



MALONE COMPLETE STREETS PLAN

Prepared by: PlaceSense

Prepared for: Town and Village of Malone

Under the direction of the Malone Complete Streets Partnership:

Alice Hyde Medical Center, Josy Delaney
Cornell Cooperative Extension of Franklin County
Eastern Adirondack Health Care Network, Lee Vera
Franklin County Board of Legislators, Marc “Tim” Laschomb
Franklin County Office for the Aging, Susan Wilson Scott
Franklin County Public Health Department, Sue Patterson
Franklin County Soil & Water Conservation District, Chastity Miller
Franklin County Traffic Safety Board, Dave Werner
Healthy Schools New York
Malone Revitalization Foundation, Ken Carre
Malone Telegram, Karen Carre
North Country Healthy Heart Network, Jamie Konkoski
Retired Seniors Volunteer Program, Sue Schrader
Town of Malone, Mary Scharf
Village of Malone, Paul Hutchins

*The project was made possible by the North Country Healthy Heart Network's
Creating Healthy Places program, with grant funding from New York State
Department of Health*

TABLE OF CONTENTS

1. INTRODUCTION	1
What are Complete Streets	1
Benefits of Complete Streets	1
Creating a Walkable Malone Workshop	2
Malone Complete Streets Partnership	3
Malone Complete Streets Policy	3
2. EXISTING CONDITIONS	5
Local Context	5
Community Outreach	5
Street Assessment	6
Intersection Assessment	6
Village Sidewalk Code	6
Local Waterfront Revitalization Plan	7
Designated Scenic Byways	7
Average Daily Traffic Map	8
Sidewalk Condition Map	9
Intersection Map	10
3. TOOLKIT	13
Walking	13
Bicycling	21
Traffic Calming	25
4. RECOMMENDATIONS	29
Priority Projects	29
Recommended Projects	30
5. IMPLEMENTATION	37
Goals	37
Objectives	37
Next Steps	38
Measuring Progress	38

APPENDICES

1. Malone Complete Streets Policy
2. Complete Streets Assessment
3. Complete Intersection Assessment
4. Complete Streets Opinion Survey
5. Creating a Walkable Malone Report
6. Elm Street Conceptual Design Report
7. Conceptual Site Plans



OUR VISION is that Malone will be an inviting and vibrant community with safe access to community destinations through a well-connected multi-modal transportation system designed for all users.

What are Complete Streets

Complete Streets are streets and sidewalks that are designed and constructed to serve everyone - pedestrians, bicyclists, and drivers - and they take into account the transportation needs of everyone, including children, older adults, and people with disabilities or impaired mobility.

As state and local governments have worked to improve the road network, they have primarily focused on efficiency or making the flow of traffic better for drivers. This has resulted in overbuilt roadways with additional turn or travel lanes that increase the walking distance across intersections and reduce shoulder area to bicyclists. Traffic signals are timed and phased to facilitate vehicles moving through intersections. The curve radius at

1. INTRODUCTION

intersections has been increased so that traffic can turn at a higher speed, which also increases the walking distance across the intersection.

The emphasis on improving the efficiency of vehicle traffic has in many cases created streets that are unfriendly to pedestrians and bicyclists, and an increasing need to drive to get everywhere you need to go. Complete Streets policies and projects are aimed at changing our streets from places where vehicles dominate to places where all users are accommodated. Complete Streets may include the following elements:

- **Pedestrian and ADA Compliant Elements.** Sidewalks, crosswalks, curb ramps, accessible pedestrian signals, detectable tactile cues and warnings, and longer walk intervals.
- **Bicycle Elements.** Bicycle routes and lanes, signage and pavement markings, and bicycle racks.
- **Streetscape Elements.** Street trees, landscaping, rain gardens, permeable paving material, and buffers between vehicles and people.
- **Traffic Calming and Access Management Elements.** Intersection bump-outs, curb extensions, textured material, and center refuge islands. Driveway consolidations, modifications and closures.
- **Transit and Parking Elements.** Accessible bus stops, shelters and pull-outs integrated with pedestrian enhancements. Delineated on-street parking spaces and curb/sidewalk bump-outs.

Benefits of Complete Streets

Streets are an integral part of our village and town, and they affect the quality of life and character of our community. They connect neighborhoods, and provide access to businesses, jobs, schools, shopping and services. Complete Streets provide multiple benefits to communities and residents:

- **Downtown Revitalization and Economic Health.** Business districts with Complete Streets that are inviting for pedestrians and bicyclists report higher retail sales, a higher percentage of residents shopping locally, and increased appeal to visitors.
- **Safe Places for Children to Walk, Bike and Play.** Complete Streets can help increase the percentage of children walking and biking to school, which has declined from 41% to 13% in the last 40 years.
- **Reduced Transportation Costs.** Complete Streets with improved options for walking and biking helps people save money since U.S. families spend between 20% and 40% of their income on transportation.
- **Active Living and Good Health.** Residents in neighborhoods with Complete Streets who have safe places to walk and bike close to home are more likely to be physically active, which is associated with lower rates of obesity and chronic disease.
- **Improved Mobility for Older Adults and People with Disabilities.** Complete Streets (including sidewalk networks) that are accessible and easy to navigate improve transportation options for older adults and people with physical, vision or cognitive disabilities or impairments.
- **Environmental Health.** Complete Streets with improved options for walking and biking helps reduce vehicles miles driven and the associated pollution, particularly air pollution and greenhouse gases.

Creating a Walkable Malone Workshop

The Malone Complete Streets project kicked-off on June 18, 2010 with the Creating a Walkable Malone workshop, which was facilitated by Justin Booth, Executive Director of Green Options Buffalo. The workshop educated participants on why complete streets are important and creative engineering strategies and policies to implement them. Participants worked collaboratively to discuss solutions to the challenges observed during a walking tour of downtown Malone.



Workshop participants touring downtown.

A summary report of the workshop is incorporated into this plan as Appendix 5. In addition to the specific recommendations listed on page 30, the summary report includes general recommendations for Complete Streets improvements in downtown Malone:

- **Main Street is for People.** Calm traffic, make the streetscape more appealing and pedestrian-friendly, and create places for people. This will support economic revitalization and encourage people to come or stop downtown.
- **Main Street Road Diet.** The number and width of travel lanes should be reduced. This would calm traffic, provide space for bicycle facilities (Route 11 is a state bike route) and pedestrian refuge islands, and reduce the distance pedestrians need to cross at intersections.
- **Implementation.** Main Street is a state highway (Route 11) controlled by the NYS Department of Transportation. Malone will need to work with DOT to identify maintenance schedule and begin implementing improvements. Federal and state grants should be sought to help fund improvements.

Malone Complete Streets Partnership

The Malone Complete Streets Partnership, which formed after the Creating a Walkable Malone Workshop, has adopted the following mission, vision and goal statements, which are based on ideas initially developed during the workshop:

- **Mission.** To coordinate and advocate for the development and implementation of Complete Streets plans and policies in the Town and Village of Malone that will promote a multi-modal transportation network for all users.
- **Vision.** Malone will be an inviting and vibrant community with safe access to community destinations through a well-connected multi-modal transportation system designed for all users.
- **Goals.** Draft a Complete Streets Plan for the Malone community and advocate for inclusion of Complete Streets principles in other plans and policies in the Town and Village of Malone.

The Malone Complete Streets Partnership is a grass-roots group working with the support of local government. The Malone Village Board passed a resolution in support of the Complete Streets Partnership and the Village Public Works Supervisor is a member of the group.



Crosswalks being painted on Catherine Street.

Malone Complete Streets Policy

At the request of the Malone Complete Streets Partnership, the Village of Malone adopted a Complete Streets policy on September 10, 2012. The policy includes the following statements:

- **Engineering.** The Department of Public Works shall provide safe and efficient accommodation of pedestrians and bicyclists by incorporating Complete Streets concepts, design features and practices in the planning, design budgeting and implementation of street and sidewalk improvement projects undertaken by the Village of Malone.
 1. The inclusion of Complete Streets facilities shall be consistent with the scope of the construction or improvement project, sensitive to the surrounding environment and land uses, and shall not be disproportionate with the cost of the larger project.
 2. Complete Streets facilities, design features and practices include, but are not limited to: sidewalks, paved shoulders suitable for cycling, designated bike lanes, bike paths, lane striping, share-the-road signage, crosswalks, curb ramps, audible pedestrian signals, pedestrian crossing signage, traffic calming measures such as curb bump-outs, center islands, and pavement markings, sidewalk snow removal and routine shoulder and bike lane maintenance, and bicycle parking facilities.
 3. Complete Streets facilities may be planned, designed, developed, and maintained in accordance with bicycle and pedestrian facility guidelines adopted by the United States Department of Transportation, New York State Department of Transportation, the American Association of State Highway and Transportation Officials, and other guidelines approved by the Village of Malone.
 4. If the Department of Public Works determines that the inclusion of bicycle and/or pedestrian facilities are unable to be accommodated on a roadway or within the public right-of-way proposed for construction or improvement, the DPW Supervisor shall provide said determination in writing, with supporting documentation, to the Village Board for their information.

5. The Village Board shall appoint an “advisory committee” to make recommendations to the Village Board on the planning, design, budgeting and implementation of Complete Streets improvements in accordance with this policy.
- **Education and Encouragement.** The Village supports the promotion of walking and bicycling for health, fitness, transportation and recreation through events, programs and other educational activities which benefit residents, students, businesses and visitors of all ages and abilities. These activities can be coordinated in partnership with Malone Complete Streets Partnership, Waterfront Advisory Board, other Village Committees, schools, health organizations and other partners. Furthermore, the Village encourages NYSDOT and Franklin County to consider a Complete Streets approach when constructing or reconstructing streets in the Village.
 - **Enforcement.** The Village will provide a balanced enforcement of the New York State Vehicle and Traffic law for motorists, pedestrians and bicyclists. This will include enforcement of pedestrian’s right-of-way in crosswalks, bicyclists riding with traffic and all modes sharing roads safely. The Village will provide code enforcement of Chapter 47 Sidewalks and Streets of the Malone Code.
 - **Evaluation.** The “advisory committee” shall review the Complete Streets Policy every four years and recommend updates to the Village Board as necessary.



2. EXISTING CONDITIONS

Local Context

Malone is a town of 14,500 residents - 6,000 of whom live in the incorporated Village of Malone. Located in northernmost New York 10 miles south of the U.S.-Canadian border, Malone is the county seat for Franklin County and is a center for employment, services, shopping, education and healthcare for surrounding communities.

Several major highways travel through and intersect in Malone - U.S. Route 11 (the village's Main Street), and New York State Routes 11B, 30, and 37. Approximately 20,000 vehicles per day travel on Malone's Main Street (U.S. Route 11). The map on page 8 shows Malone's street network and traffic flows.

The Village of Malone has a well-developed, interconnected grid of local streets and maintains 25 miles of roadway. The Town of Malone is responsible for another 72 miles of local roads outside the village. There are 5 miles of state-maintained highways in



West Main Street in downtown Malone.

the village and 24 miles of state road in the outlying portions of the town. Franklin County maintains 21 miles of roads in Malone outside the village.

There are approximately 30 miles of sidewalks in Malone, most of which are within the village. Sidewalks cross more than 130 intersections; only those along the major roads have marked crosswalks.

