SUSSEX COUNTY COMPLETE STREETS POLICY AND IMPLEMENTATION PLAN

NJTPA
NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY

SUSSEX COUNTY NEW JERSEY 1753

FINAL REPORT
JULY 2014

Sussex County, NJ
COMPLETE STREETS STUDY

SUSSEX COUNTY COMPLETE STREETS POLICY & IMPLEMENTATION PLAN
FINAL REPORT | JULY 2014

Prepared for:

North Jersey Transportation Planning Authority

Sussex County, NJ

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EXECUTIVE SUMMARY

The context-sensitive Complete Streets program is designed to give those who work, live and play in Sussex County additional options beyond using a car for traveling between employment, shopping and recreational destinations. In order to remain attractive to Baby Boomers and Millennials alike, Sussex County is encouraged to invest in those elements of the community that these two age groups - the majority of the Counties population - want and will seek out when making their decisions as to where they will live, work and play.

The context-sensitive ***Sussex County Complete Streets Policy and Implementation Plan*** is an effort to enhance the function and attractiveness of our communities. The County's goal is to encourage communities to provide multimodal transportation options to residents and businesses. Through a more integrated multimodal transportation network, the county intends to encourage residents and businesses to choose Sussex County as a place to live, work, and grow. Complete Streets concepts can benefit the County by creating a more competitive employment environment for economic development and making the County a more welcoming place to live and raise a family – all vital components of sustainable communities.

Sussex County is generally perceived as either rural or suburban. Over the past 40 years, the county has developed with little emphasis on walking and bicycling as a means of getting from one place to another. For decades, non-vehicular mobility was not considered particularly important as the County continued to grow in a large-lot sprawling pattern. Traditional town centers saw less and less investment as schools, businesses and retail services migrated out of the traditional centers to areas conveniently accessible only by motor vehicle. In addition fuel was historically inexpensive; the market for homes was almost exclusively single family detached on large-lots; shopping centers displaced local businesses; and the car/SUV was king. Businesses, schools and housing developments were designed and approved for vehicular travel, and "sidewalks to nowhere" were ignored and not held as important elements of community development.

Over the past several years, however, it has become apparent that change has come to the County. Fuel has become more expensive, and, for many, the cost of commuting has begun to outweigh the benefits of suburban/country living. The Baby Boom generation is increasingly finding driving more difficult and walking more important. Members of the Millennial generation, rather than following in the suburban lifestyle footsteps of their parents, are choosing to live and work in more urban areas, with a wider array of transportation options (transit, bicycling and walking) to work, stores, services and entertainment.

These changes are not limited to Sussex County. Development and revitalization of centers of place – in particular places where transit and water/wastewater infrastructure are available – is one of the foundations of state planning as defined within the State Planning Act of 1985. Under the Act, suburban sprawl is characterized as wasteful, requiring extensive government services. Sprawl is also costly in regards to commuting, and destructive to the natural features sought by those moving to the outskirts of the region which can lead to the loss of a sense of community.

Complete Streets is not the whole solution to these problems. It is, however, part of the means by which Sussex County can become more competitive in all aspects of living and working in the region. Sussex County has a huge advantage in that it is not crowded, has relatively little traffic congestion and is a very scenic place. The County has key assets such as Federal and State parks and forests, municipal parks, a regional trail network, lakes and streams for fishing and swimming as well as resort activities, including golfing and skiing. The County is at a disadvantage in that it is hard to get around without a motor vehicle. Alternate modes of travel, such as walking and bicycling, are often reliant on a patchwork of infrastructure with disconnected or outdated sidewalks and bikeways. Safety is further compromised by the perception that other modes of travel are secondary to the car. Multimodal access to recreational, scenic, employment, service and shopping opportunities is critical to the County's economy, the well-being of its residents, and its ability to remain competitive.

In addition to enhancing mobility for users of all ages and abilities for Sussex County, this Plan can also guide suburban and rural communities as part of the Counties partnership with the North Jersey Transportation Planning Authority (NJTPA). The context-sensitive Complete Streets information provided in this Plan can be used to guide rural and suburban communities throughout the NJTPA region. As described on the next two pages this Plan contains a **Complete Streets Policy Guide**, an explanation of **Context-Based Street and Transportation Corridor Types**, a **Pilot Location Implementation Matrix**, and **Complete Streets Implementation Plan**. These key components of the Plan can be used to aid communities in the development, adoption and implementation of Complete Streets policies.

Major Priorities of the Policy Guide

The goals of the Policy Guide are to encourage the consideration of the safety and mobility needs of all roadway users, and to provide a balanced transportation network that makes walking, bicycling and transit trips more comfortable and convenient for communities to consider for adoption. This involves incorporating context-sensitive Complete Streets principles into the decision-making process for planning, design, construction, maintenance and operation of circulation facilities, including, but not limited to, the reconstruction, rehabilitation or resurfacing of any transportation facility funded in part or entirely by the County.

Key Policy Guide Considerations provided in this Plan are noted below:

a) Evaluate the need for transportation improvements to accommodate current or potential users during the planning of new or retrofit transportation facilities.

b) Provide safe and accessible accommodations within the circulation system for existing and future pedestrian, bicycle, and public transportation routes and networks throughout the County that connect to key destinations, such as employment, education, residential, recreational, public facilities, retail and public transportation centers.

c) Establish procedures to evaluate transportation projects for context-sensitive Complete Streets improvements, and identify opportunities for improvements in retrofit projects, such as resurfacing, rehabilitation, and reconstruction.

d) Foster collaboration between relevant agencies, including County Public Works, Engineering and Planning, in order to facilitate development of logical circulation systems that provide safe and convenient transportation options for all modes.

e) Encourage any large new developments and redevelopment projects to incorporate Complete Streets concepts and to provide interconnected circulation networks.

Context-Based Street and Transportation Corridor Types

To aid in the implementation of a Complete Streets Policy, the Plan provides examples of Complete Streets approaches across a range of street and corridor types for those counties and communities with a mix of rural and/or suburban land uses. The types emphasize how context sensitivity plays an important role when considering the application of Complete Streets elements to an existing roadway. The 10 types identified showcase the variety of transportation corridors and street types that can be found within a community and the different approaches that a Complete Streets framework can take to accommodate the users of that roadway. For example, the priority user focus for the Rural Highway A corridor type is on motorists, where as the priority user focus for a Main Street or Lake Community Street is on pedestrians.

In addition to the street and corridor types, six Overlays also have been provided to guide communities on Complete Streets elements that can be applied in an area that serves as a unique destination or contains specific transit amenities such as a bus stop or passenger rail stop. For communities looking to improve access to trail crossings, enhance a historic village or hamlet, or improve safe access to a neighborhood school, these overlays should be considered once the local street and transportation corridor type has been established.

To ensure that the Complete Streets Policy Guide will have a positive impact on a transportation network, communities are encouraged to consider specific implementation steps and actions, and assign roles and responsibilities in meeting expectations for implementation.

Pilot Locations Implementation Matrix

To further strengthen the ***Context-Based Street and Transportation Corridor Types***, examples of Complete Streets recommendations for specific Pilot Locations were selected by Sussex County and are provided in this Plan. These locations range from specific Complete Streets recommendations at trail crossings and roadway intersections, to a range of improvements at the transportation corridor level. Information such as cost estimates, operations and maintenance, the amount of time it may take to construct the improvement, potential impacts, and possible funding sources are included for all of the Complete Streets recommendations.

A list of the Pilot Locations are provided below:

Town of Newton

US Route 206 & Spring Street intersection

US Route 206 & Mill/Trinity Street intersection

US Route 206 & South Park Drive intersection

Route 519 from Water Street/Route 206 to North Park Drive corridor

Hopatcong Borough

Route 607/Hopatchung Road/River Styx Road from

North River Styx to Brooklyn Stanhope Road corridor

Route 607/Hopatchung Road & Sharp Street intersection

Franklin Borough

US Route 23 from Auche Drive to Washington Avenue segment

Andover Township

Limecrest Road from Skytop Rd to Long Pond School corridor

County Wide

High Point to Cape May Bike Route

Trail Crossings

Complete Streets Implementation Plan

To ensure that the Complete Streets Policy Guide will have a positive impact on a transportation network, communities are encouraged to consider specific implementation steps and actions, and assign roles and responsibilities in meeting expectations for implementation. The Plan provides a series of steps in order to strengthen the Policy's goals and objectives, and provides a reminder that the implementation process is a collaborative approach among multiple stakeholders, including the County and municipalities, planning partners and the public. Municipalities play an important role in providing Complete Streets elements on local and County roadways, and these elements should be considered as part of the implementation process at all levels of decision-making.

In addition to the Policy-level implementation steps, the Plan also describes how to implement Complete Streets on a project-by-project basis. Engineering, education and enforcement are key strategies to support Complete Streets goals and objectives. Using a 3 E's (engineering, education, enforcement) approach to Complete Streets projects is an effective method for providing safe, comfortable, convenient, and accessible mobility for all users. The Plan addresses this in further detail in the ***Complete Streets Implementation Plan*** chapter.

Chapter 1

INTRODUCTION

Sussex County, through a partnership with the NJTPA, initiated the *Sussex County Complete Streets Policy and Implementation Plan* to promote the design and implementation of context-sensitive Complete Streets elements along County roadways, intersections, and trail crossings. There are currently six New Jersey counties (Camden, Essex, Hudson, Mercer, Middlesex and Monmouth) and more than 80 municipalities that have adopted Complete Streets policies. A statewide Complete Streets policy was also adopted by the New Jersey Department of Transportation (NJDOT) in 2009 for all state roadway facilities.

Complete Streets provide enhanced mobility for users of all ages and abilities through the planning, design, construction, maintenance and operation of new and retrofit transportation facilities within public rights of way. The benefits of Complete Streets are many and varied:

- Improves safety for pedestrians, bicyclists, children, older citizens, non-drivers and the mobility challenged, as well as those that cannot afford a car or who choose to live car-free.
- Reduces the potential for liability risk by providing safe access for all users.
- Provides bicycling and walking connections between trip generators such as employment, education, residential, recreation, and retail centers and public facilities.
- Promotes healthy lifestyles.
- Creates more livable communities.
- Reduces traffic congestion and reliance on carbon fuels thereby reducing greenhouse gas emissions.
- Makes fiscal sense by incorporating sidewalks, bike lanes, safe crossings and transit amenities into the initial design of a project, thus sparing the expense of retrofits later.

Purpose of the Plan

The purpose of the ***Sussex County Complete Streets Policy and Implementation Plan*** is to better accommodate the travel needs and desires of motorists, pedestrians, bicyclists, transit riders, seniors, children, and individuals with disabilities. The Plan recommends consideration of context-sensitive roadway design improvements that provide safe access for all users by designing and operating a comprehensive, integrated, and connected multimodal network (streets, sidewalks and trails) of transportation options within the County. In addition, the Plan includes specific Complete Streets recommendations for targeted Pilot Locations.

Intent and Use of the Plan

The Plan serves as a resource and guide for planners, engineers, policy makers and communities to make decisions about the evaluation and implementation of Complete Streets best practices along the County's roadway corridors and trail network. It also serves as a guide for the NJTPA region in applying Complete Streets best practices within a rural/suburban context.

Sussex County is the NJTPA's first rural/suburban county to initiate a Complete Streets Policy and Implementation Plan, and the Plan will serve as a template for additional NJTPA Counties seeking to adopt Complete Streets best practices in a rural/suburban context. The Plan is supported at the regional level, and complements the NJDOT's Complete Streets initiatives as it guides those involved in the planning, design, construction, maintenance and operation of roadways to consider the safety and mobility needs of all roadway users. The Plan promotes a balanced transportation network that will make walking, bicycling and transit trips safe, comfortable and convenient.

The Plan also includes detailed recommendations for selected Pilot Locations at intersections, along roadway corridors and at trail crossings throughout the County. These Pilot Locations provide an illustration of how Complete Streets elements can be applied to various locations and contexts specific to Sussex County. In essence, the Plan promotes context-sensitive Complete Streets solutions that are not only practical, but sensitive to the place in which they are located.

Process and Public Outreach Summary

Feedback from the public and stakeholders was critical to shaping the Plan. The planning process included oversight from a Steering Committee assembled specifically for the study, and involved gathering wide-ranging input from local residents and stakeholders. Members of the Steering Committee, residents and stakeholders - whom are intimately familiar with the context of their communities - provided feedback regarding the potential challenges likely to be encountered in the implementation of Complete Streets. Throughout the process, the public and stakeholders expressed the desire to better accommodate non-vehicle modes of travel, such as walking and bicycling within the County.

The feedback gained from the public and stakeholders was critical in creating a Plan that can be championed, supported and implemented by Sussex County.

Typical hesitations voiced about Complete Streets strategies included fiscal constraints, the departure from traditional street designs, retrofits that are appropriate for rural roadways, and concerns about reduced automobile access. The Steering Committee and stakeholders emphasized the need to implement Complete Streets in a manner that would be "appropriate" for Sussex County. The Plan addresses these concerns by incorporating context-sensitive language and approaches to Complete Street implementation and provides phased implementation strategy options based on total cost and anticipated life-cycle investment per project. The result is a Plan presenting recommendations that are both strengthened and responsive to the unique rural and suburban character of Sussex County. The Plan is tailored to meet the needs of the rural communities of Sussex County, and therefore can serve as a model for other rural and suburban communities facing similar issues.

In an effort to facilitate a truly participatory and well-informed planning process, the study sought to both educate the public, private and civic stakeholders and gain meaningful feedback. In addition to regular meetings with the Steering Committee, outreach activities and engagement techniques varied, and included, targeted stakeholder meetings, public meetings and open houses, and online surveys. Through this local input, the County was able to identify the different street typologies – or "types" of transportation corridors – that are found throughout Sussex County, and prioritize Complete Streets improvements based on these local contexts. The feedback gained from the public and stakeholders was critical in creating a Plan that can be championed, supported and implemented by Sussex County. Since a Complete Street is designed to fit the context of a particular community and the needs of all users, the ***Sussex County Complete Streets Policy and Implementation Plan*** reflects this local input.

Complete Streets Steering Committee

The Sussex County Complete Streets Steering Committee served as the technical advisory body that provided guidance and collaborated with the Study Team through regular meetings during the planning process. Steering Committee members included a wide range of municipal, County, and state representatives with expertise and/or interest in Complete Streets. The Steering Committee contributed their local knowledge and experience by assisting in identifying key stakeholders to interview, providing input on the preliminary analysis and recommendations for the targeted Pilot Locations, public outreach approaches, and refining the final draft policy recommendations and implementation plan.

The over arching themes of the Steering Committee Meetings are below:

- There is concern regarding the cost of constructing Complete Streets improvements. The Plan should include both construction and life-cycle cost estimates, and take these costs into account when making practicable recommendations, looking at what is financially and physically feasible and reasonable.
- The Plan should include low - medium - and high-cost solutions that the governing body could then review with consideration of environmental, physical and financial constraints.
- The Plan and Policy Guide can assist the County and municipalities in obtaining funding assistance, and encourage the County and municipalities to ask developers to incorporate these improvements as part of development approval.
- There is significant concern about bicycle safety and accommodating bicyclists given the hilly and winding roadways prevalent in the County. Not all roadways are appropriate to accommodate cyclists, and therefore signage and striping could be considered low-cost solutions to accommodating bicyclists where appropriate.
- Concern about a rural community's ability to compete for NJDOT funding considering a recent shift in NJDOT priorities toward projects that incorporate Complete Streets components.
- The Plan should include best practice examples and links and resources to technical assistance.
- While new development or capital projects should incorporate Complete Streets components, implementation in retrofit and capital maintenance projects may not be feasible due to environmental, physical or financial constraints. The Plan should be worded to show how various options could be considered within a range of physical and financial parameters.

A full list of Steering Committee members, meeting summaries, and meeting presentations can be found in the Appendix.

"Bike accommodations should be strategically placed"

Community workshops and open houses provided an interactive opportunity to inform the public.

"Walking and biking are desirable activities in Sussex County"

Stakeholder Meetings

In an effort to obtain more in-depth feedback on the implications and desired outcomes of the Plan, the study team conducted seven (7) stakeholder meetings with key County, municipal and community stakeholders in the early stages of the Study. Over 125 stakeholders or organization representatives were invited by mail, e-mail and/or telephone to participate in these meetings on June 17-18, and August 22, 2013. The specific interest areas included stakeholders representing bicycle and pedestrian mobility, Safe Routes to School, businesses (Chamber of Commerce), parks, trails and tourism, public health and active living, lake communities, and municipal government.

The overarching themes from the Stakeholder Meetings are below:

- There is general support for Complete Streets "where appropriate." Not all streets need sidewalks, crosswalks, and bike lanes to accommodate Complete Streets in a rural context.
- Priority should be given to completing "missing links" in the sidewalk infrastructure, as well as connecting low-income and/or low mobility populations to shopping, schools and other services.
- Bike accommodations should be strategically placed to link parks, trails and other recreational facilities and promote "off-road" bicycle facilities wherever practicable.
- Safe trail crossings and improved linkages between recreational areas and nearby businesses is important to tourism.
- Initial and life-cycle cost, and ongoing responsibility for maintenance were major concerns related to Complete Streets infrastructure.
- Communities should weigh the long term cost of not providing safe pedestrian/bicycle accommodation against initial capital cost (e. g. bussing students that could otherwise walk if safe accommodations were present).
- Creating Complete Streets is a key component to the County's Healthy Communities initiative, critical for tourism, and important to retaining and attracting young residents.

A detailed summary of the stakeholder meetings can be found in the Appendix.

Public Meetings

Community workshops and open houses provided an interactive opportunity to inform the public about Complete Streets opportunities in Sussex County and to obtain feedback on Complete Streets recommendations. In addition, Web-based applications, such as online surveys, were also used to reach stakeholders that could not attend the workshops.

The Project Team held its first public meeting and a Complete Streets Audit Workshop on Monday, June 17, 2013. The Complete Streets Audit Workshop included a walking tour of downtown Newton, where participants learned how to conduct a Complete Streets Audit in order to identify what makes a street "complete." The Audit was followed by a public meeting that included small group discussions aimed at identifying the street types found throughout Sussex County.

The second public meeting, held on Monday, September 30, 2013, was conducted in an "Open House" format where participants could ask questions and engage in discussion with the Project Team as well as participate in interactive activities to provide feedback on the draft County-wide street typologies and strategies for the targeted seven Pilot Locations. To extend the opportunity for public review and comment of the materials at the public's convenience, an online Virtual Meeting was created on the Study's website where Open House materials and an online questionnaire were posted:
www. sussexcountycompletestreets. com/meeting

The third public meeting was held on Thursday, December 5, 2013. The meeting was conducted in an Open House format, where participants could ask questions and engage in discussion with the Study Team, as well as participate in interactive activities to provide feedback on the draft Plan goals and strategies, and the County-wide street typologies. A presentation of the draft materials followed the hour-long Open House. To extend the opportunity for public review and comment of the materials at the public's convenience, an online Virtual Meeting was created on the project website:
www. sussexcountycompletestreets. com/decmeeting

"Proactive implementation of Complete Streets could enhance economic development"

The intent of the meetings was to inform Sussex County's communities of the process and capture input on preferred Complete Streets strategies. Highlights of community input are shown below:

- Support for consideration of Complete Streets "where appropriate."
- There is a strong desire to better accommodate non-vehicular users of the transportation system – including pedestrian, bicyclists, equine, and scooter/skateboard.
- Walking and bicycling are desirable activities in Sussex County, but pedestrian and bicyclist safety is a common concern.
- The safety of children, elderly and disabled are of particular concern in prioritizing Complete Streets improvements.
- Education and enforcement of pedestrian, bicycle and equestrian safety laws is imperative.
- Not all streets need sidewalks, crosswalks, and bike lanes to accommodate Complete Streets in a rural context.
- Priority should be given to completing "missing links" in the sidewalk infrastructure, connecting low-income and/or low mobility populations to shopping, schools and other services.
- Bicycle accommodations should be strategically placed to link parks, trails and other recreational facilities and promote "off-road" bicycle facilities wherever practicable.
- Safe trail crossings and improved linkages between recreational areas and nearby businesses is important to tourism.
- Initial and life-cycle cost, and ongoing responsibility for maintenance were major concerns related to Complete Streets infrastructure.
- Communities should weigh the long-term cost of not providing safe pedestrian/bicycle accommodations against the initial capital cost (e. g. bussing students that could otherwise walk if safe accommodations were present).
- Proactive implementation of Complete Streets could enhance economic development in Sussex County, particularly ecotourism.
- The Plan should outline potential financial resources, and provide detailed technical guidance to municipalities that choose to implement Complete Streets policies and strategies.

The fourth public meeting included a presentation of this Final Draft Plan. As before, the presentation included a brief educational component to re-enforce Complete Streets concepts.

The safety of children, elderly and disabled are of particular concern

Newsletters

Chapter II

COMPLETE STREETS & ASSOCIATED ELEMENTS

Overview of Complete Streets

Complete Streets provides for the mobility of all users through the planning, design, construction, maintenance, and operation of transportation facilities that considers both current and potential users – including motorists, pedestrians, bicyclists and transit riders – in order to facilitate safe, comfortable, and attractive access and travel. Context is critical in this process as not every corridor will be used by all modes. Therefore, a context-sensitive Complete Streets approach is utilized to achieve practical, balanced, safe, desirable and affordable improvements.

Complete Streets can include all 3 E's (engineering, education, and enforcement) in the approach to traffic safety to provide safe mobility for all users. In addition to infrastructure improvements, targeted education programs such as pedestrian safety education campaigns and bicycle safety classes and enforcement initiatives such as the pedestrian decoy program are Complete Streets strategies. According to the National Complete Streets Coalition, there are now 466 regional and local jurisdictions and 27 states, including New Jersey, with Complete Streets policies. There are currently six counties and more than 80 municipalities that have Complete Streets policies in New Jersey.

Benefits of Complete Streets

The benefits of a complete street are many and varied. The incorporation of Complete Streets concepts enhances transportation networks as well as the livability and character of rural and suburban communities. These benefits include:

- ***Improved Safety*** When controlling for context, streets and transportation corridors that are designed with consideration for pedestrians and bicyclists have lower injury and fatality rates across all modes. For bicyclists, wide shoulders, bike lanes and multiuse trails allow separation from high-speed motor vehicle traffic. For pedestrians, sidewalks and multiuse trails provide separation from motor vehicle traffic. Highly visible crosswalks and medians allow for safer, staged crossings of busy roadways. For motorists, roundabouts eliminate problematic right-angle crashes that can occur at signalized intersections. Additionally, roundabouts can serve to calm higher-speed traffic as well as ease congestion due to reduced queuing associated with traffic signals. Roundabouts and medians are two of Federal Highway Administration (FHWA)'s nine proven safety countermeasures in reducing the number of crashes at intersections.

- ***Enhanced Connectivity and Access to Destinations*** When transportation corridors are designed with all users in mind, it becomes possible for people without ready access to motor vehicles to reach education, employment, and vital social and medical services. For example, Complete Streets improvements can help foster a safer walking and bicycling environment around schools located within or near residential neighborhoods, thereby reducing the need for school-related automobile traffic and busing. In addition, well-maintained sidewalks, ADA-compliant curb ramps and ADA-compliant transit stops allow individuals with mobility impairments to more easily and safely shop, work, socialize and maintain personal independence. Lastly, physical activity increases when neighborhoods are connected to other neighborhoods and recreational assets such as parks and trails.

- ***Recreation and Tourism*** States and locales such as Oregon, Colorado, Montana and the Outer Banks in North Carolina generate significant economic activity from bicycle-related tourism. An Adventure Cycling Association Study found that bicyclists in Montana average $75 in tourism spending per day in addition to spending on accommodations. A multimodal circulation system that features on-road bicycle routes and off-road walking and bicycling trails could result in a significant tourism draw for Sussex County. Local assets to build on include the High Point to Cape May Bike Route, and the County's extensive recreational trails network. In total, active transportation-related infrastructure, businesses and events were estimated to have contributed $497. 46 million to the New Jersey economy in 2011.

- ***Preparation for the Future*** The travel patterns of Americans have been changing in recent years. Since the middle of the last decade, the number of miles driven per capita has decreased as the Millennial generation and retirees have expressed a preference for communities where a range of transportation options are available, and as households seek ways to reduce spending on car ownership. During the same time period, walkable and bicycle-friendly communities felt the impact of the recession less acutely; for those communities that did suffer, local economic conditions proved to be more resilient than their sprawling peer communities. The

Rural and small-town community main streets also benefit from bringing a mixture of modes to their respective corridors, as non-vehicular travelers can further support commercial and retail uses, promote a mix of land uses, and strengthen overall economic potential through increased pedestrian, bicycle and transit-dependent traffic.

Federal Highway Administration, NJDOT, and many New Jersey counties and municipalities have recognized this change in travel patterns and preferences and are adopting Complete Streets policies as a result.

Complete Streets in Rural/Small Town Environments

Smart Growth America and the National Complete Streets Coalition have documented the benefits of Complete Streets for both small towns and rural communities. According to the USDA's Economic Research Service, more than 46 million people – or about 15% of the U. S. population – live in rural counties. This number is down from 2010, indicating the first population shift away from these rural areas and communities on record. While rural counties account for only a small percentage of the total US population, a majority of all traffic-related fatalities occur in these rural areas (55%). This higher percentage of traffic fatalities in rural areas can be linked to higher driving speeds on rural roads and arterials when the posted speed limit is 55 mph or higher.

Age and income can also be used as demographic metrics for assessing the benefits of Complete Streets improvements. Smart Growth America and the National Complete Streets Coalition point out that rural communities and small towns tend to have higher concentrations of older adults and low-income citizens – two population types that are less-likely to own cars or drive. By limiting primary mobility options to the automobile, "these citizens risk isolation from community and the economy." In order for non-driving rural residents to reach jobs, healthcare, education and other destinations within a community, these citizens must rely on other modes, including public transportation, ride-sharing and social service van pools. For rural communities with limited transit or social service options, walking or bicycling to these destinations becomes the norm.

In addition, children who live in rural areas tend to be at greater risk for obesity, hypertension, diabetes and high cholesterol due to reduced physical activity and sedentary lifestyles. Without access to amenities that create a safe walking and bicycling environment, children who live in these rural communities will remain vulnerable to weight-related health problems.

For small towns and rural communities, the introduction of Complete Streets elements has addressed safety issues resulting from dangerous or incomplete transportation corridors, improved access to various destinations, (including jobs, education, healthcare, recreation and businesses) and provided additional healthy transportation choices for children. Rural and small-town community main streets also benefit from bringing a mixture of modes to their respective corridors, as non-vehicular travelers can further support commercial and retail uses, promote a mix of land uses, and strengthen overall economic potential through increased pedestrian, bicycle and transit-dependent traffic.

As part of the ***Sussex County Complete Streets Policy and Implementation Plan***, the County and NJTPA are exploring opportunities to introduce context-sensitive Complete Streets improvements that would be appropriate to the County's unique rural and small-town character.

Incorporating Complete Streets Elements in Transportation Projects

The context-sensitive Complete Streets planning process begins with stakeholders defining goals for the intersection or corridor under study. Whether the proposed project is a retrofit or new construction, there are a variety of means for satisfying such goals as 'safer crossings for pedestrians,' 'reduced motor vehicle speeds,' and/or 'improved trail connectivity.' Once goals are articulated, County staff specify appropriate Complete Streets elements for the transportation project. For example, if the goal is to improve the safety of a pedestrian crossing, the engineer may specify: a high-visibility crosswalk and advance warning signage; a refuge island; or an overhead HAWK signal. The selected improvements should be responsive to policy and stakeholder goals, satisfy budgetary and engineering imperatives and align with the characteristics of the transportation corridor types.

Sussex County and NJTPA are exploring opportunities to introduce context-sensitive Complete Streets improvements that would be appropriate to the County's unique rural and small-town character.

Roadway and Intersection Retrofits

Table 1 specifies a range of improvements that can be used to meet Complete Streets performance standards. The effect and use of each improvement is described in the table as well as whether its application to the transportation corridor types and overlays are considered 'Appropriate,' 'Appropriate under special circumstances,' or 'Inappropriate. ' The table complements the latest and established best practices from the Federal Highway Administration's ***Proven Safety Countermeasures*** *and the 2013 Federal Highway* ***Administration Guidance on Bicycle and Pedestrian Facility Design Flexibility****.*

Table 1 – Street and Transportation Corridor Types and Appropriate Complete Street Elements

Roadway and Intersection Retrofits		Rural Highway A	Rural Highway B	Rural Highway C	Main Street	Town Center Residential	Residential Subdivision	County Connector	Trails/Greenway	Lake Community Street	Access Road	Destination Street	Village/Hamlet	School Zone/Trail Xing	Scenic/Historic Hwy	Preservation Zone	Transit Stop
Road Diet	Lane reductions to calm traffic, improve safety, and increase multimodal level of service.	●	●	●	●	◑	◑	●	○	◑	○	●	●	●	◑	◑	○
Lane Narrowing	Restriping lanes to calm traffic.	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	○
Curb Extensions	Used at mid-block crosswalks to enhance pedestrian safety and visibility. Used at intersections to slow turning movements, increase pedestrian visibility, and shorten crossing distances. Additional space may be used for amenities such as bicycle parking, benches, and plantings.	◑	◑	●	●	●	●	◑	○	◑	◑	●	●	●	○	○	◑
Chicanes	Lane shifts to calm traffic. May be accomplished using hardscape/ bollards, alternating parking configurations (parallel and angled), or lane striping.	◑	◑	●	●	●	●	◑	○	◑	◑	●	◑	◑	○	○	○
Speed Tables	Used in neighborhoods and special zones to calm traffic and discourage cut-through traffic. May be adjusted to accommodate emergency vehicles. Generally not compatible with heavy volumes and trucks/transit.	○	○	○	◑	●	●	○	○	●	○	●	◑	◑	○	○	○
Raised Crosswalks	An effective means to slow vehicles at mid-block crossings.	○	○	◑	●	●	●	◑	○	◑	○	●	◑	◑	◑	◑	◑
Raised Intersections	An effective means to slow vehicles. May be used adjacent to destination streets, schools, parks, transit stations, and other pedestrian generators.	○	○	○	◑	●	●	○	○	○	○	●	◑	◑	○	○	○
Medians	An effective means to reduce vehicles speeds, vehicle/vehicle collisions, and pedestrian injuries. When used with crosswalks, the median serves as a refuge for pedestrians, allowing them to cross a high volume road in stages. May be used at multiuse trail crossings.	●	●	●	●	●	●	◑	○	○	○	●	●	●	◑	◑	○
On Street Parking	Can serve as buffer between travel lanes and the pedestrian zone. May function as traffic calming on residential streets by reducing effective lane width.	○	○	◑	●	●	●	◑	○	●	◑	●	●	◑	○	○	○
Gateways/ Transition Zones	Visual cues to drivers making transitions between road types and land use contexts. Used to reduce speeds and alert drivers to the presence of other road users.	●	●	●	●	●	●	●	○	●	◑	●	●	●	◑	◑	○
Roundabouts	May be used as a replacement for signalized intersections. Benefits include congestion relief and enhanced safety for users. Can pose mobility challenges to pedestrians and visually impaired pedestrians if improperly designed.	◑	●	●	●	○	○	●	○	◑	○	●	●	◑	◑	○	○
Neighborhood Roundabouts	An effective replacement for Stop/Yield intersections. Benefits include reduced right angle crashes, improved aesthetics, and lower traffic noise.	○	○	○	●	●	●	○	○	○	◑	○	○	○	○	○	○

● *An appropriate treatment/retrofit* ◑ *A treatment/retrofit that can be used under special circumstances* ○ *An inappropriate treatment/retrofit*

Chapter III

MOBILITY OVERVIEW OF SUSSEX COUNTY, ISSUES AND OPPORTUNITIES

Local Context and Trends

Sussex County is known for picturesque landscapes and expansive agricultural and wooded natural areas. Quaint historic villages, outdoor recreational opportunities, and proximity to state parks and forests draw visitors from around the region to the area. Through the consideration and implementation of Complete Streets strategies, the use of these assets can be further enhanced to promote increased appeal of the County as a recreational destination.

Sussex County's residential population, employment base and demographic landscape have changed, in recent years. After decades of steady growth, Sussex County municipalities experienced a decrease in population from 2010 – 2012. Today, nearly three-quarters of Sussex County's workforce works outside of the County as a result of a shift away from the agricultural and mining industries of its past. This substantial commuter population has had an effect on the transportation system, a system which increasingly facilitates regional or long-distance automobile travel. Although the County's average per capita income is above the national average, recent surveys indicate that poverty levels reach double-digits within some of the County's town centers.[1,2] This includes Sussex Borough (15.1%), Newton (12.8%) and Andover Borough (12. 7%).

