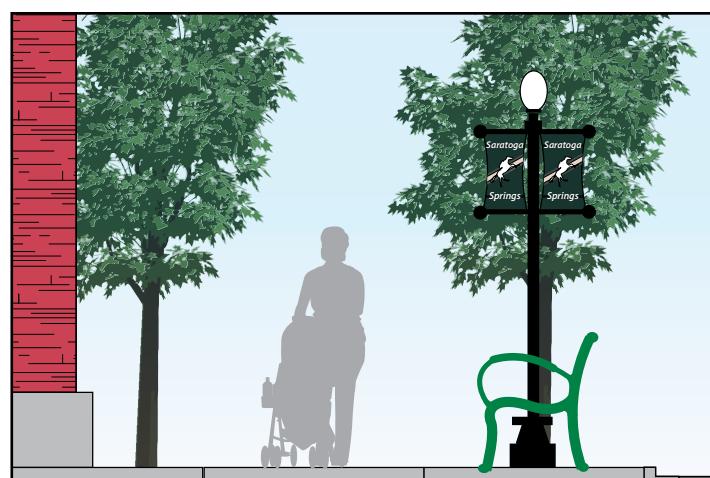
- Street furniture installed.
- Mid-block crosswalks where needed.
- Gaps in street trees and pedestrian scale lighting fixtures are 50% filled.
- Some sidewalks wider than 5 ft



Gold Level

Improvements:

- ADA compliance for sidewalks & crossings
- Sidewalks wider than 5 ft
- High visibility mid-block crossings with signage and curb bump-outs.
- Street art and banners are installed reflecting the character of the corridor or neighborhood.
- Information kiosks and maps are installed.
- Gaps in street trees and pedestrian scale lighting fixtures are 100% filled.





County Roads / State Highways

County roads within the City of Saratoga Springs are generally characterized by two lane arterials that receive moderate traffic volumes, have relatively higher speeds (between 30 mph and 60 mph), and are associated with routes that can connect suburban or rural developments. They generally have minimal heavy vehicle traffic and are not usually considered commuter routes. The state highways through the City vary from the Northway (I-87) which prohibits pedestrian and bicyclist use but which is being enhanced to provide improved access across the highway, to Route 50 (an arterial roadway), Route 9 (Broadway and South Broadway) and touring routes 9N, 9P and 29. Each of these facilities can potentially be improved to become Complete Streets, and the City and NYSDOT have collaborated on several important improvements in recent years. These roadways currently have limited facilities for pedestrians and bicyclists, but generally have paved shoulders or potential right-of-way for improved conditions. Recent NYSDOT projects along Route 50 and Route 9P include shared use paths and wide shoulders.

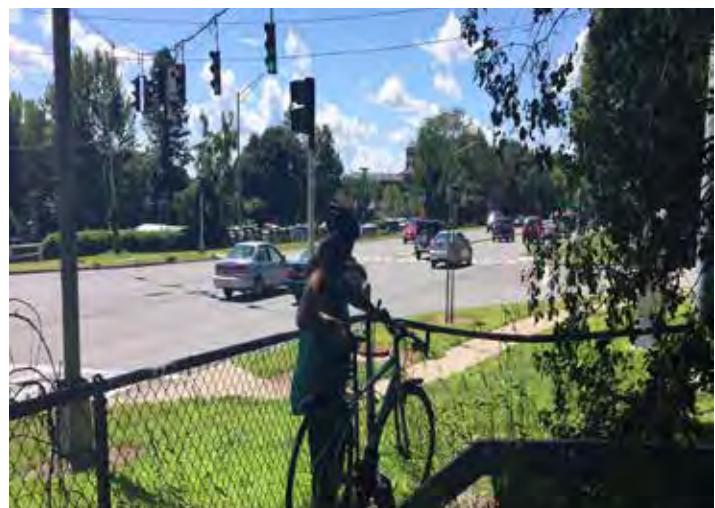
Many pedestrians do not feel comfortable walking along some of these roads because facilities are limited. Along roads where there is pedestrian demand, sidepaths can be installed with clearly marked crossings in the appropriate locations with the appropriate traffic controls. These can be separated from the travelway by a buffer to enhance user comfort levels. Along corridors with less demand or as a short term treatment, striped shoulders can be installed.

Examples:

- Crescent Avenue/Route 22
- Stafford Bridge Road/Route 67
- Geyser Road/Route 43
- Route 9, 29, 9N and parts of Route 50

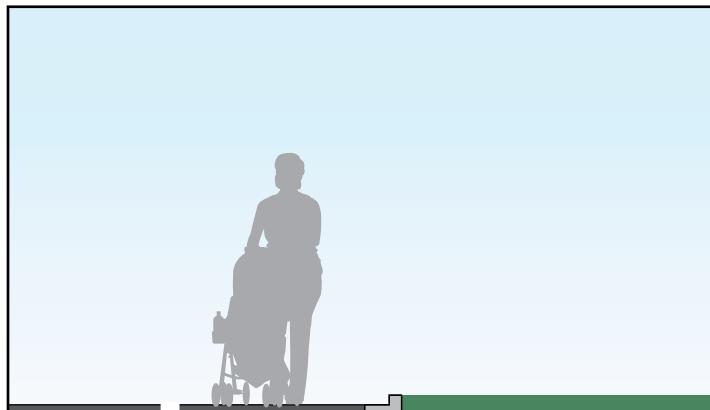


County Roads including Meadowbrook, Crescent, and Geyser have provided narrower travel lanes and paved shoulders for pedestrians and bicyclists in Saratoga Springs.



Existing pedestrian and bicycle access the Route 50/Rock Street crossing

County Roads / State Highways - Recommendations by Level



Bronze Level

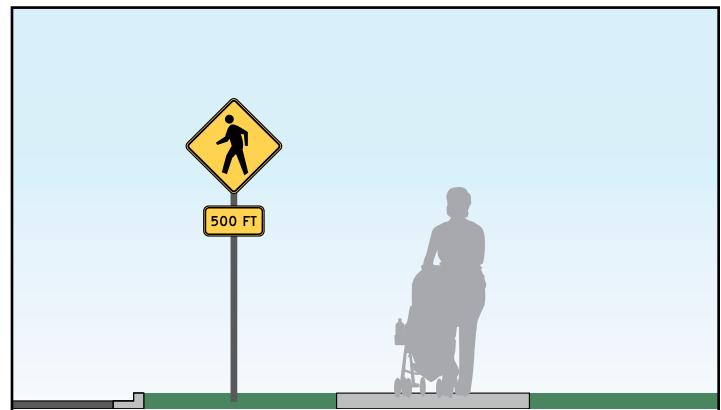
Improvements:

- Striped shoulders of at least 5' on both sides.

Silver Level

Improvements:

- ADA compliant sidewalks on at least one side with 5' buffer.
- At least one crosswalk at all intersections and mid-block crossings where appropriate.



Gold Level

Improvements:

- ADA compliance for all facilities
- Sidepath on at least one side.
- High visibility mid-block crossings with Rectangular Rapid Flash Beacons (RRFB).
- Wayfinding signage with estimated travel times is installed.
- Street trees and pedestrian scale lighting fixtures.





School Zones

Various measures can be taken to increase pedestrian safety within school zones. It is important for pedestrians to be visible to motorists and for motorists to be mindful that they are traveling through a school zone. Lower speed limits can be used as a tool to reduce vehicle speeds in school zones. School crossing signage, pavement markings, signals and high visibility crosswalks remind motorists to watch for pedestrians. These improvements also help students, as well as other pedestrians, know where they are supposed to cross in order to safely travel to and from school.

Examples:

- Geyser Road Elementary School
- Lake Avenue Middle School
- Maple Avenue Middle School
- Saratoga Springs High School
- Division St. Elementary School
- Caroline St. Elementary School

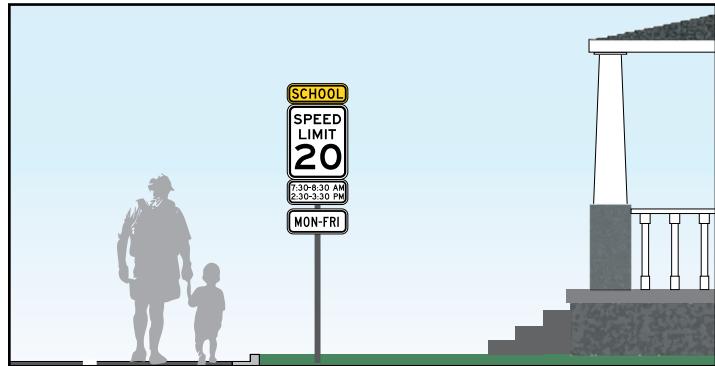


Lake Avenue Elementary School is located a few blocks east of Broadway and the City's downtown core. It is common for students in the neighborhood to walk to school.



Geyser Road Elementary School is situated in the southwest neighborhood of Saratoga Springs. A new crossing is being provided to improve safety and encourage walking to school.

School Zones - Recommendations by Level



Bronze Level

Improvements:

- 4' or wider striped shoulders on both sides.
- Low speed limit.
- Signage indicating school zone

Silver Level

Improvements:

- Sidewalks on both sides.
- ADA compliance at all intersections
- Gaps in street trees and pedestrian lighting fixtures are 50% filled.
- 5' grass buffer between the sidewalk and the street.
- High visibility crosswalk at primary school crossing.



Gold Level

Improvements:

- Full ADA compliance for sidewalks & crossings.
- Sidewalks present through driveways.
- Gaps in street trees filled and pedestrian scale lighting fixtures are provided in all locations.
- High visibility crosswalks at all school crossings with some Rectangular Rapid Flashing Beacons.

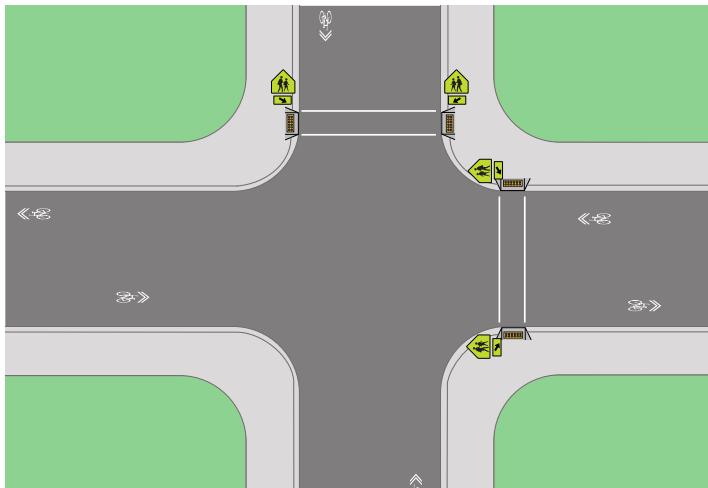




INTERSECTION GUIDELINES - TYPICAL PLAN VIEWS

Neighborhood Intersections

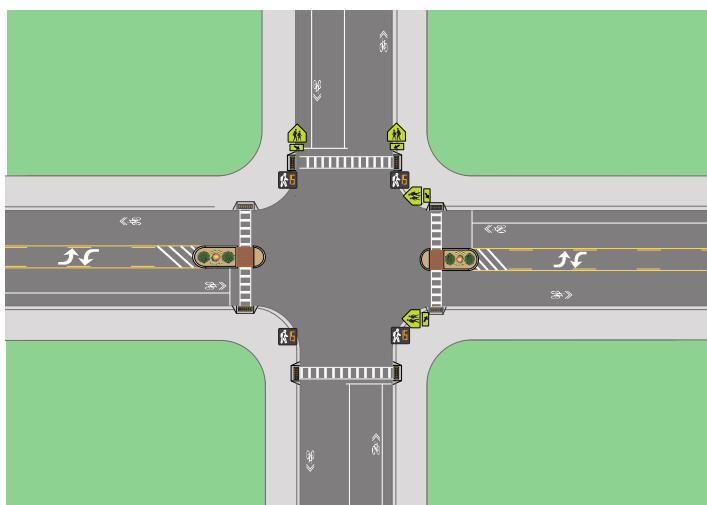
Pedestrian enhancements at intersections in the neighborhoods should focus on the installation of clearly marked, high visibility crosswalks, crossing signage, curb extensions and mini traffic circles. At intersections without traffic signals or stop signs where safety concerns and good sight distance exist, Rectangular Rapid Flash Beacons (RRFBs) should be installed.



Silver Level

Improvements:

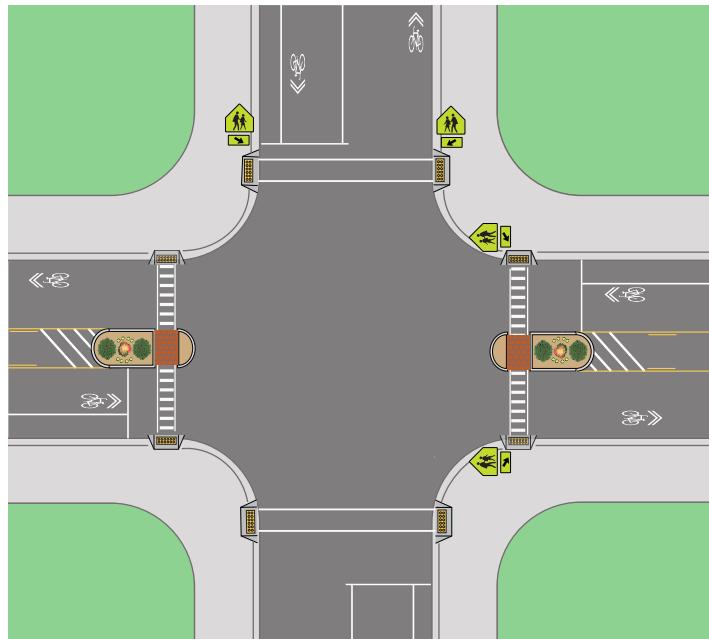
- Four crosswalks
- Curb ramps at all corners
- One high visibility crosswalk across major streets
- Curb extension or median across major streets



Bronze Level

Improvements:

- One crosswalk in each direction
- Curb ramps
- School crossing where applicable



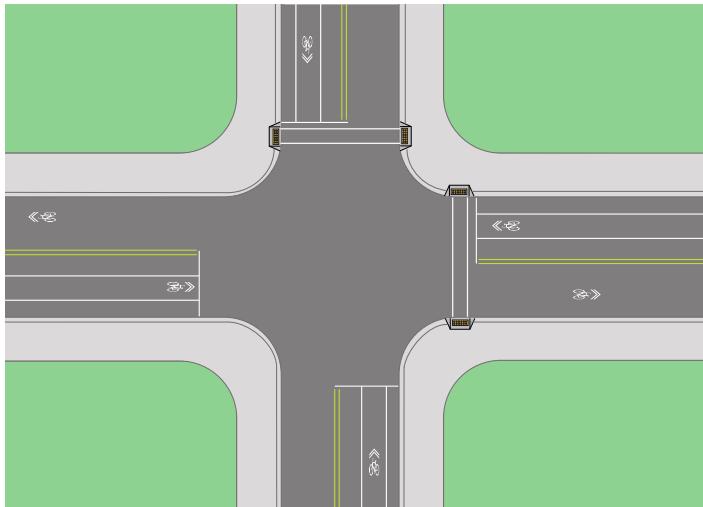
Gold Level

Improvements:

- Four high visibility crosswalks in all directions
- Curb extension, median or traffic calming features
- ADA Compliant Pedestrian Signal Heads (for signalized intersections)

Commercial Core

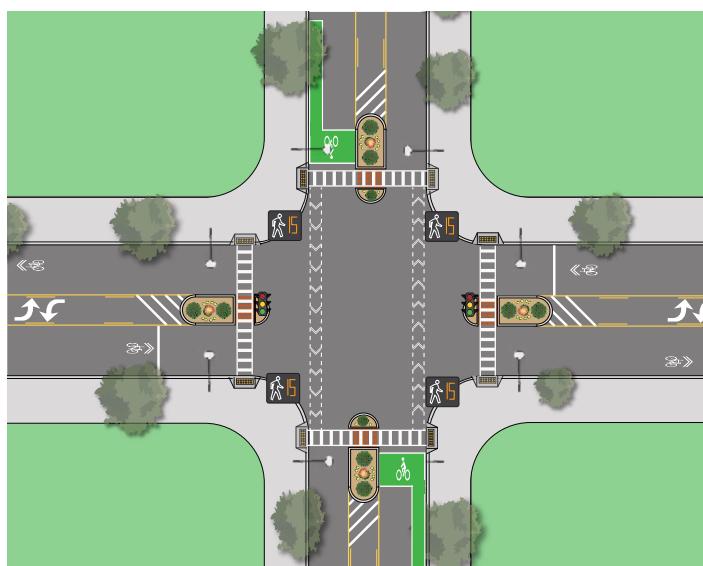
Pedestrian enhancements at intersections in the downtown core should focus on the installation of clearly marked, high-visibility crosswalks, median refuge islands that permit pedestrians to cross in phases, and pedestrian actuated signals with leading pedestrian intervals that facilitate crossings.



Silver Level

Improvements:

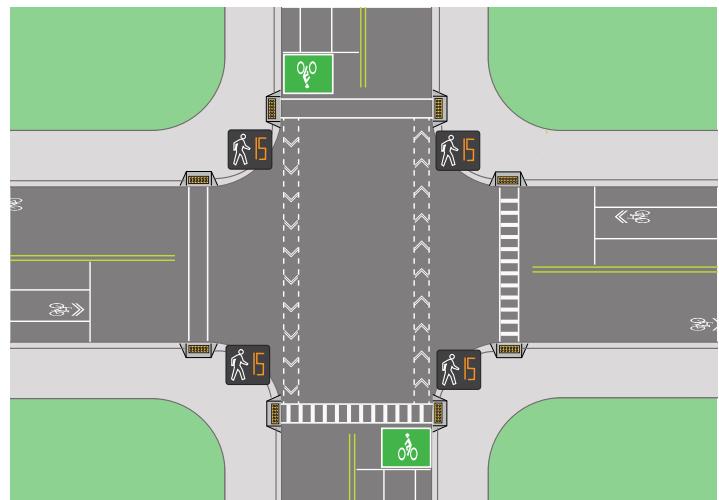
- Crosswalks on all four legs of the intersection.
- ADA compliant curb ramps - two per corner.
- At least one high visibility crosswalk per direction.
- ADA Compliant Pedestrian Signal Heads (for signalized intersections).



Bronze Level

Improvements:

- At least one crosswalk in each direction.
- ADA compliant curb ramps.



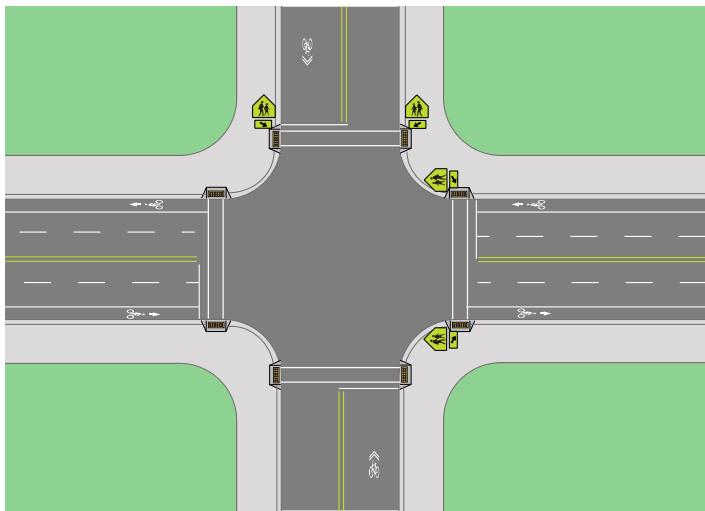
Gold Level

Improvements:

- Full high visibility crosswalks (2 per direction).
- Median refuge islands.
- Pedestrian scale lighting.
- Pedestrian signal heads on all four approaches

Collectors and Thoroughfare Arterials

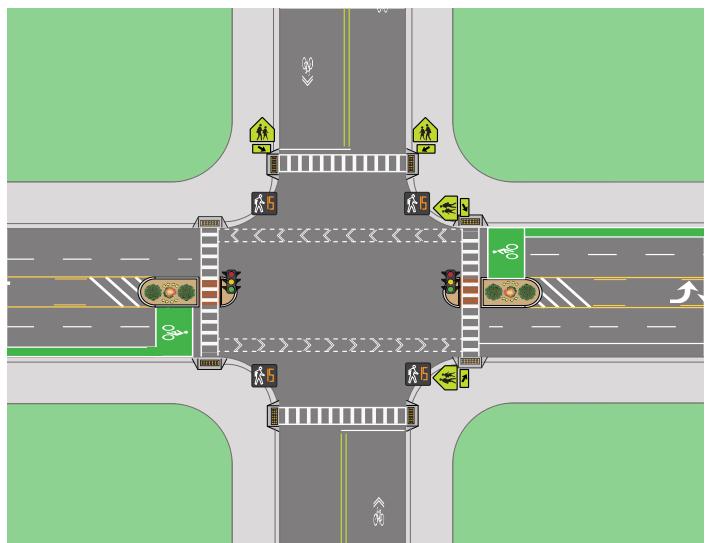
Pedestrian enhancements at intersections along collector streets and arterials should focus on the installation of clearly marked, high-visibility crosswalks, sidewalks leading to the intersections, median refuge islands that permit pedestrians to cross in phases, and pedestrian actuated signals with leading pedestrian intervals that facilitate crossings.



Silver Level

Improvements:

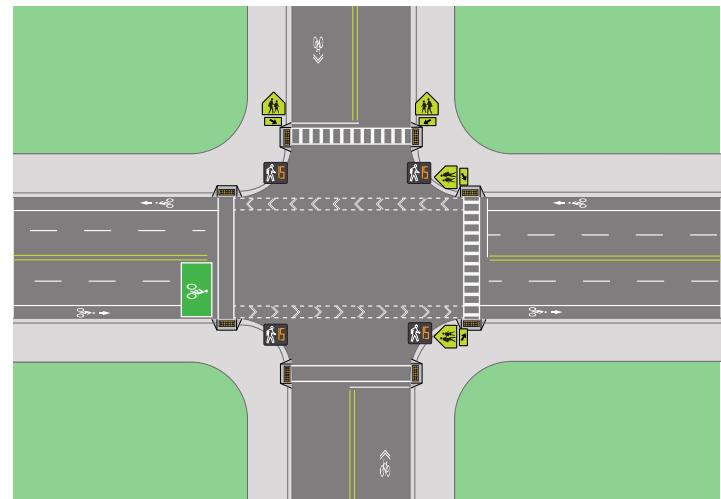
- Two curb ramps per corner.
- High visibility crosswalks on at least two approaches.
- Pedestrian crossing signage.
- ADA Compliant Pedestrian Signal Heads (for signalized intersections).



Bronze Level

Improvements:

- Full standard crosswalks (2 per direction).
- ADA curb ramps.
- School crosswalks (where applicable).



Gold Level

Improvements:

- Pedestrian refuge islands.
- Wayfinding signage.

SHARED NEIGHBORHOOD STREETS

There are some neighborhood streets in Saratoga Springs where it may not be feasible in the short run or may not be suitable to install sidewalks. As an alternative to sidewalks, the streets can be made open to be used by pedestrians and made comfortable to be used by pedestrians through heavy traffic calming along the corridors.

Streets where this may be an effective alternative to installing sidewalks include those between Springwood Drive and Wedgewood Drive, where there currently are not any sidewalks present. To fully install sidewalks along these corridors would be costly and time consuming venture. It would also completely change the character of the neighborhoods. Instead, implementing heavy levels of traffic calming may result in street corridors that are both welcoming and comfortable for pedestrians to use.

In order for the shared pedestrian streets to be truly comfortable for pedestrians, traffic speeds must be reduced to 20 miles per hour or less. This will require the use of multiple forms of traffic calming, which include the following:

Vertical Deflection:

- Speed humps
- Speed tables
- Raised intersections

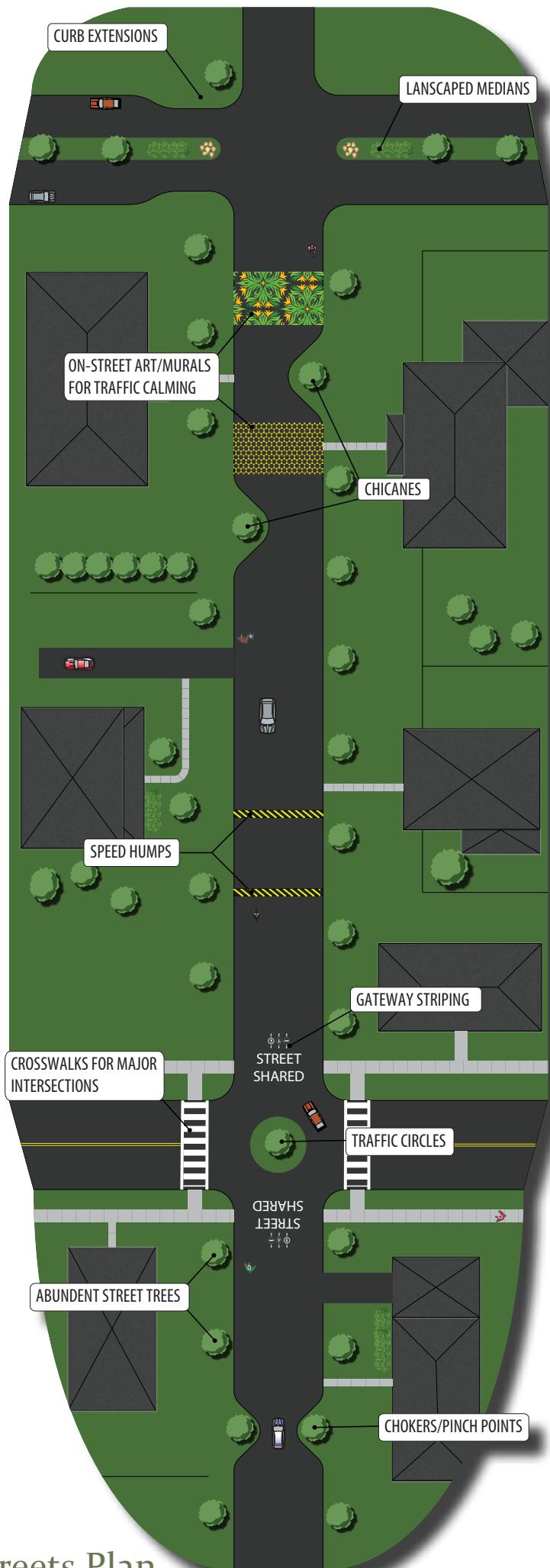
Horizontal Deflection:

- Chicanes
- Mini traffic circles
- Curb extensions
- Chokers/pinch points

Visual Calming:

- On-street murals
- Street tree planting
- Landscaped medians/lane narrowing

The entrance to each shared pedestrian street should also be marked as such. The in street markings can be simple, such as stating "SHARED STREET," or can have a unique branding. Additional public education will help as well. The depiction to the right illustrates how one of these shared pedestrian streets may look.