Community Outreach

The Malone Complete Streets Partnership invited public involvement in the preparation of this plan. The outreach efforts included an opinion survey that was available online and in paper at several community locations. In addition, the Partnership had an information table at Wead Library and went out to various community locations and events with maps to gather feedback on where residents are/want to walk or bike, assess the current condition of streets and sidewalks, and identify locations that need improvement.

A total of 78 residents responded to the opinion survey. The complete results are included in Appendix 4 and summarized below:

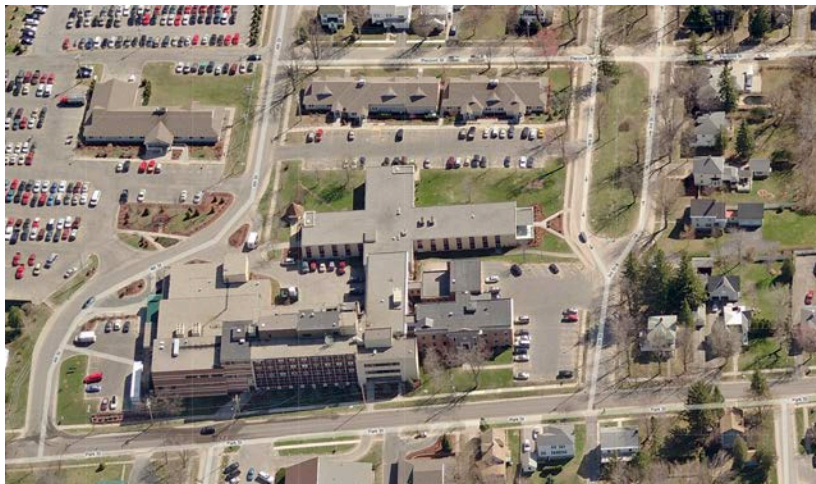
- **How often do you walk?** 33% walk more than four times a week; 30% walk at least once a week; 9% walk at least once a month; and 28% rarely walk.
- **How often do you bicycle?** 5% bike more than four times a week; 13% bike at least once a week; 6% bike at least once a month; 20% rarely bike; and 55% never bike.

- **What prevents you from walking or bicycling?** Lack of sidewalks or trails (39%). Improperly maintained sidewalks or trails (36%). Aggressive motorists (36%). Lack of bike lanes or shoulders (35%).
- **What kind of improvements are needed?** New sidewalks (62%). Crossing improvements (47%). Wider shoulders on roads (44%). Bicycle lanes (44%). New trails (40%). Safe routes to school (35%).

Street Assessment

The Malone Complete Streets Partnership, with assistance from the North Country Healthy Heart Network, assessed the condition of sidewalks along the principal streets and major walking routes.

Approximately 13 miles of sidewalks were assessed, of which 1¼ miles were determined to be in good condition and 4½ miles were classified as being in fair condition as shown on the map on page 9. Nearly half (45%) of the sidewalks assessed were found to be in poor condition. The detailed Complete Streets



Alice Hyde Medical Center on Park Street.

Assessment is included in Appendix 2. The map on page 9 and the table on pages 11-12 summarize the results.

The *Creating a Walkable Malone* report (Appendix 5) recommended complete streets improvements along West Main Street, a state-maintained highway, which would primarily need to be implemented by the New York State Department of Transportation. The assessment and subsequent recommendations made in this report focus in particular on high pedestrian traffic locations located on local streets such as the area around the hospital, schools and affordable/senior housing developments, which Malone can act on independently.

Intersection Assessment

The Malone Complete Streets Partnership, with assistance from the North Country Healthy Heart Network, assessed more than 30 intersections to determine whether they provided appropriate pedestrian crossing features.

The assessment showed that nearly all of these intersections lacked one or more of the elements needed to be ‘complete’. As noted above, around 100 intersections in Malone have no marked crosswalk. Intersections lacking one or more designated crosswalks are shown on the map on page 10. The detailed Intersection Assessment is included in Appendix 3.

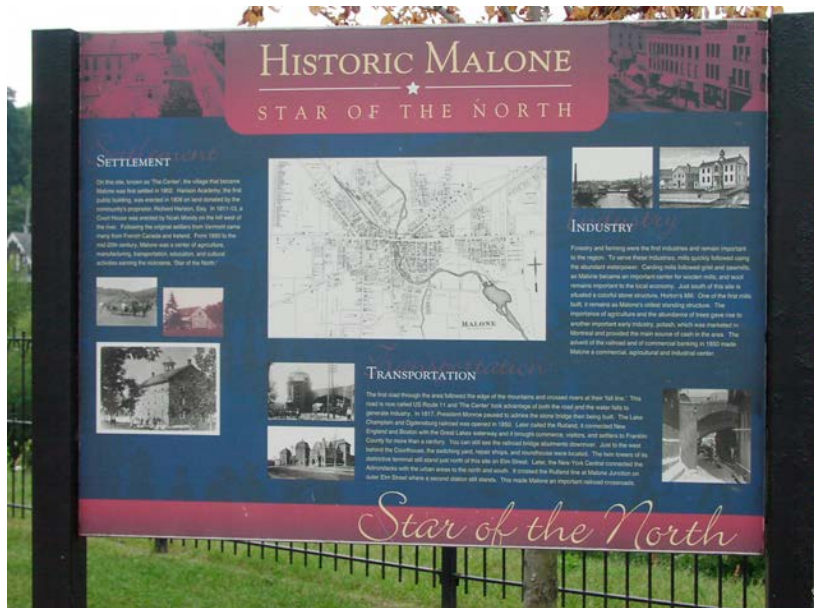
Village Sidewalk Code

The Village of Malone has a local law regulating sidewalks, Chapter 47 of Village Law, which was last revised in 1997. The law prohibits obstructing sidewalks and parking on sidewalks, and requires adjoining property owners to keep their sidewalks clear (including snow removal) and in good repair. The code also prohibits running, bicycling, skating, skateboarding, sledding and operating any kind of vehicle on sidewalks in the village.

Based on the language of the law, which makes landowners responsible for the sidewalk adjoining their property, the village requires owners who request sidewalk repairs to pay the cost of the materials. The village public works department provides the labor. This approach has resulted in sidewalks being repaired in a piecemeal fashion, and based on requests for repairs rather than the need for repairs.

Local Waterfront Revitalization Plan

The Town and Village of Malone have adopted a *Local Waterfront Revitalization Plan*. The key project recommended in that plan, a Greenway Trail along the Salmon River that would connect a series of parks, river access sites, schools and other community resources, is interwoven with the work of the Complete Streets Partnership and the recommendations of this plan.



Interpretive sign along the byway.

Designated Scenic Byways

Two of New York State’s Scenic Byways travel through Malone - the Adirondack Trail Scenic Byway (Route 30) and the North Country Scenic Byway (Routes 11 and 37). New York State Scenic Byways are specially designated routes on existing roadways that offer travelers memorable experiences and provide economic benefits for byway communities via natural, cultural, historical, and recreational tourism.

Each byway has a Corridor Management Plan, which specifies actions, procedures, controls, operational practices, and administrative strategies to maintain the intrinsic qualities of the scenic byway. The Corridor Management Plans both include transportation goals and objectives are completely consistent with this *Malone Complete Streets Plan*. The Corridor Management Plans promote a Complete Streets approach to planned improvements, providing for streetscape and pedestrian safety improvements. The remainder of the Corridor Management Plan goals related to tourism, recreation, and economic development also support the concept of Complete Streets.



View of the Salmon River through Malone.

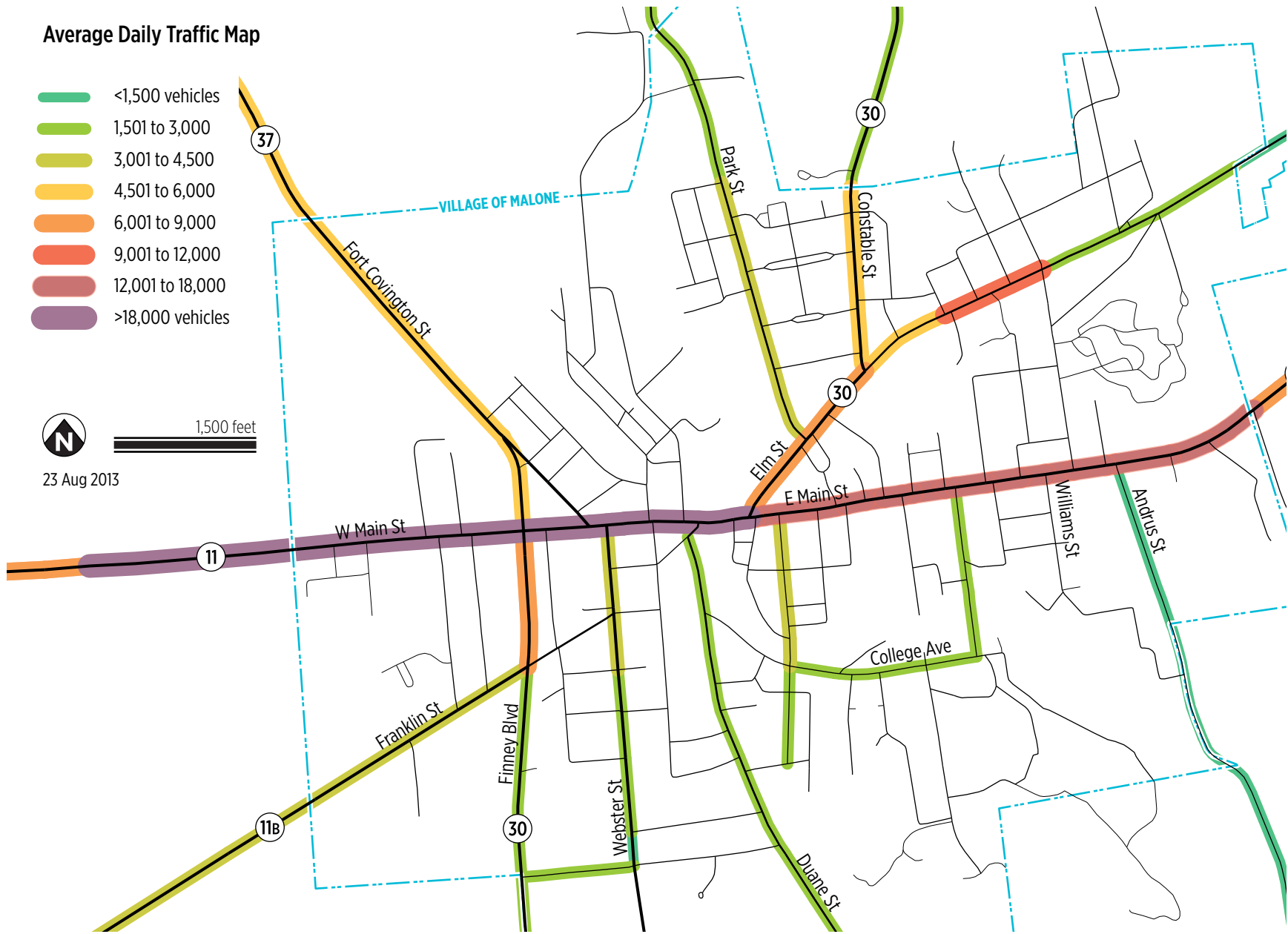
Average Daily Traffic Map

- <1,500 vehicles
- 1,501 to 3,000
- 3,001 to 4,500
- 4,501 to 6,000
- 6,001 to 9,000
- 9,001 to 12,000
- 12,001 to 18,000
- >18,000 vehicles