In addition, the County's population is aging. 9% of the County's residents were over 65 years old in 2000. This number has increased to 13% in 2012, and this trend is expected to continue as the population tends to "age in place."

While many areas throughout the country have implemented successful Complete Streets strategies, they are frequently geared toward addressing the challenges of suburban and urban street context. However, Sussex County's rural character includes a more diverse set of street and transportation corridor types within these rural settings, particularly in the western half of the County. This Plan describes an opportunity to better accommodate the transportation needs and requirements of all residents, while retaining its existing population and employment centers, and potentially attract new residents, industries and visitors.

Transportation Network Conditions

As with any system with a long history, the existing streets and roads are expected to perform functions not considered when they were originally constructed. As a result, some portions of the network now exhibit deficiencies. Roadway corridors, intersections and trail crossings that exhibit these deficiencies are prime candidates for the implementation of Complete Streets strategies.

- ***Lack of safe crossings and long crossing distances in locations where there are a high number of pedestrian and bicycle destinations.*** Wide intersections, unsignalized intersections, missing and inadequate pedestrian signals at signalized intersections, and a lack of marked crosswalks at intersections and mid-block crossings all describe conditions in which a pedestrian or bicyclist is provided minimal or no operational safety provisions.
- ***Missing sidewalks.*** In areas where sidewalks exist and there is high pedestrian traffic, many sidewalks end abruptly, creating discontinuities within the pedestrian circulation system and leaving segments of a roadway corridor without an adjacent sidewalk. In many instances, pedestrians are walking within the roadway, or have created "goat paths" alongside the roadway where sidewalks are missing. While many roads have little or no pedestrian activity the lack of sidewalks is a serious safety concern in areas with high pedestrian demand.
- ***Deteriorated condition of sidewalks.*** Aging sidewalks with broken pavement, holes, roots, uneven surfaces and missing pieces create a challenge for pedestrian travel, particularly for blind and wheelchair-bound pedestrians and those with strollers and walkers.
- ***Weak recognition of bicycle infrastructure.*** Some roads in Sussex County have wide, flat shoulders that can easily accommodate bicyclists; however, there are no identified bike lanes or supportive signage to either guide bicyclists or advise vehicular traffic to the presence of bicyclists. Additionally, there is a lack of recognition of the rights and obligations of bicyclists as outlined in the NJ Motor Vehicle Safety rules.

A sidewalk abruptly ends on Route 519 across from Sussex County Community College.

Sussex County's rural character includes a more diverse set of street and transportation corridor types within these rural settings, particularly in the western half of the County.

- ***Narrow or inconsistent roadway shoulder widths.*** Many County roadways have narrow and variable shoulders, thus failing to provide suitable or consistent environments that would support safer use of shared roadways.
- ***High-speed traffic.*** Transportation corridors with actual 40 mph and higher are less comfortable to walk and bike along than those with slower traffic or separate pedestrian accommodations. In addition, higher speeds pose a greater challenge to pedestrian and bicyclist safety than do transportation corridors with higher traffic volumes and lower speeds.
- ***Multiple driveways and interrupted sidewalks.*** While businesses want to provide easy access for vehicular traffic, the result is often multiple curb cuts and driveways between intersections. Driveway curb cuts result in frequent breaks in the continuity and safety of the sidewalk. Without a continuation of a sidewalk across the apron of a driveway, motorists are less likely to look for pedestrians who may be crossing these driveways. In order to improve safety, sidewalks should be a continuous element in the sidewalk/ driveway apron pairing.

Deteriorated condition of sidewalks on Route 519 north of Route 206.

- ***Physical Barriers to Complete Streets.*** Constrained rights-of-way, abrupt changes in topography, vegetation, environmental constraints and limited sight distances pose challenges for implementing Complete Streets strategies. Sussex County and communities can work together to creatively recognize and address these barriers through the application of targeted, low impact or smaller-scale Complete Streets improvements.

Driveways of businesses along Lakeside Blvd., in Hopatcong Borough.

Higher speeds pose a greater challenge

As with any system with a long history, the existing streets and roads are expected to perform functions not considered when they were originally constructed.

On Lakeside Blvd. a steep slope on the other side of the guardrail is a constraint for Complete Streets strategies.

It is important to identify the location of major destinations to better understand the common travel routes as well as links between, to and from these destinations.

Transportation Crash Safety Conditions

- ***Pedestrian and Bicycle Crashes***
  According to New Jersey's Plan4Safety Comprehensive Crash Analysis Program, between 2003 and 2012, Sussex County had 383 pedestrian and bicycle injuries, and eight pedestrian fatalities, between 2003 and 2012 with a motor vehicle. A majority of the pedestrian and bicycle crashes occurred outside of an intersection (84%), and were during the day (69%). Thirty-three of the pedestrian and bicycle crashes occurred at night with no on-street illumination. Forty-two of the pedestrian crashes were in private parking lots, and a small percentage of the pedestrian crashes involved alcohol (7%). 14% of the pedestrian and bicycle crash locations were on County roads with a majority on local roadways.

- ***Pedestrian and Bicycle Fatalities***
  Of the eight pedestrian fatalities, four of the fatalities occurred on state roadways (three on Route 206 and one on Route 23), with the additional four fatalities on local roadways (Lakeside Boulevard, Black Oak Trail, Storm Estates Drive and Oak Street). Three of the four bicycle fatalities were on County roads Route 517 and Route 605, and reported by the Sparta Police Department with the assumption that all three occurred in Sparta Township.

- ***Crash Clusters***
  Clusters of pedestrian crashes appear mostly in established towns and neighborhoods, such as near Route 206 and North Park and South Park Drives in Newton; Route 206 and Mill/Trinity Streets in Newton; around Newton Green in Newton; along Route 23 in Franklin Township; and in Hopatcong Borough.

Opportunities and Multimodal Trip Generators

The arrangement and mix of land uses generally dictate travel options, access, mobility and overall safety. Complete Streets accommodations have a greater potential to support non-auto modes of travel in areas where homes, businesses and other destinations are located close together. Areas where destinations are located at significant distances (more than a quarter mile) from one another are more likely to be auto-oriented.

Three of the four bicycle fatalities were on County roads, Route 517 and Route 605.

	Pedestrian and Bicycle Crashes in Sussex County from 2003-2012	
	Crash Type	
Reported	Pedestrian	Bicycle
# of Crashes	292	78
# of Injuries	305	78
# of Fatalities	8	4

The primary places and land uses that generate a mix of vehicular, transit, pedestrian and bicycle trips include schools adjacent to or within residential neighborhoods, shopping centers, town and village centers, medium- to high-density neighborhoods, bus stops and recreation facilities. These activity centers present opportunities to implement a variety of Complete Streets strategies. It is important to identify the location of major destinations to better understand the common travel routes and links between, to and from these destinations. Conducting a land use/destinations inventory is an important exercise prior to designing a Complete Streets project to ensure that all potential users and beneficiaries are considered. The initial steps of an assessment of local contexts are described below:

- Review local circulation plans to identify local circulation goals and objectives.
- Use community mapping from the local circulation plan or in the absence of one, and develop a map showing the places that are likely to generate non-automobile travel, or would benefit from improved conditions for bicycling and walking. These include schools, shopping centers, recreation areas, community centers, transit stops, park-and-ride lots, and senior or low-income housing.
- Consult with local recreation stakeholders, committees or bike shops to identify popular local walking or bicycling loops.
- Consult the town plan or regional bicycle/pedestrian plan for any discussion on priority walking or bicycling routes, and potential locations where improvements are needed.

This process is described in more detail in the Complete Streets Implementation Plan in Chapter VIII.

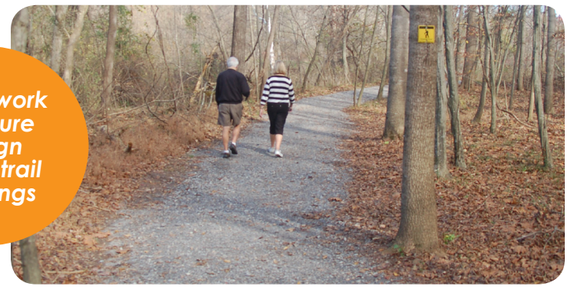
Chapter IV

VISION, GOALS AND OBJECTIVES

Community and stakeholder input during the planning process provided the basis for the Vision, Goals and Objectives, which guided the development of the Policy Guide and the Plan. The Vision describes the ideal future state of Sussex County in terms of Complete Streets, while the Goals and Objectives set forth the parameters for decision-making when implementing Complete Streets strategies.

Vision

The Vision for the ***Sussex County Complete Streets Policy and Implementation Plan*** is to promote improved safety conditions for transportation users, increased public health and recreational activities, and strengthened economic development opportunities through the implementation of Complete Streets strategies, policies and goals. This Vision also considers the travel needs of potential users – including motorists, pedestrians, bicyclists, transit riders, seniors, children and individuals with disabilities alike – through the provision of enhanced transportation options, while preserving the unique rural characteristics of Sussex County.



Framework for future design along trail crossings

Goals and Objectives

Goal 1: Ensure that the safety and convenience of all users of the transportation system, including motorists, pedestrians, bicyclists, users of mass transit, people with disabilities, the elderly, freight providers, emergency responders, and adjacent land users are considered.

- **Objective:** Complete "missing links" in the sidewalk circulation infrastructure.
- **Objective:** Prioritize bicycle and pedestrian accommodations for low mobility, seniors, children and low-income populations to access shopping, schools and other services.

Goal 2: Ensure that the Complete Streets design solutions fit within the context(s) and character of the community.

- **Objective:** Consider Complete Streets strategies only where appropriate within the local context. Not all roadway corridors require sidewalks, crosswalks and bike lanes to accommodate Complete Streets concepts.
- **Objective:** Recognize the need for flexibility to accommodate different types of streets and users.

The Vision for the Sussex County Complete Streets Policy and Implementation Plan is to promote improved safety conditions for transportation users, increased public health and recreational activities, and strengthened economic development opportunities through the implementation of Complete Streets strategies, policies and goals.

Prioritize & Accommodate

Goal 3: Promote the use of complete street principles and the latest in Complete Streets best practices, and adhere to recognized design standards for all new construction, reconstruction and maintenance projects.

- **Objective:** Establish a decision-making framework for future design and development along transportation corridors, intersections and trail crossings.
- **Objective:** Develop a strategy for both systematic and phased implementation through both public and private improvements.

Goal 4: Increase Sussex County's attractiveness as a destination for recreation opportunities.

- **Objective:** Improve the safety of roadway trail crossings for motorists, pedestrians, bicyclists and equestrian users.
- **Objective:** Improve the trail linkages between recreational areas and town centers to support tourism and economic development.
- **Objective:** Strategically place bike accommodations at parks, trailheads and other recreational facilities and promote dedicated bike/pedestrian trails wherever practicable. Improve the safety and signage of designated on-road bike routes.

Goal 5: Use Complete Streets strategies to create healthier, more active communities.

- **Objective:** Provide an integrated, connected and safe network of pedestrian and bicycle amenities to promote increased opportunities for physical activity.

Goal 6: Boost economic development of town centers, villages and neighborhoods in Sussex County.

- **Objective:** Retain and attract residents and businesses by providing multimodal opportunities.
- **Objective:** Support pedestrian- and bicycle-friendly improvements to promote more vibrant, attractive and livable communities.
- **Objective:** Address the various access and mobility needs of local transportation users and visitors to better support commercial centers, businesses and recreational activities.
- **Objective:** Promote the economic well-being of both businesses and residents.

Goal 7: Implement Complete Streets improvements that are cost-effective in both the short- and long-term.

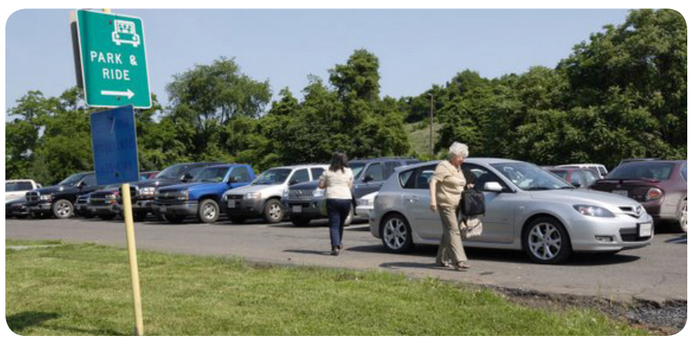
- **Objective:** Consider initial costs as well as life-cycle costs related to Complete Streets infrastructure, including the responsible party for maintenance of corridor amenities (for example, snow shoveling and maintenance of sidewalks).
- **Objective:** Consider the trade-offs and costs of not providing safe pedestrian/bicycle accommodations against initial capital cost (e. g. busing students that could otherwise walk if safe accommodations were present).

Chapter V

COMPLETE STREETS POLICY GUIDE

Overview

The Sussex County Complete Streets Policy Guide is intended to serve as the basis for the future evaluation and implementation of Complete Streets elements at various locations throughout the County. The goal of the Guide is to encourage the consideration of the safety and mobility needs of all roadway users and to provide a balanced transportation network that makes walking, bicycling and transit trips more comfortable and convenient. It is not a mandate to put sidewalks and bike lanes on all streets. Also, transit is very dependent on concentrated destinations and ridership levels. The anticipated rail station in Andover Township, it is not likely to see a substantial expansion.



Policy Language

Sussex County Complete Streets Policy

Title

This policy may be known and may be cited as the 'Complete Streets Policy' of Sussex County, New Jersey.

Purpose

Now, therefore, it is the intent of Sussex County Board of Freeholders in adopting this policy to:

- investigate opportunities to integrate and enhance connectivity of the various mobility systems within the County;
- assist municipal governments in providing safe and convenient travel options for all County residents and visitors;
- encourage the provision of transportation options for accessing destinations and services for those who do not drive, including, but not limited to, populations of seniors, low-income individuals, persons with disabilities, and children;
- create more attractive streets, transportation corridors and towns that foster improved economic and community vitality;
- support local transportation initiatives that enhance interest, comfort, security, and safety within the community;
- expand opportunities for active recreation and tourism; and
- promote healthy, active travel choices.

To this end, Sussex County agencies, in cooperation with public and private partners, will encourage the inclusion of context-sensitive Complete Streets solutions during the planning, design, construction, and operation of transportation facilities.

Sussex County has determined that a wider range of opportunities for transportation and circulation can be achieved through improvements that focus on the ways people connect to destinations through the overall circulation system. This can be accomplished through either integration of Complete Streets concepts into single projects, or incrementally through a series of small improvements or maintenance activities. Supportive context-sensitive land use strategies and designs also help to achieve the goals of this policy.

A context-sensitive Complete Streets approach ***does not*** require specific Complete Streets elements within every roadway corridor; rather, it depends on the facility's context and the improvements best fitted to address the needs of current and potential users along with the benefits and costs of any improvements.

Complete Streets offers a cost-effective approach for developing a multimodal circulation system that is useful, beneficial and efficient. Complete Streets, as a subset of Context-Sensitive Design (CSD), requires consideration of potential system users as may be permitted on a specific modal element (sidewalk, crosswalk, trail, etc.) of the circulation system.

Within a roadway corridor, the following should be considered for users:

- Accommodations for pedestrians, including sidewalks, crosswalks, trails, and roadway shoulders of appropriate width, as well as context-appropriate streetscape elements such as landscaping and street furniture that improve the safety and comfort of the pedestrian environment;
- Accommodations for bicyclists, including protected or unprotected bicycle lanes, safe intersection crossings, trails, safety amenities, road signage, and road shoulders of appropriate width;
- Accommodations for equestrians, including safe trail crossings and safety amenities;
- Accommodations for motorists, including appropriate travel lane widths, median lanes, parking, safety appurtenances, and safe intersections;
- Accommodations for public transportation riders and operators, including transit stops, appropriate travel lane widths and turning radii for buses, crosswalks at bus stops, and comfortable waiting areas at transit stops.

The rural character of Sussex County requires a context-specific Complete Streets approach that is clearly different from that which may be appropriate in more suburban and urban areas, where:

- Improvements are prioritized in areas and along roadway corridors with the greatest need for and potential use of those improvements;
- Improvements fit the character of the current and planned land uses, the surrounding area, and the roadway corridor; and
- Evaluation of the needs of current and future users is made with consideration of safety and system efficiency.

Complete Streets is an approach that considers how and whether to integrate various means of travel in all circulation system projects.

Definitions

a) 'Complete Streets' is a philosophy and approach to planning, design, construction and operation of the transportation network that considers current and potential users, including motorists, pedestrians, bicyclists and transit riders, in order to facilitate safe, comfortable, and attractive access and travel. Context is critical in this approach. Not every roadway corridor will be used by all modes, but a context-sensitive Complete Streets approach considers all users, and seeks desirable, practical, balanced, safe and affordable improvements.

b) A 'Complete Streets circulation network' enables users to access key destinations and services safely, efficiently, and comfortably.

c) The 'current and potential users' of a roadway corridor may include motorists, pedestrians, bicyclists, public transportation riders and operators, equestrians, and operators of farm equipment, including people of all ages and abilities.

d) A 'circulation system' is that system of routes and assets assembled to facilitate and promote various means of traveling to destinations and services.

e) A 'roadway corridor' is one component of a circulation system comprised of that area of land providing for public rights of use, often wider in width than the vehicular travelled way residing within the roadway corridor.

f) A 'vehicular travelled way' is that portion of the roadway corridor designed and intended for travel and land access of permitted vehicles.

g) A 'context-sensitive' approach to the planning, design, and construction of transportation solutions is developed to reflect the full range of contexts: local built form; role of the street in the walking, biking and vehicular circulation system; and financial considerations. Each solution should uniquely address these contexts – there is no one formula that fits all. The scoping of solutions involves a full range of stakeholders and seeks to understand for each project the landscape, the community, valued resources, and the role of all appropriate modes of transportation in each unique context before developing engineering solutions.

Not every roadway corridor will be used by all modes, but a context-sensitive Complete Streets approach considers all users, and seeks desirable, practical, balanced, safe and affordable improvements.

Policy

Context-sensitive Complete Streets is an approach that considers how and whether to integrate various means of travel in all circulation system projects. The County may apply context-sensitive Complete Streets principles into the decision-making process for planning, design, construction, maintenance, and operation of circulation facilities, including, but not limited to, the reconstruction, rehabilitation, or resurfacing of any transportation facility funded in part or entirely by the County.

This may include:

a) Evaluating the need and potential for transportation improvements to accommodate current or potential users during the planning of new or retrofit transportation facilities;

b) Providing safe and accessible accommodations within the circulation system for existing and future pedestrian, bicycle, and public transportation routes and networks throughout the County that connect to key destinations, such as employment, education, residential, recreational, and public facilities, as well as retail and public transportation centers.

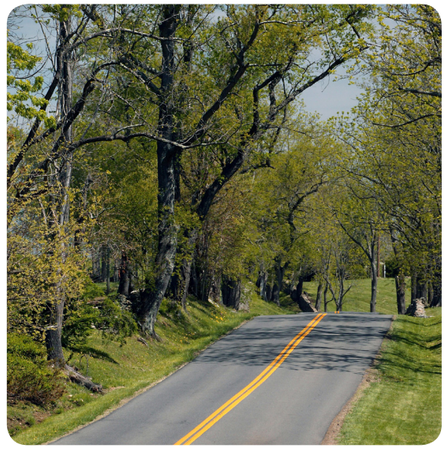
c) Establishing procedures to evaluate transportation projects for context-sensitive Complete Streets improvements;

d) Establishing procedures to identify opportunities for cost-effective, high value, context-sensitive Complete Streets improvements in circulation facility retrofit projects, including resurfacing, rehabilitation, and reconstruction;

e) Fostering collaboration between relevant agencies, including Sussex County Public Works, Engineering and Planning, in order to facilitate development of logical circulation systems that provide safe and convenient transportation options for all modes.

f) Requiring large new developments and redevelopment projects to incorporate Complete Streets concepts and to provide interconnected circulation networks.

Sussex County encourages the adoption of Complete Streets policies by municipalities within the County.



The adopted Complete Streets Policy and Implementation Plan may include, but not be limited to, roadways and projects funded in part or entirely by County funds.

In addition to facilitating connections to transportation facilities, such as sidewalks, through County projects and/or properties, it is specifically the County's policy to permit the construction, operation and maintenance of appropriate, context-sensitive facilities by other responsible agencies or parties within the County rights-of-way.

Exemptions

The County may apply context-sensitive Complete Streets principles to the decision-making process for planning, design, construction, maintenance, and operation of circulation facilities, including but not limited to the reconstruction, rehabilitation, or resurfacing of any transportation facility funded in part or entirely by the County, unless the County Engineer finds that one or more of the following conditions apply:

a) Use of the roadway corridor by non-motorized users is prohibited by law

b) Scarcity of population, travel, and attractors, both existing and prospective, do not support a need for such accommodations.

c) The cost, including operation and maintenance, is disproportionate to the need or benefit.

d) Integration of multiple modes of travel cannot be achieved in a safe and beneficial manner.

Each written exception to this policy may, with accompanying documentation, become public record.

Implementation

County agencies may review, revise as necessary, and consider the design guidelines (street and transportation corridor types, overlays, retrofit treatments) and recommended policies, processes, and programs set forth in the ***Sussex County Complete Streets Policy and Implementation Plan***. The adopted Complete Streets Policy and Implementation Plan may include, but not be limited to, roadways and projects funded in part or entirely by County funds.

In addition to adopting the design guidelines in the ***Sussex County Complete Streets Study Policy and Implementation Plan***, the County is encouraged to update its design guidelines using the best currently available industry policies and guides from such sources as the New Jersey Roadway Design Manual, AASHTO Policy on Geometric Design of Highways and Streets, AASHTO Guide for the Development of Bicycle Facilities, AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities, Model Design Manual for Living Streets, and Manual of Uniform Traffic Control Devices. The National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide and the Institute of Transportation Engineers' (ITE) Designing Urban Walkable Thoroughfares Guide can also be utilized for roadways and transportation facilities in appropriate contexts, such as rural villages and towns. The County may consider training for relevant agencies and staff, including engineers and planners, on context-sensitive Complete Streets policies, principles, and implementation procedures that may be applicable to the performance of their duties.

The departments of Engineering and Planning, and other relevant County agencies, may consider a Complete Streets checklist for use in County transportation facility projects to accomplish the goals of this policy. The checklist may define a process for evaluating the needs, benefits, and costs – including long-term maintenance – of making Complete Streets improvements within the circulation system, in order to ensure improvements are prioritized to maximize cost-effective, high-impact locations in a safe and effective manner.

Resources for Communities

Municipalities interested in creating their own Complete Streets policy can refer to a sample ordinance in the Appendix as well as example ordinances from other communities. Within New Jersey, there are six counties and more than 80 municipalities with Complete Streets policies in place that can serve as examples.[3]

Chapter VI

CONTEXT-BASED
STREET AND TRANSPORTATION CORRIDOR TYPES & OVERLAYS

Overview

A series of unique street and transportation corridor typologies – or "types" – have been specifically developed for the Sussex County Complete Streets Policy and Implementation Plan. These street and corridor types offer guidance on how Complete Streets elements can improve the mobility of various users based on local context. In addition, for any street or roadway type that passes through a particular land use context, a series of overlays also have been developed. These overlays are intended to assist transportation decision-makers assess when to apply context-specific multimodal treatments where a street type transitions from one land use context to another. The purpose of defining unique corridor types and associated overlays is similar to the goal of the County's transect system identified in the Sussex County Land Development Standards[4]. These standards classify areas of circulation according to the character of and vision for surrounding land uses as shown in Figure 1.

Using Context to Establish Street and Transportation Corridor Types and Overlays

The various streets and transportation corridors of Sussex County support a variety of needs, including long-distance travel between towns and places, local trips for running errands or getting children to school, and for walking and bicycling to recreational activities. A system for categorizing transportation corridors by a particular type, such as the County's transect system shown in Figure 1, helps to articulate the vision for a street and surrounding uses, including the street's main function, activities, and users, which then informs how the street should be designed, operated and maintained. The designation of a particular corridor type and associated overlay is determined through evaluation of its context, and in collaboration with the public that use or would like to use it.

Assigning a street type to a particular roadway corridor augments the traditional functional classification system for roads defined by the U. S. Department of Transportation. This system categorizes roads based on how they relate to the movement of motor vehicles, creating a hierarchy that ranges from streets designed primarily for travel mobility (arterials) to those that are primarily designed to provide access to local uses (local or residential streets). Designating street types enables communities to further define streets and other transportation corridors by relating them not only to motor vehicles, but to other modes and users.

Identifying the street type is an important strategy to implementing Complete Streets because it defines how different modes and users may or may not be active within that corridor. It also helps to ensure that a consistent approach is used when corridors are evaluated to determine which modes of travel may warrant accommodation.

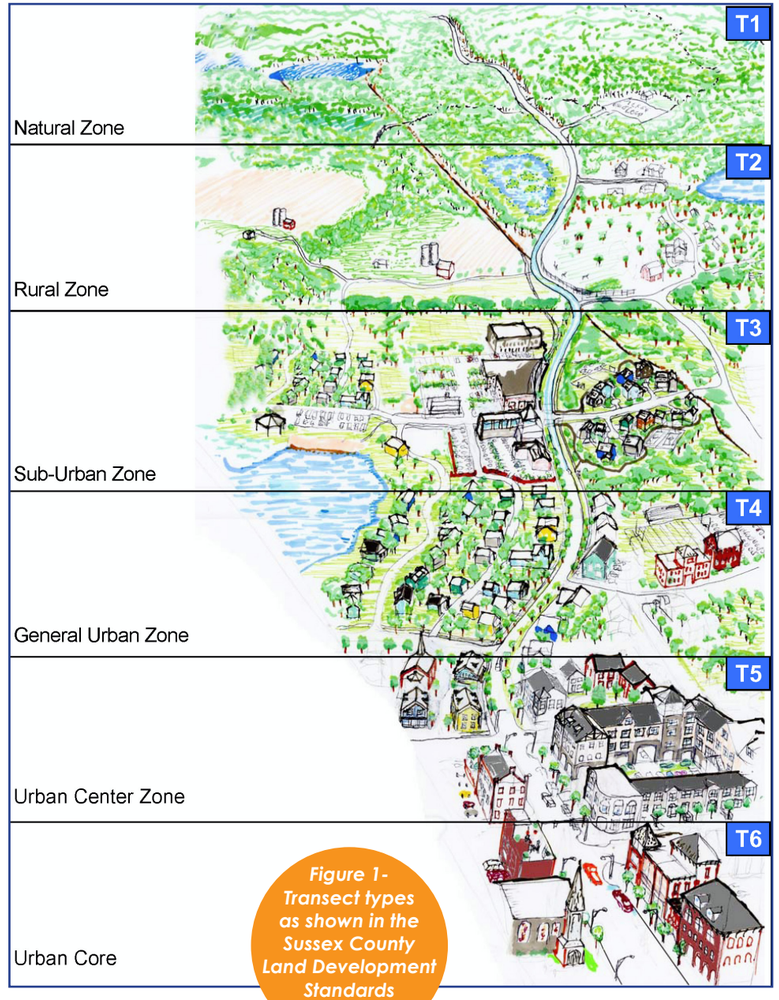


Figure 1- Transect types as shown in the Sussex County Land Development Standards report.

Benefits of Establishing Street and Transportation Corridor Types and Overlays

Establishing street and transportation corridor types and associated overlays helps to focus on the broader goals and functions that streets and transportation corridors serve in a community or region. These types can serve to:

- ***Ensure that there are streets and complete circulation networks designed to accommodate different modes and users.*** The "street type" system includes a prioritization for multiple modes, so that some types are designed to prioritize motor vehicle traffic, while others prioritize pedestrians, bicyclists or public transportation. Not every corridor needs to accommodate every mode. However, a network of streets and corridors should be provided to ensure that people who may be using different modes of travel are able to reach their destinations.
- ***Engage the community and stakeholders in the vision for a street.*** "Street types" are designed in order to assist stakeholders in setting a vision for the function of a transportation corridor beyond the motor vehicle and vehicular throughput-focused performance measures that traditionally have been used in transportation planning. This makes it easier for local citizens and other non-transportation professionals to engage in a conversation about the outcomes they would like to see for the streets in their community. Street types start with the vision for a roadway and its surrounding uses, and then transportation professionals play an important role in figuring out how the design, operation, and management of the transportation corridor can best support that vision.
- ***Take advantage of local assets and the unique culture of a place.*** The traditional functional classification system for roadways only differentiates between urban and rural contexts. The street types identified in the Sussex County Complete Streets Policy and Implementation Plan were developed to build on the rural culture of Sussex County, which can result in a more unique and authentic street that attracts people and business.
- ***Ensure that a transportation corridor is adding value to a community.*** Design and function plays a key role in whether people want to live, work, or shop along or nearby a transportation corridor. Categorizing transportation corridors by type accommodates the variation in community land uses and mobility needs to attract people to the area.

Sussex County Street and Transportation Corridor Types and Overlays

Street and corridor types, overlays, and retrofits developed for Sussex County are based on performance standards determined by Sussex County stakeholders who specified function, user priority, desired operating speed, and desired design elements for transportation corridors in the County. There are 10 types and six overlays presented in this Plan:

Street Transportation Corridor Types

- Rural Highway A
- Rural Highway B
- Rural Highway C
- Main Street
- Town Center Residential
- Residential - Subdivision
- County Connector
- Trail/Greenway
- Access Road
- Lake Community Street

Overlays

- Destination Street
- Village/Hamlet
- School Zone/Trail Crossing/ Trail Connector
- Scenic/Historic Highway
- Preservation Zone
- Transit Stop

Communities are encouraged to consider the type of corridor and its local land use context transition areas throughout the entire planning, design, operations, and maintenance processes.

As the context-sensitive Complete Streets design process often demands trade-offs and flexibility, a range of values and treatments have been provided for each type, overlay, and retrofit. This flexibility will enable Sussex County to achieve Complete Streets performance standards in a variety of contexts, and under a variety of constraints.

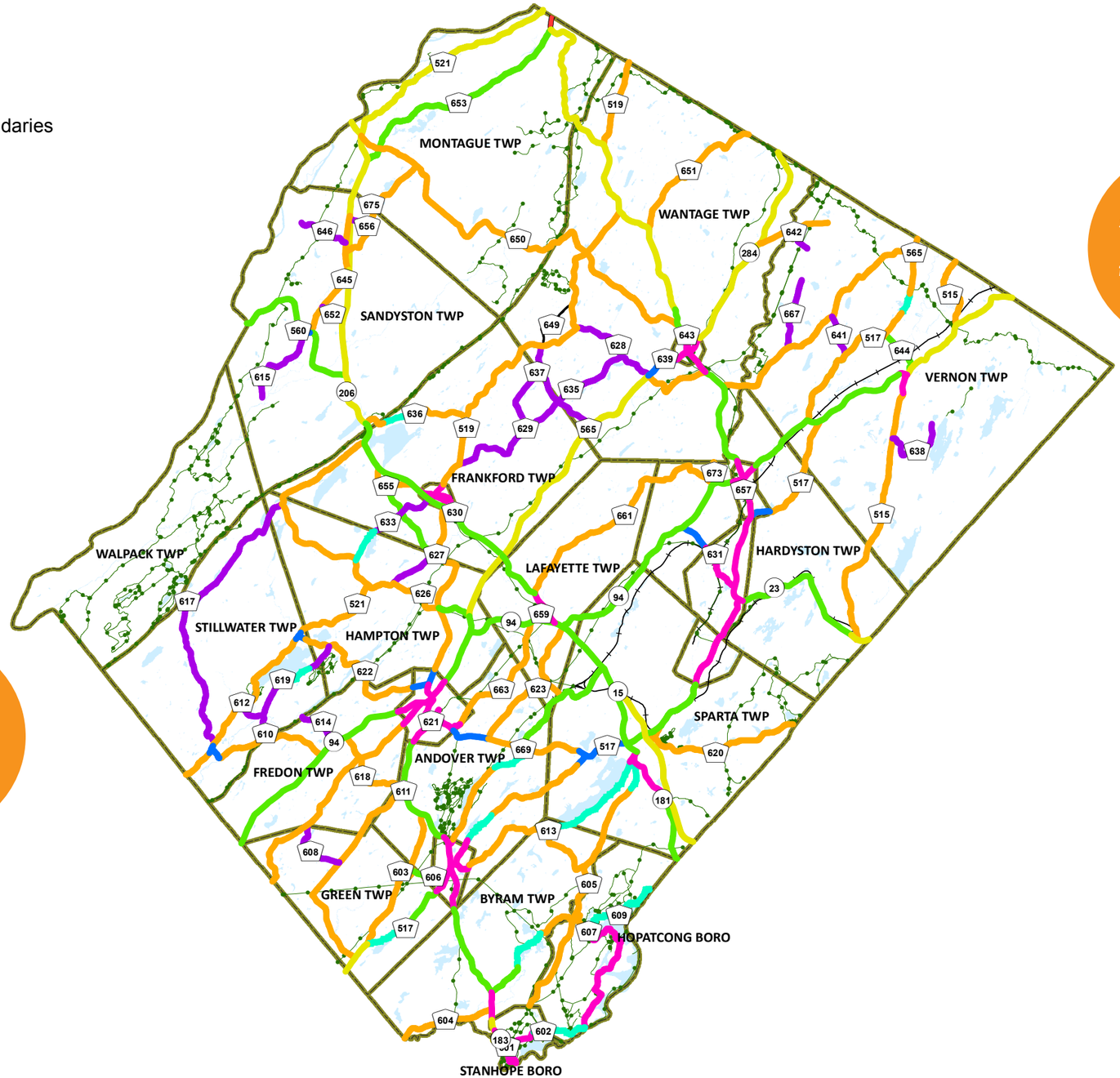
Based on the workflow described in the graphic above, the critical application of the corridor types should occur in the following four out of ten steps:

- ***Step 3:*** As stakeholders discuss the existing roadway corridor, the assigned type provides a vision for what is appropriate within the corridor.
- ***Step 5:*** Once the decision has been made to apply Complete Streets strategies to a project, the County will incorporate draft designs based on the most relevant corridor type and overlay into the project development process.
- ***Step 6:*** Design alternatives are presented to stakeholders for review. The corridor type will reveal any deviations – like omitted sidewalks, street trees or lighting, etc.
- ***Step 10:*** The transportation corridor type may be adjusted based on real world performance.