It is important to note that this is not a perfect substitute for sidewalks. Streets that already have sidewalks may implement traffic calming to make them more comfortable for pedestrians, but streets with full sidewalks should not remove the sidewalks to create a shared pedestrian street. If there is a street with partial sidewalks though, that street may be converted to a shared pedestrian street if it is unlikely for the sidewalk gaps to be filled in the near future. For these streets, the existing sidewalk sections may be removed and repurposed elsewhere in the City if an agreement can be reached between the City and the sidewalk owners.

If a street is to be converted into a shared pedestrian street, a traffic study shall first be completed to assess the traffic calming need and attempts shall be made to reach out to the community for approval.



Example of a curb extension used as a traffic calming device on a neighborhood street.

Example of traffic calming being used to slow a neighborhood street. This set is used to prevent vehicles from speeding into the intersection. They can also be used to increase motorist awareness of other users, such as pedestrians.



This neighborhood traffic circle forces vehicles to arc around it while going through the intersection. This slows vehicles down, making streets more comfortable for cyclists.

2.3 POLICIES

URBAN STREET DESIGN GUIDE

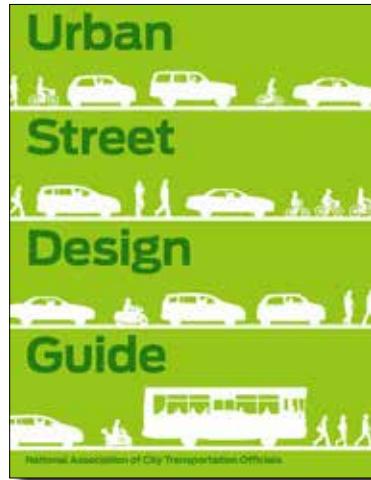
The City of Saratoga Springs can adopt the Urban Streets Design Guide as an authoritative standard for street planning and design within Saratoga Springs, or develop their own design guides that will meet the specific needs of the community but are still based upon the NACTO Urban Street Design Guide. Any created design guides should still be based upon the six overarching principles and should accommodate all street users. The design standards should also compliment this Complete Streets Plan.

The National Association of City Transportation Officials (NACTO) has recognized the need to create design guidelines specifically for urban street systems. They have recognized that urban streets differ greatly from suburban, urban, and highway corridors, and as such, have their own specific design needs. The NACTO Urban Street Design Guide is based off of these needs and contains six overarching principles:

- Streets are public spaces
- Great streets are great for business
- Streets can be changed
- Design for safety
- Streets are ecosystems
- Act now

When cities embrace these principles in their street design process, streets become more friendly for all user groups and communities flourish. The design guidelines are divided among six chapters:

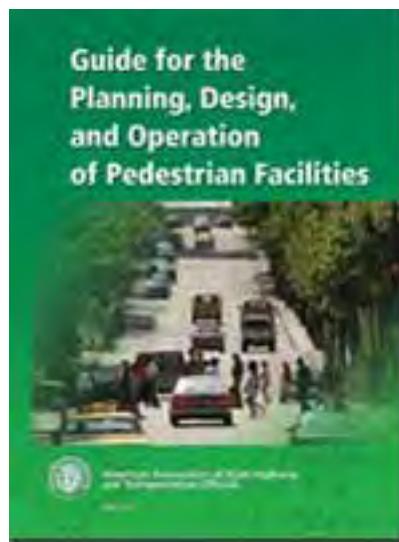
1. Streets
2. Street Design Elements
3. Interim Design Strategies
4. Intersections
5. Intersection Design Elements
6. Design Controls



The Urban Street Design Guide can be found on NACTO's official webpage: www.nacto.org

AASHTO GUIDE FOR THE PLANNING, DESIGN, AND OPERATION OF PEDESTRIAN FACILITIES

The purpose of the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities is to provide planning, design, and operational guidance of pedestrian facilities. Specifically, the guide identifies appropriate methods for accommodating pedestrians on public rights-of-way. The guidelines included in this document consider pedestrian mobility in relation to certain land use planning and site design trends.



The Guide for the Planning, Design, and Operation of Pedestrian Facilities can be found on AASHTO's official webpage: www.transportation.org

DESIGNING WALKABLE URBAN THOROUGHFARES: A CONTEXT SENSITIVE APPROACH

This document was produced by the Institute of Transportation Engineers (ITE) and strives to use context sensitive solutions (CSS) in the planning and design of streets, ultimately creating walkable communities. The document is focused on applying CSS principles during the transportation planning process, resulting in roadway designs which are appropriate for pedestrians and bicyclists.

CONTINUING SIDEWALKS THROUGH DRIVEWAYS

The City of Saratoga should revisit, expand or better enforce city codes towards the care and maintenance of sidewalks by property owners. The policy ensures it is prohibited to resurface over an existing sidewalk and further requires the installation of new sidewalks when resurfacing or installing a driveway occurs. Instituting a permit system may be the most effective mechanism to monitor and enforce the policy. Alternatively the city is encouraged to adopt a sidewalk improvement policy that coincides with the paving schedule and affords residents the share of the cost of bulk materials to install and maintain sidewalks when a street is also being repaved.

TEMPORARY DESIGN AND IMPLEMENTATION STRATEGIES

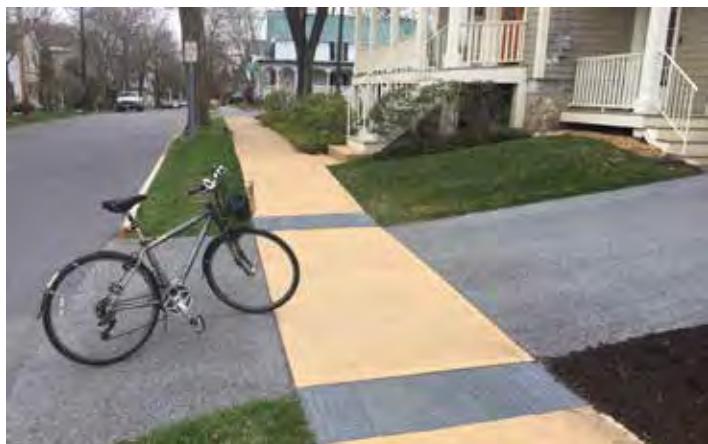


While it is covered in the NACTO Urban Street Design Guide mentioned above, it is important to draw attention to the importance of interim designs and implementation strategies. For many communities, the need for proposed designs and facilities is present now, but often it will take years before progress is made on a street design project. For this reason, as development in the area grows and new projects for designing complete streets within the City are undertaken, a plan for an interim design can be included as a step towards executing the final design.

Having interim designs installed can have a number of benefits. These can include the following:

- While the final design is being produced, the current needs of the area will likely be met better by the interim facility.
- If the interim facility is not meeting the needs of the area or causing unforeseen problems, the design team will be able identify those problems before the final design is installed.
- Implementing interim designs can help ease community members into the change.

Interim designs should be functional and aesthetically pleasing. While they are only temporary facilities, it is important to remember that if they do not work properly or take away from the character of the neighborhood, the community may react towards the final design being installed.



This temporary parklet was used in Troy, NY during a complete streets festival to introduce the public to the idea improved streetscape design.

Sidewalks should continue through driveways

CITY-WIDE ADA TRANSITION PLAN

What is ADA?

The Americans with Disabilities Act (ADA), enacted on July 26, 1990, provides civil rights protections to persons with disabilities in the areas of employment, state and local government services, and access to public accommodations, transportation, and telecommunications. This legislation mandates that qualified individuals with a disability shall not be excluded from participation in or be subjected to discrimination under any program or activity. This includes a requirement for transportation infrastructure to accommodate the needs of disabled individuals.

The ADA is divided into five parts, and the ADA transition plan is a part of Title II: Public Services. This title prohibits state and local governments from discriminating against persons with disabilities or from excluding participation in or denying benefits of programs, services, or activities to persons with disabilities.

What is a Transition Plan?

Municipalities must conduct a self-evaluation that identifies barriers in programs and activities that prevent persons with disabilities from access, including an evaluation of policies and practices. Pedestrian facilities are considered a program. Municipalities with over 50 employees, such as Saratoga Springs, are also required to develop an ADA Transition Plan. The ADA Transition Plan establishes the steps necessary to complete modification identified throughout the self-evaluation which must include an inventory of pedestrian facilities and any physical barriers or other problems preventing access by disabled individuals, as well as a schedule and budget for completing required modifications. The ADA Transition Plan identifies barriers and establishes a framework for how they will be addressed.

Current City Conditions

In order to properly assess the needs of updating the Saratoga Springs ADA Transition Plan, the infrastructure conditions of the City must first be addressed. These needs can be seen through assessments of current ADA compliance, particularly for the sidewalks, ramps and street crossings.

Sidewalks

The assessment included in this Plan only covered the presence or absence of sidewalks. No data was gathered or analyzed to precisely determine ADA compliance of existing sidewalks. It is recommended gaps in sidewalks be filled to create a continuous pedestrian network throughout the City.

Curb Ramps

In order to assess the City's ADA compliance with curb ramp standards, intersections throughout the City were chosen and assessed. The assessment included the identification of present curb ramps, specifically ADA compliant curb ramps, and the number of curb ramps present versus what should be required.

The results of both of these assessments are summarized in the diagrams on the following page.

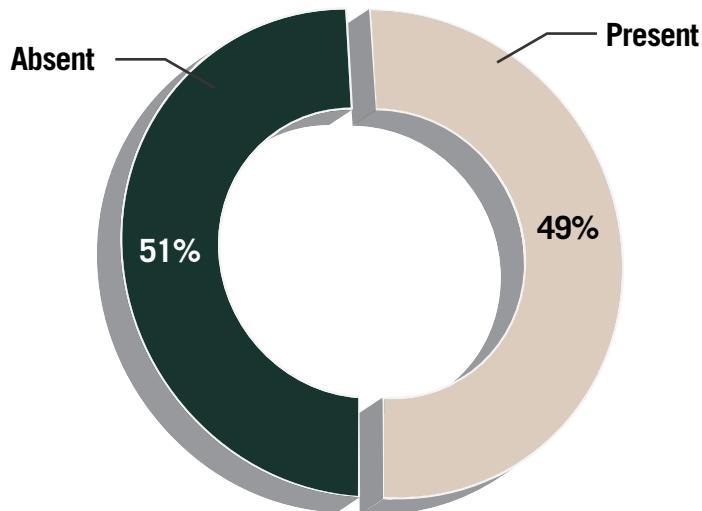
Next Steps

There are several steps that need to be taken by the City of Saratoga Springs in order to produce an updated ADA Transition Plan:

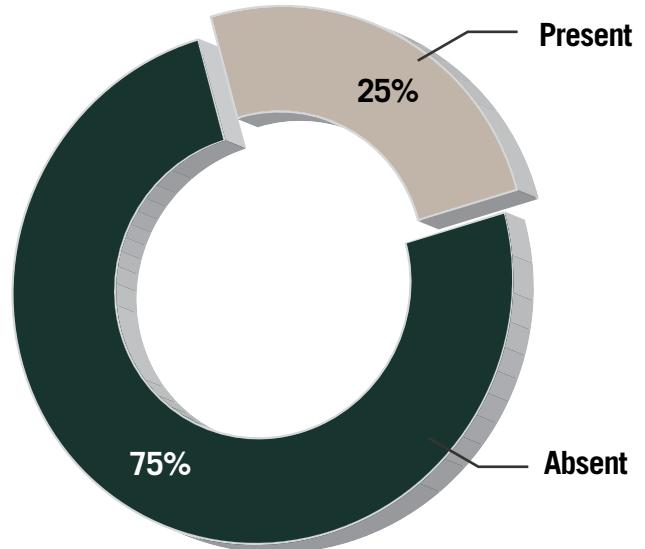
- Nominate an ADA coordinator to oversee the transition report creation and implementation.
- Conduct a more thorough existing ADA condition assessment of the City as a whole.
- Utilize standard design standards for mitigating any physical barriers for individuals with disabilities.
- Generate a list of priority projects with reasonable time lines that will create the most significant improvements for the City's compliance levels. This should be updated yearly and be readdressed when new developments are proposed.
- Create a policy and program to allow citizens to easily voice public grievances over ADA non-compliance.



Sidewalk Assessment Results



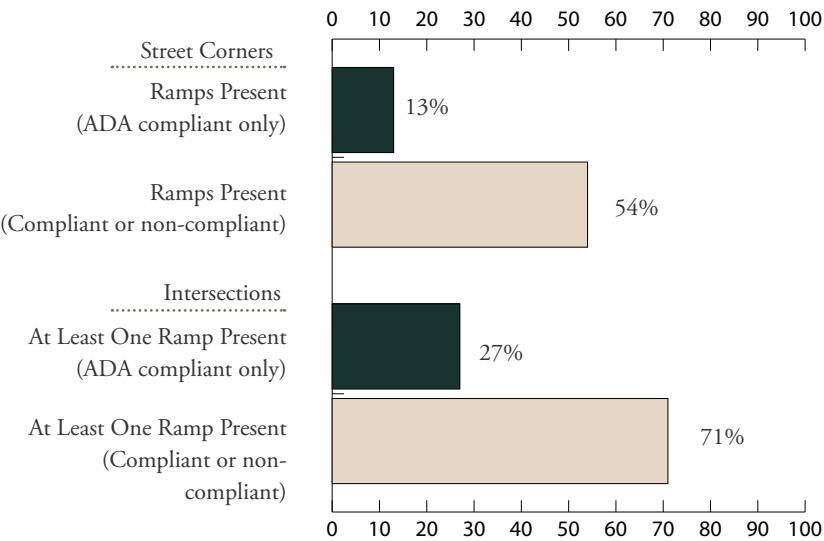
Percentage of present sidewalks - Downtown



Percentage of present sidewalks - City-wide

The above statistics were collected based on available sidewalk data on a per mile basis. ‘Present sidewalk’ represents the percentage of miles of roadway where at least one side of the street has sidewalks present. There are streets in the City where sidewalks may not be appropriate or required. Suburban neighborhoods with low speed/volume streets and state or county roads with paved shoulders are examples.

Curb Ramp Compliance Assessment Results



Street corners and intersections were broken out individually to give the ability to analyze street corners on their own, even if they technically fall within the intersection category.

2.4 PROGRAMS

EDUCATION

Safe Route to Schools

Saratoga Springs has already started an initiative to create Safe Routes to Schools (SRTS) assessments and action plans. SRTS is a program to promote and encourage walking and bicycling to school. Students who walk or bike to school tend to actively participate in classes and live overall healthier lifestyles more than students who are dropped off or ride in a bus. Encouraging walking and biking to school at a young age will help curb childhood obesity and boost grades for students across the school districts.

SRTS seeks to encourage biking and walking to school through the 5 E's:

- **Engineering:** physical improvements to the environment such as crosswalks, sidewalks and signals.
- **Education:** methods to teach children, parents and neighbors about the benefits of walking and cycling to school as well as teaching appropriate walking, driving and cycling behaviors to support safe travel in the school zone.
- **Encouragement:** programs such as Walk to School Day, the Walking School Bus, contests and other initiatives to entice children, parents and others to walk or bicycle to school.
- **Enforcement:** incorporates law enforcement efforts to ensure drivers, bicyclists and pedestrians obey traffic laws and practice appropriate behaviors.
- **Evaluation:** uses measurements or indicators such as the number of children walking or bicycling to school to ascertain the success of any SRTS program.

While Saratoga Springs has established a committee for SRTS assessments, there have not been any action plans developed or adopted to create the necessary improvements, programs, and policies that will help make walking and cycling to school a viable option for the students and their parents. The Saratoga SRTS Committee should be encouraged to further develop these assessments and action plans in order to create a



Students take part in a 'walking school bus' on their way to school as part of a Safe Routes to School program.



A young student enjoying their time at a bike rodeo.

safe, fun, and comfortable environment for students to walk or bike to school. Additionally, it is important to note that MAP 21 addressed this by way of the transportation act program, FAST Act, which uses STP Setaside, a subprogram of the Surface Transportation Program.



'Yield to Pedestrian' Devices

Pedestrians have the right of way at a marked crosswalk, unless controlled by a traffic signal. Driver compliance with this law is low in Saratoga Springs and vehicles often do not stop for pedestrians who legally have the right-of-way.

Several devices can be used as educational tools to inform the general public about the laws revolving around crosswalks and pedestrian right of way. They can come in many different forms, including:

- Off-street signage
- In-street Signage
- Crossing Guards
- High-Intensity Activated Crosswalk (HAWK) Signals
- Rectangular Rapid Flash Beacons (RRFBs)

Examples of in- and off-street signage can be found in the Manual of Uniform Traffic Control Devices (MUTC).

These devices can be implemented throughout the City of Saratoga Springs. Locations include crosswalks where there are high volumes of pedestrians, high motor vehicle speeds, or high pedestrian crash counts such as across Lake Avenue at High Rock Ave/ Pavilion Row.



A cyclist responds to an in-street sign and yields the right-of-way to a crossing pedestrian.



An example of an off-street 'Yield to Pedestrians' sign marking the location of a mid-block crossing.

ENCOURAGEMENT

Open Street Events

Open Street events are festivals or community gatherings that temporarily limit motor vehicle access, create a more comfortable environment for event patrons walking and cycling. Saratoga Springs has a number of exciting open street events, including:

- **Hats Off Festival:** The annual celebration of one of Saratoga's biggest pastimes, horse racing. The event occurs on the opening and closing weekends of the race track and features live music and festivities.
- **Victorian Streetwalk:** Celebrating the rich past of Saratoga Springs, the Victorian Streetwalk welcomes attendees to take a stroll through Broadway, encountering relics of finer time. The festival includes entertainment from the Victorian era and a number of activities for the whole family to enjoy.

Expanding these open street events to larger areas will help showcase the walkability and bikability of the City and encourage individuals to view these modes of transportation as viable options for day-to-day activities. Recent events on Henry Street and during the annual Chowder Fest have shown the popularity of Open Streets in Saratoga.

Introducing additional open street events throughout the year will also help encourage alternative transportation choices. Some options include:

- Downtown Farmer's Market
- Complete Streets Festivals
- Parades
- Community Block Parties/BBQs
- Halloween
- Dance Flurry
- Jazz Festival
- Firecracker 4
- Billy Gray Ride for Research
- Saratoga Palio
- Turkey Trot
- Caroline Street during racing season

Historic Walking Tours

The Saratoga Springs Preservation Foundation provides excellent walking tours of the City, encouraging residents and visitors to learn about the community's history.

Walk to Work/School Days

Walk to school day is the first Wednesday of every October. Likewise, walk to work day is generally on a Friday in April. In order to help encourage walking within the City of Saratoga Springs, the community should gather around and participate in these events. The city should advertise the events and encourage public servants to participate in them as an effort to set an example for the rest of the citizens. On these days, the City can host programs, such as free water to be handed out or a social media campaign used to spread the word.

Walk to School events can also be promoted within schools. Prizes or ribbons can be given to students who participate in the events. Walking 'school buses' can also be established for parents who do not wish to let their children walk alone.¹



Providing Walking Maps with locations where the event activities, such as parklets or water stations, can be found, is a great way to encourage participation.

¹ Walking school buses are groups who walk and bike to school together. They are usually led by a rotation of volunteer parents.



ENFORCEMENT

A major key to the effectiveness of any infrastructure improvement, policy, or program is to ensure that the rules that follow them are strictly enforced. The months following the installation of many of the infrastructure improvements will be the most important in terms of enforcement, as those are the months that define the habits of users who are not used to the new rules. If the rules are not enforced, then they may not be taken seriously by the public. While it would be ideal for all road conditions to be monitored constantly, it is recognized that this would not be feasible in a real world setting. As such, the following are identified priority enforcement programs that the City can concentrate on in order to ensure the maximum effectiveness of the recommendations of this plan:

Speed Radar

Speed radar trailers are currently in use in Saratoga Springs to help motorists identify when they are exceeding the speed limit. These trailers act as a traffic calming device as they often cause traffic to reduce speeds to below the posted speed limits.

It is recommended to place these trailers more frequently around school zones, locations where there is a known speeding issue, locations with high pedestrian volumes, and before any construction zones.

It is also recommended to couple these speed radar trailers with police officers checking speeds with radar guns a short distance further down the roads. This does not have to be a constant presence, but having them there some of the time will help solidify the seriousness of the speed trailers.

Foot Patrols

Providing more police officers on foot patrols help to set an example for others that walking is a viable transportation option. It also allows officers to receive less negative responses when ticketing pedestrians than when they are doing so from a patrol car, as the foot patrols are more relatable to pedestrian.

Foot patrols are already present, and can be increased throughout the downtown core, around school zones, and at large events or gatherings. Having foot patrols also helps make the presence of police officers more obvious, which can help deter crime from taking place in their vicinity.

Targeted 'Yield to Pedestrian' Enforcement

The act of slowing down the vehicle to a stop in order to allow pedestrians to cross the road is often viewed as an inconvenience to motorists. However, this places pedestrians in an unsafe environment and will deter people from choosing walking as their primary choice of transportation.

In order to encourage motorists to yield the right of way, targeted enforcement should be applied. Officers should be stationed at locations to hand out warnings and citations for failing to yield the right of way:

- School zones
- Downtown Core
- Locations of newly installed 'Yield to Pedestrian' crosswalk devices

Sidewalk Parking Enforcement

An emphasis should also be placed on citing those who park on sidewalks, as this violation often deters individuals from walking.

SIDEWALK MAINTENANCE PROGRAM

Introduction

Saratoga Springs municipal code Chapter 203 requires that adjacent property owners keep their sidewalks in good repair and safe for public travel. This means keeping the sidewalk clear from vegetation overgrowth, snow and ice accumulation, as well as making repairs to the sidewalks when damaged.

Further, each owner is liable to the City for all losses to the City or recoveries from the City for damages to person or property of others caused by failure to keep their sidewalks in good order and in a reasonably safe condition.

Encouraging cooperative maintenance programs throughout the year to ensure sidewalks are kept clear during winter months and in a state of good repair will ensure minimal incidents of sidewalk liability and create year round safe and passable sidewalk routes to and from City destinations.

Winter Maintenance

One of the largest complaints during the winter months in Saratoga Springs is the failure of property owners to clear sidewalks. The City's code enforcement should continue to issue citations for this violation and encourage shared snow removal responsibilities between adjacent property owners through cooperative snow removal programs.

Similar programs have been implemented in other northern climate cities. The City of Pittsburgh has minimized the hardship of snow removal by launching a volunteer initiative called Snow Angels. Volunteers are paired with persons who qualify for the program, typically elderly or handicapped property owners, and designated a section of sidewalk to clear. Along with fostering stronger community relationships and relieving some of the stress that comes from a snow storm, Snow Angels make sidewalks safer for those who continue to serve despite the winter weather – like postal service workers, firemen, and police officers.



Property owner responsibly clears snow off of sidewalk adjacent to property.

Saratoga Springs can consider collaborating with a local non-profit to launch a similar cooperative snow removal program. Cooperative snow removal programs could also be a great opportunity for able high schoolers to earn community service credits as well.

Collaboration with the City, neighborhoods and property owners can improve this process by limiting practices that plow snow from roads onto the sidewalks, keep curb ramps clear and ensure safety and access throughout the winter season.



Curb Ramps

Curb ramps and sidewalks ensure that cities create accessible paths of travel in the public right of way for people with disabilities. The City is required to improve, install or replace a set number of curb ramps on an annual schedule to comply with the ADA.

Creating an annual budget for this program gives the City a time line for completing this project. For example, if each curb ramp replacement costs an average of \$5000, and the City budgets \$100,000 per year for ADA curb ramps, the City can calculate a completion date and the program becomes more comprehensive in scope and budget. Priority should be given to heavily used corridors and existing ramps that are not compliant.



ADA compliant curb ramps and crossing.

Spot Improvements and Filling Gaps

Though the City's Department of Public Works efforts to address these areas often utilize Community Development Block Grants (CDBG), the City can also plan and budget a comprehensive sidewalk gap program. To help this process, alternative "buy-in" programs have been adopted in other NYS cities to reduce the personal liability and costs of such projects to homeowners.

Replacing or installing 20 to 100 feet of sidewalk can be prohibitive to some home owners. The City can consider establishing a community sidewalk replacement program cycle annually or bi-annually to reduce costs to homeowners by increasing the scope of sidewalk work.

The City of Ithaca instituted a city-tax program for property owners and assumed responsibility for the installation, maintenance and repair of sidewalks in 2014. The City of Troy uses CDBG's and a city tax to lift this burden off of property owners as well.



Example of a missing section of sidewalk on Excelsior Avenue.

Similar to meeting ADA compliance with curb ramp replacements, the City can establish a fund annually for improvements to sidewalk facilities. For example, the average cost of a 5' sidewalk per linear foot is \$70. Setting a budget annually to complete a target amount of linear feet of sidewalk creates a more realistic goal of creating better sidewalk facilities.

Maintenance and Protection of Traffic

The implementation of a maintenance and protection of traffic (MPT) plan is a basic requisite to public safety. During project construction, MPT plans are often required to manage traffic constraints and divert pedestrians safely around construction sites.

It is recommended that Saratoga Springs consider developing a maintenance and protection program to consistently monitor public safety across the built environment in general but in particular as it relates to complete streets during construction projects.

Diversion of pedestrians safely through or around construction sites shall be accomplished with highly visible points of ingress and egress with a minimal interaction with vehicular movement.



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Chapter 3:

Bicycle Network & Facilities



3.1 BICYCLE NETWORK & FACILITIES



INTRODUCTION

With the assessment of the existing conditions and input from the public, the following set of recommendations has been produced. This includes a network of city streets, bicycle boulevards, multi-use path connections and road treatments to enhance bicycling safety. Creating a network of bicycle corridors will ensure safe cycling for all levels of users.

The network has been divided among three categories; bronze, silver, and gold. These levels represent the concepts in the Design Recommendations and Guidelines section of this report (see page 3-12). Ultimately, the bicycle network should aim to reach the ‘gold standard,’ but short term actions can be achieved at the ‘bronze’ and ‘silver’ levels.

Appropriate signage, visual markers alerting drivers to the presence of bicyclists, and designated bicycle travel lanes help to create a more robust network of bicycling infrastructure. Bike lanes, bike lanes with buffers, and protected bike lanes give space to bicyclists that reduces conflict with motorists and encourages non-motorized forms of transportation within the City of Saratoga Springs.

In addition, policies and programs can be established to promote bicycle education, encouragement, and enforcement if the bicycle network is to reach its full potential. These will help promote bicycling, and help ensure that traveling in Saratoga Springs is comfortable for all users.

