



TOWN OF PERINTON PEDESTRIAN & BICYCLE MASTER PLAN



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TOWN OF PERINTON

PEDESTRIAN AND BICYCLE MASTER PLAN

EXECUTIVE SUMMARY



INTRODUCTION

The Town of Perinton Bicycle and Pedestrian Master Plan contains an assessment of the current walking and bicycling conditions within the Town, analysis of different opportunities and constraints, and recommendations to improve the mobility, comfort, accessibility, and connectivity of pedestrian and bicycle travel. The project involved input from multiple organizations, municipal departments and authorities, and the public at large. Perinton is proudly a “Trail Town USA” member and contains many notable trail networks, such as the Erie Canalway Trail and the Crescent Trail; as such, trail connectivity has played a major role in the assessment and recommendation development process. The plan also addresses on-street conditions, policies and programs, and other recreational facility options. The improvements within the plan are crucial for the development of a comfortable network for traveling through Perinton by foot or bicycle.

BACKGROUND

This study was funded by the Town of Perinton and the Federal Highway Administration through the Genesee Transportation Council, which serves as the regional Metropolitan Planning Organization. This effort to create a comfortable network of trails and on-street infrastructure for pedestrians and bicyclists follows a long list of similar plans and projects developed over many decades. Past plans focused on improving pedestrian and bicyclist conditions in the Town and surrounding communities include, but are not limited to:

- Fairport Road Business & Transportation Plan (1999)
- Hamlet of Egypt Subarea Plan (2003)
- Route 250 Corridor Study
- Bushnell’s Basin Canal Access Plan (2006)
- Town of Perinton Comprehensive Parks & Open Space Master Plan (2009)
- Town of Perinton Comprehensive Plan Update (2011)

The Town of Perinton has made great strides in encouraging bicycle travel in the community and has established *Ped Zones* for the development of a priority sidewalk network. These plans have been considered and built upon through the Perinton Pedestrian and Bicycle Master Plan in order to develop the best non-motorized transportation network.

Numerous reports and studies have proven that a comprehensive and comfortable pedestrian and bicycle atmosphere can have great social, economic, and health impacts on communities. As such, investing resources in the development of infrastructure that supports these activities will enable the Town to reap health, economic and environmental benefits, and raise their attractiveness on scales from sources like WalkScore and BikeScore. Higher walk and bike scores have been shown to increase land values and will create new opportunities within Perinton.





THE PROCESS

EXISTING CONDITIONS ASSESSMENT

The first step taken in the development of the Perinton Pedestrian and Bicycle Master Plan was assessing current conditions for walking and biking throughout the Town. This process was informed by site visits of key locations throughout Perinton, collecting data on mode choices and related statistics, and conducting an inventory of the current infrastructure available for walking and biking, including:

- Sidewalk conditions & connectivity
- On-street bicycle facilities
- Trails & their permitted uses
- Street crossings & conflict zones

This information was recorded and mapped, helping to create a visual image of the pedestrian and bicycle network throughout the Town, which identified its strengths and weaknesses.

In addition to the data collection and inventory, the existing walking and biking conditions in Perinton were evaluated using *Community Scorecards*. These scorecards, which are part of Pedestrian and Bicycle Information Center's national initiatives, resulted in walking and biking friendliness scores based upon the '5 Es' Principle, which evaluate existing walking and biking conditions through five key variables:

- Engineering
- Education
- Evaluation
- Enforcement
- Encouragement

The results of the Scorecards revealed Perinton has a grade of 10/21 on Walk Friendliness, and 6.5/20 on Bicycle Friendliness. While these scores do not encompass the entirety of the walking and biking conditions in Perinton, they do reveal that there is room for improvement.

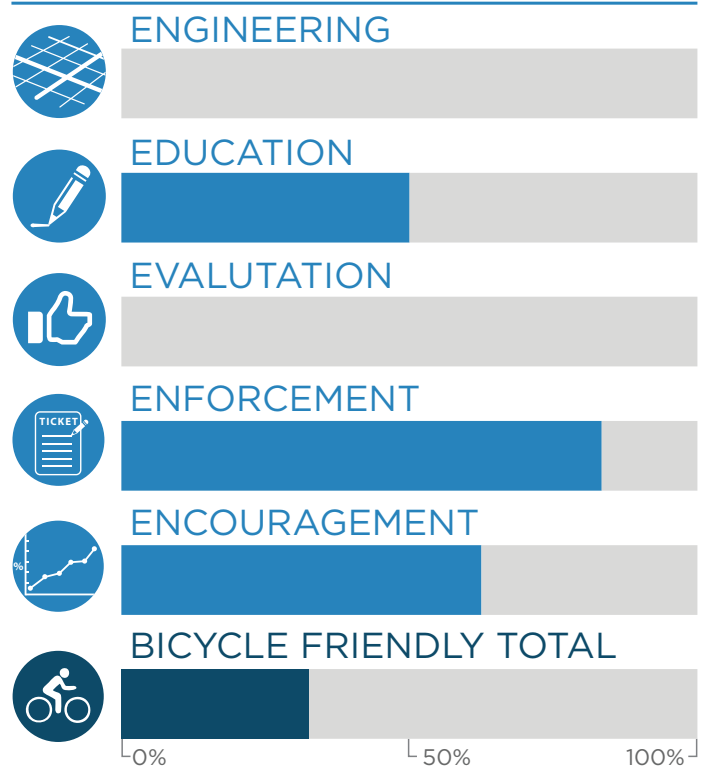
Walk and Bike Community Scorecards were used to assess Perinton's existing walking and bicycling conditions. This analysis indicated that walking conditions overall were better, but both realms could use improvement.

PERINTON'S EXISTING WALKING + BIKING CONDITIONS WERE SCORED AGAINST THE 5 E'S. THE RESULTS OF THIS ANALYSIS ARE DISPLAYED BELOW:

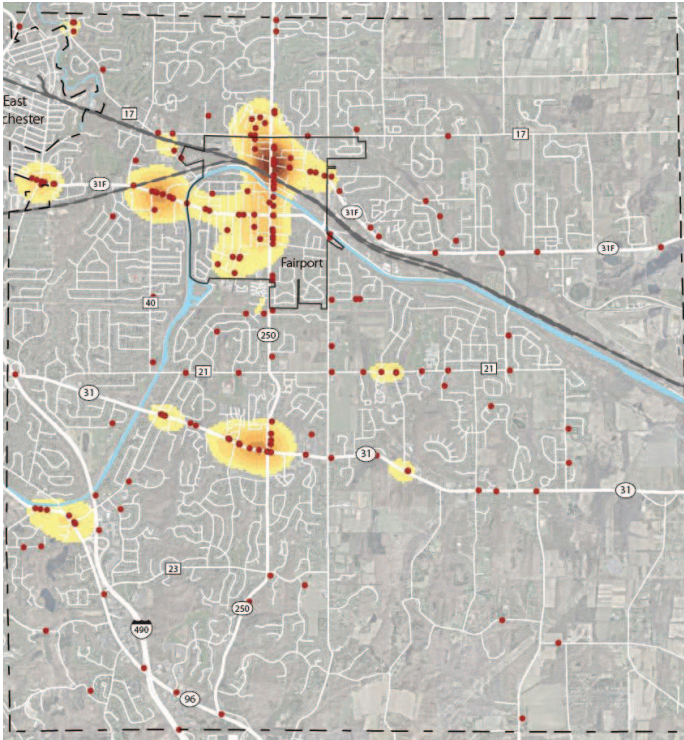
WALK FRIENDLY COMMUNITY SCORECARD RESULTS



BICYCLE FRIENDLY COMMUNITY SCORECARD RESULTS



Bicycle and Pedestrian crash incidents were mapped to determine high risk locations in Perinton



- Connecting the network of low-stress corridors for cyclists overcome the barriers of major roadways
- Providing pedestrian access by filling sidewalk gaps and improving pedestrian crossings
- Providing access to high-activity demand areas, such as the Perinton Community Center or Village of Fairport

RECOMMENDATIONS

With the assessment of the existing conditions and the needs of the neighborhoods within Perinton, recommendations were developed to help increase the comfort, connectivity, and accessibility of the walking, biking, and trail networks throughout the town. These recommendations vary greatly, and can be broken down into the following categories:

- Pedestrian network improvement
- Traffic Calming Recommendations
- Bicycle Network Improvements
- Trail Facility Improvements
- Policy Recommendations
- Program Recommendations

NEEDS ASSESSMENT

With the data, information, and conditions collected in the existing conditions analysis, an assessment of the needs of the community was conducted to improve walking, biking, and trail use town-wide. The assessment included analyzing crash data involving pedestrians or cyclists, calculating the pedestrian level of service and level of traffic stress for corridors throughout Perinton, and creating an activity demand analysis model. This assessment revealed several key needs of the community, including:

The recommendations are illustrated on the map on page 5 of this summary, and include topics such as the development of an effective bicycle and pedestrian wayfinding system for the Town, striping shoulders with bicycle symbol markings, giving cyclists preferred access to the shoulders of major corridors, connecting the many trail networks together, and increasing trail mobility.

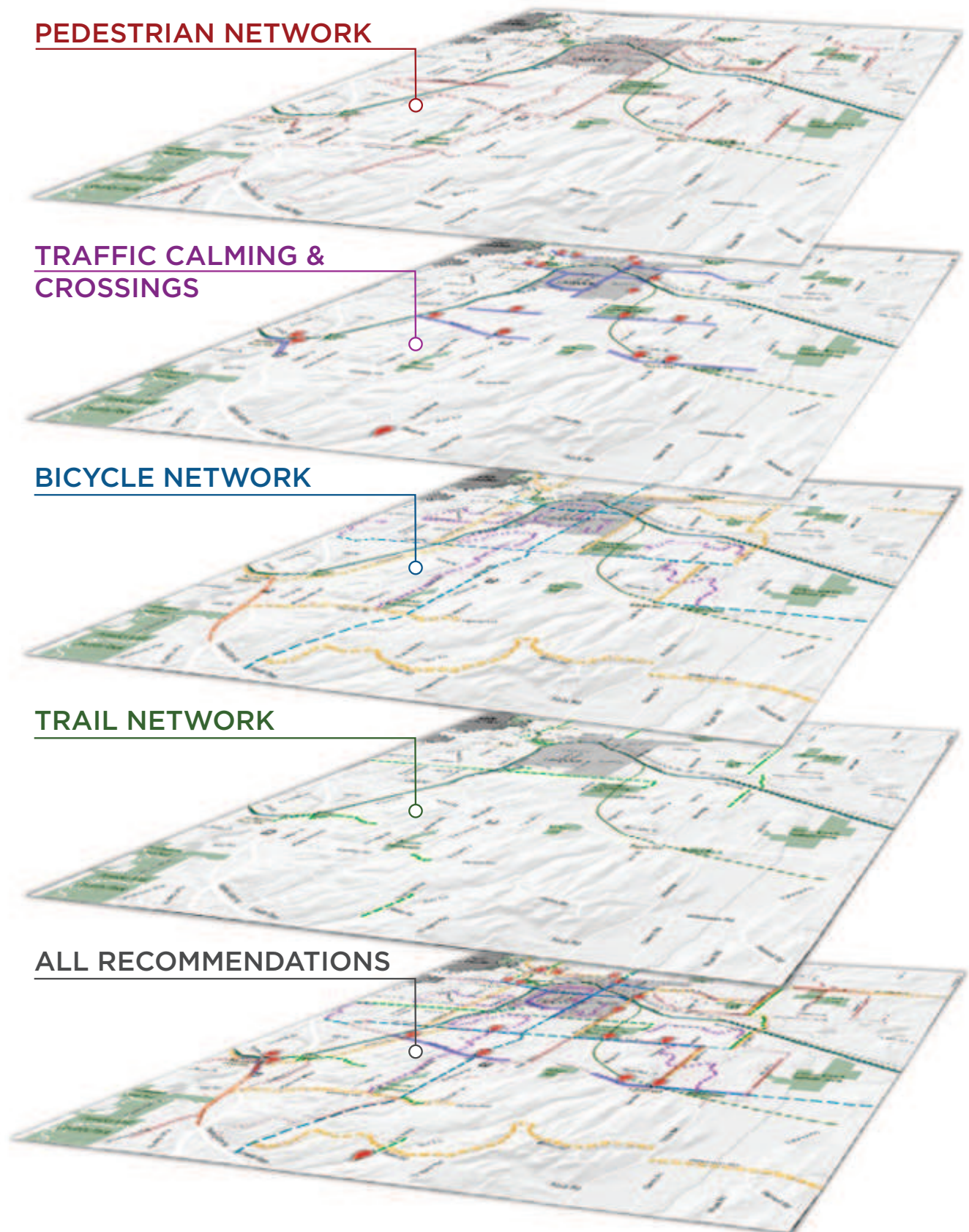
PERINTON BICYCLE & PEDESTRIAN WAYFINDING & ORIENTATION SIGNAGE OPTIONS



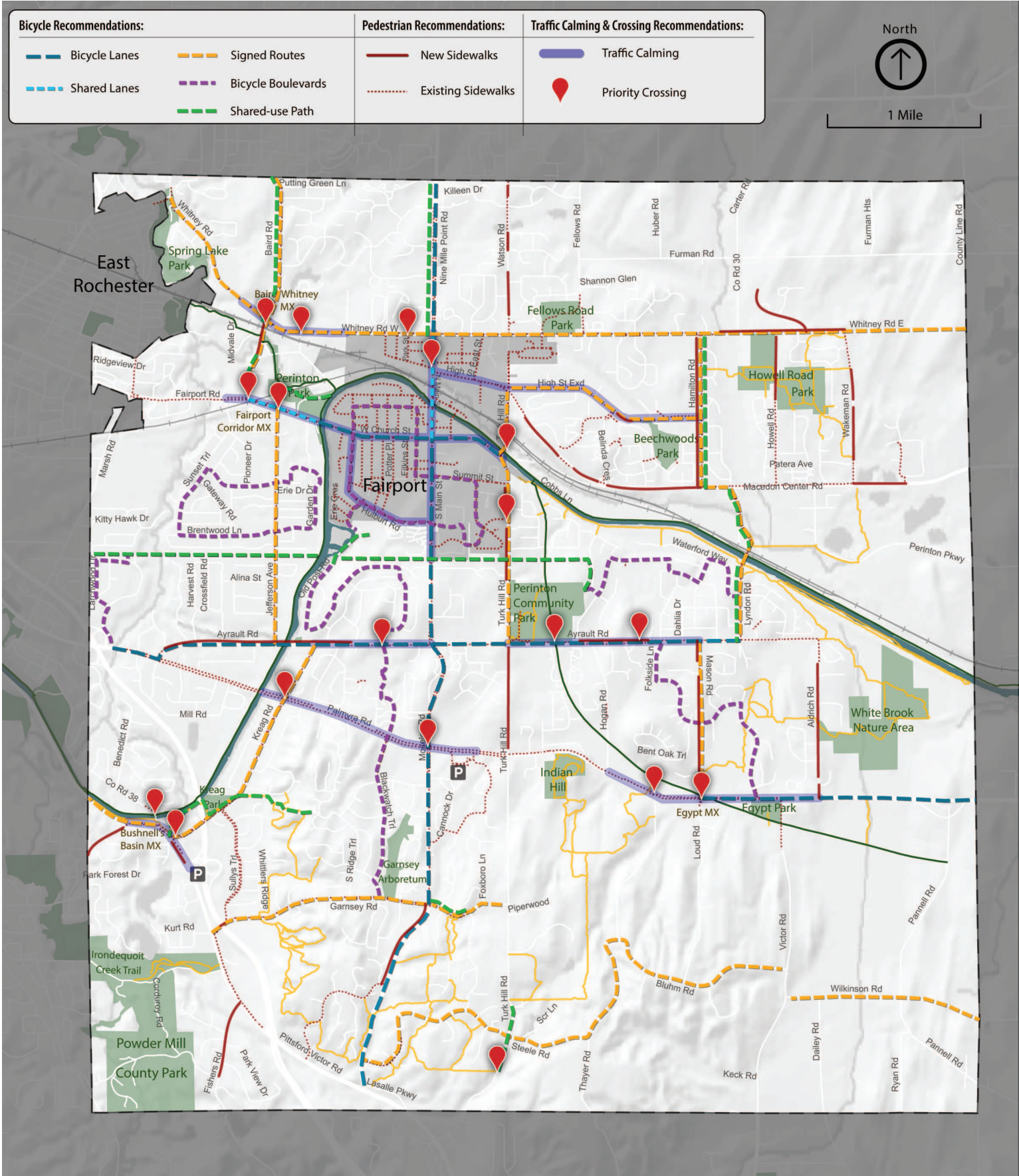


PLAN RECOMMENDATIONS

The planning team used a multi-tier approach towards infrastructure improvements for walking and biking in the Town. The graphic below displays these tiers, and how together, they will result in a connected biking and walking network.



BIKING AND WALKING INFRASTRUCTURE RECOMMENDATIONS





SIDEWALK CONNECTIONS

Sidewalks represent the foundation of all non-motorized transportation network. They provide mobility for people of all ages and abilities, and making enhancements to existing sidewalks and filling gaps in network will greatly improve mobility for all of the Town's residents and visitors.



TRAFFIC CALMING

The purpose of traffic calming is to slow vehicles down and to divert traffic away from streets that have been designated for calming. The effect of these two factors is that the street becomes more comfortable for both walking and bicycling, due to both vehicle speed and volume reductions. Several streets in the Town have been identified as ideal candidates to be traffic calmed to make them complete streets that serve the needs of all roadway users.



Recommended Sidewalk Connections ***

Baird Rd. - Fairport Rd. to Whitney Rd.
Watson Rd. - Whitney Farms Cir Rd. to Anglewood Ct.
Whitney Rd. - Hamilton Rd. to Wakeman Rd.
Hyacinth Ln. - Hyacinth Ln. to Whitney Rd.
Howell Rd. - Princeton Ln. to Whitney Rd.
Wakeman Rd. - Macedon Center Rd. to Whitney Rd E.
Hamilton Rd. - Macedon Center Rd. to Whitney Rd.
High St. Ext. - Willingate Rd. to Highland Quarter.
Macedon Center Rd. - Alpine Knoll to Hamilton Rd.
Turk Hill Rd. - Peppermill Dr. to Summit St.
Ayrault Rd. - Green Ridge Rd. to Thornfield Way.
Turk Hill Rd. - Ayrault Road to Rte. 31
Ayrault Rd. - Falling Brook Rd. to Dave Paddock Way
Mason Rd. - Conover Crossing to Ayrault Rd.
Aldrich Rd. - Piping Rock Run to Carmel Estates
Extend Thornell Rd. - west to Town Line
NY 96 - Kreag Rd. to I-490 ramps
Garnsey Rd. - under I-490
NY 250 - Woodcliff Dr. to Garnsey Rd.
Fishers Rd. - Route 96 south to Woolston Dr.

*** Contingent upon concurrence with roadway/infrastructure owners.

Traffic Calming Recommendations	Recommended Treatment(s) ***
Whitney Rd.	Color-contrast shoulders
Main St. - Whitney Rd. to Fairport Lift Bridge	In-lane tic marks & RRFBs
High Street Ext. - Main St. to Turk Hill Rd.	Reduce speed limit & color-contrast shoulders
High Street Ext. - Turk Hill Rd. to Hamilton Rd.	Reduce speed limit & color-contrast shoulders
Sunset Trail - to Canal	Speed reduction, in-lane tic marks, & tactile yield cues
Canal - to Turk Hill Rd	In-lane tic marks & tactile yield cues
Fairport loop and major roads	Color-contrast shoulders, tactile yield cues, RRFBs, & in-street yield to pedestrian signs
Ayrault Rd. - Kreag Rd. to Moseley Rd.	In-lane tic marks & paint speed limit on pavement
Ayrault Rd. - Turk Hill Rd. to Mason Rd.	In-lane tic marks & paint speed limit on pavement
NY 31 - Erie Canal to Bardney Circle	Reduce turn lane widths, widen shoulders, & pedestrian refuge islands
NY 31 - Hogan Rd. to Aldrich Rd.	Color-contrast shoulders & narrow center turn lane.
NY 96 - Thornell Rd. to I-490	Color-contrast shoulders

*** Contingent upon concurrence with roadway/infrastructure owners.



TRAFFIC CALMING

Non-motorized transportation networks are only as strong as their weakest links, and intersections tend to be those weak links. This plan makes several crossing improvement recommendations, ranging from the installation of high visibility crosswalks, warning beacons and push buttons that facilitate crossing and wider sidewalks, among others. Together these enhancements will result in a connected network that gives people the confidence to walk and bike in Perinton.



Crossing Improvements	Recommended Treatment(s) ***
Baird Rd. & Whitney Rd.	High visibility crosswalks, leading pedestrian interval, & pedestrian countdown heads
Whitney Rd. & O'Connor Rd.	ADA curb ramps, high visibility crosswalks, & advance yield lines
Whitney Rd. & Park St.	RRFB
High St. & Main St.	Leading pedestrian intervals, audible signal, pedestrian countdown heads, high visibility crosswalks, & transit enhancements
Fairport Rd. & Baird Rd.	High visibility crosswalks, leading pedestrian intervals, & transit enhancements
Fairport Rd. & O'Connor Rd. / Jefferson Rd.	High visibility crosswalks & leading pedestrian intervals
Turk Hill Rd. & E. Church St.	Leading pedestrian interval & restrict right turns on red
Turk Hill Rd. & Winding Brook Dr.	High visibility crosswalk, RRFB, & in-lane tic marks
Ayrault Rd. at Martha Brown Middle School	High visibility crosswalk, RRFB, & pedestrian landing area
Ayrault Rd. at RS&E Trail crossing	High visibility crosswalk & RRFB
Ayrault Rd. at Fairport High School	High visibility crosswalk, audible signal, leading pedestrian interval, & pedestrian countdown heads
Marsh Rd. Bridge	Advance yield lines & widened sidewalks
NY 96 & Kreag Rd.	Widen sidewalks, striping to bridge, crosswalk, & flexible delineator posts
NY 31 & Kreag Rd	High visibility crosswalks, leading pedestrian intervals, & pedestrian refuge islands
NY 31 & NY 250	High visibility crosswalks, leading pedestrian intervals, & pedestrian refuge islands
NY 31 & Thayer Rd	Median refuge island & high visibility crosswalk
NY 31 & Mason Rd. / Loud Rd.	High visibility crosswalks & median refuge island
Turk Hill Rd. at Crescent Trail	High visibility crosswalks, in-lane tic marks, & RRFB

*** Contingent upon concurrence with roadway/infrastructure owners.



SHOULDER/SIGNED ROUTE RECOMMENDATIONS

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

Shoulders/Signed Route Recommendations ***
Extent of Whitney Rd. through Perinton
Baird Rd. - Stratford Ct to Perinton Town Line
High St Ext. - Turk Hill Rd. to Hamilton Rd.
Lyndon Rd. & Hamilton Rd
Jefferson Ave. - Fairport Rd. to Ayrault Rd.
Turk Hill Rd. - High St. Ext. to Ayrault Rd.
NY 96 - Marsh Rd. to Pittsford line
Kreag Rd. - NY 96 to Ayrault Rd.
Mason Rd. - Ayrault Rd. to Route 31
Garnsey Rd. - NY 96 to NY 250
Neuchatel Ln./Steele Rd./Thayer Rd./Bluhm Rd. - Route 250 to Victor Rd.
Wilkinson Rd. - Victor Rd. to Macedon line

*** Contingent upon concurrence with roadway/infrastructure owners.

SHOULDER/SIGNED ROUTE RECOMMENDATIONS

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

Marked Shared Roadway Recommendations ***
Baird Rd. - Stratford Ct to Fairport Rd. & Fairport Rd from Baird Rd to Erie Canal Trail
Fairport Rd. - Baird Rd to Erie Canal Trail
High St. / High St. Ext. - Main St. to Turk Hill Rd.
Route 250/Main St. - W. Church St. to Whitney Rd

*** Contingent upon concurrence with roadway/infrastructure owners.

BICYCLE BOULEVARDS

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

Bicycle Boulevard Recommendations ***
Loop around Jefferson Ave. Elementary
Loop within Village of Fairport
NY 31 - to "Powerline Trail"
Garnsey Rd. - to Village of Fairport
"Powerline Trail" - to Lyndon Rd.
Egypt MX - to Ayrault Rd. / Fairport High School

*** Contingent upon concurrence with roadway/infrastructure owners.



BICYCLE LANES

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

Bicycle Lane Recommendations ***
Nine Mile Point Rd. - Whitney Rd to Perinton Town Line
W Church St. - Erie Canal Trail to Turk Hill Rd.
NY 250 - W. Church St. to Rte. 96
NY 31 / Ayrault Rd. - Crescent Hill Rd. to Lyndon Rd.
NY 31 - Mason Rd. to Macedon line

*** Contingent upon concurrence with roadway/infrastructure owners.



TRAIL RECOMMENDATIONS

Shared Use Paths are an ideal treatment for a wide variety of trail users, providing a multi-modal facility completely separated from motor vehicle traffic.

Trail Recommendations ***
O'Connor Rd. - Canalway Trail to opposite side of rail tracks
Oxbow Rd. - Old Post Rd. to Erie Crescent and the school
"Powerline Trail" - Pittsford line to the Erie Canal
"Powerline Trail" - Erie Canal to Center Park
S. Ridge Trail - to Kreag Rd. through McCoord Woods extending to Rte. 96
Turk Hill Rd. - between Crescent Trail access points.

*** Contingent upon concurrence with roadway/infrastructure owners.





NEXT STEPS & MOVING FORWARD

In order for the Perinton Pedestrian and Bicycle Master Plan to make an impact on the walking and biking comfort and mobility of the Town, several steps must be taken.

ADOPT THE PLAN

The first step that must be taken is adopting the plan itself. This will establish the standards that have been set by the plan for future development, and emphasize the community's dedication to developing the infrastructure, policy, and program recommendations that have been laid out.

IMPLEMENT PROJECTS

Begin implementation by taking advantage of funding opportunities, redevelopment, or roadway resurfacing and reconstruction projects. The implementation of projects will result in a connected network that makes it safer and more comfortable for active transportation and recreation.

IDENTIFY KEY PROJECT PARTNERS

As the plan's recommendations continue to develop and progress, it will be crucial for project partners to be identified if the development is to meet its full potential.

Project partners can include:

- Community Activists
- Land Developers
- Local Schools
- Neighborhood Organizations
- Municipal Representatives of All Levels
- Other Major Stakeholders

Involving these project partners will help to create buy-in from diverse stakeholders, helping to prioritize the objectives of the plan. This broad based support will make the Town more competitive for implementation funds.

CREATE AN EVALUATION PROCESS

In order for the progress of the plan to be continued and the quality of the results ensured, a process for evaluating the progress should be created. It should track the implementation schedules, note the quality of developments, keep stakeholders involved, and set plans for further development and implementation.



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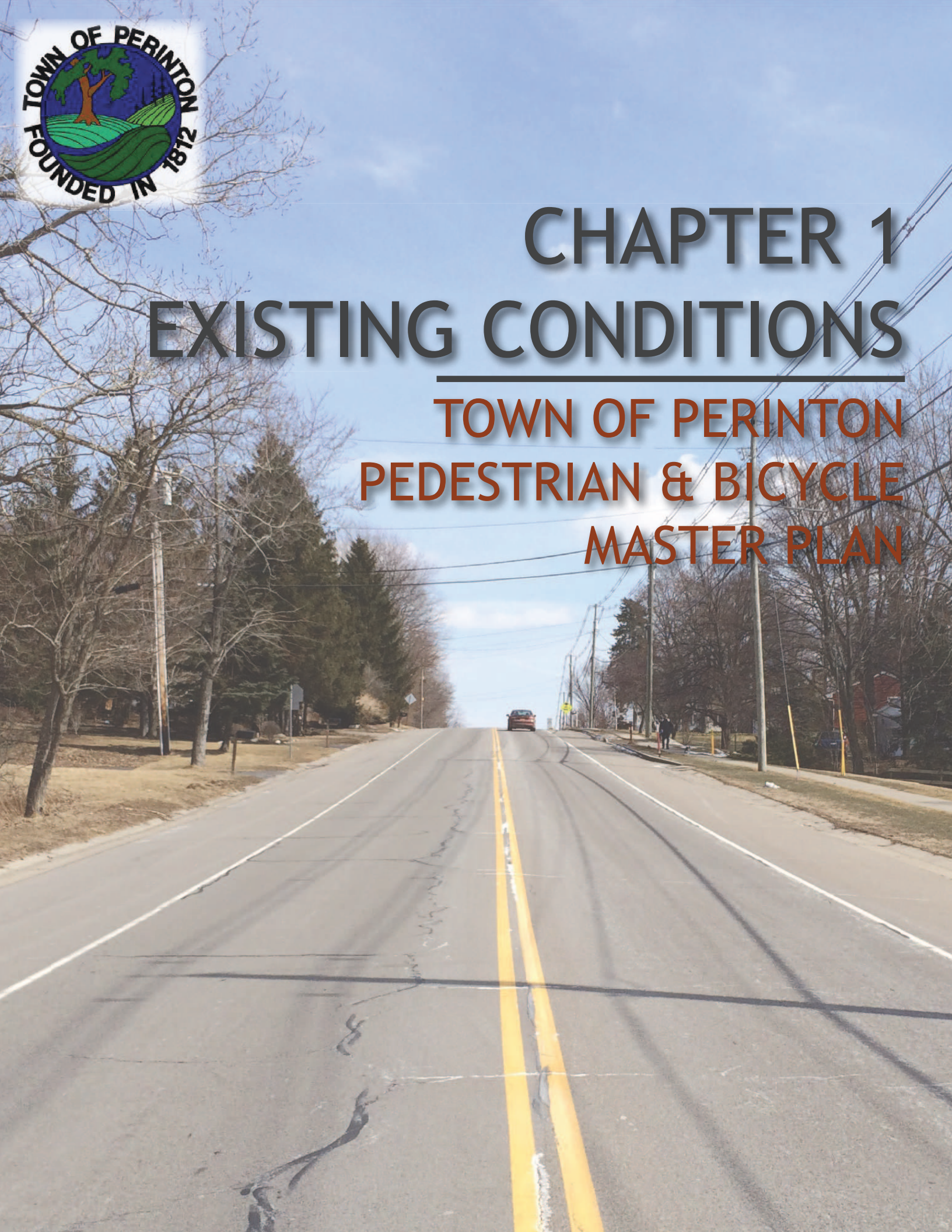


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CHAPTER 1 EXISTING CONDITIONS

TOWN OF PERINTON PEDESTRIAN & BICYCLE MASTER PLAN





1.1 VISION STATEMENT

The Town of Perinton intends to have a cohesive, safe, and convenient active transportation network consisting of trails, sidewalks, and on-street bicycle facilities that are accessible to people of all ages and abilities for both recreational and utilitarian purposes.

1.2 GOALS

CONNECTIVITY

Maintain and expand the active transportation network linking neighborhoods, schools, parks, employment, retail centers, and other community destinations.

EDUCATION

Utilize education and public outreach to raise awareness and encourage respect for the rights and responsibilities of all motorized and non-motorized transportation users.

SAFETY

Maintain a safe system of trails, sidewalks, intersections, and on-street bicycle facilities using industry best practices.

EQUITY

Develop a variety of active transportation options that are accessible to people of all ages, incomes, and abilities.

QUALITY

Develop a network of pedestrian and bicycle facilities that promotes the health, environmental and social benefits of active transportation while fostering a sense-of-community pride.



Local Cyclists Celebrate the Town's Status as a "Trail Town USA" in 2011

1.3 PAST PLANNING

The Town of Perinton and neighboring communities have engaged in numerous planning studies, and many of them have identified opportunities for enhanced bicycle and pedestrian mobility. The following provides a summary of these recent planning efforts, with a focus on bicycle and pedestrian-related recommendations.

TOWN OF PERINTON

2011 TOWN OF PERINTON COMPREHENSIVE PLAN UPDATE

The 2011 Town of Perinton Comprehensive Plan identifies a community-based vision for the Town. Much of the plan gave new emphasis on alternative transportation in the goals, objectives, and action items. Relevant action items in the plan include:

Pedestrians and Transit Users

- Promote safety at the Jefferson Avenue and Fairport Road intersection through the installation of traffic calming elements such as striping or pavers for pedestrian crosswalks, signage and landscaping (completed in 2014).
- Continue to expand the sidewalk system, placing priority on connecting neighborhoods to recreational and commercial destinations and establishing strong connections to Village and trail system.
- Continue to require sidewalks within designated pedestrian zones.
- Evaluate potential for new pedestrian zones as new development occurs.
- Continue to work with RGRTA to evaluate and support public transit needs within the Town.
- Consider impacts to the Village of Fairport when transportation and road enhancement projects are proposed on Route 250, Route 31F and surrounding corridors.
- Prioritize future sidewalk connection and extension projects.
- Identify and prioritize opportunities for completing trail linkages and extensions to improve travel between the Canalway Trail at Perinton Park and Legion Eyer Park in East Rochester, Spring Lake Park in Perinton, and Channing H. Philbrick Park in Penfield.

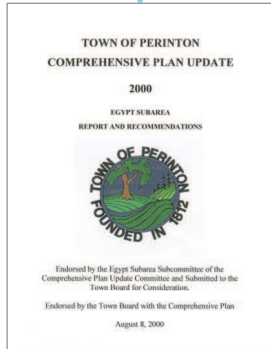
Bicyclists

- Mark pavement for bike access lanes and provide bicycle parking wherever practical.
- Seek funding and construct connections

1999

Fairport Road Business & Transportation Plan

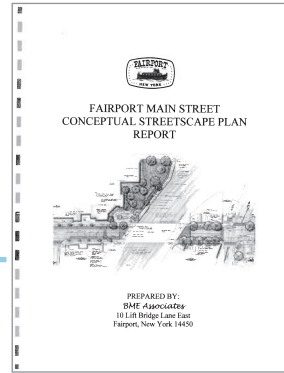
Sought to reduce conflict between pedestrians and motorists and beautify a corridor dominated by asphalt.



2003

Hamlet of Egypt Subarea Plan

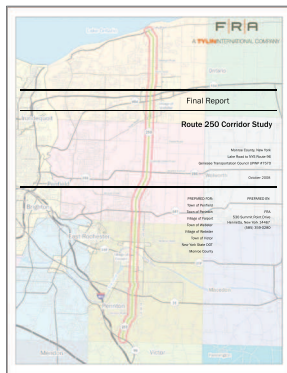
Defined a vision for future land-use, zoning, and design guidelines for Route 31 in the Hamlet of Egypt.



2003

Fairport Main Street Conceptual Streetscape Plan

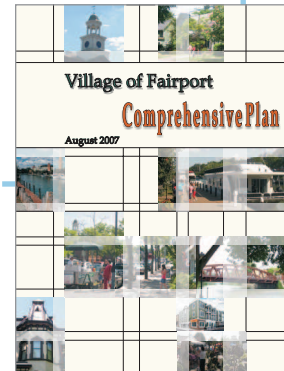
Identified a vision for the future improvements to the public realm along Main Street / NY 250 in Fairport.



2008

Route 250 Corridor Study

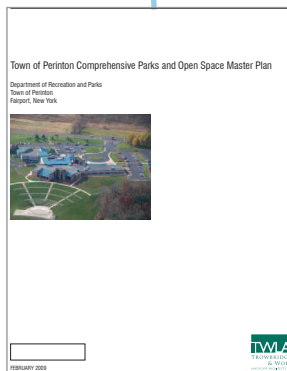
Sought to address future transportation needs relating to congestion, growth, roadway improvement, access management, and bicycle and pedestrian improvements along Route 250 in Webster, Penfield, and Perinton.



