CDTC NEW VISIONS

COMPLETE STREETS ADVISORY COMMITTEE

White Paper

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Contents

I. Introduction

The Capital District Transportation Committee (CDTC) is the Metropolitan Planning Organization for Albany, Rensselaer, Schenectady and Saratoga Counties (with the exception of the Town of Moreau and the Village of South Glens Falls). One of CDTC's primary responsibilities is to develop a Long Range Transportation Plan, also known as a regional transportation plan, with a long term (20+ year) planning horizon, updated every five years. The plan establishes regional planning and investment principles, strategies and actions that lead to an integrated multi-modal transportation system facilitating the safe and efficient movement of people and goods.

CDTC's Long Range Transportation Plan is known as New Visions 2040 and was adopted in 2015 following a year of advisory committee meetings, white paper development and public input. New Visions contains twelve planning and investment principles along with over 30 recommended strategies and actions for a wide variety of transportation related subjects. The update of the New Visions plan began in 2019 and will be known as New Visions 2050. New Visions 2050 is due to be completed by September 2020.

Implementing complete streets that are sensitive to the context of the surrounding area and the needs of the local community can be complicated. Bicycle and pedestrian, transit, and freight issues, as well as motor vehicle travel reliability, are all discussed separately in New Visions 2050. The Complete Streets portion of the plan does not seek to duplicate those discussions, but rather to fill the gaps, recognize and address tensions between and among competing needs, and address the overarching goal of building and maintaining a seamless, integrated multi-modal transportation system.

A. What are Complete Streets?

Complete streets are designed and operated to enable safe, convenient access for all users of all ages and abilities, including pedestrians, bicyclists, public transportation users, motorists, and the movement of goods, and are appropriate to the community context. When planners and designers use a complete streets framework of investments, they explicitly consider community context and the needs of all roadway users.

B. Planning and Investment Principle – Invest in Complete Streets

Street design will serve all users equitably, including pedestrians, bicyclists, transit riders, freight, and personal vehicle drivers and riders.

> *Transportation investments are made based on a complete streets framework which supports the convenient and safe travel of all people — of all ages and abilities as appropriate to a facility's community context.*
>
> *Utilizing a complete streets framework ensures that transportation investments are consistently planned, programmed, designed, operated and maintained with all users in mind – including*

bicyclists, public transportation vehicles and riders, pedestrians of all ages and abilities, and local delivery needs.

Successful implementation of a complete streets framework will be achieved by working with municipalities to improve communication and coordination, training and education, and design standards and other resources.

C. Benefits of Complete Streets

Complete streets are required according to US Code of Federal Regulations Title 23, Chapter 1, Subchapter E, Part 450, Subpart C, Section 450.324 titled "Development and content of the metropolitan transportation plan." This section states, "The transportation plan shall include both long-range and short-range strategies/actions that provide for the development of an **integrated multimodal transportation system (including accessible pedestrian walkways and bicycle transportation facilities)** to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand." (emphasis added) An integrated multimodal transportation system based on a complete streets framework has the following benefits.

1. Supports the economic vitality of the Capital District by providing accessible and efficient connections between residents, schools, parks, public transportation, offices, entertainment, and retail destinations. Welcoming streetscapes create an environment that encourages exploration of everything the area has to offer.

2. Increases the safety of the transportation system for motorized and non-motorized users. Complete streets design principles that consider all users of a road reduce conflicts between pedestrians and vehicles, resulting in a reduced crash rate. For example, according to the Federal Highway Administration, pedestrian crossing islands lead to a 56% reduction in pedestrian crashes in urban and suburban areas[i].

3. Increases the security of the transportation system for motorized and non-motorized users. Redundancy in the transportation system provides a backup in case of disaster that disrupts part of the system, contributing to community resilience. For example, complete streets can reduce disruption for individual travelers by providing sidewalks or transit service that people can still utilize in the event storm debris renders neighborhood roads impassable for vehicles. At a system level, a network of streets provides alternate routes that drivers may utilize to navigate around a disruption.

4. Increases accessibility and mobility of people and freight. According to the 2017 National Household Travel Survey, 28% of all trips in the Capital Region are one mile or less – distances easily traversable by foot or bicycle with appropriate infrastructure. Reducing vehicular trips on the roadway can improve freight travel and delivery efficiencies. About 10% of households in the Capital Region do not have

access to a personal vehicle[ii]. People in these households have much greater mobility and access to destinations with multimodal infrastructure.

5. Protects and enhances the environment and promotes energy conservation. A system designed using complete street principles facilitates walking for short trips, reducing air pollution. Denser, more walkable neighborhoods and mixed use downtowns built through smart land use practices are more easily served by public transportation and preserve green space, protect water quality, and conserve vital habitats and biodiversity. The current vehicular fleet largely relies on fossil fuels, which negatively impacts air quality and adds to the climate crisis.

6. Improves the quality of life of the region's residents. Streets that provide travel choices give people the option to avoid traffic jams, get physical activity and gain independence. They can enable older people who no longer drive to stay connected to their community, and they provide access to opportunity for people who can't drive. Complete streets encourage physical activity and social interaction, benefiting public health.

7. Enhances the integration and connectivity of the transportation system, across and between modes, for people and freight. Complete streets ensure connectivity for all modes at the system's most basic level - the street. They may provide bus stops, sidewalks, loading areas, and bike lanes. In rural or suburban areas, separated pathways can ensure pedestrian connectivity and reduce roadway conflicts.

8. Promotes efficient system management and operation. Walking, bicycling, and transit trips generally cover shorter distances than driving trips and therefore concentrate infrastructure over smaller distances, requiring fewer resources. In addition, reducing the number of people driving can reduce traffic congestion and improve operational efficiency.

9. Emphasizes the preservation of the existing transportation system. The Capital Region's transportation system was originally developed as a multimodal system. Over time, some sidewalks were allowed to deteriorate, such as those on Routes 43 and 66 in Sand Lake and those on Guilderland Avenue in Rotterdam. Re-centering preservation efforts on the entire system through a complete streets framework creates an equitable approach to preservation, allocating resources to infrastructure that serves multiple transportation modes.

10. Improves the resiliency and reliability of the transportation system and reduces or mitigates stormwater impacts of surface transportation. Green street design tools ensure streets remain usable and safe for all people during storm events, regardless of mode. Green infrastructure integrated into streetscape design can also improve

storm recovery for all users. For example, a stormwater project on Ramsey Place in Albany reduced the number of flooding events on nearby Hackett Boulevard[iii].

11. Enhances travel and tourism. Once they have arrived, tourists are more likely to stay awhile and patronize local businesses and entertainment districts where there are safe and inviting streetscapes. We know people travel to the Capital Region for walking or bicycling opportunities. According to the Capital District Trails Plan, people from outside of the region made 39% of visits to trails in the region, and people staying overnight made 5% of trail visits[iv].

D. Land Use

It is critical to recognize the connection between land use and transportation. Complete streets must be designed to serve the current and future land use, and land use policies and zoning ordinances must support the type of street the community desires. Land use that fully supports complete streets is dense, mixed-use, and transit-oriented with homes, jobs, schools, transit, and recreation in close proximity. However, the specific existing or planned context of a street will influence its design. Many long, important corridors exhibit different contexts in different segments, such as Delaware Avenue in Albany and Bethlehem, as well as Hoosick Street and Hoosick Road in Troy and Brunswick. On these corridors it can be helpful to create context "zones" that receive different design treatments and space allocation.

In many rural communities, residents live long distances from services, and providing exclusive infrastructure for walking or bicycling may not be cost-effective. However, rural villages, hamlets, and town centers all provide a compact center well-suited for walking and bicycling trips. These are good locations to site services. Rural roadways with low volumes and low design speed may serve all users. Rural roadways with high volumes and high speeds may benefit from separation between pedestrian infrastructure and motor vehicles, and potentially also between bicycle infrastructure and motor vehicles. This is especially true on roadways that connect rural centers with each other or important destinations such as schools, and large employment or retail centers.

E. Equity Considerations

It is important to acknowledge the direct relationship between complete streets and protected classes of people. The principle states that complete streets serve all users equitably, by their mode of travel. Capital Region residents whose income falls below the poverty line are less likely to drive alone to work and more likely to take transit or walk to work. Likewise, people of color in the Capital Region are less likely to drive alone to work, and more likely to take transit or walk to work. Youth aged 16-19 who work are also less likely to drive alone to work, and more likely to carpool or walk to work. Capital Region residents who have a disability are less likely to drive alone to work and more likely to use other modes to commute.[v]

Further, people in the Capital Region whose income falls below the poverty line tend to live in and around the cities of Albany, Schenectady, and Troy, as well as a few rural towns. People of color tend to live in and around the cities of Albany, Schenectady, and Troy, with the highest concentrations in Albany

and Schenectady[vi]. The remainder of this paper touches on issues of equity in a number of topics, including green infrastructure, new technologies, and traffic signals.

F. Complete Streets Advisory Committee

The Complete Streets Advisory Committee was formed in 2013. It assists roadway project implementers and municipalities to identify opportunities and overcome barriers to integrating complete streets elements into a variety of project types. It also helps municipalities advance policies and communication. The Advisory Committee includes staff from entities represented on CDTC's Planning Committee. The Committee's work is facilitated by CDTC staff. Since New Visions 2040, the Committee has focused on implementing the plan's recommendations.

The Advisory Committee discussed New Visions 2050 and this document at four of its bimonthly meetings. The group reviewed the status of the complete streets planning and investment principle in the current plan, as well as the New Visions 2040 topics, proposed initial list of performance measures, scenarios, and recommendations including implementation priority.

Membership on the Committee as of 2019 is as follows:

- CDTA: Brent Irving, Michael Williams, Ross Farrell
- City of Albany: Brad Glass, Chris Marini, John Darougar, Randy Milano
- City of Saratoga Springs: Brad Birge, Tina Carton
- NYSDOT Region I: Audrey Burneson, Brian Kirch, Greg Wichser, Stephanie Long
- Schenectady County: Steve Feeney
- Town of Bethlehem: Nate Owens, Robert Leslie
- Town of Clifton Park: Jennifer Viggiani, John Scavo
- CDRPC: Mark Castiglione, Todd Fabozzi

II. Progress since New Visions 2040

This section describes the progress on each task that was outlined in New Visions 2040. In addition, there has been increased coordination between NYSDOT and municipalities, and NYSDOT has fully integrated its Capital Projects Complete Streets Checklist into the project design process.

A. Develop and adopt an explicit Complete Streets Policy and encourage the region's municipalities to adopt their own policies.

Following the completion of New Visions 2040, the Committee decided against creating a regional policy. However, the Committee does support the creation of municipal policies, and several local communities have done so. As CDTC staff advertises the Training and Education Program and holds workshops, staff encourages municipalities to consider adopting their own policies.

B. Develop a Complete Streets Training and Education Program

CDTC developed a Complete Streets Educational and Technical Workshop series to help transportation planning practitioners and decision makers identify and overcome complete streets policy and implementation barriers.

CDTC has held two (2) rounds of the workshop series and provided training to over 150 people. Participating municipalities to date are Albany County, East Greenbush, Malta, Niskayuna, Scotia, Troy, and Watervliet. To assist with ongoing implementation, the program provides trainees with a "Complete Streets Toolkit" tailored to their community. The Albany County workshop was a partnership with the Albany County Department of Health. The next round of workshops is scheduled for 2020. As a result of the workshops, Niskayuna adopted a Complete Streets Policy and created a Complete Streets Advisory Committee, Watervliet adopted a policy and did a demonstration project, and Cohoes adopted a policy and implemented some projects.

CDTC partnered to fund a NACTO Transit Street Design Guide training for about 25 people at the 2018 New York Public Transit Association conference held in Saratoga Springs. In 2017, CDTC partnered with the New York Bicycling Coalition to host a NACTO Urban Bikeway Design Guide training workshop led by a NACTO Certified Trainer for about 25 transportation professionals. This included planners, engineers, and policy makers from various organizations across New York State.

C. Develop Complete Streets Design and Implementation Guidelines

CDTC staff is in the process of drafting guidelines applicable throughout the Capital Region. After researching different guides already created for jurisdictions in the United States, the Advisory Committee decided to base the Capital Region guide on one completed for the New Jersey DOT and FHWA. This guide addressed multiple contexts in a manner that can apply throughout the Capital Region, which has urban, suburban, and rural areas. The guidelines under development will include design guidance on sidewalks, bikeways, transit infrastructure, green infrastructure, curbside space, and maintenance. They will address needs of new transportation technologies, such as automated vehicles.

D. Develop a method to track progress and measure performance of complete streets policies focused on TIP project outcomes

Since 2018, staff has conducted field visits to document completed TIP projects with photos or videos. This only includes projects that proposed at least one complete street element in the application or Project Justification Package. The goal is to help ensure that projects that were proposed to include various complete streets elements do include those elements, or the intent of those elements, in the built projects. To date, the majority of documented projects do include the proposed complete streets elements. Staff has followed up with sponsors of projects that didn't construct proposed complete streets elements, and will document what led to each discrepancy.

E. Incentivize implementation of complete streets by modifying the TIP Project Candidate Merit Evaluation Process

In 2015 CDTC developed a qualitative component to be considered with the quantitative Benefit/Cost ratio as part of the TIP project candidate merit evaluation process. In reviews of proposals submitted for the 2016 and 2019 Transportation Improvement Programs, CDTC included the qualitative component. The complete streets category allows for a maximum of five points for projects that are transformative, replacing infrastructure which primarily serves high or moderate speed through traffic with a facility that fully or substantially implements complete street design, with 8 or more complete streets elements. The category deducts up to two points for projects that remove three or more complete streets features.

III. New Visions 2050 Topics

The following topics are important considerations in the regional complete streets framework. The laws, design standards and guidance, and processes discussed here may assist local governments to design and operate roadways to serve all users equitably. Project elements address specific important considerations and design elements to help planners and designers balance the needs of all roadway users. They have influenced the selection of recommendations in the next section.