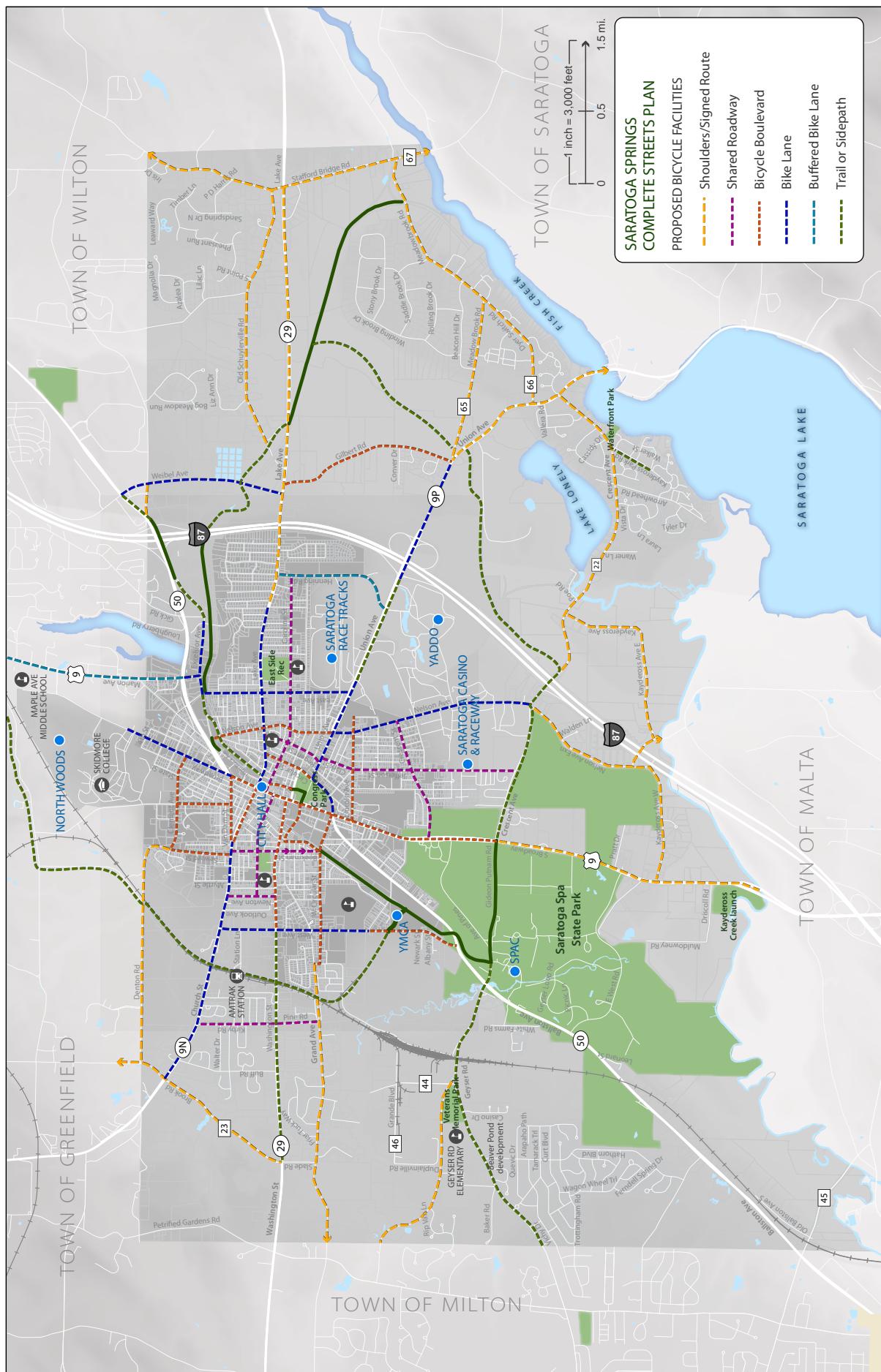


BICYCLE NETWORK

To complete a network of on-road bicycle facilities throughout the City of Saratoga Springs, a number of bicycle facilities have been identified. Bicycle treatments have been identified for each based on existing roadway widths, traffic volumes, and other roadway characteristics. These facilities include:

- Shoulders/ Signed Route
- Shared Lanes
- Bicycle Boulevards
- Bike lanes
- Buffered bike lanes

A full decription of these facilities can be found on pages 4-3 and 4-4.





Shoulders/Signed Route Recommendations

Striped shoulders provide a dedicated space for bicyclists to travel. These routes should also be signed with bike route signage to indicate to motorists that bicyclists will be using the roadway as well as to provide wayfinding guidance for bicyclists.



Shared Roadway Recommendations

Shared Lane Markings communicate to motorists that bicyclists will be using a street, and reinforce that drivers should adjust their behavior and share the road. Sharrows also indicate the lane position that bicyclists should assume when riding in the road.



Shoulders/Signed Route Recommendations
Lake Ave. - Weibel Ave. to Stafford Bridge Rd.
Meadow Brook Rd. - Stafford Bridge Rd. to Gilbert Rd.
Crescent Ave. - I-87 to Rt 9P
Union Ave/ Rt. 9P - Gilbert Rd. to Crescent Ave.
Denton Rd. - Locust Grove Rd. to Seward St.
Brook Rd. - Denton St. to Washington St.
Old Schuylerville Rd. - Ruggles Rd. to Lake Ave.
Nelson Ave Ext. - Crescent Ave. to I-87
Kaydeross Ave. West & East - Rt. 9 to Crescent Ave.
S. Broadway/Rt. 9 - Gideon Putnam Rd. to Kaydeross Creek
Adams Rd. - Geyser Rd. to Rowland St.
Dyer Switch Rd. - Meadowbrook Rd. to Rt. 9P

Marked Shared Roadway Recommendations
Lincoln Ave - Broadway to Nelson Ave.
W. Circular St. - Broadway to Glenmore Rd.
Washington St. - Broadway to West Ave.
Clement Ave. - N. Broadway to Seward St.
Broadway - Gideon Putnam Rd./Crescent Ave. to Van Dam St.
Nelson Ave. - Union Ave to Excelsior Ave.
Circular St. - Lake Ave. and Union Ave.
Church St - Broadway to Walworth St.
Van Dam St. - Broadway to Church St.
Seward St. - Church St. to Clement Ave.
Clinton St. - Van Dam St. to Clement Ave.
West Ave. - Congress St. to Ballston Ave./Rt. 50
Gilbert Rd. - Lake Ave. to Rt. 9P

Shared Roadway Signage Recommendations

“BIKE IN LANE” assemblies (MUTCD W11-1 & NYW5-32P) should be posted on these routes, indicating that they are also shared roadways. Many of the recommended routes will provide regional connections and should be established through inter-municipal projects. Like shared lane markings, this signage will encourage drivers to share the road with cyclists.



“BIKE IN LANE” Signage Recommendations
Locust Grove Rd. - Denton Road to Regional Connections
Grand Ave. - Glenmore Ave. to Regional Connections
Nelson Ave. Ext. - Crescent Ave. to Regional Connections
9P - Crescent Ave. to Regional Connections
Old Schuylerville Rd. - Lake Ave. to Regional Connections
Ruggles Ave. - Old Schuylerville Rd. to Regional Connections

Bicycle Boulevards

Bicycle boulevards are recommended along low volume residential streets that represent key bikeway connections. Traffic calming will optimize these streets for bicycle travel. Slowing vehicles down will also make these streets comfortable for pedestrians.



Bicycle Boulevard Recommendations

Caroline St. - Henning St. to Broadway

Division St. - Broadway to Newton Ave.

Crescent St. - Nelson Ave. to Broadway

Kirby Rd. and Pine Rd - Church St to Grand Ave.

Jefferson St. - Lincoln Ave. to Crescent Ave.

Clark St. - Union Ave. to Lincoln Ave.

Regent St. - Lake Ave to Union Ave.

Beekman St. - W. Circular St. to Church St.

Newton Ave. - Church St. to Washington St.

Bike Lanes

Bicycle lanes provide a dedicated space in the roadway for bicyclists to travel. Such lanes delineate that bicyclists should position themselves in the road shoulder. A standard 5' bike lane also enables a motorist to pass a bicyclist without crossing the centerline, and makes passing them easier since their behavior is more predictable.



Bicycle Lane Recommendations

Lake Ave. - Broadway to Weibel Rd.

Church St. - Brook Rd. to Walworth St.

Union Ave. and Circular Rd. - Broadway to Nelson

Union Ave. - I-87 to Gilbert Rd.

West Ave. - Church St. to Congress Ave.

Nelson Ave. - Union Ave. to Crescent Ave.

East Ave. - Excelsior Ave to Union Ave.

Broadway - Skidmore College to Van Dam St.

Excelsior Ave. - East Ave. to Veterans Way

Weibel Ave. - Lake Ave. to Louden Rd.

Buffered Bike Lanes

Buffered bike lanes, like conventional bike lanes, provide a dedicated space for bicyclists to travel separated from motor vehicle traffic. They are superior in that a striped buffer is used to provide an additional level of separation from vehicles. On busy streets, the buffer can be placed adjacent to the travel lane to increase bicyclist comfort; on streets with on-street parking, the buffer can be placed adjacent to the parking lane as a measure to minimize 'dooring' incidents.

Buffered Bicycle Lane Recommendation

Henning Rd. - Lake Ave. to Union Ave.

Marion Ave. - Excelsior Ave. to Maple Ave. Middle School



OTHER BICYCLE FACILITY RECOMMENDATIONS



Bicycle Route Recommendations

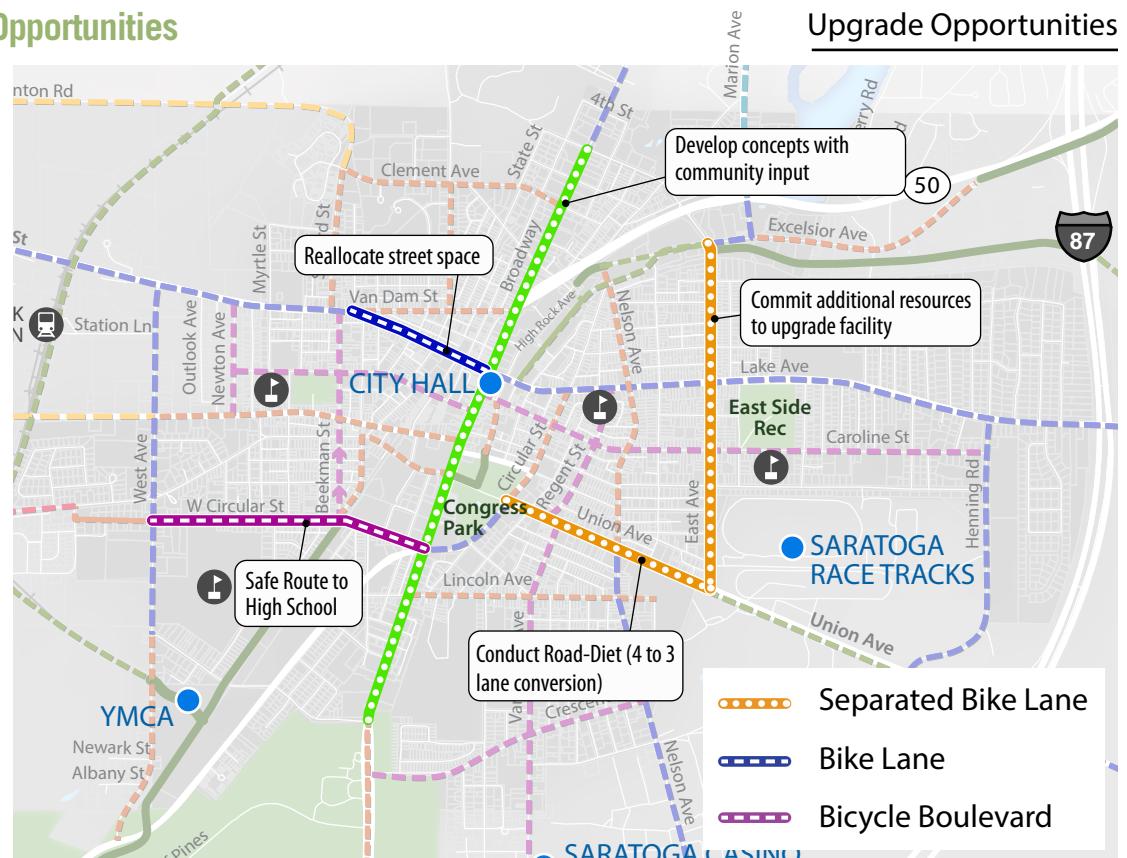
The City of Saratoga Springs currently has 4 signed bicycle routes that traverse the City's neighborhoods. In addition to state bike route 9, The City's bike routes, labeled A, B, C, and D, cover a large portion of the City, and can provide some level of benefit to the visibility of cyclists, but for the most part, do not connect cyclists to desired destinations and often places cyclists on undesirable routes. It is recommended that the City take down the posted signs and replace the current routes to better connect key destinations as they no longer follow desired paths to key destinations or scenic rides.



Existing Bicycle Route C on
Congress Street

Long Term Upgrade Opportunities

The bicycle network recommendations presented on page 4-2 will greatly improve bicycling conditions in Saratoga Springs. Most of the recommendations can be implemented without having a major impact on existing traffic patterns. They can be installed within the existing curb-to-curb width, and will not require major alterations to street cross-sections, such as the removal of travel lanes or parking.



The successful implementation of this network will make Saratoga a bike friendly city. However, some key roadways near Downtown, even after the installation of the recommended facility, may still be uncomfortable for less experienced bicyclists. Additional measures can be taken to make these roadways comfortable for a wider cross-section of bicyclists, but these measures will impact traffic patterns and/or require significant resources. The map above presents long-term opportunities for improving key connections Downtown. Proposed changes to these streets in the future may consider the implementation of a road-diet (or the removal of a travel lane), removal of parking, and the reduction of traffic volumes or other changes based on community input.

Since these changes will impact traffic patterns and require significant investments with appropriate engineering analyses, they represent long-term options for improving conditions in and around downtown. These recommendations should be studied and assessed in more detail, including appropriate engineering analyses, to determine their feasibility. These recommendations should be studied and assessed in more detail to determine their feasibility. If these long-term opportunities can be implemented, the City's Complete Streets will become comfortable for bicyclists of all ages and abilities.

One-Way Streets

There are a number of one-way streets in downtown Saratoga Springs. One-way streets can have a negative impact on bicycle mobility. Since bicycles are recognized as vehicles, they must abide by the rules of the road, unless policies, facilities, or programs allow them to do otherwise. The City's one-way corridors are specifically limiting for cyclists traveling from Circular St west toward Broadway.

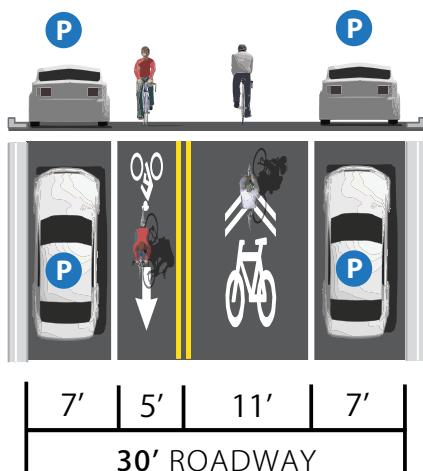
In order to minimize the dangers of cyclists riding against traffic and increase bicyclist mobility, contra-flow bicycle lanes can be installed along one-way corridors. Contra-flow bicycle lanes create a designated space for cyclists to travel against traffic.

Shared lane markings can also be installed in the travel lanes to encourage cyclists traveling with traffic to stay out of the contra-flow lanes.

Implementation of any facility will benefit from educational and public awareness programs for motorists, bicyclists, and pedestrians, alike.



A cyclist utilizes a contra-flow bike lane in Cambridge, MA. The striping, colored pavement, and bike lane symbols all help emphasize the presence of the lane.



A 'Do Not Enter' sign with an 'Except Bicycles' plaque.

Bicycle Boulevards

Bicycle boulevards, also known as neighborhood greenways, are street corridors that have low motor vehicle volumes and speeds. The boulevards have traffic calming features, balanced to ensure that motor vehicle traffic travels at comfortable speeds for cyclists and pedestrians, while still allowing access to the overall street network for motorists.

Bicycle boulevards, when most effective, are a set of routes that span neighborhoods or cities, connecting cyclists to their destinations. They should exist along several blocks at least, and should not form a circle or loop. When choosing bicycle boulevard routes, the roads should be already experiencing low traffic volumes and speeds, and the route should be easy to follow. If routes do need to make turns or be diverted away from a straight path, easily identifiable and understandable signage should accompany the routes.

For Saratoga Springs, it is recommended that Division Street and Caroline Street be considered as potential pilot projects route choices for bicycle boulevards. The two streets connect a number of neighborhoods to downtown and terminate one block away from another, creating an easy to follow route. The streets are also relatively low volume, and together, cross the majority of Saratoga Springs. A community involvement process and demonstration projects can be developed to gauge neighborhood support.

These streets would be the first ‘test run’ of a full bicycle boulevard network throughout Saratoga Springs. They should be planned with unique branding and wayfinding and have traffic calming techniques utilized throughout the corridors. The examples to the right depict several options for traffic calming tools that can be used. They can fall into three categories:

- Vertical Deflection
- Horizontal Deflection
- Visual Deflection

Techniques from each category should be used throughout bicycle boulevards in order to achieve the highest levels of success from the traffic calming. The map on page 4-9

Traffic Calming Techniques

Curb Extensions



Chicanes



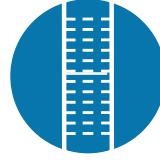
Mini Traffic Circles



Speed Humps/Tables



In Lane Tic Marks

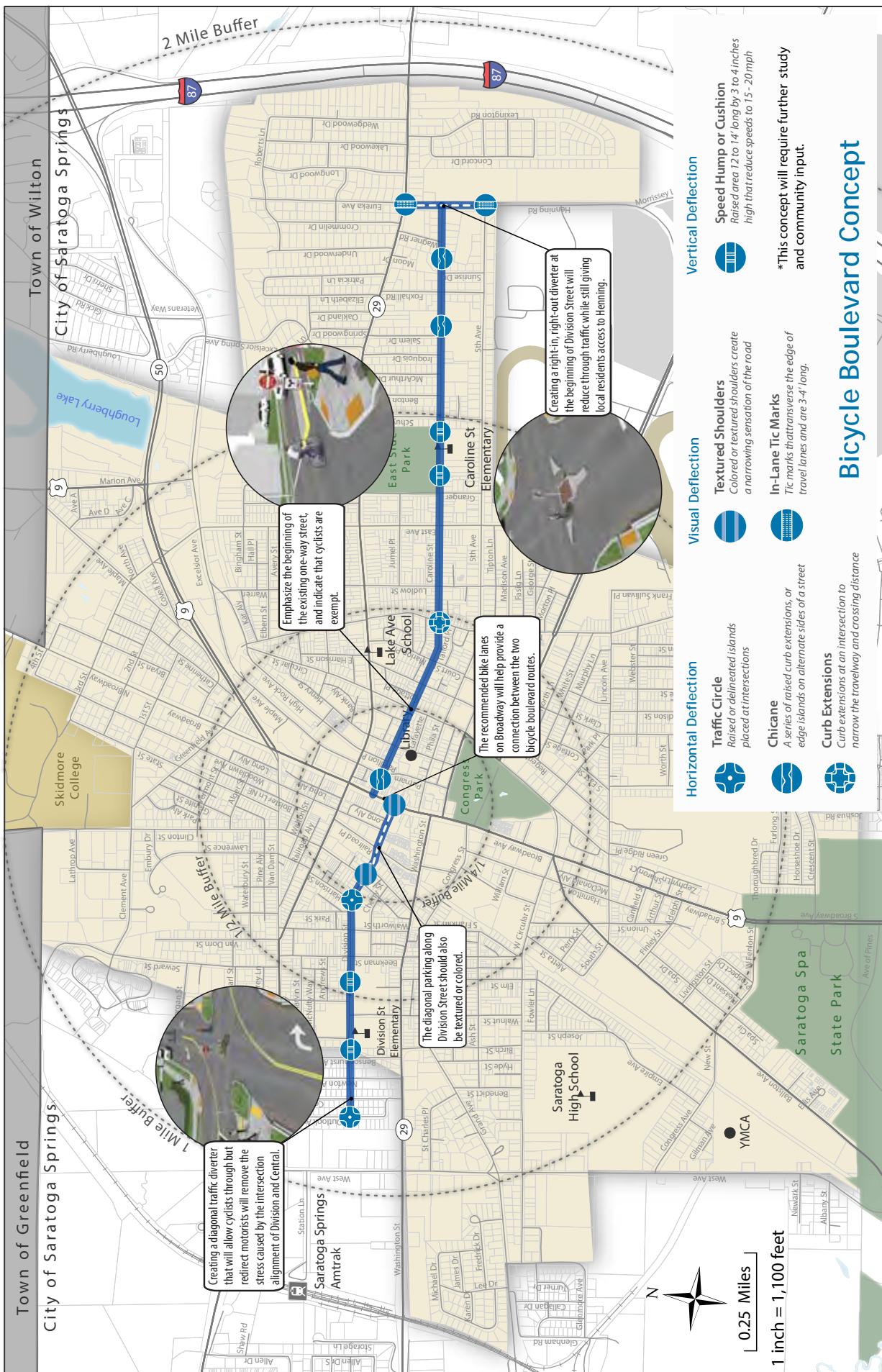


Textured Shoulders



shows the a conceptual plan for how traffic calming can be used along these potential bicycle boulevards.

*Further guidelines on bicycle boulevards and traffic calming can be found in this report.



3.2 DESIGNS & GUIDELINES

CORRIDOR CLASSIFICATIONS

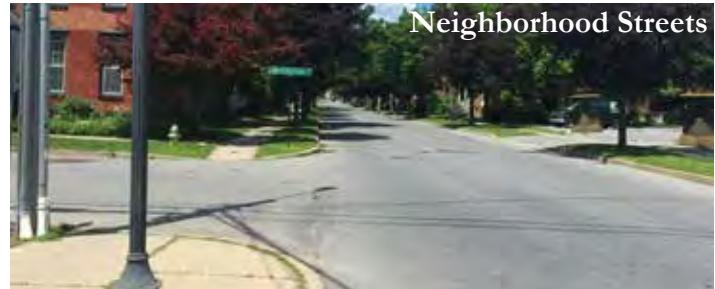
The following lays out the classifications into which most roads within the City of Saratoga Springs will fall. Included is a description of each roadway, a number of roads within Saratoga Springs that meet the criteria, and what enhancements can be made to bike lanes, shoulders, bicycle boulevards and other road treatments that will make Saratoga Springs a more bicycle friendly city.

The improvements are listed as ‘bronze,’ ‘silver,’ and ‘gold.’ Gold represents the ideal improvements in a full-build scenario. Silver and bronze represent intermediary phases that can be implemented to eventually achieve the ‘gold’ standard. It is important to realize that the bronze and silver phases, while they are improvements to the current conditions and can achieve a great deal in creating complete streets, they should not be viewed as desired final outcomes. The City should continue to strive for excellence and push towards achieving a ‘gold’ standard on every street.

The different classifications of roadways in Saratoga Springs include:

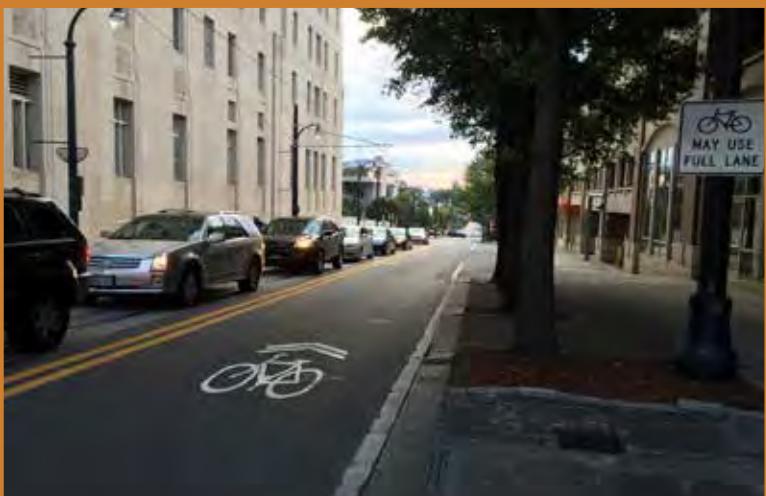
- Neighborhood Streets
- Arterials/Commercial Core
- County Roads & State Highways

Examples of these street classifications are provided at right.



VISUALIZING IMPROVEMENTS

BRONZE



Sharrows represent a bronze-level bicycle facility. The markings inform motorists that bicyclists may use the lane and to be mindful when overtaking a bicycle. The lack of designated space and physical separation makes these facilities less desirable than other treatments.

SILVER



Silver-level bicycle friendly streets include dedicated bicycle lanes. These provide a designated space for bicyclists. As is standard, green paint can be used to further emphasize the presence of the lane and inform motorists that the space is reserved for bicyclists. The lack of physical separation from moving traffic prevent bicycle lanes from achieving gold-level status.

GOLD



Physically separated bike lanes offer the most protection for bicyclists. They provide a dedicated space for bicyclists that is inaccessible by motorists. The City can achieve gold-level bike facilities by implementing separated bike lanes through the bicycle network.

BICYCLE INFRASTRUCTURE RECOMMENDATIONS

This section includes a description and representative images of each corridor classification, ranging from Saratoga's low-volume residential streets to those located in the heart of its commercial district. The descriptions are followed by a series of recommendations intended to improve bicycling conditions along Saratoga's streets. The recommendations are grouped into bronze, silver and gold levels, and can be implemented using a phased approach.

Neighborhood Streets

Outside of the busy commercial core, there are a number of low-volume neighborhood streets. These streets may or may not be striped, have on-street parking, and are generally lined with residential driveways. They also receive low, if any, bus or heavy vehicle traffic and have a good number of street trees.

These streets can become optimized for bicycle travel through the installation of traffic calming features that reduce vehicle speeds. Overall, a traffic calmed street is a more bicycle friendly street.

Examples:

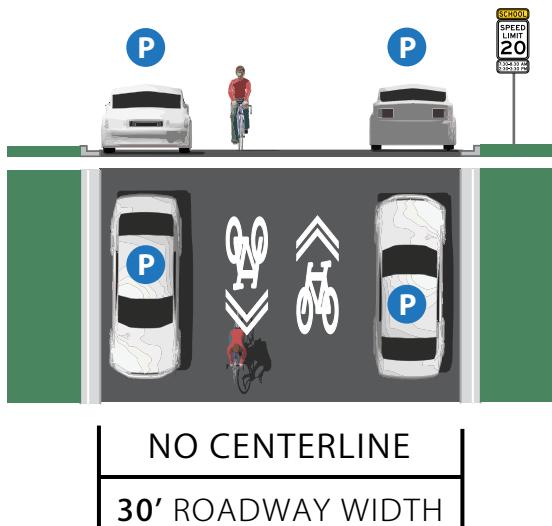
- Oak Street
- Regent Street
- State Street



This portion of Caroline Street is an example of a low volume street suitable for neighborhood bicycling traffic.