2007

Village of Fairport Comprehensive Plan

Provides general guidance to public decisions through the adoption of goals and objectives, including a focus on pedestrian and bicycle travel.



2009

Town of Perinton Comprehensive Parks and Open Space Master Plan

Focused on creating a repository of all parks, open spaces, and trail and proposed specific improvements on the system, including bicycle, pedestrian, and trail amenities.

2010

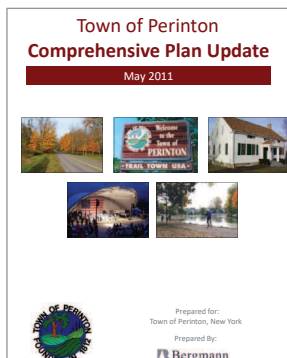
Fairport Road Corridor Design Guidelines

Provides an update to the 1999 Fairport Road Business & Transportation Plan, generally seeking to transition the auto-oriented corridor into a mixed-use, multi-modal place.

2010

The Village of Fairport Circulation, Accessibility & Parking Study

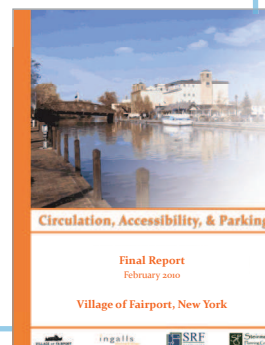
Focused on developing design concepts to improve mobility for pedestrians, bicyclists, and motorists along the Main Street corridor and other areas.



2011

Town of Perinton Comprehensive Plan Update

Identifies a community-based, broad-brushed vision for the Town. Much of the plan gave new emphasis on alternative transportation in the goals, objectives, and action items



2012

Village of Fairport Northwest Quadrant Master Plan

Builds on the Village of Fairport Comprehensive Plan and the Circulation, Access, and Parking Study. Recommended improvements to sidewalks, crosswalks and trails along Main Street to enhance the pedestrian experience in the Northwest Quadrant.

Past Planning Timeline





Town of Perinton Pedestrian & Bicycle Master Plan - Past Plans Summary

	FAIRPORT ROAD BUSINESS & TRANSPORTATION PLAN 1999	HAMLET OF EGYPT SUB-AREA PLAN 2003	FAIRPORT MAIN STREETSCAPE PLAN 2003	VILLAGE OF FAIRPORT COMPREHENSIVE PLAN 2007	ROUTE 250 CORRIDOR STUDY 2008	TOWN OF PERINTON PARKS & OPEN SPACE MASTERPLAN 2009	FAIRPORT ROAD CORRIDOR DESIGN GUIDELINES 2010	FAIRPORT CIRCULATION, ACCESS, & PARKING STUDY 2010	TOWN OF PERINTON COMPREHENSIVE PLAN UPDATE 2011	FAIRPORT NW QUADRANT MASTER PLAN 2012	STATUS
Pedestrian Facilities											
Crosswalks	●		●		●		●		●	●	■
Sidewalks	●		●	●	●	●	●		●	●	■
ADA Compliance	●		●	●	●	●	●		●	●	■
Medians/Refuges			●	●				●	●		■
Bicycle Facilities											
Bike Lanes/Shoulders	●	●						●	●		■
Bike Routes				●							■
Bike Storage/Racks		●		●		●		●	●		■
Traffic Calming											
Striping			●	●				●	●		■
Humps/Raised Crosswalks				●				●			■
Curb Extensions			●	●				●			■
Traffic Circles					●						■
Trail Facilities											
Shared-use Paths				●		●			●		■
Soft-surface Trails				●		●			●	●	■
Trail Heads						●					■
Signage											
Pedestrian Signage					●			●	●		■
Bicycle Signage			●	●				●			■
Vehicular Signage		●	●	●	●			●			■
Wayfinding/Information			●				●	●	●		■
Street Amenities											
Street Furniture		●	●	●		●		●			■
Street-lights	●		●								■
Streetscaping			●				●	●	●		■

KEY: ● Recommended ■ Started ■ Completed ■ Not Started



Potential Intersection Design, Fairport Road

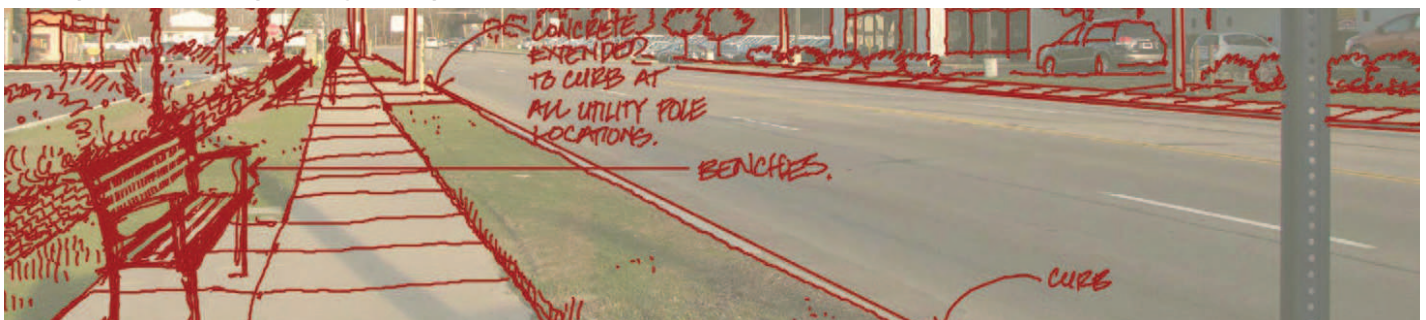
between existing bike routes, including the NY Bike Route 5, the Rochester, Syracuse & Eastern Trail and the Canalway Trail.

- Identify roadways in the Town that are appropriate for bike lanes.
- Identify and prioritize opportunities for completing trail linkages and extensions to improve travel between the Canalway Trail at Perinton Park and Legion Eyer Park in East Rochester, Spring Lake Park in Perinton, and Channing Philbrick Linear Park in Penfield.
- Continue to support the creation of a comprehensive wayfinding program along trails, pedestrian and bicycle routes and at key destinations in the Town.

2010 FAIRPORT ROAD CORRIDOR DESIGN GUIDELINES

The 2010 Fairport Road Corridor Design Guidelines provides an update to the 1999 Fairport Road Business & Transportation Plan. Although the study covered the same area and shared some of the same recommendations as the previous plan, the 2010 plan offered a single conceptual plan and design guidelines for the study area. Generally, the plan sought to transition the auto-oriented corridor into a mixed-use, multi-modal street with a sense of place.

Conceptual Streetscape Design, Fairport Road



Potential Enhanced Transit Stop, Fairport Road

The project set the following goals relevant to active transportation:

- Pedestrian-friendly environment: Encourage appropriately scaled design that accommodates pedestrian movement, safety, and comfort.
- Architectural profile: Establish architectural cohesiveness and encourage a higher concentration of use.
- Minimize parking impacts: Provide adequate parking facilities for local business needs without compromising pedestrian access or safety or negatively impacting aesthetic attributes within the Corridor.
- Quality green space: Encourage quality design and use of mandatory "green space" for each private parcel and to reach for opportunities to connect green spaces.
- Easy way-finding: Ease pedestrian movement and promote a sense of place with signature signage.
- Quality streetscape: Enhance the public streetscape and unify the Corridor with streetscape amenities to create unity, visual interest, and convenience.



The Plan also created design guidelines for the private property along the corridor, in addition to a hypothetical concept site design for parcels on the southeast corner of the intersection of Fairport Road and Jefferson Avenue.

2009 TOWN OF PERINTON COMPREHENSIVE PARKS AND OPEN SPACE MASTER PLAN

In 2009 the Town of Perinton Recreation and Parks Department Advisory Board completed the Comprehensive Parks and Open Space Master Plan. The plan focused on all parks, open spaces, and trails within Perinton and the Village of Fairport. Across this system, the plan focused on creating a repository of all parks, open spaces, and trails and proposed specific improvements on the system. In regard to bicycle and pedestrian amenities, the plan recommended the following:

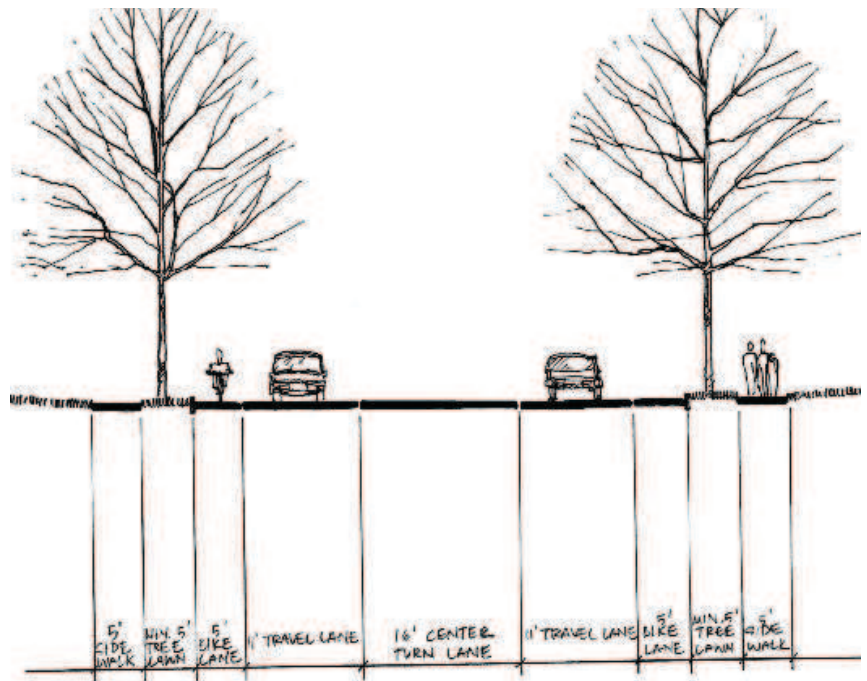
- Installation of new drinking fountains, bike racks, signage, ADA compliant walkways, trails, boat docks, picnic shelter(s), and lighting in parks
- Prioritization of regular trail maintenance and improvement of parking areas in open spaces
- Segment repair, installation of new signage, and removal of adjacent parking areas along trails

The plan stressed the need for cooperation between the Recreation and Parks Department and the Perinton Department of Public Works, the New York State Department of Transportation, the New York State Canal Corporation, and the New York State Office of Parks, Recreation & Historic Preservation.

1999 FAIRPORT ROAD BUSINESS & TRANSPORTATION PLAN

In 1999, the Town of Perinton studied the Fairport Road / Route 31F corridor between Irondequoit Creek and the Erie Canal. The plan sought to reduce conflict between pedestrians and motorists and beautify a corridor dominated by asphalt and the automobile. After studying existing conditions, the plan proposed three design alternatives for the road segment. Generally, each design focused on:

- reducing traffic congestion
- visually softening the asphalt landscape
- promoting both vehicle and pedestrian mobility



Cross Section of Proposed Route 31 Configuration, Hamlet of Egypt

Some proposals in the plan included adding new bicycle and pedestrian infrastructure. One design alternative proposed a new connector trail just north of the newly re-aligned O'Connor Road. Pedestrian-scaled lighting was also proposed in the plan.

The Fairport Road Business & Transportation Plan also made land use and zoning recommendations. The plan encouraged allowing for mixed-use development on some parcels and allowing for increased building density while promoting driveway consolidation and easements for greater auto-mobility and reduction of turning conflicts.

2000 EGYPT SUB-AREA REPORT & RECOMMENDATIONS

The 2000 Egypt Subarea Report and Recommendations identified the future vision for the Hamlet of Egypt area. Recognizing sensitive environmental conditions and the negative effects of increased traffic on Route 31, the report identified a concept plan for land use and circulation around the hamlet. The plan designated several areas for mixed-use development and open space. The plan recommended new local streets to better accommodate local car traffic and bicyclists and pedestrians. The report also recognized the importance of maintaining and improving the RS&E Hikeway-





Legend

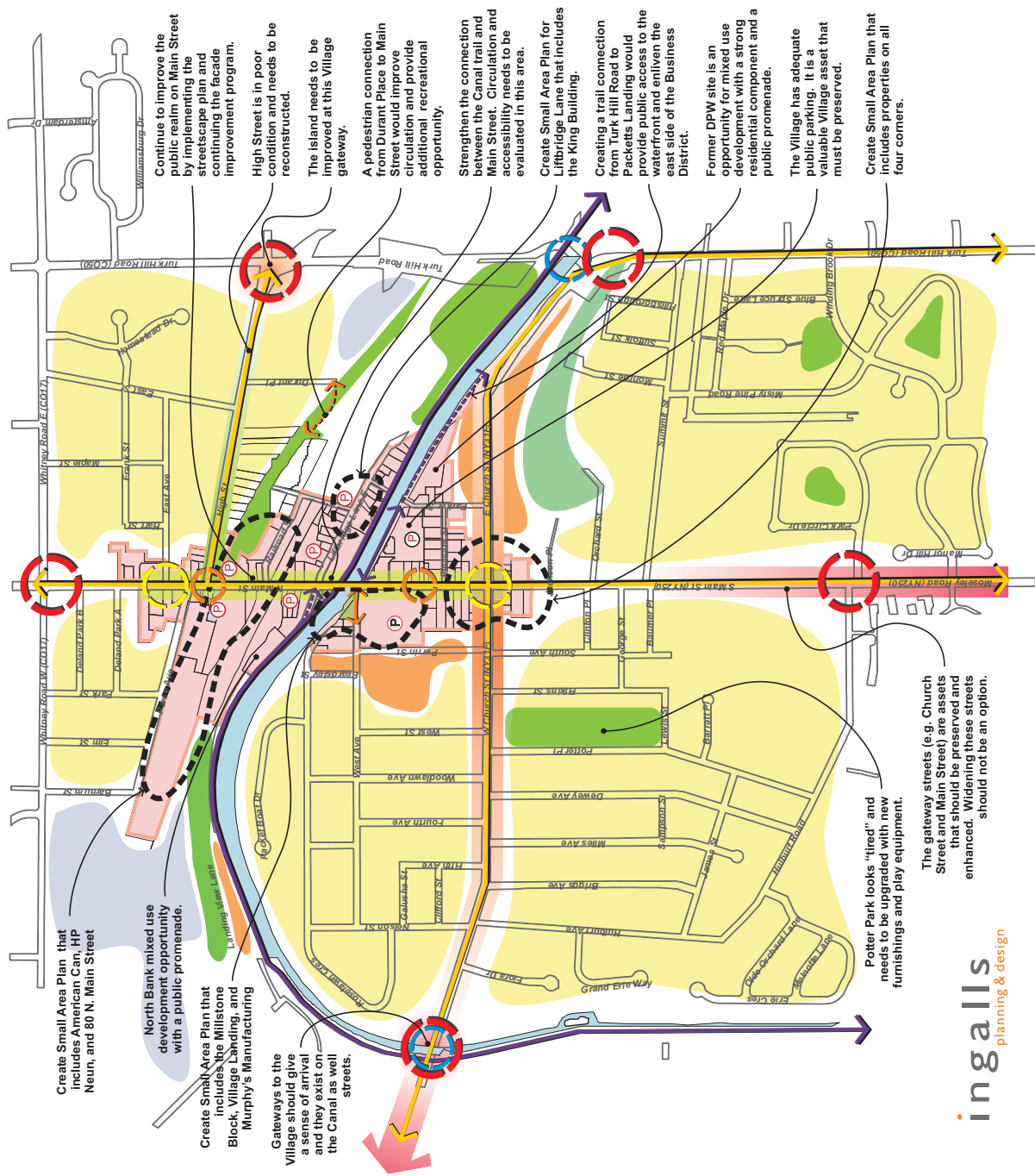
- Gateway Street
- Village Gateway (street)
- Village Gateway (canal)
- Business District Gateway
- Important Business District Intersection
- Existing Canal Trail
- Opportunity for Canal Trail Connection/Addition
- Existing Pedestrian Link Non-vehicular
- Proposed Pedestrian Link Non-vehicular
- Small Area Plans - General Boundary
- Public Parking Lots

General Land Use

- Mixed Use
- Light Manufacturing
- Recreation
- Preservation
- Residential Single-family
- Residential Multi-family

Conceptual Framework Plan

VILLAGE OF FAIRPORT Comprehensive Plan





Bikeway Trail.

2001 NYS ROUTE 31 / HAMLET OF EGYPT TRANSPORTATION STUDY

The 2001 New York State Route 31/Hamlet of Egypt Transportation Study sought to provide safe and pleasant space for pedestrians and bicyclists in the Hamlet of Egypt area. The plan recommended the following pedestrian improvements for Route 31 in Egypt:

- 5' concrete sidewalks with 5' buffer
- Human scale lighting
- Pedestrian wayfinding signage
- Landscaping, street furniture, and other enhancements

Additionally, the plan recommended the following bicycle improvements:

- 5' bike lanes along both sides of Route 31 paved in a different material or color than travel lane
- Human scale lighting
- Bicycle wayfinding signage
- Bicycle-friendly traffic signal actuators
- Bicycle safe drainage grates
- 16' center turn lane (although this is now considered too wide)

Beyond focusing on planning for on-street facilities, the plan focused on expansions to the RS&E Trail and Crescent Trail. The report identified goals for creating safer crossings at or near road intersections, such as high visibility crosswalks, landscaped medians, and other improvements.

2003 HAMLET OF EGYPT SUB-AREA PLAN

The Hamlet of Egypt Subarea Plan developed a vision for future land-use, zoning, and design guidelines for Route 31 in the Egypt Hamlet. The plan vision included 5' bicycle lanes on both sides of Route 31, and bicycle parking included in the street furniture system.

STRATEGIC PARTNERS

VILLAGE OF FAIRPORT

The Village of Fairport is surrounded by the Town of Perinton, and many corridors connect the village and town, including Church Street (SR31F), Main Street (SR250), and Whitney Road. The Erie Canalway Trail connects the Village of Fairport to Perinton's Crescent

Trail System and other places in Perinton. Due to Fairport's population density, mixed land uses, and presence of school facilities, the Village is a hub of activity within Perinton.

2003 FAIRPORT MAIN STREET CONCEPTUAL STREETSCAPE PLAN

The Main Street Conceptual Streetscape Plan identified a vision for the future improvements to the public realm along Main Street / NY 250 in Fairport. The plan reinforced the need to continue to improve conditions for pedestrians in the Village. The following design elements and improvements were recommended:

- New concrete sidewalks, paver crosswalks, and decorative pavers where appropriate
- Street lighting
- Street trees with tree grates
- Installation of benches, planters, trash receptacles, and information kiosks where appropriate

2007 VILLAGE OF FAIRPORT COMPREHENSIVE PLAN

The 2007 Village of Fairport Comprehensive Plan provides general guidance to public decisions through the adoption of goals and objectives. The plan also provided the groundwork for subsequent plans and studies. The following objectives from the Comprehensive Plan relate to bicycle connections to Perinton:

- Develop a strategy to improve pedestrian and bicycle circulation along the Canal in the Main Street vicinity.
- Encourage bicycle travel within the Village and provide bicycle routes throughout the Village which connect with regional routes.
- Improve access from Village streets to the Erie Canal trail.

The plan also recommended a set of standard site furniture, which included bicycle parking racks. The following objectives from the Village of Fairport Comprehensive Plan relate to pedestrian connections to Perinton:

- Develop a strategy to improve pedestrian and bicycle circulation along the Canal in the Main Street vicinity.
- Evaluate the feasibility of developing a trail along the Thomas Creek corridor and connecting it to the abandoned railroad right-of-way west of Main Street and other adjacent open spaces and trails.



- Ensure the safety of pedestrians, especially in the central business district.
- Continue to maintain, improve, and expand the sidewalk network in the Village.
- Ensure that public realm improvements including sidewalks and crosswalks meet ADA requirements and recommendations from “Aging In Place” initiatives.
- Continue to maintain and enhance the public realm including streets, parks, sidewalks, tree lawns, and other public spaces.

Lastly, the plan laid out a conceptual framework plan that was visualized in the map on page 1-5. The current planning effort will incorporate these gateway and circulation recommendations into the recommendations in chapter 4.

2010 VILLAGE OF FAIRPORT CENTRAL BUSINESS DISTRICT CIRCULATION, ACCESSIBILITY & PARKING STUDY

The Village of Fairport Central Business District Circulation, Accessibility & Parking Study focused on developing design concepts to improve mobility for pedestrians, bicyclists, and motorists along the Main Street corridor and other adjacent areas of the village. The following plan recommendations are relevant to active transportation in Perinton:

- Reconstruct Liftbridge Lane West to accommodate all users, providing greater access to the Canalway Trail (covered more specifically in Northwest Quadrant Master Plan).
- Improve Erie Canal pedestrian crossing in the vicinity of Main Street bridge and Parker Street bridge.
- Develop a vibrant mixed-use commercial/business district that is flexible and responsive to changes in market conditions in the Fairport CBD.
- Develop a wayfinding sign program.
- Install a transit shelter at the bus stop opposite Railroad Street to provide accommodations for pedestrians waiting for RTS bus service.

2012 VILLAGE OF FAIRPORT NORTHWEST QUADRANT MASTER PLAN

The Village of Fairport Comprehensive Plan and the Circulation, Access, and Parking Study both identified the need to prepare a focused strategy to guide future development in the northwest quadrant of Fairport. This quadrant is adjacent to the Town of Perinton and Whitney Road and Main Street are major connections between

the Town and Village. Overall, the study recommended major improvements to sidewalks, crosswalks and trails along Main Street. These improvements would greatly enhance the pedestrian experience in the Northwest Quadrant.

NEIGHBORING COMMUNITIES

The Town of Perinton seeks to make connections to neighboring localities. The communities below have identified their visions for enhanced pedestrian and bicycle transportation infrastructure and policy changes.

Overall, each neighboring locality has shown an increased emphasis on focusing on walkability and making roads safer for bicyclists and pedestrians.

2008 TOWN OF PENFIELD BICYCLE FACILITIES MASTER PLAN

Seeking to make a positive step toward greater bicycle accessibility in Penfield, the Bicycle Facilities Master Plan created a detailed inventory and action plan for roads and trails in Penfield. Because Penfield is just north of Perinton, several collector and arterial roads connect the communities. The Bicycle Facilities Master Plan recommended improvements on the following roads which connect to Perinton:

- Five Mile Line Road – create a 4’ shoulder
- Baird Road – create a 8’ shoulder
- Fairport Nine Mile Point Road – create a 4’ shoulder

The plan also identified and recommended specific signs, infrastructure, or policies in a “Bicycle Facilities Toolbox.”

2009 TOWN OF PITTSFORD COMPREHENSIVE PLAN

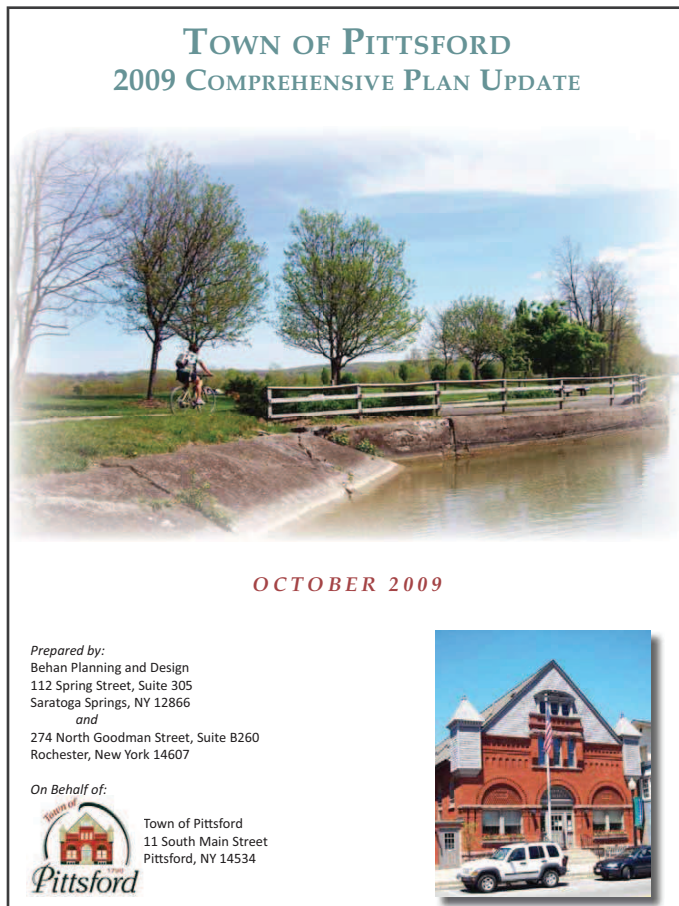
The 2009 Town of Pittsford Comprehensive Plan focused on transportation issues in the town. In its policy statement concerning future road and intersection improvements, the town asserts that it will accept a degree of traffic congestion rather than degrade conditions for pedestrians through road improvements on county and state collector and arterial roads.

Like the Perinton Comprehensive Plan, the Pittsford Comprehensive plan stressed the value of inter-municipal cooperation in regard to transportation and land use changes. Specifically, the Pittsford Comprehensive Plan adds that partnership on inter-municipal road projects (e.g. Routes 31F, 31, and 96) may be especially helpful. The following strategies apply to active transportation, and will generally apply to connections to the Town of Perinton:





- Incorporate the needs of pedestrians, bicyclists and public transit users during all stages of the implementation of road and development projects in the town, including but not limited to planning, design and construction.
- Expand access to the Erie Canal Trail extend existing trails, close gaps in sidewalks and trails.
- Evaluate the town's major transportation corridors for opportunities to make them more attractive, safer and pedestrian and bicycle friendly.
- Pursue traffic calming measures across the transportation network.



Finally, the Pittsford Comprehensive Plan states that it is a priority to increase recognition of the existing trail system, potentially through an expanded signage system. The Towns of Perinton and Pittsford are connected by the Erie Canalway Trail.

2012 TOWN OF VICTOR COMPREHENSIVE PLAN

The Town of Victor maintains a system of sidewalks on local streets, but the roads connecting to the Town of Perinton generally lack sidewalks and crosswalks. The comprehensive plan stated that the Town of Victor sidewalk network should be expanded to accommodate better connections to destinations in the Town.

Since the 2012 Victor Comprehensive Plan, important trail connections between Perinton and Victor have been built. The Town of Victor and Victor Hiking Trails Inc. are committed to maintaining and extending the trail network in the Town. Moreover, the organizations seek to build trails that connect to other towns, including Perinton. In 2014, the northern extension of the Auburn Trail opened in the southwest corner of Perinton west of Powder Mills Park.

2010 TOWN OF MACEDON ROUTE 31 CORRIDOR STUDY

The 2010 Route 31 Corridor Study focused on the corridor connecting the Town of Perinton, Hamlet of Egypt, and the Town and Village of Macedon. State Route 31 is a corridor with increasing commercial traffic, and is near the RS&E and Erie Canalway Trail. These factors make the corridor an important area of concern for active transportation.

REGIONAL PLANS

2008 ROUTE 250 CORRIDOR STUDY

The 2008 Route 250 Corridor Study sought to address future transportation needs relating to congestion, growth, roadway improvement, access management, and bicycle and pedestrian improvements in Webster, Penfield, and Perinton. Route 250 (Moseley Road or Main Street in the Village of Fairport) is a major north-south route in Perinton. The plan recommended the following bicycle and pedestrian improvements in Perinton to improve safety, comfort level and mobility:

- Promote use of public transportation on Route 250.
- Adopt an Access Management Overlay District aimed at slowing traffic and providing safe and comprehensive pedestrian and bicycle access.

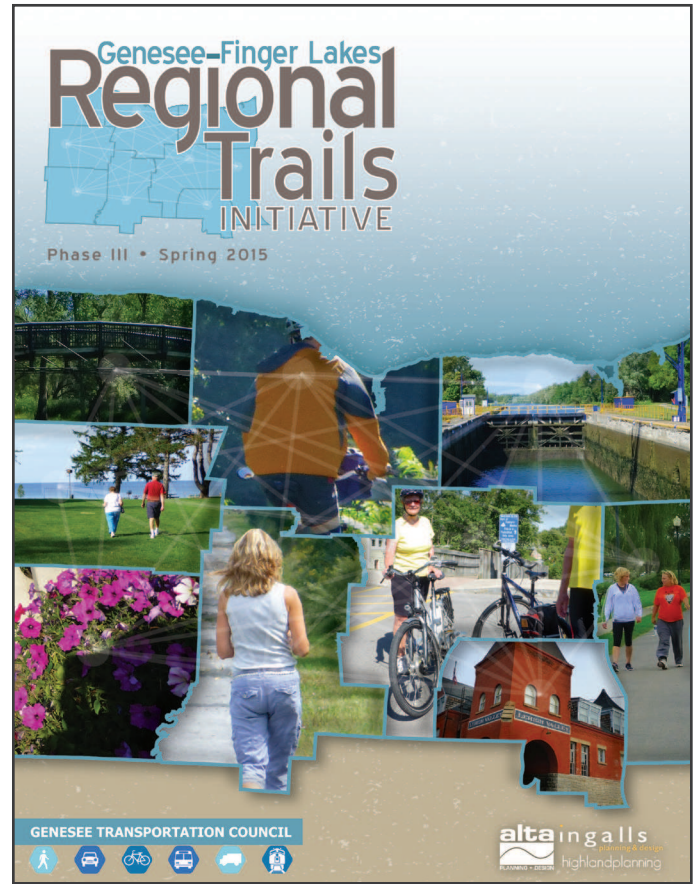
2011 GENESEE TRANSPORTATION COUNCIL LONG RANGE TRANSPORTATION PLAN (RTP)

The Long Range Transportation Plan for the Genesee Finger-Lakes Region surveyed the regional transportation conditions and made recommendations. Based on financial resources expected to be available through 2035, the plan identified strategies and actions to address existing and future needs. The following recommendations for bicycle and pedestrian improvements were made:

- Expand the amount of and increase the connectivity of multi-use trails in the region per the Regional Trails Initiative.



- Promote safe routes to school (SRTS) programs and the availability of technical resources that are available to implement them.
- Ensure that all fixed route buses can accommodate bicycles.
- Increase the amount of bicycle parking at key locations in the Regional and Sub-Regional Urban Cores, Employment Centers, all Retail, and Higher Education Places.
- The plan made the following recommendations for public transportation:
 - Construct the Renaissance Square Downtown Transit Center (completed 2014, now known as RTS Transit Center)
 - Design and implement a mobility management program that coordinates existing and future services of public, not-for-profit, and private transportation providers .
 - Increase the frequency of fixed-route public transportation services in the Regional Urban Core, Sub-Regional Urban Cores, Mature Suburbs, Employment Centers, Medical/Health, Higher Education, and Airport places.
 - Construct satellite transit stations in the City of Rochester and assess their feasibility in Mature and Recent/ Emerging Suburbs.



2015 GENESEE-FINGER LAKES REGIONAL TRAILS INITIATIVE UPDATE



Erie-Attica Bridge in Avon, NY - part of the Genesee-Finger Lakes Regional Trails Initiative Update

The Genesee-Finger Lakes Regional Trails Initiative Update, a study of the trails across the nine-county region, is ongoing as of this writing. The study focuses on the extent of the trails, conditions, ownership and maintenance, and destinations along the trails. The study is also tasked with focusing on gaps in connectivity and access in the trail system. The plan will recommend projects based on findings which will guide future trail maintenance and expansions.

In Perinton, some trails have been completed since the original 2002 trail initiative. The Auburn Line Trail, the Rochester Syracuse & Eastern (RS&E) Trolley Trail, and various segments of the Crescent Trail are some of these trails. The regional trails initiative may impact Perinton by recommending further trail expansions or improvements, such as new surface types.





1.4 POLICIES & PROGRAMS

The Town of Perinton currently promotes and supports bicycle and pedestrian activities through several policies and programs. In some cases, the Town coordinates its programs with other organizations, such as the Fairport Central School District and local trail organizations.

SAFE ROUTES TO SCHOOL

In 2009, the Genesee Transportation Council, consultants, and Village of Fairport officials completed a Safe Routes to School Action Plan for the Johanna Perrin Middle School. The program recommended physical improvements to public streets and the school facility; the formation of a Safe Routes to School Task Force; and biking and walking encouragement through events targeted at facilitating greater student participation in the program.

BICYCLING ENCOURAGEMENT

For several years, the Town of Perinton Department of Recreation and Parks has supported guided group bicycle rides (i.e. 'Bicycling Drop-Ins'). From May through September, these leisurely rides have featured many Rochester-area destinations and encouraged Perinton residents to safely cycle on roads and trails. This program is free and riders are required to wear helmets and use a bike bell.

HIKING TRAILS

The Town of Perinton supports the Crescent Trail Association, a nonprofit group dedicated to the planning, development, and maintenance of a system of soft-surface trails and trail headways. The Town has consistently provided meeting space, web space and facilitation on behalf of the association. Although the approximate 35 mile trail connects to the Canalway Trail and the Rochester, Syracuse & Eastern (RS&E) Trail, it is not accessible to bicyclists, with the exception of one small trail segment, from Lyndon Road to Perinton Parkway. Although many pedestrians use the Crescent Trail, much of the path is not ADA accessible. Despite limited accessibility, this trail system is a great recreational asset to Town residents and will be discussed later in this chapter.

PED ZONES

The Town of Perinton implemented a PED Zones policy (§ 208-28 Sidewalks) in the 1990's, which was aimed at expanding the sidewalk network along collector and arterial streets. The Town developed an official PED Map in 2003 (shown on Map A1), designating the areas where sidewalks must be built. As stated in the zoning code, a "PED Zone" is defined as "land within a four-thousand-foot buffer of the central point of a public school, public

park or active commercial area."¹ Commercial PED Zones include the area around intersections that typically have adjacent commercial land uses. For example, State Routes 250 and 31. Park and School PED Zones are identified on the map based on the main entrance and the intersecting roadway and Linear PED Zones are corridors that include State Routes 250, 31 and 96.

As an alternative to installing sidewalks, a sidewalk contribution in lieu of construction is allowable when it's determined that constructing a sidewalk will not connect with an existing sidewalk. The contribution can then be used to link or extend existing sidewalks within the Town. The Town of Perinton has enforced the Pedestrian Zone Policy for more than 30 years. As a result, Perinton offers far more sidewalks than many other towns in the region.

Several changes or additions could be made to the Town's PED zone policy to support ongoing strategic sidewalk development, which will be discussed in the recommendations chapter of this plan.

The locations of the buffer-based and linear-based PED zones can be found on map 1B, which is a digitized version of the information displayed on the Town's official PED Map.