A. Laws, Design Standards, and Design Guidance

1. New York State Complete Streets Act

New York State's Complete Streets Act went into effect in 2012. It states,

> "For all state, county and local transportation projects that are undertaken by the Department or receive both federal and state funding and are subject to Department of Transportation oversight, the department or agency with jurisdiction over such projects shall consider the convenient access and mobility on the road network by all users of all ages, including motorists, pedestrians, bicyclists, and public transportation users through the use of complete street design features in the planning, design, construction, reconstruction and rehabilitation, but not including resurfacing, maintenance, or pavement recycling of such projects." It calls out specific features that may be considered, namely sidewalks, paved shoulders suitable for use by bicyclists, lane striping, bicycle lanes, share the road signage, crosswalks, road diets, pedestrian control signalization, bus pull outs, curb cuts, raised crosswalks and ramps and traffic calming measures.[vii]

2. Local Complete Streets Policies, Ordinances, and Resolutions

Since 2009, nine local communities have passed a Complete Streets policy, ordinance, or resolution. These are Albany (City), Bethlehem, Cohoes, Niskayuna, Saratoga Springs, Scotia, Troy, and Watervliet. The text of each of these is included in Appendix A. A number of these municipalities have also been involved in CDTC's Complete Streets Workshop Series. Template policies, ordinances, and/or resolutions may assist smaller municipalities and those with less staff.

3. Federal legislation and design standards

   Under the FAST Act, Section 109(c)(1) specifies that, "A design for new construction, reconstruction, resurfacing (except for maintenance resurfacing), restoration, or rehabilitation of a highway on the National Highway System (other than a highway also on the Interstate System) shall consider, in addition to the criteria described in subsection (a)—

   > (A) the constructed and natural environment of the area;
   > (B) the environmental, scenic, aesthetic, historic, community, and preservation impacts of the activity;
   > (C) cost savings by utilizing flexibility that exists in current design guidance and regulations; and
   > (D) access for other modes of transportation.

   The FAST Act changed this section from optional to required, and added the last criterion to the list of considerations.

   The FAST Act also added two new resources that USDOT must consider in developing criteria to implement the requirements stated above. These new resources for consideration are the American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual, and the National Association of City Transportation Officials (NACTO) Urban Street Design Guide.[viii]

   There are numerous existing guidance documents available, particularly for use in designing local projects. What follows is a listing of some of these, with short descriptions.

4. Design Standards and Guidance

   Appendix B lists required design standards that must be followed for all or some projects for example those on the National Highway System, and/or those on state roadways or utilizing state or federal funds. It also lists optional design guidance, often addressing specific modes of travel or roadway contexts.

B. Project Processes, Communication, and Funding

   1. Process and Communication

Implementing complete streets that are sensitive to the context of the surrounding area and the needs of the local community can be complicated. It requires coordination between and within entities before the design process can begin. Entities that plan and implement transportation projects should strive to utilize a process that is clear and understandable to everyone, including all staff with a role in the transportation system, consultants and contractors responsible for portions of projects, and the public. Designing solely for one segment of the traveling public is much easier but ignores the needs of many travelers and can lead to community uproar and costly project delays.

Project checklists are a useful tool to help the designer screen for project context and effectively engage with project partners. Such partners may work in a different department at the same agency, at another agency, or they may be interested members of the public. A number of entities in the Capital Region have developed checklists, including NYSDOT[ix], Saratoga Springs[x], and Troy[xi]. A template checklist that may be adapted and used throughout the region could assist interested municipalities that lack the capacity to generate their own. The content of a checklist depends on any policy being implemented, the culture of the organization, and the context of the community.

It is helpful to recognize that complicated projects such as those for new infrastructure or full reconstructions will require a different type of coordination than simple projects such as repaving. While there may be less time available to coordinate, simple projects do provide an opportunity for basic improvements such as lane narrowing.

Communication *among* municipalities is also important, particularly between villages and the towns in which they are located. The existing or planned context of the surrounding area should dictate what accommodations are provided. Just as roadways continue past municipal borders, sidewalks, multi-use paths, bike lanes, and transit routes should continue past city, town, or village lines according to the need. Therefore, it is important to share concepts for zoning or other land use changes near municipal borders, as well as concepts for roadway improvement projects on road segments that lead up to the border.

2. Community and Transportation Linkage Planning Program

The Linkage Program is designed to implement the planning and investment principles in New Visions 2040 by providing integrated land use and transportation planning assistance to local communities. Since the program began in 2000, CDTC has funded 89 studies in 40 communities ranging from the largest city to some of the smallest towns and villages[xii]. The Linkage Program emphasizes seven broad planning strategies that also directly implement complete streets or encourage land uses that support complete streets. They are below, followed by two recent project examples.

- Create a connected and integrated multi-modal transportation network.
- Support urban revitalization and redevelopment of existing commercial/residential areas.
- Enhance and develop activity centers and town centers.
- Enhance and develop transit corridors and transit supportive built environments.
- Encourage a greater mix and intensity of land uses in municipal centers.
- Develop bicycle and pedestrian-friendly community and site design standards.
- Reduce driveway conflicts through access management.

In 2014, CDTC funded creation of a Complete Streets Policy and Design Manual for the City of Albany. The City's goal was to develop a tool that could be utilized on a regular basis, could be easily applied, and would provide assistance during planning and implementation of routine maintenance, reconstruction, and new construction projects. Completed in 2016, the Manual guides street rehabilitation, construction, and design for all public and private projects throughout the City. The

Manual establishes treatment criteria for different streets and intersections throughout the City based on existing physical constraints, street/intersection type, land use context, and neighborhood character.

In 2015, CDTC funded the Delaware Avenue Complete Streets Feasibility Study for the Town of Bethlehem to improve pedestrian and bicycle safety and traffic efficiency in the Elsmere area of town. Completed in 2017, the study assessed the feasibility, benefits, and impacts of various street design concepts along the corridor using a context sensitive, complete streets framework. The study concluded that a road dieted Delaware Avenue would benefit the community by making the corridor more attractive for walking, cycling, and doing business in general. Although it would result in some additional queuing at signalized intersections and an average increase in peak hour travel time of about 50 seconds, it would be consistent with Town desires for speed reduction, traffic calming and walkability.[xiii]

3. CHIPS Funding

The Consolidated Local Street and Highway Improvement Program (CHIPS) was established by the NYS Legislature in 1981. Individual apportionments to municipalities are calculated annually according to a formula specified in Section 10-c of the State Highway Law. For counties and New York City, this formula is based on centerline highway miles and motor vehicle registrations. For other municipal types, the formula is "based on the ratio of the number of lane miles under the maintenance jurisdiction, except interstate and state highways, of each municipality that is devoted to the movement of traffic, excluding lanes devoted to the parking of vehicles, to the total number of such lane miles under the operational jurisdiction, except interstate and state highways, of all municipalities in the state within each jurisdictional system."[xiv]

CDTC understands that the 'lane miles' discussed in the State Highway Law has been interpreted to mean only motorized vehicle lanes. This means that a traditional road diet, when implemented on a roadway under Village, Town, or City maintenance jurisdiction, will reduce the total CHIPS funding to that municipality. This is because a center-turn lane is not devoted to the movement of traffic, and bicycle lanes are not for motorized vehicles. This is a disincentive for communities to implement road diets or other designs that could remove motor vehicle through lanes.

4. Repaving and Restriping Projects

These projects present an opportunity to change the allocation of space at minimal cost. Roadways need repaving relatively frequently, particularly if they have high traffic volumes. Once the pavement and the previously existing striping is funded, any additional striping that may be required under a restriping plan is generally minimal. In addition to road diets, repaving projects may allow for lane narrowing, on-road bicycle facilities, changing on-street parking, and adding or changing turn lanes at intersections.

Lane narrowing can reallocate width from the travel lane to a shoulder, bicycle lane, parking lane, and/or center turn lanes. As a standard practice, NYSDOT stripes lane widths at 11 feet instead of the old standard of 12 feet. Narrowing travel lanes by reducing the width of 12-foot lanes has been proven to reduce crashes.[xv] 10-foot wide travel lanes are appropriate on urban streets that do not serve as

transit or truck routes. Narrower lanes can also help promote slower driving speeds and reduce the exposure distance for pedestrians crossing the roadway.[xvi]

C. Complete Streets Design Considerations

1. Road Diet Feasibility in Different Contexts

Road Diets can be relatively low cost, as they can be implemented through restriping travel lanes as part of a repaving project. According to FHWA's "Proven Safety Countermeasures" website, a typical Road Diet involves converting an existing four-lane undivided roadway to a three-lane roadway with two through lanes and a center two-way left-turn lane. Road Diets enhance the safety, mobility and access for all road users by better accommodating a variety of transportation modes. Road Diets reduce crashes by 19 to 47 percent[xvii], reduce vehicle speed differential, improve mobility and access by all road users, and integrate the roadway into surrounding uses, enhancing quality of life. They allow reclaimed space to be used for turn lanes, bus lanes, pedestrian refuge islands, bike lanes, sidewalks, bus shelters, parking or landscaping.

FHWA's Road Diet Informational Guide outlines a number of operational factors that should be considered to determine the feasibility of a road diet.[xviii] Annual Average Daily Traffic (AADT) provides a good first approximation on whether or not to consider a Road Diet conversion. While typical Road Diets may be feasible at up to 25,000 vehicles per day (vpd), FHWA advises that roadways with AADT of 20,000 vpd should be evaluated for Road Diet feasibility. The peak hour volume in the peak direction is the measure of volume driving the analysis and can determine whether the Road Diet can be feasibly implemented. While a Road Diet can be appropriate for any volume that can be accommodated by the revised cross-section, a commonly-referenced threshold is a peak hour volume of 1,000 vehicles per post-implementation through travel lane.

Roadways operating as De Facto Three Lane Roadways, on which one lane in each direction is generally not moving, are often good candidates. Road Diets can lower Speeds, particularly high-end speeds, matching vehicle speeds to the context of the surrounding land uses. Level of Service (discussed further below) for motor vehicles will generally improve on arterial segments for through vehicles, though it may worsen for vehicles turning left and at side streets. Signal optimization and coordination, turn lane additions, and driveway consolidation can mitigate negative impacts. Nonetheless, the volume and pattern of turning vehicles will impact the feasibility of a Road Diet conversion, particularly during the peak period. Slow-moving and frequently stopping vehicles such as double-parked cars, local business deliveries, buses, curbside mail delivery, and trash pick-up, have a greater impact on three-lane than four-lane roadways. The number and frequency of such vehicles is an important consideration. Appendix C elaborates on these topics.

2. Green Infrastructure

Street design, construction, and operation can work in favor of achieving both complete streets that work for all travelers and 'green' streets that serve environmental sustainability. Complete streets make their most basic contribution to sustainability by providing space along the right-of-way for low-emission

travel. Stormwater runoff pooling on the roadway and at intersection crossings can be inconvenient or dangerous to all travelers, but particularly people who have a mobility challenge[xix].

Storm events can lead to the discharge of stormwater runoff combined with untreated sewage directly into waterbodies such as the Hudson or Mohawk Rivers[xx]. Green infrastructure both quickly removes runoff from the roadway and also retains and treats it close to its origin[xxi]. Taking local context into consideration, a designer may propose reallocating stretches of wide pavement not only for parking or other transportation modes, but also to absorb and infiltrate runoff[xxii].

Green infrastructure such as bioswales, planters, rain gardens, and street trees can be located within traffic-calming elements like chicanes, islands, curb extensions, and wider sidewalks[xxiii]. Vegetation in green infrastructure can improve the quality of life of people who live in urban areas. There is some research to show that positive health and mental health impacts may be most important for people of color and people who have low incomes[xxiv].

In urban areas, town and village centers, and locations where pedestrians may gather, sidewalks should not be sacrificed as a measure to reduce impervious surface of the surrounding area. Permeable surfaces such as porous asphalt and concrete, as well as concrete or grass pavers, can help protect watersheds in new suburban growth and better manage stormwater when redeveloping properties in urbanized areas[xxv].

The Capital District Regional Planning Commission (CDRPC) is a key partner and facilitator of several regional environmental programs that concern water quality, sewer systems, stormwater runoff and climate. CDRPC has taken the lead in organizing a consortium to develop a comprehensive inter-municipal Phase I Long-Term Control Plan (LTCP) for Combined Sewer Overflows (CSO) from combined storm and sanitary sewers discharging into the Hudson River Estuary. The participating Albany CSO Pool Communities are the Albany Water Board; the cities of Cohoes, Rensselaer, Troy and Watervliet; and the Village of Green Island.[xxvi]

3. Traffic Signals

Traffic signal upgrades can include measures to improve mobility at an intersection, on a corridor, and throughout the network.

Transit signal priority allows buses to communicate with traffic signals, providing them priority[xxvii]. In the Capital Region, the technology has been implemented to allow CDTA buses to activate signals for an extended green time as they approach a signal if they are behind schedule. The extended green time is usually ten seconds, which allows transit vehicles to provide higher quality service. It should be noted that vehicles in the same traffic stream with the bus will benefit as well. Because the green phase is typically extended only two or three times per hour, the impact on side streets is minimal. CDTC supports TSP as an important tool for improving transit service. TSP is operational on the Route 5 corridor between Albany and Schenectady, and has been installed on signals in other corridors.

Coordinated signal systems can minimize motor vehicle delay throughout the network. They can also be timed such that bicyclists can clear the intersections along a corridor[xxviii]. Such timing can also encourage motor vehicles to travel at a similar speed as bicyclists to avoid red lights. When they travel at similar speeds, crash risk is reduced[xxix].

Pedestrian crossing signals indicate when a pedestrian is permitted to cross the road. Generally, they must be used at traffic signals located at school crossings, where pedestrian volumes are high (over 100 in an hour) and traffic volumes are also high, and at signals with complicated phasing that could tend to confuse people and cause conflict between pedestrians using a crosswalk and vehicles[xxx]. They may also be required at multi-lane roundabouts and multi-lane channelized turn lanes[xxxi]. Except at crossings of short distances, pedestrian crossing signals must also include countdown timers to inform pedestrians how much time is remaining to cross[xxxii]. It should be noted that pedestrian crossing signals are not required at all street crossings and should be based on engineering judgement.