STREET AND TRANSPORTATION CORRIDOR TYPES

Legend

- Rural Highway A
- Rural Highway B
- Rural Highway C
- County Connector
- Main Street
- Access Road
- Lake Community Street
- Trails
- Municipal Boundaries
- Railroads
- Lakes

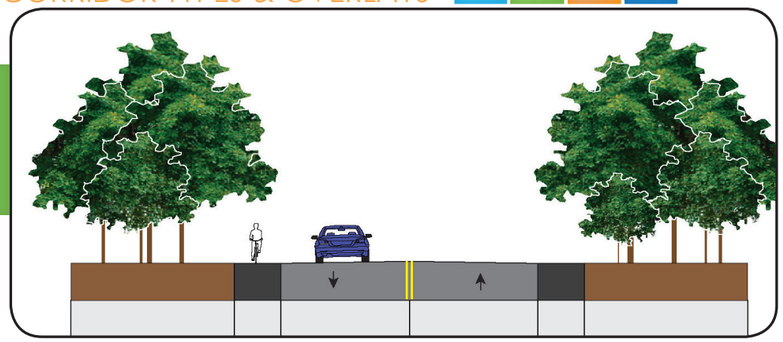


Residential street types are not shown on the map due to scale.

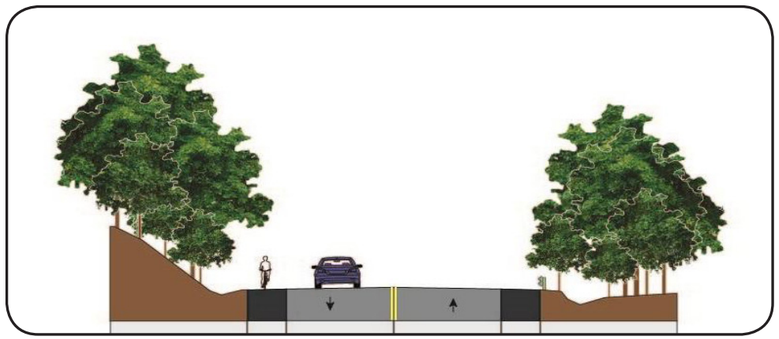
The corridor types map shows where in the County each type can currently be found.

CORRIDOR TYPE

RURAL HIGHWAY A



Without topographical constraints



With topographical constraints

Rural Highway A facilitates high-speed travel as its primary function. The posted speed limit is generally 45-50 mph. The road may be 2 to 4 lanes in width, and where appropriate, may feature medians for left turn movements or for enhanced trail/greenway crossings. Shoulders should be of sufficient width to: a) allow for safe and comfortable bicycling in the proximity of high speed motor vehicles and semi-trailers; b) serve as a safe refuge for motorists in distress; and c) allow for the occasional conveyance of farm equipment (where permitted). Land use is agriculture, low-density residential or undeveloped/wooded. Where sufficient right-of-way exists without significant environmental constraints and it is determined sufficient demand exists, it may be desirable to construct a parallel multiuse pathway to accommodate walking and biking trips.

Priority Users and Secondary Users

Priority User Motor vehicles/Commercial vehicles
Secondary User Bicycle and Rural Transit
Other User Walking for fitness, errands, social connections

Speed

Target Operating Speed 45-50 mph
Traffic Tolerance High

Geometry

Number of Through Lanes 2 or 4 lanes
Lane Width 11' - 12'
Shoulder Width 4' minimum where ROW permits

Overlays School Zone/Trail, Transit Stop

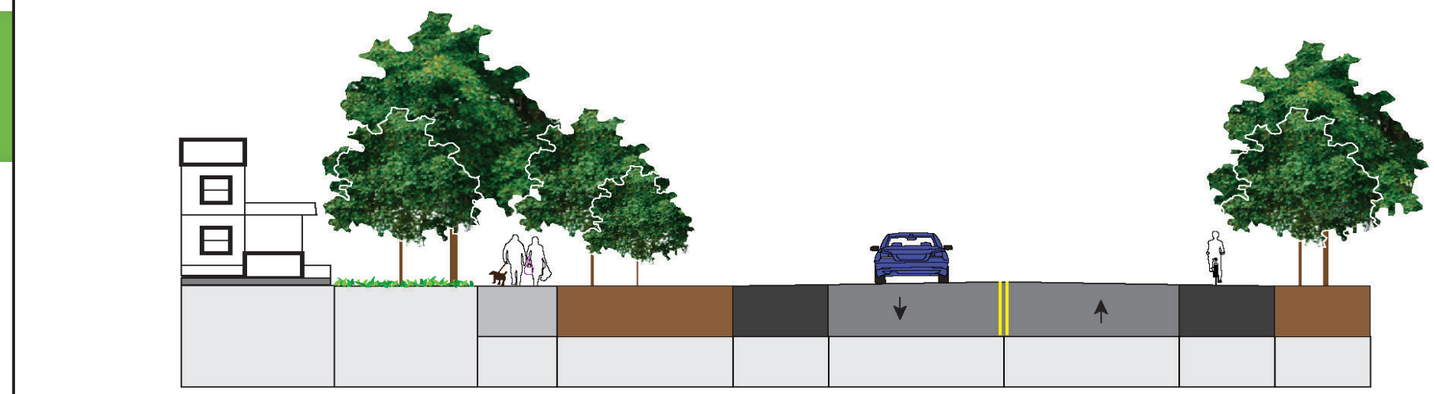
Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type: Shoulder/trail-greenway
Bicycle Facility dimension 4' minimum where ROW permits
Walking Facility Type Shoulder/trail-greenway
Walking Facility Dimension 4' minimum where ROW permits

Transit Accommodations Pull-off and shelter recommended

CORRIDOR TYPE

RURAL HIGHWAY B



Rural Highway B facilitates moderate/high-speed travel and local trips. The posted speed limit is 40-50 mph, but speeds are often dictated by time of day and day of week. Trips by light industrial, agricultural, commercial, or residential land uses generally reduce speeds. This roadway may be a transition from Rural Highway A toward a suburban context (Rural Highway C) or urban context (Main Street), or it may connect nearby towns. It may feature connections to large regional middle/high schools, recreational facilities, or parks. In this context, a parallel multiuse pathway would be desirable to accommodate walking and bicycling trips if possible. In a more rural context, a shoulder of sufficient width to allow for safe and comfortable bicycling in the proximity of moderate/high-speed motor vehicle would be sufficient. For this corridor type, it is critical to consider projected future uses from greenfield development.

Priority Users and Secondary Users

Priority User Motor vehicles/Commercial vehicles
Secondary User Bicycle and Rural Transit
Other Users Walking for fitness, errands, social connections

Speed

Target Operating Speed 45-50 mph depending on context
Traffic Tolerance Medium to High

Geometry

Number of Through Lanes 2 lanes
Lane Width 11'-12'
Shoulder Width 4' minimum where ROW permits

Overlays Village/Hamlet, School Zone/Trail, Scenic/Historic Highway, Transit Stop

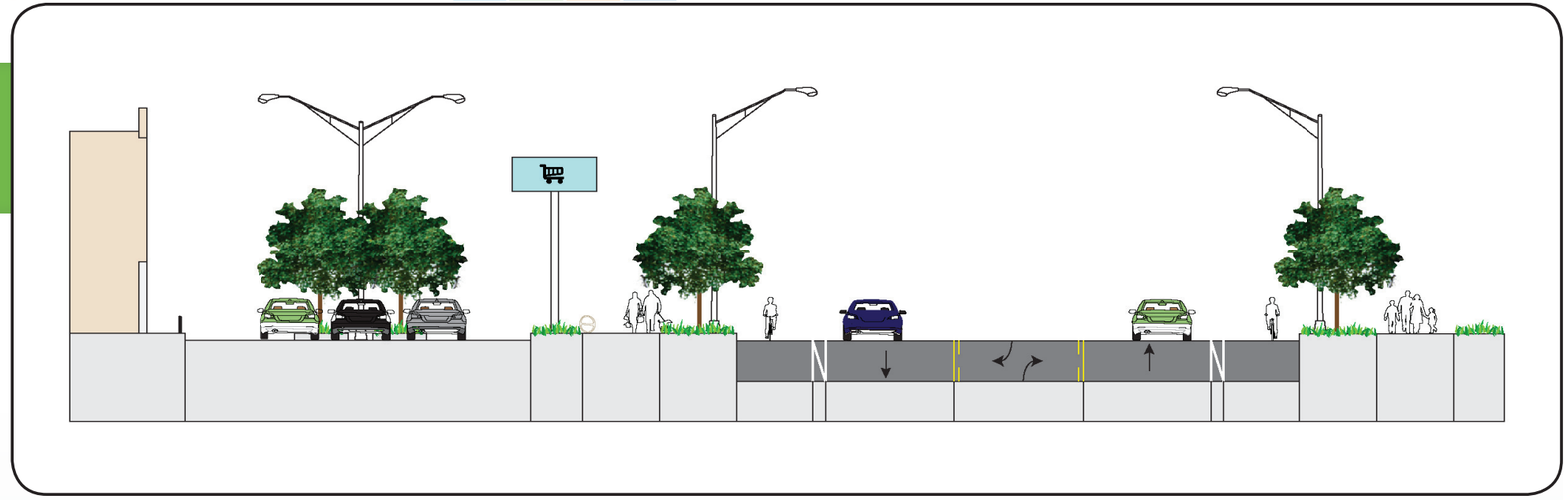
Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type Shoulder/trail-greenway
Bicycle Facility dimension 4' minimum where ROW permits
Walking Facility Type Shoulder/trail-greenway
Walking Facility Dimension 4' minimum where ROW permits

Transit Accommodations Pull-off and shelter recommended where ROW permits and demand is sufficient

CORRIDOR TYPE

RURAL HIGHWAY C



Rural Highway C facilitates moderate speeds, local trips, and local circulation. Located on the urban edge, land use is primarily commercial/ retail featuring restaurants, gas stations, and large retailers (aka "big box" stores). The posted speed limit is 30-35 mph, but speeds may exceed that as drivers transition to/from Rural Highways A and B. The existing pedestrian environment may be challenging due to large and complex intersections, incomplete walking infrastructure, and longer distances between destinations.

Multiuse pathways are the recommended walking and bicycling facility for this type. Alternatively, sidewalks on both sides of the street along with buffered bike lanes or a striped shoulder are suggested Complete Streets recommendations. Safe, comfortable, accessible, and convenient transit stops are important along this corridor type as retail employees and consumers may be reliant on public transportation. Excess street capacity and complete intersections may be addressed by such retrofitting treatments as road diets and modern roundabouts. Additional traffic calming may be achieved with the use of transition zones (aka gateways).

Priority Users and Secondary Users

Priority User Motor vehicles/Commercial vehicles

Secondary User Bicycle and Rural Transit

Other Users Walking

Speed

Target Operating Speed 30-35 mph

Traffic Tolerance High

Geometry

Number of Through Lanes 2-4 lanes depending on context

Lane Width 10'-12'

Shoulder Width 4' minimum

Median 6' minimum if used as a pedestrian refuge and dependent upon design feasibility

Overlays School Zone/Trail, Transit Stop

Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type Striped shoulder or designated bike lane/trail-greenway

Bicycle Facility dimension 4' minimum

Walking Facility Type Sidewalk/trail-greenway

Walking Facility Dimension 5' minimum for a sidewalk

Separation from travel lanes Variable dependent on traffic speed and volume. More separation is desired for busier corridors

Transit Accommodations Pull-off and shelter recommended

Context Enhancements

Street Trees and Vegetation Street trees and/or natural vegetation

Gateway Treatment Desirable for traffic calming

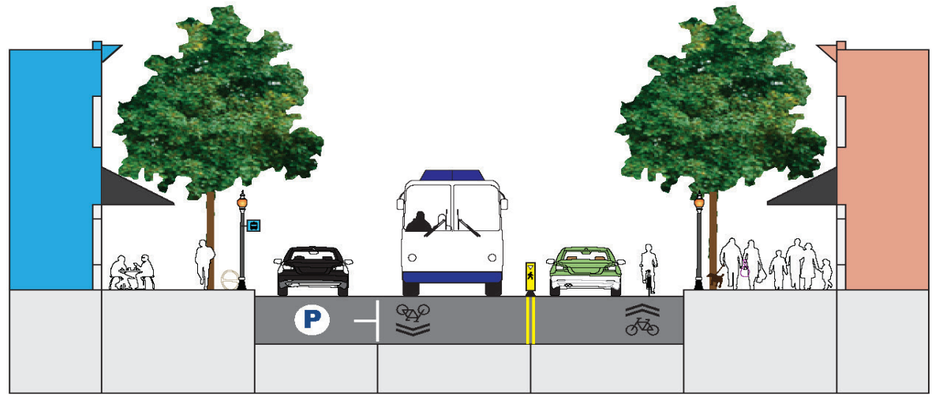
Furniture As needed

Illumination As needed

CORRIDOR TYPE

MAIN STREET

Main Street is the commercial, social, and governmental heart of town. It is often the location of city hall, the library, the fire department, restaurants, retail, and courthouse. Buildings are fronting the street to provide a welcoming pedestrian environment featuring wide sidewalks, shade trees, pedestrian-scale lighting, wayfinding, historical points of interest, benches, and other unique features.



On-street parking and planting/utility zones (for street trees, benches, lighting standards, and bicycle parking) enhance pedestrian comfort by providing additional separation from motor vehicles. Buildings are often historic, and may be mixed-use with retail/commercial at street level and residences above.

Main Street is where most trade-offs occur between motor vehicle mobility and pedestrian activity. The posted speed limit is 25-30 mph, but speeds are often lower due to turnover of on-street parking, mid-block pedestrian crossings, the presence of bicycles, and the induced traffic calming of a well-designed, attractive corridor. It may be desirable to allow bicycles to mix with traffic where speeds are low enough and there is not sufficient space for a separated facility.

Priority Users and Secondary Users

Priority User Walking on pedestrian facilities and Motor Vehicles/Commercial Vehicles within the traveled way

Secondary User Motor vehicles/Commercial vehicles

Other Users Bicycle and Rural Transit

Speed

Target Operating Speed 15-25 mph depending on context

Traffic Tolerance Medium to High

Geometry

Number of Through Lanes 2 lanes

Lane Width 10'

Shoulder Width Not required if on street parking and/or a bicycle facility is present

Median 6' minimum if used as a pedestrian refuge and dependent upon design feasibility

Curbing Yes

Curb Radius 10' or less is desirable for shorter walking distances. Where larger vehicles must be accommodated, the curb radius may be increased in combination with other infrastructure adjustments such as curb extensions

On Street Parking Parallel, angled or reserve angled

Overlays Destination Street, school zone/trail, transit stop

Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type Sharrows encouraged if the prevailing speed is less than 25 mph; designated bike lane if greater than 25 mph

Bicycle Facility Dimension greater than 4' for designated bike lanes. May be increased if using buffered bike lanes.

Walking Facility Type Sidewalk

Walking Facility Dimension greater than 6' depending on context. Width should increase with intensity of use.

Separation from travel lanes Variable depending on traffic speed and volume

Shy Zone Width 2' depending on context

Transit Accommodations Benches, signage, and a shelter are recommended where demand is sufficient and/or service is infrequent

Context Enhancements

Street Trees and Vegetation Yes

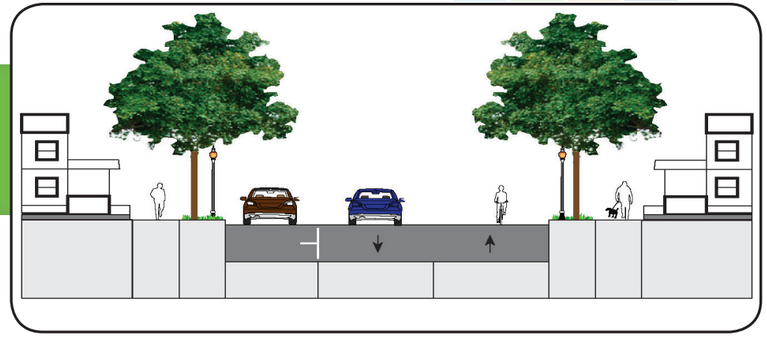
Gateway Treatment Desirable for traffic calming

Furniture Outdoor dining, recycling/trash receptacles, benches, bicycle parking, public art.

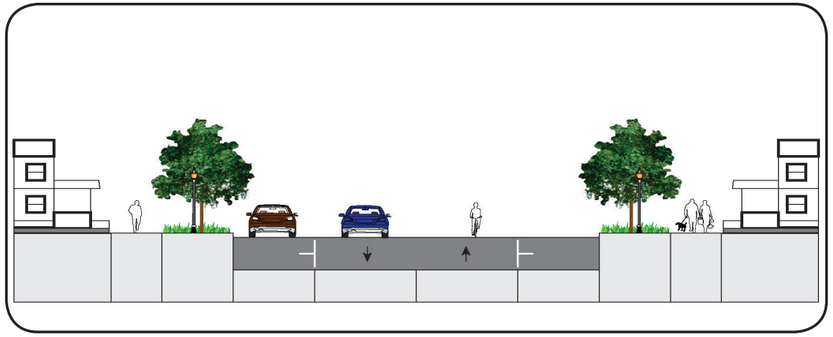
Illumination Pedestrian-scaled

CORRIDOR TYPE

TOWN CENTER RESIDENTIAL



Existing Town Center Residential Street (retrofit)



New Town Center Residential Street

These streets are wide enough to permit on street parking and two-way traffic. The posted speed limit is 25 mph, but speeds are often lower due to short blocks and a grid pattern. Travel speeds should be low enough to be a forgiving environment for pedestrians. Bicyclists of all ages and abilities should feel comfortable sharing the road with motor vehicles. Intersections may be STOP sign controlled.

The streets may feature sidewalks on both sides of the street, pedestrian-scale lighting, and a tree canopy. Neighborhoods may include community schools, parks, churches, and small-scale commercial/retail such as corner stores or houses converted to professional offices.

Priority Users and Secondary Users

Priority User Walking

Secondary User Motor vehicles/Commercial vehicles

Other Users Local transit

Speed

Target Operating Speed 15-25 mph depending on context

Traffic Tolerance Low

Geometry

Number of Through Lanes 2

Lane Width Up to 20' for travel; up to 36' with parking on both sides of the street.

Curbing Yes

Curb Radius 10' or less is desirable for shorter walking distances.

On Street Parking Parallel

Overlays School Zone/Trail, Transit Stop

Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type Unnecessary if the prevailing speed is 15-20 mph. Younger riders may use sidewalks.

Bicycle Facility dimension NA

Walking Facility Type Sidewalks

Walking Facility Dimension 5' minimum for a sidewalk

Separation from travel lanes Sufficient for a comfortable walking experience

Shy Zone Width 2' depending on context

Transit Accommodations Benches, signage and a shelter are recommended where demand is sufficient and/or service is infrequent.

Context Enhancements

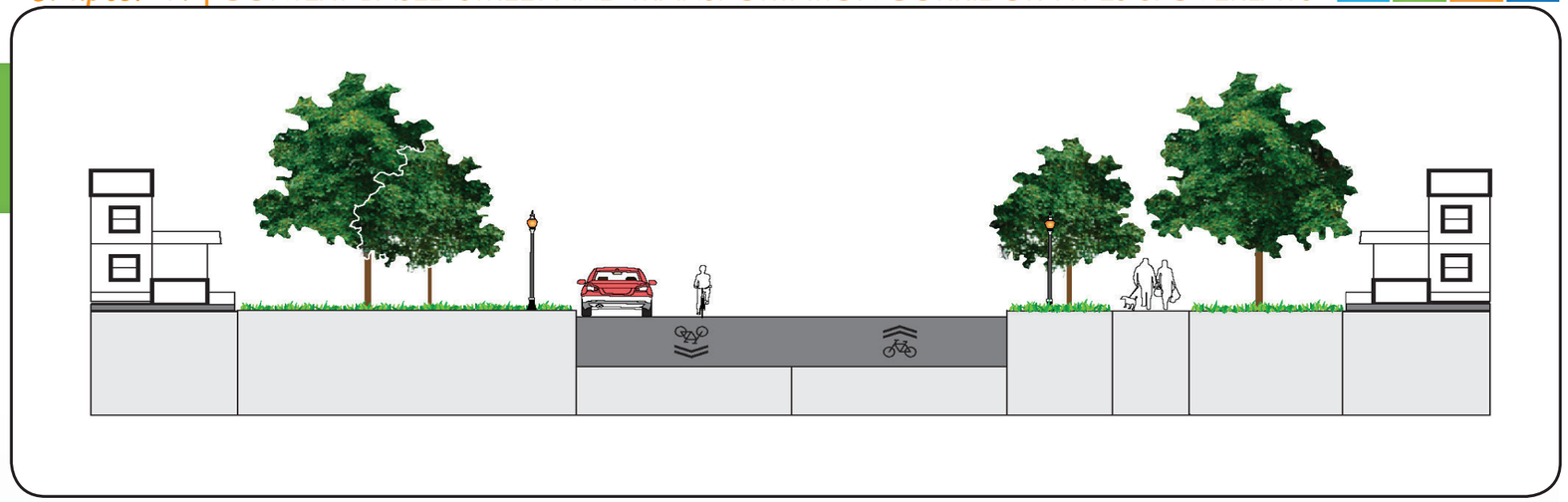
Street Trees and Vegetation Yes

Furniture Bicycle parking, benches

Illumination Pedestrian-scale as necessary

CORRIDOR TYPE

RESIDENTIAL SUBDIVISION



These streets are wide enough to permit on street parking and two-way traffic. Sidewalks or multiuse paths may be used to facilitate walking and bicycling. The land use is low to moderate density residential and may include a neighborhood school and/or park. The posted speed limit is 25 mph, but speeds are often higher as these streets lack traffic calming features such as a mature tree canopy, homes close to the street, short blocks, mixed uses, parked cars, and street life. Connectivity for walking and bicycling may be enhanced using interconnected multiuse paths and trail/sidewalk easements in cul-de-sacs. Streets can function as shared spaces for motor vehicles, bicycles, and pedestrians where travel speeds are sufficiently low and sidewalks or multiuse paths are not present.

Priority Users and Secondary Users

Priority User Walking

Secondary User Bicycling and Motor Vehicles

Other Users Local transit

Speed

Target Operating Speed 20-25 mph

Traffic Tolerance Low

Geometry

Number of Through Lanes 2

Lane Width Up to 20' for travel; up to 36' with parking on both sides of the street

Curbing Yes

Curb Radius 10' or less is desirable; no more than 25'

On Street Parking Parallel

Overlays School Zone/Trail, Transit stop

Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type Unnecessary if the prevailing speed is 15-20 mph. Younger riders may use sidewalks

Bicycle Facility dimension NA

Walking Facility Type Sidewalk/trail-greenway

Walking Facility Dimension 5' minimum for a sidewalk

Separation from travel lanes Sufficient for a comfortable walking experience

Transit Accommodations Benches, signage and a shelter are recommended where demand is sufficient and/or service is infrequent

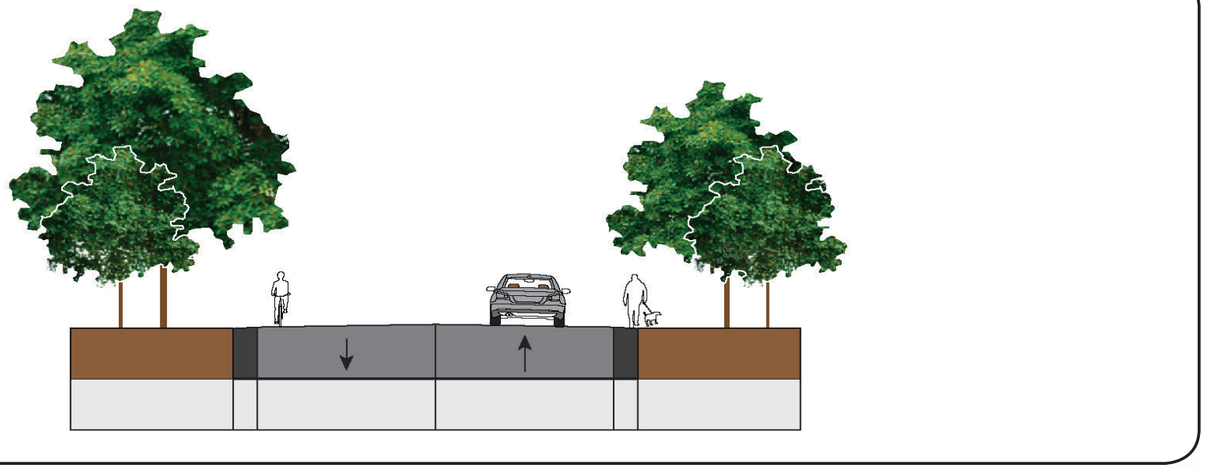
Context Enhancements

Street Trees and Vegetation Yes

Illumination Pedestrian-scale as necessary

CORRIDOR TYPE

COUNTY CONNECTOR



The County Connector facilitates moderate-speeds between regional roads (Rural Highways A & B). The posted speed limit is 35-45 mph, but speeds are often lower due to limited sight distances and narrow lanes. Land use may be low-density residential, agricultural, light industrial, state forest, or schools. These roads may be favored by recreational bicyclists who want to be challenged by the terrain, who are interested in taking the scenic route, or who are looking for low stress alternatives to other parts of the circulation system. Walking and bicycle accommodations may be met by using shoulders with widths sufficient to provide comfortable and safe separation from traffic. Where constrained right-of-way does not allow for a shoulder or parallel multiuse path, traffic calming measures must be introduced to slow motor vehicles to allow for safe passage of bicyclists.

Priority Users and Secondary Users

Priority User Motor vehicles
Secondary User Bicycle, Rural Transit and Commercial Vehicles
Other Users Walking for fitness, errands and social connections

Speed

Target Operating Speed 30-40 mph depending on context
Traffic Tolerance Medium

Geometry

Number of Through Lanes 2
Lane Width 10'-11'
On Street Parking Depending on Context

Overlays School Zone/Trail, Scenic/Historic Highway Preservation Zone

Walking and Biking Accommodations (Minimum/Ideal)

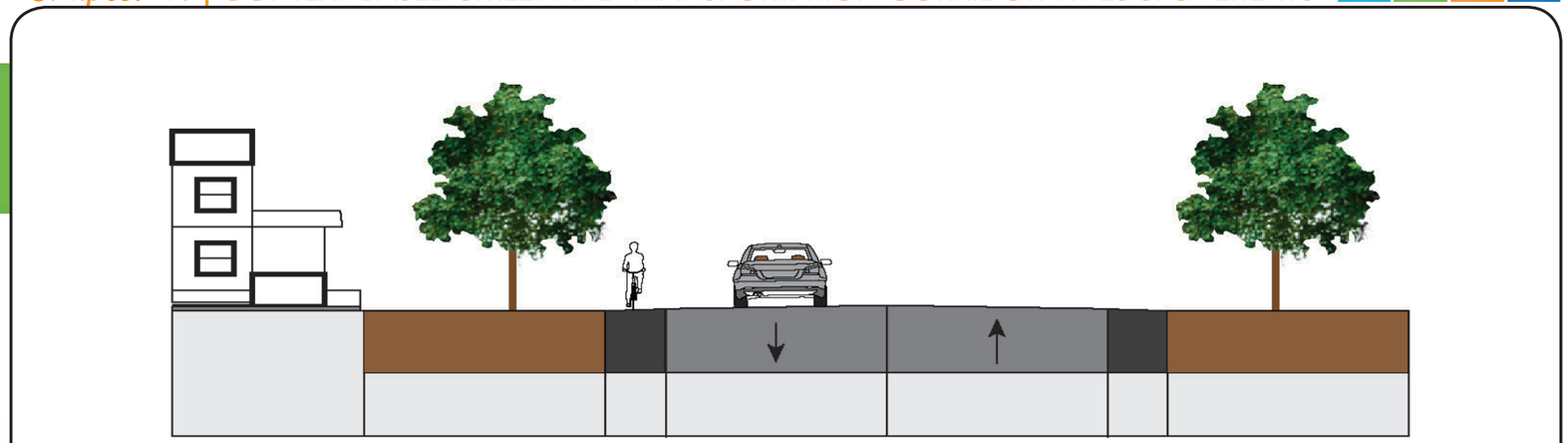
Bicycle Facility Type Shoulder/trail-greenway
Bicycle Facility dimension 4' minimum where ROW permits
Walking Facility Type Shoulder/Sidewalks or trail-greenway
Walking Facility Dimension 4' shoulder or 5' sidewalk where ROW permits
Transit Accommodations Pull-off and shelter recommended where ROW permits and demand are sufficient

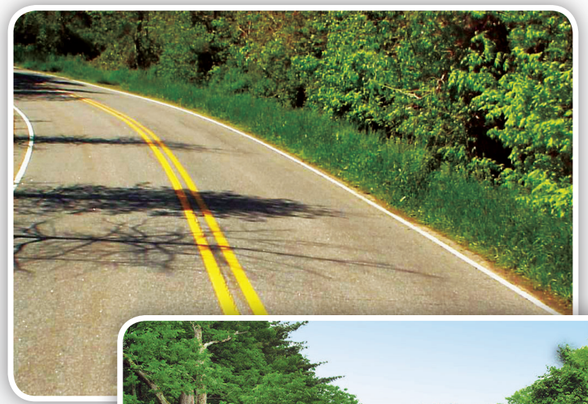
Context Enhancements

Illumination As necessary

CORRIDOR TYPE

ACCESS ROAD





The Access Road facilitates access to residential development, recreational destinations, or commercial developments. The posted speed limit is 25-35 mph, but speeds are often lower due to a lack of through-traffic and the relatively short distances traveled. Walking and bicycling accommodations may vary considerably, ranging from multi-use paths, to sidewalks, to striped shoulders, to shared space, but should be deter¬mined by context, future use, and proximity to other walking and bicycling destinations. It is important to note that an Access Road is not a County road and its design is dictated by local ownership.

