TOWN OF

GRAND CHUTE
PEDESTRIAN AND BICYCLE STRATEGY

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INTRODUCTION

Located in the Fox Cities metropolitan area of Northeast Wisconsin, Grand Chute is the largest Town in the state, with 21,288 residents. Within our twenty-three square mile area, we have a diverse mix of residential, commercial, industrial, agricultural, and natural lands. The Fox River Mall, Gordon Bubolz Nature Preserve, and Fox Cities Stadium also call us home. This document outlines a strategy for building pedestrian and bicycle infrastructure in our community. It is divided into four sections:

1| VISION states the main functions of the pedestrian and bicycle network and illustrates the network at future completion. It provides direction for building more "complete" streets: "roadways designed and operated to enable safe, convenient, and comfortable access and travel for pedestrians, bicyclists, motorists, and public transport users of all ages and abilities" (WisDOT 2011).

2 | ALTERNATIVES identifies options that the Town can use to complete the pedestrian and bicycle network. Recommendations come from Wisconsin design manuals (WisDOT 2011, WisDOT 2010, WisDOT 2004) and best practice manuals (NACTO 2012, Harkey and Zeeger 2004). Recommendations also follow U.S. Department of Transportation, Federal Highway Administration (FWHA) rules; the Manual on Uniform Traffic Control Devices (MUTCD) guidelines; Wisconsin State Statutes: Section 84.01; and Wisconsin Administrative Code: Trans 75 so projects are eligible for federal and state funding.

3 | PRIORITIES provides a framework for determining which street segments most need pedestrian and bicycle facilities based on the number of people, the number of places to go, and the current condition of the segments connecting them.

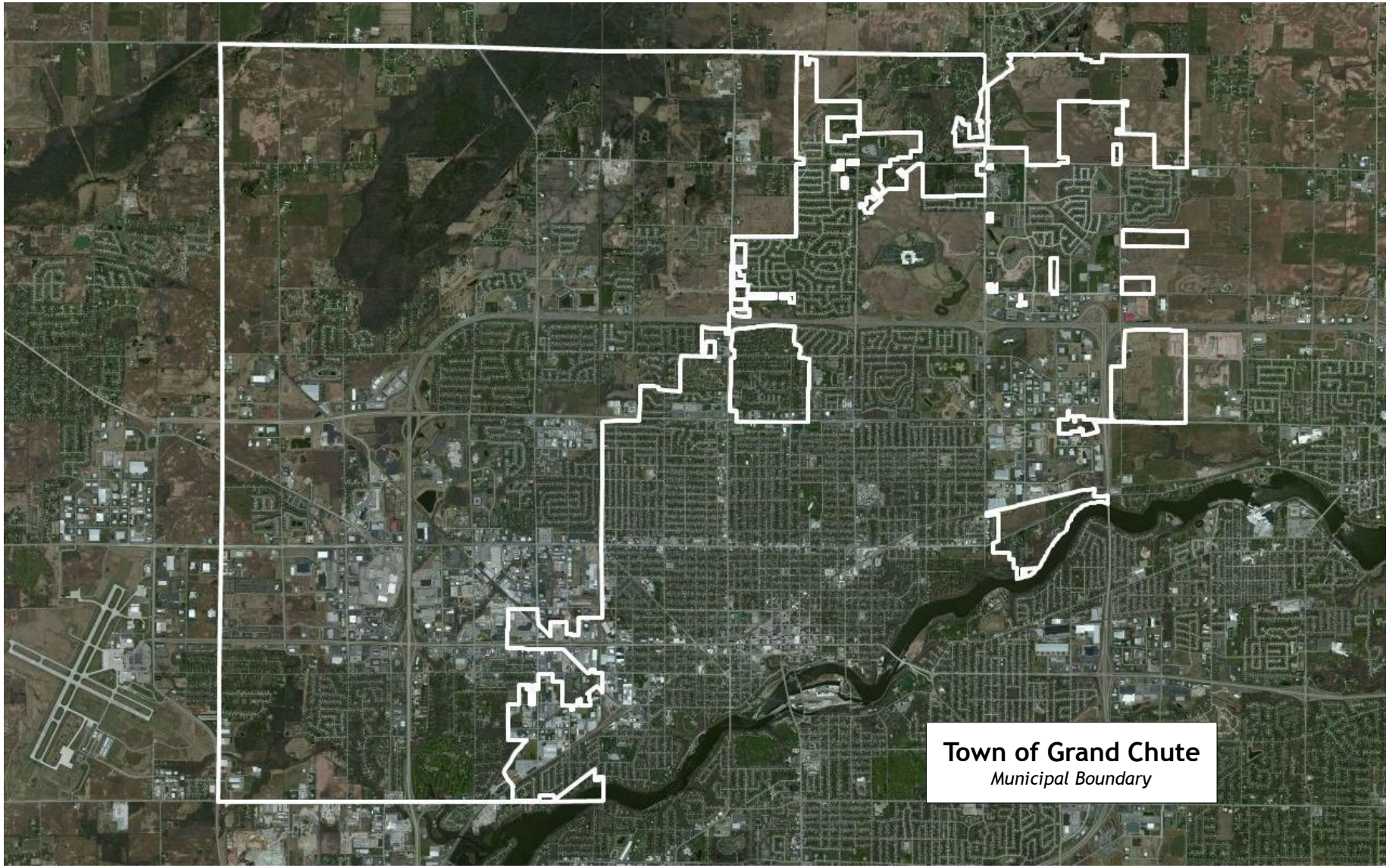
4 | PROJECTS recommends specific construction projects based on priority needs, existing conditions, and upcoming opportunities. Some may be standalone, but most will be incorporated into larger street and stormwater projects.