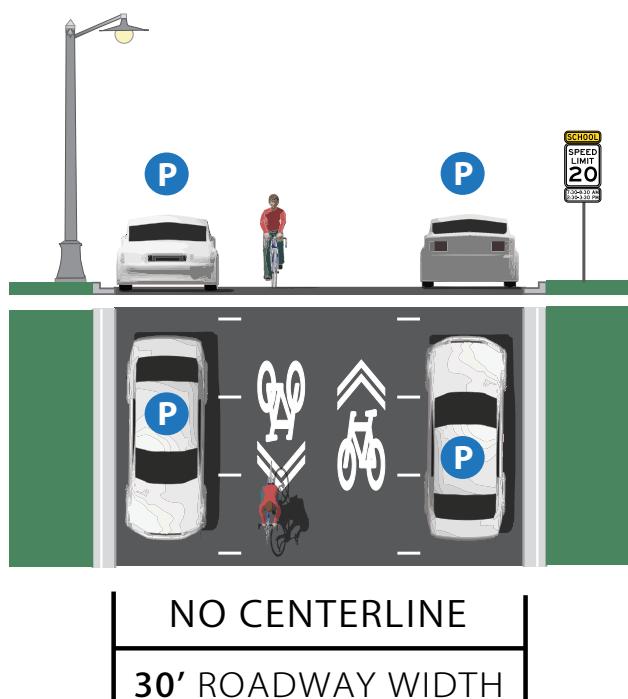
Neighborhood Streets Cross-Sections



Bronze Level

Improvements:

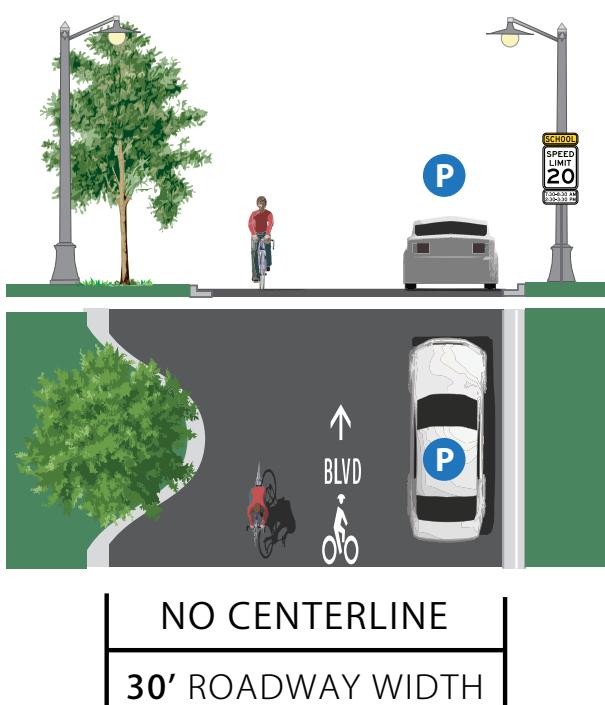
- Bike route signage installed where appropriate.
- Curb gaps filled.
- Shared Lane Markings



Silver Level

Improvements:

- Visual deflection for traffic calming installed.
- Street light gaps are 50% filled.



Gold Level

Improvements:

- Bicycle boulevards officially adopted
- Traffic calming installed
- Speed limits reduced to below 30 MPH
- Bicycle boulevard wayfinding signage and markings are installed.
- Street light gaps are 100% filled.

Commercial Core

Along streets in the commercial core, a phased approach will be required to improve access and safety for bicyclists. Many bicyclists currently ride on the downtown sidewalks (which is prohibited) because they do not feel comfortable riding on the streets. Because of the complex conditions of on-street parking, traffic volumes and other issues, it is recommended that specific on-street improvements be developed in collaboration with the downtown business community.

Examples:

- Church Street/Lake Avenue
- Broadway
- Railroad Place
- Division Street
- Washington Street



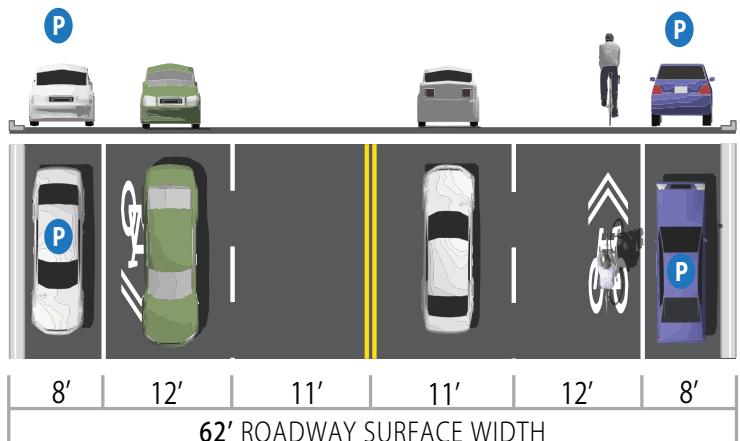
Bicycle parking is important along Broadway in downtown Saratoga Springs.



Bike facilities downtown will attract new customers to Saratoga's commercial core.



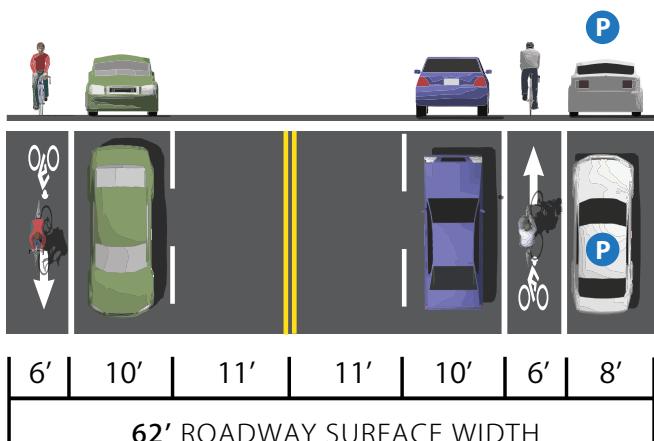
Commercial Core Cross-Sections



Bronze Level

Improvements:

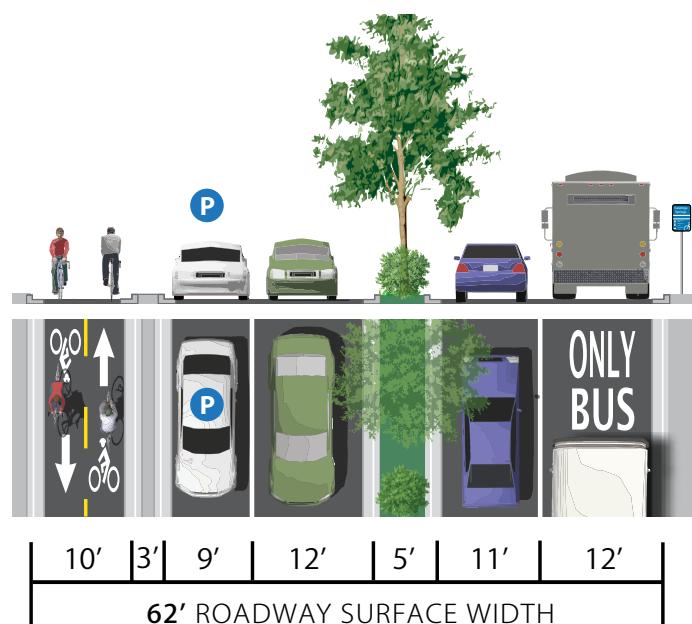
- Install shared lane markings.
- Install bike route signs where appropriate.
- Reduce curb cuts where possible.



Silver Level

Improvements:

- Bike lanes are installed.
- Conflict zones are marked in green .



Gold Level

Improvements:

- Buffered bike lanes or separated bike lanes are installed.
- Transit only lanes installed where applicable.
- Wayfinding signage is installed.
- Medians are present.
- Temporary or permanent parklets.

County Roads/ State Highways

County roads and state highways within the City of Saratoga Springs are generally characterized by two lane arterials that receive moderate traffic volumes, have relatively higher speeds (between 30 mph and 60 mph), and are associated with routes that can connect suburban or rural developments. They generally have minimal heavy vehicle traffic and are not usually considered commuter routes. The state highways through the City vary from the Northway (I-87) which prohibits pedestrian and bicyclist use but which is being enhanced to provide improved access across the highway, to Route 50 (an arterial roadway), Route 9 (Broadway and South Broadway) and touring routes 9N, 9P and 29. Each of these facilities can potentially be improved to become Complete Streets, and the City and NYSDOT have collaborated on several important improvements in recent years. These roadways currently have limited facilities for pedestrians and bicyclists, but generally have paved shoulders or potential right-of-way for improved conditions.

Many bicyclists do not feel comfortable biking along these roads because no facility is available. Along county roads/rural highways where there is bicycling demand, sidepaths can be installed with clearly marked crossings. These can be separated from the travelway by a buffer to enhance user comfort levels. Along corridors with less demand or as a short term treatment, striped shoulders can be installed.

Examples:

- Crescent Avenue / Route 22
- Maple Avenue / Route 9
- Geyser Road / Route 43



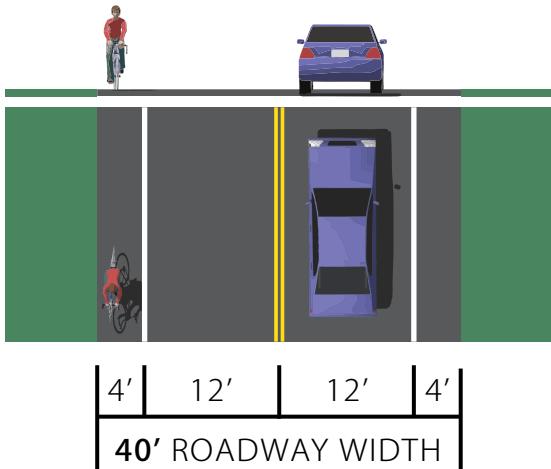
County Roads including Meadowbrook, Crescent, and Geyser have provided narrower travel lanes and paved shoulders for pedestrians and bicyclists in Saratoga Springs.



Entrance and street crossing to the school on Geyser Road. Improvements such as bike lanes increase bicyclist safety over the existing shoulders through this corridor.



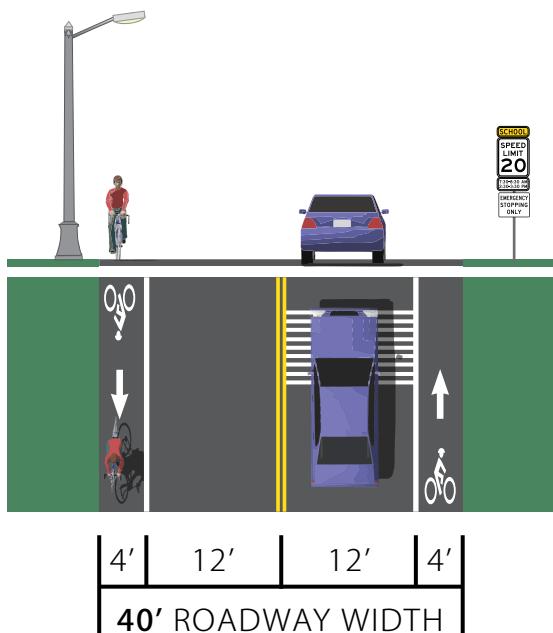
County Roads/ State Highways Cross-Sections



Bronze Level

Improvements:

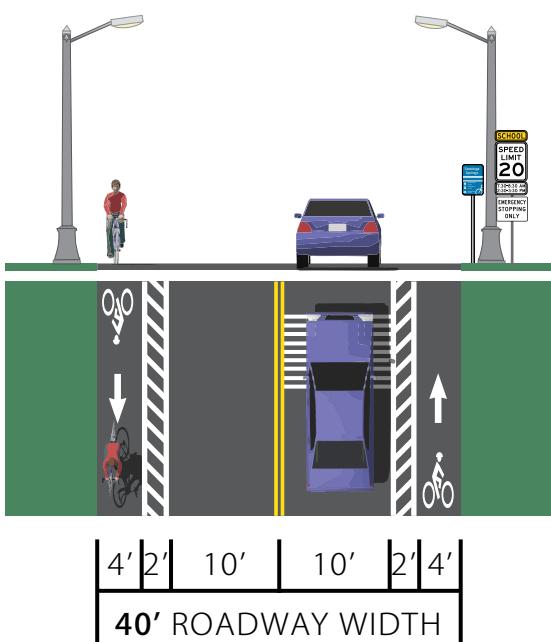
- Striped and maintained shoulders (4' min).
- Bike route signage installed where appropriate.



Silver Level

Improvements:

- Shoulders are marked as bike lanes.
- ‘Gateway’ traffic calming treatments are installed approaching neighborhoods and schools.
- Street light gaps are 50% filled.



Gold Level

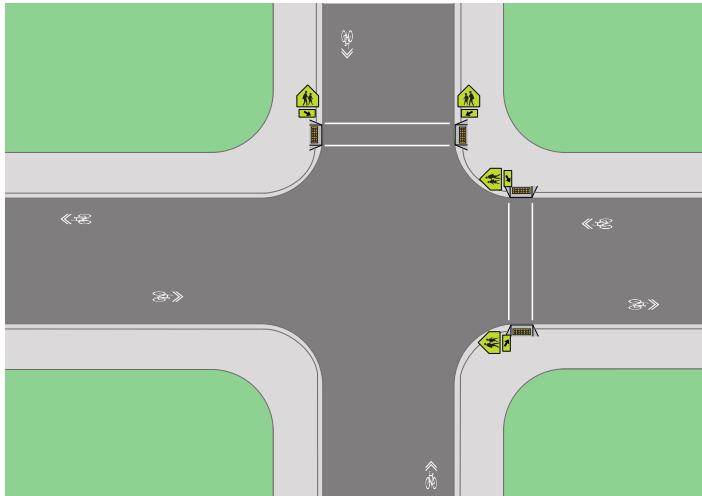
Improvements:

- Buffered bike lanes or side paths are installed
- Wayfinding signage installed.
- Street light gaps are 100% filled.

INTERSECTION GUIDELINES - TYPICAL PLAN VIEWS

Neighborhood Intersections

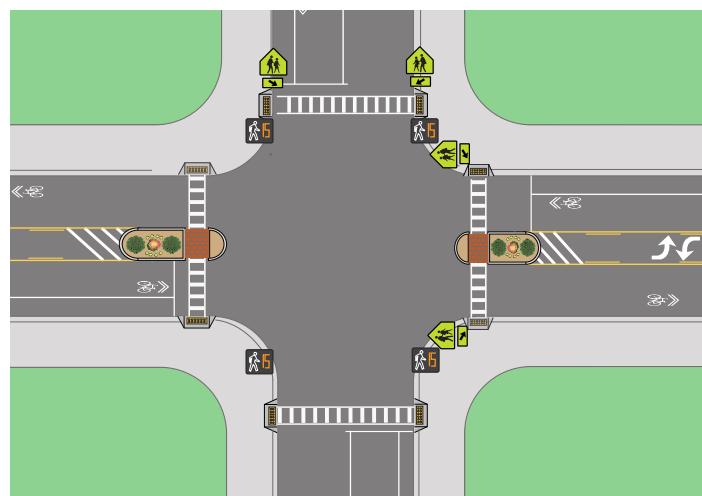
Bicycle enhancements at intersections in neighborhoods should focus on the installation of curb extensions and mini traffic circles, which slow vehicles down as



Silver Level

Improvements:

- Wayfinding signage identifying the road as a bike facility (signage can be custom branded to reflect that the street is part of a comprehensive network of low-stress bike ways; signage can include destination and distance information)



they move through the intersection. Wayfinding signage should also be installed to help guide bicyclists.

Bronze Level

Improvements:

- Shared lane markings are installed.



Gold Level

Improvements:

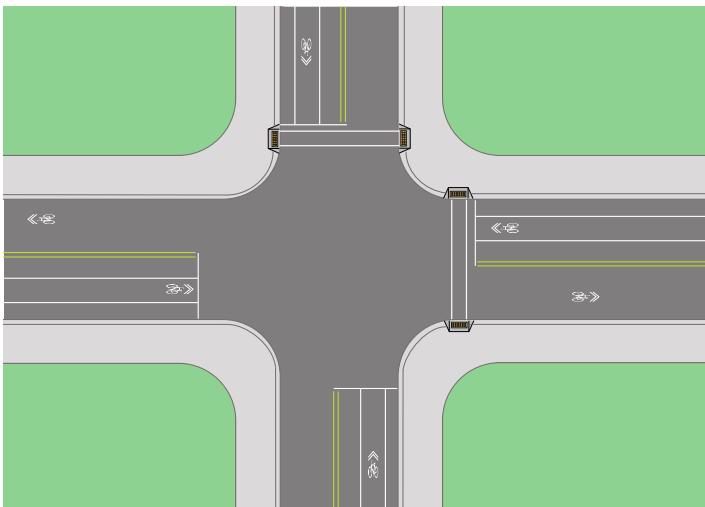
- Traffic calming or volume diverters, such as: traffic circles, curb extensions, median islands, closers, or diagonal diverters
- Remove stop controls for priority routes.



Commercial Core Intersections

Bicycle enhancements at intersections in the downtown core should focus on the installation of dedicated bicycle facilities on each approach to the intersection, as well

as bicycle signals that permit bicyclists to move through the intersection in advance of motor vehicles.



Silver Level

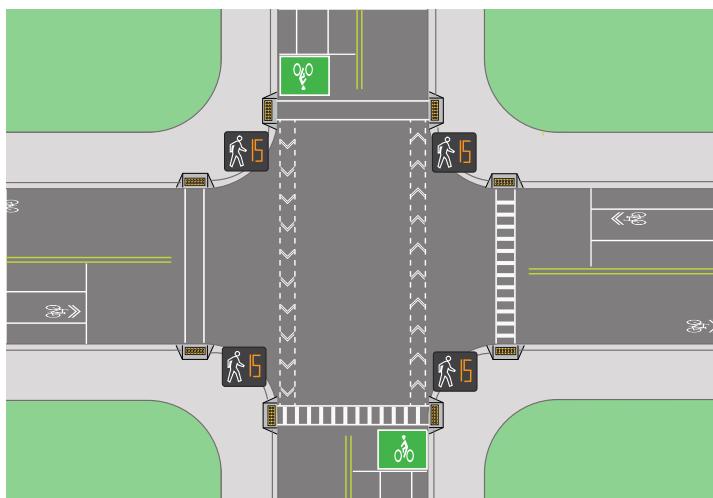
Improvements:

- Bike lanes installed.
- Bicycle boxes or two-stage turning boxes installed.
- Bicycle intersection markings installed

Bronze Level

Improvements:

- Shared lane markings in advance of and after intersection.
- Bike route signage installed where appropriate.



Gold Level

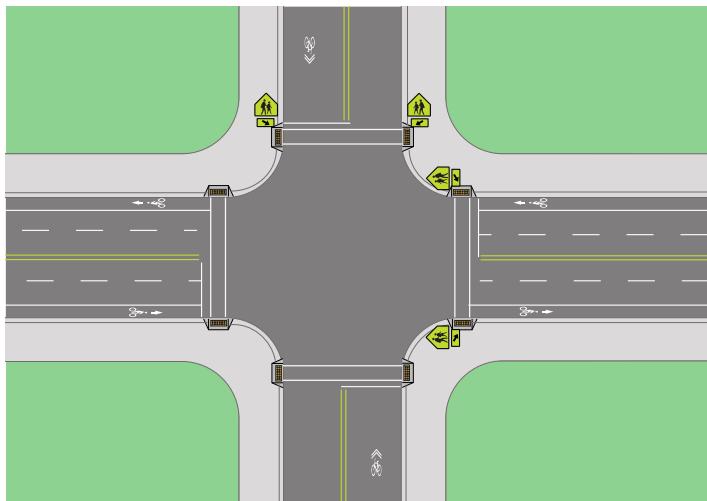
Improvements:

- Bike lanes emphasized with green coloring.
- Bicycle signal for two-way separated facilities is installed.

Commuter and Thoroughfare Arterials Intersections

Improvements at intersections along commuter and thoroughfare arterials should focus on the installation of dedicated bicycle facilities on each approach to the

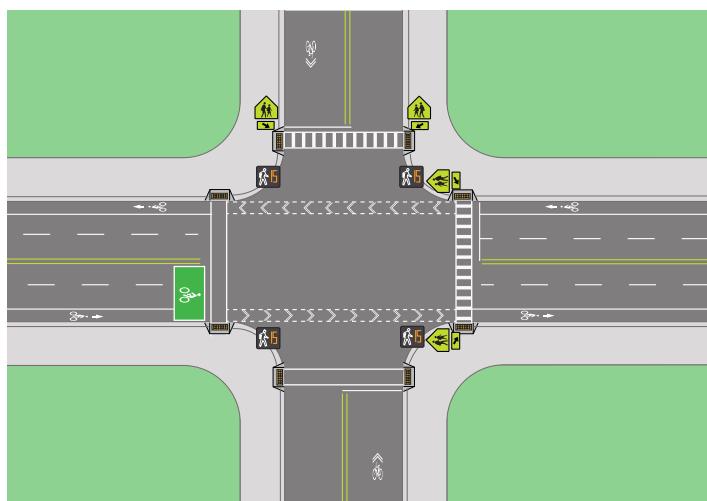
intersection, as well as bicycle signals that permit bicyclists to move through the intersection in advance of motor vehicles.



Silver Level

Improvements:

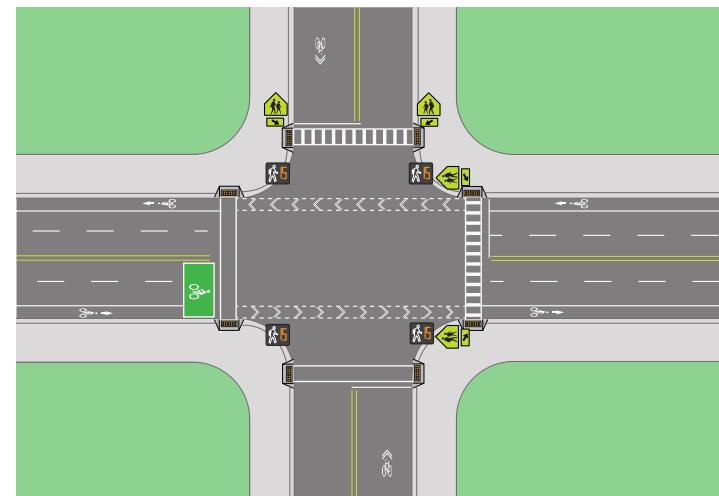
- Bike lanes leading up to and beginning after intersection
- Bicycle boxes placed in advance of the vehicle stop bar, providing bicyclists a space to position themselves in front of queuing motor vehicles (This gives them the advantage to move through the intersection in advance of motor vehicles; Bike boxes are most effective when there is high demand from bicyclists making left turns)
- Bicycle intersection markings to identify potential conflict areas between bicyclists and motor vehicles through the intersection



Bronze Level

Improvements:

- Shared lane markings placed immediately in advance of the intersection, as well as after the intersection to serve as confirmation that the bicyclist is still on designated bike route
- Bike lanes should lead up to and begin after intersection



Gold Level

Improvements:

- Bicycle intersection markings to identify potential conflict areas between bicyclists and motor vehicles through the intersection
- Bicycle signals, which provide bicyclists a leading interval to move through an intersection in advance of motor vehicles (note: bicycle signals should only be used at intersections where there is a dedicated bicycle facility on both the approaching and receiving ends of the crossing)



Traffic Calming & Bicycle Boulevard Toolbox

The toolbox on the following page represents a combination of vertical, horizontal, and visual deflection and calming techniques that can be utilized in bicycle boulevard networks, or along any corridor that experiences traffic volumes or speeds that are higher than desired. Traffic calming techniques can be used to reduce motor vehicle or cyclist speeds or used to encourage traffic to find alternative routes that are more comfortable for them to travel at higher speeds. Bicycle boulevards utilize them to create a more comfortable cycling environment through neighborhood streets. Other popular areas to apply traffic calming include:

- Commercial cores or shopping districts in order to create more pedestrian friendly environment and promote slower vehicle speeds, which in turn reduces through traffic and increases business visibility.
- Speed transition points at the entrances to neighborhoods or at community gateways to help reinforce the drop in posted speed limits.
- Trail crossing locations along suburban or rural corridors to create a more comfortable environment where cyclists and pedestrians can cross the road, and increase the visibility of the trail crossing.
- Within neighborhood streets to reduce traffic speeds and reduce through traffic volumes.

Below lists out the different techniques listed in the toolbox. These are not an extensive list of techniques by any means, but does showcase some of the more popular options. For a full list of options the NACTO Urban Street Design Guide or Urban Bikeway Design Guide can be referenced.

Horizontal Deflection

Curb Extensions:

Smaller turning radii can slow turning speeds. Also reduces pedestrian crossing distances.

Mini Traffic Circles:

Reduces speeds through intersections and reduces 'T-bone' collisions.

Chicanes:

Deflect vehicles and reduce mid-block speeds.

Chokers:

Create pinch points that reduce mid-block speeds.

Vertical Deflection

Speed Humps:

Require vehicles to slow down to pass over them.

Raised Crosswalks:

Require vehicles to slow down to pass over them and increases the visibility of pedestrians. They also keep pedestrians at the curb elevation, making them easier and more comfortable to cross at.

Visual Deflection

Colored Shoulders:

Act as a visual cue reminiscent of sidewalks, notifying motorists they are approaching a town center.

Warning Stripes Approach:

A visual cue that can be used to notify motorists they are approaching a town center or reduced speed zone.

In Lane Tic Marks:

Often used to indicate that a conflict area is approaching, and reduce speeds by through the of narrower lanes.

Rectangular Rapid Flash Beacons:

Push button activated beacons, indicating a pedestrian is crossing.

In-Street Yield to Pedestrian Signs:

A highly visible crosswalk yield sign.

Tactile Yield Cues:

Indicate to motorists to yield.