1,500 feet

23 Aug 2013



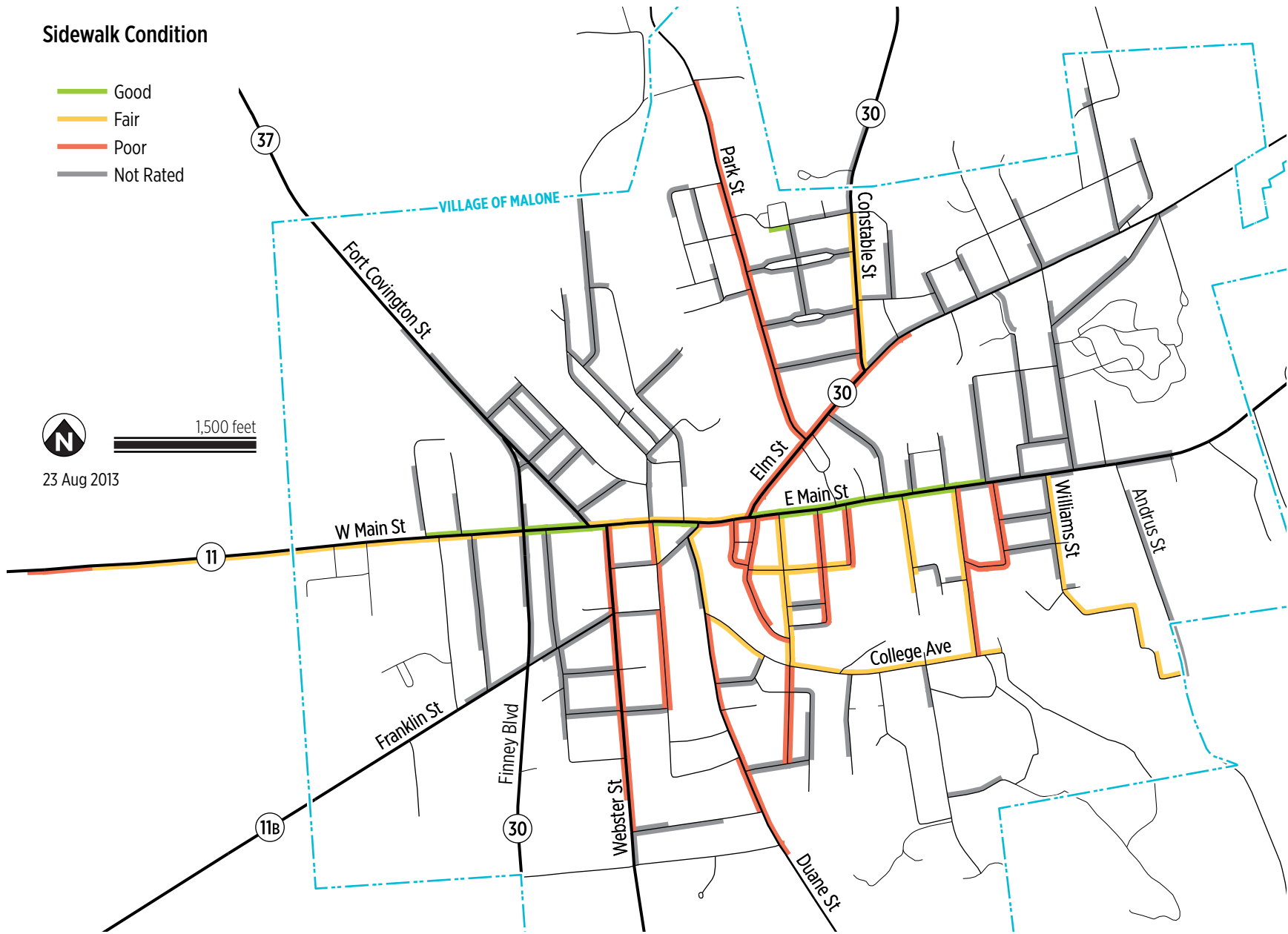
Sidewalk Condition

- Good
- Fair
- Poor
- Not Rated





23 Aug 2013

1,500 feet



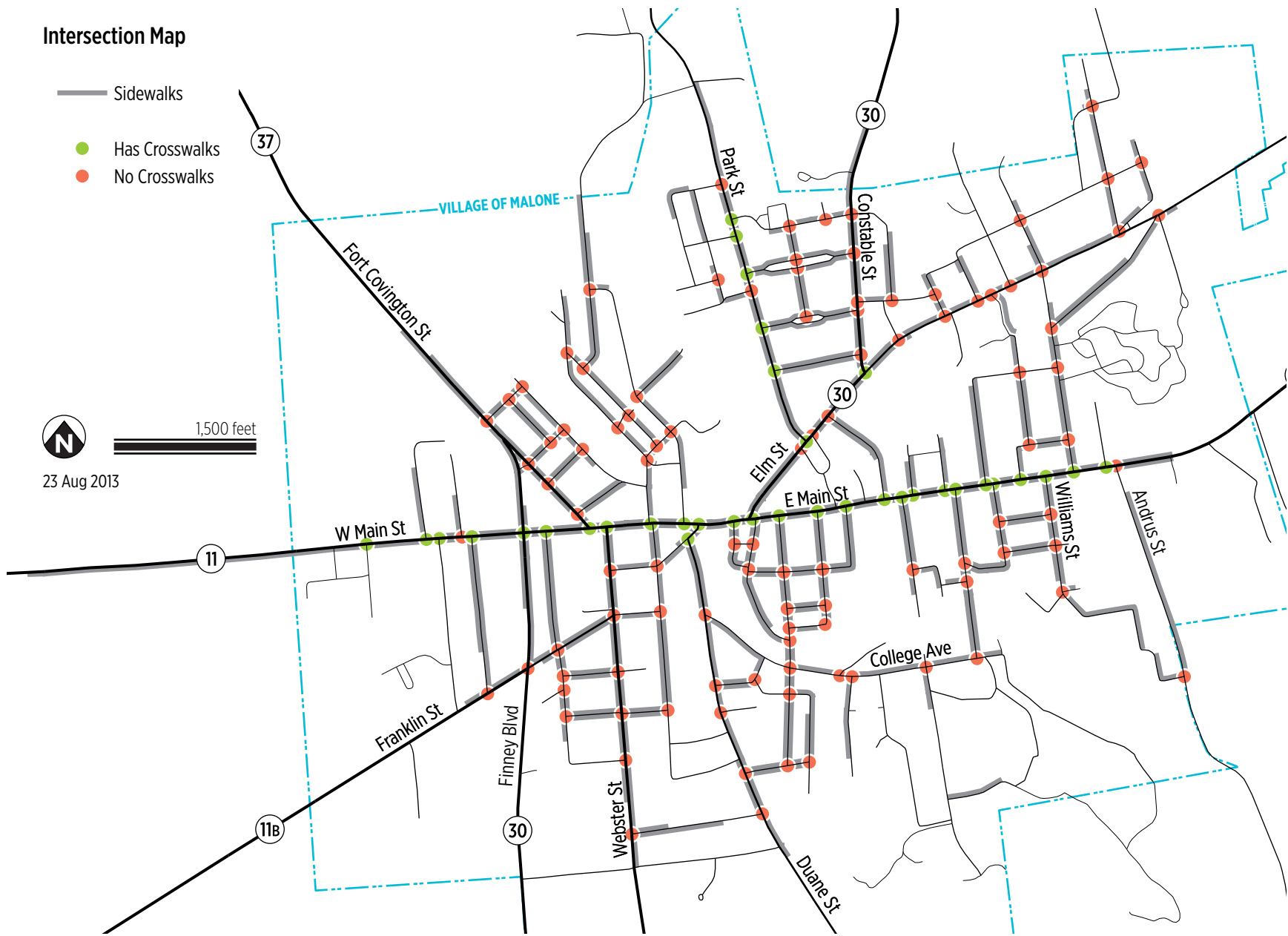
Intersection Map

-  Sidewalks
-  Has Crosswalks
-  No Crosswalks



1,500 feet

23 Aug 2013



Summary of 2012 Street and Sidewalk Assessment Results (sorted by sidewalk condition)

Street Name	Segment	Traffic Volume	Sidewalk Condition	Walking Safety	Shoulder Condition	Biking Safety
Route 11	Sawyer Ave. to Finney Blve./Rite Aid	High	Good	Good	Good	Poor
E. Main St. - North	Willow St. to Clay St.	High	Good	Good	Good	Poor
E. Main St. - South	Clay St. to Howard St.	High	Good	Good	Good	Poor
E. Main St. - South	Howard St. to Willow St.	High	Good	Good	None	Poor
Main St. - North & South	Pearl St. to Clay St.	High	Good	Fair	Good	Poor
Main St. - South	Harrison Place to Academy St.	High	Good	Good	Good	Poor
Main St. - South	Webster St. to Finney Blvd.	High	Good	Good	None	Poor
Main St. - North	Finney Blvd/Walgreens to Ft. Covington St.	High	Good	Good	None	Poor
4th St. - South	Park St. to Pierrepont Ave.	Low	Good	Fair	None	Good
Route 11	Finney Blvd/Jrecks to Wellington/Movie Gallery	High	Fair	Good	Good	Poor
Route 11	Wellington St./Movie Gallery to Kmart Plaza	High	Fair	Good	Good	Good
Route 11	Kmart Plaza to Aldi's Plaza	High	Fair	Fair	Good	Good
Academy St. - East	Jane St. to Main St.	Low	Fair	Fair	None	Fair
College Ave.	Willow St. to Duane St.	Moderate	Fair	Fair	None	Poor
Milwaukee St.	Mill St. to Clay St.	Low	Fair	Fair	Fair	Good
Pearl St.	Main St. to College Ave.	Moderate	Fair	Good	None	Fair
Howard St.	Main St. to End/River	Low	Fair	Fair	None	Fair
Willow St. - West	E. Main St. to College Ave.	Moderate	Fair	Fair	Good	Fair
Williams St.	Adndrus St. to Main St.	Low	Fair	Fair	Good	Good
Main St. - South	Academy St. to Webster St.	High	Fair	Good	Good	Poor
Main St. - North	Ft. Covington St. to Brewster	High	Fair	Good	Good	Poor
Main St. - North	Brewster St./Court House to Harrison Place	High	Fair	Good	Good	Poor
Duane St. - East	College Ave. to Main St.	Moderate	Fair	Fair	None	Fair
Constable St. - West	4th St. to 2nd St.	High	Fair	Good	Good	Good
Constable St. - East	Elm St. to Prospect St.	High	Fair	Fair	Good	Good
Route 11	Aldi's to WalMart	High	Poor	Poor	Good	Good
Park St. - East	5th St. to Elm St.	Moderate	Poor	Fair	Good	Good
Park St. - West	5th St. to Elm St.	Moderate	Poor	Fair	Good	Good

Summary of 2012 Street and Sidewalk Assessment Results (sorted by sidewalk condition)