Accessible pedestrian signals and accessible pushbuttons should be included with the installation of all pedestrian crossing signals. These include both audible and vibrotactile walk indications. Pedestrian locator tones are required with all accessible pedestrian pushbuttons[xxxiii]. Recent installation in the Capital Region has led to noise complaints from neighbors. Volume of audible indications should adjust automatically in response to the ambient sound level. Care should be taken to ensure the technology functions as required. Some devices may not adjust volume automatically when set to a default high volume. In particular, locator tones must adjust volume automatically, and must only be audible 6 to 12 feet from the pushbutton, or to the building line, whichever is less.[xxxiv] If the Public Right of Way Accessibility Guidelines are finalized without changing this section, all pedestrian signals will need to include accessible pedestrian signals and accessible pushbuttons when they are altered or replaced. This does not mean that pedestrian pushbuttons must also be used[xxxv]. It should be noted that installation of accessible pedestrian signals and accessible pedestrian pushbuttons does not require the pedestrian signals to operate only by pedestrian activation. Requiring pedestrian activation can disproportionately impact people who have mobility challenges and cannot reach the button.

Bicycle traffic signal faces provide for separate control of bicycle movements through an intersection and are permitted under a FHWA Interim Approval in certain situations, including bicyclist non-compliance with the previous traffic control and to provide a leading or lagging bicycle interval in the traffic signal phasing[xxxvi]. These may need to be considered with the implementation of two-way protected bicycle lanes[xxxvii]. On intersection approaches that rest on red unless and until an approaching motor vehicle actuates a green signal, pavement markings may be used to indicate where a bicyclist needs to be positioned to actuate the signal[xxxviii].

4. Impact of New Technologies

New technologies are certain to change the transportation system. Electric vehicles could benefit people who live adjacent to high volume roadways if the majority of vehicles using those roadways switch from gasoline to electric. However, care must be taken not to site electric generation facilities in locations that will disproportionally and negatively impact environmental justice populations. Vehicles that don't

need drivers may reduce the need for on-street parking in dense areas, but also increase the need for curbside pick-up and drop-off spaces[xxxix], which should not be provided to the degradation of local deliveries or transit service. To date there has been a lack of private sector investment in vehicles that are accessible for people who have some physical disabilities, including people who use wheelchairs that can't be folded. This is an issue that may need to be addressed, particularly for companies providing transportation services.[xl] Automated vehicles that are more ubiquitous and less expensive than taxis could benefit people who have limited or no vision and need to use such a service for most if not all trips. In a shared fleet, vehicles without drivers may benefit people currently priced out of the for-hire vehicle market and people who experience discrimination, for example, based on race or use of a service animal. However, it should not be assumed that new technologies will not have discriminatory impacts.

New technologies have the potential to negatively impact people who are not using them. There will be some people who do not use the new technologies. This may include people who are walking, bicycling, riding transit, or using another mobility device. Without yet knowing the exact design and usage patterns of new technologies, it is difficult to know what those impacts will be. If new technologies require new types of street infrastructure, for example, to provide energy or communication hardware, there may be a desire to locate this new infrastructure in sidewalks, bike lanes, or community spaces. Such spaces may appear "wasted" if they appear to inhibit the new technologies, or to inhibit vehicles taking advantage of new technologies. However, streets should still serve all users equitably, including pedestrians, bicyclists, transit riders, freight, and personal vehicle drivers and riders. For this reason, the adoption of new technologies, including connected and autonomous vehicles, should not reduce the safety or convenience of people traveling in ways that do not use the new technologies.

5. Level of Service Methodologies

Level of service (LOS) is a metric used to quantify the quality of a transportation service. As described in the Transportation Research Board's Highway Capacity Manual, it is an indicator of the traveling public's general satisfaction with the performance of the service under given demand and operation conditions. LOS is presented on a scale from "A" to "F," representing from best to worst condition, respectively.

Traditionally, LOS analyses have focused on conditions for motor vehicles, as a function of speed and delay[xli]. Signal timing adjustments, additional exclusive left-turn lanes, or additional through lanes may be implemented to improve motor vehicle LOS. However, such measures can worsen the traveling public's general satisfaction with walking, bicycling, and transit. For example, protected left-turn lanes create longer pedestrian crossing distances as well as additional pedestrian crossing delay.[xlii]

For this reason, standard level of service analyses should not be used as the primary basis for operations analysis where users other than motor vehicle drivers can be anticipated. A decrease in motor vehicle level of service, for example, a reduction in speed, may be acceptable or even desired. Local jurisdictions have flexibility in the use of motor vehicle LOS standards.[xliii] The AASHTO Green Book provides guidance for desirable LOS for different contexts and states that the designer has the latitude to choose an

appropriate LOS.[xliv] USDOT regards these recommended values as guidance only. Further, FHWA does not have regulations or policies that require specific minimum LOS values for projects on the NHS.[xlv]

1. Multimodal Level of Service

Multimodal Level of Service (MMLOS) was included in the 2010 update to the Highway Capacity Manual, and continued in the 2016 update. MMLOS provides a broader snapshot of the quality of the transportation system, allowing a complete streets approach to transportation analysis. It generates separate LOS indicators for four modes of travel: motor vehicle drivers, bus passengers, pedestrians, and bicyclists. This enables transportation planners, analysts, and engineers to assess how various design changes impact each mode differently, weigh the potential trade-offs in performance for each mode, and seek a balance appropriate to the context of the study area and user needs.

The metric was developed for urban streets, which the methodology defines as a street with a traffic signal control device at least once every 2 miles. It is typically applied in more urban environments where there is more multimodal need and activity, and not in rural settings or on residential streets. For this reason, it may not be appropriate to use MMLOS in all locations within the Capital Region.[xlvi]

2. Transit Level of Service

CDTC has not determined a preferred methodology to measure transit level of service. Doing so is a recommendation.

3. Bicycle Level of Service

In 2019, CDTC analyzed bicycle level of service methodologies to determine a preferred methodology for CDTC-funded planning studies. These methodologies included: Level of Traffic Stress (LTS) developed by the Mineta Transportation Institute, the Bicycle Level of Service (BLOS) from the Highway Capacity Manual, the Bicycle Network Analysis created by People for Bikes, and the Bicycle Environmental Quality Index (BEQI) developed by the San Francisco Department of Public Health.

Based on this analysis, CDTC recommends using Level of Traffic Stress for network analysis and Bicycle Level of Service from the Highway Design Manual to evaluate design alternatives. These planning contexts are typical in CDTC's Transportation and Community Linkage Studies and will be CDTC's preferred methods in such studies unless stated otherwise. Factors such as planning context, availability of data, and resources played a significant role in this determination.

4. Pedestrian Level of Service

CDTC has not determined a preferred methodology to measure pedestrian level of service. Doing so is a recommendation.

6. Maintenance

All infrastructure requires some amount of maintenance. A good practice is to perform a periodic review of all infrastructure, noting the level of decay and any immediate repairs that may be necessary. Paved

shoulders tend to accumulate roadway debris. Those frequented by pedestrians or bicyclists, or intended for use by pedestrians or bicyclists, should be properly swept on a regular basis. Regular maintenance programs should monitor and repair or improve accessible elements to maintain accessibility. Many municipalities implement an annual paving program to maintain smooth surfaces. Other infrastructure, such as sidewalks, can be included within such a program, or a municipality may consider a separate program. People who have disabilities may be particularly impacted if eroding sidewalks become noncompliant and then impassible.

Winter maintenance to remove snow and ice from sidewalks, curb ramps, and pedestrian crossing infrastructure is a known issue. Numerous local governments in the Capital Region pass the responsibility of keeping sidewalks clear to the adjacent property owners or occupants. However, the local government is ultimately still responsible for maintaining accessibility. This approach may require additional education, inspection, enforcement and administrative actions to be successful.

IV. Recommendations

A. Finalize Complete Streets Design and Implementation Guidelines

CDTC staff will continue drafting guidelines applicable throughout the Capital Region. These will include design guidance on sidewalks, bikeways, transit infrastructure, green infrastructure, curbside space, and maintenance. Once completed, CDTC will encourage municipal adoption and will distribute the guidelines to municipalities, consulting firms, and other interested parties.

B. Continue the Educational and Technical Workshop series

CDTC staff will continue the Workshop series to build local capacity to implement complete streets approaches, strengthening relationships between transportation practitioners, other departments, and the community. These free workshops are interactive, build local capacity to implement complete streets, and strengthen relationships between transportation practitioners, other departments, and the community. Attendees learn how to more effectively balance the needs of all users and routinely create and maintain complete streets.

Staff will make a concerted effort to reach out to municipalities that haven't participated. After the third round of Workshops in 2020, staff may re-evaluate the Workshop goals and materials to maintain relevance as municipalities develop their capacities. In addition, staff will consider creating template policies or resolutions, as well as checklists, sensitive to the context of the Capital Region. These can assist smaller municipalities and those with less staff to better serve all roadway users equitably.

C. Continue Documenting TIP Project Outcomes

Staff will conduct field visits to document in photos or videos completed TIP projects that included at least one complete street element in the application or Project Justification Package (PJP). In instances where complete streets elements listed in the application or PJP are not part of the completed project, staff will seek to understand reasons for the change to improve outcomes.

D. Recommend Pedestrian and Transit Level of Service Methodologies

Staff will determine a preferred methodology for both pedestrian and transit level of service for CDTC-funded planning studies.

E. Collect Data on the Impact of Complete Streets Projects

In partnership with the Bicycle and Pedestrian Advisory Committee, staff will collect economic, crash, and usage data on infrastructure projects that include significant complete streets elements.

V. Performance Measures

A. Number of communities in the region adopting complete streets policies via governing body action

To date, eight municipalities in CDTC's planning area have adopted a complete streets policy via governing body action. They are depicted in the table below, along with the year of adoption.

Municipality	Year of Adoption
Albany, City	2013
Bethlehem, Town	2009
Cohoes, City	2017
Niskayuna, Town	2017
Saratoga Springs, City	2012
Scotia, Village	2014
Troy, City	2014
Watervliet, City	2017

B. Number of CDTC complete streets training sessions held and number of attendees

The table below shows the participation in CDTC Complete Streets Workshops held in 2016 and 2018.

Year	Number of Workshops	Total Attendees
2016	4	102
2018	4	81

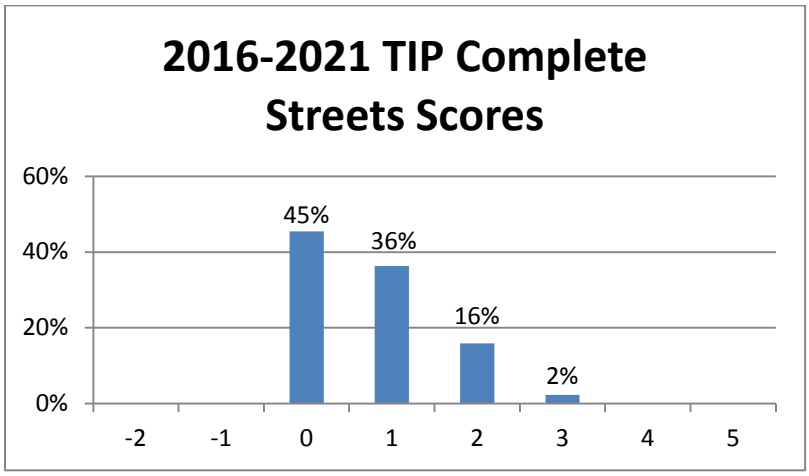
C. Number of funded TIP projects including complete streets features

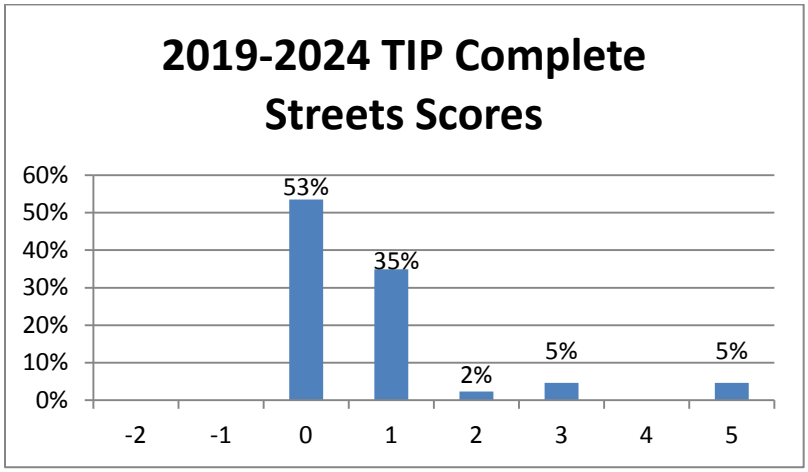
Of the 44 projects funded in the 2016-2021 TIP solicitation, 24 included at least one of the complete streets features listed below. None removed complete streets features, and 20 projects neither added nor removed any of these features. The average score of all funded projects was 0.75.

- Multimodalism
- Transit infrastructure improvement
- Sidewalk/bike trail connections or improvements
- Appropriate road dieting
- Speed reduction
- Lane reduction
- Lane width reduction
- Shoulder improvements
- Improved freight access
- Green infrastructure substantially managing stormwater on local sites
- Access management

Of the 43 projects funded in the 2019-2024 TIP solicitation, 20 included at least one of the complete streets features. None removed complete streets features, and 23 projects neither added nor removed any of these features. The average score of all funded projects was 0.77.

The charts below show the point distribution of projects funded through each TIP solicitation. Projects receive negative points for removing features, zero points if they neither remove nor add features, and positive points for features they add. Additional features receive additional points.