Priority Users and Secondary Users

Priority User Motor vehicles
Secondary User Bicycling and walking for fitness, errands and social connections
Other Users Commercial Vehicles

Speed

Target Operating Speed 20-30 mph
Traffic Tolerance Medium

Geometry

Number of Through Lanes 2
Lane Width Variable
On Street Parking Depending on Context

Overlays Transit Stop

Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type Unnecessary if the prevailing speed is less than 30 mph/shoulder if greater than 30 mph
Bicycle Facility dimension NA
Walking Facility Type Shoulder/Sidewalk
Walking Facility Dimension 4' shoulder or 5' sidewalk where ROW permits

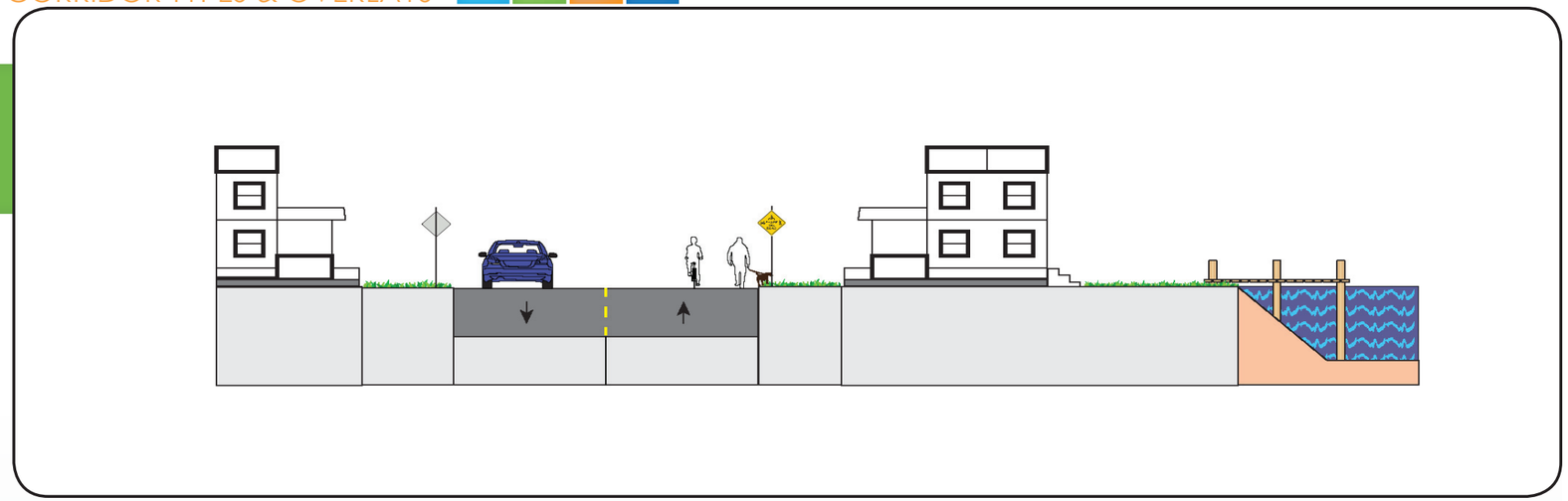
Transit Accommodations Pull-off and shelter recommended where ROW permits and demand are sufficient

Context Enhancements

Street Trees and Vegetation Native
Gateway Treatment As necessary
Illumination As necessary

CORRIDOR TYPE

LAKE COMMUNITY STREET



Lake communities are important to the geography and economy of Sussex County. Lake Community Streets perform a variety of functions including facilitating through travel, lake access, to residences, parking, and walking and bicycling trips, often by families. Cross sections, ownership (public or private), and contexts may vary greatly. Due to the wide range of functions and contexts, trade-offs on mobility are required for Lake Community Streets.

Accommodating the safety and mobility of pedestrians, whether they are exiting parked vehicles, walking over to chat with a neighbor, or walking for health, should be the primary design consideration of Lake Community Streets. Where sufficient right-of-way exists, a multiuse trail is the ideal walking and bicycling accommodation. Where right-of-way is constrained novel/low cost approaches that reassign portions of the pavement may be attempted. For example, creating a courtesy street by removing the center stripe would calm traffic and free up roadway for a striped/separated pedestrian way along the pavement's edge. It may be desirable to use low cost approaches to walking/bicycling and traffic calming that can be deployed when demand is high, and reversed in the off season.

Priority Users and Secondary Users

Priority User Bicycling and Walking

Secondary User Motor Vehicles

Other Users Local transit

Speed

Target Operating Speed 15-20 mph

Traffic Tolerance Variable depending on the season

Geometry

Number of Through Lanes 2

Lane Width Variable

On Street Parking Seasonal

Overlays Village/Hamlet, School/Zone/Trail, Preservation Zone, Transit Stop

Walking and Biking Accommodations (Minimum/Ideal)

Bicycle Facility Type Unnecessary if the prevailing speed is 15-20 mph/shoulder

Bicycle Facility dimension 4' shoulder where ROW permits

Walking Facility Type Shoulder/Sidewalks

Walking Facility Dimension 4' shoulder or 5'sidewalk where ROW permits

Multiuse Facility It may be desirable to substitute a mixed-use facility for shoulders or sidewalks. A bikeway/pedestrian-way is bidirectional, with a target operating speed of 10 mph, a physical separation from the travel lane, and may be a seasonal installation.

Transit Accommodations Pull-off and shelter recommended where right-of-way permits and demand are sufficient

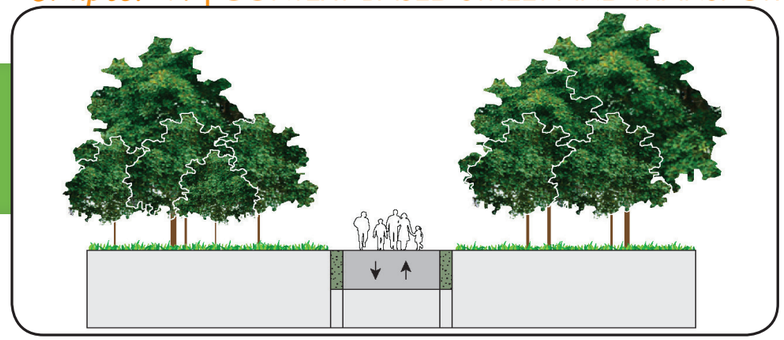
Context Enhancements

Gateway Treatment As necessary

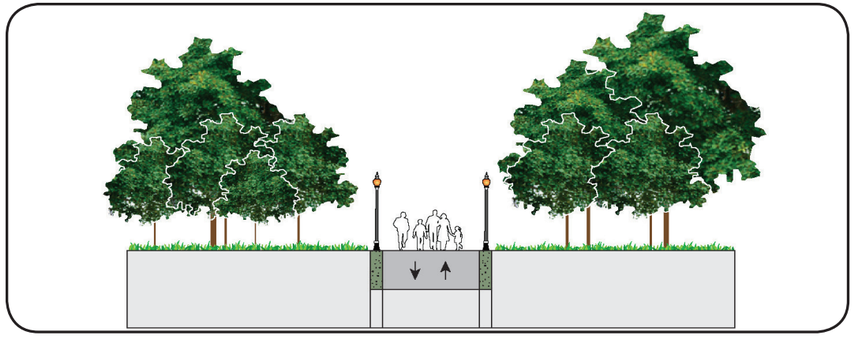
Illumination As necessary

CORRIDOR TYPE

TRAILS/GREENWAY



Rural context



Urban context

Trails and greenways provide for a safe and comfortable walking and bicycling experience. Trails and greenways may be located in abandoned railroad corridors, conservation easements, parks, or flood zone easements. A well-connected, well-designed trail network can generate economic activity from bicycle tourism. Exceptionally popular routes may stimulate the establishment of bed & breakfasts, restaurants, and bike shops.

Trails and greenways may exist in a variety of contexts from rural to urban. Where trails intersect with roadways, crossings must be well-designed and provide sufficient warning to drivers and trail users. Trails and greenways can be enhanced with such amenities as solar lighting, restrooms, water fountains, wayfinding maps, mile markers, and benches. The surface may be cinder, gravel, asphalt, concrete, or crushed limestone. Trails may be groomed in the winter for cross-country skiing. The intended users of trails are pedestrians, cyclists, and equestrians. Trails require regular maintenance to prevent overgrowth of vegetation.

Priority Users and Secondary Users

Priority User Bicycling and Walking
Secondary User Equestrian
Other Users Cross-country skiing

Speed

Target Operating Speed 15 mph (bicyclist)

Overlays School Zone/Trail, Preservation zone

Context Enhancements

Street Trees and Vegetation
Furniture Water fountains, benches and kiosks
Illumination As necessary

OVERLAY

DESTINATION STREET

This is a Main Street that is a local and regional destination and gives priority to walking. The street may be closed to traffic to facilitate festivals, arts, or dining. If open to traffic, the prevailing speed should be low enough for all users to mix comfortably.

Users

Priority User Shared space for walking, bicycling and driving

Secondary User Bicycling

Other Users Vehicles

Speed

Target Operating Speed 15 mph

Features

May include features such as wide sidewalks, visually interesting textures, benches, placemaking, low travel speeds and a distinct identity.

OVERLAY

VILLAGE HAMLET

A walkable cluster of residential, commercial, and industrial buildings located at a crossroads. It may also designate a small mixed-use node in a residential area.

Users

Priority User Vehicles and trucks

Secondary User Walking

Other Users Bicycling

Speed

Target Operating Speed 25 mph

Features

May include features such as narrowed travel lanes, reduced speeds, on-street parking as a buffer and sidewalks.

OVERLAY

SCHOOL ZONE/TRAIL CROSSING/TRAIL CONNECTOR

A traffic-calmed zone/corridor for walking and bicycling that features safe crossings and well-enhanced walking and bicycling accommodations.

Users

Priority User Walking and Bicycling

Secondary User Vehicles

Speed

Target Operating Speed 20- 25 mph for School Zones

Features

May include features to reduce speed such as advanced warning signage, pavement markings, sufficient shoulders, an adjacent trail or sidewalk, high visibility crosswalk treatment paired with pedestrian refuge island, HAWK signals, enhanced sidewalk/roadway lighting and in-pavement lighting.

School zone speeds may be as short as 200 to 300 feet when approaching speeds are 30 miles per hour or less.[16] According to the Safe Routes to School Guide, which is supported by the Federal Highway Administration (FHWA), the school zone encompasses all blocks that surround the school and have a high concentration of school related traffic. It includes all streets along the school and usually one to two blocks around it.

For trail crossings, where sight distance issues exist and County speeds on roadways are 40 to 50 mph, motorists should reduce speed and be prepared to stop not less than 15 feet before the trail. This is based on FHWA's Grade Crossing Handbook (Revised Second Addition August 2007), which can be applied to bicycle/walking trails. In addition, sight line deficiencies should be improved by removing structures or vegetation within the affected area as well.

OVERLAY

SCENIC/HISTORIC HIGHWAY

A corridor with historic or natural features that either enhance the transportation experience or draw users.

Users

Priority User Vehicles

Secondary User Bicycling

Speed

Target Operating Speed 35-45 mph

Features

May include features such as narrow travel lanes, limited shoulder, signage for points of interest, vehicle pull-offs for points of interest.

OVERLAY

PRESERVATION ZONE

Locations where geographic features or a desire for conservation of land, wildlife or natural resources will necessitate trade-offs in mobility to preserve the safety of all users.

Users

Priority User Shared space for walking, bicycling, and driving.

Speed

Target Operating Speed Defer to street type

Features

May include features such as reduced travel speeds for zones where a limited right-of-way necessitates sharing of the travel lanes with pedestrians, bicyclists and other users.

OVERLAY

TRANSIT STOP

A location with an existing transit stop or a future passenger rail station.

Users

Priority User Buses

Secondary User May include people arriving by walking, bicycling and driving. A priority should be given to pedestrian safety.

Speed

Target Operating Speed NA

Features

May include features such as information kiosks with system maps and schedules, a shelter equipped with seating, secure bicycle parking, ample lighting, vehicle parking and enhanced access for pedestrians and bicyclists.

The most clear and comprehensive industry guidance on liability and transportation can be found in AASHTO's 2004 Guide for Achieving Flexibility in Highway Design.

Liability and Complete Streets

The concerns of Sussex County representatives that adoption of a Complete Streets Policy could increase the County's liability – if the policy is implemented without common sense and without consideration of resource limitations – is valid. The most clear and comprehensive industry guidance on liability and transportation can be found in AASHTO's 2004 Guide for Achieving Flexibility in Highway Design. Chapter 4, covering Liability and Highway Design, states: "For almost three decades, exposure to tort liability has been an unwelcome reality for transportation agencies and their employees."

However, the Guide further indicates that the intent of Chapter 4 is to, "… resolve the fear that utilizing CSS [context-sensitive solutions] will increase exposure to liability and to establish confidence that tort liability should be considered but not be an impediment to implementation of CSS." On pages 104 and 105 of the 2004 AASHTO Guide, it points out there is considerable case law now holding that to be entitled to design immunity, public entities "… must make a showing that the policy decision sought to be held exempt was a conscious balancing of policy factors … [and] actually weighed competing considerations and made a conscious choice." This section draws upon the guidance provided in the 2004 AASHTO Guide as well as from a review and understanding of the NJ Tort Claims Act.

The NJ Tort Claims Act insulates public entities from liability in the planning and design of bicycle pedestrian facilities (and all other infrastructure), as well as maintaining those facilities, if that public entity engages in behavior that is reasonable and responsible in light of usage, funding and balance of other concerns. Planning and design are considered discretionary activities while maintenance is considered a ministerial activity. In planning and design, Sussex County has leeway in deciding when, where and how to install new bicycle and pedestrian infrastructure. Once designed, there is little discretion on how to maintain what has been installed. The ability or limitations of maintenance in an ever increasing inventory of transportation infrastructure is what causes concern for most jurisdictions pondering the ramifications of adopting Complete Streets policies.

The answer to this will lie in how Sussex County modifies (if necessary) its current Maintenance Service Levels to reflect the new emphasis on Complete Streets. Though the County has no codified list and schedule for all the elements of its maintenance activity, they can be found in Freeholder resolutions and State stormwater rules. It has already established Service Levels for the various elements of transportation infrastructure, and it will need to review those to see if new or revised Service Levels are needed to reflect different response times for Complete Streets elements, such as sharrows. For example, it may be reasonable for Sussex County to establish that the response time to lack of maintenance with fading sharrows can be slower than the time needed to correct fading center lines.

The NJ Tort Claims Act insulates public entities from liability in the planning and design of bicycle pedestrian facilities (and all other infrastructure), as well as maintaining those facilities, if that public entity engages in behavior that is reasonable and responsible in light of usage, funding and balance of other concerns.

At intersections near a school with known crossing of children, higher service levels could be prescribed than for less busy locations.

Conducting this kind of review immediately before or after adoption of a Complete Streets policy will establish a public record that the County engaged in a conscious exercise of discretion in how to balance competing interests and financial realities. For instance, in light of dwindling transportation budgets, the County will need to determine if it is more responsible to public safety interests to install new crosswalks and bike lanes even if the County does not have the budget to keep them from fading, or if it is better not to install them at all and have the exposure of liability risk by not providing safe mobility for pedestrians and cyclists. AASHTO's 2004 Guide suggests that the County may have the discretion to make a choice to provide safe accommodation for cyclists and pedestrians or not to. More importantly, the County will have to openly make a choice. One of the greatest exposures to liability occurs when it cannot be demonstrated that the government made a choice. In the case of Sussex County, the courts will recognize that: a) the County is fully aware of the trend of the prevailing practice to provide multi-modal choices on streets; and b) potentially, the County will have to manage certain financial realities like all government entities.

Adoption of a context-sensitive Complete Streets Policy for decision-making and ensuing procedures that direct the County to plan, design and maintain using Complete Streets elements will provide far more protection from liability than not passing one due to a belief that the absence of a policy will insulate the County. It is further noted that the implementing guidance and service levels will be context-sensitive at the project level. For instance, the absence of a marked crosswalk does not generate the same level of safety exposure at all places in the County. At intersections near a school with known crossing of children, higher service levels could be prescribed than for less busy locations.

If within the County, decision-makers are able to work together and weigh all contexts, and write implementing guidance and service levels that are sensitive to all contexts, then the County will be more immune to liability than it is today. Furthermore, in light of a trend towards valuing an increase in transportation options, it may be more likely that the County could be held liable for failing to draft a policy and procedures in a balanced way that would take into account budget and staffing realities.

Informing the public through interactive workshops

Chapter VII

PILOT LOCATIONS

Selected Pilot Locations were identified by Sussex County for the evaluation and assessment of potential Complete Streets improvements. The types of locations that were chosen included streets, intersections, trails and trail crossings. For each location, observations were recorded regarding the character and setting of each place, the presence or absence of pedestrian and bicycle facilities, and major nearby destinations and generators. A SWOT analysis conducted for each site lists the strengths, weaknesses, opportunities and threats observed. This information-gathering phase informed the potential improvement strategies to be analyzed for each location. Potential strategies were presented to the public and stakeholders for input.

The public's visions were bold when it came to Complete Streets improvements for the Pilot Locations. When given the opportunity to weigh-in on strategies, it was not uncommon for a majority of votes to go to the one that would require the largest investment. The public's input, collected at public meetings and from an online survey, served as evaluation criteria in the selection of recommendations for the Pilot Locations. However, the final set of recommendations also includes short-term strategies that may be initiated relatively soon, with projects involving larger investments to follow in the future.

The recommendations, informed by the SWOT analysis and public input, were further vetted and distilled through on-the-ground site analysis and observation at each of the Pilot Locations. Observations of traffic volumes and travel patterns, pedestrian movements, and the physical configuration of the sites were critical to gauging the feasibility of each recommendation. Satellite imagery, field views and online mapping was used to determine the roadway widths used in the cross sections and designs. Gathering the best information available on roadway widths combined with on-site observations guided the design of each recommendation.

Pilot Location Analysis and Recommendations

The recommendations are categorized into short-, medium- and long-term implementation phases. Each of these are associated with an approximate time frame: short (1-3 years), medium (3-7 years), and long (7 + years). The Pilot Locations are intended to be representative of locations and conditions found throughout the County for which these recommendations also may be applicable.

Pilot Location Implementation Matrix

The Implementation Matrix (shown in the appendix) provides cost, operation and maintenance considerations, possible funding sources,and leading agency partners for the pilot project recommendations. In some cases, lower cost recommendations should focus on local funding sources, while higher cost projects may be better suited for state or federal funds. The Implementation Matrix can be found in Appendix J.

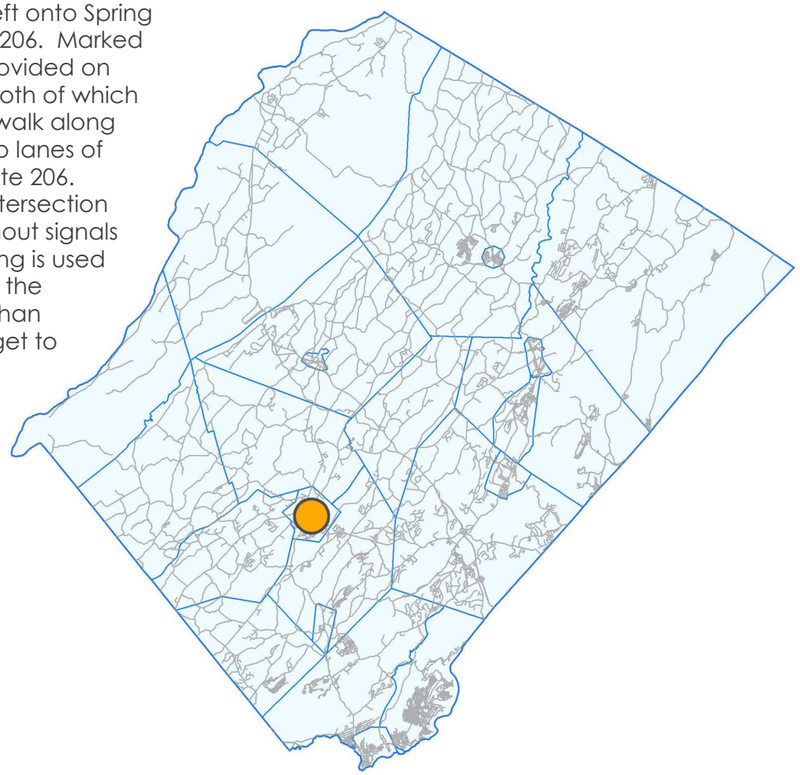
Federally-funded programs akin to the Safe Routes to School, Transportation Alternatives Program, Local Safety Program, and High Risk Rural Roads Program involve a competitive application process with multiple criteria for eligibility and have an application point system to receive funds. Diligent attention to the application guidelines for each program should be considered for a successful application. The Local Safety Program and High Risk Rural Roads Program require that proposals be supported by data driven crash analysis. In some cases, a commitment to maintenance and letters of support at the local level are key in the application ranking process. In addition, having a Complete Streets Policy can help leverage the application. Reference to planning studies, in some cases, can also improve an application's ranking.

See the Funding Opportunities descriptions in the Resources chapter for more information.

US ROUTE 206 – SPRING STREET, TOWN OF NEWTON

Description

The three-point intersection of Route 206 and Spring Street is located along a historic, pedestrian-oriented main street. Buildings are street-facing and located along the sidewalk. Traffic traveling north on Route 206 must turn left onto Spring Street at Newton Green to continue on Route 206. Marked crosswalks and pedestrian signal heads are provided on two of the three crossings in the intersection, both of which are ADA-compliant. There is no painted crosswalk along the northwest leg of the intersection where two lanes of traffic are turning left to continue north on Route 206. According to New Jersey law, this leg of the intersection is still recognized as a crosswalk; however, without signals or signage it unsafe for pedestrians.[5] This crossing is used frequently by persons who have parked along the square and choose this direct crossing rather than crossing two legs in the marked crosswalks to get to the north side of Spring Street.

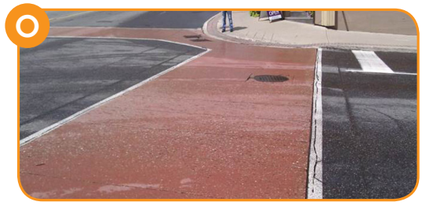


Strengths

- Traditional town main street designed for both pedestrians and automobiles.
- Street-facing buildings line sidewalks.
- Concentration of land use generators and attractors for pedestrians.
- Proximity to major employment center (County and Court Offices).
- Pedestrian crossing signals and signage.
- Spring Street and Route 206 have crosswalks with curb ramps, with infrastructure in place to support walking, biking, and transit in balance with driving.

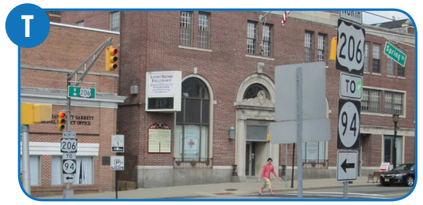
Weaknesses

- Fast-moving traffic turning left onto Spring Street to continue on Route 206.
- Pedestrian facilities only exist on two of the three crossings.
- Deteriorated physical condition of crosswalks.
- No marked bicycle infrastructure.



Opportunities

- Third marked crosswalk and pedestrian countdown signal.
- Install contrasting-color unit-paver or poured concrete crosswalks at all three crossings.
- Recalibrate signal phasing to provide for safe pedestrian movement across Spring Street and install countdown heads on the two existing pedestrian lights.
- Provide streetscape with trees, planters, and lighting.
- Provide signage at the intersection with wording similar to "Town of Newton is a Pedestrian-Friendly City" to stress to motorists the presence of pedestrians on Spring Street.
- Study the possible restoration of two-way traffic around Newton Green.



Threats

- Unsafe pedestrian crossing conditions on the unmarked leg of the intersection.
- Perception of travel route solely as fast-moving highway (Route 206).
- Recent development is occurring in shopping centers and malls, creating competition for local businesses, undermining its viability for commerce and for walking, biking, and transit use.

US ROUTE 206 – SPRING STREET, TOWN OF NEWTON

Typology: Main Street

Recommendations:

Short Term

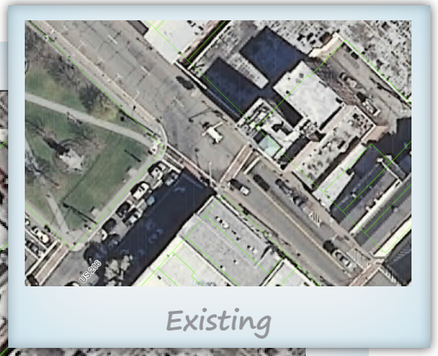
1. **Crosswalk:** Install a crosswalk on the northwest leg of the intersection, where pedestrian crossing is currently discouraged by a lack of pedestrian facilities.

2. **New Pedestrian Countdown Signal:** Install a pedestrian countdown signal head at all legs of the intersection in conjunction with the installation of the new crosswalk and as a replacement to the non-countdown pedestrian signal heads currently installed on two legs. A red light will be seen by left turning vehicles when the walk signal is activated by a pedestrian for the new northwest leg crosswalk.

3. **Crosswalk Surface Improvements:** The old stamped crosswalks are deteriorating. Install new crosswalks on all legs, in tandem with the installation of the third crosswalk. The ideal crosswalk material would be concrete unit pavers or tinted poured concrete – a material that has proven to hold up under extreme weather conditions in places like Toronto, Canada.

Long Term

1. **New Traffic Pattern:** Review the history of the current one-way traffic pattern around the square in order to determine if the conclusions supporting the current pattern remain valid or if a return to the former two-way flow might be a means to achieve more balanced circulation. Northbound trucks and through-traffic will no longer need to travel around the perimeter of the entire square, which will also create safer conditions for pedestrians.



Proposed Intersection Improvements

US Route 206/Main Street and Spring Street Intersection

N

Legend

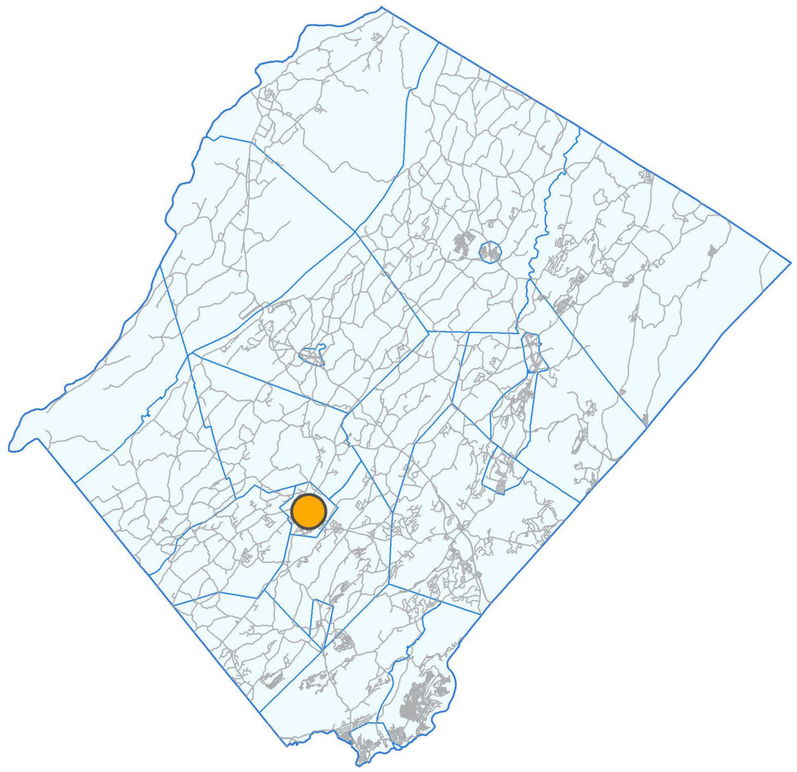
Crosswalk

Pedestrian Signal

US ROUTE 206 AND MILL / TRINITY STREETS, TOWN OF NEWTON

Description

This busy intersection is in an area that marks the transition from the center of Newton to the strip commercial character of Route 206 to the north. Destinations are clustered around this intersection, resulting in pedestrian traffic. Sidewalks and ADA- compliant curb ramps exist on all four corners. Transit stops for Skylands Connect Bus are located both on Mill Street and Trinity Street, a block or two in either direction from the intersection. The High Point to Cape May Bike Route passes through this intersection along Mill Street and Trinity Street.



Strengths

- Concentrations of land use generators and attractors of pedestrians, bicyclists, and transit users.
- Two bus stops within a block of the intersection.
- Pedestrian crossing signals.
- Recently added to add new curb ramps.
- Proximity to major employment center (County and court offices).
- Buildings on intersection corners are adjacent to sidewalks and easily accessible to pedestrians.
- High Point to Cape May Bike Route (on-road) travels through this intersection.

Opportunities

- Install contrasting-color concrete unit-paver or poured concrete crosswalks at all crossings.
- Reallocate space in cartway to accommodate a median/pedestrian refuge(s).
- Add additional visual and audio alerts for drivers approaching the intersection from the south. This may include signage or a textured strip of pavement notifying drivers of approaching traffic signal and the pedestrian crossing.
- Create bike signage or pavement markings for High Point to Cape May Bike Route along Mill and Trinity Streets.
- Remove pedestrian activated buttons to give pedestrians in all directions the walk signal automatically.

Weaknesses

- Crosswalks are not highly visible.
- Some sidewalks connecting to the intersection are narrow.
- No countdown signal heads
- Orange crossing signal begins to flash while pedestrians are half-way across the street. This confuses pedestrians who assume this means they should no longer be in the crosswalk.
- The walk signal east/west across Route 206 only operates when activated with the button.
- Pedestrian buttons are placed too high on the signal poles to meet ADA requirements.
- No High Point to Cape May Bike Route signage or pavement markings.

Threats

- Physical limitations (tight right-of-way because of existing structures) may preclude the expansion of sidewalk width within the cartway on Mill and Trinity.
- Fast moving traffic on Route 206.
- The crossing distance is wide and is intimidating for pedestrians.

Typology: Main Street

Recommendations:

Short Term

1. **Crosswalk Replacement:** Replace existing deteriorating crosswalks on all four legs of the intersection. The ideal materials for replacement are either concrete unit pavers or tinted poured concrete. Though unit pavers may require a significant initial investment, they have a lifespan of up to 80 years. Other advantages of unit pavers include the ability to accommodate heavy traffic loads, which this intersection experiences as part of Route 206 through traffic, and unit pavers' durability in extreme hot and cold weather conditions. Unit pavers and tinted poured concrete are typically a contrasting color to the pavement, creating more visible crosswalks for motorists. Other options for new crosswalks include paint, heat print, or stamped pattern. Upgrade curb ramp on southeast corner with detectable warning surface.

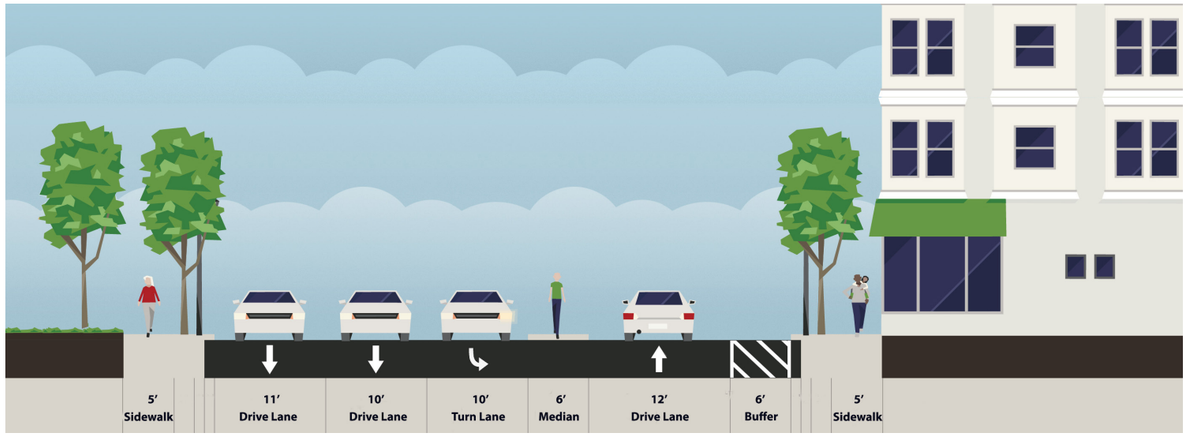
2. **Pedestrian Countdown Signal:** Remove pedestrian activated signals and change pedestrian head signals to countdown type. Pedestrian walk signals will be activated as part of the routine signal cycles and take into account left turning vehicles on the filter left light. As an intersection located in downtown Newton, and adjacent to destinations, pedestrian activity is fairly constant and should be accommodated in the regular cycle of the signals.

Medium Term

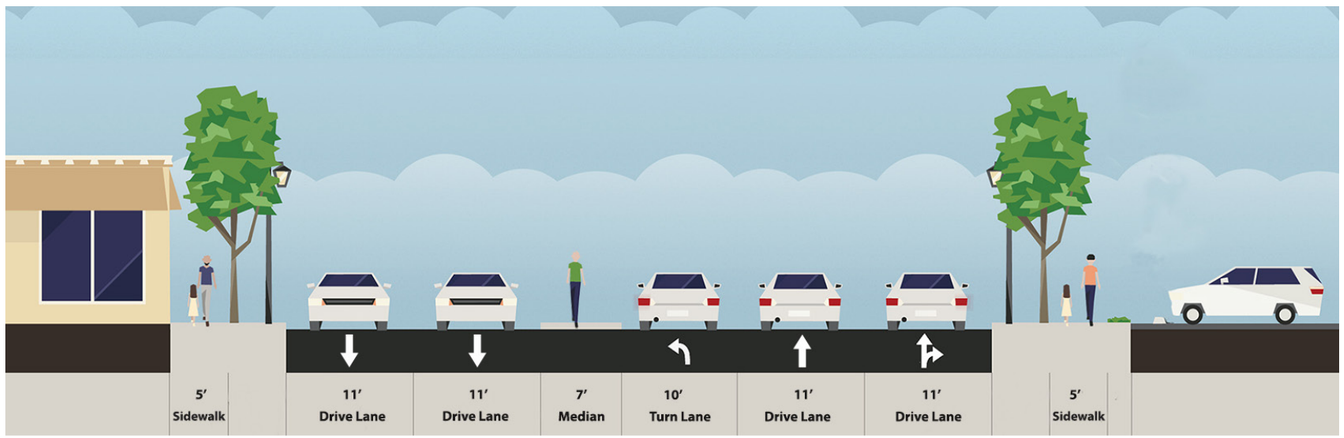
1. **Pedestrian Refuge Median:** Reconfigure the lanes on both Route 206 approaches to accommodate the installation of pedestrian refuge medians. A raised pedestrian median allows pedestrians to cross one direction of traffic at a time, increasing the safety of crossing. FHWA guidance states that medians should be at least six-feet wide, though eight feet wide is preferable.[6] Six- and seven-foot wide medians can be accommodated on Route 206 with reconfigurations of the travel lanes on Route 206.