Street Name	Segment	Traffic Volume	Sidewalk Condition	Walking Safety	Shoulder Condition	Biking Safety
Elm St. - South	Main St. to Constable St./Route 30	High	Poor	Good	Good	Fair
Elm St. - North	Constable St. to Main St.	High	Poor	Good	Good	Poor
Webster St. East	Davis School to Main St.	Moderate	Poor	Poor	Good	Poor
Webster St. - West	Main St. to Davis School	Moderate	Poor	Poor	Good	Poor
Academy St. - West	Main St. to Jane St.	Low	Poor	Poor	None	Poor
Academy St. - West	Jane to Shields	Low	Poor	Poor	None	Poor
Academy St. - East	Shield St. to Jane St.	Low	Poor	Poor	None	Fair
Mill St.	Main St. to Catherine St.	Low	Poor	Fair	Fair	Fair
Catherine St.	Pearl St. to Main St.	Low	Poor	Fair	None	Fair
Pearl St.	South St. to College Ave.	Moderate	Poor	Fair	None	Fair
Clay St.	Main St. to Milwaukee St.	Low	Poor	Good	None	Fair
Willow St. - East	College Ave. to E. Main St.	Moderate	Poor	Fair	None	Fair
Pine St.	Willow St. to Center St.s	Low	Poor	Fair	None	Fair
Washington St.	Main St. to Monroe St.	Low	Poor	Fair	Fair	Good
Center St. - East & West	Main St. to Pine St.	Low	Poor	Fair	None	Poor
Main St. - South & North	Clay St. to Harrison Place	High	Poor	Good	Good	Fair
Duane St. - East	Rec Park to College Ave.	Moderate	Poor	Poor	None	Fair
Duane St. - West	Ketchum to Halley	Moderate	Poor	Poor	None	Fair
Constable St. - West	2nd St. to Elm St.	High	Poor	Fair	None	Good
Route 11	Airport Road to Sawyer Ave. (Gallagher's side)	High	None	Poor	Good	Good
Willard St.	Webster St. to Highland St.	Low	None	Poor	Good	Good
Webster St. East	Indian Trails Dr. to Davis School	Moderate	None	Poor	None	Poor
Webster St. - West	Davis School to Indian Trails Dr.	Moderate	None	Poor	None	Poor
Academy St. - East and West	Shields to Halley	Low	None	Poor	None	Fair
State St.	College Ave. to Huskie Lane	Low	None	Poor	None	Poor
4th St. - South	Pierrepoint Ave. to Constable St.	Low	None	Poor	None	Good
4th St. - North	Pierrepoint Ave. to Park St.	Low	None	Poor	None	Good

3. TOOLKIT

Walking

We start and end nearly every trip as a pedestrian. Despite this, walking is often the least considered mode of travel when it comes to providing convenient, safe and adequate facilities.

Safe pedestrian facilities provide people a designated place to walk between destinations that is separated from vehicle traffic. The most common pedestrian facility is a sidewalk. Municipal governments are responsible for providing pedestrian facilities where appropriate and needed, but typically do less to improve and maintain the infrastructure serving pedestrians than they do for the infrastructure serving vehicles.

Pedestrian walkways, when provided, are too often poorly built, inadequately maintained, incomplete, and not accessible to people with mobility impairments. Road design and commercial development standards typically emphasize the efficient movement and safety of vehicles with less consideration for the efficient movement and safety of pedestrians.

As a result of these factors, many streets have become an intimidating place for pedestrians. People feel insecure walking along high-speed and/or high-volume roads, and are reluctant to cross such streets even when crosswalks are available.

Well-designed pedestrian facilities can create a more walkable environment, where pedestrians feel safe



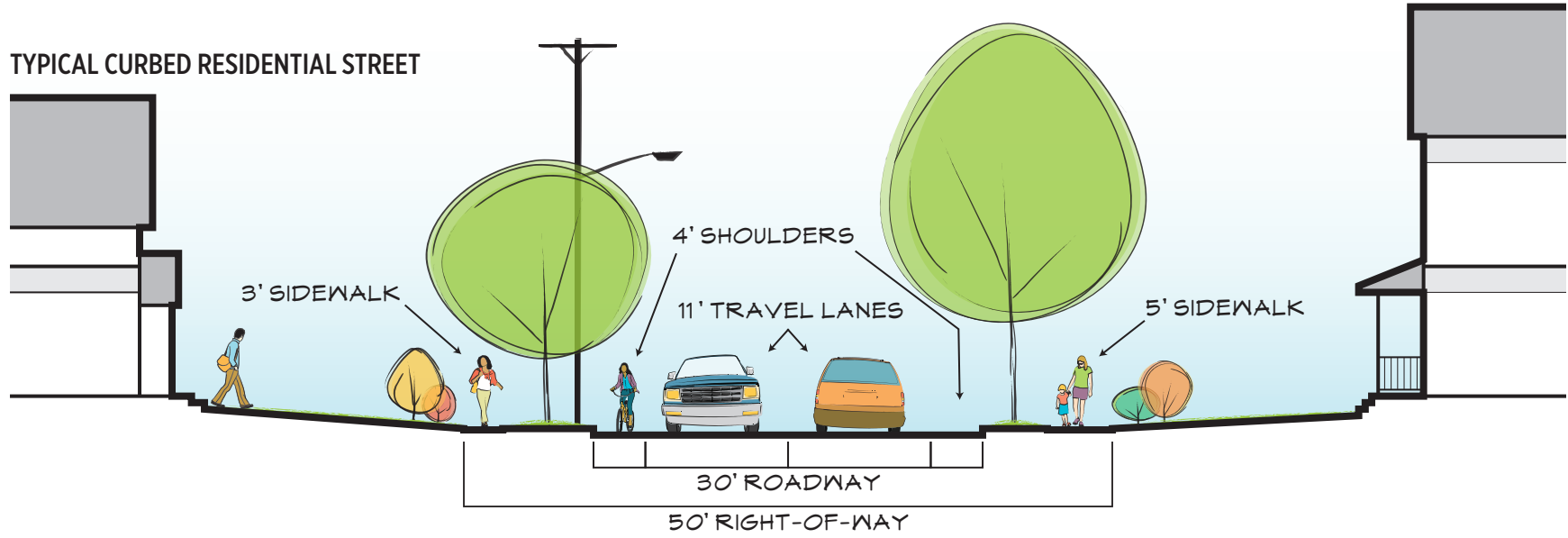
and secure and adjacent traffic is not perceived as intimidating. Studies in communities around the country have shown that people will walk if there are safe pedestrian facilities.

Just as an interconnected street system is needed to drive from place-to-place, pedestrian routes need to be continuous and interconnected. A well-designed sidewalk network is one that provides continuous paths with no gaps that connect where people want to walk.

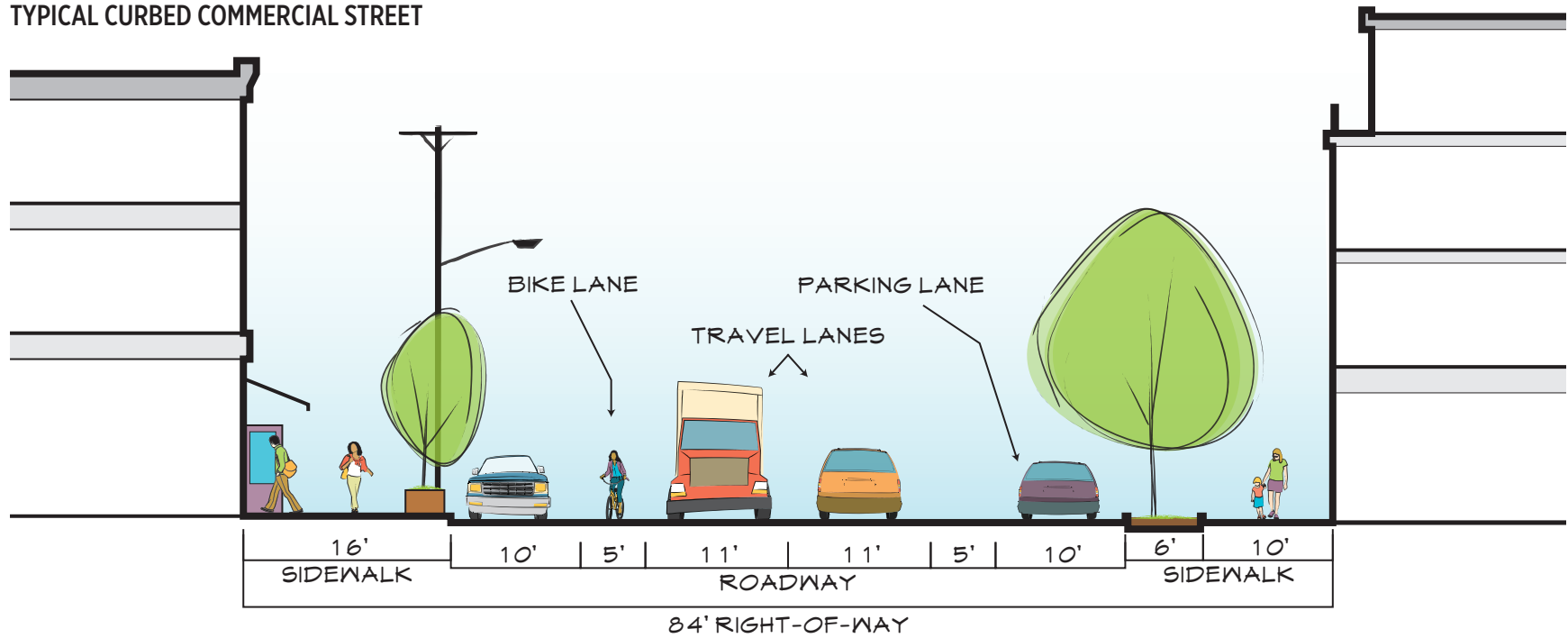
To function properly, sidewalks should provide adequate space for pedestrians to move freely and easily without impediments, and have a smooth and stable surface. It is also important for sidewalks to be well maintained. Cracks in the pavement or heaves in the surface create trip hazards and can lead to falls and injuries.



TYPICAL CURBED RESIDENTIAL STREET



TYPICAL CURBED COMMERCIAL STREET



Sidewalk Guidelines. While the design of a sidewalk depends on its location and function, the following general guidelines should be considered:

- Sidewalks should be at least 5 feet wide. If sidewalks are too narrow, fewer people can use them, people have to walk single file, and people may be uncomfortably close to buildings and/or automobile traffic. Narrow sidewalks may not provide enough clear space for people who use walking aids or wheelchairs.



Sidewalk too narrow for wheelchair.

Obstructions – such as utility poles, untrimmed trees or shrubs, or illegally parked vehicles – can create even narrower spaces with little room to maneuver around them. Narrow sidewalks are also more likely to have driveway crossings with steep cross slopes and curb ramps with insufficient landings and/or steep ramp grades.



Parked vehicle blocking the sidewalk.

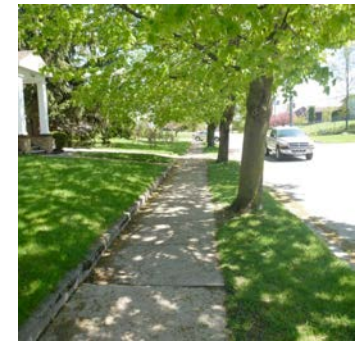
Sidewalks need to be at least 5 feet wide to allow people to pass each other or walk side-by-side. Even wider sidewalks should be installed in areas near schools, on commercial streets, or in other areas where there will be many



Utility pole blocking sidewalk.

people walking. The minimum width for an Americans with Disabilities Act (ADA)-compliant sidewalk is 3 feet, but sidewalks this narrow should be limited to short distances and wider passing spaces may need be provided at set intervals if the sidewalk is less than 5 feet across.