D. Number of municipalities that maintain year-round usability

This performance measure is new to New Visions 2050 and tracking has not yet begun. It tracks the number of municipalities that maintain year-round usability of assets other than roadway pavement, including by clearing of snow: sidewalks, curb ramps, pushbuttons, bus stops, multi-use paths, bike lanes

E. Number of municipalities utilizing a checklist for project development

To date, two municipalities - the Cities of Troy and Saratoga Springs, are using a checklist for project development as it relates to public rights of way.

VI. Examples of Complete Streets Projects

Before **After**


Madison Avenue road diet


Delaware Avenue in Albany reconstruction

Van Rensselaer Boulevard road diet

Cohoes Boulevard conversion

Appendix A: Local Complete Streets Policies, Ordinances, and Resolutions

City of Albany Complete Streets Ordinance (2013)

Town of Bethlehem Complete Streets Resolution (2009)

City of Cohoes Complete Streets Policy (2017)

Town of Niskayuna Complete Streets Resolution (2017)

City of Saratoga Springs Complete Streets Policy (2012)

Village of Scotia Complete Streets Policy (2014)

City of Troy Complete Streets Ordinance (2014)

City of Watervliet Complete Streets Resolution (2017)

Chapter 323. STREETS AND SIDEWALKS

Article VI. Complete Streets

[Added 6-3-2013 by Ord. No. 2.11.13 *Editor's Note: This ordinance also repealed former Art. VI, Street Improvements.* **]**

§ 323-88. Legislative findings.

The City of Albany Common Council finds that the mobility of freight and passengers and the safety, convenience, and comfort of motorists, cyclists, pedestrians, including people requiring mobility aids, transit riders, and neighborhood residents of all ages and abilities should all be considered when planning and designing Albany's streets. Integrating sidewalks, bike facilities, transit amenities, and safe crossings into the initial design of street projects avoids the expense of retrofits later. Streets are a critical component of public space and play a major role in establishing the image and identity of a city. By encouraging good planning, more citizens will achieve the health benefits associated with active forms of transportation while traffic congestion and auto-related air pollution will be reduced. The goal of this article is to improve the access and mobility for all users of streets in the community by improving safety through reducing conflict and encouraging nonmotorized transportation and transit.

§ 323-89. Complete street design.

A. For all street construction, reconstruction, or resurfacing projects [as per Section C(2)] *Editor's Note: So in original.* that are undertaken by the City and not covered under the New York State Complete Streets Law contained in § 331 of the Highway Law, *Editor's Note: So in original.* the department planning such project shall consider the convenient access and mobility on the street by all users of all ages, including motorists, pedestrians, bicyclists, and public transportation users through the use of complete street design features in the planning, design, construction, reconstruction and resurfacing, but not including maintenance or emergency projects.
B. Complete street design features are roadway design features that accommodate and facilitate convenient access and mobility by all users, including current and projected users, particularly pedestrians, bicyclists and individuals of all ages and abilities. These features may include, but need not be limited to, sidewalks, paved shoulders suitable for use by bicyclists, lane striping, bicycle lanes and improved bicycle parking and storage, share-the-road signage, street and sidewalk lighting, crosswalks or median refuges, road diets, pedestrian control signalization, bus pullouts and improved pedestrian access to bus stops, curb cuts, raised crosswalks and ramps and traffic-calming measures, and recognize that the needs of users of the road network vary.
C. This section shall not apply if it has been determined and set forth in publicly available documents that one of the following exists:
(1) Use by bicyclists and pedestrians is prohibited by law, such as within interstate highway corridors; or

(2) The cost would be disproportionate to the need as determined by factors including, but not limited to, the following: land use context, current and projected traffic volumes, and population density; or
(3) Demonstrated lack of need as determined by factors including, but not limited to, land use, current and projected traffic volumes, including population density, or demonstrated lack of community support; or
(4) Use of the design features would have an adverse impact on, or be contrary to, public safety.

§ 323-90. Development of guidelines; reporting requirements.

A. Guidelines will be developed by the Department of General Services, Division of Traffic Engineering, and the Division of Planning with stakeholder input and shall include street typologies, design guidance and implementation.
B. No later than two years after the final adoption of Complete Streets Guidelines and biennially thereafter, the Department of General Services shall publish a report showing how it has complied with this article and improvements made to the roadways of the City.

§ 323-91. through § 323-95. (Reserved)

RESOLUTION NO. 30

TOWN BOARD

TOWN OF BETHLEHEM

RESOLUTION

COMPLETE STREETS

WHEREAS, a goal of the Town of Bethlehem Comprehensive Plan is to improve mobility – the ability of people, regardless of age and status, to engage in desired activities throughout the Town; and

WHEREAS, the Town of Bethlehem Comprehensive Plan recommends maintaining and enhancing bicycle and pedestrian connections within neighborhoods, and between neighborhoods and hamlet centers;

WHEREAS, the Town of Bethlehem has established a pathways committee (PaTHs 4 Bethlehem) to explore bicycle and pedestrian facility connections and address issues; and

WHEREAS, bicycling and walking are important forms of transportation and recreation in our community; and

WHEREAS, bicycling and walking contribute to health, fitness, neighborhood vitality, social interaction, and economic development; and

WHEREAS, the full integration of all modes in the design of streets and highways will increase the capacity and efficiency of the road network, reduce traffic congestion by improving mobility options, limit greenhouse gas emissions, and improve the general quality of life; and

WHEREAS, educating the public about safety, health and mobility are part of being a quality community; and

WHEREAS, Complete Streets are defined as facilities that are designed and operated to enable safe and efficient access for all users. Persons with disabilities, pedestrians, bicyclists, motorists and transit riders are able to safely and efficiently move along and across a complete street.

NOW, THEREFORE, BE IT RESOLVED, the intent of the Town of Bethlehem Complete Streets Policy is to recognize bicyclists and pedestrians as equally important as motorists in the planning and design of all new street construction and street reconstruction undertaken by the Town.

BE IT FURTHER RESOLVED, it is also the intent of the Town of Bethlehem Complete Streets Policy to recognize that local Town streets with low vehicle volumes and slow travel speeds safely and efficiently accommodate bicyclists and pedestrians. However, principal Town roads that are characterized as having high vehicle volumes and high travel speeds, and are important for bicycle and pedestrian travel to access and connect to destinations in and adjacent to the Town, shall be considered for Complete Streets treatment.

BE IT FURTHER RESOLVED, that the Town Board hereby resolves to establish a Complete Streets Policy as follows:

Engineering: The Highway Superintendent shall consider the safe and efficient accommodation of bicyclists and pedestrians in all new street construction and street reconstruction undertaken by the Town of Bethlehem.

1. In addition, where the need for bicyclist and pedestrian facilities has been established or is defined in Town planning documents, including but not limited to the Bicycle and Pedestrian Priority Network identified by the PaTHs 4 Bethlehem Committee, the Highway Superintendent shall consider the addition of safe bicyclist and pedestrian facilities in new street construction and street reconstruction undertaken by the Town of Bethlehem. The addition of the bicyclist and pedestrian facilities shall be consistent with the scope of the improvement project, context sensitive to the surrounding environment, and shall not be disproportionate with the cost of the larger project.

2. Bicyclist and pedestrian facilities are defined as improvements that are above and beyond the normal space, surfaces, pavement markings, and signing that would routinely be incorporated into street design and maintenance for the accommodation of bicyclists and pedestrians. These facilities shall include but not be limited to sidewalks, curb cuts and ramps, marked crosswalks, pedestrian actuated signals, paved shoulders, bicycle route signing, bicycle lanes, bicycle parking facilities, and shared use paths.

3. Bicycle and pedestrian facilities may be planned, designed, developed and maintained in accordance with guidelines adopted by the United States Department of Transportation (USDOT), New York State Department of Transportation (NYSDOT), and the American Association of State Highway and Transportation Officials (AASHTO) or other guidelines approved by the Town of Bethlehem.

4. Whereas, if the Highway Superintendent determines that the inclusion of bicycle and/or pedestrian facilities are unable to be accommodated on a roadway or within Town right-of-way proposed for construction or reconstruction, he/she shall provide said determination in writing, with supporting documentation, to the Town Board for their information.

Education and Encouragement: The Town supports the promotion of bicycling and walking for health, fitness, transportation and recreation through events, programs and other educational activities, which benefit residents, students, businesses and visitors of all ages and abilities. These activities can be coordinated with the PaTHs 4 Bethlehem Committee, other Town Committees and Departments, local bicycle clubs, schools, health organizations and other partners.

Furthermore, the Town encourages the NYSDOT and Albany County to consider a Complete Streets approach when constructing or reconstructing their respective streets in the Town.

Enforcement: The Town will provide a balanced enforcement of the New York State Vehicle and Traffic Law for motorists, pedestrians and bicyclists. This will include enforcement of pedestrian’s right-of-way in crosswalks, bicyclists riding with traffic and all modes sharing the road safely.

Additionally, the Town may consider the use of traffic calming applications as an alternative to bicycle and pedestrian facilities. Traffic calming applications help to physically or psychologically calm motor vehicle traffic behaviors, thereby aiding in the enforcement of a safe environment for bicycle and pedestrian travel.

On a motion by Mrs. Dawson , seconded by Mr. Kotary, and by a vote of 5 for, 0 against and 0 absent, this RESOLUTION was adopted on August 12, 2009 .

ARTICLE VII. REGULATIONS APPLICABLE TO ALL ZONING DISTRICTS

§ 285-46. Principal buildings.

No single-family or two-family residential lot shall have erected upon it more than one principal building. No yard or other open space provided about any building for the purpose of complying with the provisions of this chapter shall be considered to provide a yard or open space for any other principal building.

§ 285-47. Permissible structures within minimum required side or rear setbacks.

A. An accessory building with a total floor area of 120 square feet or less and a maximum height of 10 feet may be located no closer than 10 feet to a side or rear lot line. [Amended 2-10-2015 by L.L. No. 2-2015]

B. Fences six feet or less in height, excluding dog runs, may be located along the side or rear lot line.

C. Unenclosed steps or stairways providing access to the first story of a building may extend into any required setbacks. Decks and porches shall not extend into required setbacks.

§ 285-48. Access to improved street.

No permit for the construction of any building shall be approved, unless such structure has access from an improved street or a street on an official map, plan, approved subdivision or duly filed plat in accordance with Subdivision of Land, Article **XIII**.

§ 285-48.1. Complete streets.

[Added 2-28-2017 by L.L. No. 2-2017]

A. Complete streets policy.

(1) The City shall design, build, operate, and maintain a safe, reliable, efficient, integrated, and connected multimodal transportation network that will provide access, mobility, safety, and connectivity for all users.

(2) Complete streets design will promote improved health, economic growth, public safety, recreational opportunity, and social equality throughout the City of Cohoes, and will ensure that the safety and convenience of all users of the transportation system are accommodated, including pedestrians, bicyclists, users of mass transit, people of all ages and abilities, motorists, emergency responders, freight providers, and adjacent land users.

B. Scope of complete streets applicability.

(1) All City-owned transportation facilities in the public right-of-way including, but not limited to, streets, bridges, and all other connecting pathways shall be designed, constructed, operated, and maintained so that users of all ages and abilities can travel safely and independently.

(2) All privately constructed streets, parking lots, and connecting pathways shall adhere to this policy.

(3) The City shall foster relationships with the State of New York, neighboring communities and counties, and business and school districts to develop facilities and accommodations that further the City's complete streets policy and continue such infrastructure beyond the City's borders.

(4) The City shall approach every phase of every transportation project as an opportunity to create safer, more accessible facilities for all users. These phases include, but are not limited to, planning, programming, design, right of-way acquisition, construction, construction engineering, reconstruction, operation, and maintenance funded by the City of Cohoes, the State of New York, utility companies, and all private development. Other changes to transportation facilities on streets and rights-of-way, including capital improvements, re-channelization projects, and maintenance, must also be included.

(5) A project's compliance with this policy shall be determined based on the filing of a complete streets checklist form.

C. Exceptions.

(1) All exceptions to this policy must be reviewed and approved by the City Building and Planning Department and/or Department of Engineering and be documented with supporting data that indicates the basis for the decision. Such documentation shall be made publicly available.

(2) Exceptions may be considered for approval when:

(a) An affected roadway prohibits, by law, use by specified users (such as interstate freeways or pedestrian malls), in which case a greater effort shall be made to accommodate those specified users elsewhere, including on roadways that cross or otherwise intersect with the affected roadway;

(b) The activities are minor maintenance activities designed to keep assets in serviceable condition (e.g., mowing, cleaning, sweeping, spot repair, and surface treatments such as chip seal or interim measures);

(c) The City Engineer issues a documented exception concluding that the application of complete streets principles is unnecessary, unduly cost prohibitive, or inappropriate because it would be contrary to public safety; or

(d) Other available means or factors indicate an absence of need, including future need.

(3) The City Departments of Building and Planning and/or Engineering shall submit quarterly reports to the Mayor's Office summarizing all exceptions granted in the previous quarter. These reports shall be submitted after the end of the quarter, and shall be posted online.

D. Design standards.

(1) The City shall adopt state transportation design standards as well as adapt, develop, update, and adopt interdepartmental policies, urban design guidelines, zoning, and performance standards and other guidelines based upon resources identifying best practices in urban design and street design, construction, operations, and maintenance. These resources include, but are not limited to: the New York State Department of Transportation Highway Design Manual, New York State Department of Transportation Specification Book, the AASHTO Green Book, AASHTO Guide for the Planning, Designing and Operating Pedestrian Facilities, AASHTO Guide for the Development of Bicycle Facilities, ITE Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, NACTO Urban Bikeway Design Guide; Manual on Uniform Traffic Control Devices, and U.S. Access Board Public Right-of-Way Accessibility Guidelines. When fulfilling this complete streets policy, the City will follow the design manuals, standards, and guidelines above, as applicable, but should be not precluded from considering innovative or nontraditional design options where a comparable level of safety for users is present or provided.

(2) Designs for all projects will be context-sensitive, considering adjacent land uses and local needs and incorporating the most up-to-date, widely accepted, ADA compliant design standards for the particular setting, traffic volume and speed, and current and projected demand. Each project must be considered both separately and as part of a connected network to determine the level and type of treatment necessary for the street to be complete.