ZONING CODE

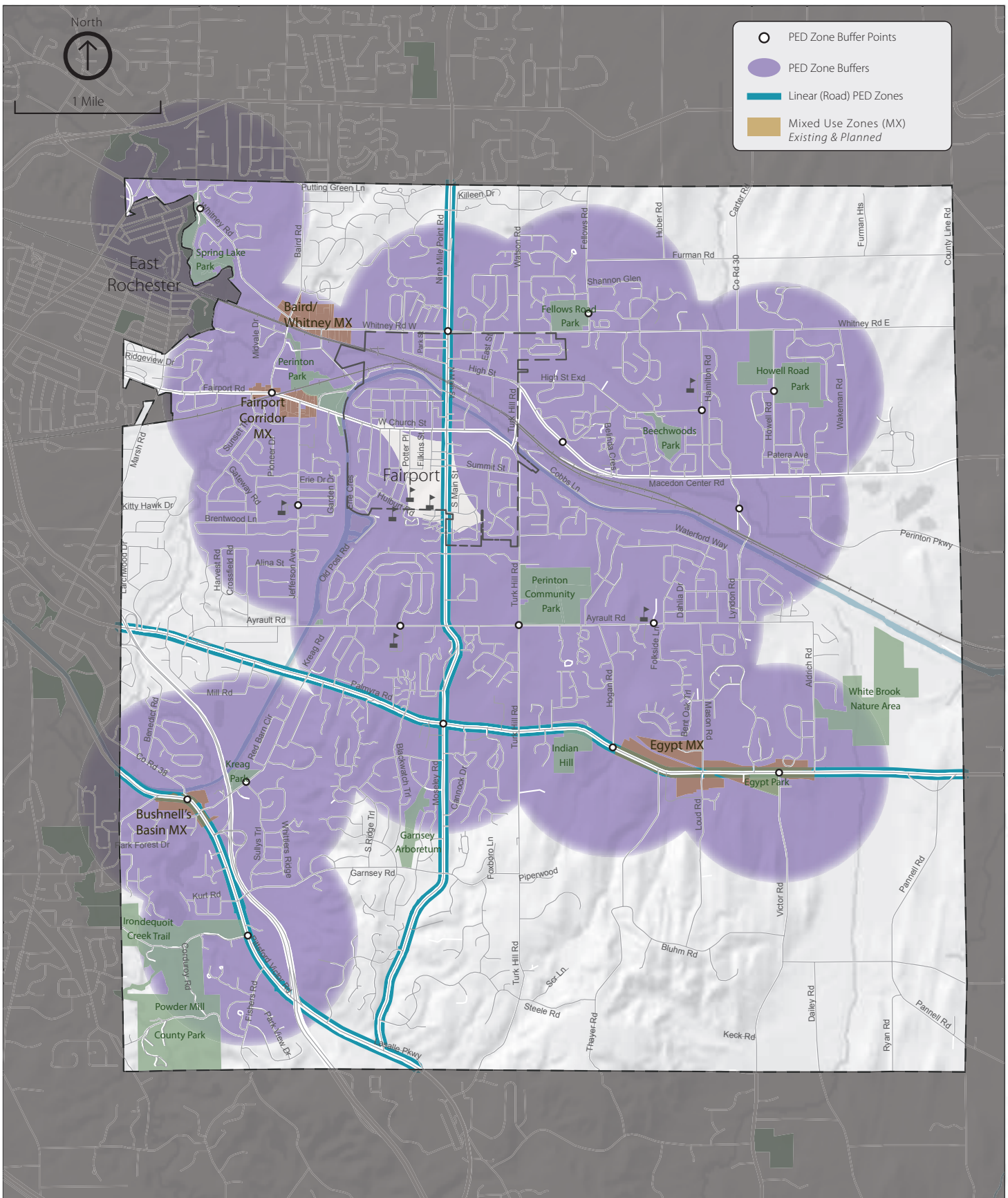
Land use changes often impact transportation, and vice-versa. Biking and walking can be far more useful near mixed-use areas because these zoning districts offer greater access to goods, services, and amenities compared to single-use parcels within a convenient walking and biking distance. Mixed-use zoning districts permit multiple compatible uses on the same parcel, and may allow people to reduce automobile trips or choose to walk or bike. The Town of Perinton has implemented or is proposing mixed-use zoning in:

- Bushnell's Basin
(existing)
- The vicinity of Baird Road & Whitney Road
(proposed)
- The vicinity of Fairport Road & Jefferson Avenue
(proposed)
- The vicinity of the Hamlet of Egypt
(proposed)

An overview of the location of these mixed use zones are also displayed on map 1B. This plan will consider these existing and proposed mixed use zones when identifying potential recommendations.







Map 1B - PED Zones & Existing / Proposed Mixed Use Zones



1.5 EXISTING BICYCLE & PEDESTRIAN ACCOMMODATIONS

An inventory of installed bicycle- and pedestrian-friendly accommodations that are available to active transportation users within the town are provided below. Bicycle accommodations, pedestrian accommodations, and trail facilities are all discussed separately.

ON-STREET BICYCLE ACCOMMODATIONS

There are only three areas with bicycle accommodations specifically designated as such within the immediate location. Two of them are on Liftbridge Lane East and Liftbridge Lane West, which both contain shared lane markings and “share the road” signage. These signs and markings were installed by the New York State Canal Corporation as an alternative route for cyclists traveling the Canalway trail, which is not accessible adjacent to Liftbridge Lane East or Liftbridge Lane West due to the stairs that go under the bridge. The third accommodation is the “Share the Road” signs on Rte. 31 EB and WB near I-490.

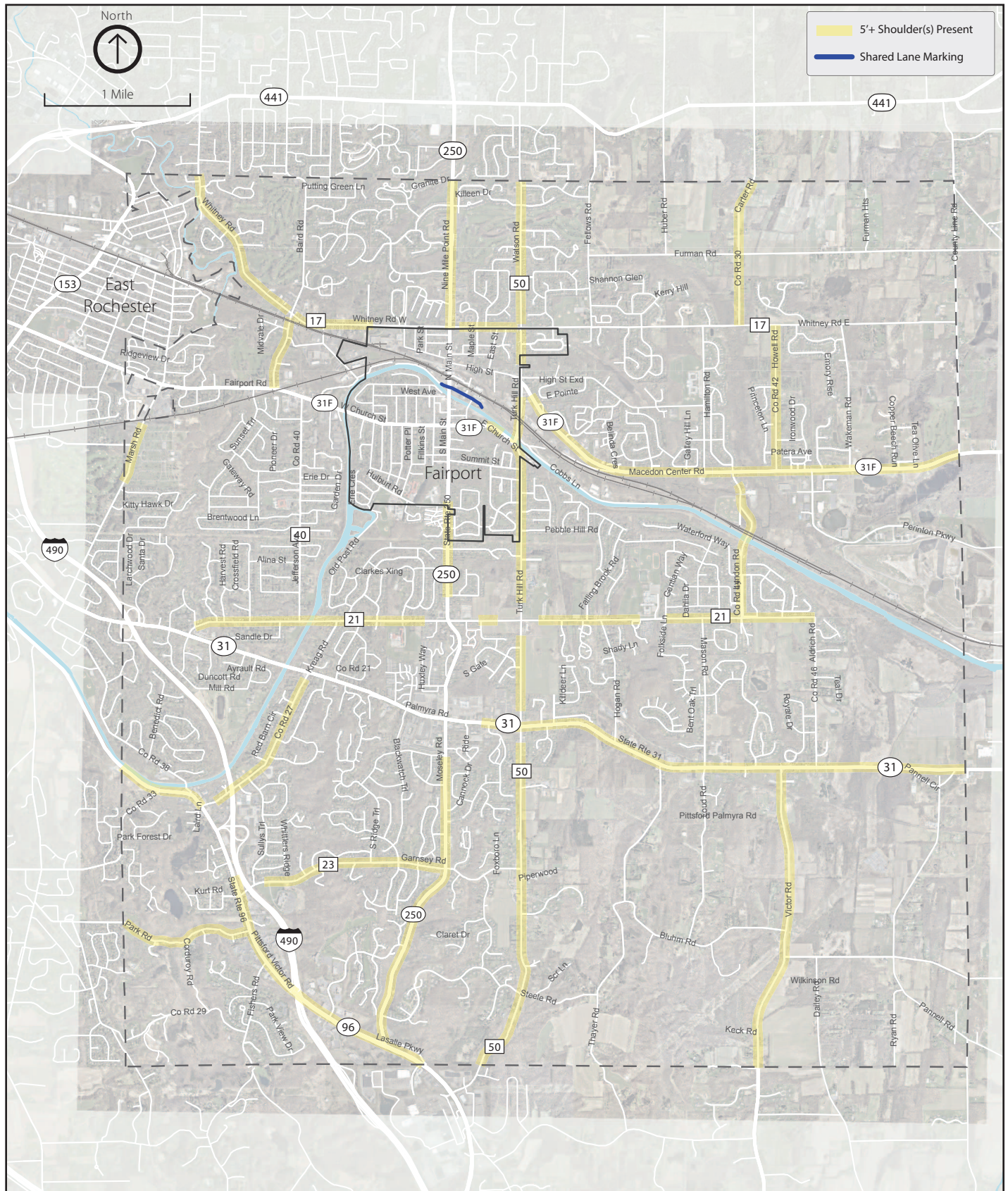
Although they are not dedicated bicycle facilities, paved roadway shoulders can act as a travel lane for bicyclists that feel comfortable using them. Many roads within the study area have shoulders wide enough for bicycle travel, with most of those occurring on state and county roads. The safety enhancing effects of paved shoulders are limited at intersections, however, since they usually taper off and expose cyclists to vehicle movements without providing a through-route or opportunity to transition to a left turn.

Map 2 displays the current distribution of bicycle accommodations, including the presence of shoulders that are a minimum of 5' in width. The 5' minimum is used because that is generally considered the narrowest comfortable shoulder width for use in bicycling along such roadways. The American Association of State Highway Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities suggests a minimum of 4' shoulders for bicycle use, but recommends 5' for improved comfort. The National Association of City Transportation Officials (NACTO) recommends a minimum shoulder width of 5' when bicyclists are among the intended users.

When state, county, and local roads are considered together, it is clear that gaps exist in the area's on-street bicycling network. In an effort to bridge these gaps, this report will present an analysis of bicycling conditions on roadways throughout the Town and Village later in this chapter.

A Road in Perinton with Bikeable Shoulders





Map 2 - Existing Bicycle Accommodations



ON-STREET PEDESTRIAN ACCOMMODATIONS

The Town has an extensive sidewalk network due to the forward-thinking sidewalk policy discussed in section 1.2, and the network is likely to expand as roads are reconstructed and new developments are built. Map 3 indicates the location of sidewalks in study area. Actual sidewalk alignments are displayed in the Town. Exact alignment data was not available in the Village of Fairport, so varying map symbology is used within the Village to indicate where sidewalks are available on one side of the street (blue dotted lines) or both sides of the street (red dotted lines).

Pedestrians may also walk along paved shoulders facing traffic, although such travel can be difficult since there is no physical separation from vehicle traffic. In many cases, pedestrians forced to travel between different parts of the Town on paved shoulders would be doing so on roadways with a speed limit of 35mph or above.

A notable exception to the previous paragraph are local subdivision streets where neither sidewalk nor shoulder accommodations are available, but where vehicle volumes and speeds are generally low. These routes often contain dead-ends that do not provide connectivity to destinations within the Town, and there is still no separation provided between pedestrians and vehicle traffic. Given the low traffic volumes and generally low vehicle speeds, this plan will explore the potential for utilizing lesser-trafficked local through-streets as active transportation routes that could help



A sidewalk on NY 31 at Stonebrook Drive

some users avoid the area's busier streets.

Although 60+ miles of sidewalks are available throughout town, the network contains numerous gaps that can make pedestrian travel difficult. Notable gaps in an otherwise continuous sidewalk routes include:

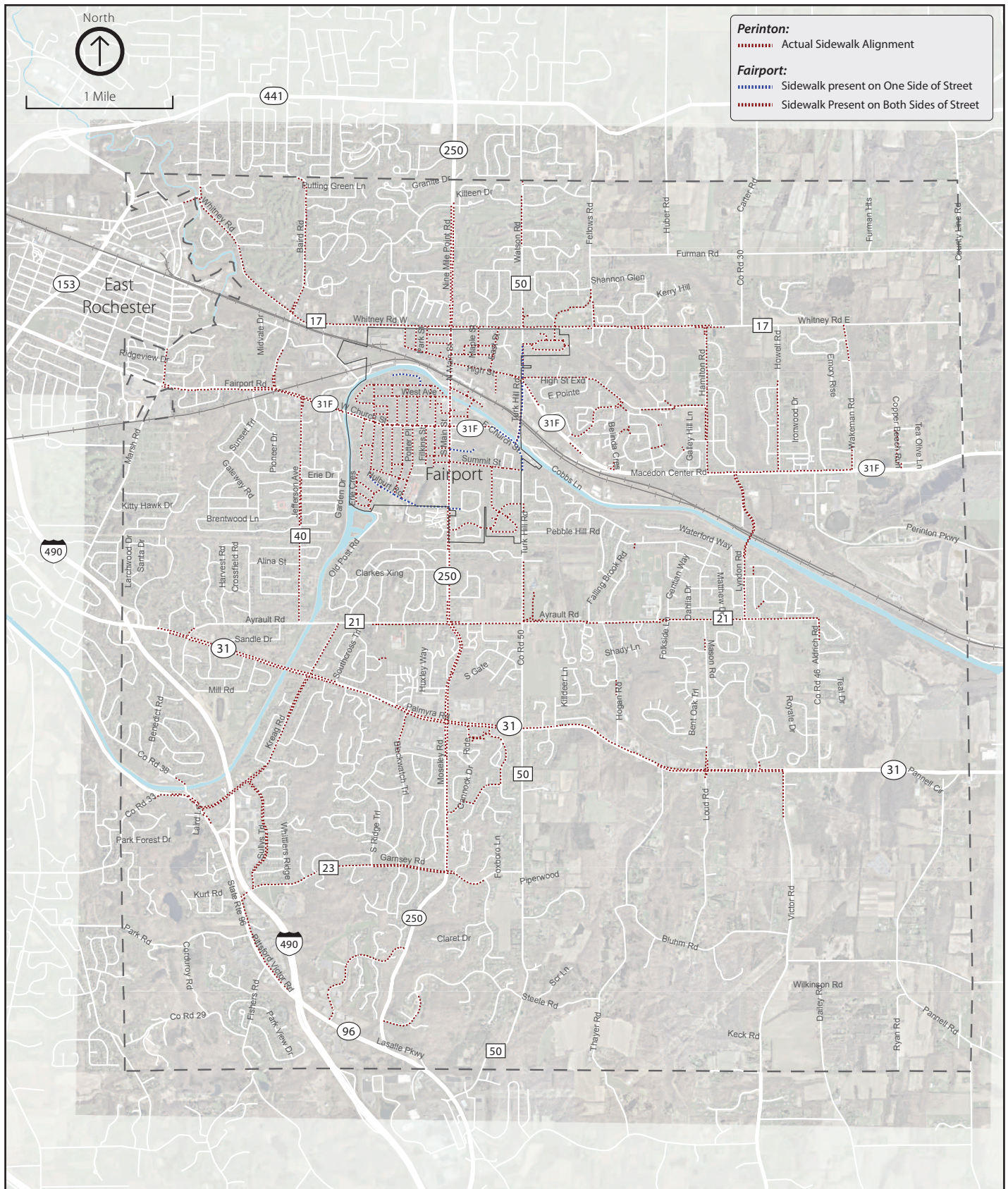
- **Macedon Center Road (NY 31F)** from Turk Hill Road to Hamilton Road
- **Ayrault Road** from Pittsford Palmyra Road (NY 31) to Martha Brown Middle School
- **Mason Road** from Ayrault Road to Pittsford Palmyra Road (NY 31)
- **Baird Road** from Fairport Road (NY 31F) to Whitney Road
- **Pittsford-Victor Road (NY 96)** from Garnsey Road to Kreag Road
- **Turk Hill Road** from Ayrault Road to Summit Street
- **Ayrault Rd.** (Willowick Dr. to Rochester, Syracuse & Eastern Trail on south side).

While these are gaps in the system that may stymie pedestrian flow between destinations in the Town, there may be areas where alternate pedestrian routes could be used in order to avoid difficult corridors and/or intersections. In addition, alternate routes could be utilized to maximize access to heavily-trafficked destinations within the study area. Such options will be examined in the Needs Assessment and Recommendations chapters of this plan.



A sidewalk in Bushnell's Basin on NY 96 at Marsh Rd





Map 3 - Existing Sidewalk Accommodations



SIDEWALK CONDITIONS

An important aspect of the sidewalk network is its overall condition. This plan identified a quality rating system of 1 through 3 for sidewalks in the Town of Perinton. The network was assessed visually, and the following ratings were applied:

1 - Major Repair or Replacement Needed

The sidewalk has severe cracking, displacement, or complete surface failure.

2 - Minor Wear or Maintenance Needed

The sidewalk has minor cracks and minor unevenness, with some grass protruding above the walking surface.

3 - New or Like New

The sidewalk surface is in new condition or shows little to no wear.



NY 250 near Alameda Drive, looking North



Whitney Road near Oak Hill Terrace, looking Northwest



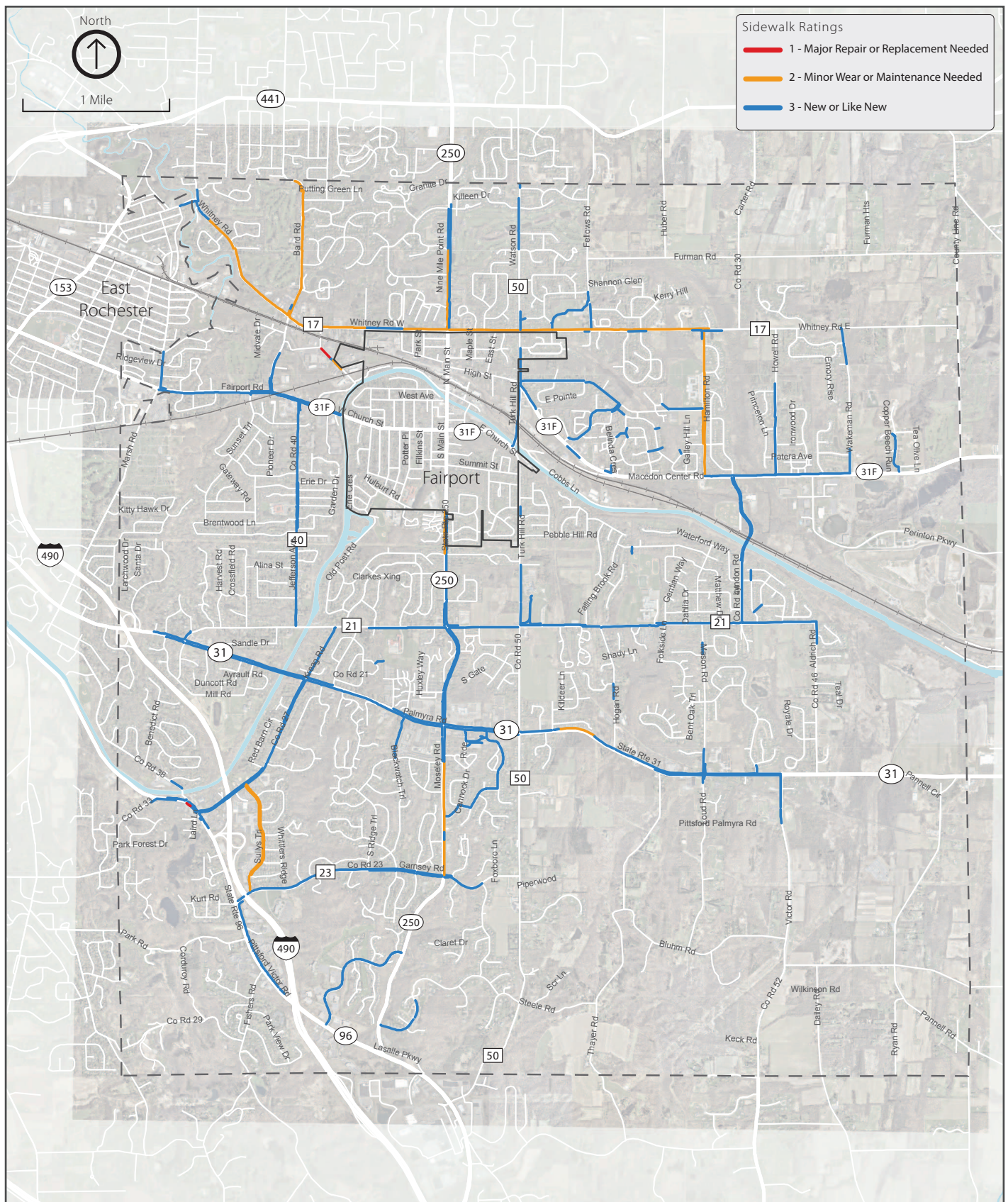
NY 96 in Bushnell's Basin, looking Southeast

Map 4 provides a view of these sidewalk ratings as applied to the network in Perinton / Fairport. The majority of the sidewalks are well-maintained and received a rating of 3, and very few were designated with a rating of 1. According to the visual survey, the following segments have a condition rating of 2 or more and are in need of maintenance:

- Whitney Road from the border of East Rochester to Hamilton Road
- The western sidewalk segment of Nine Mile Point Road / NY 250 from Whitney Road to Old Country Road
- Baird Road from Whitney Road to the border of the Town of Penfield
- Hamilton Road between Macedon Center Road / NY 31F and Whitney Road
- Moseley Road / NY 250 between Garnsey Road and Boxwood Lane
- The entire length of Sully's Trail

Only two small sections of sidewalk include a rating of 1 and these include O'Connor Road, just south of BOCES Boulevard, and State Route 96, north of Kreag Road. Improving these links will enhance the pedestrian experience, particularly along Whitney Road adjacent to the Village of Fairport where pedestrian volumes are high due to several large developments, bus rider volume, and proximity to the Village center. The Town of Perinton should pay special attention to ensuring that new sidewalks are consistent with all ADA standards, which include a minimum 5' wide stable, firm and slip-resistant surface (preferably concrete).





Map 4 - Sidewalk Condition Ratings



TRAILS

The Town of Perinton is a “Trail Town USA” community, a designation it received for its commitment to working toward the goals of *Trails for All Americans*, a plan released by the National Park Service that seeks to bring trails to within 15 minutes of every American’s home or workplace. Through this designation, it is clear that the Town has shown a commitment to providing trail access to its residents.

Map 5 highlights Perinton’s impressive local trail network. Although smaller connectors exist, the Town’s trail system is dominated by three major routes: the Canalway Trail, the Rochester, Syracuse & Eastern (RS&E) Trail, and the Crescent Trail.

CANALWAY TRAIL

The Canalway Trail is part of the larger Canalway Trail system, which consists of about 300 miles of multi-use pathways that follow the historic Erie Canal corridor across Western New York from Albany to Buffalo. Along its route, the Canalway Trail primarily follows towpaths of active and historic segments of the New York State Canal System.



The Canal Trail during Fairport’s “Canal Days” celebration

The Canalway Trail manifests in Perinton and Fairport as a major recreational attraction, an important route for tourism, and in some cases a bicycle and pedestrian thoroughfare that is used to reach downtown Fairport, the Hamlet of Bushnell’s Basin, and other local destinations. It runs generally east-west through the study area, and extends through the neighboring towns of Macedon and Pittsford.



A Section of the Canalway Trail near Bushnell’s Basin

The Canalway Trail within the Town is suitable for bicycle travel. A lack of understanding of trail etiquette has been expressed, particularly in regards to cyclist and pedestrian interactions.

The trail is well-branded and is a highly visible community amenity, even to the point of playing host to the Canal Days celebration in downtown Fairport.

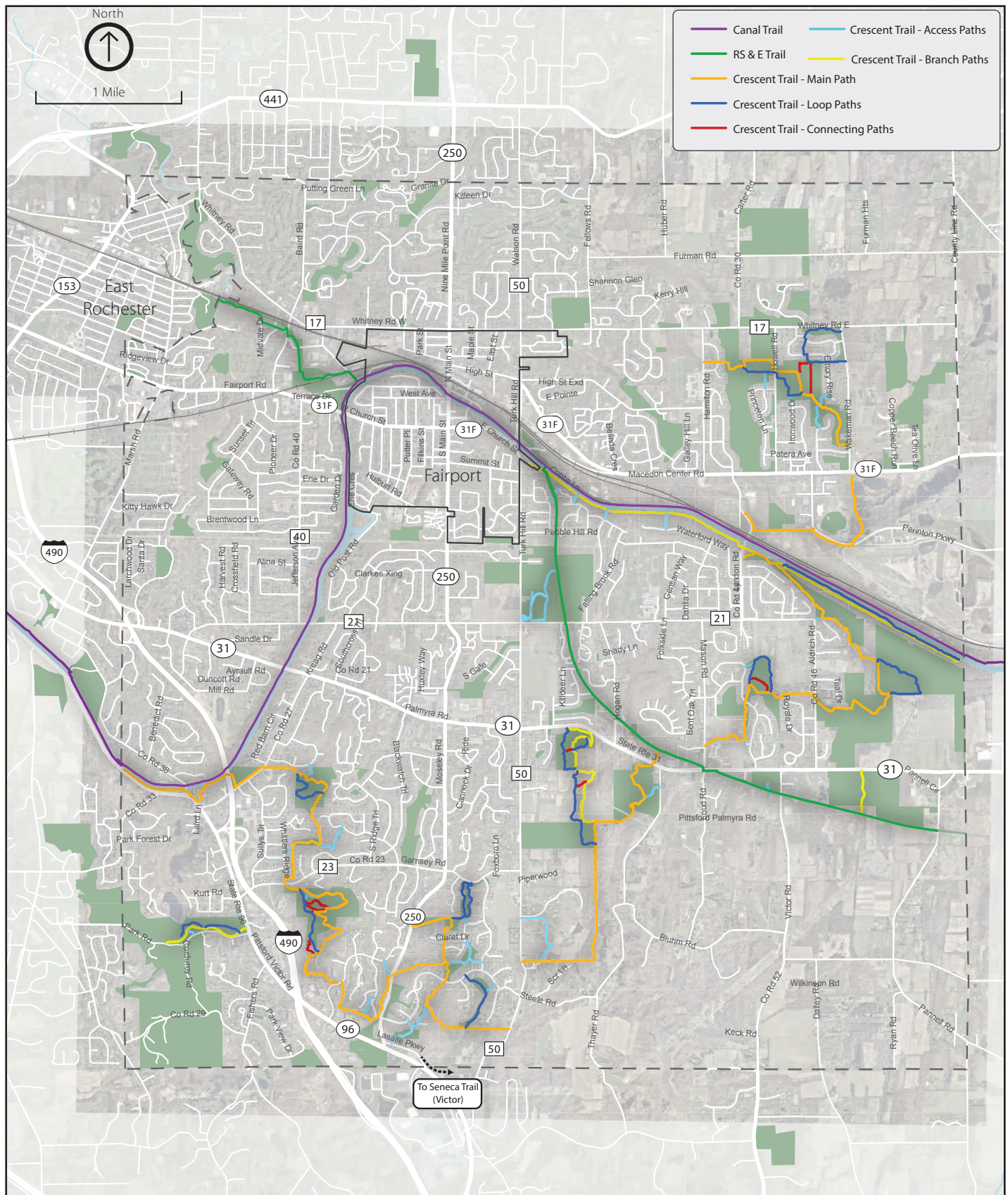
RS&E TRAIL

The RS&E Trail follows the former right-of-way of the Rochester, Syracuse, & Eastern railway, that connected Rochester with Syracuse and allowed local travel from Rochester to the neighboring communities of Newark, Fairport, Egypt, and Palmyra. At its peak of operation in the early 20th century, the RS&E rail way spanned almost 90 miles in length.



A view of the RS&E Trail’s bicycle and pedestrian bridge that crosses the Erie Canal near Turk Hill Road.





Map 5 - Existing Trails



In Perinton, the right-of-way has since been converted to a trail for bicycle and pedestrian use, running from Pannell Road in eastern Perinton to Legion Eyer Park in the Village of East Rochester at the northwestern corner of Perinton. It is primarily an unpaved trail, and provides a continuous connection from Pannell Road to the Canalway Trail in the Town of Perinton. A dedicated bicycle and pedestrian bridge that crosses the Erie Canal was recently constructed just east of Turk Hill Road to provide direct access to the Canalway Trail. The RS&E Trail picks up again at O'Connor Road, but contains several on-street segments from there to its terminus at Legion Eyer Park. The 2011 Town of Perinton Comprehensive Plan identifies the desire to provide a link between the RS&E Trail and Spring Lake Park. Extending the trail eastward beyond Pannell Road to the Town of Macedon is also possible, but property ownership in the Macedon portion is a concern.

The RS&E Trail is used for both recreation and local travel, much like the Canalway Trail.



CRESCENT TRAIL

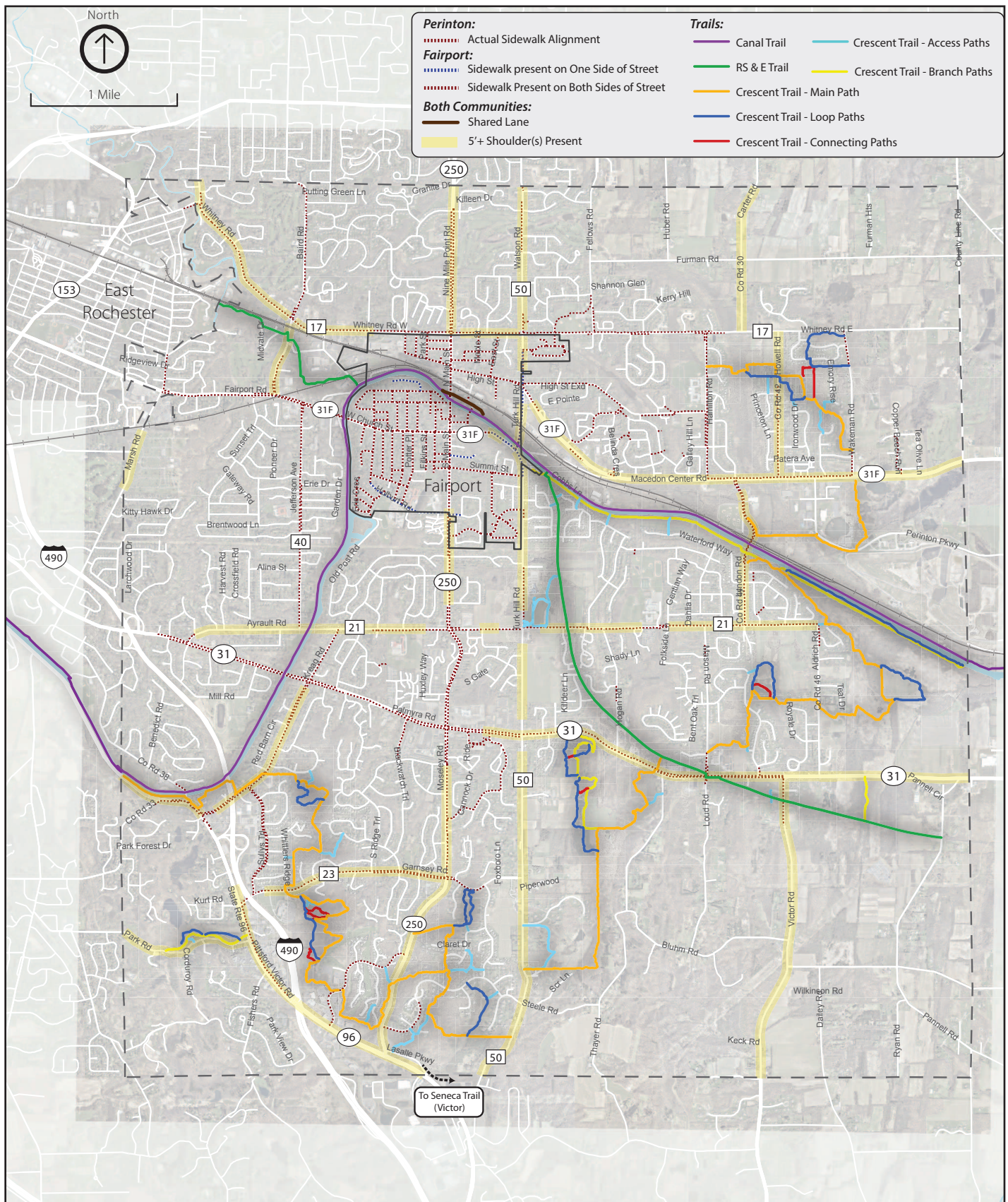
Although it exists as an independent system of footpaths, the main branch of the Crescent Trail is generally a crescent-shaped trail that navigates the Town from the Hamlet of Bushnell's Basin in the southwest to Howell Road Park in the northeast. This connection is largely complete, despite a few on-road sections.

The Crescent Trail and its offshoots are designated as footpaths, and local advocates for the trail have expressed the preference that it remain as such. This dynamic makes it more of a nature-based recreational trail than a pedestrian thoroughfare, and only one section can be used for bicycle travel (between Lyndon Rd. and Perinton Parkway). The hiking and nature trail orientation also finds expression in the way it passes through a number of different parks as it winds its way across the Town.

Similar to the Canalway Trail, the Crescent Trail has unique branding that makes it a recognizable part of the community.

These trails and their locations throughout Perinton can be seen in Map 6.





Map 6 - Existing Bicycle Accommodations, Pedestrian Accommodations, & Trails



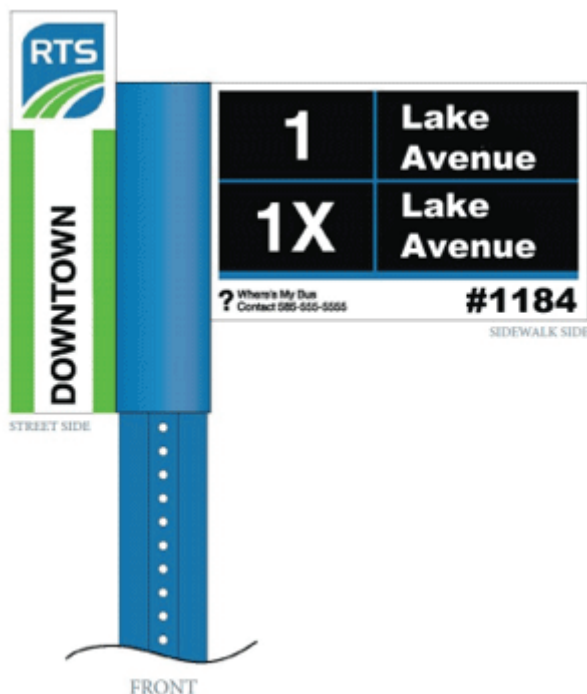
1.6 TRANSIT

Bus transit connections can be important for cyclists and pedestrians. With the exception of park and ride facilities, most bus stop locations are chosen with pedestrians in mind, which makes safe and convenient pedestrian access to these facilities very important. In addition, all of the buses that service the study area are equipped with bicycle racks that can hold up to two bikes at a time, making it possible to use bus transit in conjunction with cycling.

Map 7 offers a visual overview of the bus transit connections in Perinton and Fairport. Service is provided by Rochester's Regional Transit Service (RTS), with Fairport and northern Perinton being serviced by Route 81 and Bushnell's Basin and southern Perinton receiving service from Route 102. Both routes provide a direct connection to downtown Rochester.

The map also shows average total daily weekday ridership between January 2014 and October 2014 at stops along each route. Although ridership is generally quite low, with most stops reporting fewer than 5 total riders each weekday, there are a number of stops that have reported between five and over fifty riders on average weekdays.

Ridership is highest overall in and around the Village of Fairport, as would be expected given its relatively high density. These figures are also driven by the presence of several larger apartment complexes near the northern border with Fairport. Elsewhere in Perinton, the high ridership is reported at the two park and ride facilities in Bushnell's Basin and at Route 31.