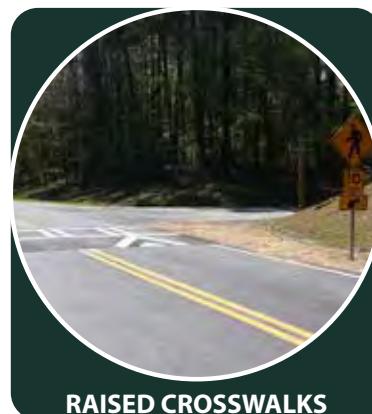
TRAFFIC CALMING AND BICYCLE BOULEVARD TREATMENT TOOL BOX



CURB EXTENSIONS



COLORED SHOULDERS



RAISED CROSSWALKS



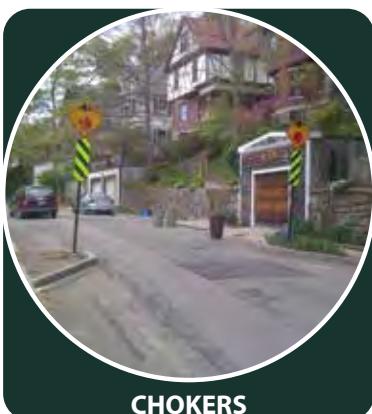
MINI TRAFFIC CIRCLES



WARNING STRIPES APPROACH



CHICANES



CHOKERS



SPEED HUMPS



IN-LANE TIC MARKS



RRFBs



IN-STREET YIELD TO PEDESTRIAN SIGNS



TACTILE YIELD CUES

3.3 POLICIES



URBAN BIKEWAY DESIGN GUIDE

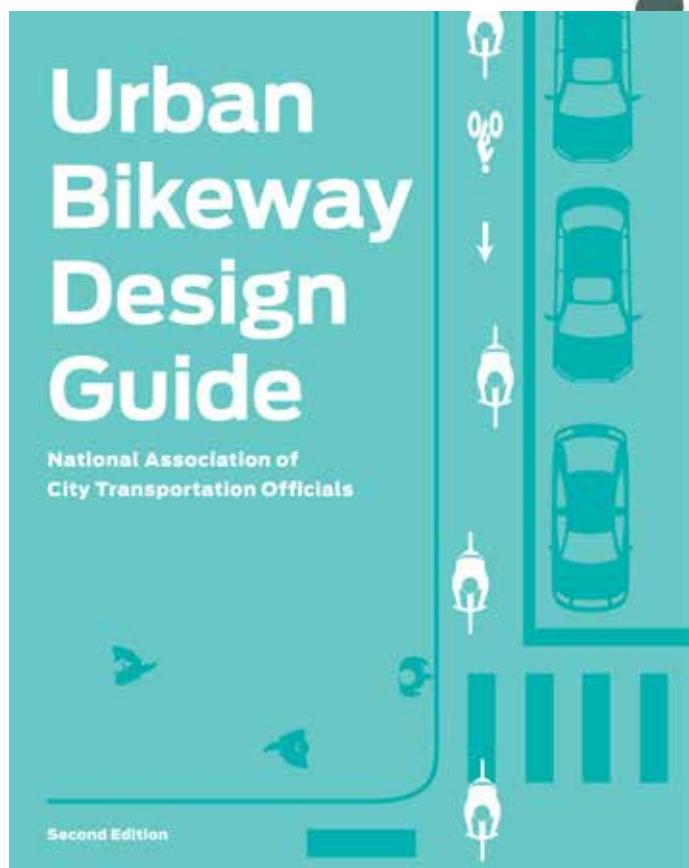
NACTO has also produced a set of design guidelines specifically oriented towards urban bikeway designs. The Urban Bikeway Design Guide addresses six different bicycle facilities and amenities, including:

- Bike Lanes
- Cycle Tracks
- Intersection Treatments
- Bicycle Signals
- Bikeway Signing and Marking
- Bicycle Boulevards

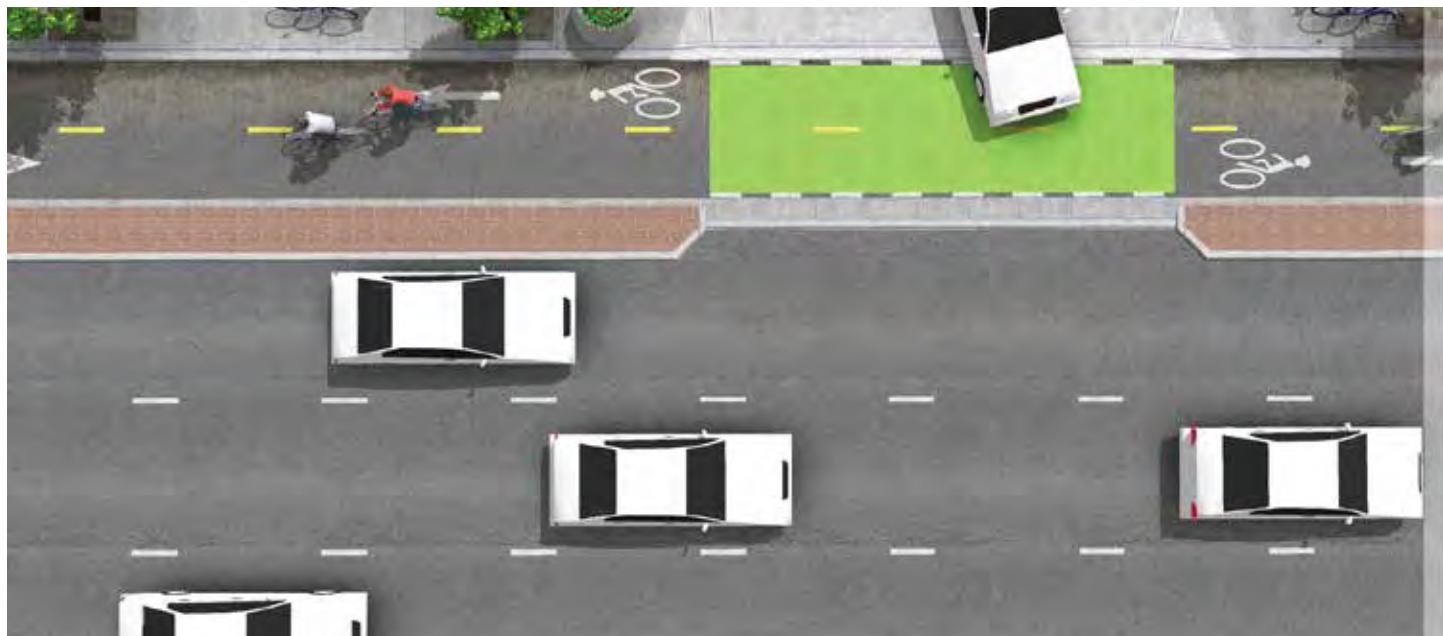
Saratoga Springs can adopt the Urban Bikeway Design Guide as the city's design standards and compliment this Complete Streets Plan, as well as the Greenbelt Trail Plan. As Saratoga continues to grow, development occurs, and the bicycle network is expanded, these design standards should be followed to ensure the highest level of service to cyclists along the network.

The Urban Bikeway Design Guide can also be found on NACTO's official webpage:

www.nacto.org

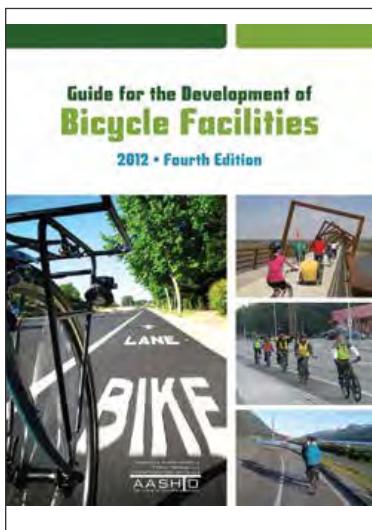


The NACTO Urban Bikeway Design Guide provides clear graphics that illustrate different types of bikeway facilities



AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES

The AASHTO Guide for the Development of Bicycle Facilities provides information on how to design streets for safe and comfortable bicycle travel. The designs included in the document are meant to consider local context while incorporating the needs of bicyclists, pedestrians, and motorists.



Bike racks found throughout Saratoga Springs:
Top - Beekman St.
Middle - S. Broadway
Bottom - Waterfront



BICYCLE PARKING GUIDELINES

Generally speaking, four main fears prevent cyclists from parking their bikes where they are not properly accommodated with adequate storage options:

- Fear of theft
- Fear of damage from vandalism
- Fear of damage from weather conditions
- Fear of an unwelcoming community or confusion on where bicycle parking is permitted

Bicycle parking designs should answer these fears. If these fears can be overcome, then cycling will become a more widely used mode of transportation.

When introducing bike storage options, there are four main categories of bicycle storage options:

Bicycle Racks:

Bike Racks are the most popular bicycle storage option which can be found in most cities throughout the developed world.

Bike racks can come in many different forms but serve the same purpose, which is to provide short term bicycle parking by providing a facility that bikes can be locked onto with a typical bike lock. When designing or choosing bike racks, the chosen design should ideally maximize the capacity of the rack versus the amount of space the rack takes up. They should also be intuitive to use and should allow the bicycle to be attached and held upright by the frame, rather than the wheels. Bike racks can also be fitted with roof coverings in order to protect the parked bikes from weather conditions.



Horse-head bike rack on Broadway

Bicycle Lockers:

Bicycle lockers are high security facilities that accommodate a single bicycle, but are generally installed in large quantities. They are generally found in locations where cyclists may wish to park their bikes for an extended period of time, such as a transit station, theater, or sports

facility. They are often a facility that is rented and when rented, the cyclists will either get a key or combination that will allow them to access the locker. Bike lockers should be large enough to accommodate all standard bicycle sizes.

Bicycle Secure Parking Areas (SPAs):

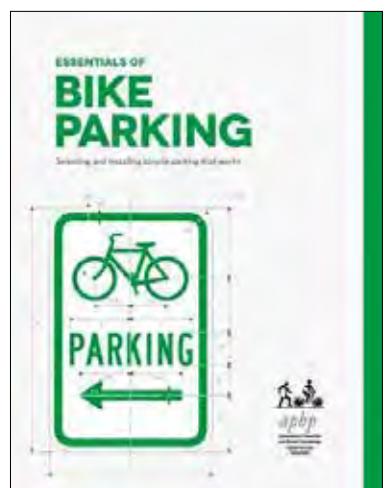
Bike SPAs are generally indoor or caged areas where specific groups of individuals (such as employees for a specific site, students for a campus, or residents of a complex) are the only one who can access the facility. This provides a high level of security for the bicycles stored there, and indoor or covered bike SPAs offer protection from the elements. Once within a bike SPA, cyclists should be able to access an internal facility, such as racks or lockers, that allow them to lock their bike inside the spa. Bike SPAs can be accessed through shared keys, combinations, key codes, or through swipe cards like employee or student IDs.

Bicycle Corrals:

Bicycle corrals are on-street bike parking facilities. They can be temporary, for large events, festivals, or public gatherings, or permanently erected. They are commonly used in cities where sidewalk space is too limited to install on-street bike racks or lockers and where there are a high number of cyclists. They often take the place of on-street parking and often can hold many more bicycles than a parking stall can hold cars. If implemented, they should be highly visible and contain racks that meet the criteria set forth in the Bicycle Racks section.

Examples of each facility can be found on the following page. For further bicycle rack design guides, the Association for Pedestrian and Bicycle Professionals' (APBP) Essentials of Bike Parking guide can be referenced and should be followed. It can be found on the APBP official webpage:

www.apbp.org



Bike Racks



A covered series of bike racks, also called a 'bike shed'



An intuitive bike rack that is both creative and useful

Bike Spas



An example of a bike SPA for employees, located within a parking garage



Bike spas on the Fresno State campus (also called bike barns) require an employee or student ID to access them

Bike Lockers



This set of bike lockers can be arranged in a circle to save space



An example of bike lockers at a rail transit station in Oakland, CA

Bike Corrals



An example of a highly visible and temporary bike corral



An example of a highly visible and permanent bike corral

In order to fully integrate proper bike storage availability and design into the communities of Saratoga Springs, two processes should be completed:

- Adopt APBP bicycle parking design guidelines for the City of Saratoga Springs
- Adopt an updated version of the City's bicycle parking ordinance and include it in the Unified Development Ordinance (UDO).

As an incentive for current businesses and developments to invest in bicycle parking, the City may wish to create a program in which any place that has available bike parking that meets the standards will be advertised as such through means of an updatable list or map that can be posted on the Internet and handed out in pamphlets. This will increase the number of cyclists who patron their businesses, give them an easy means of advertising, and boost their business.



3.4 PROGRAMS

EDUCATION

Safe Route to Schools

Saratoga Springs has already started an initiative to create Safe Routes to Schools (SRTS) assessments and action plans. SRTS is a program initiative to promote and encourage walking and bicycling to school. Students who walk or bike to school tend to actively participate in classes and live overall healthier lifestyles more than students who are dropped off or ride in a bus. Encouraging walking and biking to school at a young age will help curb childhood obesity and boost grades for students across the school districts.

SRTS seeks to encourage biking and walking to school through the 5 E's:

- **Engineering:** physical improvements to the environment such as crosswalks, sidewalks and signals.
- **Education:** methods to teach children, parents and neighbors about the benefits of walking and cycling to school as well as teaching appropriate walking, driving and cycling behaviors to support safe travel in the school zone.
- **Encouragement:** programs such as Walk to School Day, the Walking School Bus, contests and other initiatives to entice children, parents and others to walk or bicycle to school.
- **Enforcement:** incorporates law enforcement efforts to ensure drivers, bicyclists and pedestrians obey traffic laws and practice appropriate behaviors.
- **Evaluation:** uses measurements or indicators such as the number of children walking or bicycling to school to ascertain the success of any SRTS program.

While Saratoga Springs has established a committee for SRTS assessments, there have not been any action plans developed or adopted to create the necessary improvements, programs, and policies that will help make walking and cycling to school a viable option for the students and their parents. The Saratoga SRTS Committee should be encouraged to further develop these assessments and action plans in order to create a safe, fun, and comfortable environment for students to walk or bike to school.

'Share the Road' Public Service Campaign

Creating a public service campaign highlighting the importance of the concept of a shared road space between motor vehicles and cyclists will help emphasize the City's desire and dedication to ensuring that all streets are bicycle accessible.

This campaign can include the creation and use of 'share the road' bumper stickers that can be placed on City Vehicles. This will help increase the visibility of the City's stance and policies and also help educate the public on those policies.

The campaign can also include informational sessions and classes that teach all users how motorists, cyclists, and pedestrians are required to interact on the streets. These classes can be offered for public servants, provided and open in public spaces to educate the masses, and brought into schools (in addition to the SRTS educational programs) to teach students the rules of the road at a young age before poor habits form.

These programs can be held and hosted by the City's Public Safety Department and should be encouraged to be partnered with groups such as Capital Coexist, which works on educating the public on cycling safety, or Bikeatoga, a local bicycle advocacy group.

Pamphlets expressing the rules of the road regarding motorists, cyclists, and pedestrians can also be made, distributed, and made available at places such as the police department and schools.

The campaign can be partnered with SRTS initiatives as well as with 'Bike Rodeos' where children receive the opportunity to learn essential cycling skills and rules on exciting courses. The Department of Public Safety can be a partner in the events as they have experience hosting them from bike rodeos put on in 2014.



A young student enjoying their time at a bike rodeo

ENCOURAGEMENT

Demonstration Projects

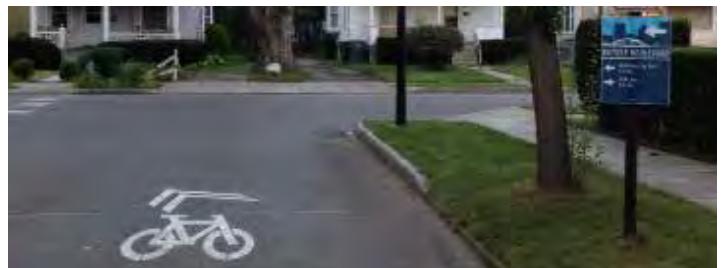
Many large American cities have implemented miles of innovative bicycle facilities, but for some cities, these types of facilities are less familiar. Not having a clear understanding about how these bikeways operate and their benefits often serve as barriers to their implementation. Tactical urbanism is a new concept that cities have been using to overcome these barriers. The concept focuses on using low cost, temporary measures to demonstrate how a public space or street could operate. Demonstration projects have become a popular tool to visualize the benefits that can be recognized with complete streets, becoming an effective way to change the public dialogue about walking, bicycling and public spaces. Additionally, bikeway demonstration projects help to educate motorists about how to interact with bikeways and help all roadway users to recognize the safety benefits of dedicated bicycle infrastructure.

Tactical urbanism can be used to demonstrate:

Bicycle Boulevards, using:

- Temporary pavement markings
- Temporary signs, with destinations and distances to the destinations
- Temporary traffic calming features, such as speed humps

Overall – these interventions can be completed for very low cost, and the benefits they provide frequently outweigh the costs needed to complete them. The projects represent exciting community building opportunities, with volunteers often participating in the set-up and take-down of the projects. Also, while the facility is installed, the streets tend to take on a festival-like atmosphere, providing an opportunity to highlight the importance of walking and biking to the entire community. Many demonstration projects have directly led to the implementation of permanent facilities.



Example of a sharrow marker directing bicyclists to turn left at the intersection.



Volunteers strip and paint a temporary buffered bike lane on a main corridor.



Temporary protected intersection installation demonstrate the effects of road diet devices on bicyclist safety and travel.



Bicycle Valet Services

Bicycle valets refer to areas where cyclists can hand over their bicycles to a valet attendant who will then store the bikes and watch over them until the cyclists return. They are popular event amenities for cities with active cyclist communities. Cyclists prefer them over basic bike storage because they add a layer of protection for the bikes from theft or damage.

It is proposed that Saratoga Springs creates their own Bicycle Valet service for events, such as the open street events, to help encourage cycling as a viable mode of transportation. The bicycle valets can be hosted and run by different community groups, such as the Boy Scouts, Girl Scouts, religious groups, school clubs or teams, and advocacy groups. Any money from charging for the service or from tips can be used as a fundraiser for these different groups.

Bike valets should include the following supplies, that should be supplied by the City, the event, or third party that can organize the service for the hosting organizations:

- Proper Bike racks
- Tarp or tent to protect bikes from weather
- Valet tickets
- Signage
- Liability Waivers



Bike Valet Service for Troy preRAMBLE Complete Streets Festival

Walk and Bike to Work/School Days

Bike to school day is the first Wednesday of every May and bike to work day generally is the third Friday in May. In order to help encourage biking within the City of Saratoga Springs, the community should gather around and participate in these events. The city should advertise the events and encourage public servants to participate in them as an effort to set an example for the rest of the citizens. On these days, the City can host programs, such as free water to be handed out or temporary bike repair stations to be set up.



An example of a temporary bike repair station.

Bike to School events can also be promoted within schools. Prizes or ribbons can be given to students who participate in the events. Biking ‘school buses’ can also be established for parents who do not wish to let their children bike alone.¹

¹ Biking school buses are groups who bike to school together. They are usually led by a rotation of parent volunteers.

Permanent Bike Repair Stations

Bike repair stations are locations where bikes can be hoisted into a position that allow them to be easily worked on or fixed. They help to encourage cycling as one of the biggest fears of a cyclist is to have their bicycle break or become inoperable, leaving them stranded on the side of the road or on a trail. Cyclists will become more comfortable when they see that a city has provided repair stations in case of emergency.

An example of a permanent bike repair station.



Bike repair stations generally possess a number of useful tools, including a wrench, screwdriver, and an air pump.

Ideal places to install bike repair stations include:

- Downtown Core
- Saratoga Greenbelt Trail
- Skidmore Campus
- Amtrak Station
- SPAC
- local schools
- public library

Pedal Bus Tours

Under the current laws and code of the City of Saratoga Springs, pedal buses are a legal form of transportation on public streets. Pedal buses are defined as follows:

- 163-2: A device that transports passengers, is powered by one or more individuals (with or without a helper motor), and that is not a pedicab as defined in Chapter 200 of the Code of the City of Saratoga Springs.

As the Saratoga Greenbelt Trail continues to be implemented and developed, creating a pedal bus tour service will help increase the trail network's visibility and popularity. The tour can follow the main loop of the Trail around the historic downtown. It is important to note that in Saratoga Springs, it is prohibited to operate a pedal bus:

- 163-6 E.5: In a manner that results in colliding with a pedestrian.
- 163-6 E.6: Obstructing pedestrian traffic on a sidewalk.
- 163-6 E.16: On a street or alley that has been closed by the City to motor vehicles.
- 163-6 E.17: On a street with a posted speed limit greater than 30 miles per hour, except for crossing that street.

For this reason, pedal bus tours of the Greenbelt Trail should take to the off-street trail facilities for parts of the Greenbelt loop that are on streets with posted speed limits exceeding 30 miles per hour, or find lower speed alternative routes that will still allow the tour to showcase the Greenbelt Trail features. Any pedal bus tour on a trail facility that may block the flow of oncoming trail user traffic should pull off to the side of the trail and allow the trail users to pass by before resuming travel.

According to Saratoga Springs codes, Pedal buses also have a number of regulations relating to the eliciting of riders and pick-up/drop-off locations:

- 163-7 B: Pedalbuses shall pick up and discharge passengers only in parking lots or similar off-street areas shown on a map approved



by the City Council, as may be amended by the Council from time to time and placed on file in the Department of Accounts, office of the City Clerk. The City's Traffic Safety Division shall have authority to determine if an area is unsafe for picking up and discharging passengers.

163-8 A.

A pedalbus may operate for previously reserved parties only, and may not solicit or accept substitute or additional passengers at any time.

Pedal bus tours can also be used to showcase the recommended infrastructure from this plan in the downtown core of Saratoga Springs. The tour route for both the downtown tours and the Greenbelt Trail tours, as is required by the City code:

163-11: The Commissioner of Public Safety or his/her designee shall be responsible for designating the routes for pedalbuses.

The pedal bus tours can be operated by a public entity, private entity, or private-public partnership. More information on the restrictions and policies surrounding pedal buses can be found in the City's code.

ENFORCEMENT

Paramount to the effectiveness of any infrastructure improvement, policy, or program is to ensure that the ‘rules of the road’ are enforced. The months following the installation of many of the infrastructure improvements will be the most important in terms of enforcement, as those are the months that define the habits of users who are not used to the new rules. If the rules are not enforced, then they may not be taken seriously by the public, which can render the point of improvements useless or even make conditions worse than they were before. While it would be ideal for all road conditions to be monitored constantly, it is recognized that this would not be feasible in a real world setting. As such, the following are identified priority enforcement programs that the City should concentrate on in order to ensure the maximum effectiveness of the recommendations of this plan:



An example of a Pedal Bus Tour on the streets of London, England

Speed Radar

Speed radar trailers are currently in use in Saratoga Springs to help motorists identify when they are exceeding the speed limit. These trailers act as a traffic calming device as they often cause traffic to reduce speeds to below the posted speed limits.

It is recommended to place these trailers around school zones, locations where there is a reduction in the speed limit, locations with high pedestrian volumes, and before any construction zones.

It is also recommended to couple these speed radar trailers with police officers checking speeds with radar guns a short distance further down the roads. This does not have to be a constant presence, but having them there some of the time will help solidify the seriousness of the speed trailers.

Bicycle Patrols

Providing police officers on bicycle patrols help to set an example for others that cycling is a viable transportation option. It also allows officers to receive less negative responses when ticketing cyclists than when they are doing so from a patrol car, as the bicycle patrols are more relateable to cyclists.

Bicycle patrols should be present throughout the downtown core, around school zones, and at large events or gatherings. Having bicycle patrols also helps make the presence of police officers more obvious, which can help deter crime from taking place in general.

Bike Lane Parking Enforcement

An emphasis should also be placed on citing those who park within bike lanes, as this violation often deters individuals from biking.



Chapter 4:

Trail Network & Facilities





4.1 TRAIL NETWORK & FACILITIES

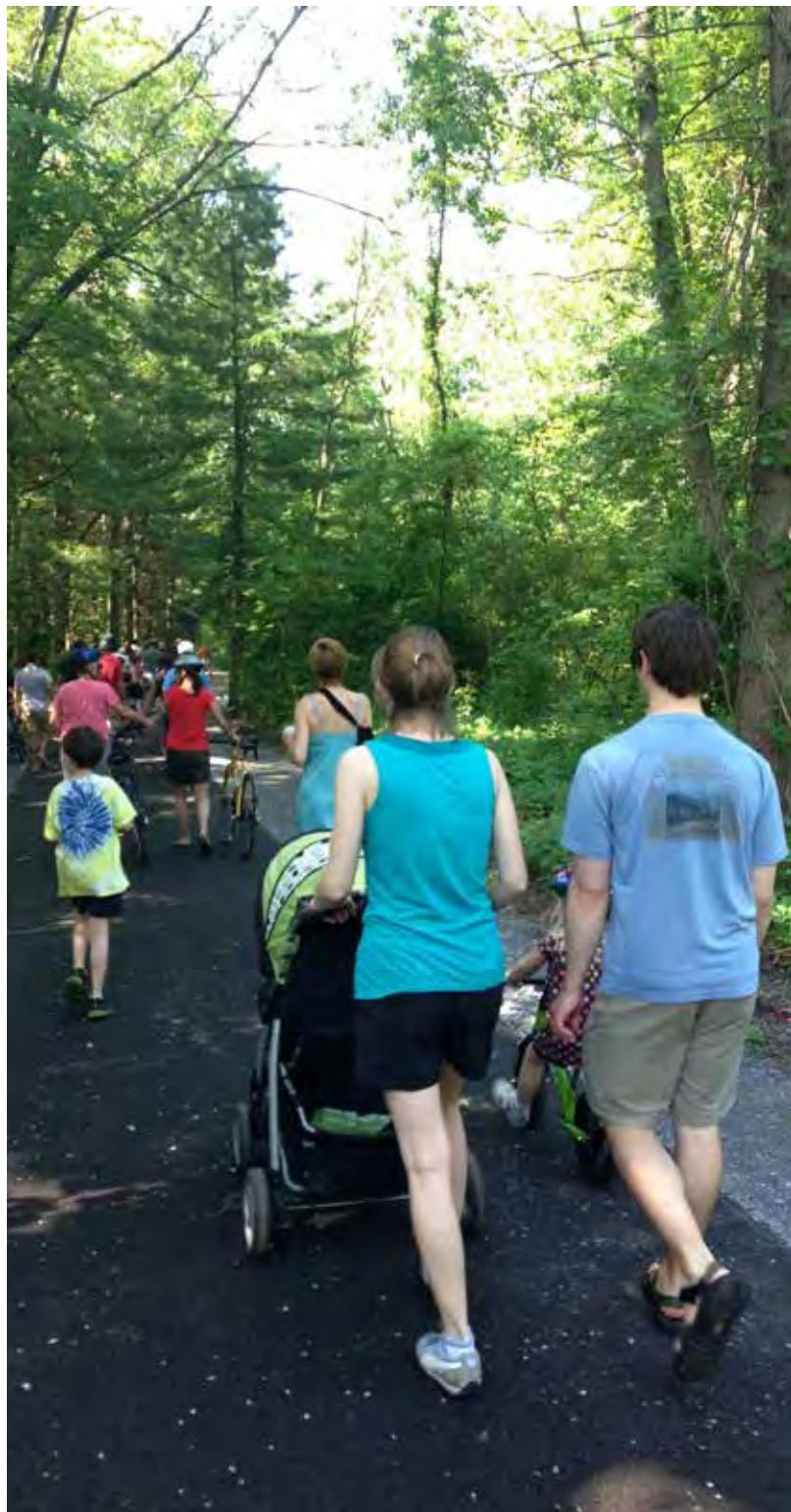
INTRODUCTION

The City of Saratoga Springs is home to several popular trails that are used for both recreation and transportation. The City has three existing rail trails, including the Bog Meadow Trail, the Spring Run Trail and the Railroad Run Trail, along with the Saratoga Spa State Park trails. Although these trails are heavily used, they are not very well connected to each other. Recognizing the need to better link these facilities, community stakeholders partnered in 2013 to create long-term plan to better integrate Saratoga's trail network.

The result of this collaboration was the development of the Saratoga Greenbelt Plan, which presented a vision for a continuous greenway that would encircle Saratoga Springs, connecting its existing trails and linking people directly to its many destinations. The Greenbelt Plan serves as the foundation for the trail recommendations included in this chapter. In addition to the Greenbelt Trail, other key segments of trail would improve non-motorized access within the City, and these segments are described in this chapter as well.