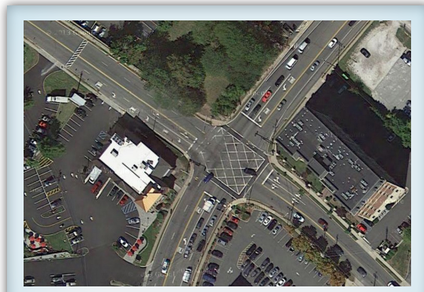
US ROUTE 206 AND MILL / TRINITY STREETS, TOWN OF NEWTON

Route 206 and Mill/Trinity Conceptual Future Cross Section – North Leg of Intersection, looking northbound

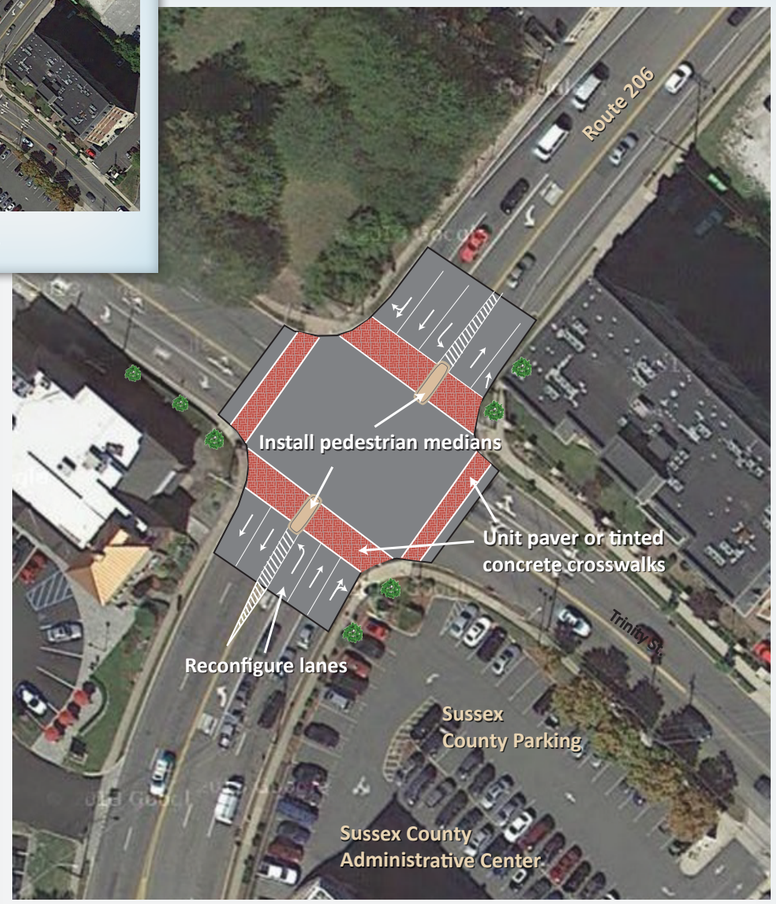


Route 206 and Mill/Trinity Conceptual Future Cross Section – South Leg of Intersection, looking northbound





Existing



Proposed Intersection Improvements

US Route 206/Mill St./Trinity St. Intersection

N

Legend

Crosswalk

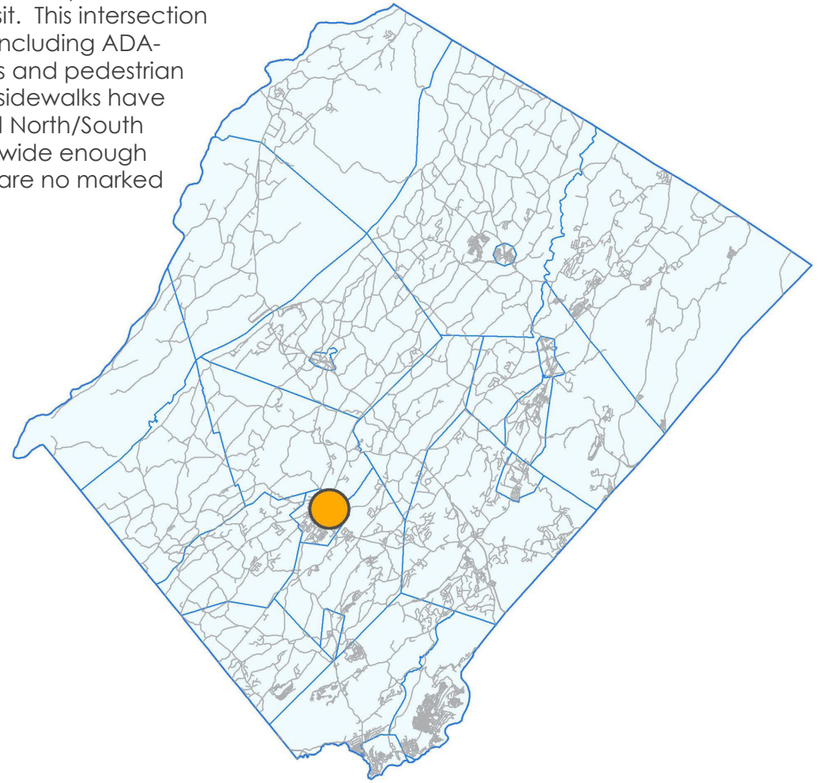
Pedestrian Median

Street Trees

US ROUTE 206 AND NORTH PARK & SOUTH PARK DRIVE, TOWN OF NEWTON

Description

Route 206 in the vicinity of North/South Park Drive is an automobile-oriented, high volume, commercial corridor that has attracted recent retail development, including "big box" grocery stores, Kohl's Department Store, and a Home Depot. This area contains retail businesses that are attractors of pedestrians, bicyclists, and transit users, in addition to motorists and truck traffic. It is likely that additional commercial development will be built here, and the area will increasingly attract patrons who travel on foot, by bicycle, or via transit. This intersection has received recent improvements, including ADA-accessible ramps, painted crosswalks and pedestrian countdown signal heads. However, sidewalks have significant gaps along Route 206 and North/South Park Drive. Although the shoulder is wide enough to accommodate bikes lanes, there are no marked bike lanes along Route 206.



Strengths

- Cluster of commercial and employment destinations.
- Existing bus stops to destinations along corridor.
- Paved shoulders act as bike lanes.
- Recent actions to add new crosswalks, pedestrian signals, ADA-compliant curb ramps, and sidewalks.
- Rights-of-way on both Route 206 and Park Drive are wide enough to accommodate pedestrian and bicycle facilities.
- Recent and ongoing development of commercial sites.
- Flat terrain on Route 206 – easy for walking and biking.

Weaknesses

- Lack of sidewalks along Route 206 and North/South Park Drive.
- Where sidewalks are present, they often end abruptly (e. g. north of intersection), without meeting sidewalks on intersecting streets
- Crossing distance for pedestrians (across Route 206) is lengthy and may be intimidating.
- High-speed traffic.
- Multiple driveways.

Opportunities

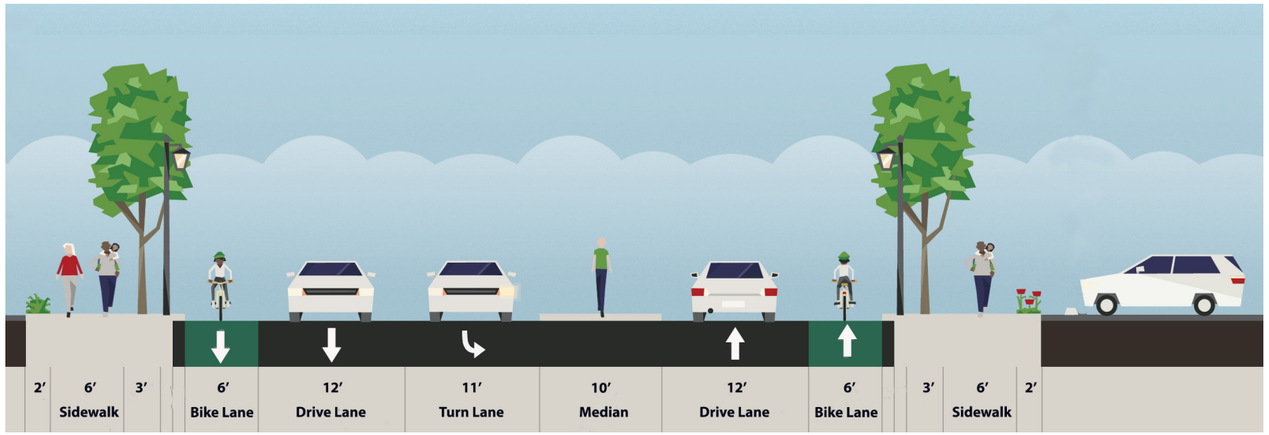
- Provide sidewalks where missing to create a continuous walking environment.
- Install contrasting-color unit-paver or poured concrete crosswalks at all crossings.
- Reallocate space in cartway to accommodate median/pedestrian refuge(s).
- Add pedestrian-scale lighting.
- Formalize allocation of cartway space to include bike lanes.
- Explore opportunities for new retailers to contribute to completing the sidewalks and street.

Threats

- Perception of Route 206 corridor as a high-speed highway.
- Recent development patterns place individual stores a long distance from each other with large parking lots which make walking between destinations unattractive and challenging.

US ROUTE 206 AND NORTH PARK & SOUTH PARK DRIVE, TOWN OF NEWTON

Route 206 and Park Drive Conceptual Future Cross Section – North Leg of Intersection



Typology: Rural Highway C

Recommendations:

Short Term

1. **Sidewalk Installation:** Install sidewalks, where missing, on both sides of Route 206, connecting the intersection to destinations to the north and south.

2. **Crosswalk Improvement:** Upgrade crosswalks with new paint in piano key or continental style. These kinds of crosswalks are more visible to motorists than the standard crosswalk that exists at the intersection currently, which increases motorist awareness and therefore, safety.

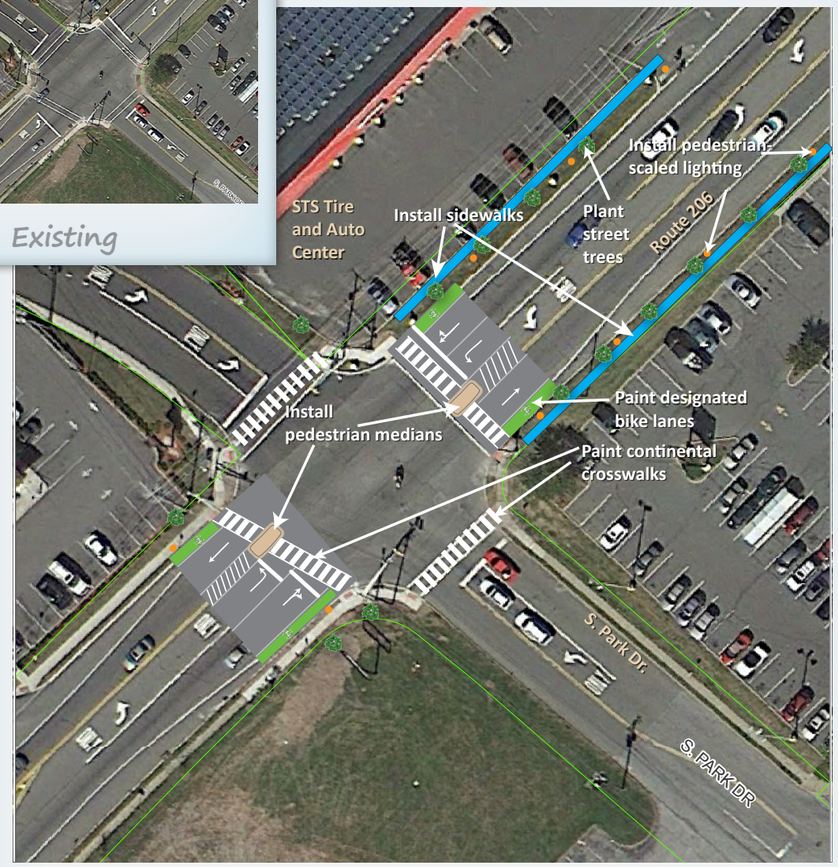
Medium-Long Term

1. **Pedestrian Refuge Median:** Install pedestrian refuge medians on Route 206 and reconfigure the lanes in Route 206 to accommodate the medians. The width of the cartway, 57 to 60 feet, can accommodate a 10-foot median.

2. **Bike Lanes:** Paint designated bike lanes on Route 206. The width of the cartway, 57 to 60 feet, can accommodate two 6-foot bike lanes in the existing shoulders. While bicyclists can currently use the shoulder for travel, paint and bike lane markings can increase safety for bicyclists and motorists.

3. **Streetscaping:** As part of the lane reconfiguration, median installation and designation of bike lanes, install pedestrian-scaled lighting and street trees. Streetscaping creates not only a more appealing place for pedestrians, but also creates a safer environment by alerting motorists that they are entering an area where they may encounter pedestrians.

Existing



Proposed Intersection Improvements

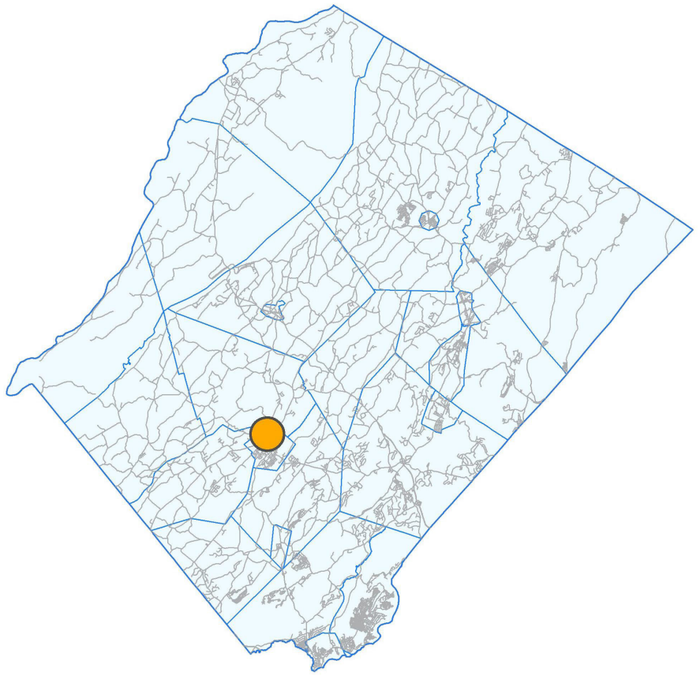
US Route 206/Park Dr. Intersection

N

Legend

- New Sidewalk
- Crosswalk
- Street Light
- Street Trees
- Pedestrian Median Refuge

ROUTE 519/MILL ST – WATER ST/US ROUTE 206 TO NORTH PARK DRIVE, TOWN OF NEWTON



Description

This corridor extends about 0. 8 miles from Water Street/Route 206 to North Park Drive along Route 519. The roadway may be characterized as having two segments, with the northerly half similar to a rural road with no curbs or sidewalks. The southerly half has been developed for some time, with residential, commercial, and industrial buildings, and some older sidewalks. Nonetheless, there are sidewalk gaps on some blocks and pedestrians have worn paths in the grass where sidewalks are lacking. Project Self-Sufficiency, a social services non-profit organization, and the Sussex County Community College are the two major attractors and generators of pedestrian, bicycle, and transit user activity in the northern segment of Route 519. ADA-compliance varies greatly throughout this segment. For instance, new sidewalk and curb ramp improvements in front of Project Self-Sufficiency are ADA-compliant, whereas there are not ADA-accessible connections available to the north or south. This segment of Route 519 is part of the High Point to Cape May Bike Route, although there are no signs in this segment denoting the bike trail alerting both bicyclists and drivers.

Strengths

- Concentrations of land use generators and attractors of pedestrians, and transit users, including the Sussex County Community College, Project Self-Sufficiency, shopping, and employment.
- Moderate terrain, making it feasible to walk or bike.
- Existing bus service with three stops along the corridor.
- Corridor is part of the High Point to Cape May Bike Route.
- Sidewalks on the portion of the corridor closest to Route 206.
- Street- and sidewalk-oriented buildings in the southerly portion closest to Route 206.
- Pedestrian signal (not countdown) at intersection to Sussex County Community College entrance.
- New sidewalks in front of Project Self-Sufficiency
- Right-of-way is wide enough to accommodate pedestrian and bicycle facilities.

Opportunities

- Create a continuous sidewalk from Route 206 along Mill Street to North Park Dr.
- Insert crosswalks and upgrade intersections with pedestrian-activated signals.
- Add pedestrian-scaled lighting.
- Route 519/Mill Street could be reconfigured or widened to allow for the creation of bike lanes, wider shoulders or sidewalks.
- Provide wayfinding signage for the High Point to Cape May Bike Route.
- Build bulb-outs to shorten the distance of the crosswalk just north of Route 206.
- Create sidewalk aprons/crosswalks over driveways.

Weaknesses

- Widespread lack of sidewalks along Route 519.
- Existing sidewalks have abrupt endings and gaps. They are narrow, aging and deteriorating in places.
- Lack of marked crossings.
- High-speed traffic on northern portion of corridor.
- Multiple wide driveways without sidewalks or aprons.
- The pedestrian path, where sidewalks would be, is obstructed by parking for adjacent businesses.
- Pedestrian signal (not countdown) at Sussex County Community College entrance is not accompanied by crosswalks or sidewalks.

Threats

- Perception of northern part of the corridor as high-speed highway is difficult to change; motorists may choose to drive fast, although the speed limit is 45 mph.
- Drivers have no indication that they may encounter pedestrians on the stretch north of the Community College.
- Recent development patterns have sited individual stores set-back from streets with parking in front, making walking along frontages and to stores' front doors unattractive and challenging.

Typology: Main Street, Rural Highway C

Recommendations:

Split the segment into two phases based on their distinct characteristics, as follows: 1.) Route 206 to the signal at Swartswood Road and Project Self Sufficiency location; and 2.) Swartswood Road signal to North Park Drive. The first segment, closest to the center of the Town of Newton should be a top priority due to the high number of pedestrians currently accessing destinations along this stretch of Route 519.

Segment 1

Short Term

1. Crosswalk Enhancement: Improve the safety of the existing mid-block crosswalk 225' northwest of the Route 206 and Mill Street/Trinity Street intersection by constructing bulb-outs, including ADA-compliant curb ramps and detectable warning surfaces to shorten the crossing distance.

2. Sidewalk Construction: Fill in missing links of sidewalk along the south/west side of Route 519 from Harrison Street to the Sussex County Community College.

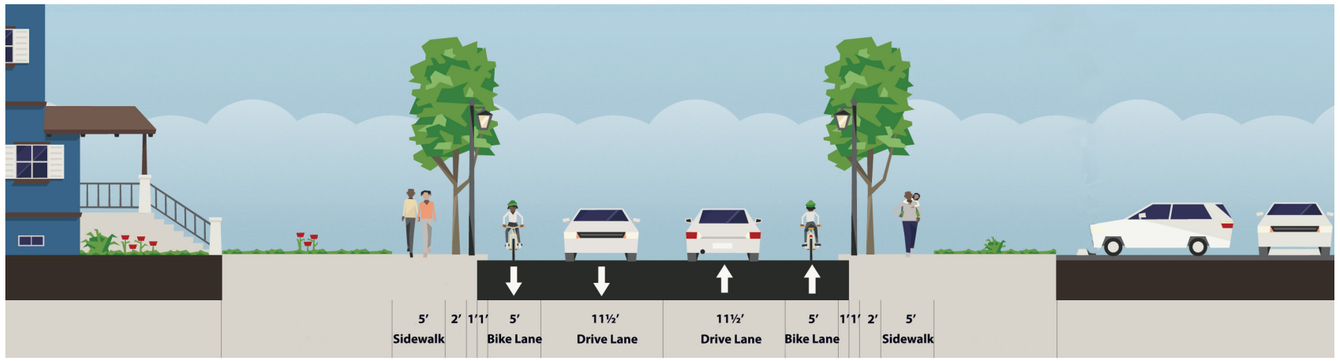
3. Signage: Install signage consistent with the designated State Bicycle Route.

Medium Term

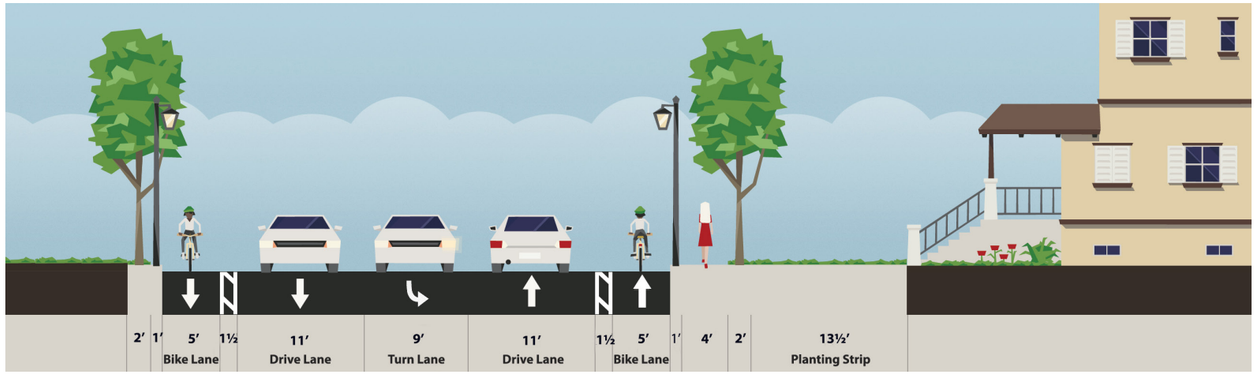
1. Improvements on the segment between Route 206 and Swartswood Road (southern segment): Lane reconfiguration between Route 206 and Swartswood Road to include designated bike lanes. Construct sidewalk where missing along north and east side from the Brookside Terrace apartments driveway to connect to the sidewalk at Project Self-Sufficiency. The installation of a sidewalk alongside Brookside Terrace property northwest of the driveway will entail moving the existing curb southwest by four feet. Install a crosswalk across Swartswood Road to complete a safe pedestrian route to the Sussex County Community College and install a crosswalk across Route 519 at Swartswood Road. Include complementary addition of pedestrian-scaled lighting and street trees with other improvements. Note: Extension of sidewalks to the Newton/Fredon municipal boundary would permit the school district to eliminate bus service along this stretch. This would have a significant long-term benefit both from the standpoint of physical activity for the children and economic benefit to the school budget and tax levy.

ROUTE 519/MILL ST – WATER ST/US ROUTE 206 TO NORTH PARK DRIVE, TOWN OF NEWTON

Route 519 at Harrison St Conceptual Future Cross Section – Looking northbound



Route 519, 800 ft. south of North Park Drive Conceptual Future Cross Section – Looking northbound



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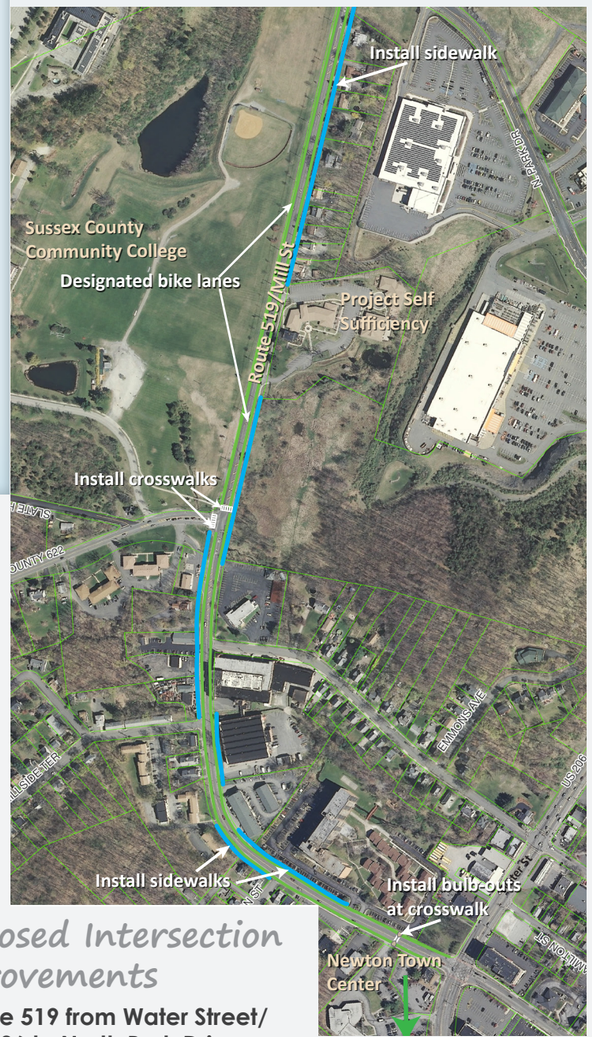


Proposed Intersection Improvements

US Route 519 from Water Street/ Route 206 to North Park Drive

Legend

New Sidewalk | Designated Bike Lane | Crosswalk

Segment 2

Medium Term:

1. Improvements on the segment between Swartswood Road and North Park Drive (northern segment):

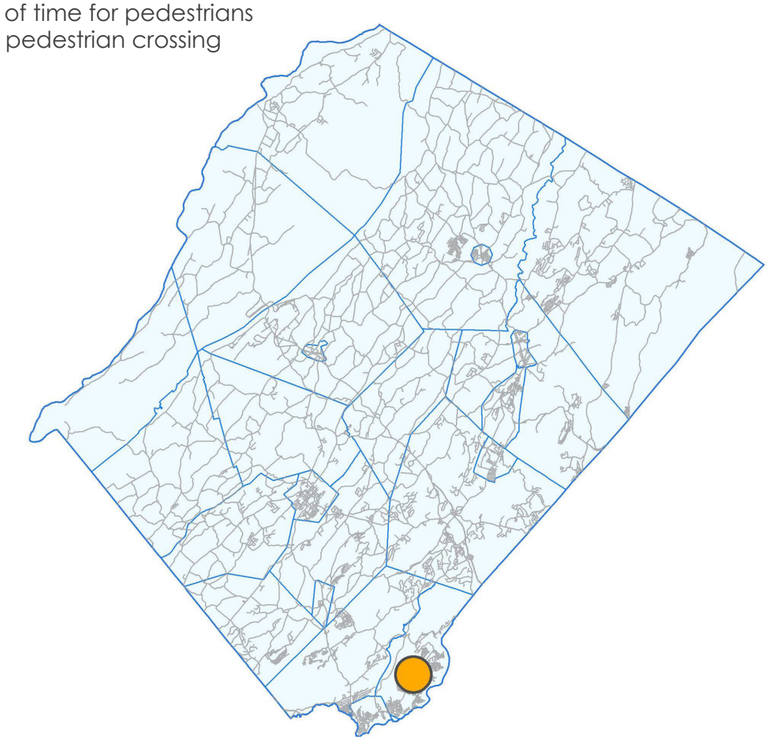
Reconfigure the lanes between Swartswood Road and North Park Drive to accommodate designated bike lanes, including a painted buffer between vehicular lanes and bike lanes. Construct a sidewalk on the east side, connecting from the existing sidewalk at the north Project Self-Sufficiency driveway to North Park Drive, and from the south Project Self-Sufficiency driveway to Swartswood Road. In some instances, where necessary, move the curb on the east side to the west by one foot to allow sidewalk to clear utility poles. Include the complementary addition of pedestrian-scaled lighting and street trees when installing other improvements. Long-term strategies should include a sidewalk on the west side as well, however, the number of residences and Project Self-Sufficiency's location make the east side sidewalk a higher short term priority.

Swartswood Road lacks safe pedestrian facilities to connect to Route 519 and toward Newton. The terrain and setbacks of buildings on the south side of Swartswood Road appear to be able to accommodate 5-foot sidewalks with a 5-foot buffer with minimal impacts to adjacent properties.

INTERSECTION OF SHARP AVE. AND HOPATCHUNG ROAD, HOPATCONG BOROUGH

Description

Land uses at this intersection include a gas station, a bank, the Hopatcong Borough Hall, and single-story office buildings, creating a small village center for the surrounding residential areas. The intersection has had recent pedestrian improvements, including ADA-compliant ramps, brick crosswalks, and pedestrian countdown signals. The signals, ramps, and crosswalks provide good support for pedestrian movement at the intersection. The signal phasing for vehicles turning left to continue south on Route 607 prioritize throughput of traffic and may not provide for a comfortable and safe amount of time for pedestrians crossing the street. A dedicated pedestrian crossing phase may be needed here.



Strengths

- Recently added crosswalks, ramps, and pedestrian countdown signals.
- Pedestrian refuge on the "pork chop" on the northeast corner of the intersection between the through lanes on Hopatchung Road and a separated right turn lane.
- Flat terrain, making it easy to walk or bike.
- Sidewalk connectivity along Hopatchung Road.
- Intersection crossings make connections to commercial and employment destinations on both sides of Hopatchung Road possible.
- Pedestrian-scaled lighting.

Weaknesses

- Crosswalks end abruptly with no sidewalk in either direction on River Styx Road/Sharp Avenue.
- No pedestrian amenities to connect the neighborhoods south of Hopatchung Road to the intersection.
- Signal phasing does not adequately support pedestrian movements across roadways.
- Hopatcong Road is currently too narrow to add a bike lane.

Opportunities

- Provide sidewalks where missing to create continuous walking environment.
- Change signal phasing to provide greater safety and comfort for pedestrians.
- Signage to alert drivers that bicyclists may be on the roadway.
- Change crosswalks to continental-style paint for improved visibility.

Threats

- Physical limitations (tight right-of-way, existing structures) may preclude the addition of elements such as bike lanes.

INTERSECTION OF SHARP AVE. AND HOPATCHUNG ROAD, HOPATCONG BOROUGH

Typology: County Connector

Recommendations:

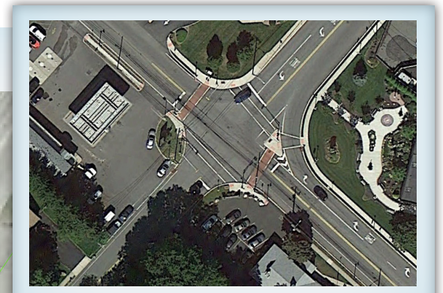
Short Term

1. **New Pedestrian Countdown Signal Heads:** Add two pedestrian countdown signal heads on the corners where they are currently missing, on the north leg of the intersection. Consider pedestrian head-start phasing for the signal or Leading Pedestrian Interval (LPI) on the southeast corner where cars are making a left turn to continue traveling on Route 607. This would provide a walk phase for pedestrians prior to providing the parallel traffic with a green light. The head-start phasing would be activated by a pedestrian push button.

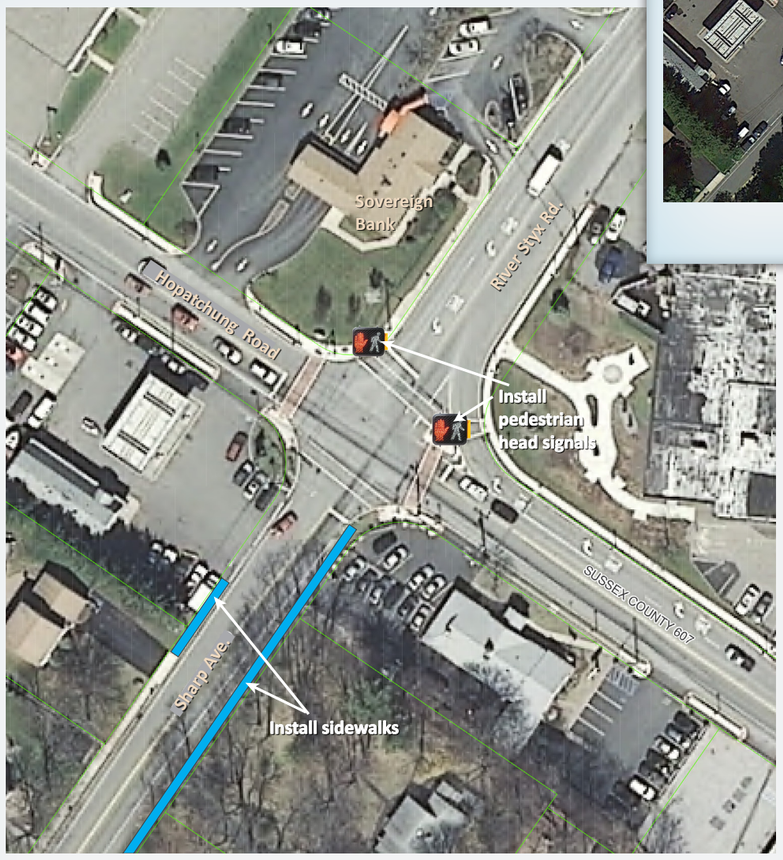
2. **Sidewalk Construction:** Construct sidewalks to connect to the neighborhoods to the south from the intersection.