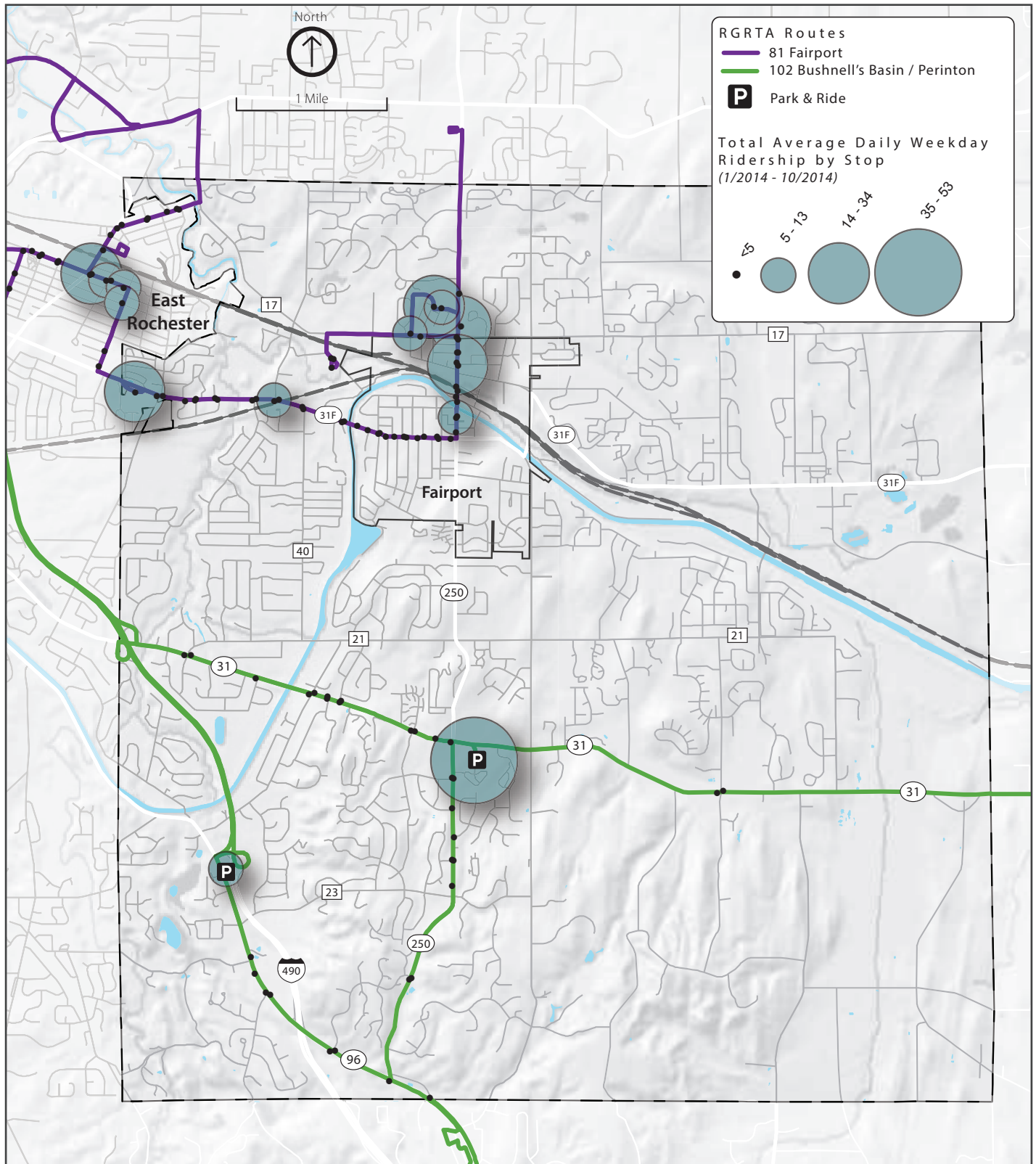
A bus stop on Main Street in Fairport

On the service side, RTS is finalizing a number of changes for 2014/2015. Those service changes include:

- A new RTS Transit Center in downtown Rochester (*Completed*)
- Route and schedule adjustments
- Branding enhancements
- New bus stop signs
- Enhanced bus arrival time information via web and mobile apps

These changes are reflected here. Perinton and Fairport did not experience any route changes, although RTS did make schedule adjustments. The new bus stop signs (design shown at left) should have a particularly positive impact for the Town's bus commuters. Finding and identifying stops will be easier and arrival time information will be more readily accessible, which will enhance some of the area's bus stops as potential destinations for cyclists and pedestrians.

Wherever possible, this plan will consider connections to transit stops, particularly where ridership has been relatively high. It is also possible that providing a better pedestrian and bicycling environment in conjunction with service changes and design enhancements could spur increased transit ridership in certain parts of the Town since the difficulty of accessing and identifying some of these stops could be contributing to lack of use.



Map 7 - Transit Connections & Ridership



1.7 SAFETY

Safety is perhaps the most prominent factor that affects bicycle and pedestrian travel. Even in places where the risk of an incident is fairly low, the perception of a route as unsafe can have a big impact on the decision to walk, bike, or drive a vehicle. Indeed, when lacking safe routes or when there is a perception of unacceptable risk, people will often forego bicycling or walking in favor of using a vehicle or, in some cases, utilize transit.

There are many physical variables that factor into safe bicycle and pedestrian travel, including:

- Traffic volumes
- Vehicle speeds
- Physical exposure to traffic / lack of dedicated bicycle and pedestrian facilities
- Crossing conflicts, such as curb cuts and intersections
- Americans with Disabilities Act (ADA) compliant infrastructure

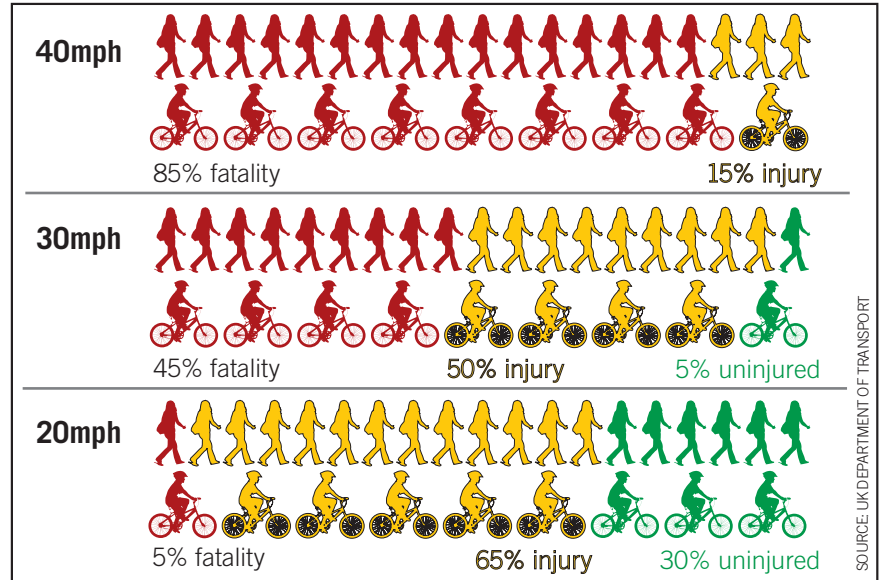
Non-physical elements such as education and awareness have an impact as well, and will be addressed later in this plan.

Much of the safety information outlined below also feeds directly into an analysis of bicycle and pedestrian comfort and level of service, wherever relevant data was available. That analysis is presented in the following section.

TRAFFIC VOLUMES

Typically measured as Average Daily Traffic (ADT), traffic volumes can significantly influence the safety of non-motorized road users. Generally speaking, higher traffic volumes result in less safe conditions for all users. This is not only due to exposure to more vehicles, but also results from factors like wide roadways, higher speeds, and more difficult crossings that are often associated with higher traffic volumes.

Map 8 shows the ADT levels of State and County roads in the Town and Village. ADT levels above 5,000 often result in decreased comfort.



VEHICLE SPEEDS

The faster a vehicle is traveling, the more dangerous it is to a bicyclist or pedestrian.

- At 20 mph the odds of pedestrian fatality are 5%
- At 30 mph the odds of pedestrian fatality are 45%
- At 40 mph the odds of pedestrian fatality are 85%¹

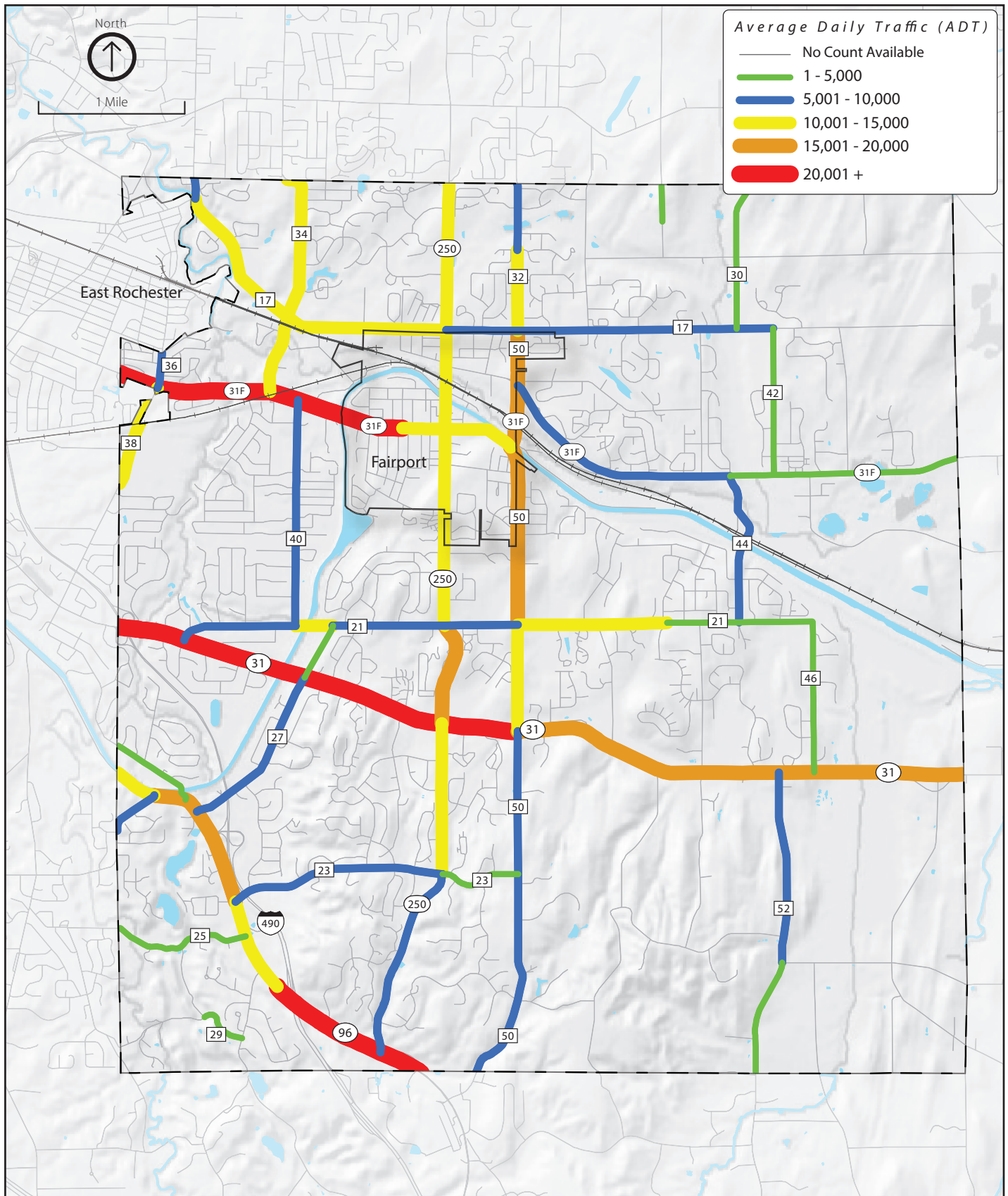
Map 9 displays the current speed limits in the Town and Village. Although vehicle speeds will vary from posted speed limits, this map offers a general picture of where vehicle speeds will tend to be higher and where roadway designs are conducive to such speeds; thus creating a less-than hospitable environment to bicyclists and pedestrians.

LINEAR EXPOSURE

For pedestrians, physical exposure to vehicle traffic occurs primarily where there are no dedicated facilities like sidewalks or trails. For bicyclists, exposure is the norm since they generally ride on roads, but that exposure can be mitigated by providing dedicated bicycling accommodations like bike lanes and bicycle turn lanes at intersections. Paved shoulders can also help reduce exposure for both pedestrians and bicyclists, but are sometimes less helpful since they are shared facilities located directly adjacent to vehicle lanes.

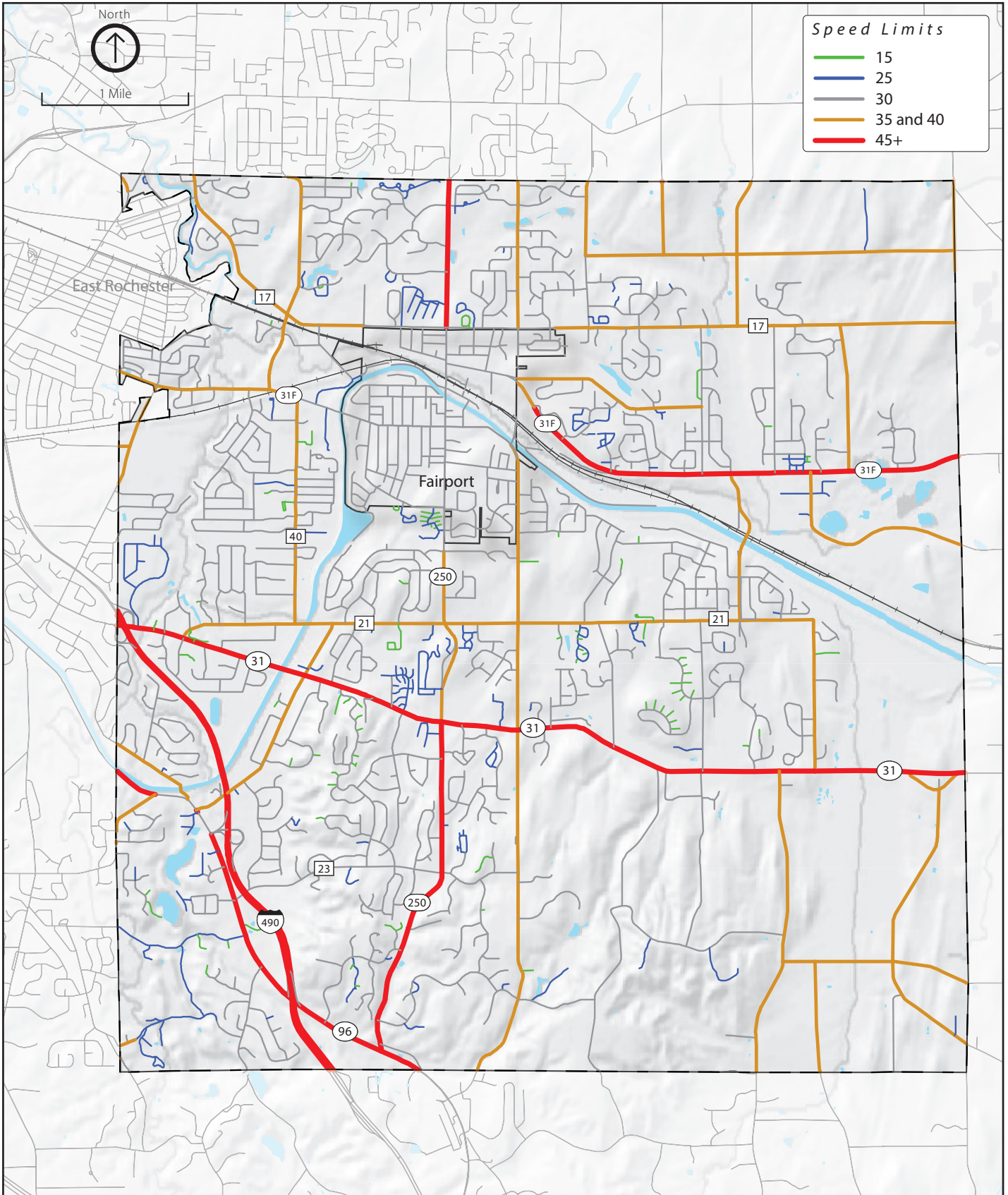
1. Killing Speed and Saving Lives, UK Dept. of Transportation, London, England. See also Limpert, Rudolph. Motor Vehicle Accident Reconstruction and Cause Analysis. Fourth Edition. Charlottesville, VA. The Michie Company, 1994, p. 663.





Map 8 - ADT







As discussed in the previous section, physical exposure is high for bicyclists throughout the Town due to the lack of dedicated on-street bicycle facilities. The sidewalk and trail network provides protection for pedestrians from vehicle traffic, but gaps in the system are present.

The failure of vehicles to yield to cyclists and pedestrians, as well as cyclists failing to yield to pedestrians, and vehicles on occasion, has been identified as a safety concern. Better environmental cues like signs and textured or high-visibility crosswalks can help, but this issue is also a matter of enhanced educational efforts and enforcement.

CROSSING EXPOSURE

Vehicles and pedestrians / bicyclists regularly cross paths at places like roadway intersections and curb cuts. Bicycle and pedestrian accommodations at intersections can reduce the potential danger at these points of conflicts, particularly when paired with traffic calming features. The Town and Village have a number of ADA compliant signalized intersections and crosswalks. However, infrastructure that facilitates roadway crossings for bicyclists and pedestrians is sparse beyond those accommodations. The failure of vehicles to yield to other modes is also an issue at crossings and intersections; even more so where there are high volumes of vehicles making turning movements.

All road users must also be cautious at mid-block crossings. Where crossings are not marked, pedestrians must be extra vigilant since motorists have the right of way in these scenarios. Such unmarked mid-block crossings could be an issue in Perinton, since there are numerous stretches of sidewalk that end on one side of the road and resume on the other without a marked crossing connecting them.



A road in Perinton that is difficult for bicycle and pedestrian travel due to lack of sidewalk / shoulder combined with wintry conditions.



1.8 BICYCLE FRIENDLY AND WALK FRIENDLY COMMUNITY ASSESSMENT

OVERVIEW

The Walk Friendly Community (WFC) program is a national initiative, led by the Pedestrian and Bicycle Information Center (PBIC), that is intended to encourage communities to improve their local pedestrian environments. Similarly, the Bicycle Friendly Community (BFC) program, led by the League of American Bicyclists, is intended to help communities make bicycling a viable transportation and recreation option regardless of age or ability.

Both programs incorporate assessments that are useful for discovering where a community stands with respect to pedestrian and bicycling facilities and activities. The WFC and BFC assessments recognize existing success in communities that already promote walking and biking, also provide a framework for those areas trying to achieve higher levels of walking and bicycling.

Both assessments address the “Five E’s”: engineering, education, evaluation, enforcement and encouragement. The engineering category refers to infrastructure-related elements (e.g., bike lanes, sidewalks, ADA accommodations, etc.), while the other four E’s refer to non-infrastructure efforts (such as safety campaigns, planning efforts, etc.). Comprehensive pedestrian and bicycle plans should address all five E’s to effectively advance pedestrian and bicycling activities in a community. Communities seeking status as WFC and BFC must make relevant advances in each of the Five E’s. This plan will take into account what would be needed for the Town of Perinton to achieve WFC and BFC awards within the framework of the Town’s effort to provide a bicycle and pedestrian network that is tailored to its the unique needs of its residents.

TOWN OF PERINTON ASSESSMENT

The Town of Perinton’s preliminary walk friendly community score resulted in 10 out of 21 total points. Scores are increased because of the existing and maintained pedestrian network, supported by programs for education, evaluation, enforcement, and encouragement.

Adopting this bicycle and pedestrian plan and a complete streets policy will assist with the engineering and evaluation portions of becoming a walk friendly community. Additionally, appointing a pedestrian advisory committee or designating a pedestrian program manager will provide continued feedback on the Town’s efforts.

The Town’s preliminary bicycle friendly community score was slightly lower, at 6.5 out of 20. While the community has education, encouragement, and enforcement components currently, physical infrastructure, policies, and evaluation tools are lacking. By implementing a complete streets policy and a few select programs such as bike to work day, the Town of Perinton will begin to progress toward a more bicycle friendly community and will likely see that reflected in higher number of cyclists.

WFC / BFC in New York

Only three communities in New York State have been recognized with Bike Friendly Community awards, and none are listed as a Walk Friendly Community.

BFC Awards in New York:

- New York, NY (Silver)
- Rochester, NY (Bronze)
- Buffalo, NY (Bronze)





Town of Perinton Walk Friendly Community Scorecard

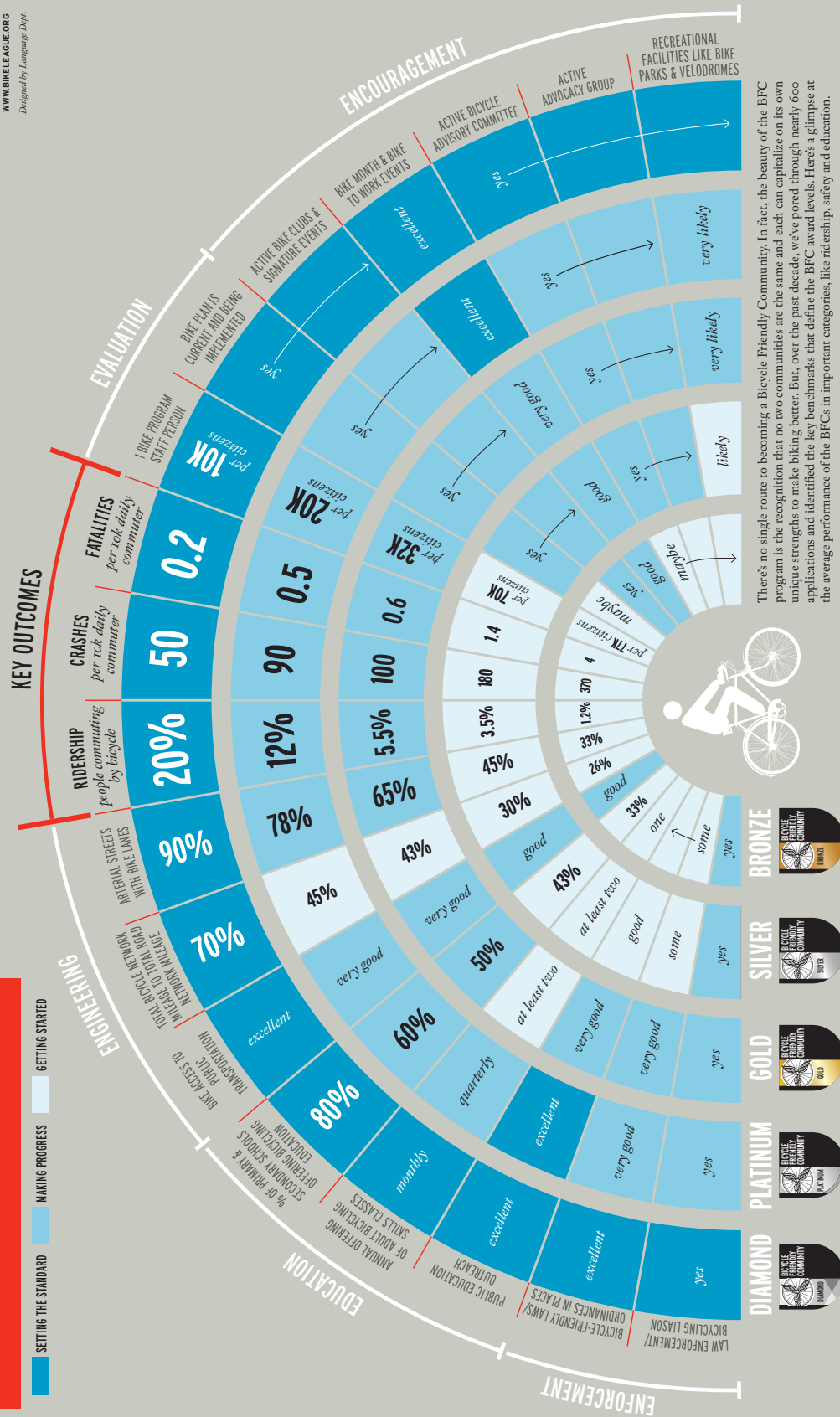
Question	Yes	No	Notes
Engineering			
Does your community have a comprehensive, connected and well-maintained pedestrian network?	0.5		Extensive network, but connections sometimes lacking
Is there a Complete Streets Ordinance or another policy that mandates the accommodation of pedestrians on all road projects?		1	
Has your community adopted an ADA Transition Plan for the public right of way?		1	
If yes, provide more info (e.g., what year was the plan adopted, provide a copy of the plan, what has been implemented, etc.)			
Does your community have a policy requiring sidewalks on both sides of arterial streets?	1		Yes, but not a written policy
Does your community have a policy requiring sidewalks on both sides of collector streets?	1		Yes, but not a written policy
Does your community require sidewalks to be constructed or upgraded with all (or the majority of) new private development?	1		
Engineering Score Total	3.5/6		
Education			
Is there a community-wide Safe Routes to School Program that includes pedestrian education?	0.5		Some schools
Are there pedestrian education courses available for adults in the community?		1	
Does your community educate motorists and pedestrians on their rights and responsibilities as road users?	0.5		Regional / state initiatives
Education Score Total	1/3		
Evaluation			
Is there a specific plan or program to reduce pedestrian/motor vehicle crashes?		1	
Does your community have a current comprehensive pedestrian plan or pedestrian safety action plan?		1	Upon completion and adoption, this plan will fulfill this requirement.
Is there a pedestrian advisory committee that meets regularly?		1	
Does your community have a pedestrian program manager?		1	
Has your community established a connectivity policy, pedestrian-friendly block length standards and connectivity standards for new developments, or convenient pedestrian access requirements?	1		
Is your community served by public transit, and if so, what route planning/trip information is provided for transit passengers?	1		Bus route and park & ride information provided by RGRTA
Evaluation Score Total	2/6		
Enforcement			
Do law enforcement officers receive training on the rights and responsibilities of all road users?	1		
Does your community have law enforcement or other public safety officers on foot?		1	
Do local ordinances promote safety and accessibility for pedestrians?	1		
Enforcement Score Total	2/3		
Encouragement			
Does the community celebrate pedestrians with special events or media outreach?	0.5		
Does the community host any major community pedestrian events?		1	
Is there an active pedestrian advocacy group in the community?	1		
Encouragement Score Total	1.5/3		
Walk Friendly Total	10/21		



Bike Friendly Community Infographic

produced by
**THE LEAGUE
OF AMERICAN BICYCLISTS**
WWW.BIKELEAGUE.ORG
Designed by Longwing Design

THE BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY



There's no single route to becoming a Bicycle Friendly Community. In fact, the beauty of the BFC program is the recognition that no two communities are the same and each can capitalize on its own unique strengths to make biking better. But, over the past decade, we've pored through nearly 600 applications and identified the key benchmarks that define the BFC award levels. Here's a glimpse at the average performance of the BFCs in important categories, like ridership, safety and education.

Download the full version here: <http://bikeleague.org/sites/default/files/BFC%20infographic.pdf>





Town of Perinton Bicycle Friendly Community Scorecard

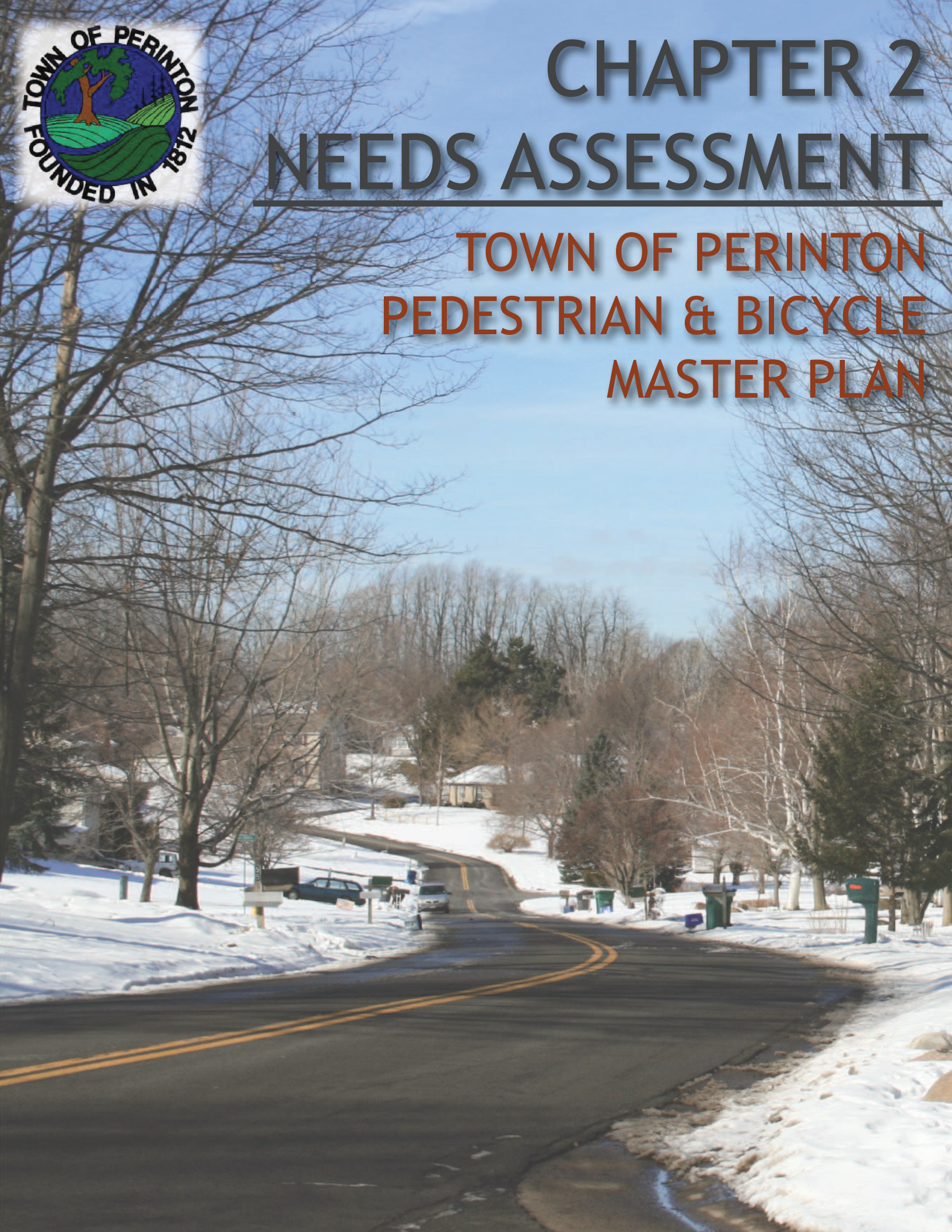
Question	Yes	No	Notes
Engineering			
Does your community have a comprehensive, connected and well-maintained bicycling network?		1	
Is bike parking readily available throughout the community?		1	
Is there a complete streets ordinance or another policy that mandates the accommodation of cyclists on all road projects?		1	
Does your community require bike lanes to be constructed or upgraded with all (or the majority of) new private development?		1	
Engineering Score Total	0/4		
Education			
Is there a community-wide Safe Routes to School Program that includes bicycle education?	0.5		Some schools
Are there bicycling education courses available for adults in the community?	0.5		Community rides
Does your community educate motorists and cyclists on their rights and responsibilities as road users?	0.5		Regional / state
Education Score Total	1.5/3		
Evaluation			
Is there a specific plan or program to reduce cyclist/motor vehicle crashes?		1	
Does your community have a current comprehensive bicycle plan?		1	Upon completion and adoption, this plan will fulfill this requirement
Is there a bicycle advisory committee that meets regularly?		1	
Does your community have a bicycle program manager?		1	
Has your community established a connectivity policy, bicycle-friendly block length standards and connectivity standards for new developments, or convenient bicycle access requirements?		1	
Evaluation Score Total	0/6		
Enforcement			
Do law enforcement officers receive training on the rights and responsibilities of all road users?	1		
Does your community have law enforcement or other public safety officers on bikes?	1		Yes, In Village
Do local ordinances promote safety and accessibility for bicyclists?	.5		Mix-Use District
Enforcement Score Total	2.5/3		
Encouragement			
Does your community have an up-to-date bicycle map?	1		Maintained by GTC
Does the community celebrate bicycling during National Bike Month with community rides, Bike To Work Day, or media outreach?		1	
Does the community host any major community cycling events or rides?	0.5		
Is there an active bicycle advocacy group in the community?	1		
Encouragement Score Total	2.5/4		
Bicycle Friendly Total	6.5/20		





CHAPTER 2 NEEDS ASSESSMENT

TOWN OF PERINTON PEDESTRIAN & BICYCLE MASTER PLAN





2.1 BICYCLE AND PEDESTRIAN CRASH ANALYSIS

INTRODUCTION

Examining where crashes are occurring can suggest where crossing exposure, linear exposure, or traffic volumes and speeds might be negatively influencing bicycle and pedestrian safety. At the same time, areas where crashes are occurring frequently may simply reflect higher usage than other areas, rather than site-specific issues. In either case, the identification of these areas is important to understanding potential issues and proposing targeted solutions to improve safety.

A total of 216 crashes that involved motor vehicles colliding with pedestrians and/or bicyclists have been recorded in the Town and Village since 1994. While some crashes are certain to have gone unreported, this data provides insight on where crashes involving bicycle/pedestrian conflicts with motor vehicles have been occurring. To a more limited extent, the data also suggests some of the most recurring causes involved in those crashes.

All of the crash incidents used in this analysis were provided by the Genesee Transportation Council (GTC).