- There should be at least a 4-foot buffer between the sidewalk and the vehicle travel lane. As pedestrians, we feel more secure when there is a buffer between ourselves and moving vehicles. The buffer may include an on-street parking lane, an on-street bike lane, greenspace or planting strips, raised curbs, space for street trees, street furniture, street lights or utility poles, or a combination of those elements.
- Sidewalks should be at least 8 feet wide where buildings abut the sidewalk. The three additional feet of sidewalk is needed so that doors can be opened and people can enter and exit buildings without blocking the sidewalk for other pedestrians.
- Sidewalks should continue across driveways. Sidewalks should not be paved over in order to maintain a continuous, level surface with minimal cross-slope.
- Sidewalks should be constructed of concrete or a material with a similar lifespan and performance.



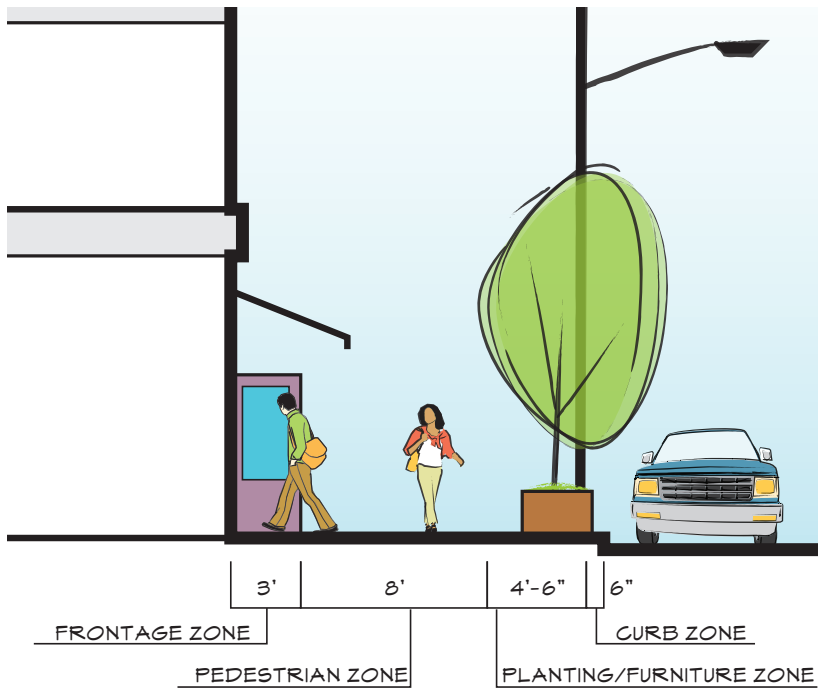
Planting strip & trees buffer sidewalk.



Wider sidewalks in front of buildings.



Sidewalk continues across driveways.



Sidewalk Zones. The sidewalk corridor can include several zones depending on the setting:

- **Curb Zone.** For curbed streets, the curb zone is typically the first 6 inches of the sidewalk corridor immediately adjacent to the roadway. The curbs function both to prevent street runoff from flowing onto sidewalks and adjacent properties, and to discourage people from driving or parking off the roadway. People with vision impairments also use curbs to identify the border between the sidewalk corridor and the roadway.
- **Planting/Furniture Zone.** The planting/furniture zone lies between the curb and pedestrian zones. Items such as signs, utility poles, fire hydrants, parking meters, benches, mailboxes and newspaper boxes should be located in this zone rather than within the pedestrian zone where they become obstacles.



Trees do better in wider planting zones.



Snow can be stored in the planting zone.



Fixed objects in planting/furniture zone are out of the way of pedestrians.



Signs placed in frontage zone.

The planting/furniture zone is commonly an unpaved planting strip, particularly on residential or side streets. If the planting/furniture zone is paved, which is more typical in a downtown setting or on a commercial street, it is frequently distinguished from the pedestrian zone by a different surface color, texture and/or pattern.

The planting/furniture zone also serves as a buffer between the pedestrian zone and the roadway. To provide a sufficient buffer, this zone should be at least 2 feet wide. When adjacent to an on-street parking lane, the width should be at least 3 feet and have enough clear space to allow people to get in and

out of the parked vehicles. If it will be serving as a planting strip, this zone should be at least 4 feet wide to provide enough space for street trees. A wider planting/furniture zone also provides a place to store snow cleared from the roadway and pedestrian zone.

- **Pedestrian Zone.** The portion of the sidewalk corridor specifically reserved for people to walk on is the pedestrian zone. It should be completely free of obstacles, protruding objects, and vertical obstructions, which are particularly hazardous to pedestrians with vision impairments who may not be able to detect or avoid them. The appropriate width of this portion of the sidewalk corridor is discussed above.
- **Frontage Zone.** The frontage zone is the area between the pedestrian zone and the property line. A frontage zone is needed when buildings are located right at the edge of the sidewalk, most common in a downtown setting or on a commercial street. This zone should not be less than one-foot wide and may need to be wider to accommodate building doors that open out into the sidewalk corridor and other activities at the edge of the sidewalk. Sidewalk cafes, protruding display windows, street vendors, sandwich board signs, and sidewalk sales may all occur or be located within the frontage zone if there is adequate width. Like the planting/furniture zone, the frontage zone is frequently distinguished from the pedestrian zone by a different surface color, texture and/or pattern. If the sidewalk corridor is adjacent to lawns or landscaped areas, as is common on residential streets, a frontage zone will not be needed.

Crosswalks. As pedestrians, we are at risk whenever we have to cross the roadway. For this reason, sidewalk networks should be designed to minimize the number of times people need to cross the road when walking between destinations. Marked crosswalks are an effective method for improving safety and reducing accidents.



At street intersections, turning vehicles and the speed at which they travel pose the greatest threat to pedestrians because the motorist's attention is focused primarily on other vehicles. Traffic calming techniques that can improve safety for crossing pedestrians are discussed in greater detail on pages 25-27.

Crosswalks indicate the preferred locations for pedestrians to cross a street and provide warning to motorists that people may be crossing. The following general guidelines for crosswalks should be considered:

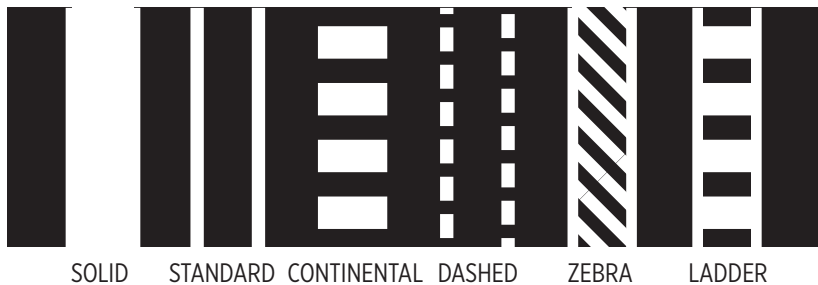
- **The length of crosswalks should be minimized and signals appropriately timed to allow all pedestrians to cross safely.** A shorter crossing distance improves safety by minimizing pedestrians' exposure to moving traffic. Long crossing distances also make it more difficult for seniors, children and people with impaired mobility to safely cross a street. Median refuge islands should be considered for crossings that are more than 60 feet long. Traffic calming techniques that reduce crossing distance are discussed on pages 25-27.
- **Crosswalks located at intersections are preferred to those located at mid-block.** Typically, crosswalks should be installed at intersections controlled by either stop signs or a traffic control signal. Mid-block locations are acceptable when warranted by heavy pedestrian traffic or to provide access

to a major pedestrian destination. When the distance to the nearest crosswalk is more than 500 feet, people are more likely to jaywalk rather than walking a long distance to the crosswalk and a mid-block crosswalk may be justified.

Crosswalks are implied at all intersections whether or not they are marked, while mid-block crossings can only be created by a marked crosswalk.

- **Marked crosswalks should be at least 6 feet wide.** Marked crosswalks should be delineated by white lines and should be designed in accordance with the Manual of Uniform Traffic Control Devices (MUTCD). The MUTCD includes a number of options for crosswalk markings: Research indicates that the continental design is the most visible to drivers, and is recommended at high-traffic intersections. The painted lines should be 12 to 24 inches wide and separated by gaps of 12 to 60 inches. The gap between the lines should not be more than 2.5 times the width of the lines. The lines in the continental design can be aligned so that vehicle wheels pass between, rather than over, them to extend their lifespan.

The standard design is typically the lowest cost to install and maintain, and is suitable for lower-traffic intersections. The width of the lines may be reduced to 6 inches at low-traffic intersections.



Common Crosswalk Marking Types

- **Marked crosswalks can be an attractive streetscape element.** The travel portion of the crosswalk may be painted or have a tactile surface (ex. pavers or stamped concrete) to further distinguish it from the travel way. Decorative crosswalks are often installed as part of an overall streetscape design intended to create an attractive downtown or similar pedestrian-oriented destination. The surface material should be visible, non-slippery and not cause a tripping hazard.

There are techniques for stamping patterns into concrete or asphalt to create the appearance and texture of brick or pavers. A crosswalk painted brick red with white outlines closely mimics a crosswalk built of brick pavers and is much less expensive to build and maintain.



Solid painted crosswalks.

- **Marked crosswalks require regular maintenance.** Crosswalk markings will require regular repainting or replacement, particularly on heavily traveled streets. The standard or solid designs are frequently used on low-volume residential or side streets, and their simple design reduces installation and maintenance costs.



Creative crosswalk designs are possible and can help remind motorists of a special crossing area like at a school.

Curb Ramps. To accommodate pedestrians with disabilities or impairments, curb ramps should be installed at all intersections. The implementing regulations under Title II of the Americans with Disabilities Act specifically identify curb ramps as requirements for existing facilities, as well as all new construction. Curb ramps, which provide a gentle slope from the height of the sidewalk to the surface of the street, enable more people who use wheelchairs to be able to travel independently.



Snow removal is critical to maintaining the accessibility of sidewalks and crosswalks.



Curb ramps also make it easier to cross the street with a stroller.



Brightly colored tactile materials highlight the edge between sidewalk and street for people with a range of vision impairments.

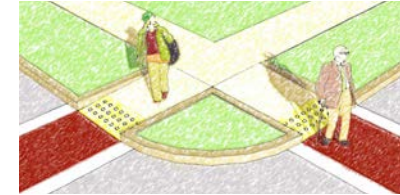
While curb ramps must be designed to be accessible for people who use wheelchairs, they must also be designed so that people with vision impairments can detect them and identify the transition from sidewalk to street. Tactile materials are added to ramps to provide a non-visual cue of the edge of the sidewalk.

Ideally, curb ramps should be at least 3 feet wide and should have a slope between 6% and 8%. Ramps should be provided for each direction of travel across the intersection. However, when curb ramps are being added to pre-existing streets and sidewalks, each ramp may need to be designed to provide the

best compromise solution for accessibility and safety given the limitations of the installation site.

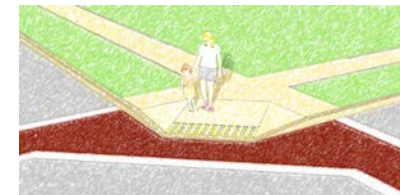
An accessible connection between the sidewalk and the street can be provided through a variety of curb ramp designs. Curb ramps generally fall into one of the following types:

- **Perpendicular.** A perpendicular curb ramp should be perpendicular to the curb and pedestrians will be walking perpendicular to vehicular traffic when they enter the street at the bottom of the ramp. Ideally, the ramp should be aligned with the crosswalk, but this may not be possible if the intersection has a wide turning radius. A perpendicular curb ramp should not be installed if it is not possible to provide a level landing at the top of the ramp. This type of ramp is best suited to wider sidewalk corridors where there is space in the planting/furniture zone to accommodate the ramp.