Considerations:

A subsequent phase may include closing off one of the driveways to the gas station, the one closest to the intersection. The large openings for several driveways create significant gaps in the sidewalk.



Existing



Proposed Intersection Improvements

US Route 607/Hopatchung Rd. and Sharp Rd. Intersection

N

Legend

New Sidewalk

Pedestrian Signal

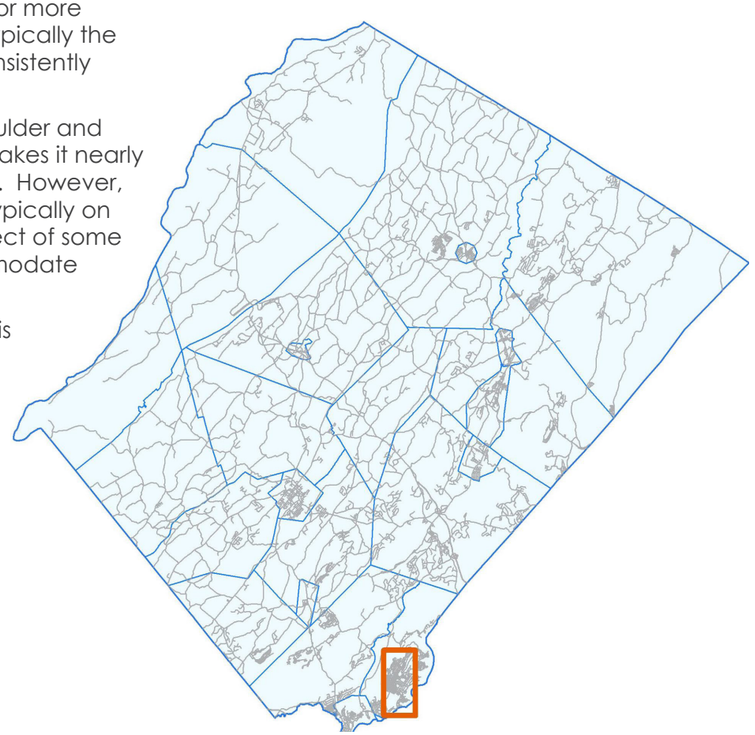
ROUTE 607/RIVER STYX ROAD/HOPATCHUNG ROAD FROM NORTH RIVER STYX ROAD TO BROOKLYN STANHOPE ROAD, HOPATCONG BOROUGH

Description

Route 607 between North River Styx Road and Brooklyn Stanhope Road exhibits various levels of pedestrian friendliness. The road travels through lake-oriented residential neighborhoods and small commercial centers. For almost half of the approximately 2 -mile corridor, sidewalks are only along one side of the roadway. It is rare to see a sidewalk on both sides of the road, with the exception of the vicinity of the Sharp Avenue intersection. Significant gaps leave pedestrians walking in grass, on the shoulder, or through parking lots. Much of the road is curbless, with the shoulder in these areas used by pedestrians. Frontages for more intensively-developed commercial areas are typically the locations with sidewalks, although this is not consistently applied throughout the corridor.

Small stretches of the road have almost no shoulder and are constrained by slopes or vegetation that makes it nearly impossible to find space in which to walk safely. However, in locations where these conditions occur it is typically on only one side of the road. This raises the prospect of some cross-section reconfiguration to better accommodate pedestrians.

Destinations for pedestrians and bicyclists on this corridor may be farther apart than in more developed town or borough centers, and therefore biking may be a desirable option when traveling farther distances. The road currently has no signage or explicit pavement markings for biking, but a paved shoulder is present through some of the corridor's length.



Strengths

- There is a demand for walking along this corridor. People walk with or without sidewalks and there are destinations that people reach by foot every day.
- Scenic character in parts of this corridor.
- The north half of this road has a sidewalk on one side of the road.
- Frontages to commercial areas and new development sometimes have sidewalks and crossings.

Weaknesses

- Numerous residential driveways.
- Cars parked in shoulder.
- Limited sight distances.
- Very few sidewalk segments.
- Where crosswalks exist at intersections, they often dead-end into grass or areas with no sidewalks.
- Crosswalks are lacking in some areas; these are frequently where pedestrians must traverse three travel lanes.

Opportunities

- Scenic road that could be an appealing bike route with signage and wayfinding.
- Strategic additions of sidewalks and crosswalks, leading to continuity of safe pedestrian travel throughout the corridor.
- Signage and other visual and textured surface cues to alert drivers to the presence of walkers and bikers.
- Off-road multi-use paths or sidewalks in selected locations.
- Create safe pedestrian spaces next to the roadway that maintain a semi-rural feel to the road.

Threats

- Physical limitations (tight right-of-way, no shoulder, steep slopes, and vegetation) may preclude the addition of multiple elements such as both sidewalks and bike lanes together.

ROUTE 607/RIVER STYX ROAD/HOPATCHUNG ROAD FROM NORTH RIVER STYX ROAD TO BROOKLYN STANHOPE ROAD, HOPATCONG BOROUGH

Typology: County Connector and Lake Community Street

Recommendations:
Distinguish three distinct priority areas in the corridor: Northern Segment – at the northern end from N. River Styx Road to Crescent Road; Middle Segment – the area stretching from the intersection of Sharp Ave. and Hopatchung Road to the east along the park to the intersection of Lakeside Boulevard; and the Southern Segment – the southern stretch from Brooklyn-Stanhope Road north to Stone Avenue. For these areas, more intensive improvements, such as full sidewalks, may be required. Elsewhere, less intensive improvements, such as paved paths adjacent to the travel way, may be more appropriate.

Northern Segment

This segment runs from a small commercial area near N. River Styx Road south to Hopatcong Borough. A sidewalk exists on nearly all of the west side but ends just short of the commercial destinations at the northern end.

Short Term

1. **Sidewalks and Crosswalks:** Install sidewalks to fill in gaps north of Lakeside Boulevard. Paint a crosswalk at or around Durban Avenue. Add pedestrian-scaled lighting and street trees in coordination with sidewalk and crosswalk upgrades.

Medium to Long Term

2. **New Sidewalk:** The stretch of Route 607 from the Hopatcong Borough Municipal Building north to Crescent Road has a sidewalk on the west side and no pedestrian facilities on the east side. In the long term, consider the installation of a sidewalk on the east side to increase the accessibility of destinations on that side of the road.

Middle Segment

This segment begins at Hopatcong Borough Municipal Building and the intersection of Sharp Avenue, south to Brooklyn Mountain Road.

Short Term:

1. **Sidewalks and Crosswalks:** Install sidewalks on both sides of the road from The Ways south to Brooklyn Mountain Road. Install crosswalks across The Ways and across Route 607 on the north leg of the intersection (depicted in the middle segment map). Add pedestrian-scaled lighting and street trees in coordination with sidewalk and crosswalk upgrades.

Medium Term:

2. **Paved Paths:** Where physical conditions and rights-of-way allow, reconfigure travel lanes and paved shoulders to accommodate pedestrian paths separated from vehicular travel lanes by traffic exclusion domes, crushed stone trenches or vegetated buffers. When designing the pathway, more separation is desirable. Create a path connection from The Ways north to the existing pathway in Modick Park. Mirror this pathway on the east side of Route 607. Where the east side path will end at the ninety degree turn to Route 607, paint a crosswalk and cut an access point through the guardrail to connect to the existing park path. Ensure that pedestrian crossing warning signage is included at the time of the crosswalk installation. Include pedestrian-scaled lighting in the design and installation of the path.

Southern Segment

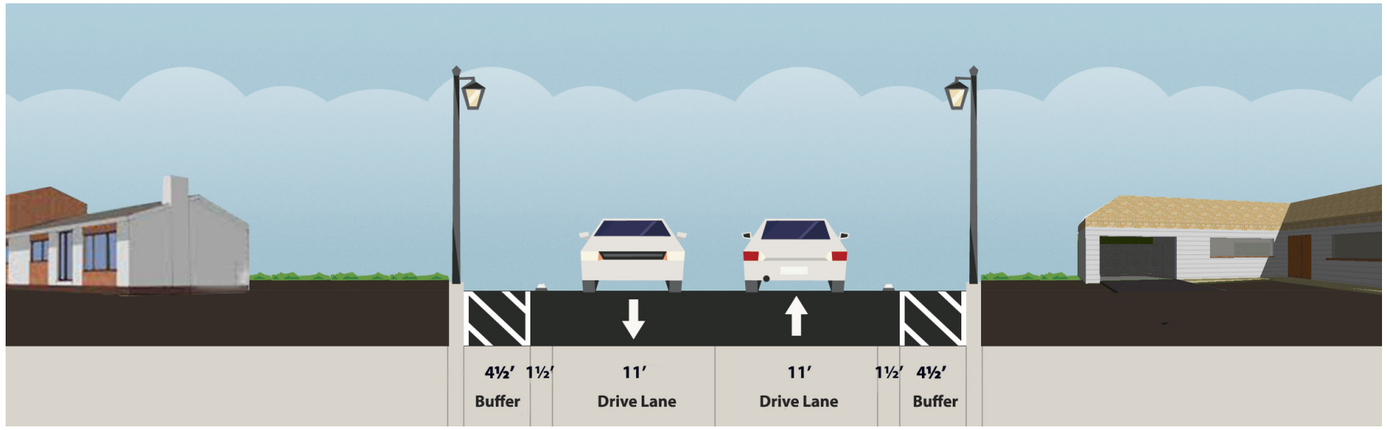
This segment stretches from Brooklyn Mountain Rd. south to Brooklyn Stanhope Road.

Short Term:

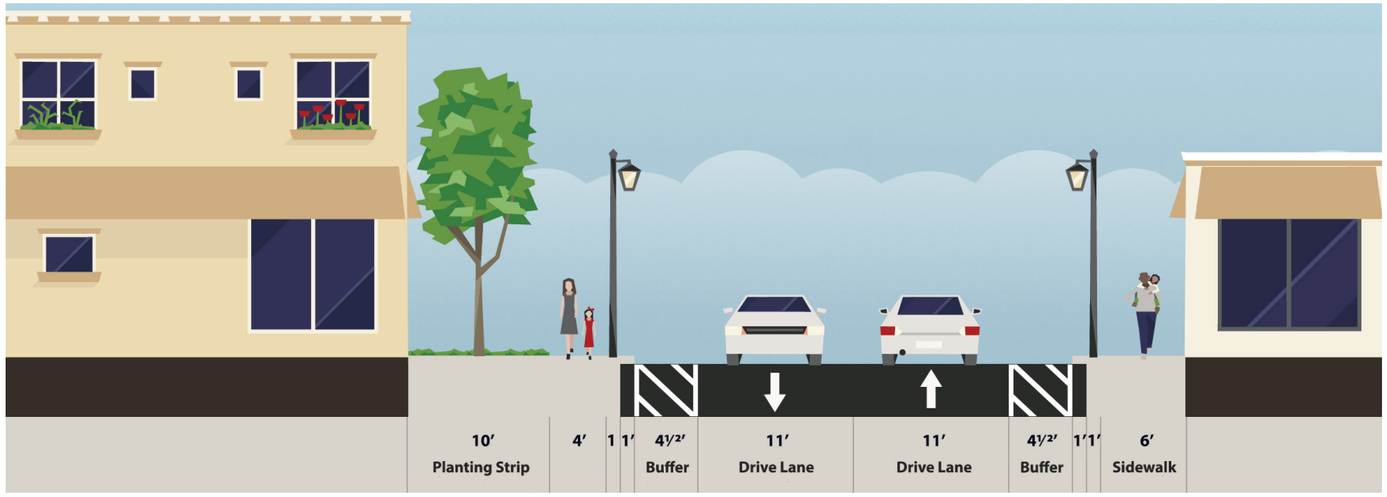
1. **Sidewalks:** Install sidewalks primarily along the west side of Route 607. The terrain is flat and the right of way can accommodate a sidewalk. Fill in missing sidewalk segments on the east side. Add pedestrian-scaled lighting and street trees in coordination with sidewalk and crosswalk upgrades.

ROUTE 607/RIVER STYX ROAD/HOPATCHUNG ROAD FROM NORTH RIVER STYX ROAD TO BROOKLYN STANHOPE ROAD, HOPATCONG BOROUGH

Lakeside Blvd. north of The Ways – Conceptual Future Cross Section



River Styx Road at Lakeside Blvd. / Crescent Road – Conceptual Future Cross Section, looking northbound



Examples of paved paths adjacent to the roadway.

ROUTE 607/RIVER STYX ROAD/HOPATCHUNG ROAD FROM NORTH RIVER STYX ROAD TO BROOKLYN STANHOPE ROAD, HOPATCONG BOROUGH

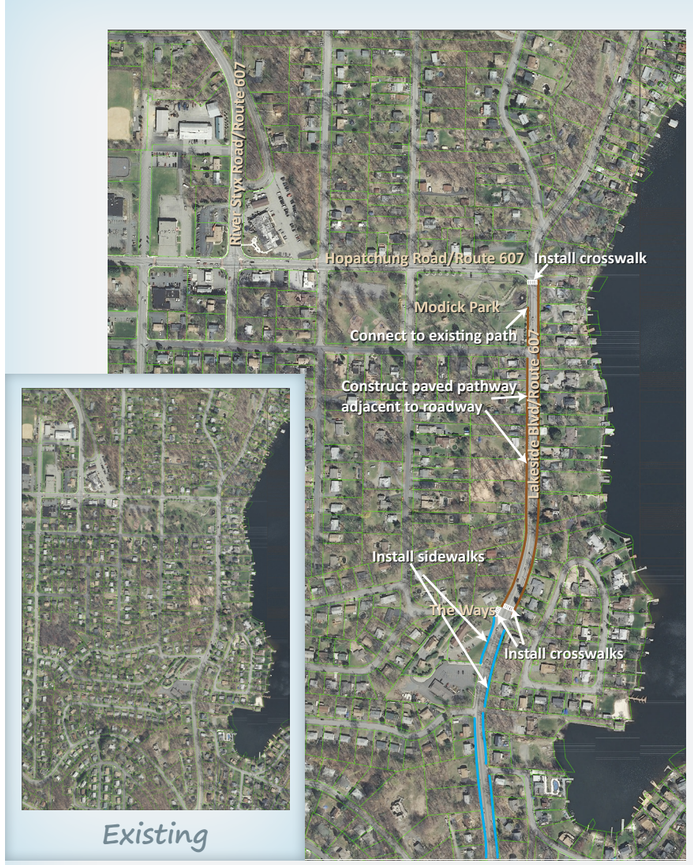
Existing

Proposed Intersection Improvements

US Route 607 from Sharp Rd. to North River Styx Rd.-*North Segment*

Legend

New Sidewalk
New Pathway
Crosswalk
Long Term - New Sidewalk



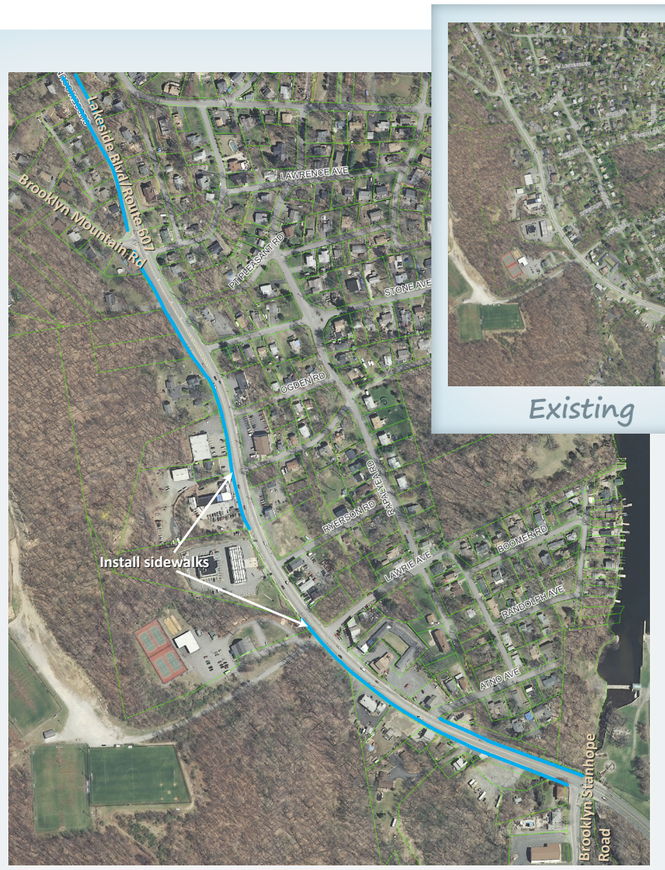
Existing

Proposed Intersection Improvements

US Route 607 from Brooklyn Mountain Rd. to River Styx Rd.-*Middle Segment*

Legend

New Sidewalk
New Pathway
Crosswalk



Existing

Proposed Intersection Improvements

US Route 607 from Brooklyn Stanhope Rd. to Brooklyn Mountain Rd.

South Segment

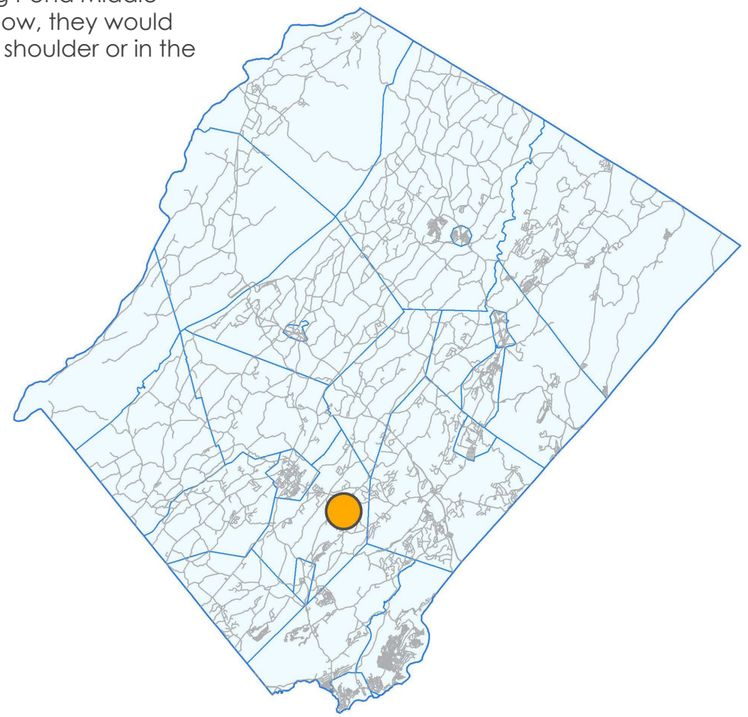
Legend

New Sidewalk

LIMECREST ROAD, ANDOVER TOWNSHIP

Description

This half-mile segment of Limecrest Road links a local residential neighborhood to Long Pond Middle School. It is a two-lane rural road with narrow paved shoulders. Limecrest Road is not currently oriented to pedestrian or bicycle travel, and lacks sidewalks and signage alerting drivers to the potential presence of bicyclists or pedestrians. The major destination for pedestrians is Long Pond Middle School. If students were to walk to school now, they would currently have to walk either on the narrow shoulder or in the grass next to the road.



Strengths

- Long Pond Middle School is in close proximity to a medium-sized residential neighborhood with school-aged children.
- The school is adjacent to preserved open space.

Weaknesses

- Limecrest Road has no sidewalks, off-road trails, or signage alerting motorists to the potential presence of pedestrians or bicyclists.
- There are no pedestrian crossing signals or painted crosswalks at the Long Pond Middle School entrance or at the residential neighborhood.
- Sight distances are relatively short due to the horizontal alignment (curves) on Limecrest Road.

Opportunities

- Use Township of Andover land easement on Limecrest Road across from Broadview Drive to provide off-road trail link from the residential neighborhood to the school.
- Add sidewalks (and possibly bike lanes) to Limecrest Road.
- Add a crosswalk and/or pedestrian signals at the school entrance.

Threats

- Physical limitations (limited sight-distance, tight right-of-way, no shoulder, steep slopes, and vegetation) may preclude the addition of elements such as sidewalks or bike lanes.

LIMECREST ROAD, ANDOVER TOWNSHIP

Typology: County Connector

Recommendations:

Short Term:

1. Paved Path: Create a path along the easement that connects Limecrest Road with the Long Pond School. An existing easement on preserved land owned by the Township of Andover could provide a potential off-road trail link to the school. The parcel of land with the easement is adjacent to the school property. The easement extends north toward Lake Iliff, with an entrance on Limecrest Rd. across from Broadview Drive.

This provides an opportunity for community and parent involvement. The path is an investment that has the potential to be used year-round and by a larger group of people than students. A path would provide a safe route to access the playgrounds and fields of the school and lake and natural areas throughout the year. Parents could become involved by assisting students crossing Limecrest Road to the path. Because this strategy is targeted for the students living in the neighborhood across from Long Pond School, it would be helpful to complement physical investments with Safe Routes to School education and an inventory of the school-age children within walking distance.

2. Crosswalk: Install a crosswalk on Limecrest Road leading from Broadview Drive to the newly constructed path. Along with the crosswalk, install signage alerting drivers to the crosswalk in both directions on Limecrest Road and a flashing yellow overhead light.

Long Term:

1. Crosswalk: If demand exists, and safe connections are identified, construct a crosswalk and a flashing yellow overhead light at the school entrance.

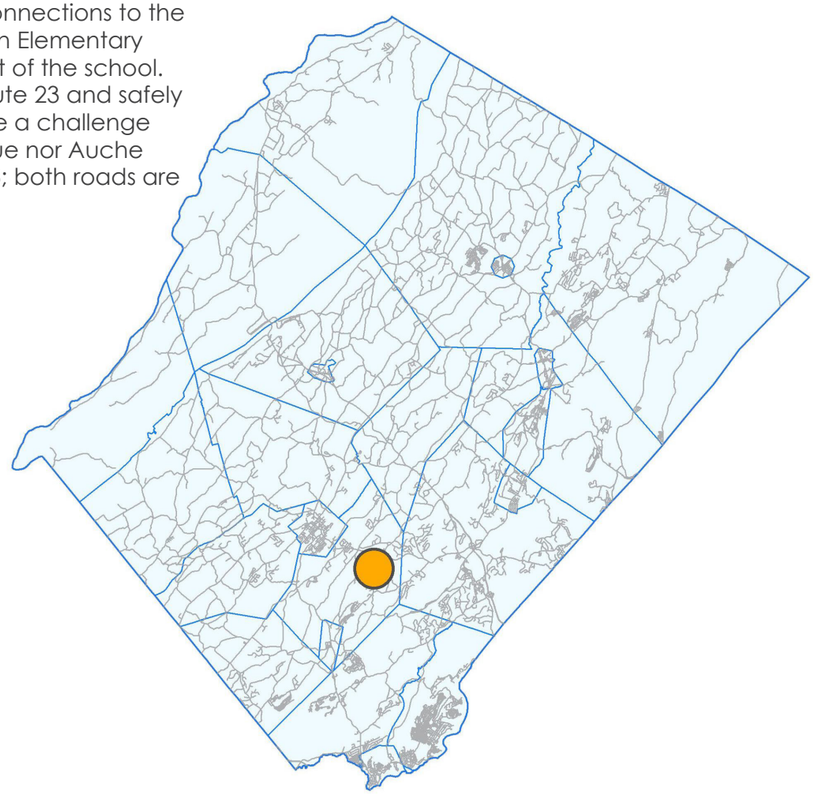
Proposed Intersection Improvements

Limecrest Road, from Skytop Rd. to Long Pond School

ROUTE 23 FROM AUCHE DR. TO WASHINGTON AVENUE, FRANKLIN BOROUGH

Description

Route 23 is characterized as a commercial corridor along this segment, with fast-food establishments and a Walmart/ ShopRite shopping center. Pedestrian improvements have been completed at the intersection of Washington Avenue and Route 23, including ramps, painted crosswalks, pedestrian signals, and new sidewalks leading into the Walmart shopping complex. These pedestrian improvements at the Washington Avenue intersection now allow for safer crossings of Route 23 and connections to the Walmart/ShopRite shopping center, Franklin Elementary School, and the neighborhoods to the west of the school. However, there are no sidewalks along Route 23 and safely getting to and from the intersection can be a challenge for pedestrians. Neither Washington Avenue nor Auche Drive has direct vehicle access to Route 23; both roads are blocked.



Strengths

- Recently-added painted crosswalks, ramps and pedestrian signals across Route 23 on one side of the intersection.
- Sidewalk connects Washington Avenue and Franklin Elementary School to shopping and restaurant destinations along Route 23.
- Paved shoulder acts as a bike lane.
- Transit stops in the shopping center on the east side of Route 23.

Weaknesses

- Lack of sidewalk or pedestrian connection between Auche Drive and Washington Avenue along Route 23.
- Lack of connectivity between Route 23 to Washington Avenue and Auche Drive.
- Lack of sidewalks along Route 23.
- No pedestrian access from Route 23 to Auche Drive. Pedestrians must traverse a vegetated area intended to keep cars from turning into Auche Drive.

Opportunities

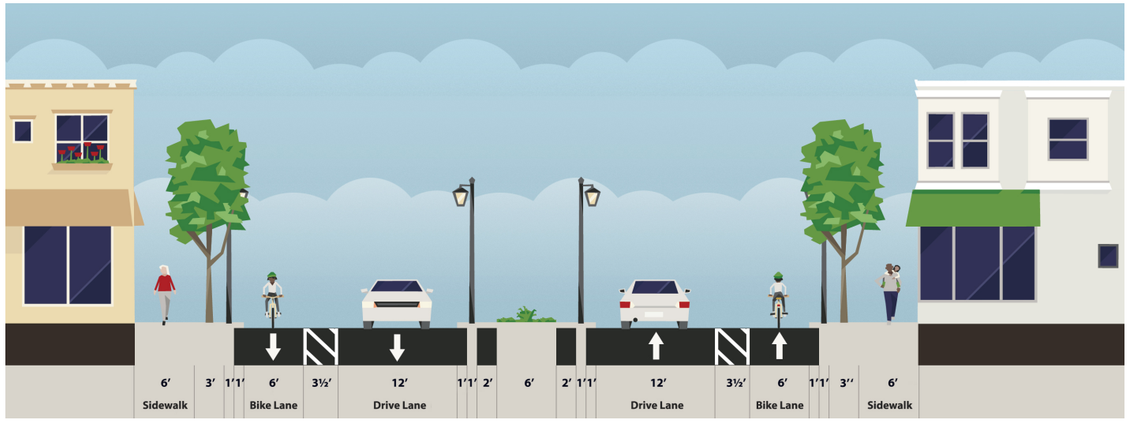
- Add sidewalks along Route 23.
- Bike lanes along Route 23 in the available shoulder.
- Install crosswalks on the two legs of the intersection where they are currently missing.
- Install contrasting-color unit-paver or poured concrete crosswalks at all crossings of Washington Avenue intersection.
- Redesign function of existing median on Route 23 to serve as a pedestrian refuge.
- Pedestrian path to connect Route 23 to Auche Drive.
- Additional land development on vacant parcels in this segment can result in new sidewalks being constructed as part of land development approval process.

Threats

- Perception of Route 23 from top of hill (just south of Washington Avenue intersection) northward as high-speed roadway may be difficult to change; motorists may choose to drive fast, and often do when they can.
- Recent development patterns place individual stores at substantial distances from each other and are fronted by large parking lots making walking between destinations both challenging and unappealing.

ROUTE 23 FROM AUCHE DR. TO WASHINGTON AVENUE, FRANKLIN BOROUGH

Route 23 south of Washington Avenue Conceptual Future Cross Section, facing northbound.



Typology: Main Street

Recommendations:

Short Term:

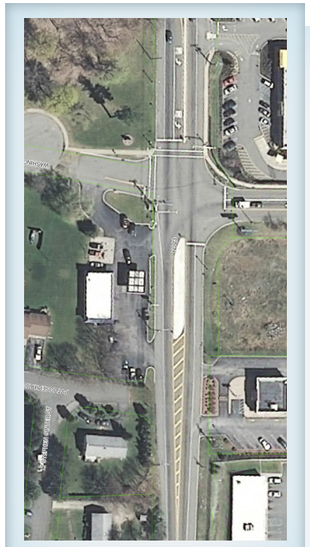
1. **New Crosswalks:** Install crosswalks on two legs of the intersection where they are currently missing – the south and east legs. Make use of the existing median on the south leg as a pedestrian refuge. This will provide pedestrians a safe crossing at each leg of the intersection. Install ADA-compliant curb ramps where the new crosswalks connect to sidewalks, or to future sidewalk locations. Provide a new curb and sidewalk at the southwest corner of the intersection where a wide driveway is now.

Medium Term:

1. **Bike Lanes:** Reconfigure lanes on both Route 23 approaches to accommodate designated bike lanes, including a buffer between vehicular travel lanes and bike lanes.

2. **Sidewalk Construction:** Construct sidewalks where they are missing on Route 23 connecting to the intersection at Washington Avenue. Add street trees and pedestrian-scaled lighting as part of sidewalk installation.

3. **Pedestrian Connection:** Auche Drive, located south of Washington Avenue, is a neighborhood street that comes close to intersecting with Route 23, but does not directly connect with it. Create a pedestrian connection from the new sidewalk on the west side of Route 23 to Auche Drive. This will provide the neighborhood walkable access to commercial destinations nearby.



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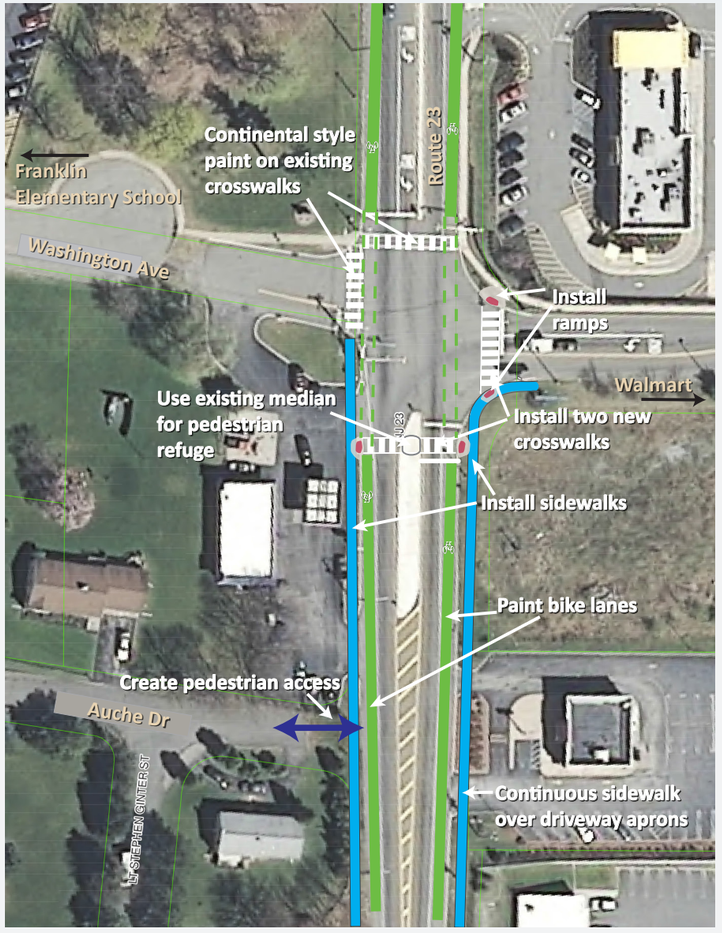


Proposed Intersection Improvements

US Route 23 between Washington Ave and Auche Drive

N

Legend

- New Sidewalk
- Designated Bike Lane
- Curb Ramp
- Crosswalk

HIGH POINT TO CAPE MAY BIKE ROUTE

Description

The High Point to Cape May Route was identified by the State of New Jersey as an on-road bicycle route traversing the center of the state. Maps provided by NJDOT show that the 238-mile route has one end in Montague, Sussex County and the other in Cape May, Cape May County. While maps and cue sheets provide bicyclists with information on the route, there is no wayfinding signage along the roads designated as part of the bicycle trail.