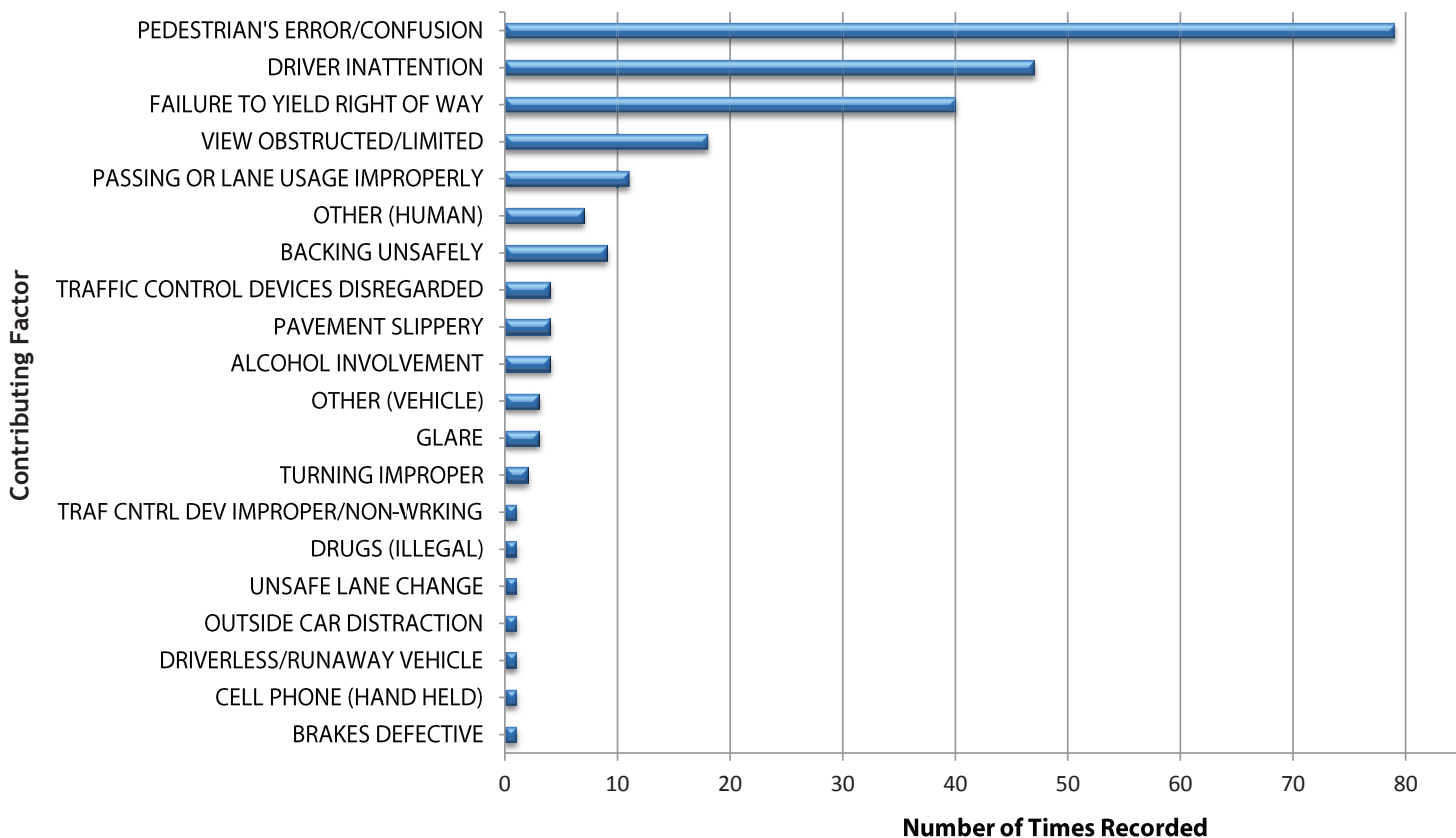
CAUSES

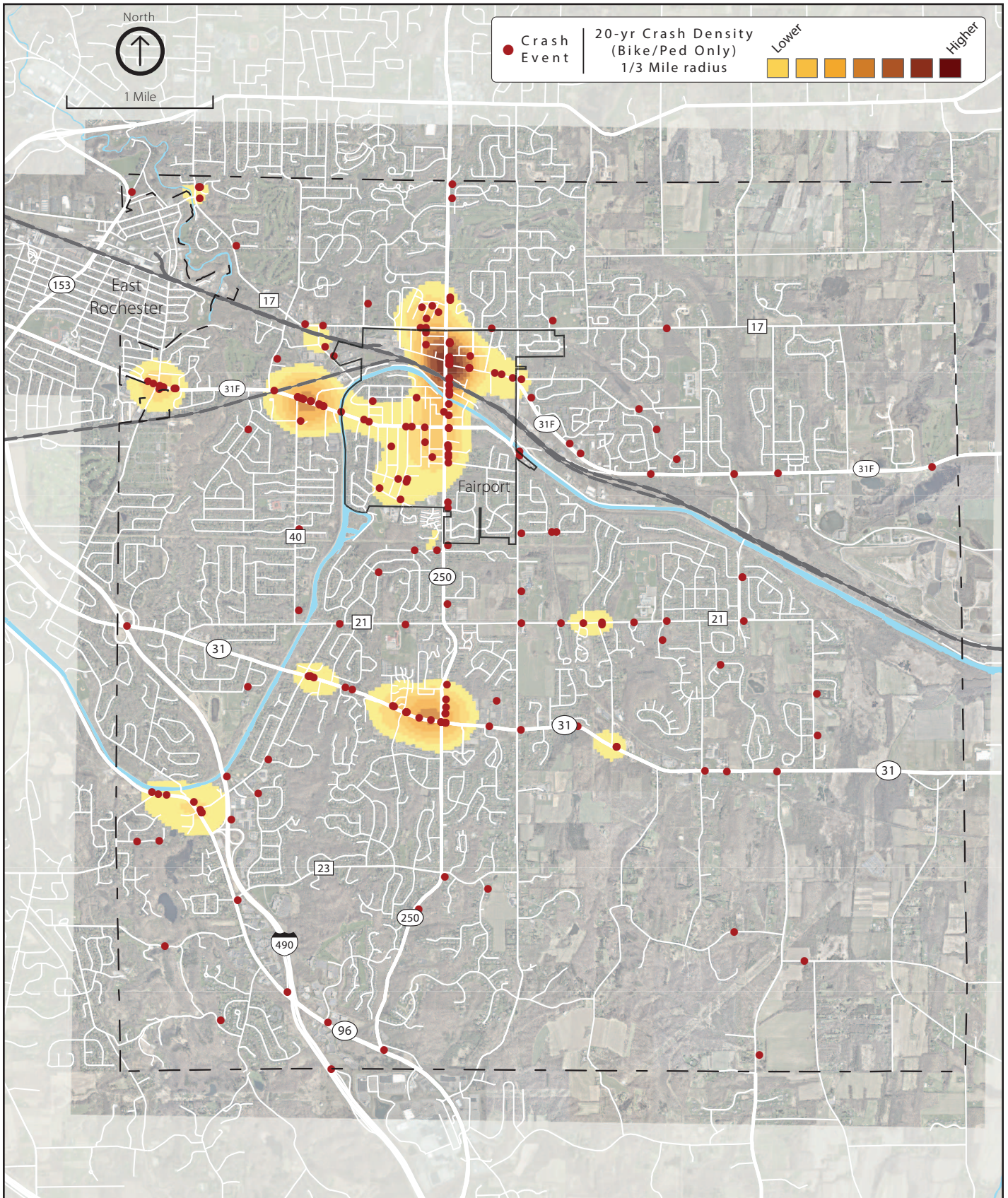
NYSDOT draws on police reports to generate crash data, and the data includes information related to the observed cause of each crash. Two contributing factors are recorded for each incident, with “none,” “unknown,” “not applicable,” or “not entered” included as the second contributing factor when there is no secondary contributing factor noted as significantly influencing the crash. Thus, the presence of an unknown / unrecorded contributing factor does **not** indicate that a given crash was recorded without a cause noted. Therefore, such contributing factors are omitted from the report. In addition, the police use predetermined cause categories, which means no customized entries are included in the data.

The graph below imparts how many times each predetermined cause category appeared across the 216 reported crashes involving motorists and bicyclists/pedestrians that have occurred since 1994. Three causes occur particularly often:

- Pedestrian’s error / confusion (factor is used for both pedestrians and bicyclists)
- Driver inattention
- Failure to yield right of way

Figure 1 - Total Occurrences of Crash Causes





Map 10 - Crash Density



The predominance of “Pedestrian’s error / confusion” could indicate any number of underlying causes, but suggests that unsafe movements and/or pedestrian crossings are occurring frequently. The lack of safe and efficient pedestrian facilities could be causing confusion in some cases, making pedestrians more inclined to cross roads in the absence of a crosswalk or travel along roads where there is no dedicated pedestrian space.

Both the “driver inattention” and “failure to yield right of way” causes suggest that there is a lack of understanding when it comes to rules of the road that govern interactions between motorists and pedestrians / bicyclists. This is particularly the case of “failure to yield right of way.” When it comes to “driver inattention,” distracted driving could be a cause, but it could also indicate a driver’s failure to anticipate pedestrian movements in places that they are likely to occur.

LOCATIONS

Map 10 on the preceding page shows the location of all recorded bicycle and pedestrian crashes with motor vehicles since 1994. Each crash is represented as a red dot on the map. In order to more effectively visualize the distribution of these crashes and identify clusters, a heat map system is used to indicate areas of high crash concentrations where more than one crash occurs within a 1/3 mile radius. This has resulted in a “lower” to “higher” concentration rate shown as varying shades of yellow and orange - the more crashes that occurred within the 1/3 mile radius, the more intense the heat map rating. All points falling outside of the heat map zones indicate a single recorded crash.

In general, the bulk of crashes have occurred in the following locations:

- Within the Village of Fairport, particularly in the vicinity of Church Street (NY 250) and High Street (NY 31F)
- Fairport Road (NY 31F) at Jefferson Avenue
- Fairport Road (NY 31F) at Wegman’s Plaza
- The vicinity of Moseley Road (NY 250) at Palmyra Road (NY 31)
- Bushnell’s Basin between Kreag Road and Thornell Road

Each of these locations shares the common trait of being a relatively heavy generator of foot traffic, generally due to higher commercial and residential densities. The locations of the highest crash densities appear to mirror the bus ridership map. Improvements to these areas will help improve safety for bus riders and make transit more accessible.

2.2 PEDESTRIAN LEVEL OF SERVICE AND LEVEL OF TRAFFIC STRESS

INTRODUCTION

So many factors affect the conditions and connectivity of an existing bicycle and pedestrian network that it can often be difficult to consider all relevant variables at one time. A Pedestrian Level of Service (PLOS) analysis and a Level of Traffic Stress (LTS) analysis are provided in the following pages in an attempt to understand how several key factors interact to affect the safety and comfort of bicycle and pedestrian travel in the Town and Village. The PLOS is applicable only to pedestrian travel, while the LTS is applicable only to bicycle travel. These models can also be used to identify gaps in the network by identifying where relatively safe stretches where the PLOS and/or the LTS analysis suggest that improvements could enhance active transportation safety.

This section will summarize the method and results of both PLOS and LTS for the project study area. Each analysis incorporates the recent research on factors that impact bicycle and pedestrian comfort and safety, and was tailored to the Town of Perinton and Village of Fairport using the data available. Each model analyzed the full roadway network within the Town and Village, excluding limited access highways, to provide a full picture of mobility.

DATA SOURCES

The following data inputs were incorporated into the PLOS and LTS analyses. Table 1 on the next page displays each variable, its source, and some notes where applicable.

PEDESTRIAN LEVEL OF SERVICE (PLOS) ANALYSIS

METHODOLOGY

For the Pedestrian Level of Service Analysis (PLOS), a level of service number (1 through 5) was identified for each roadway segment in the study area, excepting limited access highways.

The selected segment-based Pedestrian Level of Service Analysis (PLOS) is rooted in the concept that a doubling of travel speed results in a four-fold increase in stopping time and resulting crash severity. As discussed in the Safety section of this chapter, speed has the following impact on pedestrian fatalities:

- At 20 mph the odds of pedestrian fatality are 5%
- At 30 mph the odds of pedestrian fatality are 45%
- At 40 mph the odds of pedestrian fatality are 85%



While other studies have found some variation, these statistics are reported fairly consistently in many publications.

It is imperative that dedicated travel facilities are provided to create safe travel conditions for pedestrians. This PLOS analysis is based primarily on safety and does not consider factors of the built environment known to make walking an attractive and preferred form of transportation. While built environment factors are not explicitly considered, lower posted speeds and more dedicated pedestrian space will typically correlate with places people want to walk based on the surrounding land uses and urban form (e.g., residential neighborhoods and commercial uses in lower speed urban areas).

The PLOS measures pedestrian safety using three factors:

- Posted speed limit
- Roadway width (number of travel lanes)
- Presence of sidewalks.

Buffered areas like planting strips, on-street parking, or bicycle lanes can also provide increased pedestrian comfort, but such data was not available to include in this analysis. Table 2 on the following page outlines the scoring methodology of the PLOS analysis. The PLOS follows a five-point scale, with 1 representing the highest comfort level. Generally, more pedestrian space on a lower speed roadway segment correlates to a

higher comfort level. Where sidewalks are only provided on one side of the roadway, pedestrian comfort degrades on multi-lane roadways since pedestrians are forced to cross more than two lanes of traffic to reach that sidewalk. Higher vehicle speeds negatively impact pedestrian comfort as well.

PEDESTRIAN LEVEL OF SERVICE ANALYSIS RESULTS

The results of the pedestrian segment-based supply analysis can be seen in Map 11. Low speed roadways with buffers and sidewalks, the links with the highest level of pedestrian comfort, are shown in green. Roads with a higher level of stress for pedestrians are shown in orange and red. The highest levels of comfort are found along neighborhood streets, largely due to the extensive sidewalk networks and low speeds. Collector and Arterial corridors have medium levels of comfort where sidewalks and moderate speed limits are present, but comfort decreases on those collectors and arterials as speed limits and numbers of lanes increase and sidewalk infrastructure disappears. Throughout the area there are clusters of high-comfort pedestrian networks along local roads, but these safe walking environments are separated from one another by low-comfort links such as Ayrault Road, Turk Hill Road, and Route 31F.

Again, one of the main considerations of the PLOS is whether or not pedestrians are serviced by sidewalk infrastructure and physically separated from vehicle traffic. As such, many local roads in the study area

Table 1 - Summary of PLOS & LTS Model Inputs

Model Input	Source	Notes
Posted Speed Limit	Town of Perinton	
Number of Travel Lanes	Genesee Transportation Council Visual Inventory	
Annual Average Daily Traffic Volumes (AADT)	New York State Department of Transportation Monroe County Department of Transportation	Not available for all streets. Collector streets without data were assumed to carry between 3,000 – 10,000 AADT. Local streets without data were assumed to carry less than 1,500 AADT.
Traffic Signals	New York State Department of Transportation Monroe County Department of Transportation Stakeholder Committee	
Sidewalks	Town of Perinton	
Zoning	Town of Perinton Village of Fairport	Zoning was used to cross-check pedestrian and bicycle comfort levels by highlighting areas of high potential conflict (commercially zoned districts).





have received a score of 3, indicating only medium comfort where the expectation might be for a score representing higher levels of comfort. Medium comfort scores do not always indicate that there is a problem per se, but rather that dedicated pedestrian travel is not available on these corridors and that pedestrian connectivity could be limited.

The key to interpreting the results of the PLOS analysis will be to determine how road segments with lower comfort ratings (i.e. scores of 4 or 5) can be strategically addressed to provide better pedestrian connectivity. This PLOS analysis will be used in conjunction with public input, the Level of Traffic Stress analysis results, and other relevant existing conditions to arrive at a priority improvement network and the recommended accommodations.

LEVEL OF TRAFFIC STRESS (LTS) ANALYSIS

METHODOLOGY

The methods used for the Level of Traffic Stress Analysis were adapted from the 2012 Mineta Transportation Institute (MTI) Report 11-19: Low-Stress Bicycling and Network Connectivity. The approach outlined in the MTI report uses roadway network data, including posted speed limit, the number of travel lanes, and the presence and character of bicycle lanes, as a proxy for bicyclist comfort level. Road segments are classified into one of four levels of traffic stress based on these factors. The lowest level of traffic stress, LTS 1, is assigned to roads that would be tolerable for most children to ride, as well as to multi-use trails that are separated from motorized traffic. LTS 2 roads are those that



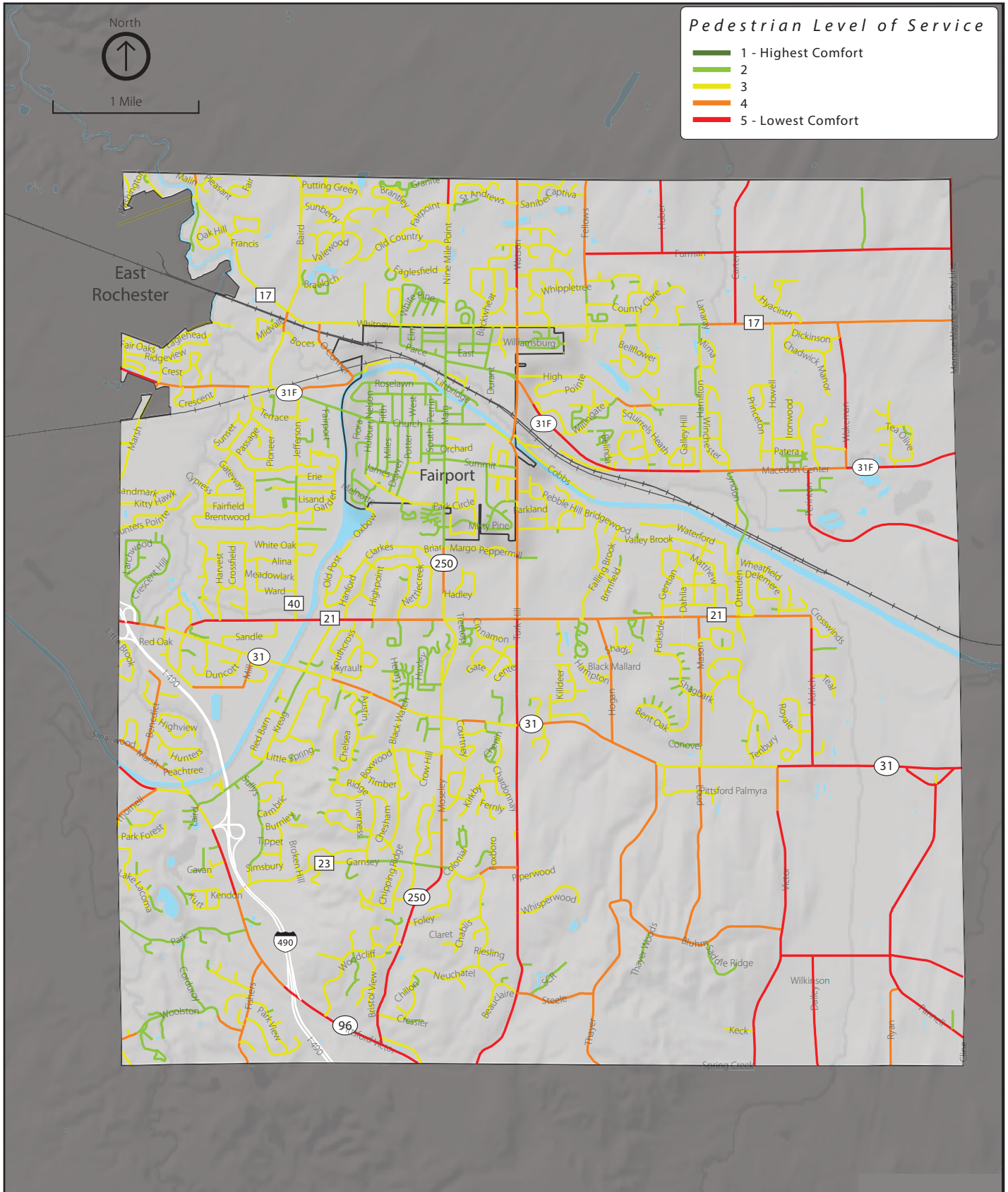
Route 96 south of Park Rd near Bushnell's Basin. The effect of high traffic volumes, fast vehicle speeds, and wide streets are moderated by the presence of sidewalks, resulting in a slightly better PLOS score. The LTS+ score is worse due to the lack of dedicated bicycle facilities coupled with those same traffic influences.

could be comfortably ridden by the mainstream adult population. The higher levels of traffic stress, LTS 3 and 4, correspond to types of cyclists characterized by Portland's bicycle coordinator Roger Geller in his Four Types of Cyclists report. This categorization of cyclist types is accepted throughout the bicycling planning practice across the U.S. LTS 3 is the level assigned to roads that would be acceptable to current "enthused and confident" cyclists and LTS 4 is assigned to segments that are only acceptable to "strong and fearless" bicyclists, who will tolerate riding on roadways with higher motorized traffic volumes and speeds. The definitions for each level of traffic stress are shown in Table 3 on the following page.

Our Level of Traffic Stress analysis builds on the MTI approach, by expanding it to incorporate the impact of traffic volumes on cyclist comfort. The resulting categorization of each segment of Perinton's and Fairport's road networks is termed 'Level of Traffic Stress Plus,' to highlight its divergence from the original model. Scoring in LTS Plus is based off of the four basic categories defined in the MTI report, but allows half points between each category to represent a more nuanced continuum of bicycle comfort for use in project prioritization. The scoring methodology is summarized in Table 4.

Table 2 - PLOS Scoring Matrix & Model Inputs	Speed Limit (mph)					
	<= 25 mph		30 - 35 mph		>= 40 mph	
	2 lanes	> 2 lanes	2 lanes	> 2 lanes	2 lanes	> 2 lanes
Pedestrian Space along Roadway						
Complete sidewalk on both sides (2)	1	1	2	3	3	4
Complete sidewalk on one side (1)	2	3	3	4	4	5
No dedicated space (0)	2	3	4	5	5	5





Map 11 - PLOS Results (Pedestrian Travel)



Table 3 - Levels of Traffic Stress (LTS) Definitions. Source: Mineta Transportation Institute Report 11-19.

LTS 1	Presenting little traffic stress and demanding little attention from cyclists, and attractive enough for a relaxing bike ride. Suitable for almost all cyclists, including children trained to safely cross intersections. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane per direction, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where cyclists ride alongside a parking lane, they have ample operating space outside the zone into which car doors are opened. Intersections are easy to approach and cross.
LTS 2	Presenting little traffic stress and therefore suitable to most adult cyclists but demanding more attention than might be expected from children. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance from a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where a bike lane lies between a through lane and a right-turn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and to keep car speed in the right-turn lane comparable to bicycling speeds. Crossings are not difficult for most adults.
LTS 3	More traffic stress than LTS 2, yet markedly less than the stress of integrating with multilane traffic, and therefore welcome to many people currently riding bikes in American cities. Offering cyclists either an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are not multilane and have moderately low speed. Crossings may be longer or across higher-speed roads than allowed by LTS 2, but are still considered acceptably safe to most adult pedestrians.
LTS 4	A level of stress beyond LTS3.

RESULTS

The results of the segment-based Level of Traffic Stress Plus analysis are shown on map 12 on the next page. Much of the network consists of disconnected clusters of low-stress (LTS 1 to 2) streets, shown in blue and green. Individually, these islands of low-stress streets are comfortable to ride for most adults, but they are isolated from one another by larger roads with higher traffic speeds that disrupt bicycle mobility.

As in the PLOS, the higher-stress roadways (LTS 3 to 4) are primarily arterial routes that are owned and maintained by Monroe County and the New York State Department of Transportation, along with rural local roads that allow vehicles to travel at higher speeds.



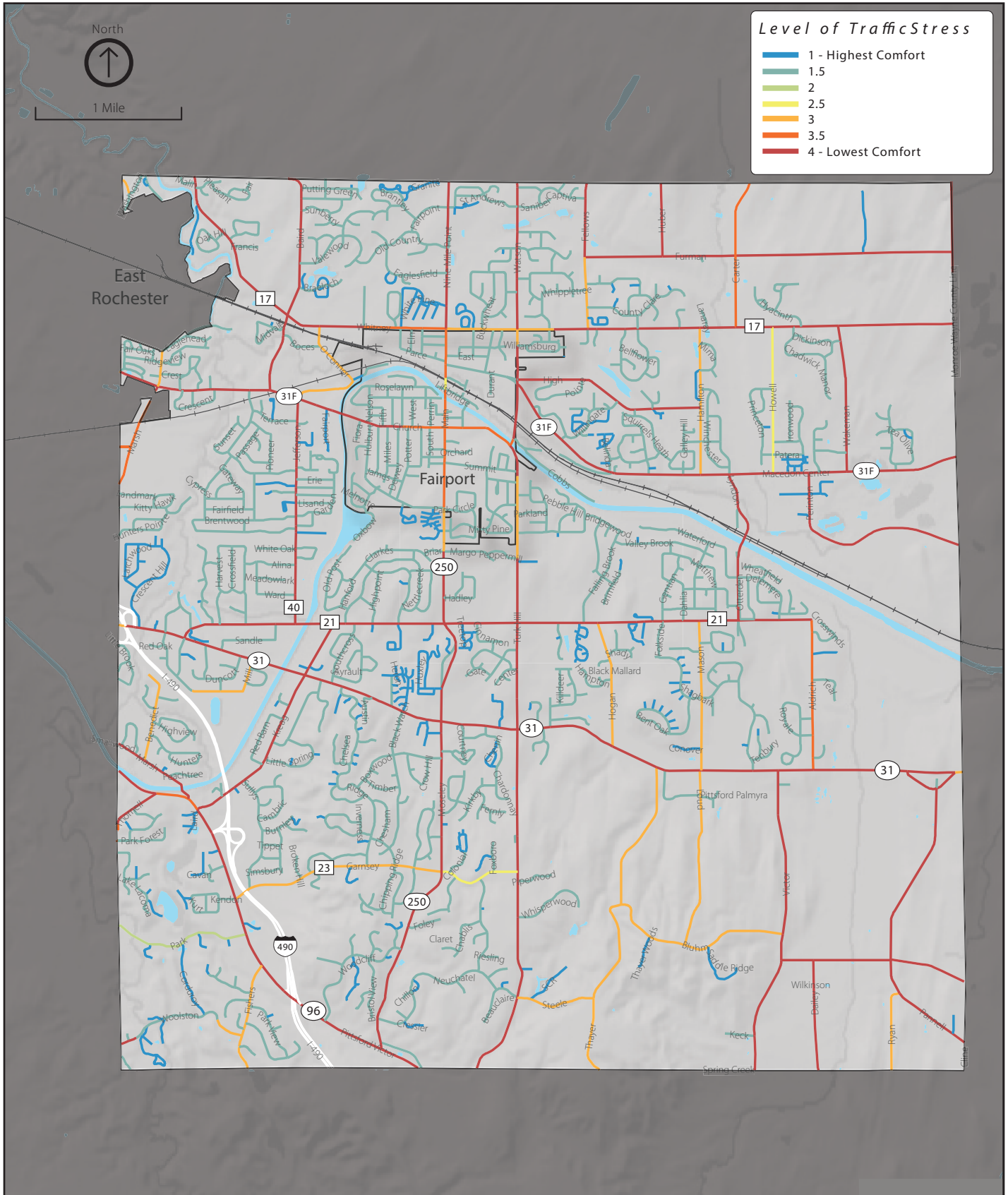
Route 31 at the Perinton Hills Mall is an area of low bicycle comfort due to high speeds, a wide street, and high traffic volumes accompanied by no bicycle facilities.

These results will be considered alongside other relevant data and input to determine a priority network.

Table 4 - LTS+ Scoring Matrix & Model Inputs

Number of Travel Lanes	Traffic Volume (AADT)	<= 25*	30	>= 35
2 Lanes (residential)	No data	1	2	3.5
2 - 3 lanes	<=3k	1.5	2.5	3.5
	3k - 10k	2	3	4
	10k - 20k	3	3.5	4
	>20k	4	4	4
4 + Lanes	<=3k	2.5	3.5	3.5
	3k - 10k	3	4	4
	10k - 20k	3.5	4	4
	>20k	4	4	4





Map 12 - LTS + Results (Bicycle Travel)



2.3 ACTIVITY DEMAND ANALYSIS

Identifying concentrations of activity is important when planning for bicycle and pedestrian facilities and programs. Below is the summary of a Geographic Information System (GIS) model that seeks to provide a Census block-level picture of where centers of activity might exist within the study area. Quantitatively identifying these activity centers will ensure that the Town of Perinton Pedestrian & Bicycle Master Plan not only provides recommendations for routes that are in need of improvement, but also makes it possible for those recommendations to prioritize areas with high levels of activity in order to maximize benefits.

The following is a summary of this model and its results as applied to the Town of Perinton and Village of Fairport.

APPROACH

OVERVIEW

The demand model estimates concentrations of resident activity and foot traffic using a variety of inputs that represent where people live, work, play, access public transit, and go to school. The results intend to provide a visualization of potential demand for bicycle and pedestrian programs and improvements within the study area. The model inputs are broken down into the categories of land use and demographics, which include the following factors:

- Population density
- Employment
- Recreation
- Community destinations
- Transit hubs
- Schools

Figure 2: Demand Model Approach

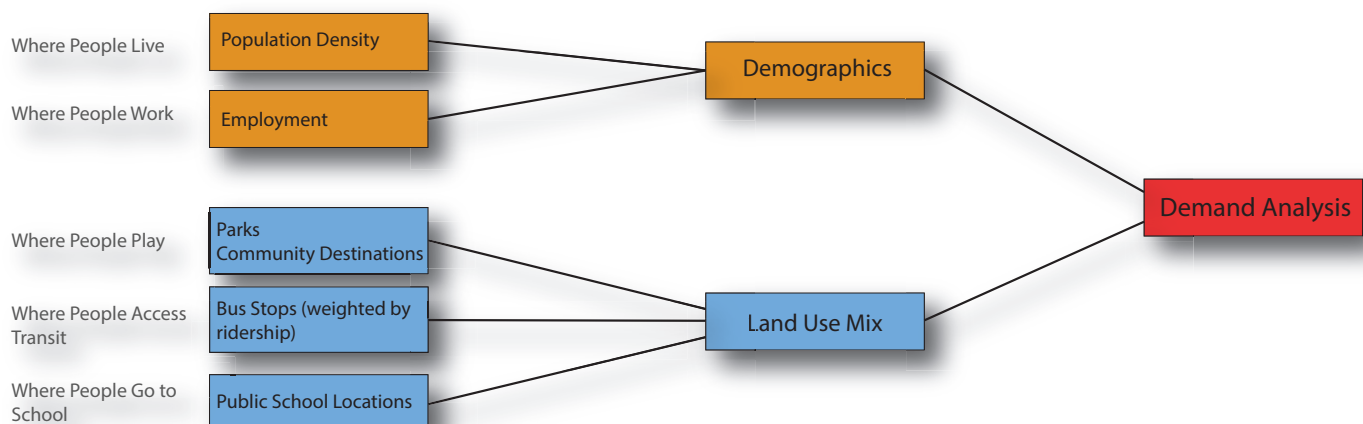
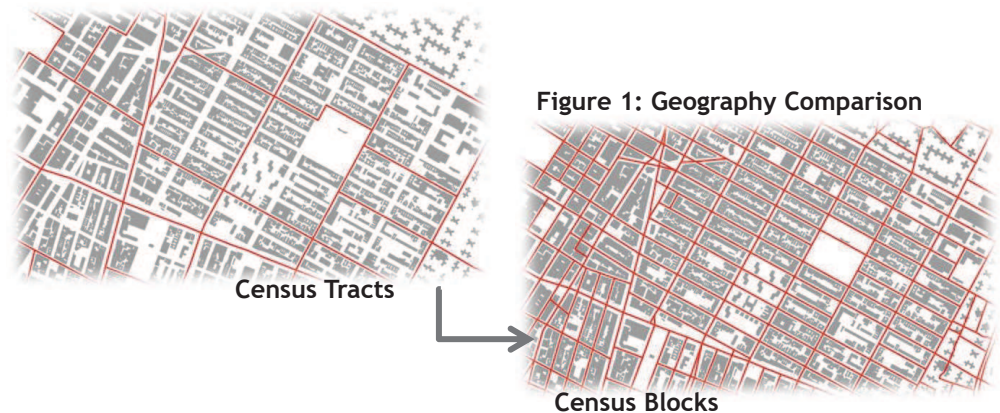


Figure 2 provides an overview of these inputs and how they come together to represent overall demand.

SCALE OF ANALYSIS

This model uses Census blocks as the consistent spatial reference point across all of the input data sources. Census blocks are the smallest scale at which data from the US Census is available. It is a smaller scale than the more common Census tract. This is important because it presents the most detailed picture possible. Figure 1 shows how geographically fine-grained Census blocks tend to be when compared with Census tracts.



SCORING METHOD

In this analysis, scores for each category were applied directly to individual Census blocks and aggregated to represent each block's estimated level of activity. Scores are represented either by a count of features that occur in a given block, or by a sliding scale of a given input's intensity.

Population density was determined by calculating the number of residents per square mile within each block, and employment concentration was determined using the total number of jobs within each block. In the case of Perinton and Fairport, employment concentration identifies both retail / commercial services and

Table 5: Model Input Summary

Category	Input	Source	Score Method	Score Range	Category Weight
LIVE	Population	2010 Census	Population density of block	0-5	x1
WORK	Employment	2011 Economic Census	Total employment in block	0-5	x1
LEARN	Schools	Town of Perinton	Public schools located in block	Count	x2
PLAY	Parks	Town of Perinton	Amount of block taken up by a park (higher score = more parkland)	0-2	x1
	Community Destinations	Town of Perinton	Public, non-religious destinations located in block	Count	x2
TRANSIT	Bus Stops	Rochester-Genesee Regional Transportation Authority	Bus stop reporting >5 average daily weekday riders located in block	Count	x1

employment centers like office parks and downtown districts. Each of these inputs utilize scales of 0 through 5.

Schools and community destinations were initially given a count of '1' for each facility located in a given Census block, and then the total figure was weighted by 2 to reflect their importance as activity generators.

Parks were accounted for by assigning the input a score of between 0 and 2, with 0 meaning that a given block did not encompass any parkland and 2 representing a block whose area consisted of more than 50% parkland.

Transit scores were calculated by giving a score of '1' for each bus stop within a block that reported greater than 5 average daily weekday riders. Ridership levels were taken from the Transit section of the Existing Conditions chapter.

Table 5 above breaks down the source, scoring method, and weighting of each input.

RESULTS

OVERVIEW

The results of the model are visualized in the map on the following page, with the darker red / orange hues indicating higher levels of activity and beige representing lower levels of activity.

In general, the highest levels of activity appear to be concentrated in:

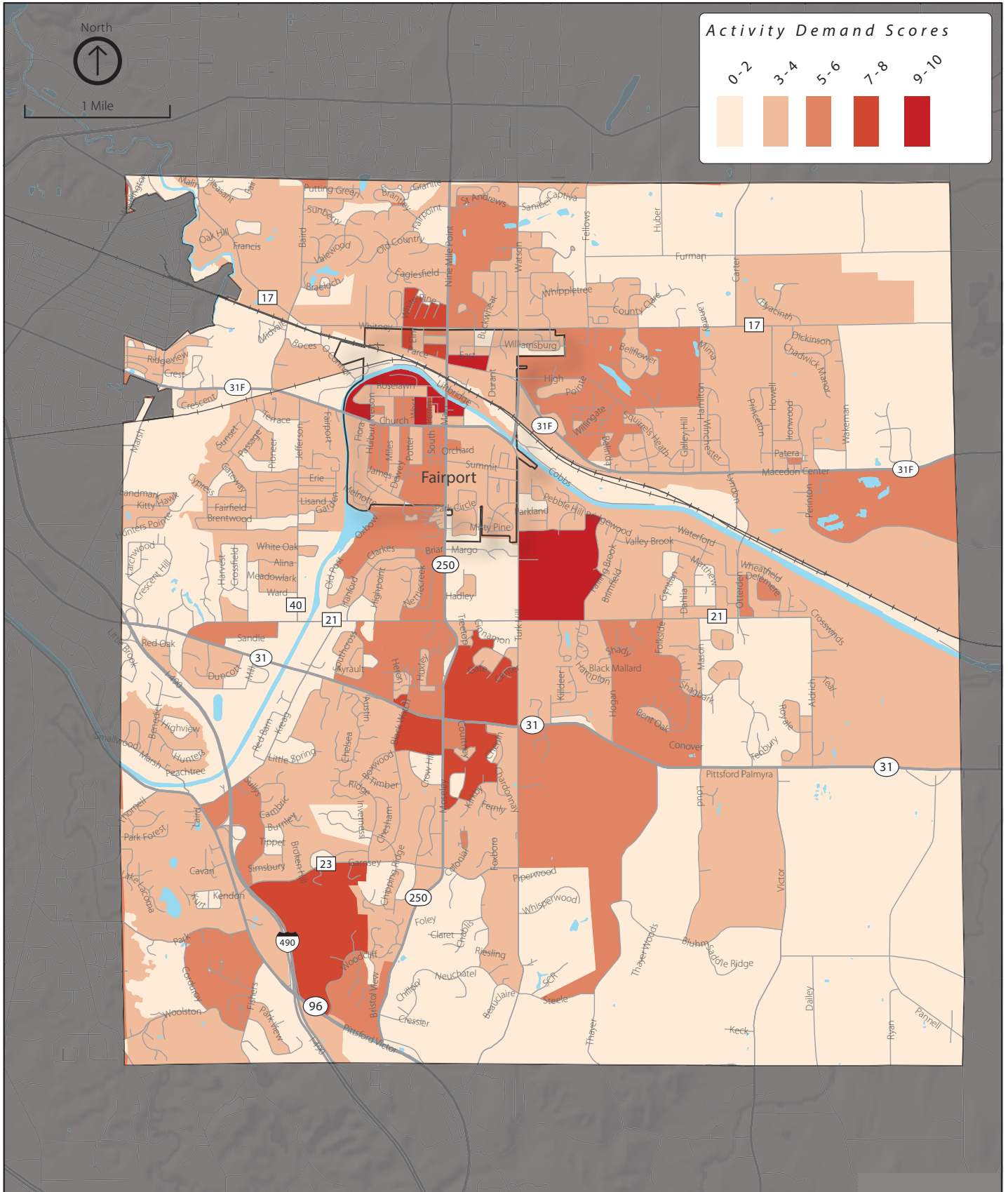
- **Downtown Fairport / north Fairport**
 - *Primary factors:* parks, community destinations, transit usage, employment, population density
- **Bushnell's Basin and environs**
 - *Primary factors:* employment, parks, and community destinations.
- **Perinton Community Center**
 - *Primary factors:* parks and community destinations
- **Hills/Perinton Square**
 - *Primary factors:* employment, population density, and community destinations

Although these areas show the heaviest concentrations, other notable centers of activity include:

- **The vicinity of NY 250 from NY 31 north to the Village of Fairport**
- **Hamlet of Egypt and environs**
- **Residential / employment centers west of the Village of Fairport**

While the overall levels of activity that this analysis has identified do not necessarily reflect levels of bicycle and pedestrian demand, they do provide valuable insights regarding parts of the town that experience heavy origin and destination traffic. The plan will take these apparent activity centers into account when considering bicycle and pedestrian recommendations and facility connectivity.