Perpendicular curb ramps.

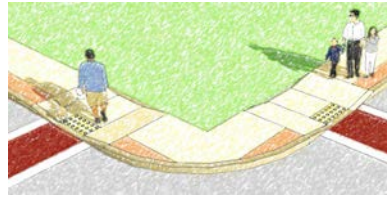
- **Diagonal.** A diagonal curb ramp is a single curb ramp located at the corner of an intersection that leads towards the center of the intersection. Pedestrians will be walking diagonal to vehicular traffic when they enter the street at the bottom of the ramp, and this puts them in conflict with motorists. Pedestrians must turn to the right or left to enter the crosswalk, and it may be difficult for pedestrians with vision impairments to find the crosswalk. Although it is usually less expensive to build, this type of ramp is generally discouraged; it may be used where there are space limitations that prevent



Diagonal curb ramp.

installation of another ramp type. A diagonal curb ramp should not be installed if it is not possible to provide a level landing at the top of the ramp.

- **Parallel.** A parallel curb ramp has two ramps leading down towards a center level landing at the bottom between both ramps with a level landing at the top of each ramp. It is oriented so that pedestrians using the ramp are walking parallel to both the street and sidewalk, and requires people continuing along the sidewalk to walk down one ramp and up the other. Parallel curb ramps are typically as wide as the sidewalk and do not require returned curbs or flares, which eliminates rapid grade changes and cross-slopes. They are recommended for narrow sidewalks because the ramp does not require additional right-of-way, but should not be used where it is possible to fit two properly designed perpendicular curb ramps.



Parallel curb ramp.

- **Combined.** A combined curb ramp uses the best characteristics of both parallel and perpendicular curb ramps by incorporating a parallel ramp to lower the elevation of the landing and then using a perpendicular ramp to bridge the remaining height difference between the landing and the street. This design is particularly well-suited to difficult intersections where the sidewalk is narrow, has a steep grade, or a high curb. Combined ramps may be more expensive to install as a retrofit than other types of ramps because more of the existing sidewalk has to be replaced.



Combined curb ramps.

Signals. Pedestrian signals should be provided at signalized intersections to let people know when it is appropriate to cross a street. The signal should be timed to allow sufficient time for pedestrians to cross the street. It should be noted that many pedestrians - older people, parents with young children, and people with mobility impairments - will not be able to cross the street as quickly as an able-bodied adult and signals need to be timed appropriately to accommodate all users safely. The installation of pedestrian signals must comply with the requirements and guidelines in the Manual on Uniform Traffic Control Devices (MUTCD).

Grades and Cross-Slopes. While grade of a sidewalk is often difficult to control, because it follows the slope of the street and surrounding terrain, ideally sidewalk grades should not exceed 5% and the most gradual possible slope should be used at all times. If excessive grades cannot be avoided, sidewalks can be designed to provide level landings at regular intervals, which can provide people with a place to rest. A level landing is also a good location for pedestrian amenities like benches. Installing a handrail may be possible if the steep section is limited in length and may be warranted if there are steep drop-offs adjacent to the sidewalk.

The effects of steep terrain are often compounded by other factors such as cross slope, narrow widths, and changes in level. When the grade is steep, surfaces should be firm, stable, and free of changes in level, and the sidewalk should be wide enough to allow pedestrians to pass one another. While a slight cross slope is necessary to provide drainage, no cross slope should exceed 2%. Severe cross slopes make it difficult for pedestrians to maintain their balance because they must work against the force of gravity.

Bicycling

Bicycling as a mode of transportation involves sharing the road with vehicles. Even in communities with separated bike paths, it will not be possible to travel between most destinations entirely off-road. Because of this, most streets should incorporate design elements that facilitate bicycling. It is not necessary to specifically designate streets as bicycle routes or provide bicycle lanes. Rather, all roadways should be maintained and upgraded to accommodate safe and convenient bicycle travel.

The type of accommodation depends on the type of road and characteristics of traffic. On low volume, residential streets, bicyclists can easily become integrated vehicles and may not require any separation. The street is a

shared-space used by vehicles, bicyclists and pedestrians. However, special treatments are necessary and greater separation is required to accommodate bicyclists on higher-volume and/or higher-speed roadways.

Types of Bicyclists. Three categories of bicyclists should be considered: young children, the average rider, and the advanced bicyclist. Malone allows young children to bicycle on the sidewalk, but older children and adults must bicycle on the road. Advanced bicyclists are generally comfortable riding with vehicles even in high-traffic situations, but the average rider will probably not be comfortable where there is not a designated space for bicycling such as a bike lane or shoulder. Because the majority of bicyclists are young children or average riders, bicycle facilities should be designed to serve their needs.



Young children and average riders prefer low volume, low-speed roads or designated bicycle facilities with well-defined separation from motorized vehicles. These riders are best served by a network of neighborhood streets and designated bicycle facilities. Except on low-volume neighborhood streets or rural roads, these riders will likely need to be provided with a “safe space” outside the travel lane for bicycling that is at least 4 feet wide to feel comfortable riding on shared roadways.

Types of Bicycle Facilities. There are basically three types of bicycle facilities: shared roadways; bicycle lanes and shared-use paths.

- **Shared Roadways.** Shared roadway facilities are located on the road and either share space with vehicles or provide an exclusive space along the edge of the road for bicycling. They provide the minimum level of route designation and separation from traffic. Bicyclists are expected to share the road with vehicles, travel in the same direction of traffic, and follow the same rules of the road. Shared roadway facilities may be unmarked or may be signed with a standard bicycle route sign along both sides of the road. There are three common types of shared roadway facilities: paved shoulders, wide travel lanes, and shoulder bicycle routes.

Paved Shoulders. This is the most common bicycle facility. The bicyclist uses the shoulder area of the vehicle lane. The shoulder width should be at least 4 feet wide and should be increased if traffic volume or speed are high. Paved shoulders generally do not require special signing or marking, except that signing or marking should



This paved shoulder is not wide enough to safely accommodate bicyclists.

be provided if the route serves as a connector between special bicycle facilities. Paved shoulders are a suitable bicycle facility on lower volume and lower speed roads.

Wide Travel Lane. The bicyclist shares a travel lane with vehicles, riding with traffic on the far right edge of the lane. The lane should be at least 14 feet wide and should be wider where traffic volumes are high. The wide lane can accommodate both vehicles and bicycles without reducing the capacity of the roadway, and drivers do not have to move into an adjacent lane when passing a bicyclist. This type of facility is more appropriate along low-speed, low-volume roads. When considering this type of facility, it is important to consider whether wider travel lanes will lead to higher vehicle speeds.

Shoulder Bicycle Route. Similar to the paved shoulder, the bicyclist rides in the paved portion of the road to the right of the fog line. The fog line provides some level of separation between vehicles and bicycles. Unlike the paved shoulder, the shoulder lane is designated as a bicycle route with appropriate signing and pavement markings. A shoulder bicycle route should be at least 4 feet wide, but should be at least 5 feet if there is a guide rail or curbing. With 12-foot travel lanes, the paved width of a roadway needs to be at least 32 feet to accommodate bicycle route on each side.



A sharrow, or shared lane marking, being installed. Sharrows indicate to bicyclists the best place to ride in a lane shared with vehicles and remind motorists to expect and share the lane with bicyclists.

- **Bicycle Lanes.** Bicycle lanes are located on the road and either share space with vehicles or provide an exclusive space along the edge of the road for bicycling. A bike lane is specifically designated by striping and signing for preferential and/or exclusive use by bicyclists. Bike lanes should be designed in consideration of the following:

Direction. Bicycle lanes should be one-way and with bikes moving in the same direction as vehicles in the adjacent lane. Two-way bicycle lanes should be avoided because they promote riding against the flow of traffic. On two-way roads, bike lanes are installed along both sides and both directions.

Width. A bicycle lane should be at least 4 feet wide, but should be at least 5 feet if there is a guide rail or curbing. Width should be increased where traffic speeds are greater or where there is more potential conflict.

On-Street Parking. On-street parking can create a problem for bicyclists. So where on-street parking is permitted, the bike lane needs to be located between the travel lane and



Bike lane located between travel lane and on-street parking lane. One hazard of a bike lane adjacent to on-street parking is the possibility of a car door being opened in front of an oncoming bicycle. The bike and parking lanes should be wide enough to allow vehicle doors to be safely opened and bicyclists room to maneuver.



Green paint can be used to distinguish bike lanes from vehicle travel lanes, particularly in locations with heavy traffic. This intersection also has a 'bike box' delineated, which is a space for bicyclists waiting for the light to turn or travel through the intersection with traffic. Vehicles are stopped behind the bike box.



The Malone Local Waterfront Revitalization Plan recommends creating a continuous shared use path along the Salmon River corridor primarily within existing roadways and other available public lands and rights-of-way. The path would connect a series of parks and river access points from the town through the village and downtown.

the designated parking spaces. If on-street parking is not designated by pavement markings, the lane should be at least 11 feet wide to accommodate the combined bike and parking lane.

Intersections. At intersections, striping and signage will be needed to encourage bicyclists to properly position themselves based on whether they intend to go straight, turn left or turn right.

- **Shared-Use Paths.** Shared-use paths are specialized, off-road facilities on a separate right-of-way that accommodate multiple users. Shared-use paths are commonly used by bicyclists as well as walkers, joggers, in-line skaters, persons in wheelchairs, and people pushing strollers. So while these paths provide a safe place for young children and average riders to bicycle without having to worry about vehicles, the mix and volume of users can create its own challenges.

Care and attention should be given to the design and rules of the path to minimize conflicts between different types of users. The generally accepted guidelines for the design of shared use paths (AASHTO's Guide for the Development of Bicycle Facilities) include the following:

Width. The desired minimum width of a shared-use path is typically 10 feet. Minimum width may be



Paved shared-use path adjacent to the road in place of a sidewalk.



Shared-use path crossing a street. Pedestrians should cross on the left and bicyclists on the right. Bollards separate the path and street.



Rail bed converted to a shared-use path.



Accessible, hard-surfaced path.

8 feet depending on the anticipated level of use and mix of users. The path should have a 2-foot graded shoulder on each side to serve as a refuge for pedestrians and allow bicyclists to pass pedestrians. Fixed objects should not be located closer than 3 feet from the edge of the path.

Alignment. Aligning the path immediately adjacent to the roadway is not recommended because it can create operating and safety problems. A shared use path should not be closer than 5 feet to a road. If it is going to be closer, a buffer or divider will be needed.

Intersections. The path should be designed to minimize the number of intersections with streets. Bollards are typically placed at intersections to prevent vehicles from accessing the path, and to announce the intersection to bicyclists.

Design Speed. Paved paths should be designed to safely accommodate bicyclists traveling at 20 miles per hour, and unpaved paths should be designed to safely accommodate bicyclists traveling at 15 miles per hour.

Slope. The grade of the path should generally be less than 5% if paved and 3% if unpaved. Steeper grades are acceptable for short distances.

Signs and Pavement Markings. Signs and pavement markings are essential to warn and inform users about the rules of the path, alert users about potential conflicts and changing conditions, and to guide users along the path. Some paths use painted lines to designate travel lanes by direction and/or user type. Signs and pavement markings need to conform to the Manual on Uniform Traffic Control Devices.