The implementation of the trail recommendations will help create a more robust network, connecting together the places where Saratoga's residents and visitors live, learn, work and play. They will also help generate tourism and create a sense of 'place,' enhancing the City's character and further solidifying Saratoga Springs as a desirable destination.

Recommendations for maintenance have also been identified in this chapter. Ensuring that trails are well maintained will help strengthen the growing trail network and ensure an enjoyable trail user experience.



The existing trails within Saratoga Spring are very popular and heavily used, indicating that there is a strong desire for more trails in the City.

GREENWAYS OVERVIEW

A greenway is a corridor of open space that connects people to nature. While no two greenways are exactly alike, most have several common elements. Greenways are typically routed along undeveloped or underutilized corridors, such as abandoned railroad beds, utility rights-of-way, or along the banks of water bodies. They tend to take on a park like setting, incorporating trails and resting areas, complete with seating and lookouts. Interpretive signage are usually incorporated into the design of the greenway to educate visitors about the history of the corridor and to highlight its ecological significance. Typically, access to greenways is limited to non-motorized users, with the exception of some trail systems that permit snow-mobile use during winter months.

Greenways provide a multitude of benefits to the public. Many have become valuable recreational resources for their communities, while also providing safe and comfortable routes for those using active modes of transportation. Greenways have been shown to increase adjacent property values and spending at local businesses near the corridor as well. Additionally, they support active lifestyles and help to preserve and protect open spaces for future generations.

The City of Saratoga Springs has a long history with open space preservation. Its commitment is evidenced by Saratoga SPA State Park and the many trails located throughout the community, including the Bog Meadow Trail, Spring Run Trail and others. In 2013, several stakeholders in the City partnered to develop a vision to create a connected greenway that would link the existing trails in Saratoga and preserve open spaces for future generations. The result of this collaborative effort was the development of the Saratoga Greenbelt Plan.

Saratoga Greenbelt

The Saratoga Springs Greenbelt Trail is a visionary 24 mile/39 km greenway that forms a continuous loop connecting the city of Saratoga Springs, NY. This unique project has the potential to transform the community by creating a new green infrastructure for active



The Saratoga Greenbelt Plan was completed in 2014

transportation and recreation. The Greenbelt Trail will create a safe pathway for runners, bicyclists, pedestrians, equestrians, skiers, snowshoers, dog walkers, and other trail users to travel around The City in The Country. The trail will build upon Saratoga's unique heritage of Health, History and Horses, with a design that highlights the local landscape, heritage and culture of Saratoga. The benefits of the trail will improve the economy, environment and quality of life for residents, visitors, and businesses.

The Greenbelt Trail ties together the three existing rail-trails located in Saratoga Springs (Railroad Run, Bog Meadow Trail and Spring Run Trail) and the developing Geyser Road Trail. This connected loop will serve as the hub for the City's active mobility system, with complete streets forming spokes into the center of town and the Saratoga County Trails network, providing connections to the north and south. The trail will provide many health, economic and environmental benefits to the community. More children will be able to walk and bike to school, seniors will be able to 'age in place', people will be more connected to nature, and businesses will be more successful. The Saratoga Greenbelt Trail will be a legacy for future generations.

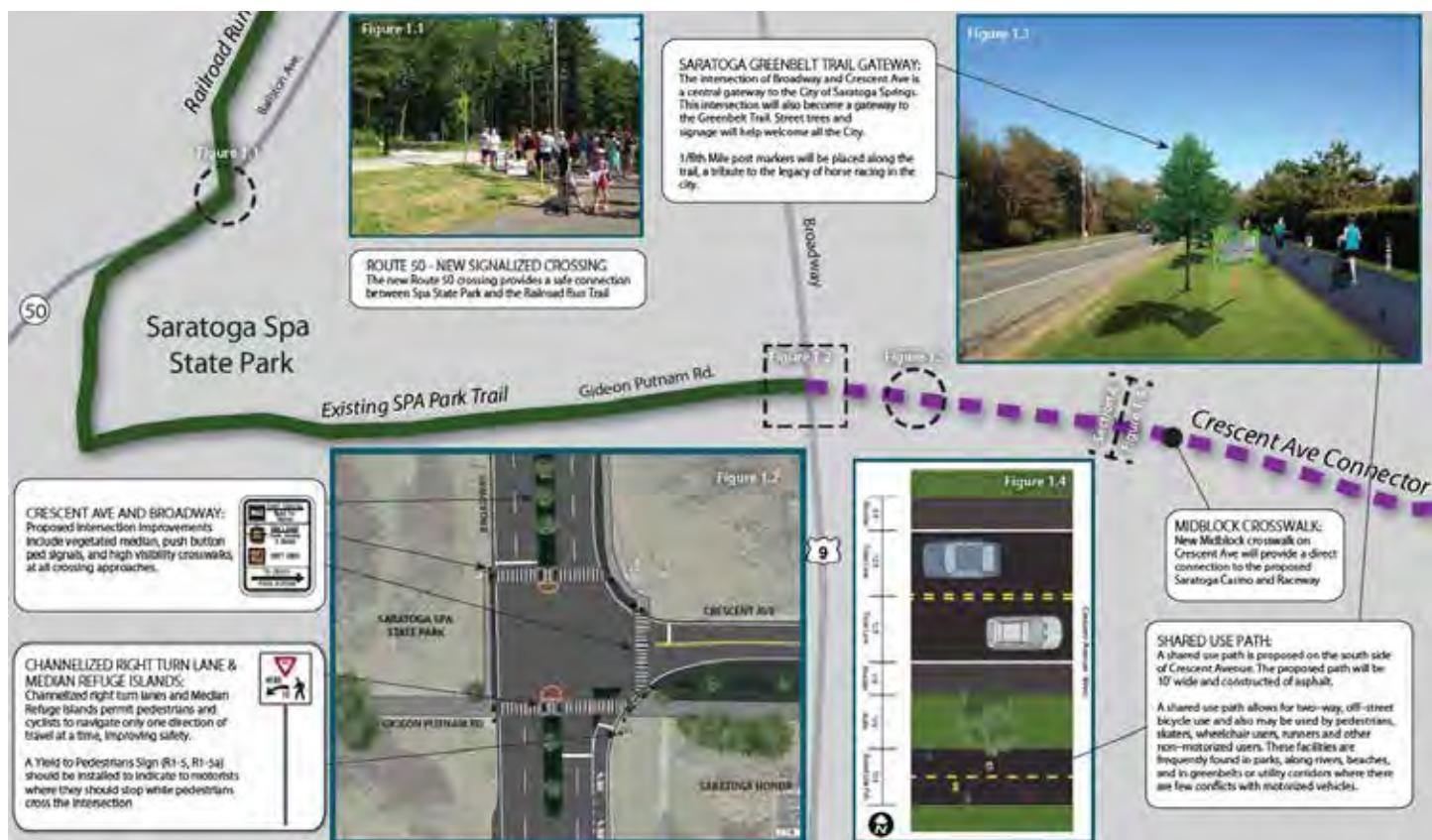
The Greenbelt Trail is envisioned as two primary loops.



One loop travels to the east of downtown, connecting from Saratoga Spa State Park through beautiful wetlands. The loop continues along a right-of-way through the Saratoga National Golf Course to the existing Bog Meadow Trail, and incorporates a new tunnel under the Northway to connect with the Spring Run Trail. The other loop travels around the west side of the City, connecting from Maple Avenue Middle School parallel to the county water/sewer line past Skidmore College, the Saratoga Train/Bus Station, Saratoga High School and back to the YMCA. A third downtown route will bring the Greenbelt Trail through downtown, provide connections to local businesses, services and destinations in the city's core. Trailheads will be located throughout the city for access to the trail. Ideally, every home, business and public place in Saratoga will be a trailhead.

The Greenbelt Trail is expected to be developed in phases that can be implemented as opportunities and resources become available. The phases of the Greenbelt Trail include, the Crescent Ave Connector, the Big Boardwalk, the Northway Crossing, the Maple Avenue Connector, the Waterline Trail, and the Downtown Connector. This Plan divides these phases into eight sections, providing a framework for an implementation strategy. Sections of the trail should be integrated into ongoing capital projects. This will reduce the need for 'stand alone' funding for the trail. With support of partners in the public, private and non-profit sectors, the Greenbelt Trail will be part of the future of Saratoga Springs, The City in The Country.

Each of the eight sections of the Saratoga Greenbelt were analyzed to determine the proposed alignment



TRAIL AND SIDEPATH RECOMMENDATIONS

Geyser Rd Project

The proposed Geyser Road Trail plays a vital role in both the intra- and inter-City trail network. Geyser Road is also County Route 43 and, while it is just a two-lane road, there are often large trucks that travel between the Industrial Park and Route 50. There are multiple residential developments along Geyser Road as well as the Geyser Road Elementary School. The current lack of pedestrian, bike, and trail facilities makes it difficult for people to travel along this road.

The proposed 8 ft. sidepath will be located on the north side of Geyser Road. It runs between the Milton town line to the west and Route 50 to the east. The eastern boundary leads directly to the Saratoga Spa State Park. Making a connection from the school and residential developments to the park will close a major gap in the City's trail system. The designation as a shared-use path caters to multiple types of users of all abilities by allowing both biking and walking.

Other Trail and Sidepath Recommendations

In addition to Geyser Road, there are other important locations throughout the City where sidepaths should also be installed. The proposed Crescent Ave. sidepath will provide a link in the Saratoga Greenbelt and provide a safe connection between SPA State Park and Hemlock Trail and points east. The proposed Union Ave. sidepath will fill an existing gap between the Saratoga Race Track entrance and Yaddo. Trail improvements to the connector between North Broadway and Glen Mitchell Road would not only add a safe route to Saratoga's Maple Avenue Middle School but an alternative link to Downtown. A sidepath along Washington Street (Route 29) would improve cyclists and pedestrian comfort on this designated truck route and connect the Naval Support facility and offices to amenities on the west side of the city.

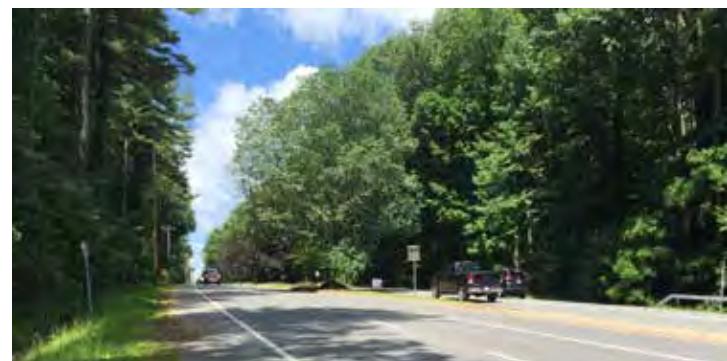
The five locations where sidepaths or trail improvements are recommended are listed in the table at right, along with the total linear footage and mileage of each proposed segment. These side paths or trails were recommended due to factors such as use, age groups, and ability to easily improve existing facilities.



Geyser Rd. is a major truck route, and there are no bicycle or pedestrian facilities along the road, making it uncomfortable to travel upon by bike & foot.



The proposed path will be placed on the northern side (the left side in the photo above) of Geyser Rd.



Looking west down Union Avenue from the entrance of Yaddo.

Trail Recommendations

Street	Feet	Miles
Crescent Ave.	4,740	0.90
Geyser Rd.	9,517	1.80
Union Ave.	2,728	0.52
Glen Mitchell Rd.	2,050	0.40
Washington St.	7,845	1.47



SARATOGA SPRINGS
COMPLETE STREETS PLAN

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SARATOGA LAKE

TOWN OF MALTA

Proposed Trail

SARATOGA SPRINGS
COMPLETE STREETS PLAN

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SARATOGA LAKE

TOWN OF MALTA

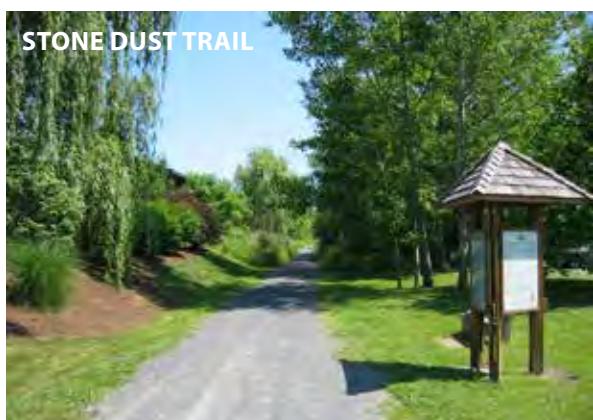


4.2 DESIGNS & GUIDELINES

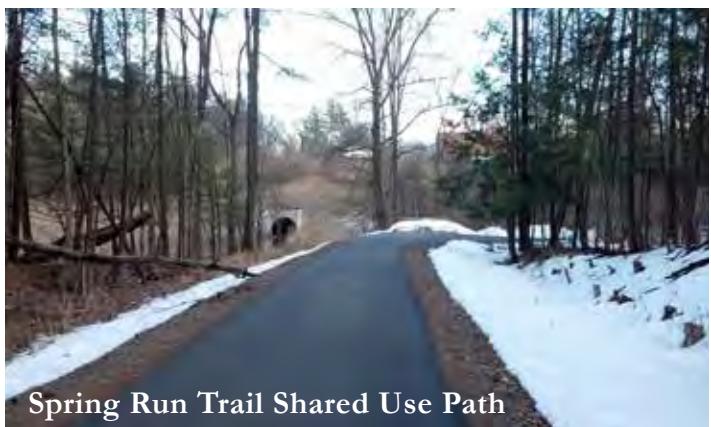
TRAIL TYPES

There are a variety of trail types, from the soft surface hiking or mountain biking trails, to the stone dust or paved shared use paths. Design recommendations for five different trail types are provided in this section. The trail types described are intended to guide the City toward filling gaps and expanding upon the existing trail network. The trail types (depicted below) include:

- Paved Shared Use Paths
- Stone Dust Trails
- Sidepaths
- Walking/Hiking Trails
- Boardwalks



TRAIL TYPES



Shared Use Paths

Shared Use Paths are an ideal treatment for a wide variety of trail users, including pedestrians, bicyclists, skaters, wheelchair users, joggers and other non-motorized users. Typically constructed of asphalt, concrete or firmly packed crushed aggregate, these hard surfaces trails are a durable option, and as long as grades of 5 percent or less are maintained, they are accessible to those with disabilities. Both hard surface and soft surface shared use paths are described in this section.

Paved Shared Use Path Cross-Section

Shared Use Paths are typically constructed of asphalt, concrete, or firmly packed crushed aggregate. These hard surfaces trails are a durable option, and as long as grades of 5 percent or less are maintained, they are accessible to those with disabilities. Cross slopes of 2% or less should be maintained. The trail tread of shared-use paths should be at least 10 ft wide in order to allow two-way traffic. Additionally, a 2 ft soft shoulder should be provided on either side of the trail tread to allow for passing. A minimum of 8 ft vertical clearance from overhead objects should be maintained, and a maintenance schedule should be employed to keep clearances. Where railings are necessary due to steep slopes adjacent to the trail, 42 inch railings should be installed. This trail type is appropriate for areas that are expected to generate frequent use, placed along gradually sloping corridors, such as railroad beds or utility rights-of-way, or other flat stretches of land.

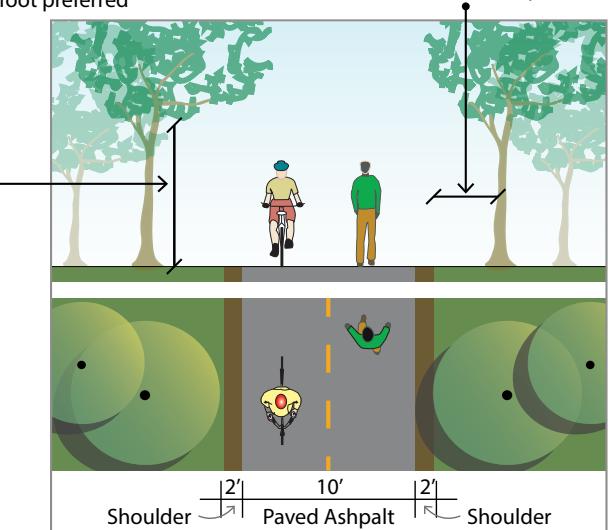
Stone Dust Path Cross-Section

Crushed stone trails are made out of a composite of crushed stones and a binder. The stones are typically made of granite that are less than 3/8 inch in diameter, and the binder most often used is stone dust, which is a by-product of the crushing process. Slightly excavating the trail's foundation and using a vibratory compactor ensures that the trail will remain firm and stable and not sink into the soil beneath. Stone-dust trails are not appropriate in areas prone to flooding or where soils have poor drainage, as they can erode in wet environments. Additionally, a two foot soft shoulder should be provided on either side of the trail tread to allow for passing. This trail typology blends well with natural settings. Stone dust trails are less expensive to install than paved trails, and still accommodate the cross-section of users (bicycles roll well on this hard surface; stone dust is ADA compliant) while also enabling two-way traffic.

Vertical Clearance:

- 8' minimum
- 12' foot preferred

- 3' minimum
- 5' minimum to sleep slope where fence is required

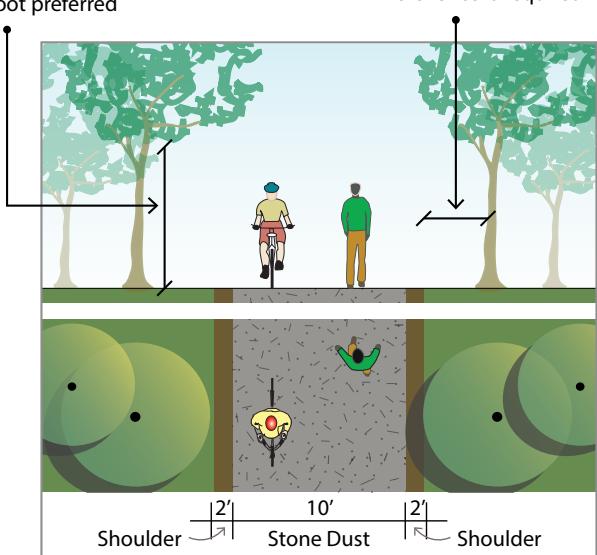


Vertical Clearance:

- 8' minimum
- 12' foot preferred

Lateral Clearance:

- 3' minimum
- 5' minimum to sleep slope where fence is required





Shared-Use Sidepath along Avenue of the Pines

Sidepaths

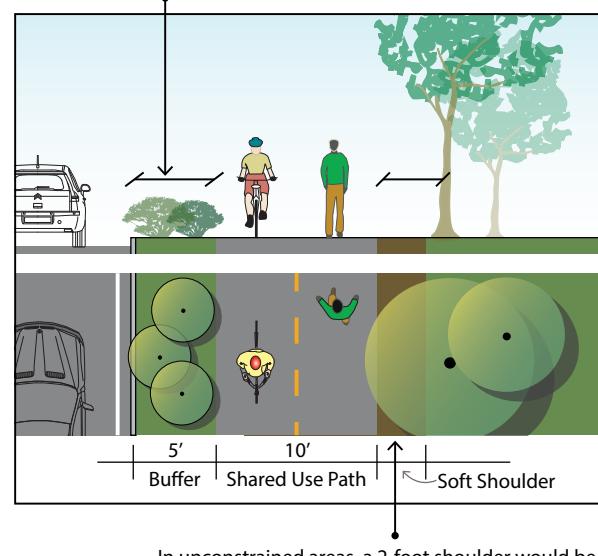
A sidepath is a shared-use path parallel and adjacent to a roadway. A 5 foot buffer should be provided between the path and the roadway. These paths can be created by widening an existing sidewalk or creating a new asphalt path.

Sidepath Cross-Section

Sidepaths are asphalt or other hard-surface paths for pedestrian and bicycle use, which are separated from roadways by a vegetated buffer, vertical barrier (such as a curb or guardrail), or both. Sidepaths are appropriate adjacent to roadways where high speeds, narrow shoulder widths, and other hazards make bicycling and walking on-road uncomfortable. Sidepaths should be 10 ft wide to accommodate two-way traffic, with 2 ft soft shoulders on both sides. In constrained situations, a 3' soft shoulder can be placed on the side of the trail opposite the travel lane. Thoughtful design and striping on side paths is important to inform trail users when crossing driveways, railroad tracks, or other streets. In locations where 5' of separation between the roadway and the trail cannot be maintained, a guardrail or other vertical barrier must be installed.

In constrained areas where the buffer is < 5 feet, a **Crash Barrier** between the road and path is required

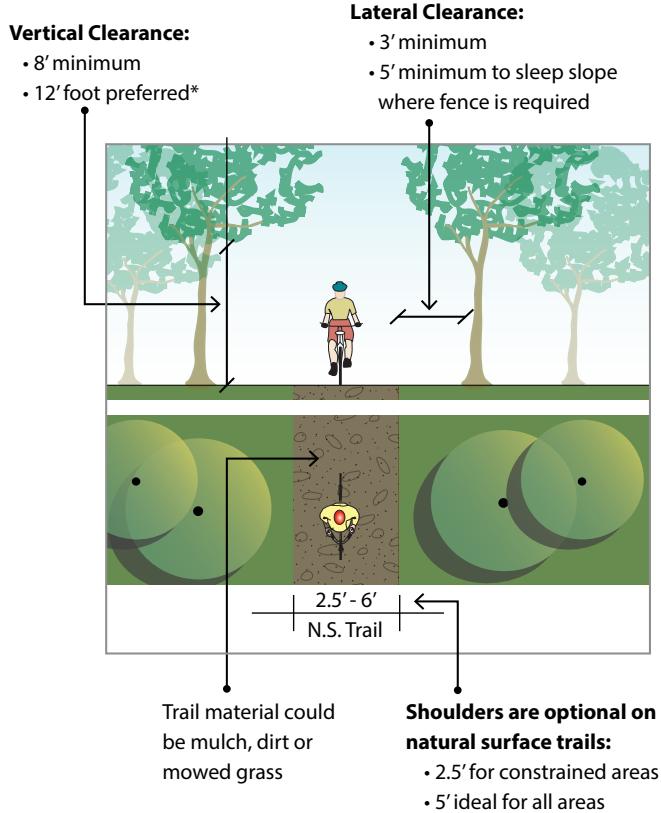
Lateral Clearance:
• 3' minimum



In unconstrained areas, a 2-foot shoulder would be constructed on both sides of the trail

Natural Surface Trails

Natural surface trails, vary in trail width and clearance requirements. The important issues to account for when constructing a soft surface trail are: drainage, erosion, compaction/impaction from use, presence of waterways, and environmental guidelines. Trails should be constructed along contours and not exceed 10%, except for short distances.



*Maintaining proper clearings requires frequent maintenance, maintaining wider clearances could save time and resources in the long run

Natural Surface Trail Cross-Section

Walking/Hiking trails are natural surface trails that meander through wooded environments, and provide a low-impact option for accessing ecologically sensitive areas. Surface materials range from bare earth to mulch and grass. Due to the natural settings and minimal improvements made to walking/hiking trails, this type of trail needs to be maintained seasonally and cleared of brush, fallen trees, and other obstacles that could impede trail access. Maintaining wider than minimum lateral and vertical clearances can help to reduce the frequency of maintenance activities. Natural surface trails tend to be rugged, with exposed roots and rocks, and also tend to be narrow. Due to these characteristics, this trail type is not ADA accessible. To minimize erosion, walking trails should follow contours as much as possible, allowing water to flow over the trail instead of along it.

Boardwalks

Boardwalks are a trail type used to cross wetlands and provide a unique opportunity to connect people and nature. Boardwalks are carefully designed to minimize environmental impacts, and can be constructed from

wood or recycled materials. A number of low-impact support systems are available that reduce the disturbance within wetland areas to the greatest extent possible.



MATERIALS AND MAINTENANCE: Decking should be either non-toxic treated wood or recycled products. Long-term maintenance can be minimized through good design and the use of quality materials.

Design Guidance

Width

Boardwalk width should be a minimum of 10 feet when no rail is used. A 12 foot width is preferred in areas with higher average anticipated use and whenever rails are used.

Height Considerations

For shared-use boardwalks, railings need to be built 54' above the surface of the boardwalk

Structural Integrity

If access by vehicles is desired, boardwalks should be designed to structurally support the weight of a small truck or a light-weight vehicle



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Chapter 5:

Transit & Freight Network & Facilities



5.1 TRANSIT NETWORK & FACILITIES



INTRODUCTION

Complete Streets not only includes pedestrians and bicyclists, but transit services as well. To allow residents and tourists to travel longer distances without a personal vehicle, a viable transit system must be in place.

The transit system in Saratoga Springs provides both local and regional trips. Improved local transit will support the local economy, seasonal tourism, and reduce the need for parking for the large events that are often held at SPAC and the race track.

Transit hubs include Saratoga's Visitor Center “the Drinkhall”, Amtrak Station, Race Track, State Park, and Skidmore College - each provides increased access to potential users and increases visibility. Facilities already provide certain amenities by virtue of their location or service that can be leveraged, promoted, and further developed to ultimately advance a comprehensive intermodal transit network. These hubs, as well as individual bus stops, can support CDTA's restructuring of the routes and services within and to Saratoga Springs.

How these transit services connect with other modes of transportation, particularly bicyclists and pedestrians, is essential for the success of Complete Streets in Saratoga Springs. Strategies to improve these connections and allow users to combine modes of travel are recommended here.

Improvements to existing transit corridors can be categorized; bronze, silver, and gold. These represent design options to upgrade streets and facilities to serve users at the highest level. Though an incremental approach may best balance costs and needs in the short term, Saratoga Springs should adopt a long term strategy to reach the ‘gold standard’.



DOWNTOWN TROLLEY

Downtown Saratoga Springs has a parking demand for motor vehicles that greatly outweighs its parking capacity. In order for the stress on Downtown's transportation network to be alleviated and for the businesses to not be hindered by losing patrons due to a lack of parking, the parking capacity must be increased or the parking demand must be decreased. In the dense urban community of downtown, increasing parking capacity to meet the demand may not be possible, but if parking demand is to be decreased, it is desirable for it to do so in a way that does not result in less visitors to the Downtown area.

Saratoga Springs already has one trolley service with the Route 875, also known as the Visitor's Trolley. It brings riders along a route between SPAC and Downtown. However, this has a limited audience that it can reach and does not alleviate much traffic. One proposed concept is to create a system where people can "park once" and have access to the City's major destinations. Cooperstown provides a similar system. While the concept proposed in this section will require further study, it is provided in this plan to help move towards a future solution.

The concept is based on having a Saratoga Trolley that will run both north/south and east/west. The route can pick up passengers at park and ride locations and large trip producers, such as Skidmore College, the Racino, the Amtrak Station, Spa State Park, and hotels.

This will allow individuals to park their cars outside of the Downtown area and take the trolley. This will have a number of benefits for the businesses within the downtown area, including:

- Visitors of SPAC, the Racino, and Skidmore will be enticed to visit downtown through the trolley service.
- Visitors who take the trolley downtown will be more likely to stay longer, visit more shops, and explore businesses that are new to them. This is opposed to having patrons park outside of the business they are visiting, where they are likely to immediately return to their cars after visiting that business.
- With alleviated parking demands, the downtown area will have more opportunities to convert parking spaces into parklets, or introduce new 'open-street' events. This can greatly benefit participating businesses as they will receive more patrons.