E. Implementation and reporting.

(1) The City of Cohoes shall view complete streets as integral to everyday transportation decision-making practices and processes. To this end:

(a) One-year outcomes:

[1] Complete streets checklist form. The City of Cohoes shall adopt or design a complete streets checklist form to be filled out during a project review to determine compliance with this policy.

[2] Staff training. The City of Cohoes will train pertinent City staff on the content of the complete streets principles and best practices for implementing the policy.

[3] Streets Manual. The City of Cohoes will create and/or adopt a Complete Streets Design Manual to support implementation of this policy.

[4] Funding. The City of Cohoes will actively seek appropriate sources of funding to implement complete streets policy.

[5] Reporting. The relevant departments, agencies, or committees shall report on the annual increase or decrease for each performance measure contained in this section compared to the previous year(s). This report will be presented to the Mayor's Office and made available to the public.

[6] Coordination. The City of Cohoes will utilize interdepartmental project coordination to promote the most responsible and efficient use of fiscal resources for activities that occur within the public right-of-way.

(b) Three-year outcomes:

[1] Inventory. The City of Cohoes and the Complete Streets Advisory Board will maintain a comprehensive inventory of the pedestrian and bicycling facility infrastructure integrated with the City's database and will prioritize projects to eliminate gaps in the sidewalk and bikeway networks.

[2] Education. The City of Cohoes shall promote complete streets education in partnership with bicycling, disabled, youth, and elderly communities, the school district, and the police department.

[3] Capital Improvement Project prioritization. The City of Cohoes will reevaluate Capital Improvement Projects prioritization to encourage implementation of bicycle, pedestrian, and transit improvements.

(c) Five-year outcomes:

[1] Revisions to existing plans and policies. All relevant departments, agencies, or committees will incorporate complete streets principles into all existing plans, manuals, checklists, decision trees, rules, regulations reviews, approvals, and programs as appropriate including, but not limited to, comprehensive plans, economic development plans, bicycle and pedestrian master plans, transit plans, snow emergency plans, sidewalk maintenance plans, and other appropriate plans, manuals, rules, regulations, and programs.

[2] Other plans. The City of Cohoes will prepare, implement, and maintain a bicycle and pedestrian master plan, a safe routes to school plan, and Americans with Disabilities Act transition plan, a street tree and landscape master plan, and a lighting master plan.

[3] Stormwater management plan. The City of Cohoes will prepare and implement a plan to transition to sustainable stormwater management techniques along our streets.

F. Performance measures.

(1) The City of Cohoes shall measure the success of this complete streets policy using, but not limited to, the following performance measures:

(a) Number of people reached through bicycle and pedestrian education programs;

(b) Total miles of bike lanes and bike sharrows;

(c) Linear feet of new or repaired pedestrian accommodations;

(d) Number of new ADA compliant curb ramps installed along City streets;

(e) Crosswalk and intersection improvements;

(f) Percentage of transit stops accessible via sidewalks and curb ramps;

(g) Rate of crashes, injuries, and fatalities by mode; and

(h) Rate of children walking or bicycling to school.

(2) Unless otherwise noted above, within six months of ordinance adoption, the City shall create individual numeric benchmarks for each of the performance measures included, as a means of tracking and measuring the annual performance of the ordinance. Quarterly reports shall be posted online for each of the above measures

§ 285-49. Clear vision at intersections.

Clear vision shall be maintained on corner lots in a triangle formed by the street lines of such lots to a point 35 feet from the intersection and a line connecting those points. Within that area no fence, wall, hedge, screen planting, bushes or shrubbery shall be permitted higher than two feet above the average finished grade of the lot. Trees shall be permitted within the area only if maintained and trimmed so that no branches or foliage is less than eight feet above the average finished grade of the lot.

§ 285-50. Widening of right-of-way.

Where a building lot has frontage on a street which is proposed for right-of-way widening, the required front setback shall be measured from such proposed right-of-way line.

§ 285-51. Lots in more than one district.

All the uses, buildings and facilities, yards, open space, off-street parking and required landscaping must be contained within the district in which the use is permitted.

§ 285-52. Corner and through lots.

The locations of all buildings on corner lots and on lots extending between two parallel streets shall comply with the following requirements: any yard fronting on an improved street shall be a front yard, one other yard shall be a rear yard, and any other yards shall be a side yard.

§ 285-53. Creation of new lot.

When a new lot is formed so as to include within its boundaries any part of a former lot on which there is an existing building or use, the subdivision must be carried out in such a manner as will not infringe upon any of the provisions of this chapter, either with respect to any existing structures or use or any proposed structures or use.

§ 285-54. Travel trailers.

Except as permitted by § **285-61**, Temporary uses and structures, no person shall use or occupy any travel trailer, tent trailer, tent or motor home for living or sleeping quarters within Cohoes for more than five days per calendar year.

§ 285-55. Kennels.

Kennels shall be subject to the following requirements:

A. Demonstration that the kennel will not create nuisance conditions for adjoining properties due to noise or odor.

B. Demonstration that all animals will be confined to the property.

C. Demonstration of adequate methods for sanitation and sewage disposal.

Resolution No. 2017-41

AT A SPECIAL MEETING OF THE TOWN BOARD OF THE TOWN OF NISKAYUNA, DULY CALLED AND HELD ON THE 31st DAY OF JANUARY, 2017, AT THE NISKAYUNA TOWN OFFICE BUILDING, ONE NISKAYUNA CIRCLE IN SAID TOWN, AT 7:00 O'CLOCK PM, THE FOLLOWING MEMBERS WERE PRESENT:

HONORABLE:	**DENISE MURPHY MCGRAW**	**COUNCILWOMAN**
	JOHN DELLA RATTA	**COUNCILMAN**
	WILLIAM D. MCPARTLON	**COUNCILMAN**
	LISA J. WEBER	**COUNCILWOMAN**
	JOE LANDRY	**SUPERVISOR**

The meeting was duly called to order by the Supervisor.

A RESOLUTION IMPLEMENTING A COMPLETE STREETS POLICY

The following resolution was offered by **Councilman Della Ratta** who moved its adoption, and seconded by **Councilwoman Weber**

BE IT ENACTED, by the Town Board of the Town of Niskayuna, as follows:

WHEREAS, "Complete Streets" are defined as roadways that enable safe and convenient access for all users, including bicyclists, pedestrians of all ages and abilities, motorists, movers of commercial goods, and public transportation; and

WHEREAS, streets that support and invite multiple uses and include safe, active and ample space for pedestrians, bicycles, and public transportation, are more conducive to the public life and efficient movement of people than streets designed primarily to move automobiles and trucks; and

WHEREAS, promoting pedestrian, bicycle and public transportation travel as an alternative to the automobile reduces negative environmental impacts, promotes healthy living, and is less costly to the commuter; and

WHEREAS the full integration of all modes of travel in the design of streets and highways will increase the capacity and efficiency of the road network, reduce traffic congestion by improving mobility options, limit greenhouse gas emissions, and improve the general quality of life; and

WHEREAS, many studies show that when roads are better designed for bicycling, walking and transit use, more people choose these options; and

WHEREAS, section 331 of the Highway Law of the State of New York encourages municipalities to consider complete street design features in the planning, design, construction, reconstruction and rehabilitation of local transportation projects, and

WHEREAS, the Town of Niskayuna established a Complete Streets Committee on

June 30, 2016 via Resolution 2016-158, to study areas of Town where Complete Streets solutions could be implemented and advise the Town Board or Planning Board as to the best practices for such implementation; and

WHEREAS, the Complete Streets Committee has recommended that this Town Board establish a Complete Streets Policy to guide the actions of the various Niskayuna Boards and Department Staff during their faithful discharge of duties;

NOW, THEREFORE, BE IT RESOLVED, that the intent of the Town of Niskayuna Complete Streets Policy is to give bicyclists, pedestrians, motorists and mass transit equal consideration in the planning and design of all new street construction and street reconstruction undertaken by the Town; and

BE IT FURTHER RESOLVED, it is also the intent of the Town of Niskayuna Complete Streets Policy to recognize that local Town streets with low vehicle volumes and slow travel speeds safely and efficiently accommodate bicyclists and pedestrians. However, principal Town roads that are characterized as having high vehicle volumes and high travel speeds, and are important for bicycle and pedestrian travel to access and connect to destinations in and adjacent to the Town, shall be considered for Complete Streets treatment; and

BE IT FURTHER RESOLVED, that the Town Board hereby resolves to establish a Complete Streets Policy as follows:

1. The appropriate Town Departments, including the Engineering and Highway Departments, shall consider the safe and efficient accommodation of bicyclists and pedestrians in all new street construction and street reconstruction undertaken by the Town of Niskayuna.

    - In addition, where the need for bicyclist and pedestrian facilities has been established or is defined in Town planning documents, Town Departments shall consider the addition of safe bicyclist and pedestrian facilities in new street construction and street reconstruction undertaken by the Town of Niskayuna. The addition of the bicyclist and pedestrian facilities shall be consistent with the scope of the improvement project, context sensitive to the surrounding environment, and shall not be disproportionate with the cost of the larger project.

    - Bicyclist and pedestrian facilities are defined as improvements that are above and beyond the normal space, surfaces, pavement markings, and signing that would routinely be incorporated into street design and maintenance for the accommodation of bicyclists and pedestrians. These facilities shall include but not be limited to sidewalks, curb cuts and ramps, marked crosswalks, pedestrian actuated signals, paved shoulders, bicycle route signing, bicycle lanes, bicycle parking facilities, and shared use paths.

    - Bicycle and pedestrian facilities may be planned, designed, developed and maintained in accordance with guidelines adopted by the United States Department of Transportation (USDOT), New York State Department of Transportation

(NYSDOT), and the American Association of State Highway and Transportation Officials (AASHTO) or other guidelines approved by the Town of Niskayuna.

- Additionally, the Town may consider the use of traffic calming applications as an alternative to bicycle and pedestrian facilities. Traffic calming applications help to physically or psychologically calm motor vehicle traffic behaviors, thereby aiding in the development of a safe environment for bicycle and pedestrian travel.
- If a Town Department determines that the inclusion of bicycle and/or pedestrian facilities are unable to be accommodated on a roadway or within Town right-of-way proposed for construction or reconstruction, the appropriate Department Head shall provide said determination in writing, with supporting documentation, to the Town Board for their information during the review of the project.

2. Furthermore, the Town encourages the NYSDOT and Schenectady County to consider a Complete Streets approach when constructing or reconstructing their respective streets within the Town of Niskayuna.

3. The Town will provide a balanced enforcement of the New York State Vehicle and Traffic Law for motorists, pedestrians and bicyclists. This will include enforcement of pedestrian's right-of-way in crosswalks, bicyclists riding with traffic and all modes sharing the road safely.

4. The Town supports and encourages the Planning and Zoning Board, the Conservation Advisory Council, the Tree Council and the Complete Streets Committee to share ideas between each other and implement Complete Streets solutions to private projects undergoing reviews and approvals whenever possible.

5. The Town supports the promotion of bicycling and walking for health, fitness, transportation and recreation through events, programs and other educational activities, which benefit residents, students, businesses and visitors of all ages and abilities. These activities can be coordinated with the Complete Streets Committee, other Town Committees and Departments, local bicycle clubs, schools, health organizations and other partners.

UPON ROLL CALL THE FOREGOING RESOLUTION WAS ADOPTED BY THE FOLLOWING VOTE:

COUNCILWOMAN MURPHY MCGRAW	**VOTING**	**AYE**
COUNCILMAN DELLA RATTA	**VOTING**	**AYE**
COUNCILMAN MCPARTLON	**VOTING**	**AYE**
COUNCILWOMAN WEBER	**VOTING**	**AYE**
SUPERVISOR LANDRY	**VOTING**	**AYE**

City of Saratoga Springs Complete Streets Policy

Prepared by Shared Access Saratoga

ADOPTED MAY 1, 2012

SCOTT JOHNSON, MAYOR
JOHN FRANCK, COMMISSIONER OF ACCOUNTS
MICHELE MADIGAN, COMMISSIONER OF FINANCE
CHRIS MATHIESEN, COMMISSIONER OF PUBLIC SAFETY
ANTHONY SCIROCCO, COMMISSIONER OF PUBLIC WORKS

Shared Access Saratoga
Members and Partners

City of Saratoga Springs Planning & Economic Development
City of Saratoga Springs Police Department
City of Saratoga Springs Public Safety
City of Saratoga Springs Engineering Office
Safe Routes to School
Saratoga County Chamber of Commerce
Downtown Special Assessment District
City of Saratoga Springs Commissioner of Finance
County Supervisor
Cool Cities
Bonacio Construction
Sustainable Saratoga
Elan Planning, Design & Landscape Architecture
Saratoga Healthy Transportation Network
Saratoga Hospital
AARP
Sustainable Skidmore
Capital District Transportation Authority
Tri- State Transportation Campaign
Citizens

Organizational Assistance provided by Peter Glassman, Mediation Matters

Executive Summary

Shared Access Saratoga is a local organization focused on promoting and encouraging access for all modes of transportation for all users throughout the City of Saratoga Springs. Over a period of nine months in 2011, Shared Access Saratoga worked toward completing a municipal Complete Streets Policy document, to help the City of Saratoga Springs continue to move forward as a community that provides meaningful shared access.

Shared Access Saratoga has drawn on the expertise of its membership, which includes a broad mix of partners and stakeholders such as the City of Saratoga Springs Departments of Planning, Engineering, and Public Safety; Safe Routes to School; the Saratoga Healthy Transportation Network; the Downtown Special Assessment District; Skidmore College; AARP; Saratoga Hospital; Sustainable Saratoga; the Capital District Transit Authority; the development community; professional planners; local neighborhood associations; and elected officials.

In August, 2011, Governor Cuomo signed the statewide Complete Streets bill into law. This law requires that complete streets design guidelines be considered for the planning, design, construction, reconstruction, and rehabilitation of roadways receiving federal or state funding. This state law is indicative of the attention and progress that the Complete Streets effort has made in recent years.