Map 13: Activity Demand Analysis





CHAPTER 3

RECOMMENDATIONS

TOWN OF PERINTON PEDESTRIAN & BICYCLE MASTER PLAN

RECOMMENDATIONS

There are a multitude of applicable roadway treatments that could enhance the bicycle and pedestrian environment in Perinton. When applied strategically throughout the community, the result is a cohesive network where pedestrians and bicyclist can feel safe and can reliably use walking and bicycling as a mode of transportation. While infrastructure improvements are important aspects to increasing walking and bicycling, these projects alone only have a limited impact. It is when infrastructure improvements are made, programs to educate and encourage are provided, **and** policies to enforce and support are implemented that a community truly becomes walkable and bikable.

The following chapter will describe different types of pedestrian and bicycle treatments and the locations where they are recommended within the Town of Perinton, as well as policy and program recommendations to support those improvements. A strategy for prioritization of these recommendations and developing a implementation plan is also provided.

1. Pedestrian Network
2. Traffic Calming
3. Bicycle Network
4. Trail Facilities
5. Policy Recommendations
6. Program Recommendations
7. Prioritization



Ayrault Road Rendering - Buffered Bike Lanes & High Visibility Crossings

3.1 PEDESTRIAN NETWORK

Ensuring the availability of a functional sidewalk network is key in allowing pedestrians to reach destinations without being exposed to vehicle traffic on linear stretches of their journey. The Town of Perinton has an extensive sidewalk network thanks to policies put in place in preceding decades, including the PED Zone policy discussed in chapter 1. That network can be enhanced in two key ways; increasing sidewalk connectivity and improving pedestrian crossings, both of which are described below.

SIDEWALK CONNECTIVITY

Sidewalk connectivity is essential, as pedestrians will often use a street regardless of whether or not facilities are provided. Filling key network gaps can reduce instances walking in the roadway and crossing the street outside of designated crosswalks. Those gaps are presented in Map 14, with more detail provided in Table 6 below.

Table 6: Recommended Sidewalk Connections (Order does not necessarily indicate priority.)

Segment Number	Description	Approx Length (feet)
1	Baird Rd. from north of Fairport Rd. to Whitney Rd. Connectivity to proposed Baird Rd. Mixed Use district. If railroad underpass is constructed, explore sidewalk connectivity.	1,160
2	Fills gaps in existing sidewalk along Watson Rd. from north of Whitney Farms Cir Rd. to Anglewood Ct.	2,170
3	Whitney Rd. from east of Hamilton Rd. to Wakeman Rd. Install on south side of Whitney Rd.	2,450
4	Hyacinth Ln. from northern terminus of Hyacinth Ln. to Whitney Rd.	2,510
5	Howell Rd. from Princeton Lane to Whitney Rd.	2,020
6	Fill gaps along Wakeman Rd. from Macedon Center Rd. to Whitney Rd. E. and on Macedon Center from Wakeman Rd. to Copper Beach Run.	2,760
7	Hamilton Rd. from Macedon Center Rd. to Whitney Rd., consider wider than 5-foot sidewalks where appropriate, such as adjacent to schools or popular community destinations	5,280
8	High St. Ext. from Willingate Rd. to Highland Quarter.	670
9	Macedon Center Rd., fill in gaps from Alpine Knoll to Hamilton Rd.	6,730
10	Turk Hill Rd., fill in gaps from Peppermill Dr. to Summit St.	2,760
11	Ayrault Rd. from Green Ridge Rd. to west of Thornfield Way.	6,610
12	Turk Hill Rd. between Ayrault Road and Route 31	3,780
13	Ayrault Rd. from Falling Brook Rd. to Dave Paddock Way (fill in gap on north side near Fairport High).	2,420
14	Mason Rd., fill in gaps from Conover Crossing to Ayrault Rd.	4,280
15	Aldrich Rd. from Piping Rock Run to Carmel Estates	4,700
16	Extend Thornell Rd. sidewalk west to Town Line	1,470
17	NY 96 from Kreag Rd. to north of I-490 ramps (also fill in gap under I-490 on Garnsey Rd.).	560
18	Fill in gap under I-490 on Garnsey Rd.	210
19	NY 250 from Woodcliff Dr. to Garnsey Rd.	3,290
20	Fishers Rd. from Route 96 south to Woolston Dr.	2,620
Approximate Total		58,450 feet 11.07 miles

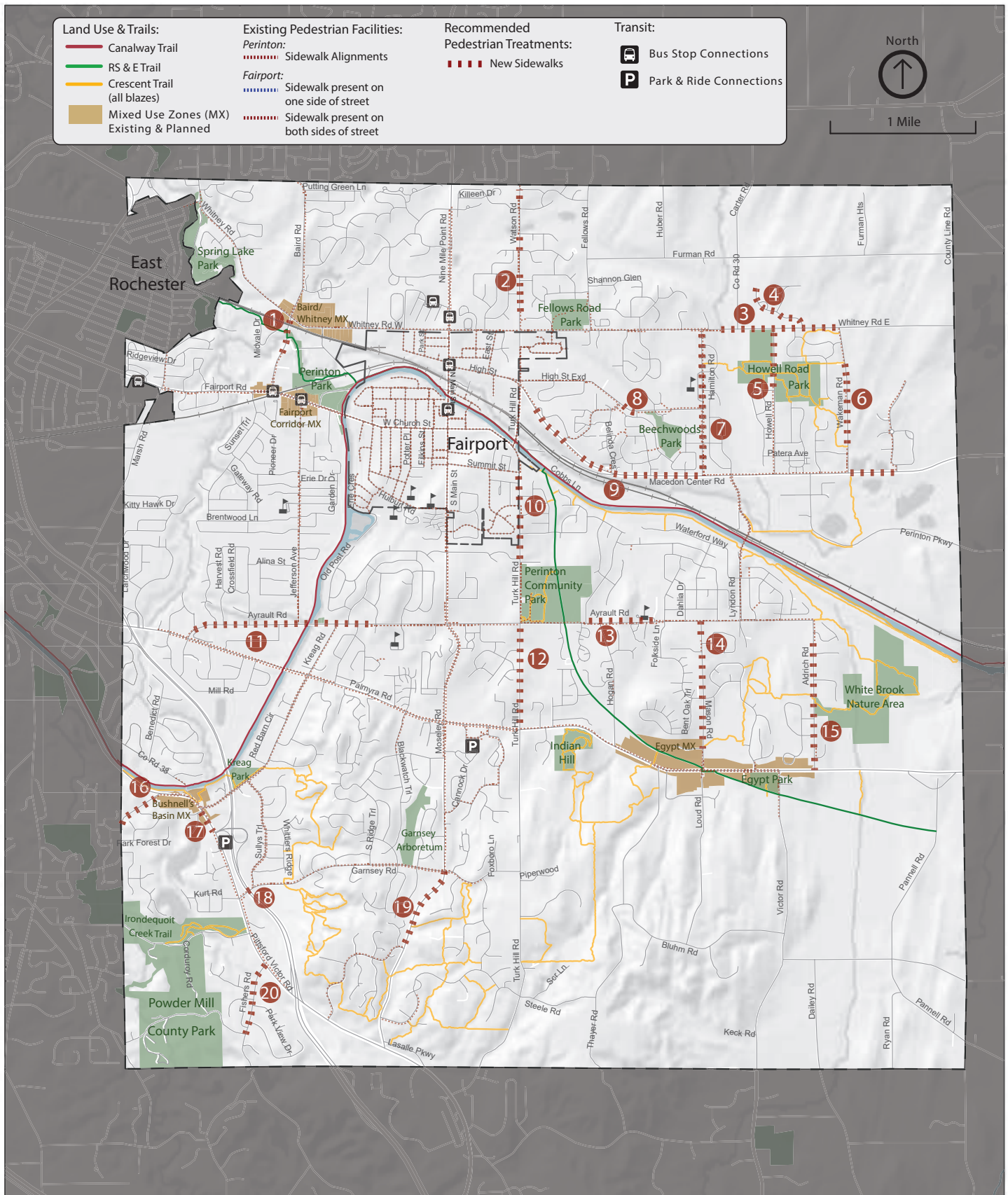
This section primarily recommends filling sidewalk gaps where they do not exist on either side of the road, but it is important to note that sidewalks on both sides of the street should be implemented wherever possible. If that is not possible, then crossing treatments should be pursued at locations where: 1) those sidewalk connections end mid-block and resume on the opposite side of the street; 2) where those locations experience heavy pedestrian traffic or correspond with significant destinations; and 3) where existing intersection crossings can be enhanced. These sidewalk recommendations were identified to fill gaps between existing sidewalks and/or key destinations.

DESIGN STANDARDS

When constructing sidewalks, it is important that they are built to maximize longevity and pedestrian comfort while minimizing environmental impacts. To this end, newly constructed sidewalks should be built with concrete and utilize proper construction techniques that take soil type and seasonal conditions into account, and also consider tree type



/ placement and overall sidewalk design (thickness, use of aggregate, sub-drainage, and reinforcement). For pedestrian comfort guidelines, ADA design standards should be followed in all cases, and the 2010 Fairport Road Corridor Design Guidelines and the 2001 NYS Route 31 / Hamlet of Egypt Transportation Study should be referenced as examples of progressive streetscape and sidewalk design standards that have already been recognized by the community.



Map 14: Sidewalk Facility Recommendations





PED ZONE POLICY

BACKGROUND

As discussed in chapter 1, to direct the development of the sidewalk network, the Town identified areas requiring developers to build sidewalks and/or contributed a sidewalk fund allowed the Town to build sidewalks. The Town of Perinton developed a map of Pedestrian Zones (i.e. PED Zones), which delineate where the sidewalk requirements apply. PED Zones are either linear (e.g. along State Routes 250, 31, or 96) or 4000' radius centered on a commercial, school, or public park area. Town leaders wanted to provide a connection between these activity centers and nearby residential areas.

"The Town of Perinton recognizes the need to encourage and facilitate the development of a system of sidewalks for the safety of its residents along its collector and arterial streets."
-Perinton Town Code, § 208-28 Sidewalks

Although there are some exceptions, the policy usually offers a developer an option. When a land owner wishes to develop property in a PED Zone, they are required to provide one of the following:

- A sidewalk or pedestrian way fronting the street
- A contribution to the sidewalk fund

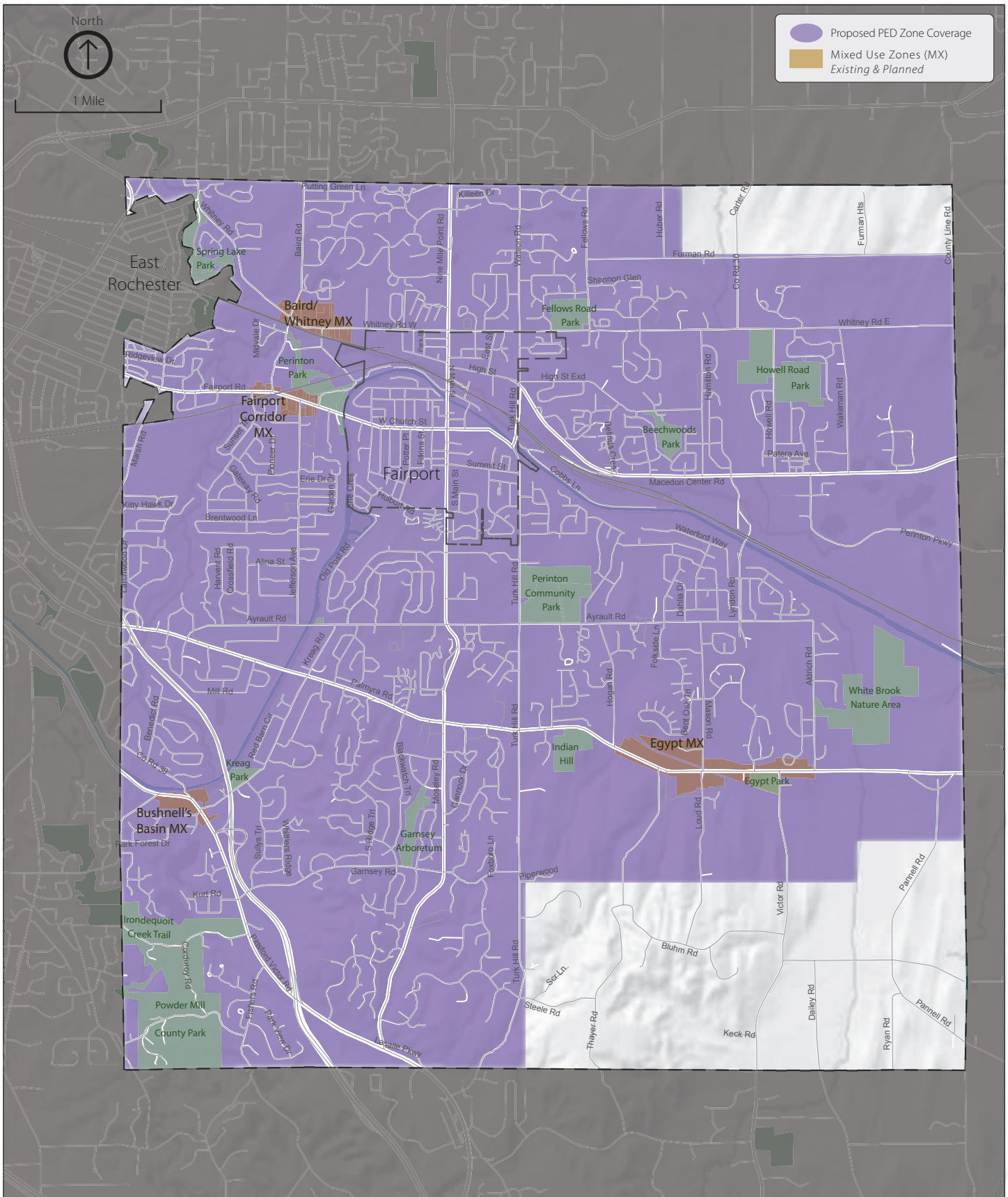
In many cases, the developer must provide an easement for the sidewalk. The sidewalk law authorizes the Planning Board to require that new sidewalks be built in areas outside the PED Zones "at its discretion". As a result of this sidewalk policy is that the Town of Perinton has had many sidewalks built by private development.

RECOMMENDATIONS

The PED Zone Policy has been instrumental in sidewalk development in Perinton. The Pedestrian and Bicycle Master Plan should examine this policy to conform more closely to the plan's recommendations. Suggested changes are outlined below and reflected in Map 15.

1. The PED Zones should be expanded to cover current sidewalk gaps in the Town and to encompass areas that are affected by this plan's active transportation recommendations (see Map 15). The use of the linear, centroid and buffer system is not consistent with the vision for future Mixed Use areas and leaves gaps in sidewalk coverage along important corridors. The proposed new PED district would simplify the process and encompass more of the Town in a way that is consistent with the active transportation plan. The proposed coverage may seem large, but this meshes with the desire for an enhanced walking and bicycling environment throughout the Town.
 2. The Town Board should prioritize use of the sidewalk fund to fill gaps in the current sidewalk network as identified in the plan. Prioritization should be given to potential sidewalks as shown in the recommended improvements map. The Town Board should utilize the policy as a tool to achieve the goals of this plan.
 3. The Town of Perinton Design Criteria should be reviewed (or amended) to require that all sidewalks or pedestrian ways be constructed of concrete with a sufficient subgrade. Although the cost to install concrete sidewalks is higher, concrete sidewalks offer better value over time. In addition, in order to minimize the effect of sidewalk heaving from nearby tree roots, steel reinforcement placed through the sidewalk pieces and between each piece should be included. This is an added expense though and should only be installed in sidewalks that are near trees. Any new street trees added near sidewalks should also be trees that grow their roots down, rather than out. See the 'Urban Street Trees' guidelines for further recommendations.
- During the site plan approval process, the Town should consistently focus on providing a system of safe and comfortable pedestrian movement in the Mixed Use areas. The streetscape recommendations from the 2010 Fairport Road Corridor Design Guidelines provide good examples of sidewalks and the overall development in all mixed-use areas.





Map 15: Proposed PED Zone Coverage



PEDESTRIAN INTERSECTION CROSSING TREATMENTS

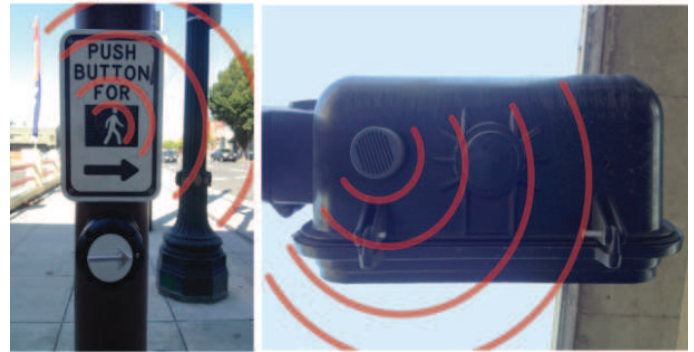
As discussed in prior chapters, street crossings are points of conflict between vehicle and pedestrian traffic that deserves special attention, particularly where crash rates are high. Vehicle volumes often outnumber pedestrian traffic in a community like Perinton, which increases the concern and need for pedestrian visibility and accommodations at intersections. This helps ensure they are as visible as possible to motorists and are aware of their own surroundings. Below are examples of effective intersection crossing recommendations.

TRAFFIC SIGNAL TIMING



Traffic signal lights must assume that pedestrians walk a certain speed to calculate the time needed to cross at a light, often 4 feet per second. However, children may require more time to cross an intersection than adults. The standard pedestrian walk time for pedestrians is 3.5 feet per second. Re-timing signals to 2.8 feet per second at crossings used by large numbers of students and seniors can ensure that everyone has time to cross the intersection safely. It may also be advisable to reduce the intervals between pedestrian crossing phases, as this can reduce jaywalking resulting from pedestrian frustration towards long wait times.

AUDIBLE SIGNALS



In addition to the visual cues provided by signal heads, audible signals provide guidance for vision-impaired pedestrians. None of these currently exist in Perinton. Different audible signals should be used for different crossing directions to inform the pedestrian which intersection leg has a walk signal. Sounds should be activated by the pedestrian push-button, to avoid resident annoyance towards audible signals that regularly go off at all hours of the day and night. These should only be installed in areas where there is an identified need, such as difficult crossing circumstances.

PEDESTRIAN COUNTDOWN HEADS



Pedestrian heads are the “walk/don’t walk” signal boxes instructing pedestrians at intersections. A walking person indicates that it is safe to cross the street, followed by a blinking red hand with a number counting down the seconds until the signal changes. Pedestrian countdown heads are currently being installed or are in place at all MCDOT controlled traffic signals that service pedestrians.

LEADING PEDESTRIAN INTERVAL



The Leading Pedestrian Interval (called “LPI”) gives pedestrians a walk signal a few seconds before motorists receive a green light, which makes pedestrians more visible to motorists making turns and prevents motorists from cutting off pedestrians before they get a chance to begin their crossing.



ADVANCE STOP LINES



Advance stop lines are a painted stripe in the roadway set back from the crosswalk, directing drivers to stop at least 4 feet before the crosswalk. On multi-lane roads advance stop lines increase pedestrian visibility for drivers in other travel lanes, especially important around schools, as students are harder to see than adults. Advance stop lines also discourage encroachment upon the crosswalk at a red light, leaving more free space for pedestrians to cross. This treatment is commonly used in Perinton already, and should remain a standard fixture at as many intersections as possible.

HIGH-VISIBILITY CROSSWALKS



For locations with higher pedestrian volumes or traffic speeds, crosswalk styles other than transverse crosswalks can be more visible to motorists. These high-visibility crosswalk styles include Continental, Ladder, or Zebra striping. Continental striping is pictured here, and it is used in many locations in New York State.

CURB EXTENSIONS



Curb extensions shorten pedestrian crossing distance, increase visibility, and encourage turning vehicles to slow down. They can be used at any marked crossing where the parking lane can absorb the extension of the curb.

Curb extensions may be built with drainage channels that do not impact existing stormwater flow, or with integrated bioswales that filter stormwater and facilitate infiltration. Curb extensions should not encroach on bike lanes.

ADA COMPLIANT CURB RAMP



Curb ramps allow all users, including people in wheelchairs and using mobility aids, to make the transition from the street to the sidewalk. Truncated domes on curb ramps help people with sight impairments find the safest place to cross the street. These types of curb ramps should be implemented at all new crossings and whenever existing crossings are reconstructed.

MEDIAN REFUGE ISLANDS



Median refuge islands are protected spaces placed in the center of the street to facilitate bicycle and pedestrian crossings. Crossings of two-way streets are simplified by allowing bicyclists and pedestrians to navigate only one direction of traffic at a time. This treatment is most useful on high-volume multi-lane roadways that otherwise would be difficult to cross. Recommended minimum width for pedestrian refuge islands is 6 feet.



PEDESTRIAN MID-BLOCK CROSSING TREATMENTS

In Perinton, there is often a great distance between intersection crossings that are signalized or controlled by stop signs. Installing or enhancing crossing treatments at mid-block locations could therefore be beneficial, particularly at places like trail crossings, schools, or transit stops. These accommodations are also useful at locations where present at locations where the available sidewalk switches from one side of the road to the other, forcing pedestrians to cross.

IN-STREET YIELD TO PEDESTRIAN SIGN



In-street pedestrian crossing signs reinforce the presence of crosswalks and remind motorists of their legal obligation to yield for pedestrians in marked or unmarked crosswalks. This signage is often placed at high-volume pedestrian crossings that are not signalized. On streets with multiple lanes in each direction, additional treatments such as median islands or active warning beacons may be more appropriate. These may only be applied on streets with speeds restricted to 30 miles per hour or less.

ADVANCE YIELD LINES



Advance yield lines are similar to the advance stop lines described earlier, except they are used for crosswalks at mid-block crossings. Often called “shark teeth,” these advance yield lines are a row of white isosceles triangles at least four feet away from the crosswalk. Setting these markings further back on multi-lane roadways can reduce the possibility of yielding drivers in one lane obstructing the visibility of the crosswalk for drivers in other lanes.

RECTANGULAR RAPID FLASH BEACONS



Rectangular Rapid Flash Beacons (RRFB) are user actuated illuminated devices designed to increase motor vehicle yielding compliance at crossings of multi-lane or high volume roadways. Paired with pedestrian crossing signs, they provide a high-visibility signal of pedestrians in the crosswalk.

HAWK SIGNALS



An emerging signal technique is called HAWK (High-Intensity Activated crossWALK) beacon. It stops vehicle traffic when activated by a pedestrian or bicyclist (either by a push button or in-pavement loop detector). This technique is useful at trail/roadway crossings and other intersections experiencing frequent pedestrian crossing movements. Strategically-placed HAWK signals could be particularly useful in Perinton given the length between intersections and numerous trail crossing points.



TACTILE YIELD CUES



Tactile cues like raised crosswalks (above) and textured warning stripes (below) can be effective in slowing down motorists at or directly prior to unsignalized mid-block crossings. Textured warning stripes cause a minor vibration when they are driven over to warn motorists of an upcoming conflict area, although these vibrations are less intense and more bicycle-friendly than treatments like rumble strips that are commonly placed on road shoulders. Raised crosswalks combine a crosswalk with a speed hump, which forces drivers to slow down prior to a crossing regardless of whether any pedestrian traffic is visible at the time. While effective on lower volume roads, raised crosswalks and speed humps are not recommended for higher volume roadways.

These treatments could be effective in Perinton given the many long stretches of roadway that do not contain any crossings or other driver stimuli, and could serve to keep motorists alert in situations where low activity levels might cause a lapse in attention. Raised crosswalks will require careful consideration due to the winter conditions in Perinton and the potential impact on plowing operations.





PEDESTRIAN CROSSING RECOMMENDATIONS

A safe and comfortable pedestrian network requires not only a continuous sidewalk, but also the provision of safety-enhancing facilities in areas that would benefit from them. Different types of pedestrian treatments were discussed earlier in this chapter; Map 16 and Table 7 outline priority areas and which treatments are recommended. Map 16 provides overlays of bicycle and pedestrian crash density and transit ridership data, which was used in siting recommendations.

Table 7: Recommended Crossing Treatments (Order does not necessarily indicate priority.)

Crossing	Description	Recommended Treatment(s)
A	Baird Rd. & Whitney Rd. - Improvements to support proposed mixed use district.	High visibility crosswalks (one already present), leading pedestrian interval, pedestrian countdown heads (one already present)**
B	Whitney Rd. & O'Connor Rd. - Improvements to support proposed mixed use district, also moderate crash density at site.	ADA curb ramps, high visibility crosswalks, advance yield lines
C	Whitney Rd. & Park St. - Enhance safety of high pedestrian volume at crossing.	RRFB, advanced yield lines
D*	High St. & Main St. - High crash density at site, high transit activity.	Leading pedestrian interval, audible signal, pedestrian countdown heads, high visibility crosswalks, transit enhancements**
E	Fairport Rd. & Baird Rd. - Support proposed mixed use district, respond to moderate crash density and relatively high transit activity.	High visibility crosswalks, leading pedestrian intervals, transit enhancements (reference 2010 Fairport Road Design Guidelines)**
F	Fairport Rd. & O'Connor Rd. / Jefferson Rd. - Support proposed mixed use district, respond to high crash density at intersection.	High visibility crosswalks, leading pedestrian intervals (reference 2010 Fairport Road Design Guidelines)**
G	Turk Hill Rd. & E. Church St. - Improve pedestrian crossing at bridge.	Leading pedestrian interval and/or restrict right turns on red corresponding with walk signal for the southbound Turk Hill approach.**
H	Turk Hill Rd. & Winding Brook Dr. - Treatments for heavily used mid-block crossing to / from sidewalk facilities.	High visibility crosswalk and RRFB and in-lane tickmarks
I	Ayrault Rd. at Martha Brown Middle School - Enhance safety of school crossing and alternate route to Fairport.	High visibility crosswalk, RRFB and construct pedestrian landing area on north-west corner of intersection
J	Ayrault Rd. at RS&E Trail crossing - Improve crossing safety	High visibility crosswalk, RRFB
K	Ayrault Rd. at Fairport High School - Improve school crossing safety	High visibility crosswalk, audible signal, leading pedestrian interval, pedestrian countdown heads**
M	Marsh Rd. Bridge - Provide safer pedestrian right-of-way and approach - when bridge is replaced	High visibility crosswalk, leading pedestrian interval, coordinate with bridge project, install temporary flexible delineator posts along bridge during summer months**
N	NY 96 & Kreag Rd. - Support proposed mixed use district and address moderate crash density	High visibility crosswalks, leading pedestrian interval**
O	NY 31 & Kreag Rd. - Provide safer crossing, and ability to cross intersection in stages	High visibility crosswalks, leading pedestrian intervals and minimum 5' pedestrian refuge islands on Route 31 approaches**
P	NY 31 & NY 250 - Improve safety at high crash density intersection that also contains high levels of transit use	High visibility crosswalks, leading pedestrian intervals and minimum 5' pedestrian refuge islands on Route 31 approaches**

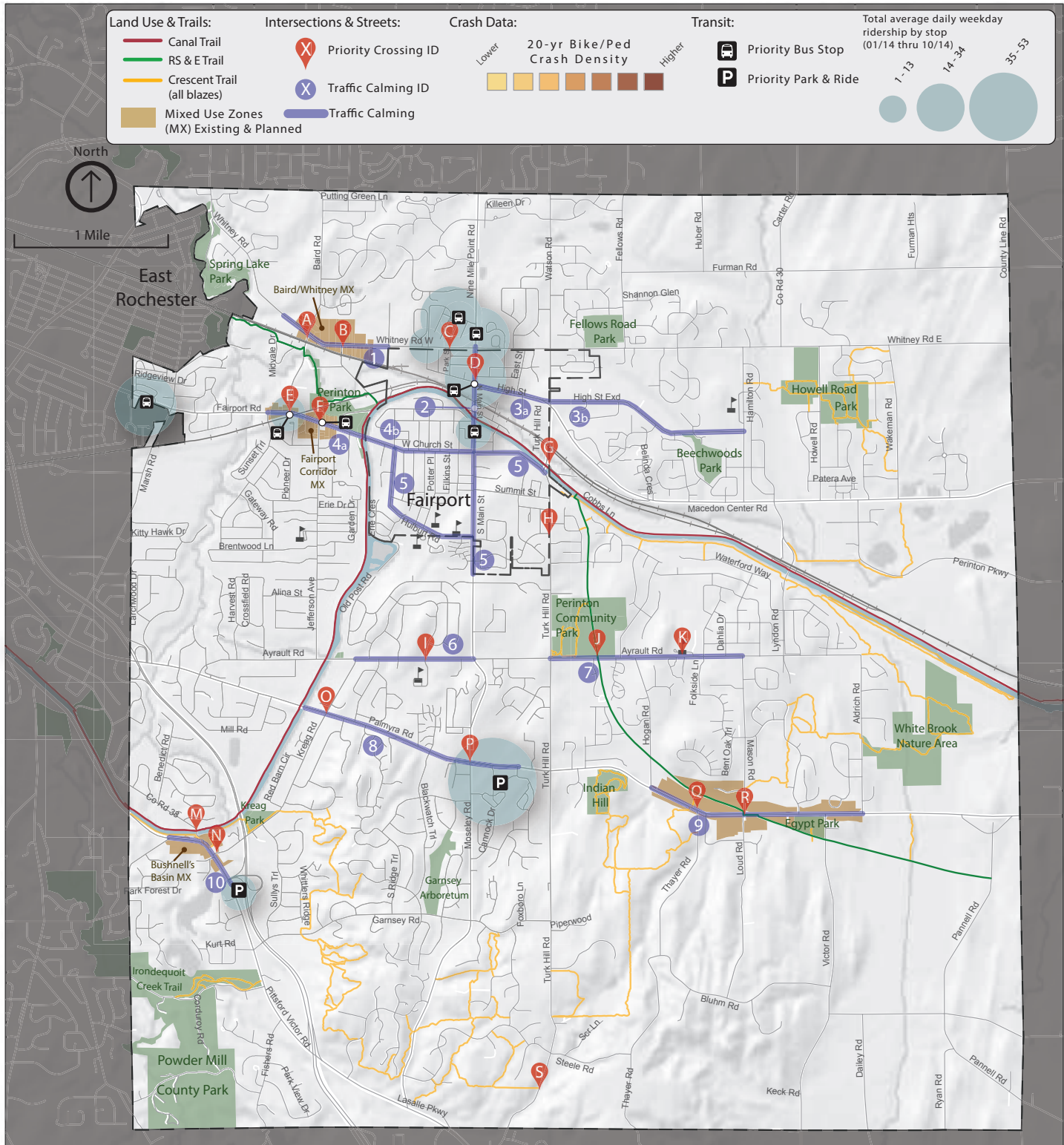
*suggested improvement for the Village of Fairport

**leading pedestrian interval signals require further engineering evaluation



(Table 7 Continued)

Crossing	Description	Recommended Treatment(s)
Q	NY 31 & Thayer Rd. - Provide safer Crescent Trail crossing and support mixed use district.	Median refuge island and high visibility crosswalk on west approach of NY 31
R	NY 31 & Mason Rd. / Loud Rd. - Support mixed use district	High visibility crosswalks and median refuge island
S	Turk Hill Rd. at Crescent Trail - Enable safer trail crossing to proposed sidewalk	High visibility crosswalks, in-lane tic marks, and RRFB



Map 16: Crossing Recommendations



3.2 TRAFFIC CALMING

Speeding is a problem in many communities, often regardless of efforts to reduce the speed limit since the speed a roadway is designed for is sometimes far higher than its speed limit. High roadway speeds not only impact bicyclists attempting to share that roadway space, but also affects pedestrian safety, vehicle safety, and neighborhood quality of life. Traffic calming techniques can also provide visual queues to drivers when entering an area with a reduced speed limit, such as the Village of Fairport or Hamlets of Bushnell's Basin or Egypt.

There are a variety of methods to reduce vehicle speeds. Horizontal and vertical deflections are elements installed at a point along the roadway, forcing motorists to slow down to navigate each treatment. Lane narrowing (described in section 4.3) is a linear treatment that has also been found to have an effect on reducing vehicle speeds. Traffic calming features will often result in a reduction of cut-through traffic since this route tends to no longer be quicker than the less direct arterial or collector roadways. Traffic calming and volume reducing treatments can be employed with shared lane markings to produce the bicycle boulevard treatment, described in Section 4.3. Additional measures, such as pavement markings and textured shoulders, are described below.

HORIZONTAL AND VERTICAL DEFLECTION

Horizontal traffic calming devices cause drivers to slow down by constricting the roadway space or by requiring careful maneuvering. Vertical speed control measures are composed of slight rises in the pavement, which cause motorists and bicyclists to slow down to travel over. Temporary speed humps can be used to avoid winter maintenance.

TRANSVERSE PAVEMENT MARKINGS

In-lane tic marks are increasingly being used as a method of warning motorists that a conflict area is approaching. In the case of this image, drivers are being made aware of an approaching traffic circle. The tic marks function by providing numerous visual references (tics) situated very close to the vehicle, increasing the perceived speed of the vehicle and ideally causing the driver to reduce his or her speed.

Traffic Circle



Traffic Circles reduce speeds through intersections



Curb Extension



Curb extensions increase turn radii and reduce turning speed



Chicane



Chicanes deflect vehicles and reduce mid-block speeds



Choker



Chokers create pinch-points that reduce speeds mid-block



Speed Hump



Speed humps require vehicle to slow down to pass over them



TEXTURED OR COLOR CONTRASTED SHOULDERS

A textured shoulder is a visual cue reminiscent of a sidewalk or pedestrian crossing treatment, which can be used as a "gateway" treatment to make motorists aware that they are approaching a town center or hamlet that generally contains higher levels of pedestrian and bicycle traffic. The shoulder can still be used as a pullover spot or by bicyclists/pedestrians, but the color and texture has the effect of slowing down vehicle traffic. Color Contrasted Shoulders can also produce a similar effect at lower costs.