Why should the Town build pedestrian and bicycle infrastructure?

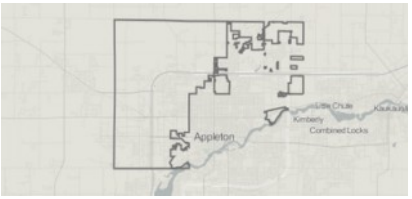
The Town should build pedestrian and bicycle facilities to **improve community health**. Health professionals recommend daily exercise – like walking or biking – to combat obesity, diabetes, heart disease, and stroke. Several studies show that individuals who live in walkable and bikeable communities are healthier. Individuals are more inclined to walk, run, skate, bike when facilities are close and convenient. Pedestrian and bicycle facilities provide opportunities to build exercise into everyday tasks: commuting and running errands (Bassett et al. 2011; Lindsay, Macmillan, and Woodward 2011; Hartog et al. 2010; Pucher et al. 2010; Singh, Siahpush, and Kogan 2010; Boarnet 2006; Doyle et al. 2006; Frank et al. 2006; Handy, Cao, and Mokhtarian 2006; Brownson et al. 2001).

The Town should build pedestrian and bicycle facilities to **stimulate the economy**. Walking and biking are affordable means of transportation. The cost to purchase a pair of sturdy shoes or a bicycle is much less than the cost of owning and operating a motor vehicle. This can provide significant savings for households, as transportation costs are often the next largest expense after housing. School districts may be able to eliminate some bus routes if streets are safe enough for students to walk or bike to school. Pedestrian and bicycle projects generate about twice as many jobs per dollar spent than "traditional" road repair and upgrade projects. Communities with vibrant pedestrian and bicycle facilities attract visitors, and more importantly, long-term residents. Households in auto-dependent communities have fewer ways to reduce transportation costs when fuel prices spike (Garrett-Peltier 2011, 2010; PBIC 2009; Handy et al. 2008; Lawrie at al. 2004; Wang et al. 2004).

The Town should build pedestrian and bicycle facilities to **enhance the physical environment**. Because walking and biking do not directly consume fossil fuels; they also do not produce harmful emissions, thus improving overall air quality. Improvements are compounded because shorter auto trips are more polluting on a per-mile basis. Reductions in carbon monoxide, nitrogen oxides, sulfur dioxide reduce smog and acid rain. Cleaner air is better for all, especially those with respiratory problems. (Lindsay, Macmillan, and Woodward 2011; Frank et al. 2006).