Bridges and Structures. Bridges or similar structures along the path should be the same width as the path plus 2 feet of clear area on either side of the path. Bridges to be built for

the exclusive use by bicyclists and other trail users can be designed to pedestrian load standards.

Accessibility. Accessibility of shared use paths is always an important consideration and the design of a path needs to ensure that it is as accessible to persons in wheelchairs and those with other impairments to the greatest extent practical. Although natural constraints may not allow a path to be completely ADA accessible over its entire length, an ADA-compliant route should be provided at locations where users with disabilities could park and access a path.

- **Sidewalks.** Sidewalks are generally not considered acceptable for use by average riders and advanced bicyclists, and typically sidewalks should not be designated as a bicycle facility. Sidewalks are designed for pedestrians and the higher speeds of bicycles cannot be safely accommodated on sidewalks.



Bicyclists walking their bikes on a sidewalk across a narrow bridge.

The use of sidewalks for bicycling may be acceptable for short distances where bikes cannot be safely accommodated in the roadway (ex. narrow bridge). However, to reduce potential conflicts, bicyclists should be required to dismount and walk their bicycles. The use of sidewalks by young children may also be acceptable and reasonable, especially as they are beginning to learn how to ride. At a young age, these beginning bicyclists ride at slow speeds comparable to a pedestrian and are generally under adult supervision. As their speed increases and riding ability improves, children should transition away from biking on the sidewalk.

Traffic Calming

Pedestrian and bicyclist safety can also be addressed by altering how vehicles occupy and use the street. There are a variety of techniques, commonly referred to as traffic calming measures, that involve making physical changes to the roadway in order to alter driver behavior, reduce travel speeds and provide a safer environment for pedestrians.

The aim of traffic calming is to balance the needs of motorists with other users, including pedestrians and bicyclists. Instead of treating the street only as a conduit for vehicles passing through at the greatest possible speed, it becomes shared space that creates a sense of place. Traffic calming techniques are designed to reduce the impact of motor vehicle traffic by slowing it down, or literally “calming” it. This makes streets friendlier to pedestrians and bicyclists. Traffic calming measures are

frequently combined with streetscape improvements such as landscaping, decorative pavement, street lights, benches, bike racks, or similar amenities to make the street a pleasant place to be. Low-impact development approaches to managing stormwater may also be integrated into traffic calming projects.

Traffic calming can be applied inexpensively and flexibly. Many of the strategies employ painting lines, colors and patterns on existing pavement; using planters, installing bollards, planters or other removable barriers; eliminating or adding parking; or installing sidewalk extensions or similar structures at intersections and crosswalks. Many traffic calming measures can be tested through temporary installations that once fine-tuned can be rebuilt with more permanent materials.



Common traffic calming measures include:

- **Tighter Curb Radius.** The longer the radius of a curb, the faster a motorist can drive around that curve. Reducing the radius to less than 20 feet also narrows intersections and increases sidewalk space, which reduces the crossing distance. Pedestrians have a better chance to see and be seen by approaching traffic.
- **Curb Extensions.** Curb extensions, bump-outs, bulb-outs, chokers, or neck-downs extend the sidewalk or curb line out into the parking lane or road shoulder. This reduces the effective width of the street and has multiple pedestrian safety benefits.



A simple curb extension.



A temporary curb extension.



This curb extension is constructed with concrete pavers and is part of the overall streetscape design on this commercial street.

Curb extensions reduce the crossing distance, and therefore the time it takes a pedestrian to cross the street. They visually and physically narrow the roadway, which causes motorists to slow down. Curb extensions also improve the ability of pedestrians and drivers

to see each other. Curb extensions can help define a gateway or entry point to a downtown or neighborhood. They can provide space for landscaping, signs, kiosks, street lamps or other amenities.

- **Narrowing Travel Lanes.** Conventional traffic engineering has recommended travel lanes that are 12 feet wide (or greater) to meet safety standards, but newer evidence shows that lanes as narrow as 9 feet can still be safe for driving. Narrowing lanes and widening sidewalks improves crossing for pedestrians and gives them more space to walk. Traffic lanes can be transformed into bike lanes.



This curb extension on a residential street has multiple purposes. It narrows the crossing for pedestrians and is attractively landscaped. It also collects, filters and infiltrates stormwater.

- **Raised Islands.** Raised islands are typically used on heavily traveled streets and/or multi-lane streets. They are placed in the center of the street at intersections or mid-block. Pedestrians do not have to cross the entire street at once, but can cross partway to the island and wait for another gap in traffic or turn of the lights to get across the remaining lane(s).



These raised islands provide a space in the median, protected by curbs, for pedestrians to wait for traffic while crossing a busy or wide, multi-lane street.



Raised crossings can be distinguished from the street through a variety of painted markings or surface treatments. They can be simply designed on neighborhood streets or a more formally designed streetscape element in a downtown setting.



- **Raised Crossing.** A raised pedestrian crossing is essentially a speed table or a speed hump with a flat portion the width of a crosswalk (typically 10 to 15 feet wide). Gentle sloping ramps about 6 feet wide are placed on either side of the raised crossing.

The raised crossing or is generally at the same height as the sidewalk, while speed tables or humps are typically between 3 to 6 inches high. They are designed to slow traffic to 25 miles per hour or less and to encourage motorists to yield to pedestrians. Raised crossings allow pedestrians to cross at the point where motorists decrease speed.

For optimum speed reduction, speed tables or humps need to be placed at frequent, designated intervals based on the street's dimensions, to minimize the tendency to accelerate between them. Raised crossings, speed humps or speed tables need to be clearly identified with signs and pavement markings to alert motorists.

○ **Raised Intersection.** A raised intersection is similar in concept to the raised crossing, except that the entire center of the intersection is raised to the height of the sidewalk. Raised intersections often incorporate a decorative or tactile surface treatment and serve as an aesthetic streetscape element.



A roundabout at a major intersection with a sloped truck apron and a center planting island.

○ **Roundabouts.** A raised, circular island in the center of an intersection around which all vehicles must travel until reaching their destination street. Roundabouts create a slower moving, steady flow of traffic and reduce conflict points, which can lead to fewer accidents. Roundabouts are usually not signalized. Streets may narrow as they approach a roundabout and crosswalks are installed on these approaches, which slows oncoming vehicles and gives pedestrians a safe, obvious opportunity to cross. The center island can serve as a gateway to a downtown or neighborhood. A sloping ramp around the perimeter of the raised island allows buses, trucks and other large vehicles to maneuver the continuous curve while still maintaining a lowered speed.



A small, simple roundabout at the intersection of two neighborhood streets.

4. RECOMMENDATIONS

Priority Projects

Main Street. The first phase of the Malone Complete Streets project focused on Main Street in downtown Malone. The Walkable Malone Report is incorporated into this plan as Appendix 5. It includes the following general recommendations for Complete Streets improvements in downtown Malone:

- **Clay and Main.** Aesthetics of this gateway intersection should be improved and trees planted. Travel lanes should be reduced and removal of the slip lane should be considered. On-street parking and bicycle facilities should be provided. A pedestrian actuated crossing signal should be considered.
- **Washington and Main.** Travel lane widths should be reduced and bicycle facilities should be provided. A pedestrian refuge island should be provided and a pedestrian actuated crossing signal should be considered. Trees should be planted.
- **Pearl and Main.** Travel lane widths should be reduced and a pedestrian refuge island provided. On-street parking and bicycle facilities should be provided. Pedestrian crossing time should be increased and trees should be planted.
- **Harrison Place and Main.** Location for future connection to planned Riverpark. Travel lane widths and curb radii should be reduced, and curb extensions provided. Accessibility should be improved through widening of sidewalks and removing obstructions.
- **Webster and Main.** Aesthetics of this gateway intersection should be improved and trees planted. Travel lane widths should be reduced and a pedestrian refuge island provided. On-street parking and bicycle facilities should be provided. The sidewalk should be demarcated across the parking lot.
- **Elm and Main.** Travel lane widths should be reduced and a pedestrian refuge island provided. On-street parking and bicycle facilities should be provided. Pedestrian crossing time should be increased and trees should be planted. Wayfinding signs to local destinations should be provided at this central downtown location. Consider re-designing intersection as a roundabout.

Elm Street. As part of the Complete Streets planning process, conceptual site plans were produced for four locations in Malone. The first design, for improvements to the section of Elm Street



Main Street at the Academy Street intersection looking east.



Elm Street after a "road diet" eliminated an unnecessary third travel lane .

from Constable Street to Raymond Street, was completed during an earlier phase of the Complete Streets project. The report on that design is included as Appendix 6. The first phase of the recommended improvements were implemented in 2013.

Hospital and Schools. Similar conceptual plans were developed for three additional sites: the streets near Alice Hyde Hospital, the College Avenue and State Street corridors leading to Franklin Academy High School, and the streets near the Davis Elementary School and Indian Trails housing complex. These plans are included as Appendix 7. These sites were selected because they are locations with heavy pedestrian and/or bicycle traffic that are accessed via local streets.

These designs feature elements that can be implemented in phases, when funding becomes available, or when the village is doing on-going street repairs. The site plans and the other recommendations made in this plan include the following types of Complete Streets improvements¹:

- **Marked Crosswalks.** The plans identify multiple locations that currently lack, but should have, painted crosswalks. A new crosswalk costs \$100 to \$300 for painting and \$50 to \$200 for signage.
- **Designated Bike Lane.** The plans recommend creating designated bike and/or pedestrian lanes on State Street. The length of each lane would be approximately 1,600 feet from College Avenue to the entrance to the recreation park. The cost of creating a bike lane can range from \$1 to \$10 per foot. Cost for the proposed improvement will be on the low end of the estimate, since there would be no need for additional paving or signals.
- **Curb Extensions or Bulb-Outs.** The plans call for curb extensions or bulb-outs to calm traffic and narrow pedestrian crossings.

Typically, permanent curb extensions or bulb-outs can be constructed for \$2,000 to \$10,000 (costs can be higher if stormwater infrastructure is included or utilities need to be moved). Curb ramps may need to be brought into full ADA compliance as part of creating the curb extension or bulb-out. Rubber curbing and/or safety posts can be used to create a temporary curb extension, which is useful to test whether the proposed traffic calming measure will be effective.

- **Curb Radius Reduction.** The plans recommend reducing the curb radii at several intersections. Construction costs for permanently reconstructing intersections with tighter curb radii can cost \$5,000 to \$25,000 per corner. As with curb extensions, projects involving stormwater infrastructure improvements, changes to signalization, or moving utilities can be significantly more expensive than simpler projects.
- **Raised Crossings or Speed Tables.** Two raised crossings or speed tables are suggested for State Street to calm traffic. Construction costs for raised crossings or speed tables are similar to those for curb extensions or bulb-outs.

Recommended Projects

Below is a detailed matrix of recommended Complete Streets projects and policies for the Town and Village of Malone. The recommendations are grouped into the following categories: walking, bicycling, traffic calming, policy, education and encouragement, and enforcement.

¹ Cost estimates based on 2013 rates.