TRAFFIC CALMING RECOMMENDATIONS

Map 16 and Table 8 below outline the priority areas for traffic calming treatments. These priority areas were identified for a variety of reasons, including existing crash data, comments regarding high speeds, areas of speed reductions, and areas of high pedestrian and bicycle activity.

Table 8: Traffic Calming Recommendations (Order does not necessarily indicate priority.)

Calming Area	Description	Recommended Treatment(s)
1	Whitney Rd. - Support proposed mixed use district.	Color-contrast shoulders directly prior to and within mixed-use district (where possible)
2*	Main St. from Whitney Rd. to Fairport Lift Bridge - Very high crash density along corridor, coupled with high transit usage.	Strategic in-lane tic marks, Rectangular Rapid Flash Beacons (RRFB) near transit stops and unsignalized crossings
3a*	High Street Extension from Main St. to Turk Hill Rd. - Support proposed shared bicycle lane facility (discussed in next section), moderate crash density.	Consider reducing speed limit within Fairport, and include color-contrast shoulders where possible
3b	High Street Extension from Turk Hill Rd. to Hamilton Rd. - Support proposed shared bicycle lane facility (discussed in next section), moderate crash density.	Consider reducing speed limit approaching Fairport, and include color-contrast shoulders
4a	Sunset Trail to Canal - Support mixed use corridor, address high crash density and high transit usage	Speed reduction from Sunset Trail to Canal, and in-lane tic mark.
4b*	Canal to Turk Hill Rd. - Support mixed use corridor, address high crash density and high transit usage	In-lane tic marks, tactile yield cues
5*	Fairport loop and major roads (Church St., Main St.) - Enhance traffic safety in village and address moderate-to-high crash densities	Color-contrast shoulders on W Church St. near bridge, tactile yield cues near schools, RRFBs or in-street yield to pedestrian signs at unsignalized crossings
6	Ayrault Rd. from Kreag Rd. to Moseley Rd. - Enhance safety at Martha Brown Middle School. Modest crash density in part of segment.	Strategic in-lane tic marks, enhance current school zone speed limit by painting speed limit on pavement
7	Ayrault Rd. from Turk Hill Rd. to Mason Rd. - Enhance safety at Center Park, RS&E Trail crossing area, and Fairport High School. Modest crash density in part of segment.	Strategic in-lane tic marks, enhance current school zone speed limit by painting speed limit on pavement
8	NY 31 from Erie Canal to Bardney Circle - High crash density area and high park-and-ride transit activity	Reduce turn lane widths and widen shoulders, At strategic intersections add pedestrian refuge islands
9	NY 31 from Hogan Rd. to Aldrich Rd. - Support proposed mixed use district	Color-contrast shoulders throughout, consider narrowing center turn lane where bicycle facilities are recommended (discussed in next section).
10	NY 96 from Thornell Rd. to I-490 ramps - Support proposed mixed use district and address moderate crash density	Color-contrast shoulders throughout

*suggested improvement for the Village of Fairport





3.3 BICYCLE NETWORK

There are no 'hard and fast' rules for determining the most appropriate type of bicycle facility for a particular location. Roadway speeds, volumes, right-of-way width, presence of parking, adjacent land uses, and expected bicycle user types are all critical elements of this decision. The facility types and recommendations described in this section are intended to be used as a guide toward implementation of a complete bicycle network. A priority network and a range of appropriate facility types for other roadways have been identified.

TYPES OF BICYCLISTS

It is important to consider bicyclists of all skill levels when implementing a bicycle facility. Bicyclist skill level greatly influences expected speeds and behavior, both in separated bikeways and on shared roadways. Bicycle infrastructure should accommodate as many user types as possible, with decisions for separate or parallel facilities based on providing a comfortable experience for the greatest number of people.

The bicycle planning and engineering professions currently use several systems to classify the population, which can assist in understanding the characteristics and infrastructure preferences of different bicyclists. The most conventional framework classifies the "design cyclist" as *Advanced, Basic, or Child*.¹⁶ A more detailed understanding of the US population as a whole is illustrated in the figure below. Developed by planners in Portland, OR and supported by data collected nationally since 2005, this classification provides the following alternative categories to address varying attitudes towards bicycling in the US.¹⁷ Although a scientific poll has not been conducted to categorize comfort levels of bicyclists locally, the demographic profile of the community, survey responses, and anecdotal evidence suggests that this categorization is also applicable to the Town of Perinton.

- **Strong and Fearless (approximately 1% of population)** – Characterized by bicyclists that will typically ride anywhere regardless of roadway conditions or weather. These bicyclists can ride faster than other user types, prefer direct routes and will typically choose roadway connections — even if shared with vehicles — over separate bicycle facilities such as shared use paths.
- **Enthusied and Confident (5-10% of population)** - This user group encompasses bicyclists who are fairly comfortable riding on all types of bikeways but usually choose low traffic streets or shared use paths when travelling.
- **Interested but Concerned (approximately 60% of population)** – This user type comprises the bulk of the cycling population and represents bicyclists who typically only ride a bicycle on low traffic streets or multi-use trails under favorable weather conditions. These bicyclists perceive significant barriers to their increased use of cycling, specifically traffic and other safety issues. These people may become "Enthusied & Confident" with encouragement, education and experience.
- **No Way, No How (approximately 30% of population)** – Persons in this category are not experienced bicyclists, and perceive severe safety issues with riding in traffic. Some people in this group may eventually become more regular cyclists with time and education. A significant portion of these people will not ride a bicycle under any circumstances. These bicyclists may deviate from a more direct route in favor of a preferred facility type. This group includes all kinds of bicyclists such as commuters, recreationalists, racers and utilitarian bicyclists.

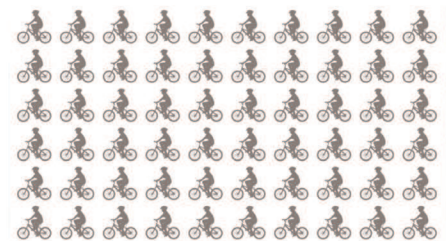
Strong and Fearless (<1%)



Enthusied and Confident (5%)



Interested but Concerned (60%)



No Way, No How (35%)



¹⁶ FHWA, Selecting Roadway Design Treatments to Accommodate Bicycles, Publication No. FHWA-RD-92-073. 1994

¹⁷ Roger Geller, City of Portland Bureau of Transportation, Four Types of Cyclists. 2009
<http://www.portlandonline.com/transportation/index.cfm?&a=237507>



GENERAL ROADWAY FACILITIES AND TREATMENTS

The following sequences illustrate a range of bicycle facilities applicable to various roadway environments, based on the roadway type and desired degree of separation. While a priority bicycle network is identified in this section, this does not cover every roadway within the Town of Perinton.

This sequence should be used to determine the appropriate level of pedestrian and bicycle accommodation as streets are repaved and reconstructed. From left to right, each roadway type provides a range of options from good to best. The level of separation for all roadway users increases with each step. The type of roadway user should also be considered, such as age and experience. On local neighborhood streets with very low traffic volumes and low vehicle speeds, shared lane markings might be sufficient but a preference would be for a bike boulevard treatment or bike lanes and sidewalks on one side of the street.

Engineering judgment, traffic studies, previous municipal planning efforts, community input and local context should be used to refine criteria when developing bicycle facility recommendations for a particular street. In some corridors, it may be desirable to construct facilities to a higher level of treatment than those recommended in order to enhance user safety and comfort. In other cases, existing and/or future motor vehicle speeds and volumes may not justify a higher level of separation, and a less intensive treatment may be acceptable. These treatment recommendations should be used as a guide.

Interested but Concerned PROTECTED FACILITY



DESIGNING FACILITIES FOR THE RANGE OF BICYCLISTS

Different types of bicycle facilities are more appropriate for different types of bicyclists. In general, the more protected a facility is from motor vehicle traffic, the more comfortable the facility will be for the majority of riders. Separated or designated facilities should be provided where there is excess pavement width available. This chart displays the range of facility options that are recommended in this plan that relate to the type of bicyclist who would benefit from their implementation. The facilities are cumulative, in that a 'strong and fearless' type rider would be comfortable on any 'interested but concerned' type facility. A complete bicycle network will include a variety of bicycle facilities but will include connectivity between facilities for the "interested but concerned" group.

Interested but Concerned BICYCLE BOULEVARD



Enthusied and Confident BIKE LANE



Strong and Fearless SHARED LANE MARKINGS/STRIPED SHOULDERS

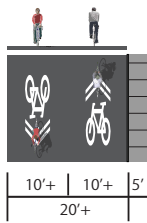


Local Neighborhood Street

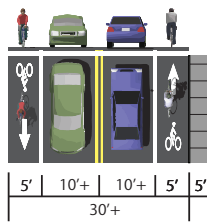
Shared Lane Markings



Shared Lane Markings + Add Sidewalk

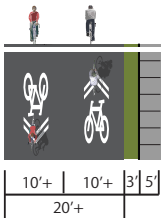


Marked Bike Lanes + Add Sidewalk

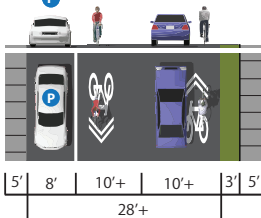


Local Village Street

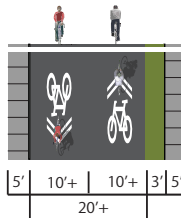
Shared Lane Markings + Existing Sidewalk



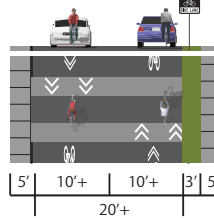
Shared Lane Markings + Onstreet Parking



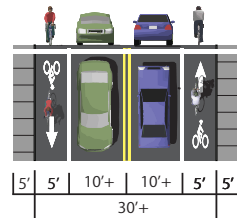
Shared Lane Markings + Second Sidewalk



Bicycle Boulevard + Second Sidewalk

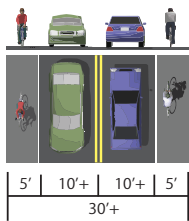


Marked Bike Lanes + Second Sidewalk

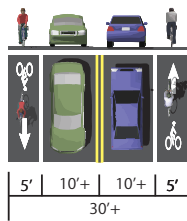


Rural Residential Road

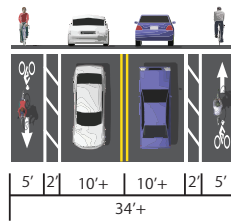
Wider Shoulders



Marked Bike Lanes

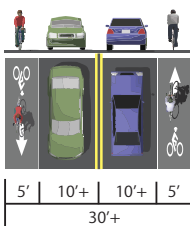


Buffered Bike Lanes

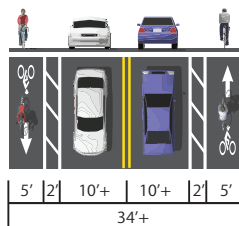


Rural County Road

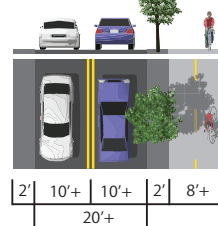
Wider Shoulders



Wide Shoulder With Buffer

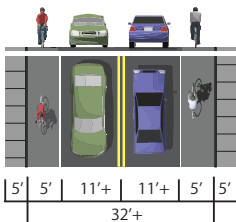


Wide Shoulder With Buffer + Side Path

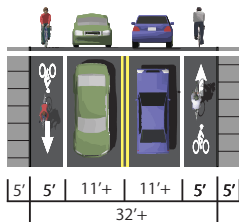


Collector

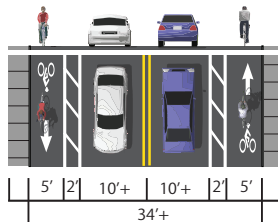
Sidewalks + Wider Shoulders



Marked Bike Lanes

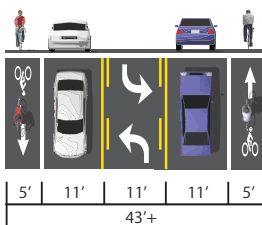


Buffered Bike Lanes

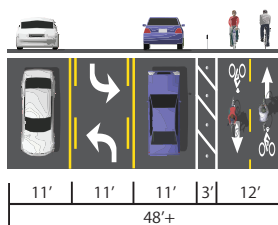


Arterial

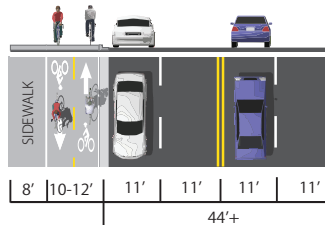
Marked Bicycle Lanes With Center Turn Lane



Two-Way Buffered Cycle Track With Center Turn Lane



Two-Way Raised Cycle Track



Shoulders can be left unmarked or marked with bike lane symbols.

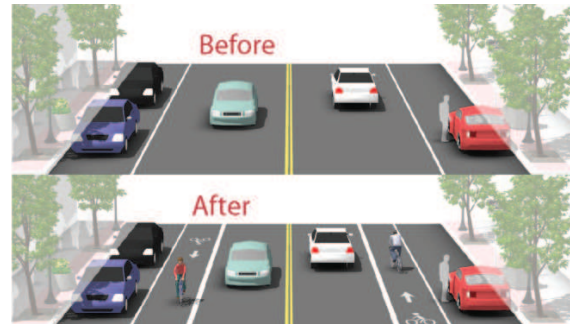
BICYCLE FACILITY TYPES

The range of bicycle facility types are described below:

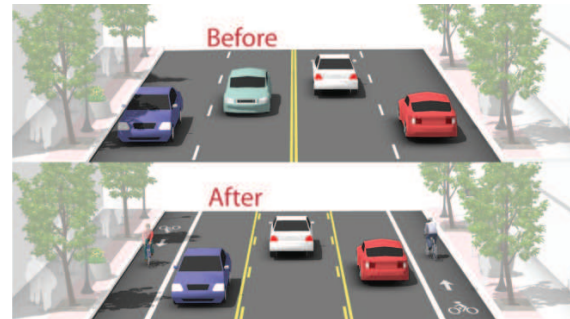
ROAD DIETS & SEPARATED BICYCLE LANES

The purpose of road diets and lane narrowing are to slow traffic and/or to provide accommodations for cyclists or pedestrians that did not previously exist. Typically, road diets are implemented on streets that are “oversized” for their present purpose. For example, some roads may have lanes that are wider than necessary, or even have too many lanes altogether. Roads where current traffic counts indicate that road space is underutilized and/or roads where excessive lane width encourage higher speeds than desired are two examples of types of roadways that are prime candidates for lane narrowings or lane reductions. Capacity must first be analyzed before a road diet can take place, in order to ensure a sufficient level of service can be maintained. Through the implementation of road-diets, space within the roadway can be made available for the installation of dedicated bicycle facilities.

Example of Road-Diet Through Lane Narrowing

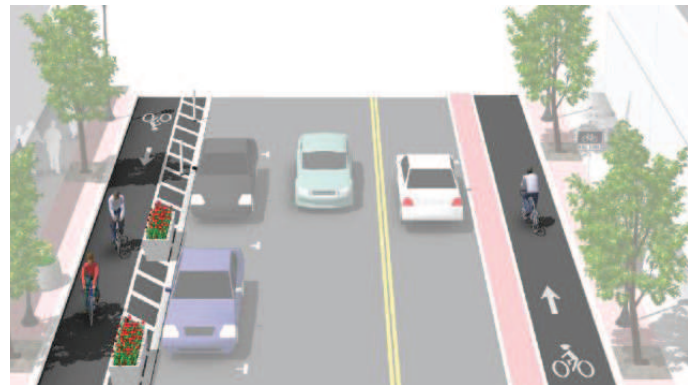


Example of Road-Diet Through Lane Reduction



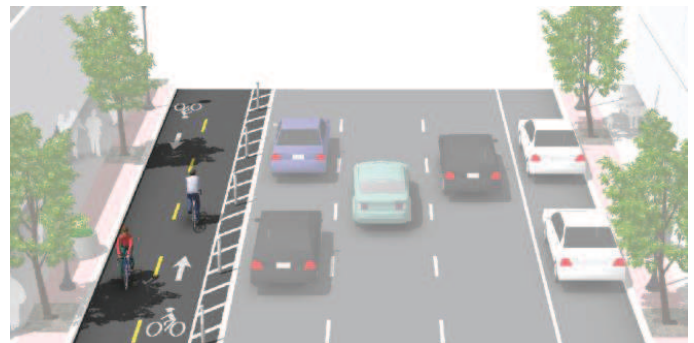
ONE-WAY SEPARATED BICYCLE LANES (CYCLE TRACK)

One-way cycle tracks are physically separated from motor traffic and distinct from the sidewalk. Cycle tracks are either raised or at street level and use a variety of elements for physical protection from passing traffic. They are typically implemented on roadways with higher vehicle volumes and/or speeds. Driveways and minor street crossings are a unique challenge for cycle tracks and require extra consideration.



TWO-WAY SEPARATED BICYCLE LANES (CYCLE TRACK)

Two-way cycle tracks are physically separated cycle tracks that allow bicycle movement in both directions on one side of the road. Two-way cycle tracks require extra consideration at all crossings, both roadway and driveway crossings.



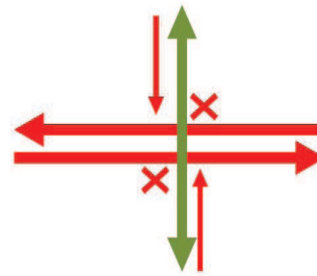


BICYCLE BOULEVARD

Bicycle boulevards are low-volume, low-speed streets modified to enhance bicyclist comfort by using treatments such as signage, pavement markings, traffic calming and/or traffic reduction, and intersection modifications. These treatments allow through movements of bicyclists while discouraging similar through-trips by non-local motorized traffic. Streets should contain a minimum of three traffic calming enhancements if they are to be considered bicycle boulevards. Traffic volumes should also be lower than 3000 vehicles per day. There are several strategies to reduce volumes along bicycle boulevards.

STRATEGIES FOR REDUCING VOLUME

Maintaining motor vehicle volumes below 3,000 AADT (annual average daily traffic), where 1,000 - 1,500 AADT is preferred, significantly improves bicyclists' comfort. To manage volume, physical or operational measures can be taken on routes that have been identified as a bicycle boulevard. These volume management elements also provide an opportunity for landscaping, stormwater management, and other pedestrian and bicycle supportive amenities.



Volume management tactics help to divert traffic away from neighborhood bikeways, reducing volumes along the bikeway.



Traffic Restriction Signage:
The most straightforward traffic volume reduction strategy is signage restricting motor vehicle through movement.



Stop Sign Placement:
At minor intersections, stop signs on bicycle boulevards should be placed on side street approaches in a way that favors through traffic on the bicycle boulevard.



Choker Entrances:
Choker entrances are used to reduce motor vehicle volumes by restricting/constraining vehicle passage while allowing full bicycle passage.



Median Traffic Diverters:
Median diverters restrict through motor vehicle movements while providing a refuge for bicyclists to cross in two stages.

Table 10: Bicycle Boulevard Recommendations (Order does not necessarily indicate priority.)

Segment	Description
1	Loop around Jefferson Avenue Elementary
2*	Loop within Village of Fairport
3	Connection from NY 31 to "Powerline Trail"
4	Bicycle boulevard / trail combination - connection from Garnsey Rd. to Village of Fairport
5	Connection from "Powerline Trail" to Lyndon Rd.
6	Connection from Egypt MX to Ayrault Rd. / Fairport High School

*suggested improvement for the Village of Fairport

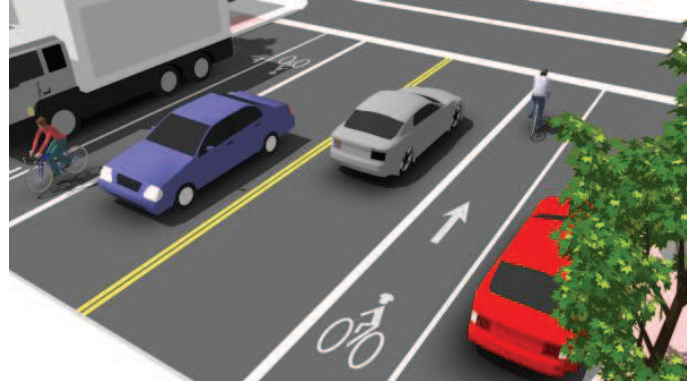


BICYCLE LANES

Bicycle lanes have proven to be a desirable treatment on roadways that are too narrow to accommodate a separated bike lane, and where vehicle speeds and volumes are too high for a shared lane treatment.

BICYCLE LANES

Bicycle lanes designate an exclusive space for bicyclists with pavement markings and signage. The bicycle lane is located adjacent to motor vehicle travel lanes and bicyclists ride in the same direction as motor vehicle traffic. Bicycle lanes are typically on the right side of the street (on a two-way street), between the adjacent travel lane and curb, road edge or parking lane.



BUFFERED BICYCLE LANES

Buffered bicycle lanes are conventional bicycle lanes paired with a designated buffer space, separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.



Table 11: Bicycle Lane Recommendations (*Order does not necessarily indicate priority.*)

Segment	Description
1	Nine Mile Point Rd. from Whitney Rd. to Perinton Town Line
2*	W Church St. from Erie Canal Trail to Turk Hill Rd. - connect Fairport Rd. MX to Village of Fairport
3*	NY 250 from W. Church St. to Route 96
4	NY 31 / Ayrault Rd. from Crescent Hill Rd. to Lyndon Rd. - incorporate moving part of State Bicycle Route to Ayrault Rd., install buffered bicycle lanes where feasible
5	NY 31 from Mason Rd. to Macedon line - connection through Egypt MX (support bicycle lanes from past plan)

*suggested improvement for the Village of Fairport or includes a portion of the Village of Fairport



SHOULDERS/SIGNED ROUTES

Shoulders of at least four feet wide should be maintained the length of each of these roadways, including at intersections. Where right turn lanes exist, bike lanes should be created between the through and right turn lanes. Shoulders should be maintained as part of the travelway. Bike route signs can be added to these routes and in the future, bike lane markings can be considered to denote the preferential (but not exclusive) use of the shoulder by cyclists.



Table 12: Shoulders / Signed Route Recommendations (Order does not necessarily indicate priority.)

Segment	Description
1	Extent of Whitney Rd. through Perinton
2	Baird Rd. - Stratford Ct (Village Sports) to Perinton Town Line
3	High St Ext. from Turk Hill Rd. to Hamilton Rd.
4	Lyndon Rd. & Hamilton Rd. including connection along Macedon Center Rd. from Hamilton to Lyndon Rd.
5	Jefferson Ave. from Fairport Rd. to Ayrault Rd. - connect Fairport Rd. MX with "Powerline Trail" and Ayrault Rd.
6	Turk Hill Rd. from High St. Ext. to Ayrault Rd.
7	NY 96 from Marsh Rd. to Pittsford line - connection from Bushnell's Basin MX to Town of Pittsford.
8	Kreag Rd. from NY 96 to Ayrault Rd. - connection from Bushnell's Basin MX to Ayrault Rd.
9	Mason Rd. from Ayrault Rd. to Route 31
10	Garnsey Rd. from NY 96 to NY 250
11	Neuchatel Ln / Steele Rd. / Thayer Rd. / Bluhm Rd. from Route 250 to Victor Rd.
12	Wilkinson Rd. from Victor Rd. to Macedon line

MARKED SHARED ROADWAY

A marked shared roadway is a general purpose travel lane marked with shared lane markings (SLM) used to encourage bicycle travel and proper positioning within the lane. In constrained conditions, the SLMs are placed in the middle of the lane to discourage unsafe passing by motor vehicles. On a wide outside lane, the SLMs can be used to promote bicycle travel to the right of motor vehicles. In all conditions, SLMs should be placed outside of the door zone of parked cars. Marked Shared Roadways may be signed with Bike Route and/or In Lane signage. Refer to the NYSDOT Shared Lane Marking Policy (TSMI 13-07).



Table 13: Marked Shared Roadway Recommendations (Order does not necessarily indicate priority.)

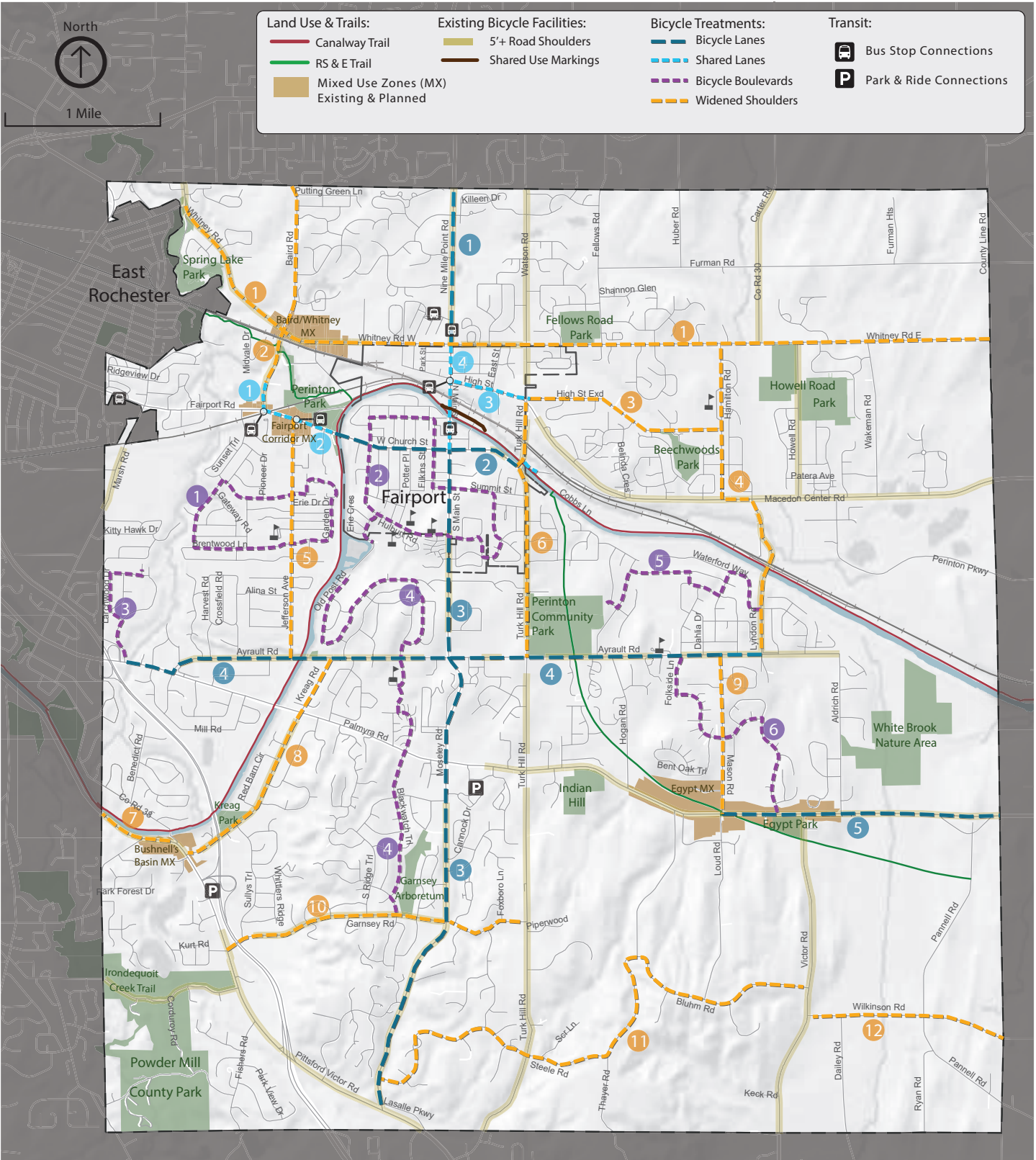
Segment	Description
1	Baird Rd. from Stratford Ct (Village Sports) to Fairport Rd.
2	Fairport Rd. from Baird Rd to Erie Canal Trail
3*	High St. / High St. Ext. from Main St. to Turk Hill Rd.
4*	Route 250 (Main St.) from W. Church St. to Whitney Rd.*

*suggested improvement for the Village of Fairport



BICYCLE NETWORK RECOMMENDATIONS

A complete bicycle network requires a continuous, connected system of facilities for all types of bicyclists. The proposed bicycle network for the Town of Perinton, illustrated in Map 17, identifies layers of bicycle facilities that connect destinations throughout the Town. The preceding sections described the key recommendations identified in Map 17 by facility type and specific treatments that could be implemented in these recommendation areas.



Map 17: Bicycle Facility Recommendations



BICYCLE INTERSECTION TREATMENTS

Designs for intersections with bicycle facilities should reduce conflict between bicyclists (and other vulnerable road users) and vehicles by heightening the level of visibility, denoting clear right-of-way and facilitating eye contact and awareness with other modes. Intersection treatments can improve both queuing and merging maneuvers for bicyclists, and are often coordinated with timed or specialized signals.

BIKE BOXES

Bike boxes are used at signalized intersections to allow cyclists to wait in front of queued vehicles. This allows cyclists to remain visible and to travel through the intersection before vehicles. The bike box is a green color, easily visible to motorists. It is located behind the crosswalks. Caution should be used when using a bike box when the intersection is located at the bottom of a steep grade. When bike boxes are installed, right turns on red should be restricted for that approach. For intersections with both bike boxes and bicycle signals, cameras should take the place of signal loops to detect the cyclists, as is recommended by the MCDOT.



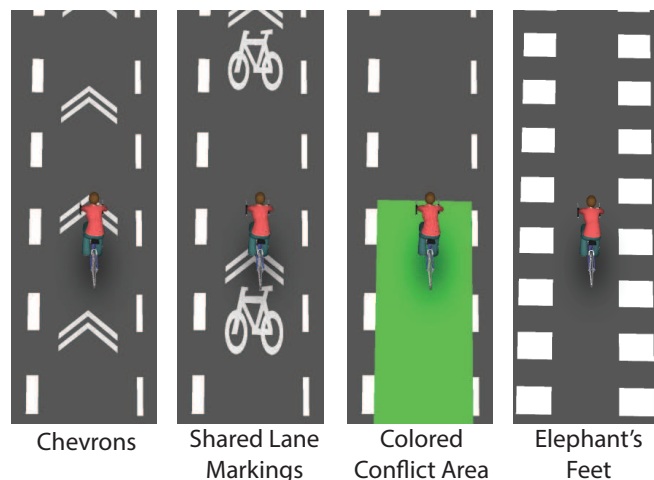
COLORS BIKE LANES IN CONFLICT AREAS

Colored pavement within a bicycle lane increases the visibility of the facility and reinforces priority of bicyclists in conflict areas. The colored surface should be skid resistant and retro-reflective. A "Yield to Bikes" sign should be used at intersections or driveway crossings to reinforce that bicyclists have the right-of-way in colored bike lane areas.



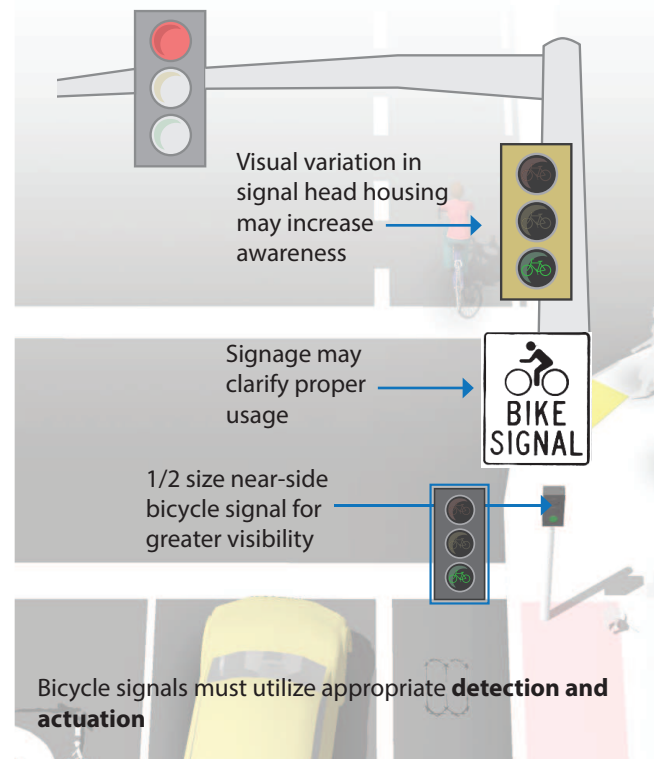
INTERSECTION CROSSING MARKINGS

Bicycle pavement markings through intersections indicate the intended path of bicyclists through an intersection or across a driveway or ramp. They guide bicyclists on a safe and direct path through the intersection and provide a clear boundary between the paths of through bicyclists and either through or crossing motor vehicles in the adjacent lane.



BICYCLE SIGNAL HEADS

A bicycle signal is an electrically powered traffic control device that should only be used in combination with an existing conventional or hybrid signal. Bicycle signals are typically used to improve identified safety or operational problems involving bicycle facilities. Bicycle signal heads may be installed at signalized intersections to indicate bicycle signal phases and other bicycle-specific timing strategies. Bicycle signals can be actuated with bicycle sensitive loop detectors, video detection, or push buttons. Bicycle signals should not be used in areas with low demand, as they may prove to be inefficient and hinder the level of service of the intersection.



3.4 TRAIL FACILITIES

There are a variety of trail types, from the soft surface hiking or mountain biking trail, to the stone dust or paved shared use path. The Town of Perinton already has a robust trail network, between the Crescent Trail system, the Erie Canal Trail, and the RS&E Trail. The facility types described and recommended in the section are intended to guide the Town toward filling gaps and expanding upon this existing network.

TRAIL TYPES

SHARED USE PATH

Multi-use paths may be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. These facilities are frequently found in parks, or as neighborhood cut-throughs to shorten connections and offer an alternative to busy streets.

Multi-use paths should be minimum of 8 ft wide for two-way bicycle travel and is only recommended for low traffic situations. 10 ft is recommended in most situations and will be adequate for moderate to heavy use. 12 ft is recommended for heavy use with high concentration of multiple users. A separate track (5' minimum) can be provided for pedestrian use.





SIDEPATH

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



SOFT SURFACE TRAIL

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

Trails can be 1.5 to 10 feet wide depending on their intended use. Hiking trails require the least width, then mountain biking, followed by cross country skiing. Horizontal and vertical clearances to adjacent branches and obstacles should be considered depending on the intended use.