In order for the trolley to meet its highest potential, it must be implemented with eye-catching branding, be highly visible to the public, and reflect the character of the City. For example, it is possible that the trolley could be a horse-drawn vehicle from the Race Track to Broadway. This route could then connect into a north-south trolley along Broadway between Skidmore, Downtown, and SPAC, with the Drink Hall as a hub.

Horse-drawn trolleys also are a unique amenity that is not often seen. They are exciting for all ages and promote the 'family friendliness' of Saratoga Springs. Having a horse-drawn trolley will also be a low-cost and low maintenance facility when compared to alternative transit systems, such as street-cars or light rail systems.

The map on the following page depicts the proposed trolley concept. It lists the primary recommended routes, alternative routes for the trolley, as well as alternative routes and peak hour routes. The alternative routes can be used in case of street closures, special events, or if the primary route proves to be undesirable by the communities. The peak hour routes can be used to reach additional park and ride locations and take the trolley off of the primary thoroughfares of the City. With the two separate routes, a recommended transfer station is proposed at the Saratoga Springs Visitor Center, also known as the 'Drink hall' to locals. The visitor center is a retrofitted trolley station. Having this location designated as the transfer station will help tie the trolley to the historic roots of the City and further develop the character of the downtown area.



This horse trolley in London gives visitors a sense of the elegance of the Victorian Age.

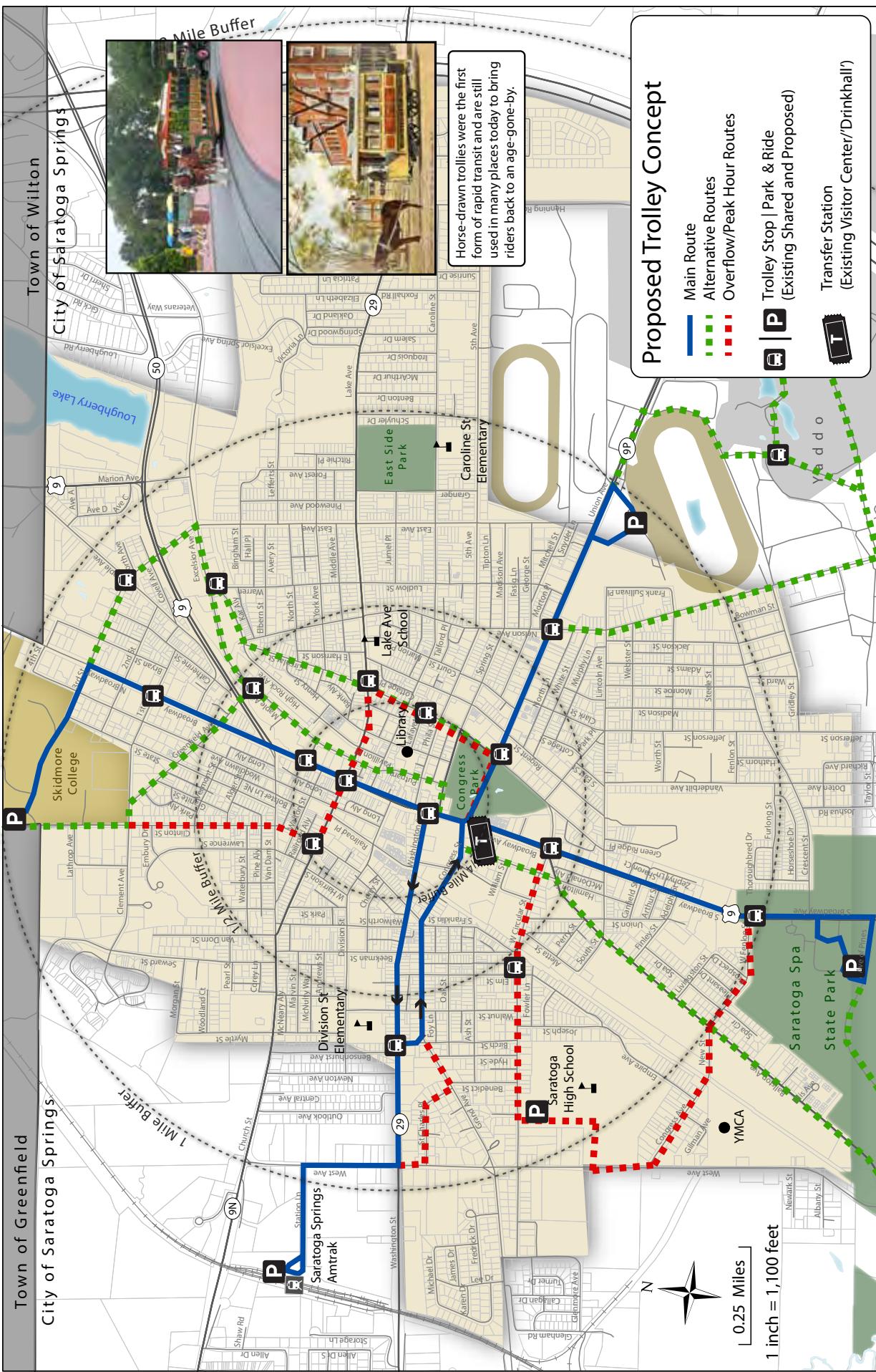


Proposed Trolley Concept

Horse-drawn trolleys were the first form of rapid transit and are still used in many places today to bring riders back to an age-gone-by.

The map shows the proposed location of the Trolley Stop | Park & Ride station. The station is indicated by a black square icon containing a white letter 'P'. A green dashed line labeled 'Proposed' connects the station to the trolley stop. A red dashed line labeled 'Overflow/Peak Hour Routes' indicates the path of the trolley during peak hours. A blue dashed line labeled 'Alternative Routes' indicates other potential routes. A yellow dashed line labeled 'Main Roads' indicates major roads in the area. A legend at the bottom right identifies the colors and symbols used.

Transfer Station
(Existing Visitor Center/"Drinkhall")



CDTA ROUTE RESTRUCTURING

As CDTA restructures their routes within the City, it is recommended that they adopt the transfer station as part of that plan. It is also recommended that they reroute the routes that have been previously identified. It is also recommended that any new stops that are created within Saratoga Springs should be prioritized to have the following amenities:

- Bus Shelters (with the recommended bike rack demonstration devices)
- Benches
- On-location bicycle parking
- Pedestrian scale lighting

Having these amenities will help bolster ridership from the new stops by making them more visible and welcoming. Adding street art in the form of sculptures or murals can also help boost stop ridership.

As part of the restructuring plan, it is also recommended that CDTA devise a plan to allow for transfers of individual rides at the new transfer station. Currently, there are two ways to transfer from one bus to the next. The first is to pay two separate fares or to use a CDTA charging card twice. The second way is to purchase a rolling swipe card which gives you an unlimited amount of rides over a designated period of time. While both reasonable options, many still choose to pay their fares with cash or a charge card, and creating a way to transfer from one bus to another without having to pay a separate fare can result in another boost in ridership.

One option for implementing a transfer system is to provide optional transfer stubs that can be distributed at the rear door of the bus, marking what time, day, and bus route they were received from. If they board another bus within a designated time period, such as a half an hour, then they can use the transfer ticket to replace the second fare. Since they would be optional, and ideally only those who wish to transfer will take the tickets, fewer tickets would go to waste than if every rider received one when boarding.

Allowing the transfer tickets to only work at the bus stops located near the transfer station will provide a strong test trial for the system and help keep the program contained and simplified.



San Francisco's Muni Bus Services print paper receipts that allow riders to transfer to another bus within 2 hours of receiving the ticket.



TRANSIT HUB

After the previously mentioned trolley routes are fully established, the trolley transfer station can be expanded to be fully integrated with all forms of transportation. The Saratoga Visitor's Center continues to present itself as the perfect candidate for this role. A number of bus routes already pass by its location and its role as a visitor's center gives it the opportunity provide information about the City to those transferring, which will be great for the tourist industry within the City.

The history and beauty of the Visitor's Center, as well as its location at the Proposed Congress Street Roundabout will help make it a gateway into downtown, and having the transfer station at the Center will help ensure that it is the first location where tourists and visitors find themselves when traveling to Saratoga Springs.

Having the proposed Downtown Trolley make a stop at the Amtrak Rail Station and park and ride facility will also create new transfer opportunities at the transfer station for individuals coming into Saratoga Springs from these facilities.

In order to transform the Visitor's Center into a robust transfer station, a few recommendations have been developed. The first of which is to reroute several bus routes to make stops at the Visitor's Center. These include:

- Route 452
- Route 875



The Saratoga Visitor's Center

5.2 DESIGNS & GUIDELINES

CORRIDOR CLASSIFICATIONS

There are a number of different street classifications for corridors in urban areas. Some of these corridors provide transit access within Saratoga Springs. This section provides design recommendations for these streets. The improvements are listed as ‘bronze,’ ‘silver,’ and ‘gold.’ Gold represents the ideal improvements in a full-build scenario. Silver and bronze represent intermediary phases that can be implemented to eventually achieve the ‘gold’ standard. It is important to realize that the bronze and silver phases, while they are improvements to the current conditions and can achieve a great deal in creating complete streets, they should not be viewed as desired final outcomes. The City should continue to strive for excellence and push towards achieving a ‘gold’ standard on every street.



Transit Corridors & Thoroughfares

A large portion of the corridors throughout Saratoga Springs have bus routes and stops along them. Many of these transit corridors also serve as the main thoroughfares for the City and are frequented by trucks and heavy vehicles that are either making deliveries or attempting to reach a destination beyond the City. This adds another level of user needs that must be designed around.

Transit corridors would be enhanced through the implementation of dedicated bus lanes and improved bus stop signage and shelters. Combined, these factors will make transit more appealing to residents and visitors in Saratoga Springs.

Examples:

- Church Street/Lake Avenue
- Broadway (South of Van Dam Street)
- Ballston Avenue

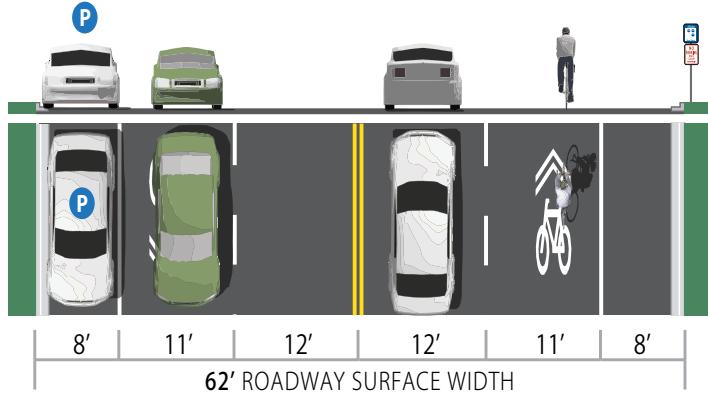


Transit Corridors and Thoroughfares

Bronze Level

Improvements:

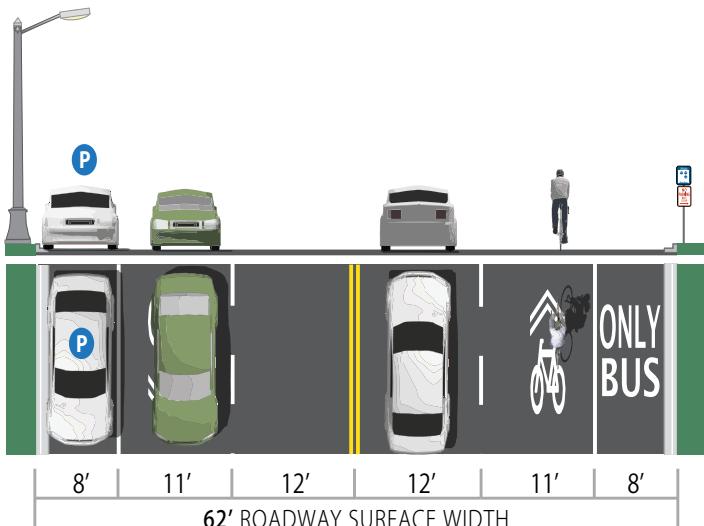
- Bus stop signage with servicing route numbers.
- On-street parking restrictions for bus stops.
- Shared lane markings in travel lanes.
- Emphasize 4 E's in planning and design (Engineering, Education, Enforcement, Emergency Medical Services).



Silver Level

Improvements:

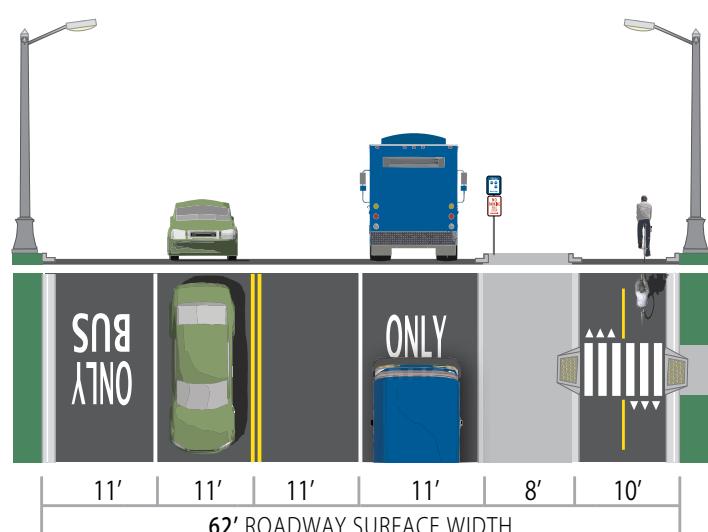
- "Bus Only" striping in parking lanes at bus stops.
- Bike lanes are installed with transitions at bus stops.
- At least one 11' travel lane for bus and truck traffic.
- Street light gaps are 50% filled.



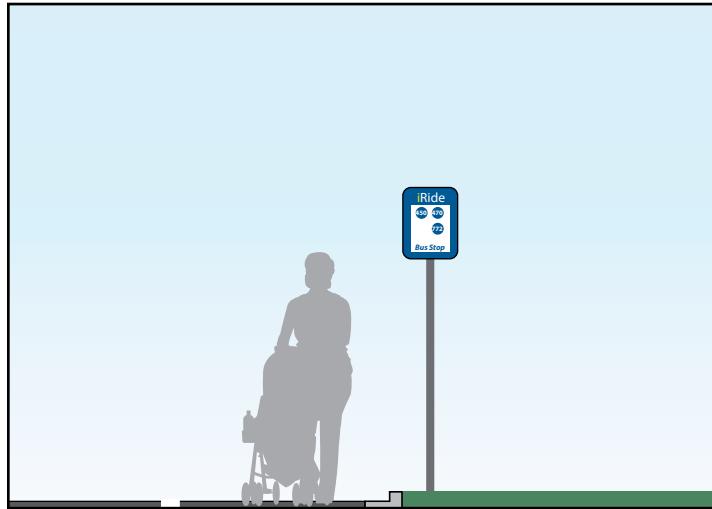
Gold Level

Improvements:

- Bus only lanes installed where possible.
- Bicycle parking installed.
- Wayfinding signage installed.
- Buffered bike lanes or cycle tracks.
- Street light gaps are 100% filled.



Pedestrian Recommendations for Transit



Bronze Level

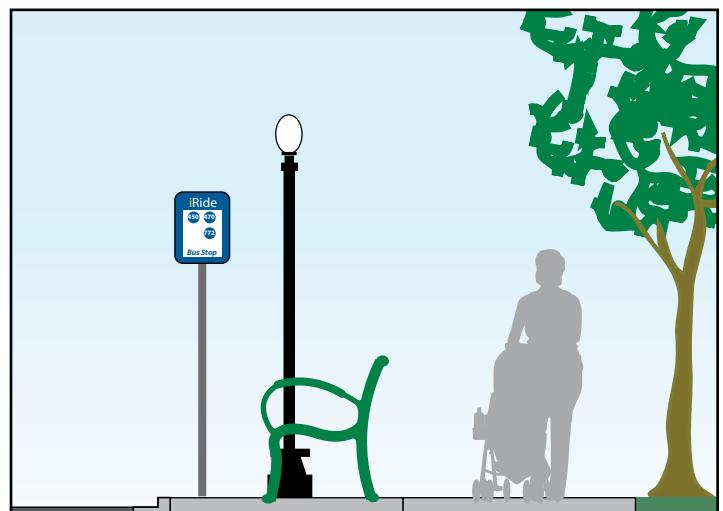
Improvements:

- 4' or wider striped shoulders on both sides.
- Bus stop signage with servicing route numbers.
- ADA compliance for sidewalks, crossings, and waiting areas near bus stops.

Silver Level

Improvements:

- Sidewalks on both sides.
- Crosswalks provided near bus stops (intersection or mid-block)
- Grass buffer.
- Paved pedestrian waiting areas at bus stops.
- Benches provided at bus stops.
- Gaps in the street trees and pedestrian scale lighting fixtures are 50% filled.



Gold Level

Improvements:

- High visibility crosswalks with signage provided near bus stops.
- Benches and shelters provided at bus stops.
- Gaps in the street trees and pedestrian scale lighting fixtures are 100% filled.





5.3 POLICIES

Transit Street Design Guide

The National Association of City Transportation Officials (NACTO) has recognized the need to create design guidelines specifically for urban street systems. They have recognized that urban streets differ greatly from suburban and highway corridors, and as such, have their own specific design needs. The NACTO Transit Street Design Guide is based off of these needs and contains six overarching principles:

- Streets are public spaces
- Great streets are great for business
- Streets can be changed
- Design for safety
- Streets are ecosystems
- Act now

Understanding that transit represents an integral part of urban transportation, the guide presents several ways to make transit more efficient and interact more seamlessly with other modes. The recommendations within the guide related to transit focus on:

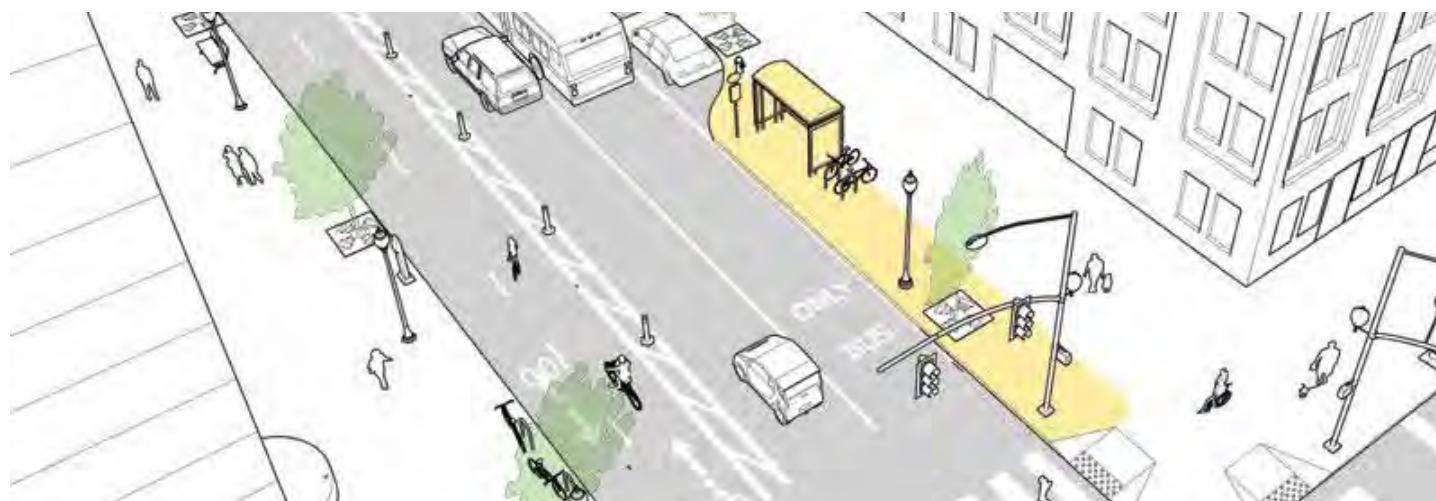
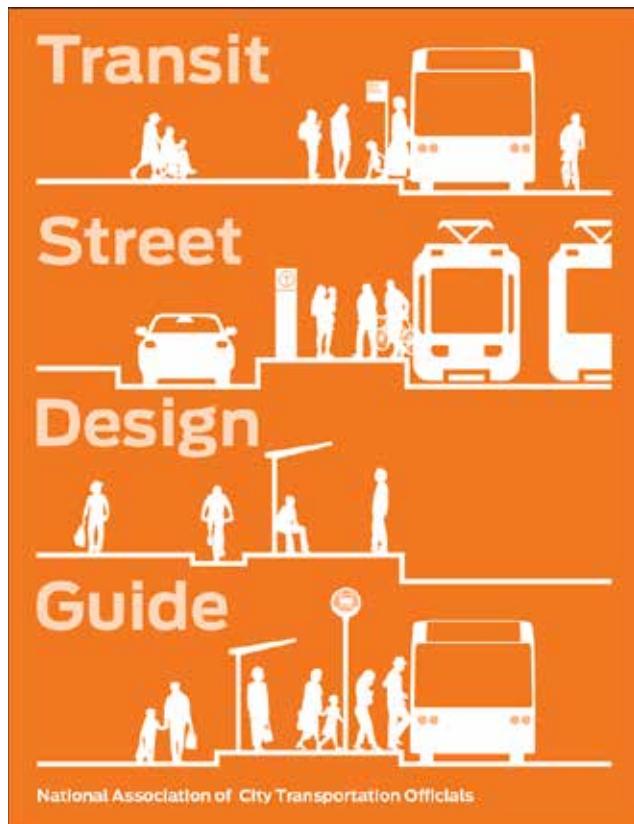
- Dedicated transit lanes
- Transit priority signal timing
- Offset bus lanes
- Bus stop design

The NACTO Transit Street Design Guide provides clear graphics that illustrate how to improve transit operations in urban contexts

All of the recommendations included in the guide are intended to make riding transit faster and more comfortable, helping it to become more competitive with driving. Adoption of NACTO's Transit Street Design Guide will help the City accomplish the complete streets initiative.

The Transit Street Design Guide can be found on NACTO's official webpage:

www.nacto.org



Adopt-A-Shelter Program

Adopt-a-shelter programs are a popular policy for establishing a cycle of continual maintenance on bus shelters and involving the community. Adopters can be individuals or groups, such as neighborhood associations or after-school clubs. Adopters generally take on a variety of monthly or weekly duties, which can include:

- cleaning up trash in and around the shelter
- emptying the shelter's trash cans
- cleaning shelter windows
- reporting any shelter damage to CDTA
- removing or reporting shelter graffiti

Creating an adopt-a-shelter program creates a great opportunity to install more bus shelters, as the maintenance cost of shelters will decrease. It also helps ensure that the local transit stops are kept clean and comfortable, which may increase transit use.

When the program is established, it should be open to any transit stop within the City. Transit stops that are adopted should be considered high priority locations for bus shelter and pedestrian crossing installations, if these features are not already present.

Transit Encouragement Program

The City, CDTA and other partners to collaboratively promote walking, bicycling and transit ridership. A Transportation Demand Management (TDM) program can be a pro-active way to market transportation options to residents, employers and visitors.



An example of a well-maintained CDTA bus shelter.



A volunteer removes graffiti from a bus shelter to make it more welcoming and inviting.

5.4 MULTI-MODAL CONNECTIONS



OVERVIEW

A highly important part of any complete streets plan is to account for multi-modal connections. Multi-modal connections allow users to change their mode of transportation mid-route. This can greatly increase the mobility of cyclists and pedestrians, who typically travel slower than other modes of transportation. It also provides back-up travel options to pedestrians and cyclists who may tire, are open to the elements during weather events, face difficult obstacles such as large hills or uncomfortable corridors, and who may wish to not take the same mode of transportation on their return trip.

When referring to multi-modal connections, there are usually six of the most popular connection patterns that are accommodated or designed around. They are:

- Walk to/from transit
- Drive to/from transit
- Bike to/from transit
- Bike/transit interchange
- Bike to destination and transit return
- Transit 'back-up' plan

These patterns are illustrated to the right. As can be seen, transit is always a primary source of intermodal connections, as it plays a large role in each pattern. Upgrading and integrating transit features will be a crucial step in every attempt to increase multimodal travel.

There are certainly a number of other combinations of multimodal travel that can be made. However, planning and designing around these six will accommodate, either directly or indirectly, nearly all intermodal connections.

It is also important to remember that all trips, unless purely walking, are in some form an intermodal trip. As soon as a traveler disembarks from the bus, steps out of a car, or destraddles their bicycle, they become a pedestrian. This further exemplifies the importance of pedestrian facilities for all user groups.

INTERMODAL BENEFITS

Creating intermodal connection opportunities and encouraging intermodal travel can have many benefits to communities. Some of them include:

- Increased mobility for those who do not own or have access to personal vehicles.
- Decrease in motor vehicle volumes which will lead to lower congestion levels, more comfortable streets for all users, and higher air quality.
- Increase in active transportation users, which leads to healthier communities.
- Increase in transit ridership which can lead to opportunities for the transit networks to grow.
- Lower demand for parking in commercial sectors.

These benefits will continue to grow as intermodal travel continues to grow. However, in order to increase intermodal travel, connection opportunities must be present, must be comfortable, must be visible, must be low cost to the users, and must be intuitive.

INTERMODAL PATTERNS

Walk to/from transit



Drive to/from transit



Bike to/from transit



Bike/transit interchange



Bike to destination and transit return



Transit 'back-up' plan



PEDESTRIAN ACCOMMODATIONS

In order to encourage intermodal transportation and transit travel in general, pedestrian accommodations should be prioritized around transit stops or stations. Pedestrian accommodations in the surrounding area should include:

- High visibility crosswalks
- Pedestrian signal heads at signalized intersections
- ADA compliant sidewalks and pedestrian ramps
- Pedestrian scale lighting
- Pedestrian refuge islands on street corridors (3 or more travel lanes)
- Traffic calming
- In-street medians

The crossing facilities (crosswalks, pedestrian ramps, and refuge islands) are especially important for locations where pedestrians may find themselves crossing the street in order to transfer from one transit line to the next. However, when possible, street crossings should be avoided for transit transfers. This can be a simple change of moving a bus stop that is known to have transfers from one side of an intersection to the other.

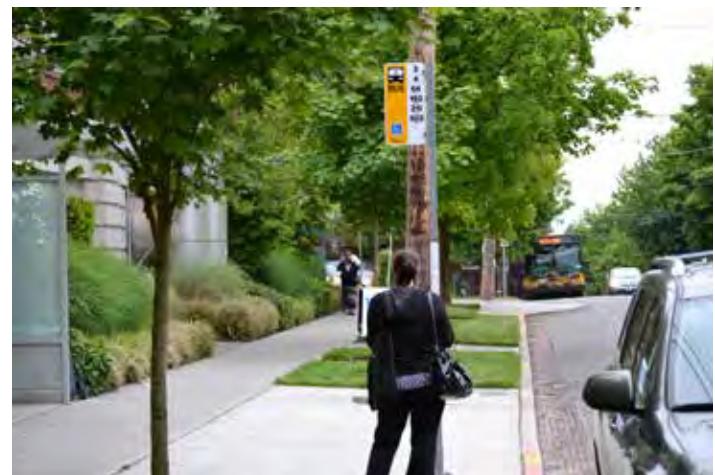
Pedestrian accommodations at transit stops also differ from those of the typical street conditions. Additional facilities may include:

- Waiting areas: locations, generally in the form of widened sidewalks, that allow users who are waiting for their bus to arrive to stay clear of the travel lanes and not block pedestrian flow in the sidewalk.
- Street Furniture: such as benches or bus shelters that can make waiting for transit more comfortable for users.