The Complete Streets Policy encompasses the design, planning, and operations of transportation systems in the City, and will accommodate and encourage travel by cyclists, pedestrians of all ages and abilities, and public transportation users, in accordance with established best practices. The implementation of a Complete Streets Policy can improve the economic vitality of the community, and its fiscal requirements can be addressed and mitigated through updated planning practices. In addition, the policy allows for documented exceptions where costs cannot be mitigated.

A complete streets community promotes a number of community benefits including enhanced quality of life, improved community health, reduced dependence on automobiles, and less reliance on fossil fuels. It is time for Saratoga Springs to take the next step in promoting shared access for its citizens by adopting a complete streets policy.

The following Complete Streets Policy identifies a vision for complete streets in the City of Saratoga Springs and describes a series of guiding principles. The policy provides a rationale for complete streets and also articulates the health, safety, environmental, economic and fiscal benefits of complete streets. Finally, the policy identifies a set of recommended action items for immediate and long-term implementation of the policy.

City of Saratoga Springs Complete Streets Vision

With the signing of the Complete Streets Law by Governor Cuomo, statewide attention is being given to the complete streets programs, which improve the safety, health and vibrancy of New York State communities. The City of Saratoga Springs Complete Streets Policy will encourage the development of a complete streets network throughout the City to create a more balanced transportation system. The Complete Streets Policy shall be consistent with and assist in achieving the goals and recommendations set forth in the City's Comprehensive Plan and other policy documents. The Policy shall 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.

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Preamble

In August 2011, New York Governor Andrew Cuomo signed the "Complete Streets" bill into law. This bill, which passed unanimously in both the State Senate and State Assembly, requires that Complete Street design guidelines be considered for the planning, design, construction, reconstruction and rehabilitation of roadways receiving federal or state funding. Typical design features include, but are not limited to, sidewalks, bike lanes, lane striping, shared roadway signage, crosswalks, traffic calming, and bus pull outs. Such guidelines are intended to provide convenient access and mobility to all users including motorists, pedestrians, bicyclist, and public transit users. The law took effect mid-February 2012.

The concept of complete streets is not new, but it is becoming increasingly more integrated into new projects and the regular maintenance or rehabilitation of local transportation systems. In fact, the New Urban Network[i] estimates that over 15 municipalities in New York State have adopted local complete streets laws and at least 25 states have implemented some form of complete street policy.[ii]

Vision

With the signing of the Complete Streets Law by Governor Cuomo, statewide attention is being given to the concept of complete streets, which impacts the safety, health and vibrancy of New York State communities. The City of Saratoga Springs Complete Streets Policy will encourage the development of a complete streets network throughout the City to create a more balanced transportation system. The Complete Streets Policy will assist in achieving the goals and recommendations set forth in the City's Comprehensive Plan and other policy documents. The Policy shall 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, cyclists, motorists and transit riders.

Objectives and Guiding Principles

A. Encourage collaboration among City departments to develop a comprehensive intermodal transportation system during project planning, implementation and maintenance.

B. Incorporate locally sensitive "best practices" from United States Department of Transportation, Federal Highway Administration, American Association of State Highway & Transportation Officials, Institute of Transportation Engineers, NYS Department of Transportation, Americans with Disabilities Act and other appropriate entities to enable citizens to safely travel by all transportation modes, including walking, biking and transit ridership.

C. Promote the safe use of a multi-modal transportation system by increasing the awareness of all users through an appropriate educational program for residents, property

owners, visitors, developers and City staff. The educational program should be designed to enhance the concept of sharing the road.

D. Reinforce collaboration with partners at the local, school district, county, state and federal levels to ensure appropriate connectivity for all travel modes.

Rationale for Complete Streets

The integration of land use and transportation is critical to the livability of a community and region. In a highly competitive global economy, regions and communities must learn to address each in a balanced manner to maintain a high quality of life for existing and future residents, businesses and visitors. The Capital Region is currently undergoing significant increases in employment and population related to nano-technology and other industries. This growth is attracting new residents and employees who have an expectation for a high quality of life, which includes a walkable, bikeable and vibrant community. Ensuring complete streets are consistently provided within the community contributes to this high quality of life.

Complete Streets designs a routine approach for accommodating alternative travel modes for multiple users, regardless of age or ability. This results in a balanced transportation system providing choices of where people can go and how they can get there. Complete streets may include elements such as defined pedestrian and bicycle spaces, street trees and benches, pedestrian scaled lighting, and transit stop shelters. These elements allow people to safely walk to the library, take the bus to the grocery store or bike to the park. Such elements provide the capacity to increase bicycle, pedestrian and transit use of the street system, which would positively impact the physical health and safety of the community, the environmental quality of our neighborhoods and the economic vitality of the City.

It should be recognized that the City of Saratoga Springs has accomplished many steps in achieving a complete streets goal. The City has, and requires, a compact land use pattern supports alternative transportation options such as walking, cycling and transit use. The City also has a variety of cultural, economic, civic and historic destinations in close and convenient proximity for visitors and residents alike. The City also currently has numerous complete street components incorporated within its private development approval process such as requirements for sidewalks, curbs, street trees, and bicycle parking.

While the City of Saratoga Springs has made progress in addressing the needs of users in specific areas, there is room to more thoroughly “complete the street” throughout the City. Adopting a complete streets policy will allow the City to progress even further in providing safe, convenient access for all users and all modes of transportation. Additional rationale for complete streets related to health, safety, the environment, economic vitality and fiscal impact is described below.

Health

Public health officials have become increasingly aware of our nation's declining physical fitness and the resulting increase in diseases such as diabetes and obesity. Much research has been conducted to identify a link between auto-dependent sprawl and an increase in sedentary lifestyle diseases. Research indicates that countries that invest in a more multi-modal transportation system (walking, cycling, transit) have higher rates of cycling and walking as well as lower rates of obesity. It is believed that the most practical and effective way to improve public fitness is to increase walking and cycling. [iii] Walking and biking can decrease the risk of diseases related to inactivity such as asthma, hypertension and obesity. In addition to its health benefits, walking and biking decrease automobile dependence, in turn improving environmental quality, sustainability, roadway conditions and the economy.

One way to increase walking and biking in a community is to provide safe opportunities to do so. Providing for complete streets will assist in creating safe options and opportunities for walking and biking.

Safety

A generation ago, walking and bicycling to school or work was a common practice. Today, however, the number of people walking and cycling to local destinations has dwindled. A major factor in this trend is a concern for safety. Providing well-defined pedestrian and bicycle facilities coupled with an educational program is the most effective way to help address the safety concerns often raised.

Environment

Increasing greenhouse gas levels are negatively impacting the earth. Carbon dioxide is the primary greenhouse gas and for every gallon of gasoline burned, 20 pounds of carbon dioxide emissions are produced. [iv] The auto-centric manner in which our communities have grown is a critical factor in the consumption of carbon-based fuels in the U.S. Implementing a complete streets policy can have a positive impact on our environment by reducing the community's reliance on a vehicular mode of transport and offering other viable transportation options such as walking, bicycling and public transit.

The Mayor and City Council also recognized the significance of greenhouse gas on our environment. The City Council previously passed the Healthy Transportation Resolution, clearly defining the Council's intentions which are included and reflected within this complete streets policy. In 2009, the City Council took action by joining the U.S. Conference of Mayors Climate Protection Agreement. Most recently in December 2011, the City became a Climate Smart Community.

Economic Vitality

Additionally, the choices that result from a complete streets policy can improve and maintain the economic vitality of the City. The downtown area will continue to be a target for growth

and tourism in the region, which will help maintain the rural character of the City's outer district by focusing growth in the downtown. Streets accommodating pedestrian and bicycle activity are welcoming and encourage residents and visitors to linger at local businesses. This creates the potential for residents and visitors to patronize the City's numerous shops and restaurants. By reinforcing a compact urban development form and encouraging non-vehicular traffic, the concept of the "City in the Country," as outlined in the adopted Comprehensive Plan, can be maintained while providing for increased tax base.

Fiscal Impact

Designing complete streets is not additional work for planners, architects and engineers; it is different work. The practitioners of these disciplines have in the past been asked to solve a particular problem – namely, safely and efficiently moving the maximum number of cars past a given point in the shortest time. The Complete Streets Policy simply redefines the problem. Under this Policy, these professionals are required to use their knowledge and skills to design roads and a street network that safely and efficiently moves all users, motorized and non-motorized. The fiscal impact is mitigated by the implementation of best practices, prevention of delays in the design process and elimination of the need for costly retrofits.

Studies show the costs associated with the routine accommodation of alternative transportation modes (i.e. walking, cycling and transit) generally represent a small percentage of a community's overall budget. The resources that are spent represent a long-term investment in the financial and physical health of the City.

Policy Implementation

A Complete Streets Checklist shall be completed by the Project Sponsor for all municipal and private projects that impact City Streets. This document shall list complete streets basic practices that have been integrated into the project design and how user groups including pedestrians, bicyclists, motorists and transit riders are accommodated. It will also list if any user groups were not accommodated and the reasons why.

Transparency and public access to user group accommodations on all city street projects will be key in tracking the City's progress long term. The Checklist will assist in tracking the City's progress and the information will assist in understanding the challenges in implementing complete streets throughout the City. This document should be completed at the beginning of any design or application process and be kept on file in the City Planning and Economic Development Office for easy access.

Recommended Action Items

Immediate Action Items

1. The City Council shall appoint the Shared Access Advisory Board (SAAB) to provide input on public projects to further the City's complete streets philosophy. SAAB will be solely

advisory in nature and will consist of seven members. One technical member shall be chosen by each City Council member. Participation by, or communication with technical City staff including Planning, Public Safety, and Department of Public Works is strongly encouraged. Two additional members shall be citizens-at-large appointed by the Mayor and may be representatives from local organizations related to healthy transportation and the promotion of a sustainable community (examples may include Bikeatoga, formerly the Saratoga Healthy Transportation Network or Sustainable Saratoga). The members shall be appointed for two year terms, with staggered appointments. At large members appointed to the SAAB should be selected based upon their interest and experience in sustainable approaches to transportation and community planning. SAAB would meet a minimum of four times per year and on an as-needed basis as called on by the City Council, at the inception of public transportation projects, or upon request by the Land Use Boards. SAAB meetings would be open to the public and would allow for public input.

2. Develop a "Complete Streets" checklist for all public and private projects for review during the project planning and design phase. The checklist may also be used for applications before the Land Use Boards for the review of private development projects. SAAB, in conjunction with the Planning Office and Land Use Boards, will develop the checklist. This information will reside in the Planning and Economic Development Office.

3. Provide information about the City's complete streets policy, SAAB and information compiled with Complete Streets checklists on the City's website for easy public access.

4. Identify current regulations within the City's Zoning Ordinance and Subdivision Regulations that are consistent with a "complete streets" approach to roadway and streetscape development. Provide recommendations to further enhance guidelines and requirements for private development projects. Also identify possible amendments to the zoning ordinance and subdivision regulations that can further support complete streets. Shared Access Saratoga's 2011 *Complete Streets Policy Audit* prepared by Elan Planning, Design & Landscape Architecture could be a starting point for this action item.

Short Term Action Items (Two Year Plan)

5. Cooperate with the Saratoga Springs School District to achieve shared goals related to Safe Routes to School within the City. The City of Saratoga Springs' Complete Streets Policy will promote a fully-connected transportation network for all modes of transportation. While not every street can be designed perfectly for every user, the development of Safe Routes to School supports the goals of the Complete Streets Policy. It would also allow for "an interwoven array" of shared streets which adequately serve all modes of transit. In order to define this array, Shared Access Saratoga could assist in creating a Safe Routes To School "sharrows" map and related costs, as is currently being implemented in Albany NY.

6. Incorporate complete streets into the City's routine street maintenance and improvements. It would also be recommended that complete street components for public projects be incorporated in the 6-year Capital Plan, where appropriate and be included in the Mayor's Capital Committee efforts related to the City's operational budget. Utilize the data gathered from Complete Streets checklists to assist in tracking the incorporation of complete streets or highlighting geographic areas in the City where focused maintenance may be needed.

7. Promote the safe use of a multi-modal transportation system by increasing the awareness of all users through an appropriate educational program. The Shared Access Advisory Board could lead this effort with assistance from the Planning Office, appropriate local organizations, and the school district. Additionally, City staff are strongly encouraged to attend periodic workshops and training to remain well-informed of changes in the field.

8. Seek grant opportunities to assist in implementing the City's complete streets policy.

Mid Term Action Items (Four Year Plan)

9. Review the Complete Streets Policy and assess the success of its implementation in the City. This could be a joint effort with the Planning Office and SAAB that may also include input from the public on the policy's success. The review should include considerations for modifications or improvements in the approach to providing complete streets.

10. Conduct a comprehensive complete streets audit examining the accessibility, safety, connectivity and quality of place for an area in the City that includes key community features and destinations. The Planning Office could lead this effort in coordination with appropriate City departments, relevant City committees, the City's Land Use Boards and SAAB. This information could be incorporated into a complete streets gap analysis map and a future Bicycle, Pedestrian and Public Transit Plan. Coordination with the Capital District Transportation Authority (CDTA) would be critical in the creation of a Public Transit Plan effort.

11. Identify a dedicated funding mechanism for future transportation projects, such as linking sidewalks and safe routes to school, to implement actions supporting a complete streets policy.

Long Term Actions Items (Six Year Plan)

12. Complete a Bicycle, Pedestrian and Public Transit Plan including a map, illustrating gaps in pedestrian, bicycle and transit friendly components. The results of the complete street audit could be the basis for this plan and could assist in identifying complete streets needs and priorities within the City. Such a plan may also include recommendations for enforcement throughout the City related to complete streets.