TYPE	WALKING Recommendation 1	WALKING Recommendation 2	WALKING Recommendation 3
DESCRIPTION	Repair or replace sidewalks that are in poor condition (as determined by the Complete Streets Sidewalk Assessment) on an ongoing basis.	Extend sidewalks where segments are missing (as shown in the Complete Streets Sidewalk Assessment).	Repair or upgrade crosswalks and curb ramps (as determined by the Complete Streets Assessment).
LOCATION	<p>Based on the 2012 assessment, repairs are needed to the sidewalks on the following streets:</p> <ul style="list-style-type: none"> Elm St. Park St. Webster St. Catherine St. <p>Narrow sidewalks should be upgraded to a width of 5 feet as they are repaired or replaced where possible. Sidewalks should not be repaired by re-surfacing with asphalt. Concrete or other material with similar lifespan and performance should be used.</p>	<p>Missing segments:</p> <ul style="list-style-type: none"> 4th St. between Park St. and Pierrepont Ave. at the hospital (±700 ft) Academy St. between Jane St. and Francis St. at the Middle School (±500 ft) College Ave. between Brown St. and Scott Dr. (±300 ft) Andrus St. from Main St. to first house past fairgrounds (±900 ft) East Main St. from Andrus St. to Raymond St. in front of the fairgrounds (±500 ft) <p>New sidewalks should be at least 5 feet wide and constructed of concrete or other material with a similar lifespan and performance (not asphalt).</p>	<p>Priority locations include high-traffic streets (Main St., Elm St., Park St.) and routes to schools or other community destinations (College Ave., Webster St.).</p> <p>High-visibility crosswalks are needed on Main St. at Webster St. (YMCA) and on Main St. at Clay St. and Morton St. (Flanders Elementary School). Thermoplastic material should be considered for critical crosswalks like these to reduce seasonal wear and maintenance requirements.</p> <p>When intersections or streets are reconstructed, crosswalks and curb ramps must be brought into compliance with ADA requirements.</p>
TIME FRAME	Ongoing	Medium-term (within 10 years)	Ongoing
PARTNERS & RESOURCES	Village Public Works Department Funded as part of annual Public Works Budget, potentially partially reimbursed by abutting landowners	Village Public Works Department, NYS Department of Transportation Potential for shared funding among partners (village, town, county, state). May be eligible for Transportation Alternatives funding.	Village Public Works Department, NYS Department of Transportation Funded as part of regular road maintenance and integrated in ongoing projects.

TYPE	BICYCLING Recommendation 4	BICYCLING Recommendation 5	BICYCLING Recommendation 6
DESCRIPTION	Reduce travel lane widths or re-configure the travel lanes to delineate paved, 4+ feet wide shoulders on each side.	Establish shared lanes marked with painted sharrow symbols and “share the road” signs.	Establish bike lanes by striping without widening the paved surface of the road.
LOCATION	Main St. (Rt. 11) from Brainardsville Rd. to Airport Rd (±3½ mi). Rt. 11 is a state-designated bicycle route. Finney Blvd (Rt. 30) from Franklin St. to Main St (±1,500 ft). Route 37 from Maple St. to Main St (±1,300 ft). Constable St. (Rt. 30) from Elm St. to 4 th St/ village line (±1,700 ft).	River Rd. College Ave. State St. Duane St.	Webster St. from Main St. to Highland Ave. (±2,000 ft).
TIME FRAME	Medium-term (within 10 years)	Short-term (within 3 years)	Short-term (within 3 years)
PARTNERS & RESOURCES	NYS Department of Transportation Integrate into ongoing NYSDOT projects. The cost of road re-striping can range from \$10,000 to \$40,0000 per mile depending upon the number of lanes and any additional work that would be required to make the shoulder safe for bicycling.	Town Highway Department and Village Public Works Department Funded as part of annual Public Works or Highway budgets. Road signs are approximately \$200 each and painted sharrow markings cost approximately \$500 each.	Village Public Works Department Striping could potentially be contracted out to county Highway Department.

TYPE	BICYCLING Recommendation 7	WALKING AND BICYCLING Recommendation 8	TRAFFIC CALMING Recommendation 9
DESCRIPTION	Install bike racks at community destinations and revise village zoning law to require new development to provide bicycle parking.	Develop multi-use paths.	Create curb extensions, bump-outs or chicanes at intersections. These should be designed to shorten pedestrian crossings, calm traffic and improve the aesthetic character of the street.
LOCATION	All schools Courthouse Library YMCA Along Main St.	Behind the county nursing home from Woodward St. to Indian Trails (see conceptual site plan in Appendix 7) creating a safe path from Indian Trails to Davis Elementary School. The Greenway Trail along the Salmon River from the North Country Dam to Whippleville (as described in the LWRP).	Duane St. Raymond St. Elm St. Webster St. College Ave. Willow St.
TIME FRAME	Ongoing	Woodward to Indian Trails Path - Short-term (within 3 yrs) Greenway Trail - Medium-term (within 10 years)	Medium-term (within 10 years)
PARTNERS & RESOURCES	School district and individual landowners. Village Planning Board, Village Public Works Department, Mayor and Village Board Bicycle racks can be purchased and installed for \$100 to \$200.	Franklin County, Village Public Works Department, Town Highway Department Path from Woodward St. to Indian Trails could potentially be developed primarily with volunteer labor and materials. Greenway Trail would need significant grant funding in addition to local matching funds, labor and materials. Potential public funding sources include Community Development Block Grant program, HUD Sustainable Communities program, USDA Rural Development program, OPRHP Recreational Trails or Parks Matching Grants programs, NYS Transportation Alternatives program, National Scenic Byways program, Land and Water Conservation Fund program, and the Local Waterfront Revitalization program.	Village Public Works Department and NYS Department of Transportation Potential for shared funding among partners. Improvements at major intersections, particularly along Main St. may be eligible for Transportation Alternatives funding.

TYPE	POLICY Recommendation 10	POLICY Recommendation 11	POLICY Recommendation 12
DESCRIPTION	<p>Action. The Village of Malone should adopt a sidewalk repair policy to clarify how the sidewalk segments to be repaired each year will be selected and the allocation of the repair cost between the village and abutting property owners.</p> <p>Purpose. Village code currently states that property owners “shall keep the sidewalks in front of such premises in good and sufficient repair for the general use of the public.” It authorizes, but does not require, that the village charge owners for the cost of making sidewalk repairs. For many years, it has been village policy to make sidewalk repairs primarily when requested by abutting property owners and to have the owners pay for the cost of the materials. This approach has resulted in sidewalks being repaired in a piecemeal fashion and based on requests for repairs rather than the need for repairs. A revised sidewalk repair policy will help to achieve one of the goals of this plan, which is to develop a well-maintained pedestrian network of sidewalks, and to comply with federal accessibility requirements now and in the future.</p> <p>Considerations. This plan recommends an ongoing program of repairing all sidewalks that are in poor condition. Since these repairs would not be at the owner’s request, it may be appropriate to reduce the amount charged to the owners - particularly for owner-occupied single-family properties. As an example, the Village of Larchmont, NY code establishes a 60/40 program that charges only 40% of the cost of sidewalk repairs to single-family property owners while other types of properties must pay 100% of the cost.</p>	<p>Action. Revise village zoning law and street specifications to: (1) require that new streets be built with sidewalks that are at least 5 feet wide and constructed of concrete or comparable material (not asphalt); (2) that safe pedestrian access is provided from the street to the entrances of buildings being developed or re-developed; and (3) that sidewalks are repaired, upgraded or extended as needed along the entire frontage of properties being developed or re-developed.</p>	<p>Action. Make an agreement with Franklin County to provide assistance to the town and village with line painting.</p>
TIME FRAME	Immediately	Short-term (within 3 years)	Ongoing
PARTNERS & RESOURCES	Mayor and Village Board, Village Public Works Department	Village Planning Board, Village Public Works Department, Mayor and Village Board	Franklin County Public Works, Village Public Works, Town Highway Department

TYPE	POLICY Recommendation 13	EDUCATION AND ENCOURAGEMENT Recommendation 14	ENFORCEMENT Recommendation 15
DESCRIPTION	<p>Action. Incorporate Complete Streets into any new or revised community plans, studies, reports or policies as appropriate.</p>	<p>Action. Support and promote programs that teach pedestrian and bicycle safety, and that encourage walking and biking.</p> <p>Considerations. Current initiatives include:</p> <ul style="list-style-type: none"> Move More Malone program and Million Footstep Challenge program for Franklin County employees, led by Josy Delaney of Alice Hyde Medical Center Safe Routes to Schools program, led by Franklin County Public Health Get Out & Live North Country, a campaign to promote more walking and biking in the region Annual Hunger Walk 	<p>Action. Target areas of greater pedestrian activity for regular enforcement of speed limits and traffic laws.</p>
TIME FRAME	Ongoing	Ongoing	Ongoing
PARTNERS & RESOURCES	Village Planning Board, Village Public Works Department, Mayor and Village Board	<p>Malone Central School District, Saranac Lake Central School District, Alice Hyde Medical Center, Franklin County Public Health, Franklin County Traffic Safety Board, YMCA, and neighboring communities</p> <p>Franklin County received \$61,750 Safe Routes to School grant for education and encouragement programs in the Malone and Saranac Lake school districts.</p>	Village Police, NYS Police and Franklin County Traffic Safety Board



5. IMPLEMENTATION

Goals

This plan establishes the following goals for the Town and Village of Malone to pursue:

- A.** Ensure the safety of the transportation network in Malone.
- B.** Improve and expand the bicycle and pedestrian infrastructure in Malone.
- C.** Increase bike and pedestrian activity in Malone.
- D.** Develop a well-maintained bike and pedestrian network that includes sidewalks and paths.

Objectives

Progress towards those goals will be measured against the following objectives:

- A.** Reduce the accident rate (pedestrian & non-pedestrian) in Malone by 1% per year.
- B.** Offer a pedestrian and bicycle safety, education and encouragement program at least one time per year in each school building.
- C.** Implement one safety campaign or enforcement event per year with law enforcement.
- D.** Improve 3,000 linear feet of the sidewalk network annually with priority given to sidewalks identified as 'fair' or 'poor' in the sidewalk assessment.
- E.** Implement one of the bicycle recommendations identified in this plan within five years.
- F.** Budget a minimum of \$15,000 per year for bike and/or pedestrian improvements.

- G.** Ensure that at least one municipal staff member per year attends a bike/ pedestrian safety or design training .
- H.** Increase the number of children walking or biking to school by 30% by June 2016.
- I.** Host a minimum of one community-wide walking or biking encouragement event annually.

Next Steps

This plan recommends that the Town and Village of Malone take the following actions to achieve the goals and objectives:

- A.** Establish a Complete Streets Advisory Board with the following responsibilities: oversee implementation of the Complete Streets Policy; facilitate implementation of the this plan’s recommendations; and provide an annual progress report.
- B.** Regularly re-assess the sidewalks, crosswalks, and roads that were identified during the preparation of the Complete Streets Plan in order to track implementation progress.



- C.** Train/identify training for pertinent staff on the content of the Complete Streets Toolkit.
- D.** Actively seek sources of appropriate funding to implement the recommendations in the Complete Streets Plan.

Measuring Progress

The Complete Streets Advisory Board will be able to measure progress towards the goals and objectives by monitoring and reporting each year on:

- A.** Accident rates
- B.** School participation in pedestrian/bicycle safety, education and encouragement programs
- C.** Number of community events that encourage walking or bicycling
- D.** Percentage of children walking or biking to school
- E.** Driver, pedestrian and cyclist behaviors and awareness of traffic (vehicular, walking and cycling) laws
- F.** Number of targeted enforcement activities
- G.** Street and intersection assessments and ratings
- H.** Installation, repair and maintenance of sidewalks, crosswalks, bike lanes, paved shoulders, shared lanes, traffic calming measures, or multi-use paths
- I.** Public investments in Complete Streets improvements