Also missing is signage or pavement markings alerting motorists that they are traveling on a bike route and that bicyclists may be sharing the road. According to NJDOT, a design for road signage has been undertaken but funding is not available to fabricate and install it.

Typology: Greenway and Trails

Recommendations:

1. **Wayfinding Signage:** Partner with the state to sign the route with recognizable High Point to Cape May Bike Route signs. Look to Scenic Byway Program as an example.
2. **Local Signage:** Install Share the Road signs on County roads and coordinate with NJDOT to install similar signage on US 206.

S Strengths

- State-identified, 238-mile, on-road bike route from High Point to Cape May.
- State produced maps and cue sheets are available.

W Weaknesses

- No signage on the roads for bicyclists traveling along the route.
- Motorists have no warning bicyclists may be on the road.

O Opportunities

- A clearly-demarcated bike route could draw additional recreational visitors to Sussex County.
- Share-the-Road signage on roads in Sussex County.
- Coordinate with the State to install consistent and recognizable signage along the route to make a cohesive, easy to follow route.

T Threats

- High speed traffic on many of the designated roads.
- Narrow shoulders

TRAIL CROSSINGS

Description

Three rail-trails – the Sussex Branch Trail, Paulinskill Trail and the L&NE Trail – traverse Sussex County. The trails are popular for hiking, bicycling and equestrian activities. These and other trails, such as the Appalachian Trail and the Acropolis Trail, are intersected by state, county and local roads. Trail users must cross these roads to continue along the trail. The locations where the trails cross roads vary greatly in the quality of safety improvements present. While some crossings have painted crosswalks and signage, others provide no indication to motorists that pedestrians, equestrians and bicyclists may be crossing in these locations. The three major trails have been converted from old railroad lines. At the time they were railroad crossings, advance signage, gates and flashing lights were present to alert motorists, even when sight distances were poor. These trails, still in the same configuration as the previous rail lines, need appropriate warnings to motorists to ensure trail users' safety. To the right are six representative examples of trail crossings in Sussex County.

Typology: Trails

Recommendations:

Short Term:

1. Crosswalks and Signage: Ensure every trail crossing has a painted crosswalk and warning signage.

Long Term:

1. Pedestrian Medians and Signals: Install pedestrian refuge medians and/or overhead flashing yellow warning beacon where warranted. This should be considered on a case-by-case basis, taking into account the number of users at each crossing and the level of vehicle traffic.

1. Paulinskill Valley Trail crossing Route 94 at Sid Taylor Road, Lafayette Township.

Route 94 has signage alerting drivers that they are approaching a trail crossing. This trail crossing has a painted crosswalk. The sight distance is poor for motorists approaching the trail crossing.

2. Paulinskill Valley Trail crossing Route 206 at Sid Taylor Road, Hampton Township.

Signage alerting drivers that they are approaching a trail crossing is located on Route 206. There is a painted crosswalk at the trail crossing. High-speed traffic is typical along this stretch of Route 206.

3. Paulinskill Valley Trail crossing Route 663/ Route 94, Lafayette Township.

A parking area and helpful wayfinding map are available for trail users, but there is no painted crosswalk or signage at crossing. Sight distance is poor approaching from the south.

4. Sussex Branch Trail crossing Route 94, West of Route 15, Lafayette Township.

Trail parking areas are provided, but no trail crossing signage or crosswalks. The roadway curves and traffic is moving downhill in both directions toward the trail, causing visibility issues and resulting in fast-moving traffic.

5. Sussex Branch Trail crossing Route 206 N of County Road 669, Andover Township.

Trail crossing signs on roadway with a painted crosswalk where the trail crosses the roadway are present. This is one of three state highway crossings that were installed by NJDOT at the request of Sussex County. Others are pending as they are mid-block and require additional approvals.

6. Sussex Branch Trail crossing Route 206 S of Route 15, Frankford Township.

Warning trail crossing signs on roadway. No painted crosswalk or signs where the trail actually crosses roadway. High-speed traffic and poor sight distance approaching from south (vertical alignment – hill) exists.

Chapter VIII

COMPLETE STREETS IMPLEMENTATION PLAN

Overview

To ensure that the Complete Streets Policy Guide will have a positive impact on Sussex County's transportation network, it is important to include specific implementation steps and actions, as well as to assign roles and responsibilities. Implementation steps should be specific and include a deadline or timeframe.

To consistently and effectively implement the Policy's goals and objectives, the following chapter outlines 13 steps to assist the County and municipalities to successfully implement Complete Streets elements. In addition, implementation steps are also described for how to incorporate Complete Streets elements on a project-by-project basis. Municipalities play an important role in providing Complete Streets on local county roadways.

Recommended Implementation Steps

1. Establish an Implementation Process at the County Level

Sussex County should establish an internal Complete Streets implementation process that manages implementation of, and builds broad support for, the adopted Complete Streets Policy. As part of this process, the County should:

- Prepare a calendar of Complete Streets implementation action items, including roles and specific responsibilities of County personnel for incorporating and implementing Complete Streets as part of project development. This calendar should be reviewed and updated on a regular basis.
- Conduct outreach to state, county and local organizations, municipal mayors, agencies, and individuals to involve them in Complete Streets implementation and to build support for the Policy.
- Create working groups for particular implementation action items (as-needed).
- Make ongoing decisions about implementation priorities. The County staff charged with implementing Complete Streets should meet on a regular basis, such as monthly or bi-monthly, when County transportation projects are under discussion. One County staff person should be charged with scheduling regular meetings, setting an agenda and following up on action items. It is important to have Complete Streets champions at the municipal level at these meetings.

Potential County staff participants and County-based supporters of Complete Streets implementation include:

- County Engineering, Planning Division, Department of Health and Environmental Services, Department of Human Services, Office of Roads, and Skylands/Public Transportation.
- County elected officials.
- Representatives from NJTPA and NJDOT.
- Representatives from County towns and villages.
- County business leaders and community groups.
- Representatives from other state and regional organizations, including Rutgers Voorhees Transportation Center and TransOptions Transportation Management Association (TMA).

In addition to establishing a formal Implementation Process, the County should consider forming a small, internal working group of key staff who can help coordinate Complete Streets projects. This coordination team should include representation from County Engineering and Planning, and can meet more frequently than a larger group.

2. Inform County Stakeholders and the Public about Complete Streets Implementation and Benefits

County staff should utilize Complete Streets outreach materials developed by the National Complete Streets Coalition and New Jersey's Bicycle and Pedestrian Resource Center to communicate the importance of Complete Streets implementation with County residents and stakeholders. In addition, the County should consider the following elements in order to build support for Complete Streets policy implementation:

Identification of, and communication with, key County messengers.

- Identify specific people and organizations in the County who can help spread the word about the benefits and importance of Complete Streets using the County's existing Complete Streets webpage and logo used for this Plan. This includes: local business associations; bicycling and trail groups; environmental organizations; public

It is important to simplify the process for County groups and stakeholders to support the Complete Streets Policy.

health groups; local community groups; senior clubs or groups; parent groups; disability groups; and local bloggers and media representatives.

- Invite key stakeholders to a Complete Streets outreach meeting to discuss and solicit feedback on how to best communicate Complete Streets benefits to County residents and stakeholders.

Formation of a Complete Streets Coalition.

- Develop a Sussex County Complete Streets Coalition, and assist with communicating the benefits of Complete Streets to their constituents, clients, customers and partners. The Coalition would have meetings or social events two to four times a year, with interim communication facilitated through a group listserv and phone calls by a designee from the County. The County's public health officials can be potential champions of this Coalition since they receive state grants to support Complete Streets.

These key stakeholders can help spread the word about Complete Streets by:

- Making an announcement or short presentation about Complete Streets at their group's next meeting. (A sample presentation and use of this Plan's "branding" should be provided to ensure consistency in the message.)
- Asking their organization to endorse the County's Complete Streets Policy. (A sample endorsement form would be provided.)
- Writing a short article or testimonial about why they support Complete Streets, which could be posted on their group's website and the County's website, as well as circulated to their contacts by e-mail.

Complete Streets Endorsement from County Stakeholders

It is important to simplify the process for County groups and stakeholders to support the Complete Streets Policy. A sample endorsement form would be available on the County's website for download and customization, and can be circulated by e-mail to contacts, or printed for distribution at relevant stakeholder meetings. Supporters and members of the Coalition would be asked to gather endorsements, as well. A list of endorsers would be included online, and the list would be disseminated regularly through social and traditional media.

Communication about Complete Streets

In addition to cultivating a Coalition of County stakeholders that can help spread the word about the benefits of Complete Streets implementation, the County should initiate its own plan for direct communication about its activities in order to keep the public informed. In order to do so, the County should identify a methodology and a point person who can coordinate communications and outreach activities if resources are available. The County's public health department may be well-situated to take on this role. This includes:

- Use of this Plan's existing Complete Streets website to track Complete Streets updates, including highlights from meetings and trainings, endorsements, testimonials, and general Complete Streets information.
- Continuation of this Plan's Complete Streets Facebook page for posting updates, stories, endorsements, events, etc.
- An e-mail list of Complete Streets supporters, which would receive periodic updates.

Sample Endorsement Form:

Yes! I support Complete Streets in order to create a safer, livable, healthier, and vibrant Sussex County. Complete Streets will help ensure Sussex County's roadways can meet the needs of various users (motorists, pedestrians, bicyclists and transit riders), based on local contexts. Complete Streets will further enhance the safety and mobility of those in Sussex County, regardless of age and ability, to ensure all residents are able to get where they need to go safely, comfortably, and reliably.

I agree to support the Sussex County's efforts to implement Complete Streets and will help by:

__ **Talking with the following groups about Complete Streets:**
_____

__ **Writing a short testimonial or story about why I support Complete Streets.**

__ **Writing a letter to the editor of my local paper about why I support Complete Streets.**

__ **Posting to my Facebook, Twitter or social media account that I support Complete Streets in Sussex County.**

Name:
Organization/Business:
_____
Town:
_____
Phone:
_____
E-mail:
_____

Training ensures County staff, elected officials, and representatives from local towns and villages understand the importance of Complete Streets, and take advantage of opportunities to implement the Policy.

- Social events and training opportunities.
- Presence at major County events in order to spread the word about Complete Streets.
- Meetings with local reporters, editors, and bloggers to discuss the Complete Streets policy and implementation.

3. Initiate a Complete Streets Education and Training Program

Training is important to ensure County staff, elected officials, and representatives from local towns and villages understand the importance of Complete Streets, and take advantage of opportunities to implement the Policy through their actions. The County should plan at least one Complete Streets training early on as part of its Implementation Plan, which includes information on:

- The benefits of Complete Streets.
- The Sussex County Complete Streets Policy Guide and new context-based street and transportation corridor types.
- How to evaluate streets and street networks for Complete Streets improvements, including an on-site exercise or walk audit.
- Opportunities to implement Complete Streets goals and objectives.
- Context-sensitive Complete Streets engineering.

Training attendees will be encouraged to help identify opportunities as part of their own jobs to further the County's Complete Streets goals, and discuss any barriers or challenges they may anticipate which would help the County with its implementation planning. Providing in-house training to County engineers is recommended as well. NJDOT conducted a series of in-house training sessions for their engineers when they adopted their 2009 Complete Streets Policy.

4. Work with Municipalities to Build Support for Context-Sensitive Complete Streets Policies

- Encourage municipalities to pass their own Complete Streets policies. The County can assist with this effort by providing municipalities with model ordinance language, as well as best practice information that can be used to build local support.
- Provide training opportunities for municipal officials and staff to help them better understand the benefits of Complete Streets and opportunities for implementation.
- Provide municipalities information regarding the importance of complementary land use and zoning changes that can further the goals of Complete Streets in a practical, cost-effective way.

To be truly effective, the County's Complete Streets Implementation Process should designate partner representatives from local municipalities, and reach out to NJ's Bicycle and Pedestrian Resource Center staff to assist with the following goals:

- Conducting individual outreach to County municipalities about the Complete Streets Policy and Implementation Plan to discuss local opportunities.
- Communicating with County municipalities about Complete Streets training opportunities, technical assistance and funding.
- Highlighting local Complete Streets policy and practice achievements.

Each relevant County division should review and edit plans, regulations, processes, and design guides that could be amended to further Complete Street goals.

5. Review Sussex County Plans, Regulations and Processes for Opportunities to Implement Complete Streets

Planning Division

Document	Elements to consider for inclusion
County Land Development Standards	Integration of the Street and Transportation Corridor Type system

Each relevant County division should review and edit plans, regulations, processes, and design guides that could be amended to further Complete Street goals. This list should be compiled early on in the implementation phase to allow the County to create a plan for how and when these documents could be updated. For example, the County may decide to prioritize updates to four or five main documents in the first year of the Policy implementation, and form a working group or series of working groups to carry out the development of proposed changes or additions.

The following is a draft list of documents and processes that can be considered for Complete Streets updates:

Engineering and Office of Roads

Document	Elements to consider for inclusion
New Document	Adopt County Street and Transportation Corridor Types
Project Development and Scoping	Integrate Street and Transportation Corridor Types, Complete Streets checklist, and Complete Streets Policy evaluation into process
Roadway Design Standards	Consider design standards for common Complete Streets elements (refer to relevant design manuals, as referenced in the Complete Streets Policy); Update Design Standards to reflect specifics in the Street and Transportation Corridor Types
Capital Programming	Consider incorporating Complete Streets factors into the project prioritization process
Operational and maintenance practices, including resurfacing, snow removal, and street cleaning	Incorporate process for deciding if and when to include Complete Streets elements in resurfacing projects and practices for snow removal and cleaning of sidewalk and bicycle infrastructure on Sussex County roads
Budgeting Process	Evaluate funding opportunities to incorporate Complete Streets elements into projects
Performance Evaluation	Track Complete Streets related goals overall for the County, such as pedestrian and bicycle modal share, traffic-related injuries and fatalities, etc. ; Integration of Complete Streets performance measures into project evaluation
Private-public Partnership	Review existing subdivision and site plan standards to encourage developers to include Complete Streets elements such as sidewalks and crosswalks. Provide a subdivision and site plan Complete Streets checklist to promote application of Complete Streets elements in the development process.

Identifying specific roadways, trails and corridors that should be prioritized

Public and Private Utilities

The County should also work with public and private utility companies that operate in the public right-of-way in order to ensure their project planning process and long range plans are consistent with the concepts and goals outlined in the Complete Streets Policy document.

An official County bicycle and pedestrian plan would reinforce the goals of the Complete Streets Policy.

The process of evaluating County or other documents for adherence to the Complete Streets Policy should include:

6. Consider New Plans, Regulations and Guidelines that May Be Needed to Implement the Complete Streets Policy

In addition to modifying existing documents, the County should evaluate whether there are new plans, regulations or guidelines that may be needed to further the Complete Streets Policy. Some potential documents to consider include:

A Complete Streets checklist

The North Jersey Transportation Planning Authority can provide sample Complete Streets checklists adopted in other parts of the region for the County's review. The Sussex County Complete Streets Policy states:

"The departments of Engineering and Planning, and other relevant County agencies, may establish a Complete Streets checklist for use in County transportation facility projects to accomplish the goals of this policy. The checklist may define a process for evaluating the needs, benefits, and costs – including long-term maintenance – of making Complete Streets improvements within the circulation system, in order to ensure improvements are prioritized to maximize cost-effective, high-impact locations in a safe and effective manner."

Bicycle and/or pedestrian plan

An official County bicycle and pedestrian plan would reinforce the goals of the Complete Streets Policy by identifying specific roadways, trails and corridors that should be prioritized for improvements, including existing infrastructure and any gaps that may exist. These mode-specific plans could help to ensure that a robust walking and bicycle network exists in the County – a network that helps connect people from their homes and work to key destinations. The County could build on the Plan's Transportation Corridor Types map, which helps to identify roadways that should prioritize walking and bicycling.

Project prioritization process for County transportation projects

In order to prioritize locations for improvements, the County should create a map that has:

- Locations with land uses that generate or could generate high pedestrian and bicycle trips, such as schools, colleges, town centers, senior facilities, parks and trails, and major bus and public transportation stops.
- The location of pedestrian and bicycle fatality and injury hot spots at the County and municipal level.
- Input from the municipalities on their priority locations.

By including Complete Streets as part of the project prioritization process, Sussex County can further reinforce the importance of Complete Streets implementation, and ensure consistency with stated goals and objectives.

Complete Streets design manual

A formal Complete Streets design manual would stipulate design guidelines for Complete Streets elements along the County's roadway corridors. Although the application of Complete Streets elements would vary depending on local context, specific design guidelines can ensure consistency in function and appearance, further reinforcing predictability among users.

In addition to the seven targeted Pilot Locations, Sussex County should review candidate Complete Streets demonstration locations and evaluate its list of planned resurfacing and maintenance projects to evaluate which ones would be appropriate for short-term Complete Streets improvements.

7. Identify Priority Locations for Complete Streets Improvements

In addition to the seven targeted Pilot Locations evaluated as part of this Plan, additional priority Complete Streets locations were identified as part of the Plan's outreach process. This includes locations where the Appalachian Trail crosses County roadways in both Frankford Township and Vernon Township. While there are some roadway corridors in Sussex County that could be augmented to expand the opportunities for walking and bicycling, limited time and funding constraints require setting clear priorities in order to achieve the most benefit to residents and transportation users, as well as a subsequent return on investment.

Overlaying these two categories can help the County start to prioritize locations that are most in need of bicycle and pedestrian improvements. This list can also be cross-referenced with a list of planned County transportation projects, including resurfacing projects, in order to identify opportunities for Complete Streets solutions.

In addition, the County should consider undertaking an inventory of the existing pedestrian and bikeway accommodations on its roadways – particularly those that connect to major destinations such as schools, parks and shopping – in order to identify gaps in the network. Completing those gaps should also be a priority for the County.

8. Look for Specific Short-, Medium-, and Long-term Projects in Priority Areas for Complete Streets Implementation

It is important the County demonstrate that it has met some of its Policy goals and implemented specific Complete Streets improvements within the first year of the Policy's adoption. This will ensure the County can maintain momentum between policy adoption and local Complete Streets implementation, and will demonstrate tangible progress, build greater support at the local level for these types of improvements, and yield "lessons learned" that can be applied during future years of implementation.

While some Complete Streets updates can take several years to implement, there are strategies that can be implemented more quickly, including temporary or demonstration projects, or during scheduled roadway resurfacing and maintenance projects.[7] In addition to the seven targeted Pilot Locations, Sussex County should review candidate Complete Streets demonstration locations and evaluate its list of planned resurfacing and maintenance projects to evaluate which ones would be appropriate for short-term Complete Streets improvements. The additional analysis completed for each of the Pilot Locations make them favorable candidates for demonstration projects.

Specific context-sensitive Complete Streets improvements for resurfacing and maintenance activities include:

- ***Pavement restriping:***
  - *Reduce lane widths to allow for the inclusion of a dedicated bike lane.*
  - *Introduce striping for shoulder/edge lines on streets with curb and gutter.*
  - *Introduce striping for wide outside lanes to allow for sharing with bicycles.*
  - *Provide shared lane markings, such as 'sharrows' that alert motorists that cyclists may be sharing the roadway.*
  - *Reallocate space on two-lane streets that have inconsistent cross-sections to accommodate bicycle facilities. (It should be noted that these reallocations do not necessarily take away vehicular travel lanes, and may add turn lanes where space within the roadway exists.)*
- ***Street conversions or road diets by restriping and reassigning lanes.***
- ***Widening or paving a roadway shoulder to provide a striped bike lane, wider outside lane, or paved shoulder.***
- ***Painting crosswalks and/or medians to improve pedestrian crossing safety.***

Shorter-term roadway improvements can be considered by undertaking temporary events that either closes a street to vehicle traffic, or that modifies the roadway in other ways as part of a pilot or demonstration project. These would be developed and installed in close cooperation with affected municipal and business entities. This includes temporary traffic control barrels or bollards that create bump-outs to shorten the pedestrian crossing distance at an intersection that has shown high crash incidents. These temporary activities would have a specific beginning and end date, and should occur during a period of highest activity, such as seasonal activity, to ensure the measures do not lead to a hazardous impact to operations. Ample notice should be

Sussex County should continue to encourage land uses that allow residents, employees and visitors to access key destinations by various modes.

provided to local residents, business owners, and travelers, and opportunities should be allowed for both technical review and local feedback. Another short-term/temporary implementation strategy includes working with a town or village to organize a street closure or street makeover for a special weekend festival or event. Such events provide an opportunity to show local residents, business owners, and others the benefits of Complete Street changes.

The organization Better Block[8], as well as Project for Public Spaces, works with communities to help institute temporary street makeovers and programming.

Better Block tests out a temporary street makeover

9. Identify Land Use-Related Opportunities to Further Complete Streets Goals and Foster Placemaking in the County

Creating streets and roadway corridors that include bicycle and pedestrian accommodations is often not enough to foster a truly multimodal system if there are not nearby places that can be reached easily within walking or bicycling distance. Sussex County should continue to encourage land uses that allow residents, employees and visitors to access key destinations by various modes (see Sussex County Strategic Growth Plan).

Complementary Land use and Zoning Changes

Sidewalks and bike lanes can be underutilized along roadways that are not closely linked with adjacent walkable and bicycle-friendly land uses. If the land use characteristics create a sprawling, unsafe or unpleasant environment for those walking or bicycling, efforts should be made to identify where opportunities exist to introduce Complete Streets elements. Typical community land use characteristics that are considered friendly to active transportation include:

- Some housing located within close proximity to shops, service locations, and other destinations, such as offices and parks.
- Housing that is clustered together, which can support local commercial development.
- Shops and services that are clustered together and laid out to promote walking between them.
- Attractive, well-designed streets and buildings that make for pleasant walking or bicycling environments.
- Convenient, safe places to park bicycles.

Convenient, safe places to park bicycles

In order to achieve this goal, Sussex County should include specific Complete Streets goals and objectives as part of its regular updates to the Strategic Growth Plan. In addition, the County should work with local towns and villages to identify opportunities to place key services and shopping destinations in closer proximity to where people live and work. Opportunities include:

- Changes to local zoning codes to allow commercial and office uses within walking distance of residential areas.
- Establishing siting standards for schools, libraries and other municipal buildings that prioritize locations in town or village centers near residential areas.

The County should also consider location standards for its own buildings so that it is leading by example and helping its own employees with improved travel options for commuting to work.

Information about complementary local land use and zoning policies that can be pursued to support Complete Streets can be found on the EPA's Smart Growth website, "Essential Smart Growth Fixes for Rural Planning, Zoning, and Development Codes." [9]

For more information about the specific types of land use strategies that promote walking and bicycling, see the Active Design Guidelines examples from New York City.[10]

Finally, Smart Growth America has compiled 100 Policies for Smart Growth Implementation, many of which directly relate to Complete Streets, "Getting to Smart Growth: 100 Policies for Implementation."[11]

10. Identify Sources of Funding for Complete Streets Improvements

A thorough listing of funding sources for Complete Streets improvements can be found in *Chapter IX Resources*. The Pilot Location Implementation Matrix in Appendix J provides information on the capital and life cycle cost of select Complete Streets improvements.

The discussion of project costs should occur at all stages of implementation for any context-sensitive Complete Streets policy across Sussex County, not just once individual projects are being considered. The Complete Streets Implementation Plan intends to conserve staff and fiscal resources by directing County infrastructure improvements efforts toward high-crash/high-connectivity locations. For these locations, the Pilot Locations chapter of this Plan provides a range of treatment options, relative costs and advantages, and potential ease of implementation.

Adoption of a context-sensitive Complete Streets Policy by the County will encourage and/or induce other contributors to the County circulation system – including NJDOT, municipalities, and private developers – to build upon the County's Complete Streets performance standard. Local governments would also benefit from adopting their own Complete Streets policy that is consistent with Sussex County's policy. NJDOT awards an additional point on its Local Aid application if the applicant has a Complete Streets policy in place.

Greater connectivity and improved safety – which are the primary benefits of a Complete Streets policy – may also be served by non-infrastructure activities, such as education and enforcement. Education and enforcement initiatives, described in the next chapter of this chapter, can be deployed quickly, relatively inexpensively, and serve as a bridge to Complete Streets outcomes until permanent infrastructure modifications can be completed.

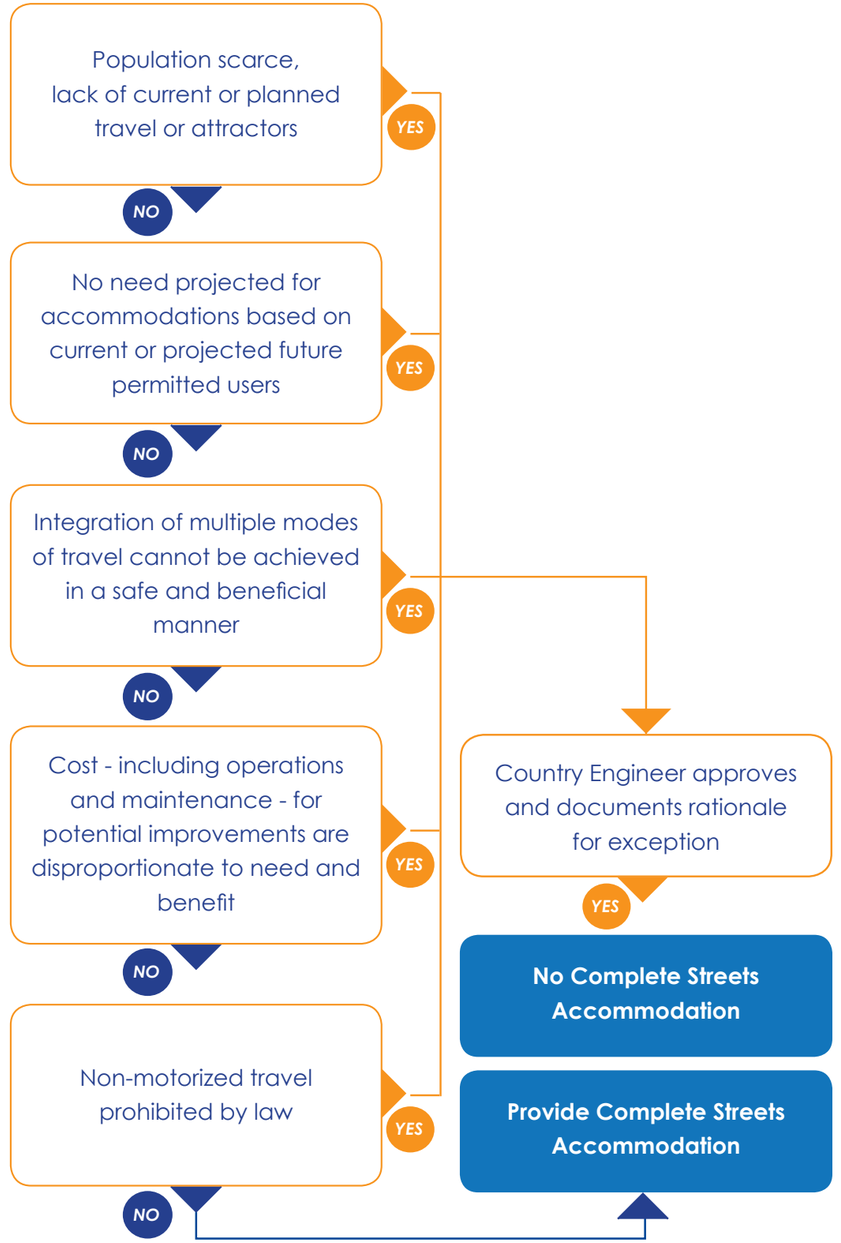
11. Establish and Track Performance Measures

Complete Streets-related performance measures can be used to assess needs throughout the network, to rank projects for funding, to assess the impact of a proposed project, or to evaluate whether a policy or project is meeting its goals.

Levels of Service (LOS) is a rating system that has traditionally been used by transportation agencies to evaluate the performance of vehicular throughput along roadways and at intersections. Utilizing a scale of A (best, free-flow conditions), to F (worst, highly-congested conditions), this performance metric focuses on the congestion levels of roadways. However, in order to assess the implementation of Complete Streets policy, alternative performance measures should be used to evaluate a transportation system.

Performance measures should be developed to track progress towards the goals articulated in the County's Complete Streets Policy. This includes:

- Bicycle and pedestrian crashes with vehicles, as well as injuries and fatalities.
- Bicycle and pedestrian mode share.
- Vehicle miles traveled (VMT).
- Number of funded Complete Streets retrofit projects.
- Mode share of trips to school.
- Weekly bus ridership.
- Miles of sidewalks, bicycle paths, and share the roadway signs.



If a potential project meets one or more of these exemptions, the County Engineer may approve and document an exception stating that the project is exempt from the Policy.

Additionally, LOS can be adjusted to measure the congestion level of the pedestrian and bicycle environment, and multimodal LOS is now used by some states, counties and municipalities. As an example, the City of Charlotte, NC, developed its own multimodal level of service.

12. Create a Detailed Exemptions Process for the Complete Streets Policy

As part of the Policy's early implementation phase, Sussex County can expand upon its Complete Streets exemptions with a checklist form. The NJTPA can assist with development of a Complete Streets exemptions checklist through a reference of checklists developed by other Counties within the NJTPA region. The Sussex County Complete Streets Policy states:

The County may apply context-sensitive Complete Streets principles to the decision-making process for planning, design, construction, maintenance, and operation of circulation facilities, including but not limited to the reconstruction, rehabilitation, or resurfacing of any transportation facility funded in part or entirely by the County, unless the County Engineer finds that one or more of the following conditions apply:

a) Use of the roadway corridor by non-motorized users is prohibited by law.

b) Scarcity of population, travel, and attractors, both existing and prospective, do not support a need for such accommodations.

c) The cost, including operation and maintenance, is disproportionate to the need or benefit.

d) Integration of multiple modes of travel cannot be achieved in a safe and beneficial manner.

Each written exception to this Policy shall, with accompanying documentation, become public record.

If a potential project meets one or more of these exemptions, as detailed in the decision tree on page 64 of this Plan and in the Complete Streets Policy, the County Engineer may approve and document an exception stating that the project is exempt from the Policy. If a project does not meet any of these exemptions, context-sensitive Complete Streets elements should be implemented as detailed in Step 13 below. The Exemptions process should be agreed upon by County Planning and Engineering staff.

The County should consider including in this Exemptions process a mechanism by which residents or others can appeal, if sufficient compelling data or information exists related to the exemption.

Coordination across various levels of County and municipal government will enable Sussex County to provide guidance on whether a project meets the requirements for either (b) or (c) in the exemptions language listed above.

Finally, the County should formalize how potential exemptions will be reviewed. For example, the Engineering and Planning Divisions could work together to recommend projects that should receive an exemption on a quarterly basis, which could then be reviewed and finalized by the County Engineer.

13. Apply the Complete Streets Policy to Appropriate Projects

The table on the next page outlines a process for evaluating whether the Complete Streets Policy should apply to a project and if so, how to apply the Policy throughout the project scoping, design, building, and operations phases.

Step	Details
Step 1: Project Identification	As detailed in the Complete Streets Policy, all transportation facility projects – including reconstruction, rehabilitation, and resurfacing projects – will be considered for Complete Streets application. In addition, candidate project locations should be considered by the County in concert with the local community, and local stakeholders and residents should participate in a Complete Streets audit of the candidate location early in the process. The NJTPA can assist with a Walkable Community Workshop for free to develop Complete Streets design recommendations that are representative of local stakeholder and resident input.
Step 2: Collection of Baseline Data	To evaluate whether the Complete Streets Policy may apply to the project, the County should collect baseline data sufficient to identify current deficiencies and future needs. Such data may include: crash data (vehicles, pedestrians, bicyclists); the existing characteristics of the facility (such as right-of-way width, number and width of lanes, etc.); current and projected traffic volumes; air quality/health data from affected neighborhoods; existing plans including trails, bikeways, greenways, parks, school siting, and transit; and changes in local land use patterns.
Step 3: Preliminary Stakeholder/ Community Engagement and Field Assessment	Unless there is significant data to demonstrate an exemption should be granted (see Step 12 "Create a Detailed Exemption Process for the Complete Streets Policy" on page 65 of this Plan), the public and relevant stakeholders should be engaged early in the project scoping phase to discuss the vision and goals for the transportation facility. As part of this phase, an assessment of the facility should be conducted utilizing the Complete Streets audit.
Step 4: Determine Eligibility using Decision Tree Tool	Utilizing the relevant baseline data and community feedback information, the Engineering Department should determine whether the Complete Streets Policy applies to the project (see Step 12 "Create a Detailed Exemption Process for the Complete Streets Policy" on page 65 of this Plan).
Step 5: Application of Typologies and Overlays to Determine Potential Retrofits	The Engineering Department, in conjunction with the Planning Department, should apply the types, overlays, and retrofits contained within chapter VI of this Plan that most closely match expressed stakeholders' desired street function, user priority, desired operating speed, and desired design features.
Step 6: Stakeholder/Community Engagement	The County should hold a public meeting for stakeholders to discuss the selected types, overlays, and retrofits. Additional design modifications may be requested.
Step 7: Internal Agency Review	The affected County agencies should review the proposed design for potential impacts on maintenance and operations, and request appropriate adjustments. For example, Public Works may identify potential maintenance challenges posed by the design and recommend adjustments.
Step 8: Final Engineering Project Checklist	Prior to construction, the County should complete the NJDOT's Complete Streets Checklist (Preliminary Engineering Checklist) to ensure that all Complete Streets performance standards have been considered and addressed.
Step 9: Construction	
Step 10: Operation and Evaluation	The County should monitor the operation and function of the facility and deploy Education and Enforcement as necessary. The County should collect crash, volume, and speed data to validate design choices and inform future projects. It is recommended that user satisfaction and economic and health benefits data also be collected to document the benefits of Complete Streets standards and ensure the long-term viability of the Complete Streets policy.