[i] The New Urban Network is a New Urban News publication dedicated to providing news and analysis on compact, mixed use development. http://newurbannetwork.com/about-us

[ii] "NYS Complete Streets Bill Passes Unanimously," New Urban Network, June 21, 2011. http://newurbannetwork.com/article/nys-complete-streets-bill-passes-unanimously-14898

[iii] If Health Matters: Integrating Public Health Objectives in transportation Planning. Todd Litman. Victoria Transport Policy Institute. Aug. 2009.

[iv] Growing Cooler: Evidence on Urban Development and Climate Change. Reid Ewing, et al. Urban Land Institute.

Village of Scotia "Complete Streets Policy"

Adopted by Board of Trustees, June 11, 2014

Definition:

Complete Streets are defined as roadways that enable safe and convenient access for all users, including bicyclists, pedestrians, persons with disabilities, users of public transportation, and motorists.

"Complete Streets Policy" is a system of implementing complete streets in the Village of Scotia.

Vision:

The vision of the Village of Scotia's Complete Streets Policy is to coordinate and advocate for the development and implementation of plans which promote multi-modal transportation for all users.

Complete streets has been recognized and adopted as policy and law at federal, state, county, town, city, and village levels in the interest of improving transportation options, safety, and accessibility for all.

Design:

Complete Streets design practices include but are not limited to:

Sidewalks, shoulders suitable for cycling, designated bike lanes, bike paths, lane striping, share the road signage, crosswalks, curb ramps, pedestrian crossing signage.

Traffic calming measures such as curb bump-outs, center islands, and pavement markings, and bicycle parking facilities.

Resolution:

Therefore the Village of Scotia resolves to make "Complete Streets " practices part of everyday operations, will approach every transportation, construction, reconstruction, retrofit, or maintenance project as an opportunity to improve public streets and the transportation network for all users. We will work in coordination with other departments, agencies, and jurisdictions to achieve complete streets.

Be it further resolved that the Village of Scotia will attempt to draw upon all possible funding sources to plan and implement complete street elements in order to make such improvements economically feasible.

Be it further resolved that the Village of Scotia intends to add Complete Streets concepts to its comprehensive plan.

Chapter 271 **Complete Streets**

[HISTORY: Adopted by the City Council of the City of Troy 6-5-2014 by Ord. No. 35. Amendments noted where applicable.]

§ 271-1 Definition of "complete streets."

"Complete streets" means streets that are designed and operated to enable safe access for all users, in that pedestrians, bicyclists, motorists and public transportation users of all ages and abilities are able to safely move through the transportation network.

§ 271-2 Complete streets policy.

A. The City shall design, build, operate and maintain a safe, reliable, efficient, integrated and connected multimodal transportation network that will provide access, mobility, safety, and connectivity for all users. In addition, the City will appoint a citizen-run Complete Streets Advisory Board to whom quarterly reports on upcoming projects, and previously awarded exceptions, will be furnished.

B. The complete streets design will promote improved health, economic growth, public safety, recreational opportunity, and social equality throughout the City of Troy and will ensure that the safety and convenience of all users of the transportation system are accommodated, including pedestrians, bicyclists, users of mass transit, people of all ages and abilities, motorists, emergency responders, freight providers and adjacent land users.

§ 271-3 Scope of applicability.

A. All City-owned transportation facilities in the public right-of-way, including, but not limited to, streets, bridges and all other connecting pathways, shall be

designed, constructed, operated, and maintained so that users of all ages and abilities can travel safely and independently.

B. All privately constructed streets, parking lots, and connecting pathways shall adhere to this policy.

C. The City shall foster partnerships with the State of New York, neighboring communities and counties, and business and school districts to develop facilities and accommodations that further the City's complete streets policy and continue such infrastructure beyond the City's borders.

D. The City shall approach every phase of every transportation project as an opportunity to create safer, more accessible facilities for all users. These phases include, but are not limited to: planning, programming, design, right-of-way acquisition, construction, construction engineering, reconstruction, operation and maintenance funded by the City of Troy, the State of New York, utility companies and all private development. Other changes to transportation facilities on streets and rights-of-way, including capital improvements, rechannelization projects and maintenance, must also be included.

E. A project's compliance with this policy shall be determined based on the filing of a complete streets checklist form.

§ 271-4**Exceptions.**

A. All exceptions to this policy must be reviewed by the Complete Streets Advisory Board and approved by the City Departments of Engineering and/or Planning and Development, and/or the Planning Commission, and be documented with supporting data that indicates the basis for the decision. Such documentation shall be made publicly available.

B. Exceptions may be considered for approval when:

(1) An affected roadway prohibits, by law, use by specified users (such as an interstate freeways or pedestrian malls), in which case a greater effort shall be made to accommodate those specified users elsewhere, including on roadways that cross or otherwise intersect with the affected roadway;

(2) The activities are minor maintenance activities designed to keep assets in serviceable condition (e.g., mowing, cleaning, sweeping, spot repair, and surface treatments such as chip seal or interim measures);

(3) The City Engineer issues a documented exception concluding that the application of complete streets principles is unnecessary, unduly cost-prohibitive, or inappropriate because it would be contrary to public safety; or

(4) Other available means or factors indicate an absence of need, including future need.

C. The City Departments of Engineering and/or Planning and Development, and/or the Planning Commission, shall submit quarterly reports to the Complete Streets Advisory Board and the Mayor's office summarizing all exceptions granted in the preceding quarter. These reports shall be submitted after the end of the quarter, and shall be posted online.

§ 271-5**Design standards.**

A. The City shall adopt state transportation design standards as well as adapt, develop, update and adopt interdepartmental policies, urban design guidelines, zoning and performance standards and other guidelines based upon resources identifying best practices in urban design and street design, construction, operations and maintenance. These resources include, but are not limited to: the New York State Department of Transportation Highway Design Manual; the New York State Department of Transportation Specification Book; the AASHTO Green Book; the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities; AASHTO Guide for the Development of Bicycle Facilities; the ITE's Designing Walkable Urban Thoroughfares: A Context Sensitive Approach; the NACTO Urban Bikeway Design Guide; the Manual on Uniform Traffic Control Devices; and the United States Access Board's Public Rights-of-Way Accessibility Guidelines. When fulfilling this complete streets policy, the City will follow the design manuals, standards and guidelines above, as applicable, but should be not be precluded from considering innovative or nontraditional design options where a comparable level of safety for users is present or provided.

B. Designs for all projects will be context-sensitive, considering adjacent land uses and local needs and incorporating the most up-to-date, widely accepted, ADA-compliant design standards for the particular setting, traffic volume and

speed and current and projected demand. Each project must be considered both separately and as part of a connected network to determine the level and type of treatment necessary for the street to be complete.

§ 271-6 Implementation and reporting.

The City of Troy shall view complete streets as integral to everyday transportation decisionmaking practices and processes. To this end:

A. One-year outcomes.

(1) Complete Streets Advisory Board. The City will establish a Complete Streets Advisory Board made up of citizen appointees and interdepartmental City employees to oversee the implementation of this policy. The Complete Streets Advisory Board will include members of at least three City departments, including Engineering, Public Works, Housing and Community Development, Economic Development, Zoning and Planning, Parks and Recreation, Code Enforcement and the Police Departments from the City of Troy. The committee should include citizen representatives from the bicycling, disabled, transit users, youth and elderly communities and other advocacy organizations, as relevant. This committee will meet quarterly and provide a written report to the Mayor's Office evaluating the City's progress and advise on implementation;

(2) Complete streets checklist form. The City and the Complete Streets Advisory board shall adopt or design a complete streets checklist form to be filled out during a project review to determine compliance with this policy;

(3) Staff training. The City will train pertinent City staff on the content of the complete streets principles and best practices for implementing the policy;

(4) Streets manual. The City will create and/or adopt a Complete Streets Design Manual to support implementation of this policy;

(5) Funding. The City will actively seek sources of appropriate funding to implement complete streets;

(6) Reporting. The Complete Streets Advisory Board or other relevant departments, agencies, or committees shall report on the annual increase or decrease for each performance measure contained in this ordinance

compared to the previous year(s). This report will be presented to the Mayor's office and made available to the public;

(7) Coordination. The City will utilize interdepartment project coordination to promote the most responsible and efficient use of fiscal resources for activities that occur within the public right-of-way.

B. Three-year outcomes.

(1) Inventory. The City and the Complete Streets Advisory Board will maintain a comprehensive inventory of the pedestrian and bicycling facility infrastructure integrated with the City's database and will prioritize projects to eliminate gaps in the sidewalk and bikeways networks;

(2) Education. The City shall promote complete streets education in partnership with bicycling, disabled, youth and elderly communities, the school district and the Police Department;

(3) Capital improvement project prioritization. The City will reevaluate capital improvement projects prioritization to encourage implementation of bicycle, pedestrian and transit improvements.

C. Five-year outcomes.

(1) Revisions to existing plans and policies. All relevant departments, agencies, or committees will incorporate complete streets principles into all existing plans, manuals, checklists, decision trees, rules, regulations reviews, approvals and programs as appropriate, including but not limited to Comprehensive Plans, Economic Development Plans, Bicycle and Pedestrian Master Plans, Transit Plans, Snow Emergency Plans, Sidewalk Maintenance Plans and other appropriate plans, manuals, rules, regulations and programs;

(2) Other plans. The City will prepare, implement and maintain a Bicycle and Pedestrian Master Plan, a Safe Routes to School Plan, an Americans with Disabilities Act Transition Plan and a Street Tree and Landscape Master Plan and a Lighting Master Plan;

(3) Stormwater management. The City will prepare and implement a plan to transition to sustainable stormwater management techniques along our streets.

§ 271-7**Performance measures.**

A. The City of Troy and the Complete Streets Advisory Board shall measure the success of this complete streets policy using, but not limited to, the following performance measures:

(1) Number of people reached through bike/pedestrian education programs.
(2) Total miles of bike lanes/bike sharrows.
(3) Linear feet of new or repaired pedestrian accommodations.
(4) Number of new ADA-compliant curb ramps installed along City streets.
(5) Crosswalk and intersection improvements.
(6) Percentage of transit stops accessible via sidewalks and curb ramps.
(7) Rate of crashes, injuries, and fatalities by mode.
(8) Rate of children walking or bicycling to school.

B. Unless otherwise noted above, within six months of the adoption of this chapter, the City shall create individual numeric benchmarks for each of the performance measures included, as a means of tracking and measuring the annual performance of the chapter. Quarterly reports shall be posted online for each of the above measures.

CITY OF WATERVLIET

COMPLETE STREETS POLICY

A. DEFINITION OF COMPLETE STREETS

"Complete Streets" means streets that are designed and operated to enable safe access for all users, in that pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities are able to safely move through the transportation network.

B. COMPLETE STREETS POLICY

1. The City of Watervliet shall design, build, operate, and maintain a safe, reliable, efficient, integrated, and connected multimodal transportation network that will provide access, mobility, safety, and connectivity for all users. In addition, the city will appoint a Complete Streets Advisory Board to whom quarterly reports on upcoming projects, and previously awarded exceptions, will be furnished.

2. Complete Streets design will promote improved health, economic growth, public safety, recreational opportunity, and social equality throughout the City of Watervliet, and will ensure that the safety and convenience of all users of the transportation system are accommodated, including pedestrians, bicyclists, users of mass transit, people of all ages and abilities, motorists, emergency responders, freight providers, and adjacent land users.

C. SCOPE OF COMPLETE STREETS APPLICABILITY

1. All City-owned transportation facilities in the public right-of-way including, but not limited to, streets, bridges, and all other connecting pathways shall be designed, constructed, operated, and maintained so that users of all ages and abilities can travel safely and independently.

2. All privately constructed streets, parking lots, and connecting pathways shall adhere to this policy.

3. The City shall foster relationships with the State of New York, neighboring communities and counties, and business and school districts to develop facilities and accommodations that further the city's complete streets policy and continue such infrastructure beyond the city's borders.

4. The City shall approach every phase of every transportation project as an opportunity to create safer, more accessible facilities for all users. These phases include, but are not limited to: planning, programming, design, right-of-way acquisition, construction, construction engineering, reconstruction, operation, and maintenance funded by the City of Watervliet, the State of New York, utility companies, and all private development. Other changes to transportation facilities on streets and rights-of-way, including capital improvements, re-channelization projects, and maintenance, must also be included.

5. A project's compliance with this policy shall be determined based on the filing of a Complete Streets Checklist Form.

D. EXCEPTIONS

1. All exceptions to this policy, must be reviewed by the Complete Streets Advisory Board and approved by the City of Watervliet Building Department and/or City Engineer, and be documented with supporting data that indicates the basis for the decision. Such documentation shall be made publicly available.

2. Exceptions may be considered for approval when:

    a) An affected roadway prohibits, by law, use by specified users (such as interstate freeways or pedestrian malls), in which case a greater effort shall be made to accommodate those specified users elsewhere,

including on roadways that cross or otherwise intersect with the affected roadway;

b) The activities are minor maintenance activities designed to keep assets in serviceable condition (e.g. mowing, cleaning, sweeping, spot repair, and surface treatments such as chip seal or interim measures);

c) The City Building Department and/or City Engineer issues a documented exception concluding that the application of Complete Streets principles is unnecessary, unduly cost prohibitive, or inappropriate because it would be contrary to public safety; or

d) Other available means or factors indicate an absence of need, including future need.

3. The City of Watervliet Building Department shall submit quarterly reports to the Complete Streets Advisory Board and the Mayor's Office summarizing all exceptions granted in the previous quarter. These reports shall be submitted after the end of the quarter, and shall be posted online.

E. DESIGN STANDARDS

1. The City shall adopt state transportation design standards as well as adapt, develop, update, and adopt interdepartmental policies, urban design guidelines, zoning, and performance standards and other guidelines based upon resources identifying best practices in urban design and street design, construction, operations, and maintenance. These resources include, but are not limited to: the New York State Department of Transportation Highway Design Manual, New York State Department of Transportation Specification Book, the AASHTO Green Book, AASHTO Guide for the Planning, Designing and Operating Pedestrian Facilities, AASHTO Guide for the Development of Bicycle Facilities, ITE Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, NACTO Urban Bikeway Design Guide; Manual on Uniform Traffic Control Devices, and U.S. Access Board Public Right-of-Way Accessibility Guidelines. When fulfilling this Complete Streets Policy the City will follow the design manuals, standards, and guidelines above, as applicable, but should be not precluded from considering innovative or nontraditional design options where a comparable level of safety for users is present or provided.