As is evident, when planning or designing for pedestrian-transit intermodal connections, it is important to identify needs for both pedestrian travel and waiting times. Both should be comfortable and enjoyable for pedestrians, encouraging more individuals to choose this mode combination.



Bus Shelters can greatly increase the comfort of pedestrians waiting at transit stops.



A wide waiting area keeps pedestrians out of the way of the flow of sidewalk traffic and makes transit stops more handicapped accessible.



BICYCLIST ACCOMMODATIONS

When planning or designing around bicycle-transit intermodal connections, five primary needs stand out and should be accommodated:

- Information
- Comfortable and Convenient Bicycle Travel Facilities
- Access to the Transit Stop
- On-Board Accommodations
- Secure Bike Parking

The City of Saratoga Springs already has a number of these needs met to some capacity, and introducing several new programs or infrastructure.

Education

One of the biggest deterrents for cyclists to use transit is the lack of knowledge of storage options on transit vehicles and the lack of knowledge of how to use them. This is especially true with bus bike-racks. Many cyclists do not know how to use the racks, and often worry that they will delay other riders if they attempt to learn how to use the racks.

For this reason, it is recommended that CDTA hosts several different platforms on how to learn to use the racks within the City of Saratoga Springs. This can include



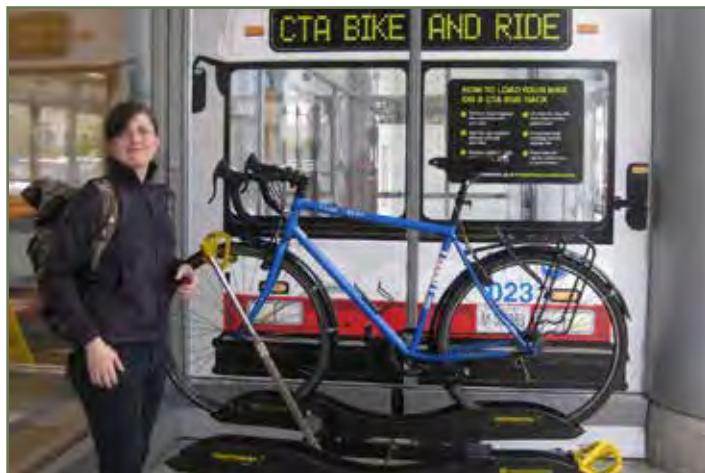
hands-on demos at large events, such as the Victorian Streetwalk or Henry Street Bike Party. CDTA can also set up in the parking lots of SPAC or the race course during events and host demonstrations there as well.

Permanent demonstration devices, like the one depicted below, can be installed at locations like the Amtrak Station or on the side of bus shelters throughout the City.

In addition to demos, pamphlets should be made available on buses and at locations like City Hall or the Amtrak station that show step by step instructions on how to use the bus bike racks.

'Dummy bikes' can also be placed on bus bike racks. The concept consists of CDTA placing a bike on the bike rack before the bus begins its route and leaves it on there to showcase the racks and illustrate how they are to be properly used. They can even be as simple as cardboard bike cut outs that can be folded and taken into the bus if more than one cyclist wishes to use the rack. These should be installed on bus routes with low cyclist ridership. They will help increase visibility of the bike racks as well.

Producing a plaque to be placed on the buses near the bike racks with the three step instructions written and illustrated can also help make the racks more intuitive. This would be in addition to the three steps written on the racks themselves.



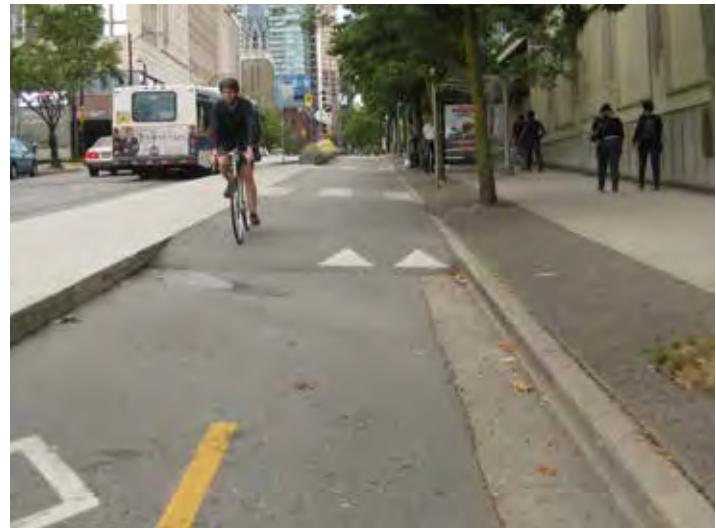
Chicago's CTA launched a demo program installing practice racks at key locations (top) and setting up demonstrations at large gatherings, such as the Chicago Bike to Work Rally (bottom). This helped cyclists who aren't familiar with the racks to learn how to use them without the pressure of doing so on an active bus.

Bicycle Facilities & Access

In order to give cyclists better access to transit facilities, incorporating cyclist facilities, whether on street or off street, should be a high priority around transit stops. This means prioritizing facilities such as bike lanes, cycle tracks, or shared use paths along transit corridors. As such, transit corridors should be pushed to reach the aforementioned ‘gold standard’ laid out in this plan.

In addition, incorporating features at stops that prevent hindrances to either cyclists, transit users, or pedestrians can encourage cyclists to make multimodal connections, as they feel they will not be hindered by utilizing transit corridors, and in turn, will not be hindering others.

One way to create such an environment is through the use of a bus island, also known as a bike bus bypass. It can be seen in the illustration below. Bus islands create the transit waiting spaces on the inside of a cycle track, removing much of the conflicts between pedestrians, cyclists, and buses at stops. There are still minimal cyclist and pedestrian conflicts though when pedestrians have to cross the cycle track to reach the waiting areas, so pedestrian crossings should be striped across the cycle track, and raised crosswalks across the cycle track may be applied.



An example of a crosswalk over a cycle track, leading to a bus island.



Bus bypasses provide ample space for additional amenities, such as the street art pictured here.



Bicycle Parking

There are two primary forms of bicycle parking associated with transit; on-board and on-location. Both are equally important to improving the mobility of cyclists wishing to make multi-modal trips. On-board parking gives cyclists the ability to take their bicycle with them, and makes it so that they do not have to worry about the bicycle's safety like they may if they were required to leave it. It also gives them the option to not take transit on their return trip as they already have access to their bicycle. On-location storage gives cyclists the ease of traveling without having to transfer the bicycle and does not lead to them worrying over finding bicycle parking at their final destination. Both should be available to transit users within the City if Saratoga Springs is to increase intermodal connections.

On-Board

As spoken of before, CDTA provides on-board bike racks on the front of each bus. This is an excellent service that provides a great boost to the intermodal trips within the City of Saratoga Springs and the surrounding communities. CDTA should continue to offer this service and start implementing the aforementioned educational and demonstration programs.

One challenge with the CDTA bike racks is the very limited capacity of only two bikes per bus. If a bus already has two bikes hooked up to it, then a cyclist is forced to either wait for the next bus, continue their journey on their bikes, or park their bike near the stop and continue on without it. As intermodal travel increases within the City, this dilemma will be faced by more cyclists daily. In order to overcome this challenge, CDTA is recommended to increase the amount of on-board parking and create comfortable on-location bicycle parking. On-board parking can be increased by developing a bike rack that can hold 3 or more bicycles or implementing in-vehicle racks.

Amtrak provides rail services to the City of Saratoga Springs. The Amtrak trains do not currently provide any on-board bicycle storage. If travelers do wish to take their bicycles with them, they have to check them as luggage. It is recommended that Amtrak installs bike racks on the trains to increase intermodal mobility. The Saratoga Chamber of Commerce has been actively involved in national efforts to provide bike access on Amtrak trains.



Promoting on-vehicle bike storage for long distance and coach bus services, such as Greyhound or Megabus can give a boost to intermodal travel. This sliding bike rack is easy to use and easy to store.



Incorporating intuitive and easily accessed bike racks on CDTA buses can help increase on-board bike capacity. They can be placed behind the rear door of the buses to reduce their impact on the flow of riders through the bus.

On-Location

It is highly recommended that CDTA install bike racks at locations stops with high ridership within the City of Saratoga Springs. Stops with bus shelters should also be treated as priority locations for installing bike racks. Bus shelters provide the needed space beside them to install bike racks, and are often found at locations where there is already high ridership.

Another set of locations that provide great opportunities for installing bike racks is the bus islands recommended previously. Extending the bus islands slightly will give enough room to install bicycle parking. Placing the bicycle parking on the bus islands will also increase their visibility, ensure they are not hindering the flow of pedestrian traffic on the sidewalks, provides instant access to them for transit riders alighting from the buses, and separates them from the main pedestrian thoroughfare which can help deter vandalism or theft.

One location that stands out as having a need for long term bicycle storage options is the Saratoga Springs Amtrak Station. Typical bike racks are generally not viewed as a long term storage option. They leave bicycles more susceptible to theft, vandalism, and weather conditions than certain other storage options. As a result, cyclists often do not wish to lock their bikes to bicycle racks for extended periods of time. The Amtrak Station has a much higher probability of generating parking demand that will have a low turn-over rate (storage will be used for extended periods of time) than most locations in Saratoga Springs. The Station currently has ten standard U-racks, which can hold two bicycles each. The station also has one bike locker facility, which is an adequate long term storage facility, but can only hold one bicycle. It is recommended that a conversion process be conducted by Amtrak to transform the current bike racks into bike lockers until at least half of the bicycle parking capacity of the station is dedicated to long term storage. If bicycle parking demand at the station increases overtime, the station should also consider providing indoor bicycle storage facilities, like the BART station in Oakland depicted to the right.



The bike storage locker at the Amtrak Station provides long term storage options but can only hold one bicycle.



These multi-level bike racks give a large storage capacity while taking up little space. Having them indoors also helps make them a viable long term storage option.



PERSONAL VEHICLE ACCOMMODATIONS

The most common personal vehicle accommodations for intermodal travel are park and ride facilities. The facilities, generally in the form of otherwise underutilized parking lots or garages, give motorists the opportunity to park their vehicle and take a bus to their destination. They relieve congestion on urban corridors and parking demand in downtown areas. They can also be great for businesses, as those who utilize the park and ride facilities are more likely to spend extended periods of time in the area and visit more than one local business than those who park at their destinations. They reduce the stress of having to find a parking space too for the motorists. These facilities work great for commuters in particular, as a commuter is more likely to take the time to familiarize themselves with the routes and with the parking facilities than a tourist or business patron, but it can be used by any motorist.

The key to making any park and ride facility successful is based upon four principal foundations:

- **Capacity:** ensuring there is enough parking capacity is available at the locations
- **Ease of Access:** ensuring that they are easy to identify and are along commuter routes
- **Public Awareness:** educating the public on where they are, how to use them, and their benefit.
- **Transit Service:** Ensuring that the transit routes that are serving the site reach destinations that the users desire in a timely fashion

Saratoga Springs currently has 2 primary and official park and ride facilities that offer to bring motorists from the outskirts of the City, to key locations such as Downtown, SPAC, and Skidmore College. They are located at the Saratoga Springs Amtrak Station and the Racino. In addition, two other park and ride locations offer services to Saratoga Springs, they are located at the Wilton Mall and Milton Town Hall. Altogether, the park and ride lots have a capacity of 260 spaces for motor vehicles. These are shared spaces though and are not branded as park and ride lots.

In order to increase the use of the park and ride lots for commuters and tourists in Saratoga Springs, two improvements are highly recommended:

- **Designated Spaces:** Since the park and ride lots are shared lots, the fear that there will not be enough capacity could deter individuals from utilizing the services. Striping out and labeling a certain portion of the spaces can help ensure that at least some of the spaces will be reserved for the park and ride users if the facility has a boom in parking demand for an event or other unforeseen circumstance. Even if the facility is never overburdened by its parking demand, having designated spaces can curb any fears relating to finding a parking space.
- **Wayfinding and Branding:** The park and ride facilities do not currently have any branding that denotes them as such. This makes them hard to identify and only users who look up the information online, call CDTA, or have access to printed information packets will know where the park and ride facilities are. Placing branded posts, such as the one seen below, at each location will help increase their visibility. In addition, most of the facilities are not directly on commuter routes. Wayfinding signage should be placed on the following routes:

- Route 22
- Route 50
- I-87
- Route 9
- Geyser Road

They should give motorists the general direction to the closest park and ride facility, as well as the distance, what routes serve it, and the time it takes to reach downtown.

ENCOURAGEMENT

Consider development of a local Transportation Demand Management (TDM) program in collaboration with local businesses and organization. This can include "Smart Trips" individualized marketing campaigns, employer incentives and other encouragement activities to promote transit use



Park and Ride branding produced by CDTA for select locations.

The Park and Ride lot available at the Saratoga Springs Amtrak Station





5.5 LARGE VEHICLE DESIGN

DEFINING DESIGN FACTORS

When designing for transit and truck routes and freight deliveries within an urban setting it is important to identify and define two factors:

- **Design vehicles:** The size and shapes of trucks can vary greatly depending on their purpose and capacity. A design vehicle is, in this case, the truck that will be designed for and those requirements will be used to generate any design features.
- **Accommodations vs. Designing For:** There is a difference between accommodating a vehicle and designing for a vehicle. Designing for a truck means that the roadway will be wide enough to capture the entire turning movement without the trucks entering into the lanes of the opposing traffic. Accommodating truck turning movements means that the trucks' turns will be captured by the roadway, but may result in a truck entering the opposing travel lanes. All truck types that use a trucking route or corridor should be 'accommodated,' but do not necessarily need to be 'designed for.' In tight, urban spaces, more freight vehicles can be expected to enter into opposing travel lanes. However, the heavier the freight traffic, trucks that are not being designed for will have larger impacts on traffic patterns and congestion.

These factors are important to identify, especially when creating designs or plans create complete streets, where all user groups, including pedestrians, cyclists, transit users, motorists, and trucks will be at the very least accommodated. Below is a toolbox to be used when major conflict areas are identified between truck traffic and other user groups.



DESIGN TOOLBOX

Mountable Curbs

Mountable curbs are curb lines with beveled corners, allowing trucks to climb over them. These can also be applied on curb extensions, allowing the curb extensions to be full curbs, rather than textured or colored pavement, while also accommodating truck turning movements.

Standard Curb	Bevelled (Truck Mountable) Curb	Fully Mountable Curb
Provides separation of roadway and sidewalks but is not mountable and can damage tires.	Provides separation and allows heavy vehicles to mount the curb without damaging tires.	Provides separation and allows most vehicles (including bicycles) to mount the curb.

The illustration above shows different options for curbs to install, and lays out the benefits and constraints with each option.

Retreating Stop Bars

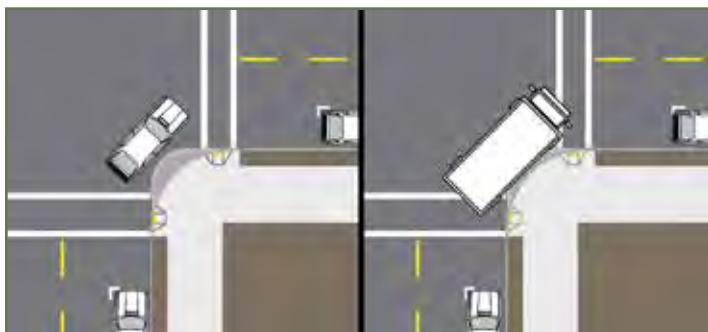
Implementing retreating stop bars places stopped traffic away from signaled intersections, allowing trucks to take both lanes of traffic when turning. These stop bars should be implemented at locations where there are high turning volumes for truck traffic and at bus queue jumpers.



Retreating stop bars bring stopped traffic farther away from intersections, allowing trucks to take both lanes while turning.

Truck Aprons

Truck aprons, most notably used on traffic circles, are mountable, colored, or textured areas where motorists are encouraged to avoid, but trucks can use to make their wider turns. These can be applied for curb extensions at intersections where trucks often turn, or replace the curbed islands on the protected intersection. It is recommended that these be installed at the three platinum intersection on Broadway.



Truck aprons allow curbs to be extended farther into the intersections, without hindering truck travel.

Designated Truck Routes with Signage

Having designated trucking routes with posted signage can help funnel truck traffic through certain routes, allowing more concentrated truck densities where other freight amenities can be applied more heavily. This will be more cost effective than having the truck amenities spread throughout the City, when they would serve smaller volumes of trucks. It will also promote cyclist and pedestrian comfort as they can choose other routes with less truck traffic.



Trucks routes help funnel heavy vehicle traffic into designated corridors.



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Chapter 6:

Implementation Strategy



6.1 IMPLEMENTATION STRATEGY



Saratoga Springs will implement the City's complete streets initiatives with a phased approach over time. This approach will include three primary elements: 1. "Stand Alone" projects 2. "Integration" within ongoing infrastructure management and 3. "Education" through professional training and community outreach. Each of these elements are described as follows.:

- 1. Stand Alone** projects are capital investments within the community specifically funded to create Complete Streets. These projects will involve construction or major reconstruction of street and roadway infrastructure, and they can be funded through grants or City capital budget items. Per the City's Complete Streets Policy, all capital projects on streets and roadways within Saratoga Springs will include the appropriate elements of complete streets for all modes of travel. Projects of this type will generally be included on the Capital District Transportation Committee's (CDTC) Transportation Improvement Program (TIP). Complete streets are included as part of the selection criteria by CDTC for projects to receive federal transportation funding. Integrate Complete Streets Advisory Committee's City Departments. Review the annual paving program with Public Works in January-February to identify potential opportunities, and coordinate with Public Safety to confirm striping/signage plans.
- 2. Integration** with other public and private projects. The Complete Streets Advisory Board can be part of the process to meet with the City, State, County and developers to ensure the concepts of this plan are addressed in ongoing projects. These types include multiple project types as follows:

City Projects: Annual Paving Cycle - A portion of the City's streets are repaved each year. It is important to integrate Complete Streets within pavement maintenance projects. The incremental cost of signage, striping and intersection improvements is often a small percentage of larger projects. It is recommended that during the winter of each year, the Department of Public Works meet with the City's Complete Streets Advisory Committee to review upcoming paving projects to ensure that appropriate elements are included

County Projects: County roads within the City generally include paved shoulders and open drainage. In previous projects (Meadowbrook Road, for example), the County has used an 11 foot travel lane and 4 foot shoulder as the typical cross section. Continuing this practice as typical will support complete streets, and in some locations (such as Geyser Road and Crescent Avenue), narrower travel lanes with wider shoulders and potential sidepaths are possible, provided that a maintenance agreement for these facilities is in place.

State DOT Facilities: The state highways that run through Saratoga Springs have significant potential to serve as complete streets. In some cases, State DOT has already marked shoulders as bikeways (Route 9 / South Broadway) and improved pedestrian crossings (Route 50 Arterial). Complete Streets projects on state owned facilities that involve larger capital projects are required to go through a formal scoping process, and to comply with the NY State Complete Streets legislation.

Private Property: City code requires private property owners to provide and maintain sidewalks in good condition. Over time, not all property owners have maintained their sidewalks, and in some neighborhoods sidewalks have gaps between existing sections. There are a range of options for improving these conditions. **Sidewalk Gaps:** missing sections of sidewalk are generally the responsibility of private property owners. It is recommended that the City set up a program for bulk purchasing of concrete to allow property owners to share in reduced material costs. The City should also consider installing missing sections or replacing sidewalk that are in poor condition.

Sidewalk Maintenance: Especially during the winter, it is important to ensure that sidewalks are well maintained. The Downtown area provides sidewalk maintenance through the Special Assessment District. Some property owners do an excellent job of snow removal, but there are often locations where sidewalks and intersection are not kept clear of snow and ice. Options for improving these conditions include having neighborhoods share the cost of snow maintenance equipment, hiring youth or underemployed people to shovel and plow sidewalks, or expanding municipal resources for winter maintenance.

Curb Ramps and ADA: Because compliance with the ADA is a civil rights issue and a potential legal liability for the City, it is recommended that an ADA curb ramp and intersection crossing program be developed as part of the City's ADA Transition Plan. This program can include an annual budget for improving a percentage of the City's curb ramps and accessible crossings each year.

Development Review: It is recommended that Planning Board to seek Advisory Opinions from the Complete Streets Advisory Board on infrastructure related to proposed projects that require board approval. For projects requiring SEQRA approvals, the City can use the impacts on transportation as criteria for granting approvals. As new private sector projects are developed, complete streets can be included in the development review process. This is an important consideration at the Site Plan Review stage, and is the responsibility of the Planning Board. Context sensitive solutions can be implemented for each of the City's streetscape type and either included in approved site plans or provided through a developer mitigation fee that is utilized for ongoing projects. The following to be included in the Unified Development Ordinance:

- Greenbelt Trail Plan and Map
- Complete Streets Maps and typical sections
- Street Tree Ordinance
- Bike Parking Guidelines (per APBP)
- Benches, Bus Shelters and Street Lighting amenities guidelines
- ADA Compliance / Transition Plan
- Sidewalk, curb and crosswalk standards
- Pedestrian / bicycle friendly oriented site plan design guidelines
- TDM guidelines for worksites greater than 50 employees



3. Education programs can be implemented in Saratoga Springs through professional training and community outreach. Key elements of these programs can include:

Consultant Training: provide Complete Streets training for planners, designers and engineers to ensure that projects proposed in Saratoga Springs include the appropriate design elements. The City can use completion of this training as a requirement for firms doing work on projects in the City.

“Share The Road” Bumper Stickers: a simple but effective way to encourage safe mobility in the community is to provide a “Share the Road” message that can be displayed on City owned vehicles, public transit, school buses and resident’s cars. This is a simple way to communicate that Complete Streets is part of the Saratoga Springs community.

Professional Drivers: the City can provide training on safe driving and respect for pedestrians and bicyclists for staff, taxi drivers and other professionals who drive public vehicles in the City. This can help ensure that safety is one of the City’s most important Complete Streets program elements.

6.2 COMPLETE STREETS REPORT CARD

As a way to ensure ongoing communications with the City Council, land use boards, County and State Agencies, an annual benchmarking “report card” can be developed by the CSAB. This will provide an opportunity to show ongoing progress on implementation of the Complete Streets Plan, and to improve policies and procedures each year.

6.3 LOCAL SPONSORSHIP OPPORTUNITIES

Saratoga Springs has a long history of public-private partnerships. There are many opportunities for private sector, philanthropic, and non-profit partners to collaborate to implement the vision of this plan. Examples range from donating a bench, a tree or a bike repair stand to adopting a mile of roadway or a trail. With the Complete Streets Plan as a framework, the Saratoga Springs community will continue to find innovative ways to make our City a great place with Complete Streets.

6.4 CATALYST PROJECTS

The Saratoga Springs Complete Streets initiative will evolve over time as opportunities, resources and community support continues. For the purposes of this plan and to respond to community ideas brought forward during the planning process, the following Catalyst Projects represent potential demonstrations of the range of new Complete Streets that can be developed in the community. These projects are not presented in any particular order, but a sample prioritization matrix is provided in the appendix of this plan to be used as a guide as specific projects are moved forward.

Union Avenue: This street is a major gateway into downtown, the ‘front door’ for the Saratoga Race Course, and a key connection across the Northway. Potential improvements include providing medians and an enhanced pedestrian crossings between Circular and Nelson Avenue, shared lanes between with brick sidewalks between Nelson and East Avenue, paved shoulders with crushed stone sidepaths between East Avenue and Yaddo, ‘green’ bike lanes across the Exit 14 bridge, and protected bike/pedestrian lanes from the Northway to Crescent Avenue.

North Broadway: This is one of the city’s widest two lane streets, and a key connection between Downtown, Skidmore College and Maple Avenue Middle School. Potential improvements include bike lanes between Van Dam Street and Greenfield Avenue, buffered bike lanes between Greenfield Avenue and Skidmore College, upgrading the City-owned dirt road section at the northern end down to the Middle School, and providing consistent street trees and ADA compliant pedestrian lighting along the street.

East and West Side Bike Boulevards / Neighborhood Greenways: While this concept will require further development and community input, potential improvements can provide a low speed, safe, traffic calmed streetscape that connects both sides of the City to downtown, with an emphasis on safe routes to school for both Caroline Street and Division Street Elementary schools. Both of these streets are unique in that they are continuous from Broadway to the edges of the City’s inner district, and have parallel routes that carry the majority of motorist traffic in their respective neighborhoods.

Jefferson Street: From Five Points to the Casino and Raceway, Jefferson Street can benefit from having sidewalk gaps filled, street trees and lighting improved, enhanced bus stops, and other features to improve neighborhood safety. This is an important issue for community equity, for employee and visitor access to the new hotel and restaurant complex, and for access to the South Side Recreation Center.



South Congress Park Crossing: The intersection in front of the Batcheller Mansion Inn at the south end of Congress Park is currently confusing to motorists, difficult for pedestrians to cross, and frequently mentioned in public comments. By utilizing extra space within the intersection that is not used by motorists, a series of refuge islands and green infrastructure elements can be introduced to clarify the intersection and improve access to Congress Park, the historic Inn, the Presbyterian Church and adjacent neighborhoods.

Excelsior Avenue: A new plan has been developed to implement the Downtown Connector of the Saratoga Greenbelt Trail. With new development along this route and the upcoming reconstruction proposed by National Grid, there is a significant opportunity to implement new complete streets designs in this growing area on the northern edge of downtown.

Lake Avenue: From downtown to the Bog Meadow Trail, Lake Avenue has multiple opportunities for Complete Streets: providing sidewalks and enhancing parking along the edge of East Side Rec, striping bike lanes from High Rock Avenue past Lake Avenue School and under the Northway, and improving pedestrian crossings at multiple locations.

Weibel Avenue - Exit 15 Connector: this project will connect the new bike/pedestrian path on the Exit 15 bridge to destinations along Weibel Avenue. The challenge will be accommodating all modes along the extension of Louden Road, including a one-way section, multiple driveway entrances, and the suburban development pattern of adjacent properties. Improved shoulders and/or a sidepath along Weibel will connect to the Ice Rink, lacrosse fields, the former landfill site, and new mixed-use developments. This project will help provide access to jobs in the Route 50 corridor, and will serve as an interim route over the Northway for the Saratoga Greenbelt Trail.

It is recommended that the City departments, in collaboration with the Complete Streets Committee, develop the proposed prioritization matrix and rating system to advance these and other projects as the City moves forward with implementation of the Complete Streets plan.