Education, coupled with enforcement, has been shown to reduce the number of vehicular and pedestrian related crashes, injuries and fatalities.

Education and Enforcement

Education and enforcement initiatives can facilitate a smooth implementation of a context-sensitive Complete Streets Policy. For roads that incorporate Complete Streets design elements, it will be important to educate motorists, pedestrians, and bicyclists of traffic safety laws and to prepare them for enhanced Complete Streets designs that accommodate mobility beyond the automobile. Education, coupled with enforcement, has been shown to reduce the number of vehicular and pedestrian related crashes, injuries and fatalities. Education and enforcement initiatives, described below, can be deployed quickly, relatively inexpensively, and can serve as a bridge to Complete Streets outcomes until permanent infrastructure modifications can be completed.

Education

Complete Streets outcomes may be achieved using a variety of means, some of which are familiar (adding paved shoulders to roads, or enhancing crosswalks), and some unfamiliar (roundabouts, cycletracks, and road diets). Based on the experience of other jurisdictions that have implemented Complete Streets policies, it should be expected that users will require some education to properly utilize these features. The following table includes a sampling of common challenges experienced by jurisdictions that have implemented Complete Streets policies.

Facility	Challenge
Sharrows	Drivers may not understand that the sharrow entitles the bicyclist to the full use of the lane. On roads lacking sharrows or bike lanes, drivers may infer that bicycles are not permitted.
Bicycle Lanes	Drivers may obstruct the bicycle lane by parking in it. Bicyclists may also engage in wrong-way riding.
Crosswalks	Drivers may not understand it is incumbent on them to yield/stop for pedestrians in the crosswalk.
Roundabout	Drivers may not understand the direction of travel and yield priority.
Road Diets	Stakeholders may not understand that lane and speed reductions can improve safety while not increasing congestion.

Education Strategies

Overcome these challenges by using several individual strategies, or mix of strategies, to educate multimodal transportation users and the motoring public. Some of these strategies include:

- Direct outreach to local officials to brief them on the Sussex County Complete Streets Policy, as well as national/state trends and local demand.
- Direct outreach through earned media, free media coverage and grassroots outreach, as opposed to paid media to document project development, national/ state trends, local demand, and project successes.
- Train staff on new laws, funding sources, best practices, and trends and tools related to Complete Streets. Staff should be encouraged to attend related training and education events and opportunities.
- Utilize the statewide Street Smart NJ website (www. bestreetsmartnj. org) and resources found on the website to promote pedestrian safety. Inquire with the NJTPA on hosting a Street Smart NJ presentation tailored to the specific target audience.
- Stakeholder and decision-making presentations.
- Identify local champions to spread the word.
- Prepare a press kit and/or social media campaign with a fact sheet and press release.
- Distribute bicycle and pedestrian education materials through email blasts from county, local, and/or partner agencies.
- Provide education materials on County and partner agency websites, Facebook, Instagram, and twitter.
- Host bike or walk to work events through a partnership with the TransOptions TMA.
- Host information tables at community events, festivals and farmers markets.
- Safe Routes to School strategies – Reach out to students by hosting educational events such as bike rodeos at schools through a partnership with the TransOptions TMA. [12]

Bicycling and walking are reliable and inexpensive transportation options for low-income individuals.

- Place "hang tags" on bicycles with information on bike safety. [13]
- Establish bicycle and pedestrian ambassadors to train, educate, and conduct outreach to bicyclists, pedestrians and motorists by visiting classrooms, conducting on-street and event outreach, and municipal/governmental outreach. For example, Rutgers has an Ambassadors in Motion program. [14]
- Walkable Community Workshops – hosted by the NJTPA, upon request. The intent of these workshops is to identify measures that will help towns support increased walking trips within the NJTPA region.

Education Partners

Education strategies should engage a variety of partners to reach the general public and propagate messages about motorist, pedestrian, and bicycle safety. Potential partners include:

- **School Districts.** Schools can serve as incubators for the promotion of Complete Streets initiatives through the use of classroom-style pedestrian and bicycle safety classes. NJDOT and TransOptions TMA offer programs for elementary and middle school students that focus on the benefits of safe bicycling and walking. [15, 16] This includes organizing and hosting bike rodeos, as well as working with school districts in promoting National Walk to School Day and Bike to School Day. Older students can also learn about safe driving habits where more than one mode is present or encouraged.
- **Healthier Communities Initiative.** This national YMCA program advocates the concept that "local communities can work together to provide healthy choices and support the pursuit of healthy lifestyles."[17] These goals are consistent with the health and active living benefits resulting from the implementation of Complete Streets.
- **Transportation Advocates.** Transportation advocacy organizations have existing materials that address safety and the benefits of investing in Complete Streets facilities.

  Examples: TransOptions TMA, Complete Streets Coalition, Voorhees Transportation Center, Tri-State Transportation Coalition, and the New Jersey Bike & Walk Coalition.
- **Public Health Practitioners.** Bicycling and walking allow individuals to be active and healthy. Public health practitioners and health care providers can be strong advocates for implementing the Complete Streets Policy and associated projects.

  Examples: Sussex County Department of Environmental and Public Health Services, New Jersey Supplemental Assistance Program Education (NJ-SNAP-ED), SCARC, Inc. , Sussex YMCA, Sussex County Division of Community Services, Pioneering Healthier Communities in Sussex County and Human Services Advisory Council (HSAC).
- **Tourism and Recreation Stakeholders.** Sussex County is a popular recreation destination. A robust network of multiuse trails and on road bicycle routes will serve existing vacationers and attract new visitors.

  Examples: Sussex County Chamber of Commerce, Sussex County Trail Partnership, Greater Newton Chamber of Commerce, Paulinskill Valley Trail Committee, Black Bear Cycling, Skylands Cycling.
- **Social Service Providers and Law Enforcement.** Bicycling and walking are reliable and inexpensive transportation options for low-income individuals. Nationally, this same population, is over-represented in walking and bicycling related injuries and fatalities. Working with social service providers, law enforcement, and churches can be effective ways to reach this population. Social service providers should discuss safe walking and bicycling behaviors when interacting with clients. Law enforcement should be equipped with low-cost bicycle lights, helmets, and retro-reflective accessories to hand out to bicyclists in lieu of a traffic citation.

Education & Awareness

Enforcement

A perfectly engineered Complete Street will be inadequate without user compliance with traffic laws. Community norms are often insufficient to encourage and enforce proper user behavior, thus education campaigns must be accompanied by law enforcement. Enforcement is a powerful way to ensure that all users understand their roles and responsibilities.

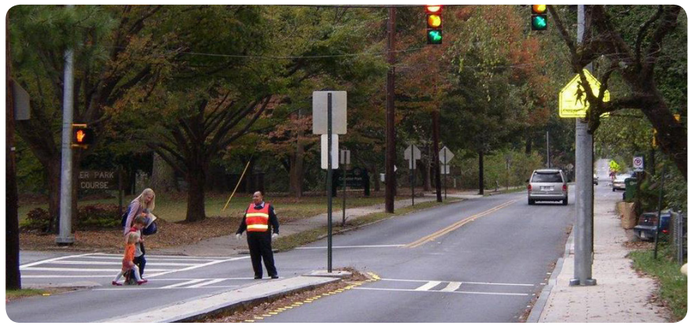
Injuries and fatalities from traffic crashes are the primary threat to public safety in most communities. It should not be assumed this fact will guide how local law enforcement is able to distribute scarce resources. Whenever local law enforcement is enlisted in support of Complete Streets, consideration must be given to the most effective ways to use their time.

Enforcement Strategies

Law enforcement efforts can be both reactive and proactive. The most effective reactive initiatives rely on crash data to identify high-risk locations. Rutgers University's Center for Advanced Infrastructure and Transportation's Plan4Safety on-line tool is a great resource for identifying crash hot spot locations and has been used statewide by police departments and emergency response teams to identify at-risk intersections and roadway corridors for targeted enforcement and emergency response. It is highly encouraged that law enforcement and the relevant public works department collaborate to identify infrastructure changes that could yield safety improvements.

Proactive enforcement campaigns focus on key locations, times, and dates when user safety would benefit from additional enforcement. Examples of enforcement strategies relevant to the challenges of Sussex County are described in the table to the right.

Location	Challenge	Strategy/Role
Transition Zones	Drivers may not be adjusting their speeds when transitioning from Rural Highway to Main Street.	Speed enforcement, speed feedback signage.
School Zones	Drivers may not be adjusting their speeds during arrival/dismissal or during special events in the school zone. Parking and vehicle circulation lead to traffic safety challenges.	Speed enforcement, speed feedback signage, parking citations.
School Events	Events such as Walk to School Day, Bike to School Day, and periodic encouragement events require the presence of law enforcement.	Law enforcement participation in bike rodeos, traffic control in the school zone, and enhanced visibility in school zones during arrival/ dismissal.
Crosswalks	Drivers may not be yielding and stopping for pedestrians in the crosswalks.	Cops in the Crosswalk Program – This is a pedestrian crosswalk decoy initiative in which undercover police officers act as pedestrians crossing the street in a marked crosswalk. Note: high risk behaviors by all users should be addressed. Citations and warnings should be issued.
Trail Crossings	Drivers may not be yielding and stopping for trail users at trail crossing locations.	Signage, flashing beacons, striped crossing on roadway.
New Facilities	As noted in the education section, users may encounter unfamiliar infrastructure and engage in unsafe behaviors on roundabouts, bike lanes, and destination streets.	During initial operation of a new facility, law enforcement presence can be helpful for guiding user behavior, and issuing warnings or citations for recurring problem behaviors.



Overcoming Challenges

Additional Enforcement Strategies

The communities that realize the best results from law enforcement are those that view the enforcement action as corrective and constructive, not punitive. For example, when focusing on bicyclists that are riding in the dark without lights and reflective gear, it is much more effective to provide the violator a $25 set of lights or a coupon good toward gear at a local bike shop, than it is to issue a $50 citation.

Progressive enforcement campaigns are a best practice for behavior change, whether the focus is on driver yield behavior at crosswalks, bicyclists' behavior at controlled intersections, or helmet use by minors. Progressive campaigns typically follow three phases:

Phase 1: Education and Awareness.

Television and radio public service announcements, newspapers, and social media outlets can raise awareness about high-risk traffic safety behaviors and explain traffic safety laws. Other channels such as those outlined in the education chapter should also be used.

Phase 2: Interactions and Warnings.

Once the safety message has been disseminated about high-risk behaviors and lawful behaviors, the next step is outreach by law enforcement to motorists, cyclists, and pedestrians. Law enforcement remind motorists, pedestrian, and bicyclists of the importance of shared responsibility and state traffic safety laws through distribution of traffic safety tip cards and materials. For example:

- New Jersey's Helmet Law (Title 39:4-10. 1): **http://www.nj.gov/transportation/commuter/bike/regulations.shtm**

Anyone under 17 years of age that rides a bicycle, is a passenger on a bicycle, or is towed as a passenger by a bicycle, must wear a safety helmet.

- New Jersey's Crosswalk Law (Driver to stop for pedestrian: exceptions, violations, penalties. 39:4-36):

The driver of a vehicle must stop and stay stopped for a pedestrian crossing the roadway within any marked crosswalk. In addition, drivers should yield the right-of-way to a pedestrian crossing the roadway within an unmarked crosswalk at an intersection, except at crosswalks when the movement of traffic is being regulated by police officers or traffic control signals, where otherwise prohibited by municipal, county, or State regulation, and except where a pedestrian tunnel or overhead pedestrian crossing has been provided. No pedestrian should suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close that it is impossible for the driver to yield.

- Applicable Penalties for the New Jersey Crosswalk Law which is highlighted in the Street Smart NJ tip card (available at www. bestreetsmartnj. org):

Motorists in New Jersey must STOP for pedestrians in a marked crosswalk. Failure to observe the law may subject you to one or more of the following:

- 2 points
- $200 fine
- 15 days community service
- Insurance surcharges

Phase 3: High Visibility Enforcement.

High Visibility Pilot Locations can also serve as a real-world application of enforcement strategies prior to issuance of citations. These targeted enforcement actions should be conducted in cooperation with local media. Having local media on-site provides a multiplier effect, allowing an enforcement action to yield a larger education benefit. It is recommended that local prosecutors and judges be made aware of the enforcement action. Prosecutors and judges who are unaware of the law or who do not consider traffic safety a priority can nullify an enforcement campaign.

Overcoming Challenges

Costs of Complete Streets Improvements

The discussion of project costs should be ongoing in the implementation of any context-sensitive Complete Streets policy across the County; once the policy is in place, the discussion of costs should continue as individual projects are considered.

The Implementation Plan conserves staff and fiscal resources by recommending Sussex County direct infrastructure improvements towards high crash and high connectivity locations. For these locations, the Pilot Locations chapter of this Plan provides a range of treatment options, their relative costs and advantages, and their ease of implementation.

Adoption of a context-sensitive Complete Streets Policy by the County will encourage/induce other others involved in the County circulation system, such as NJDOT, municipalities, and private developers, to build to the Complete Streets performance standard. Further, NJDOT awards local governments an additional point on its Local Aid application if the applicant has a Complete Streets Policy in place. Finally, the discussion of Complete Streets should include costs-avoided as well as costs-incurred. Considering current uses, and anticipating future users as presented in the Context-Based Transportation Corridor Types chapter, will

assist the County in properly scoping, planning, designing, and implementing projects so that it can avoid the comparatively expensive task of retrofitting parts of the circulation system with sidewalks, trails, shoulders, and other Complete Streets elements in the future.

The Context-Based Street and Transportation Corridor Types, along with its prescribed stakeholder engagement, can also help the County and other partners avoid the opposite problem: overbuilding a project. Excess capacity, in addition to demonstrating poor stewardship of public funds, has myriad consequences, including the potential to induce both land use sprawl and higher vehicular speeds, which become barriers to physical activity.

Objections to Complete Streets Improvements

Infrastructure projects often attract attention, and sometimes they generate opposition from stakeholders. Complete Streets, both in concept and execution, are no different in this regard. Opposition may be based on principle (i. e. local government funds should not be used for this purpose), or objections may be project-specific (i. e. a belief that no one walks or bikes in a particular area). Affected stakeholders – especially those who might be expected to oppose projects – should be engaged early in the process of project planning. As Complete Streets improvements are phased-in and benefits become apparent, skeptics may be won over. However, every project should be approached as a fresh opportunity to demonstrate the benefits of Complete Streets.

A summary of typical objections to Complete Streets and potential responses is described below:

Objection: No one walks or bikes here, so we don't need sidewalks and bike lanes.

Response: The most common objection is that walking and bicycling amenities are not needed in areas where no one is currently walking or bicycling. This is often part conjecture and part self-fulfilling prophecy. A sizeable minority of residents in a given community may not drive or have access to motor vehicles. Non-drivers include: persons under the ages of 16 as well as the elderly who are no longer comfortable driving; families wishing to reduce transportation costs; and individuals who simply prefer active transportation to driving. Economic trends – rising energy costs, rising motor vehicle costs, and stagnant incomes – are leading more people to seek ways to reduce driving and its associated costs.

Affected stakeholders – especially those who might be expected to oppose projects – should be engaged early in the process of project planning.

The perception that no one is walking is often a consequence of one's own travel experiences. If a road does not feel safe to cross as a pedestrian, or to ride along as bicyclists, it is unlikely the person in question will do much walking or bicycling. This objection can be effectively countered by taking stakeholders on walking audits of the location or corridor in question. Walking audits reveal pedestrian activity, or evidence of it, and can be poignant demonstrations of existing safety hazards. Presenting data about walking and bicycling trips also demonstrates demand for Complete Streets facilities.

Objection: Complete Streets improvements are luxuries that we cannot afford.

Response: The context-sensitive approach to evaluate the benefits of Complete Streets allows for significant stakeholder input on determining the goals and features of transportation projects. If a community does not agree with the outcome of the context-sensitive planning process, coordination with stakeholders should continue to help work toward an acceptable solution.

The broad acceptance and proliferation of Complete Streets principles and policies at the national, state and local levels should be taken as recognition of the serious and unintended consequences of designing streets only for driving. Trends have shown that Vehicle Miles Traveled (VMT) has decreased in recent years while walking and bicycling trips are increasing. In addition, health costs related to physical inactivity are increasing, and crash and injury data can demonstrate the need for safety improvements that would result from Complete Streets improvements.

Objection: Sidewalks, bike lanes, and other Complete Streets features expose local government and individuals to legal liability.

Response: The design values described within the Implementation Plan are flexible and fall within the parameters of accepted engineering practices. The **New Jersey Complete Streets Guidebook** specifies that individuals and public entities are shielded from tort liability when they are acting in the pursuit of safety and following approved standards. More information is available in the Liability and Complete Streets chapter on page 35 of this Plan.

Property owners are generally shielded from liability due to the natural accumulation of snow and ice on sidewalks and trails abutting their property, unless otherwise specified by local ordinance. [18]

Objection: Passing a Complete Streets policy will force Sussex County to build sidewalks in the middle of nowhere.

Response: The recommended Complete Streets Policy and Implementation Plan rely on context, current demand, and projected future demand for Complete Streets facilities to determine what features are appropriate for a project. Each project should be evaluated independently to determine what types of Complete Streets improvements – if any – would be necessary and feasible.

Chapter IX

RESOURCES

Training Opportunities

The Sussex County Complete Streets Policy and Context-Based Street and Transportation Corridor Types are intended to complement, not replace, the practice developed for the planning, design, construction, maintenance and operation of public roadways, transit facilities, bikeways, and pedestrian paths. Trainings, workshops, conferences and seminars covering Complete Streets and context-sensitive best practices are available from NJDOT, the Federal Highway Administration (FHWA), the National Highway Institute (NHI), and myriad for-profit and non-profit organizations such as the American Association of State Highway and Transportation Officials (AASHTO), the Association of Pedestrian and Bicycle Professionals (APBP), and the National Association of City Transportation Officials (NACTO).

In addition to training opportunities organized by the County, there are many other relevant trainings and webinars organized by national and state organizations, which could be circulated regularly to County staff, County elected officials, and local towns and villages. A comprehensive table listing the training opportunities offered throughout the country can be found in Appendix K.

Each training opportunity in the table is associated with a specific step of the Implementation Plan. In addition, many training opportunities address more than one part of the Implementation Plan, and a few are comprehensive, such as the "Complete Streets Design Implementation for Professional Seminar" offered jointly by the Institute of Transportation Engineers (ITE) and APBP. Many of these webinar trainings are archived and available after the training date, often at no cost.

Funding Opportunities

Federal Sources of Funding

For more information on utilizing federal funds for Complete Streets project, see:

- Advocacy Advance[19]
- FHWA Map-21 Fact Sheets[20]

Transportation Alternatives Program (TAP) and Safe Routes to School

Transportation Alternatives Program (TAP) provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, recreational trail projects, Safe Routes to School projects, and other projects related to bicycle and pedestrian planning and facilities. This is a new program under MAP-21 that has consolidated the Recreational Trails Program, Safe Routes to School, and Transportation Enhancement Program. NJDOT solicits applications for Safe Routes to School as a separate application from TAP due to its high demand. Applications can be filled out on-line via SAGE and applicants should consult the NJDOT's application handbook (available online) for TAP and SRTS to increase chances of receiving funding.

For more information see: Advocacy Advance TAP Funding Flow Chart (http://www.advocacyadvance.org/site_images/content/map_21_infographic.pdf), Transportation Alternatives Toolkit and one pagers (http://www.advocacyadvance.org/MAP21)

Surface Transportation Program (STP)

The Surface Transportation Program (STP) is a Federal Highway Administration (FHWA) program that provides flexible funding for a wide variety of projects on any federal-aid highway, including pedestrian and bicycle infrastructure, planning, and trails projects, among other uses.

County Aid

The New Jersey Legislature annually appropriates funds for county roads and bridges. Sussex County must develop an Annual Transportation Program (ATP) listing the desired or planned projects and submit to the Local Aid District to be allotted County Aid.

Municipal Aid

Municipalities may apply to the Municipal Aid Program for the funding of specific projects. Applications receive points based on criteria including existing road conditions, average daily traffic (ADT), safety improvements, and access to destinations and the project's readiness to be constructed. Additional information can be found here:

http://www.state.nj.us/transportation/business/localaid/documents/StateAidHandbook.pdf

All states are eligible to receive HSIP funds for bike and pedestrian infrastructure on any public road, bike path or trail, as well as education, as referenced in NJ's Strategic Highway Safety Plan (SHSP).

Highway Safety Improvement Program (HSIP)

HSIP is an FHWA program that funds highway safety projects aimed at reducing highway fatalities and serious injuries. Bicycle and pedestrian projects are eligible for funding under HSIP. Any improvement using HSIP funds must demonstrate, using crash data, that there is a safety issue and that the improvement will address that issue. All states are eligible to receive HSIP funds for bike and pedestrian infrastructure on any public road, bike path or trail, as well as education, as referenced in New Jersey's Strategic Highway Safety Plan (SHSP). Municipal and County roads are eligible for HSIP funds with the recognition that a significant number of crashes occur on these roadways. Bike and pedestrian projects that are eligible for HSIP funding include bike lanes, bike parking, crosswalks, and signage. Sussex County can tap into this funding source through the NJTPA Local Safety Program or High Risk Rural Roads Program if the location has a history of fatalities or injury crashes.

State and Highway Safety Grant Program

Section 402, the State and Community Highway Safety Grant Program, is a federal program that provides funds for education, enforcement and research programs designed to reduce traffic crashes, deaths, injuries, and property damage. Eligible recipients of Section 402 funds from state DOTs include counties, municipalities, and local government.

Under Section 402, bicycle and pedestrian safety programs that are eligible to receive funding include the following:

- Comprehensive school-based pedestrian and bike safety education programs
- Helmet distribution programs
- Pedestrian safety programs for older adults
- Training in use of pedestrian/bike design guidelines
- Community information and education programs
- Public information in May, such as "Bike Safety Month", and in September, "Back to School Safety Month."
- Public information for school zone and crosswalk safety and about older adults and impaired pedestrians

National Highway Performance Program (NHPP)

NHPP is a FHWA program that provides support for the condition and performance of the National Highway System, replacing the National Highway System program that existed under previous legislation. MAP-21 expanded the National Highway System to include approximately 220,000 miles of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations.

NJTPA's Local Safety Program (LSP)

The LSP is a program intended to advance safety initiatives on county and local roadways throughout northern New Jersey. It was established by the NJTPA in conjunction with the NJDOT using HSIP funds. Locations that demonstrate safety concerns based on crash data are considered highest priority for this funding. The types of projects that can receive funding from this program are quick-fix, high impact and typically range in cost from $75,000 to $500,000 per project.

High Risk Rural Roads Program

The High Risk Rural Roads Program is federally funded and is intended specifically for roadways that are classified as rural major collector, rural minor collector, or rural local roads and have data showing high crash rates compared to statewide averages. Examples of projects funded by this program include reflective pavement markings, guiderails, rumble strips, and safety edge and warning signs.

Pedestrian Safety Education and Enforcement Fund

The Pedestrian Safety Education and Enforcement Fund is accessible through the New Jersey Division of Highway Traffic Safety (NJDHTS).[21]

Sussex County developed a process and worksheet to conduct an audit of local transportation infrastructure for the evaluation of Complete Streets improvements based on local context.

Examples of Model Local Town / Village Complete Streets Policies

Morristown adopted a Complete Streets policy in 2012 and has used a Priority Action Plan, a Complete Streets Committee, and a series of checklists to implement its policy. The Priority Action Plan was distilled from Complete Streets recommendations developed as part of the Master Plan, Redevelopment Plan, and Bicycle Plan preparation process. The Complete Streets Committee provides oversight to ensure that the Priority Action Plan is being pursued and that the checklists are being used in all phases of project planning, design, and construction, including road maintenance and town redevelopment. Funding for implementation has come from NJDOT Local Aid, Safe Routes to School and Safe Routes to Transit programs, an NJTPA grant for a Mobility and Land Use Master Plan update and a grant for planning and design of the train station development and redevelopment plan.

Hoboken completed a bicycle and pedestrian plan in December 2010 and adopted a Complete Streets policy around the same time as an outgrowth of the bike/pedestrian plan and in response to the State policy adoption. Hoboken has applied the standards of other jurisdictions and agencies in three projects in the city: Hudson Place, Observer Highway, and Newark Street. Hudson Place, adjacent to the Hoboken Terminal (NJ Transit commuter rail and buses/Metro-North Railroad/PATH/ferry), has had a redistribution of right-of-way space to provide a much greater percentage for sidewalk versus roadway. Observer Highway is slated to go on a road diet that will entail adding a 2-way bikeway to the existing cartway. Newark Street, a short roadway that provides essential pedestrian connections in the heart of the downtown, will get widened sidewalks, a paving block street surface, a "pocket" plaza, and rain garden (the latter for stormwater infiltration).

Ocean City adopted a Complete Streets policy in 2011. Their implementation strategy is focused on high-priority projects that include the Haven Avenue Bike Boulevard, sharrows, the installation of bike racks in street cartways adjacent to the curb, and neighborhood projects that incorporate bulb outs, "community quilt" traffic calming street art (painted roundabouts), pervious paving, and rain gardens. Ocean City uses a process that employs significant public outreach, the development of alternatives, and the installation and testing of temporary low-cost or no-cost changes before implementing any permanent change.

NJDOT Complete Streets Checklist

The NJDOT adopted its Complete Streets Policy Checklist in 2009 in an effort to promote the consistent application of Complete Streets policies and procedures across all state-funded projects.[22] The Checklist also serves as a guide and resource for county and municipal governments for the evaluation of Complete Streets improvements at the local level.

Complete Streets Audit

Sussex County also developed a process and worksheet to conduct an audit of local transportation infrastructure for the evaluation of Complete Streets improvements based on local context. The audit provides guidance in the following areas:

- Depictions of best practices for Complete Streets designs in rural areas and small towns;
- How to perform a walking audit of an area to identify barriers to bicycling and walking;
- Instructions on how to develop and prioritize recommendations for addressing environmental barriers; and
- Information for understanding the process of performing Complete Streets audits.

A copy of the worksheet is found in the Appendix.

Glossary of Terms

For the purposes of interpreting and applying Context-Based Street and Transportation Types, the following terms are herein defined as:

- **Bicycle Facility –** Bicycle facilities are the dedicated infrastructure to accommodate bicyclists. When a designated facility is shared with motor vehicles or pedestrians, bicycle-specific considerations may be incorporated into the design.
- **Buffer –** Buffers are the minimum space between the sidewalk and the curb line, or pavement edge for uncurbed roads. Buffers are the appropriate area for utilities, sign and signal poles, trees and vegetation, and other obstructions.
- **Center Turning Lane –** Center turning lane may be two-way left turn lanes or one way left turn pockets in a raised median. The width listed is the recommended width.
- **Curb Radius –** Curb radius is the maximum simple radius that should be used at curbs. Radii may need to be larger based on the vehicles and turning behaviors of each intersection. Compound curves are preferable as a tactic to minimize the size of intersections.

NJDOT adopted its Complete Streets Policy Checklist in 2009 in an effort to promote the consistent application of Complete Streets policies and procedures across all state-funded projects.

- **Curbing –** Curbing is whether or not a vertical curb and gutter should be used to control runoff.
- **Design Speed –** Design speed is the selected speed used to determine the various geometric design features of the roadway.
- **Encouraged –** Encouraged elements are the recommended standards in ideal situations. While encouraged elements may not be appropriate or cost-effective in all circumstances, the decision-making process should start with a presumption of inclusion of said elements, settling on permitted or required alternatives only after sufficient justification.
- **Furniture –** Furniture are the public space amenities that line the sidewalk. Furniture should be placed within the buffer, shy zone, or in additional right of way as to avoid obstructing the sidewalk.
- **Lane Width –** Lane width is the width of each through lane, either including or excluding the width of lane markings as appropriate.
- **Illumination –** Illumination is the street lighting to maintain visibility and safety as necessitated by the context.
- **Lane Width –** Lane width is the width of each through lane, either including or excluding the width of lane markings as appropriate.
- **Median –** Medians are raised areas between opposing lanes of traffic, excluding turn lanes. They may be continuous along the corridor or as islands as in the case of pedestrian refuges. The width listed is the recommended minimum width in situations where it is expected or intended that pedestrians use the median to break a single crossing into two stages.
- **Multiuse Trail –** Multiuse trails are wide, wholly-separated travel facilities for non-motorized traffic use only.
- **Number of Through-Lanes –** The number of through-lanes is the total number of continuous travel lanes in either direction throughout the corridor and not meant solely for turning movements.
- **On-Street Parking –** On-street parking is parallel or angled parking for motorized vehicles.
- **Other Users –** Other users are those modes intended to routinely use the roadway or trail, but whose geometric characteristics should only moderately influence design decisions.
- **Pavement Width –** Pavement width is the distance from curb line to curb line. On uncurbed roadways, the outside edge of the paved shoulder should be used.
- **Permitted –** Permitted elements are the acceptable standards in most situations.
- **Primary User –** Primary user is the mode which should be used to guide design and whose geometric characteristics should primarily dictate design decisions.
- **Required –** Required elements are minimum standards in any situation. Required elements may be rendered unnecessary by the inclusion of permitted or encouraged elements.
- **Secondary User –** Secondary user is the mode whose geometric characteristics should heavily influence design decisions without dictating them.
- **Shoulder Width –** Shoulder width is the width of the paved portion of each shoulder.
- **Shy Zone –** Shy zones are additional pavement continuing between the sidewalk and building frontages found specifically contexts where buildings are built to the setback. They reflect the reality that pedestrians in motion need to maintain comfortable distance from the building facade. Shy zones should not be considered part of the sidewalk in terms of traffic flow, but do provide space for furniture, sandwich boards, and sales racks, as well as lingering space for pedestrians outside of the traffic flow.
- **Sidewalk Width –** Sidewalk width is the minimum continuous width of unobstructed sidewalk. For example, a sidewalk that consists of 10-feet of pavement, but is obstructed by 8-inch diameter poles located 18-inch on-center from the curb line, only has a technical sidewalk width of 8-feet 2-inches.
- **Street Trees –** Street trees are tree plantings that line the buffer, roadside, and/or median as necessitated by the context.
- **Target Speed –** Target speed is the intended average operating speed of traffic. The roadway design should aim to induce driver behavior to match the target speed.
- **Traffic Tolerance –** Traffic tolerance is the appropriateness of the corridor to accommodate either local or through trips. For instance, low traffic intolerance translates into a quiet and relatively unused roadway corridor, whereas high traffic tolerance translates into a roadway with heavy volumes or a high density of origins and/or destinations.
- **Transit Facilities –** Transit facilities are the dedicated infrastructure to accommodate stops along fixed route transit service where present.
- **Walking Facility –** Walking facilities are the design elements that accommodate and foster pedestrian travel.

Footnotes

1. http://quickfacts.census.gov/qfd/states/34/34037.html
2. Reyes, Jessica Masulli. "Study: There's Poverty Amid Affluence" in The New Jersey Herald, July 16, 2012. (Newton, NJ).
3. http://njbikeped.org/complete-streets-2/
4. http://www.sussex.nj.us/documents/planning/lds/2008_LDSbody.pdf
5. http://www.state.nj.us/transportation/commuter/pedsafety/crosswalks.shtm
6. http://www.state.nj.us/transportation/eng/documents/RDM/sec5.shtm#islands
7. For short term Complete Streets Improvements, see Project for Public Spaces' Rightsizing Streets Guide: www.pps.org/rightsizing
8. www.betterblock.org
9. www.epa.gov/smartgrowth/essential_fixes.htm#part2
10. www.nyc.gov/adg
11. www.smartgrowth.org/pdf/gettosg.pdf
12. http://policy.rutgers.edu/vtc/srts/about/
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14. http://njbikeped.org/nj-ambassadors-in-motion-njaim/
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16. http://www.transoptions.org/?p=safe-routes-to-school
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