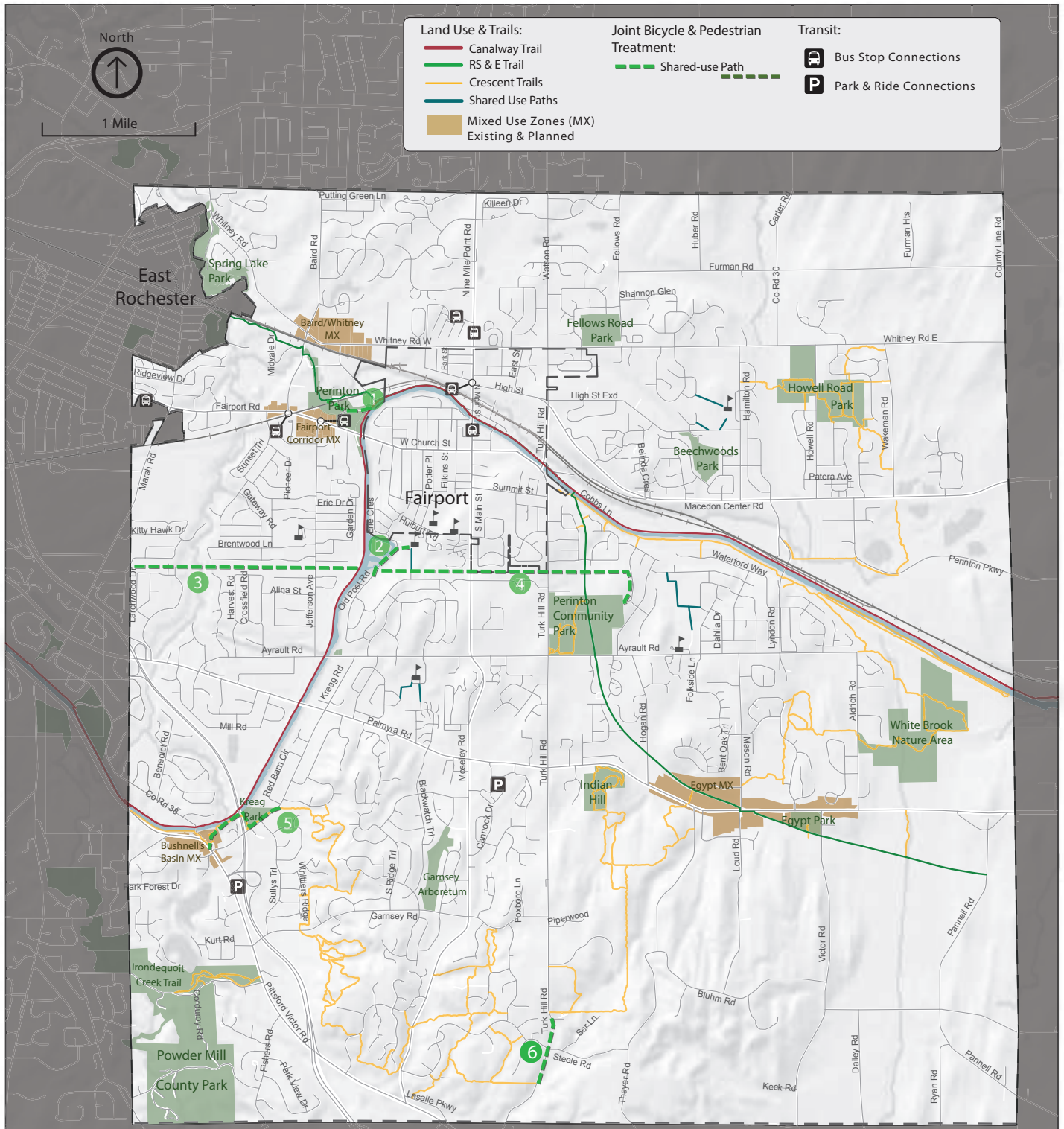
Trail Recommendations *(Order does not necessarily indicate priority.)*

Segment	Description
1	O'Connor Rd. from Canalway Trail to opposite side of rail tracks - provide a shared-use path to connect to RS&E Trail.
2	Connect Old Post Road north to Erie Crescent and the school utilizing Oxbow Road
3	Use existing utility right-of-way to create a shared-use path ("Powerline Trail") from Pittsford line to the Erie Canal
4	Use existing utility right-of-way to create a shared-use path ("Powerline Trail") from the Erie Canal to Center Park
5	Marsh Rd. to Kreag Rd. Park - Along south side of canal
6	Turk Hill Rd. between Crescent Trail access points.



PATHWAY NETWORK

A complete trail network requires a continuous, connected system of facilities for all types of non-motorized users. The proposed trail network for the Town of Perinton, illustrated in Map 18, identifies segments to fill gaps in the existing trail system as well as new shared use path opportunities. The chart on the previous page describes the key recommendations identified in map 18.



Map 18: Trail Recommendations



MOUNTAIN BIKING SKILLS PARK

Often times, facilities designed for the mountain biking communities in trail networks are minimized, thus stagnating any growth that the mountain biking community may otherwise anticipate. However, mountain biking can be a great way for individuals to stay active during their free time and engage in what may be an unfamiliar sport. The first step in growing a mountain biking community should be to invest in a skills park.

While skills parks are not considered a trail in and of themselves, they can greatly improve the value of a trail system for the mountain biking community. Skills parks are areas set aside specifically for mountain biking activity. These areas introduce new riders to the sport and give novices a place to develop their skills and learn from other riders before interacting with other users. They also allow more experienced mountain bikers to ride without interrupting other trail users.

An identifying feature of a skills park is the presence of elements that can be used to help mountain bikers further develop their technical skills. These can include things such as jumps and ramps that help riders practice their airborne tricks, seesaws and stairs that help riders practice their maneuverability, or catwalks and elevated tracks that allow riders to practice their balancing skills. The image to the left shows examples of several elements and the range of difficulty they usually cover. Skill Parks are by no means limited to these elements, and creating unique elements is highly encouraged, as it can entice users who wish to try something new.

In addition to the park trail and the elements on it, skills parks should have several other amenities available. One such amenity is the availability of parking, for both bicycles and motor vehicles, as well as the availability of rest areas for those not participating and restrooms for the public. The rest areas should provide cover and protection from the elements and provide seating. Water fountains should be made available to the public to keep users hydrated.

Pedestrian paths that are completely separated and protected from the bike trails should also be present and be able to bring pedestrians to any location in the park. This amenity is designed to allow emergency services safe access to the park.

Other features that are not essential but may grow the popularity of a park include adding a snack bar or set of vending machines, implementing a dog park

or playground as an additional adjacent park, and adding a 'bunny-hop' section where young riders can develop their own skills on smaller and safer elements.

For Perinton, several locations have been considered for the placement of a skills park. The maps on the following page illustrate potential layouts for a skills park on these parcels. All three locations are located on Town-owned land, and each location has plenty of room for growth as the facility becomes more popular. These locations in particular were chosen because of their mixed availability of wooded land and fields, and their proximity to sources of users, such as the school, the sports fields, and the surrounding suburban neighborhoods.

Skills Park Elements and Facilities

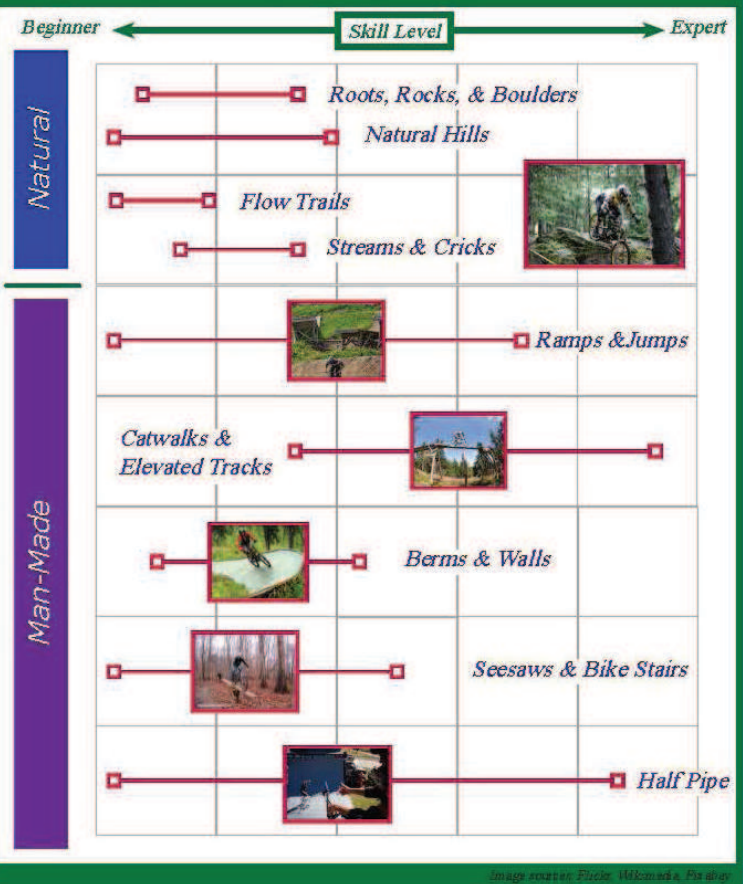


Image source: Flickr, Wikimedia, Pixabay



The first location, off of Turk Hill Road, was chosen due to the combination of open field, hilly terrain and the presence of wooded areas. The second location is off of Howell Road, and though less hilly than Option 1, it features wooded areas, and a property configuration that makes it conducive to a skills park and trail.

The third location was chosen as a possible extension of Center Park and the Perinton Community Center. Having the facilities so close together would encourage the community of Perinton to embrace mountain biking just like the other outdoor activities that Center Park and the community center endorse.

TRAIL HEADS

Trail heads are a key aspect to the attractiveness of any trail network. Trail heads act as starting points for trails and often provide services such as presenting wayfinding, trail information, or parking. They do not need to be the beginning of the trail itself, but often provide a location where trail users can begin their journey, even if it is partway through the trail. They also play a major factor in trail branding and can be coupled with parks and other open spaces in order to increase their popularity. Several key locations have been identified as optimal areas for the installation of new trail heads in Perinton and they are as follows:

- Turk Hill Road - Crescent Trail
- Lyndon Road - Canalway Trail
- Ayrault Road - RS & E Trail (*Improve existing with wayfinding and trail branding*)





3.5 POLICY RECOMMENDATIONS

POLICY PARTICIPANTS

The Town of Perinton must support a comprehensive education program to support the physical bicycle and pedestrian improvements recommended by this plan. A healthy bicycle and pedestrian network demands that all users understand how and why they should use the system. The information below briefly describes the roles of three major groups:

Sphere	Entities	Roles
Government	<ul style="list-style-type: none"> Town of Perinton Monroe County Sheriff's Office Fairport Police Department Monroe County Department of Transportation New York State Department of Transportation United States Department of Transportation Regional Transit Service Genesee Transportation Council 	<ul style="list-style-type: none"> Design, build and maintain safe infrastructure for each mode Consistently enforce traffic, zoning, and other laws concerning mobility Educate the public on safety and the benefits of biking and walking Study the use of driving, walking and biking Plan and operate transit service
Citizens	<ul style="list-style-type: none"> Pedestrians Bicyclists Motorists Transit Users 	<ul style="list-style-type: none"> Learn traffic laws and best practices regarding mobility Use the network in a safe and legal manner
Private Organizations	<ul style="list-style-type: none"> Non-profit organizations Businesses 	<ul style="list-style-type: none"> Partner with government and citizens to promote walking and biking through education Advise government agencies and boards on decisions affecting bicyclists, pedestrians, and road infrastructure

POLICY RECOMMENDATIONS

- Plan Adoption
 - It is recommended that the Perinton Town Board adopt a resolution in support of this bicycle and pedestrian master plan. This will allow for public support of the catalyst projects and help continue the momentum created by the development of the plan. It will also support future funding applications.
- Extensive, ongoing coordination with existing advocate groups
 - Fortunately, existing bicycle and pedestrian organizations have made, and continue to make, major contributions to bicycling and pedestrian conditions. Local groups such as the Rochester Cycling Alliance, Rochester Bicycling Club, and the Crescent Trail Association have engaged in educational and promotional events that help curious people try moving through their communities without a car. The Town of Perinton should increase its support of and dialogue with these existing groups, and cooperate when possible.
- Formation of a Bicycle/Pedestrian Advisory Committee (BPAC)
 - Adopting an active transportation plan is an early step toward fully embracing pedestrian and bicycle culture. While adoption of a plan is critical, it is far more important that a dedicated,



passionate community group work to realize the goals of the plan. A 'Bike/Walk Perinton Committee' could take this leadership role. Members of the committee could advise the Town Board, Department of Public Works, Planning Board, or other government bodies when confronted with decisions that affect walking and biking. Further, the committee could actively engage the community on ways to increase their use of active transportation by holding special events and promoting safe practices.

4. Schedule ongoing maintenance of new pedestrian or bicycle infrastructure
 - The plan calls for larger shoulders, new sidewalks, and other infrastructure improvements. The Town of Perinton, Monroe County Department of Transportation, and NYSDOT must each maintain their respective infrastructure. The Town of Perinton should immediately replace sidewalk segments rated '1', and create a multi-year schedule to monitor sidewalk condition. Increased consideration should be applied to clearing debris from road shoulders and sidewalks. Although it is important to build new infrastructure, it is just as important to keep the roads and sidewalks safe for use.
5. Develop a Town of Perinton Complete Street Policy
 - A "Complete Street" is a roadway planned and designed to consider the safe, convenient access and mobility of all roadway users of all ages and abilities. Since 2011, New York State, towns, cities, and villages have implemented complete streets policies or resolutions. These policy statements identify the need to consider all users in the design of public streets. Although New York State Department of Transportation (NYSDOT) currently implements this policy and major Perinton roads, a similar town policy could greatly benefit the development of Perinton as a safe community for bicyclists and walkers. If the town implemented a Complete Streets policy, local roads would be designed with walkers and bicyclists in mind. If such a policy were enacted, physical improvements similar to those in the Safe Routes to School Action Plan could be realized across Perinton.
6. Formalize a policy of extending bicycle/pedestrian facilities along "paper streets" to connect with trails or existing streets.
 - This will allow active transportation routes to travel between neighborhoods without creating additional automobile through-traffic. In the new development review process, the Planning Board and the DPW must focus on areas where sidewalks and trails can be added to new developments to connect to the existing network of sidewalks and trails in the Town . Also, trails and sidewalks that connect to local streets are also important neighborhood connections that must be considered in the design process.
7. Coordinate recommendations with efforts / plans in neighboring municipalities
 - The Town of Perinton is fortunate to have neighboring communities that also value bicycling and walking. Just as connections between neighborhoods enables opportunity and access to residents, so do connections between neighboring towns and villages. This plan contains a number of recommendations that would benefit from connectivity to/from the towns of Macedon, Penfield, Pittsford, and Victor.
8. Connect future neighborhoods
 - Planners should consider cross-connecting future neighborhoods with path connections between dead end streets to increase mobility and include this concept in future development plans. Any major residential developments should be required to provide connections to the trail networks when possible and reasonable.





3.6 PROGRAM RECOMMENDATIONS

BECOMING A BICYCLE AND PEDESTRIAN FRIENDLY COMMUNITY

The League of American Bicyclists (LAB) promotes the national Bicycle Friendly Communities (BFC) Program. Awards are given twice a year to Bronze, Silver, Gold and Platinum level BFC's (with applications due every March and August). The program application includes a detailed review of all aspects of a comprehensive bicycling program: engineering, education, enforcement and encouragement. The application can be used as a set of benchmarks for measuring Perinton's program against the most successful communities in the U.S. This has proven to be a powerful tool for communities such as Portland, OR – which formed a Mayor's "GO PLATINUM" committee after it was designated as a Gold BFC, with a goal of improving all required program areas in order to achieve Platinum status within two years. If Perinton wants to become a great place for bicycling, it should strive to implement programs that other BFC communities have completed.

BICYCLE FRIENDLY COMMUNITY GOALS

The Town of Perinton can begin by comparing current programs to those of other similarly sized bicycle friendly communities. Perinton should complete an application in the coming years and set a goal for achieving bronze, silver, gold or even platinum status within a set time frame.

BICYCLES AND TRANSIT

Walking, bicycling and transit are all modes of transportation that reduce traffic congestion and have important health and environmental benefits for communities. Due to these benefits, increasing access to these modes of transportation, and creating improved connections between them, should be encouraged. Since the 1990s, cities and towns throughout the United States have actively sought to improve connections between bicycling and transit, and research over this period has indicated that installing bicycling amenities increase access to transit, which also has the effect of increasing transit ridership as well as bicycle ridership.¹⁶¹⁷

The transit catchment area is the area that a typical person will travel to reach a transit station, such as the RTS bus stops that are located throughout the Town of Perinton. For pedestrians, this distance is estimated to

be a ½ mile. For a bicyclist, this distance increases to 2 or more miles. By providing improved access to transit stops for bicyclists, the potential number of people who are serviced by transit is dramatically increased due to the expanded catchment area. Many of the network improvements highlighted in this report would make it safer and more comfortable for bicyclists to access the transit stops in the Town of Perinton. This could encourage more people to ride their bikes and take transit more frequently.

Additionally, improvements can be made at key bus stop locations to further increase the potential for residents to use bicycling combined with transit. One of these improvements, Bike-on-Bus Racks, has already been implemented by RTS throughout the Greater Rochester Region. Bike-on-Bus racks provide the option for bicyclists to ride to a bus stop and load their bike onto the bus. This allows bicyclists to access transit by bicycle from trip origin and destination points that are not located within convenient walking distance to transit. Bike-on-Bus racks therefore increase the number of people who can viably use transit. Another bus stop improvement that can increase levels of bicycling and transit use includes bike parking. High demand bus stops within the Town should be equipped with adequate bicycle parking facilities to provide cyclists with a safe and formalized location to park their bikes.

The combination of an improved bicycling network and bus stop amenities can make riding a bicycle to transit more feasible by increasing the number of people who could potentially take transit, and by making riding to transit stops more appealing. Programs and marketing campaigns should coincide with the installation of new bicycling/transit amenities. Coordination with local bicycle and transit advocacy organizations is also important to ensure the success of infrastructure improvements and the continued use of the improved network and amenities.



The RTS Bike-on-Bus program (Source: RTS)

¹⁶ Pucher, J. Dill, J. and Handy, S. (2010). Infrastructure, programs, and policies to increase bicycling: An international review. Preventative Medicine, 50. S106-S125.

¹⁷ Federal Highway Administration (2006) Lesson 18: Bicycle and Pedestrian Connections to Transit Federal Highway Administration University Course on Bicycle and Pedestrian Transportation, 1-10





Bicycle Corrals can replace on street parking and provide bicycle parking in areas with high demand.

BICYCLE PARKING

Bicycle parking facilities are intended to provide short-term bicycle parking, and include racks which permit the locking of the bicycle frame and at least one wheel to the rack and support the bicycle in a stable position without damage to wheels, frame or components. Such facilities encourage cycling and promote proper bicycle parking. Attractive bicycle parking can indicate to residents that a community supports bicycling, and this positive impression can increase respect for bicyclists and increase ridership levels. Perinton currently has a bicycle parking program where if bikes are seen locked to anything but a bike rack, it can be reported and a bike rack will be installed at or near that location. However, this program is not fully utilized and the Town should identify key areas to install new bicycle parking as observed demands rise or new developments take place.

Where the placement of racks on sidewalks is not possible (e.g., due to narrow sidewalk width, sidewalk obstructions, or other issues), bicycle parking can be provided in the street in lieu of an on-street parking spot. This typically includes clustered racks in a vehicle parking space protected by bollards or curbs.

On-street bicycle parking may be installed at intersection corners or at mid-block locations. Mid-block on-street parking may be closer to cyclists' destinations, although it could force cyclists to dismount and walk to the parking site if access from the street is difficult or dangerous. Combining a mid-block pedestrian crossing with mid-block on-street parking could mitigate this situation.

COMMUNITY EVENTS

Providing adequate bicycle parking at community events can alleviate both traffic and parking issues. Events will most likely require additional bike parking capacity. Temporary bike corrals or valet bike parking can be developed. These sets ups are ideal to be run by a student or community group and could be operated as a fundraiser. Fairport Canal Days is the ideal event for implementation.

PUBLIC EDUCATION AND EDUCATIONAL DEVICES

Perinton should build on its and the region's existing programs by continuing to develop a variety of safety materials and distribute them widely throughout the community. Educational materials focus on safe behaviors, rules, and responsibilities. Information may include important bicycle laws, bulleted keys for safe bicycle travel, helmet requirements, safe motor vehicle operation around bicycles, and general facility rules and regulations. This safety information is often available



Bicycle corrals and valet services allow visitors to feel more comfortable riding their bicycle to an event and leaving it in a secure location while they enjoy the activities.



for download from national pedestrian advocacy organizations, such as the Pedestrian and Bicycle Information Center website, www.pedbikeinfo.org.

Local programs such as earn-a-bike programs, bicycle commuter mentoring, and summer camps can be organized by the Town and the newly formed BPAC and can be utilized to distribute information using a booth to display related print media (these programs could be modeled after existing programs, such as Troy's Bike Rescue). Brown-bag events and clinics are also excellent means to provide education, especially for adults. Local events, such as the farmers market, should be utilized to distribute information using a booth to display related print media. A representative from the newly formed BPAC could volunteer at the booth to answer questions related to bicycling in Perinton.

MOTORIST EDUCATION

Equally important as bicyclist education is motorist education. Many motorists do not recognize the simple fact that a bicycle is a vehicle by New York state law. The New York State Bicycle Coalition provide brochures and other materials for driver education. The StreetSmart public awareness campaign in the Washington, DC region is another example of a Public Service Agency educating residents about pedestrian and bicycle safety. Educational materials should also focus on pedestrian safety and teach motorists when to yield to pedestrians.

INTERNAL TRAINING

'Internal' education refers to the training of all people who are involved in the actual implementation of the Pedestrian and Bicycle Master Plan. Internal training will be essential to institutionalizing bicycle issues into the everyday operations of public works, planning, and parks and recreation departments. In addition to relevant Town staff, members of the GTC, NYDOT Region 4 staff, and Monroe County staff should also be included in training sessions whenever possible. This training should cover all aspects of the transportation and development process, including planning, design, development review, construction, and maintenance. This type of 'in-reach' can be in the form of brown bag lunches, professional certification programs and special sessions or conferences. Even simple meetings to go over the Pedestrian and Bicycle Plan and communicate its strategies and objectives can prove useful for staff and newly elected officials that may not have otherwise learned about the plan. Pedestrian and Bicycle planning and design issues are complex, and state-of-the-art research and guidelines continue to evolve. Therefore, training sessions need to be updated and repeated on a regular basis.

Local law enforcement should be trained in accurate reporting of bicycle crashes involving automobiles. In many communities, police do not always adequately understand the rights of bicyclists. Proper interpretation of individual circumstances and events is critical for proper enforcement and respect between motorists and bicyclists. Special training sessions should be instituted and occur annually for new employees within the Police Department that focus on laws relating to bicycle travel. Every effort should be made for representation from the Police Department on the BPAC.

SAFE ROUTES TO SCHOOL

The Town of Perinton should seek programming and facility funding from the Safe Routes to School program, administered by the Federal Highway Administration's Transportation Alternatives Program under Map 21. In recent years, the Fairport Central School District has received SRTS grants and implemented measures aimed at alerting motorists to their speed and educating the community around three schools in the district.



Moreover, the school district should continue to create comprehensive Safe Routes to School Action Plans (such as the one completed for Johanna Perrin Middle School) to provide detailed information on how to improve safety and active transportation. These will both support and be supported by many of the infrastructure, program, and policy recommendations made in this plan.

ENCOURAGEMENT PROGRAMS

EMPLOYER PROGRAMS

To encourage bicycling and walking to work, employers can provide programs and incentives. When bicycling is encouraged, the employer benefits from improved employee health and morale along with an enhanced community perception when protecting the environment and being active in the community. Promotions could include a Bike to Work Day or a morning Pit-Stop where employees can receive free refreshments. Employers can provide educational workshops, bicycle parking options, and employee incentives. Incentives may include prize drawings, t-shirts, free tune-ups at a local bicycle shop, and bicycle maps.



SCHOOL PROGRAMS

Many programs exist to aid communities in developing safer pedestrian facilities around schools. Programs can be adopted by parents or the schools to provide initiatives for biking. Information is available to encourage group travel, prevent bicycle-related injuries, and sponsor commuter-related events. After-school programs, summer Bike Camps, bicycle rodeos, and Family Fun Rides can be created to provide a supportive environment for children to learn how to ride a bike comfortably and safely with friends, learn how to repair and maintain a bicycle, and tour their town and its destinations.

AWARENESS DAYS/EVENTS

A specific day of the year can be devoted to a theme to raise awareness and celebrate issues relating to that theme. A greenway and its amenities can serve as a venue for events that will put the greenway on display for the community. Major holidays, such as July 4th, and popular local events serve as excellent opportunities to distribute bicycling information. The following are examples of other national events that the Town of Perinton can use to improve usage of bicycle facilities:

- **Bike-to-Work Day (Third Friday in May):** Bike-to-Work Day is an annual event held on the third Friday of May across the United States that promotes the bicycle as an option for commuting to work. Leading up to Bike-to-Work Day, national, regional, and local bicycle advocacy groups encourage people to try bicycle commuting as a healthy and safe alternative to driving by providing route information and tips for new bicycle commuters. On Bike-to-Work Day, these groups often organize bicycle-related events, and in some areas, pit stops along bicycle routes with snacks.
- **Car-Free Day (September 22):** Car-Free Day is an international day to celebrate getting around without cars. This fall event coincides with the beginning of the school year and is the perfect way to kick-off programs that promote bicycling and raise awareness for environmental issues. Car-Free events can last for an entire week or month, featuring alternative transportation promotional activities, fitness expos, transit-use incentives, walking and jogging group activities, running and bicycling races and rides, etc.

- **National Trails Day:** This event is held every year in June. Other events, competitions, races, and tours can be held simultaneously to promote trail use within Perinton. Coordinate with surrounding municipalities for joint trail events.

ENFORCEMENT

MOTORIST ENFORCEMENT

Based on crash data analysis and observed patterns of behavior, law enforcement can use targeted enforcement to focus on key issues such as motorists speeding, passing too closely to cyclists, parking in bicycle lanes, failure to yield right of way to pedestrians in crosswalks, etc. Community issues should be identified, targeted, and enforced consistently. The goal is for bicyclists and motorists to recognize and respect each other's rights on the roadway.

BICYCLIST ENFORCEMENT

Observations made by local trail and bicycle facility users can be utilized to identify any conflicts or issues that require attention. To maintain proper use of trail facilities, volunteers could be used to patrol the trails, particularly on the most popular trails and on days of heavy use. The volunteer patrol can report any suspicious or unlawful activity, as well as answer any questions a trail user may have.

When users of the bicycle network witness unlawful activities, they should have a simple way of reporting the issue to police. A hot line should be created, which would complement trail patrol programs. People could call in and talk to a live operator or to leave a voice mail message about the activity they witnessed. Accidents could also be reported to this hot line. Accident locations could then be mapped to prioritize and support necessary facility improvements.

Additionally, unsafe cycling (e.g. riding on the wrong side of the street, without lights at night, or children riding without helmets) should be addressed by local law enforcement through warnings, with an understanding that there may be a learning curve for new or inexperienced cyclists. Again, the goal is for bicyclists and motorists to recognize and respect each other's rights on the roadway.





WAYFINDING/SIGNAGE

Landmarks, natural features, civic destinations, neighborhood business districts and other visual cues help residents and visitors navigate through Perinton. Placing signs throughout the town indicating to bicyclists their direction of travel, location of destinations, and the distance to those destinations will increase users' comfort and convenience of the bicycle system. Wayfinding signs also visually cue motorists that they are driving along a bicycle route and should use caution. Signage can serve both wayfinding and safety purposes including:

- Helping to familiarize users with the bikeway system
- Helping users identify the best routes to destinations
- Helping to address misconceptions about travel time and distance
- Helping overcome a "barrier to entry" for people who do not bicycle often and who fear becoming lost

Wayfinding signs are a relatively cost-effective means for improving the walking and bicycling environment. Signs are typically placed at key locations leading to and along bicycle routes, including the intersection of multiple routes. The Town should create a community-wide Bicycle Wayfinding Signage Plan that identifies:

- Sign locations along existing and planned bicycle routes
- Sign type – what information should be included and what is the sign design
- Destinations to be highlighted on each sign – key destinations for bicyclists
- Approximate distance and riding time to each destination

The Town of Perinton should adopt a wayfinding signage system. It can be is similar to the MUTCD-approved sign, shown below, for use along bicycle facilities, or the community specific wayfinding system shown on the following page.

PERFORMANCE MEASURES

Performance measures are a means of gauging the effectiveness of bicycle improvements. They can be used to evaluate progress towards adopted goals. The performance measures should be based on the following principles:

- A process that is policy-driven and can be supported by data.
- The measures reflect the users' experience on the system.
- The results are understandable to the general public.
- The application of the performance measures to programs and projects result in data that can be projected into the future.

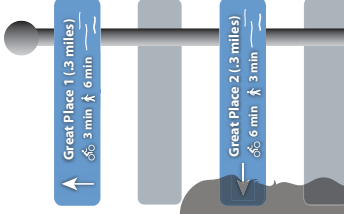
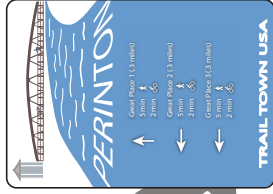
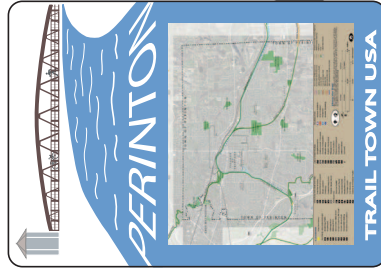
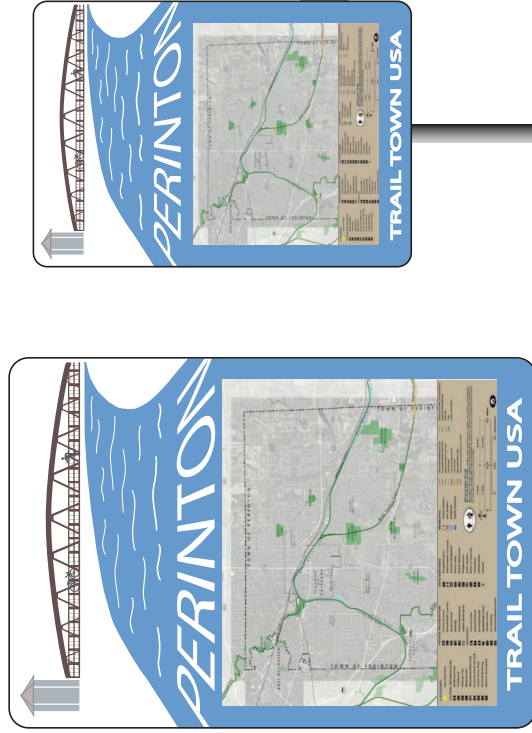
The key to a successful benchmarking program is to have data that can be collected within the available resources, that is consistently available over time, and is reported in a format that allows year-to-year comparisons. With careful planning, the data system can serve as a core tool for system management in the long term, both to track performance and to ensure that resources are available and well managed. Performance measures can be collected through user counts, user surveys, land use, and land values. Vehicle miles traveled and vehicle counts on adjacent streets can also help to determine if vehicle trips are being replaced by trail use. The National Bicycle and Pedestrian Documentation Project (www.bikepeddocumentation.org) provides resources for bike/ped data collection.



Example of a set of MUTCD approved bicycle wayfinding signage.



PerintonBicycle and Pedestrian Wayfinding + Orientation Signage



1 Directory Map

2 'You are Here' Orientation Sign

3 Directional Wayfinding with walk and bike distance/time

4 Directional Wayfinding Panels with walk and bike distance/time

5 Roadside Wayfinding



3.7 LOOKING FORWARD - EXPANDING THE TRAIL COMMUNITIES

Continual growth of the trail communities in Perinton should be a top priority in order to create an active and healthy community.

MOUNTAIN BIKING COMMUNITY

Creating facilities that are specifically designed for the mountain biking community can be a great way to encourage residents of Perinton to become more active during their recreational time and live healthier lifestyles. Mountain biking can be both a sport and a leisure activity, where participants enjoy biking along more natural trails and work on improving key skills. Most view mountain biking as an activity for areas with vast wildernesses and large ranges, far from civilization, but creating an active mountain biking community within Perinton would take a few steps of implementing new facilities, and converting abandoned facilities.

The Outdoor Foundation publishes an annual survey that tracks participation in outdoor recreation. The 2013 survey lists all bicycling (road biking, mountain biking, and BMX), behind only running in terms of frequency of participation, and third behind running and fishing in terms of participation rate.¹⁶ Among 6-17 year olds, bicycling is the most popular activity and boasts the second highest participation rate. Among 18-24 year olds, it is second in both categories.¹⁷ Bicycling also has a diverse following.

The 2005 Outdoor Participation Report, the last to break mountain bicycling out from bicycling in general, lists mountain biking as having nearly 40 million participants annually, with a recorded high of nearly 50 million participants in 2001. Mountain biking has about half the number of participants that hiking does, but much more than any other trail activity.¹⁸ Communities across New York State are recognizing this benefits of sport, including its link to economic development and tourism.

Mountain bicyclists have the greatest responsibility on the trail though, as they are required to yield to all other users. On any trail facility that allows mountain biking, the "Rules of the Trail" sign to the right should be

Rules of the Trail



installed in order to ensure all mountain bikers recognize this responsibility. They should be installed at trail heads and any location where trails converge. Locations where mountain biking trails converge with mixed use trails should be specifically recognized and be the highest priority when installing signage.

Creating spaces where only mountain bikers are allowed can be highly beneficial. While it is advisable to open up other trails to the use of mountain bikers and make it a shared space between the different user groups, mountain bikers generally prefer their own space. These trails can branch off of other trails, and may extend as little as a few hundred feet before converging back onto the main trail, but they give mountain bikers the freedom to break away and be more comfortable riding without the risk of colliding into other users. It also allows these trails to be designed in a way that better fits the needs and wants of the mountain biking community, such as rougher terrain and steeper slopes. These attributes are generally not desirable for other trail users, so having separate trails allows for all parties to be better accommodated.

Mountain biking trails are generally soft surface trails, similar to hiking trails, with sloped surfaces and obstacles that provide technical riding challenges. Beginner trails will have wide, clear spaces with gentle slopes and more intermediate trails will have steeper slopes with narrower paths. Trails for all skill levels should be provided in order to allow residents to progress to new trails as their ability grows.

Trails should also be designed so that water does not flow along the trail during heavy rain falls. Since the trails are soft surfaces, they are more susceptible to erosion and wear-and-tear than paved trails. Mountain biking in general also creates more damage to trails than hiking due to higher speeds and impacts. While mountain bikers should be aware of this, some level of wearing should be expected. For this reason, wearing through erosion caused by water flow should be minimized.

It is advisable that in order to begin assessing the interest of mountain biking in Perinton and building up the mountain biking community, the first installation of facilities should be a skills park, as described in section 3.4. Along with these skills parks, short trails surrounding the park that are reserved solely for mountain bikers should be established. Skills parks help new mountain

16 Outdoor Foundation. Outdoor Participation Report. 2013. pg. 17

17 Outdoor Foundation. Outdoor Participation Report. 2013. pg. 37

18 IMBA. Demographics of Mountain Biking.
<https://www.imba.com/resources/research>



bikers establish the basic skills needed and allow experienced mountain bikers to practice those skills, but trails will allow both groups to truly utilize their abilities and experience the traditional form of mountain biking. If an active mountain biking community is established in Perinton, then the discussion of where and how to open up new trails to mountain bikers can begin to take hold.

EQUESTRIAN USERS



High Bridge Park, NYC

Having well-wooded trails can help users feel like they are in the depths of the wilderness, regardless of how urban or suburban the surroundings areas are. Trees also help reduce noise pollution, create a cool shade for trail users, and keep mountain bikers at a slower pace.

While horses are currently not allowed on most of the trails in Perinton, there are a number of stables in the area; at least 20 stables within 6 miles of Fairport. Their numbers could help support the Perinton trail movement, and opening up the trails to equestrian use can help build up the equestrian community.

When hikers or mountain bikers encounter equestrian users, they should yield the trail. Step to the downhill side of the trail and politely talk to the rider and the animal. It helps to speak calmly to keep from spooking the animal. Never approach a horse quickly, especially from behind. Equestrian riders should remember that most people do not have experience with horses. It is the horse rider's responsibility to manage their animal. Do not bring "green" stock on high-traffic or multi-use trails before they are comfortable with trail-side interaction. Always watch for other trail users around you. On sections of trails that open up to equestrian use, signs stating these guidelines should be posted. Both soft service and paved trails can be opened up to equestrian use.