2. Designs for all projects will be context-sensitive, considering adjacent land uses and local needs and incorporating the most up-to-date, widely accepted, ADA compliant design standards for the particular setting, traffic volume and

speed, and current and projected demand. Each project must be considered both separately and as part of a connected network to determine the level and type of treatment necessary for the street to be complete.

F. IMPLEMENTATION AND REPORTING

1. The City of Watervliet shall view Complete Streets as integral to everyday transportation decision-making practices and processes. To this end:

   b) One Year Outcomes:

      1. Complete Streets Advisory Board. The City will establish a Complete Streets Advisory Board made up of citizen appointees and interdepartmental city employees to oversee the implementation of this policy. The Complete Streets Advisory Board will include members of at least three City departments, Building Department, Public Works, and the Police Department from the City of Watervliet. The advisory board members will be appointed to staggered three-year terms by the Mayor. The advisory board should include citizen representatives from the bicycling, disabled, transit users, youth, and elderly communities and other advocacy organizations, as relevant. This advisory board will meet quarterly and provide a written report to the Mayor's Office evaluating the city's progress and advise on implementation. The purpose of the Complete Streets Advisory Board is to promote health through physical activity and active transportation options for all users, specifically the most vulnerable groups including children, older adults, and those with disabilities. These goals will be accomplished through interdepartmental cooperation that is integral to the structure of the advisory board membership as laid out here.

      2. Complete Streets Checklist Form. The City of Watervliet and the Complete Streets Advisory Board shall adopt or design a complete streets checklist form to be filled out during a project review to determine compliance with this policy.

      3. Staff Training. The City of Watervliet will train pertinent City staff on the content of the Complete Streets principles and best practices for implementing the policy.

4. Streets Manual. The City of Watervliet will create and/or adopt a Complete Streets Design Manual to support implementation of this policy.

5. Funding. The City of Watervliet will actively seek appropriate sources of funding to implement Complete Streets policy.

6. Reporting. The Complete Streets Advisory Board or other relevant departments, agencies, or committees shall report on the annual increase or decrease for each performance measure contained in this ordinance compared to the previous year(s). This report will be presented to the Mayor's Office and made available to the public.

7. Coordination. The City of Watervliet will utilize interdepartment project coordination to promote the most responsible and efficient use of fiscal resources for activities that occur within the public right-of-way.

c) Three Year Outcomes

1. Inventory. The City of Watervliet and the Complete Streets Advisory Board will maintain a comprehensive inventory of the pedestrian and bicycling facility infrastructure integrated with the city's database and will prioritize projects to eliminate gaps in the sidewalk and bikeway networks.

2. Education. The City of Watervliet shall promote complete streets education in partnership with bicycling, disabled, youth, and elderly communities, the school district, and the police department.

3. Capital Improvement Project Prioritization. The City of Watervliet will reevaluate Capital Improvement Projects prioritization to encourage implementation of bicycle, pedestrian, and transit improvements.

d) Five Year Outcomes

1. Revisions to Existing Plans and Policies. All relevant departments, agencies, or committees will incorporate complete streets principles into all existing plans, manuals, checklists, decision trees, rules, regulations reviews, approvals, and programs as appropriate including, but not limited to, Comprehensive Plans, Economic Development Plans, Bicycle

and Pedestrian Master Plans, Transit Plans, Snow Emergency Plans, Sidewalk Maintenance Plans, and other appropriate plans, manuals, rules, regulations, and programs.

2. Other Plans. The City of Watervliet will prepare, implement, and maintain a Bicycle and Pedestrian Master Plan, a Safe Routes to School Plan, and Americans with Disabilities Act Transition Plan, a Street Tree and Landscape Master Plan, and a Lighting Master Plan.

3. Storm Water Management Plan. The City of Watervliet will prepare and implement a plan to transition to sustainable storm water management techniques along our streets.

G. PERFORMANCE MEASURES

1. The City of Watervliet and the Complete Streets Advisory Board shall measure the success of this Complete Streets Policy using, but not limited to, the following performance measures:

    a) Number of people reached through bicycle and pedestrian education programs;

    b) Total miles of bike lanes and bike sharrows;

    c) Linear feet of new or repaired pedestrian accommodations;

    d) Number of new ADA compliant curb ramps installed along city streets;

    e) Crosswalk and intersection improvements;

    f) Percentage of transit stops accessible via sidewalks and curb ramps;

    g) Rate of crashes, injuries, and fatalities by mode; and

    h) Rate of children walking or bicycling to school.

2. Unless otherwise noted above, within six months of the adoption of this policy, the City shall create individual numeric benchmarks for each of the performance measures included, as a means of tracking and measuring the annual performance of the ordinance. Quarterly reports shall be posted online for each of the above measures

ADOPTED BY THE COUNCIL OF THE CITY OF WATERVLIET ON AUGUST 17, 2017

ATTESTED BY THE CLERK OF THE COUNCIL THIS 17TH DAY OF AUGUST, 2017.

_____

CLERK

Appendix B: Design Standards and Guidance

Required Design Standards

a. Manual on Uniform Traffic Control Devices, FHWA [2012]

   The MUTCD defines the nationwide standards to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. Traffic control devices include road markings, highway signs, and traffic signals. In addition, New York publishes the NYS Supplement, with deviations to the MUTC that must be followed in New York State.

b. Public Rights of Way Accessibility Guidelines, U.S. Access Board [2011]

   The PROWAG proposes accessibility guidelines for the design, construction, and alteration of pedestrian facilities in the public right-of-way. They are written to ensure that sidewalks, pedestrian street crossings, pedestrian signals, and other facilities for pedestrian circulation and use constructed or altered in the public right-of-way by state and local governments are readily accessible to and usable by pedestrians with disabilities. Because they have not been adopted at the federal level, compliance is not mandatory for all projects, however, the NYS Department of Transportation has adopted PROWAG and integrated it into the Highway Design Manual. Therefore, compliance with PROWAG on state roadways and state-funded or administered projects is mandatory. Final federal adoption of the Guidelines may be with or without additions and modifications.

c. Highway Design Manual, NYS Department of Transportation

   The HDM seeks to provide current requirements and guidance for highway design and assure uniformity throughout NYSDOT and with AASHTO and FHWA. The HDM notes that it does not eliminate the need for other references, and that variations will be necessary for special or unusual conditions. Except for off-road bicycle or pedestrian projects, local governments must also adhere to the HDM when implementing projects funded or administered through NYSDOT, regardless of the project's location.

d. A Policy on Geometric Design of Highways and Streets, 7th Edition, AASHTO [2018]

   State highway departments and the FHWA work together to create this guide, available by purchase only, through the American Association of State Highway and Transportation Officials. The FHWA incorporates this guide in its requirements for the design of roadways on the National Highway System. The 7th Edition presents an updated framework for geometric design that is more flexible, multimodal, and performance-based than in the past.

Optional Design Guidance

a. Guide for the Development of Bicycle Facilities, 4th Edition, AASHTO [2012]

This guide, available by purchase only, covers bicycle planning and design for on-road and off-road bikeways, including fundamental operating characteristics of bicyclists and geometric design. The 5th Edition, to be released soon, is expected to identify and evaluate new and existing types of bicycle facilities and treatments, including separated bicycle lanes.

b. Guide for the Planning, Design, and Operation of Pedestrian Facilities, 1st Edition, AASHTO [2004]

   This guide, available by purchase only, is FHWA's primary national resource for the planning, designing, and operating of pedestrian facilities.

c. Bicycle Facilities and the Manual on Uniform Traffic Control Devices, FHWA [2013]

   This guidance table lists various bicycle-related signs, markings, signals, and other treatments and identifies their status (e.g., can be implemented, currently experimental) in the 2009 version of the MUTCD.

d. Separated Bike Lane Planning and Design Guide, FHWA [2015]

   This guide outlines planning considerations for separated bike lanes and provides design options covering typical one and two-way scenarios. It highlights different options for providing separation, documents midblock design and intersection design information.

e. Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts, FHWA [2016]

   FHWA created this guide to focus on the need and opportunities for design flexibility found in current national design guidance to address common roadway design challenges and barriers. It focuses on reducing multimodal conflicts and achieving connected networks so that walking and bicycling are safe, comfortable, and attractive options for people of all ages and abilities.

f. Small Town and Rural Multimodal Networks, FHWA [2016]

   This guide helps small towns and rural communities support safe, accessible, comfortable, and active travel for people of all ages and abilities. It provides a bridge between existing guidance on bicycle and pedestrian design and rural practice.

g. Guidelines for Geometric Design of Low Volume Roads, AASHTO [2019]

   This guide, available by purchase only, presents a flexible approach to the design of roads and streets with a design volume of 2,000 vehicles per day or less.

h. Designing Walkable Urban Thoroughfares: A Context Sensitive Approach: An ITE Recommended Practice, ITE [2010]

This report describes appropriate trade-offs to balance the needs of all users, adjoining land uses, and environment and community interests. It presents guidance to identify and select appropriate thoroughfare types and corresponding design parameters to best meet the walkability needs in a particular context, and it provides criteria for specific thoroughfare elements. FHWA supports the use of this guide.

i. Urban Bikeway Design Guide, National Association of City Transportation Officials (NACTO) [2014]

   This guide, supported by FHWA, provides cities with solutions that can help create complete streets that are safe and enjoyable for bicyclists.

j. Urban Street Design Guide, NACTO [2013]

   This guide focuses on the design of city streets and public spaces.

k. Transit Street Design Guide, NACTO [2016]

   This guide provides design guidance for the development of transit facilities on city streets, and for the design and engineering of city streets to prioritize transit, improve transit service quality, and support other goals related to transit. It sets a vision to harness the immense potential of transit to create active and efficient streets in neighborhoods and downtowns.

l. Urban Street Stormwater Guide, NACTO [2017]

   This guide provides national best practices for stormwater management in the public right-of-way, including strategies for building inter-departmental partnerships around sustainable infrastructure and communicating the benefits of such projects. It provides approaches to starting and scaling up green infrastructure and proposes a framework for measuring the performance of streets comprehensively.

m. Green Infrastructure Toolkit, Capital District Regional Planning Commission

   This toolkit provides customizable green alternatives to traditional stormwater management in urban areas and small sites to reduce volume, particularly in locations with combined sewers. It focuses on retention and infiltration to minimize combined sewer overflows.

Appendix C: Road Diet Considerations

The following describes feasibility determination factors discussed in FHWA's Road Diet Information Guide. In a **De Facto Three Lane Roadway Operation** on a roadway with two lanes in each direction, one lane in each direction is generally not moving. This may be a result of left-turning vehicles waiting in the inside lane to turn, or double-parked vehicles blocking the outside lane.

Speeds may be lowered, particularly high-end speeds. This can help to match the vehicle speeds to the context of the surrounding land uses, which can be helpful in business areas or locations with higher pedestrian and/or bicycle volumes.

Level of Service (discussed further below) for motor vehicles will generally improve on arterial segments for through vehicles. Closely spaced signalized intersections may negatively impact operations, but can be mitigated using signal timing and coordination among signals. Level of Service for left-turning vehicles and those at side streets or driveways may worsen and can be mitigated with signal optimization and coordination, turn lane additions, and driveway consolidation. It is important to remember that Level of Service impacts for motor vehicles may be small on roadways already at or close to a de-facto three lane roadway operation. Level of Service for pedestrians and bicyclists is likely to improve due to the lane reduction, speed reduction, and reallocation of roadway width to bicycle lanes and on-street parking.

Annual Average Daily Traffic (AADT) provides a good first approximation on whether or not to consider a Road Diet conversion. While Road Diets may be feasible at up to 25,000 vehicles per day (vpd), FHWA advises that roadways with AADT of 20,000 vpd should be evaluated for Road Diet feasibility. If the ADT is near or over this upper limit, practitioners should conduct further analysis to determine operational feasibility. This would include looking at peak hour volumes by direction and considering other factors such as signal spacing, turning volumes at intersections, and other access points.

The **peak hour volume** in the peak direction is the measure of volume driving the analysis and can determine whether the Road Diet can be feasibly implemented. This is the traffic volume that would be used in calculating LOS analysis for intersections or the arterial corridor. According to the FHWA and Institute of Traffic Engineer's Traffic Calming e-Primer (see module 3), a Road Diet can be appropriate for any volume that can be accommodated by the revised cross-section. However, a commonly-referenced threshold is a peak hour volume of 1,000 vehicles per post-implementation through travel lane. A lower volume indicates a road diet is likely feasible whereas a higher volume requires further investigation.

The **volume and pattern of turning vehicles** will impact the feasibility of a Road Diet conversion, particularly during the peak period. For example, if a major driveway exists along the corridor, it could change the potential impacts of a Road Diet by introducing another (often closely-spaced) opportunity for additional vehicular turning movements. If motorists are trying to turn into driveways opposite each other, opposite-direction vehicles could experience a conflict in the center two-way left-turn lane. Offset intersections can cause a similar problem, as vehicular left-turning traffic can enter the two-way left-

turn lane from opposite directions, desiring the same space from which to make their turn. Depending on the design of intersections and driveways, along with the volume of left-turning traffic, this can result in conflicts.

Slow-moving and frequently stopping vehicles such as double-parked cars, local business deliveries, agricultural equipment, transit buses, curbside mail delivery, trash pick-up, and horse-drawn vehicles have a greater impact on the operation of a three-lane roadway than a four-lane undivided roadway because other vehicles cannot legally pass them. The number and frequency of such vehicles is an important consideration, especially during the peak hours. Mitigation measures include providing pullout areas at specific locations, using some of the existing cross-section for these types of vehicles (such as a transit lane), and modifications to intersection and driveway radii or pavement markings.

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