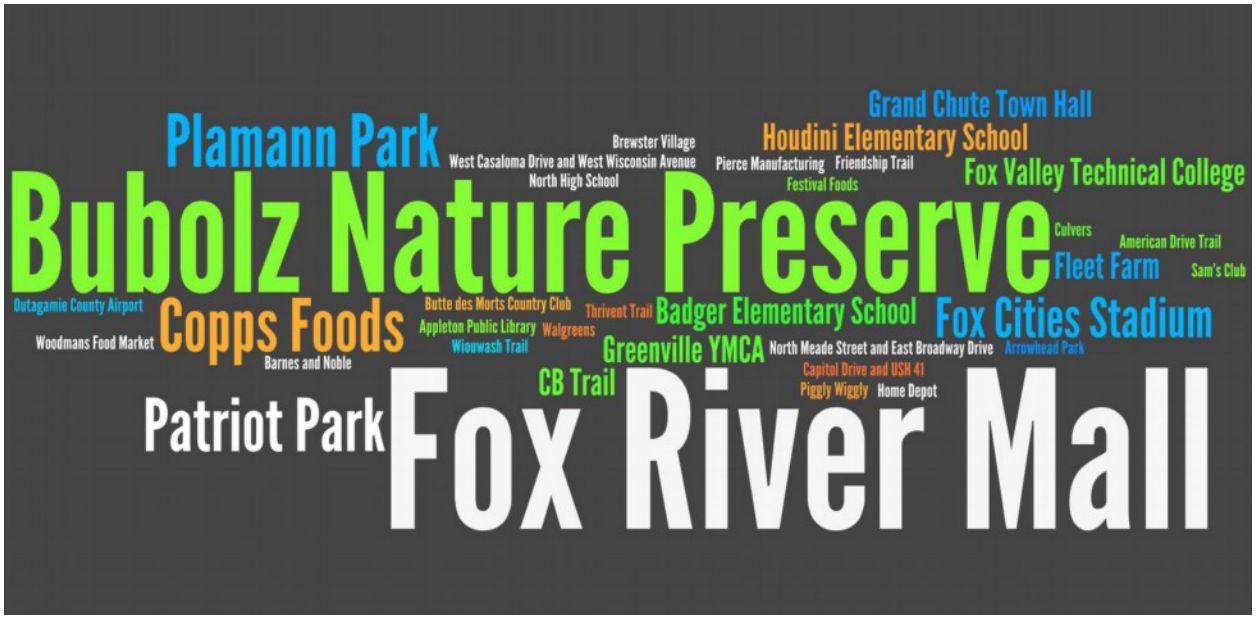


Town of Grand Chute
Locator maps



CURRENT CONDITIONS. A trip through Town reveals pedestrians and bicyclists traveling throughout. Many individuals are using facilities that are inadequate or inappropriate for pedestrian or bicycle travel, but they may be the only connection between two places. A variety of unimproved “goat paths” and footprints in the snow show the desire for off-street facilities where none currently exist, especially along collector and arterial streets.

DESIRED ACCESS. The "word cloud" to the right shows the places that residents want to safely access by foot or bicycle. The larger the font, the more popular the destination.



DESIRED FACILITIES. The word cloud to the right shows what type of accommodations the Town should construct to allow residents to travel safely and conveniently throughout the community. The larger the font, the more requested the type of facility.

1 | VISION

The Town of Grand Chute will construct and maintain transportation infrastructure that allows for people of all ages and abilities to travel by foot or bicycle through the community. The Town will build pedestrian and bicycle facilities in order to...

1 | CREATE CONNECTIONS. Even though two parcels may be in close proximity "as the crow flies," a street network of long blocks, cul-de-sacs, and limited-access roads can make the actual journey on the ground much longer. Limited crossings of U.S. Highway 41 and CN Railroad lines further reduce connectivity. A connected pedestrian and bicycle network allows people to travel more directly between places, including trips that are:

SHORT-DISTANCE
Create more direct connections between places in close proximity.

LONG-DISTANCE
Fill in gaps of regional trail network; create recreational walking, running, and cycling loops.

INTER-PARCEL
Create more direct connections through auto parking lots between public right-of-way and structures.

INTER-MODAL
Create more direct connections at modal transfer points, especially transit stops.

2 | BROADEN ACCESS. Travel options are limited for significant segments of our population that do not have access to a vehicle or are unable to drive. An extensive pedestrian and bicycle network improves mobility for these people, especially:

YOUNGER RESIDENTS
12% (2,429) of Town residents are between 5 and 16 years old.

OLDER RESIDENTS
14% (3,019) of Town residents are 65 years or older;
21% of citizens over 65 do not drive.

DISABLED RESIDENTS
10% (2,029) of Town residents have a disability.

LOW-INCOME RESIDENTS
8% (1,745) of Town residents are at or below the federal poverty level;
21% (4,411) are at or below 200% of the poverty level.

Additional bicycle facilities target the 60% of citizens who are “interested but concerned” about biking. These individuals like to ride, and want to ride, but concerns over personal safety inhibit more trips (U.S. Department of Commerce 2011a, 2011b, 2011c; Huber 2010; Portland BOT 2010).

3 | ENHANCE SAFETY. Well-designed pedestrian and bicycle facilities reduce the risk of injury and death, especially for:

YOUNGER RESIDENTS
Children are unpredictable and impulsive, often walking or riding in risky conditions. They have limited abilities assessing gaps in traffic and locating the source of sounds. Teens can feel invincible and may overestimate their abilities.

OLDER RESIDENTS
Agility, balance, speed, strength, hearing, and concentration all decline with age. Vision also worsens, especially under low-light night conditions. Seniors who overestimate their abilities may put themselves at risk.

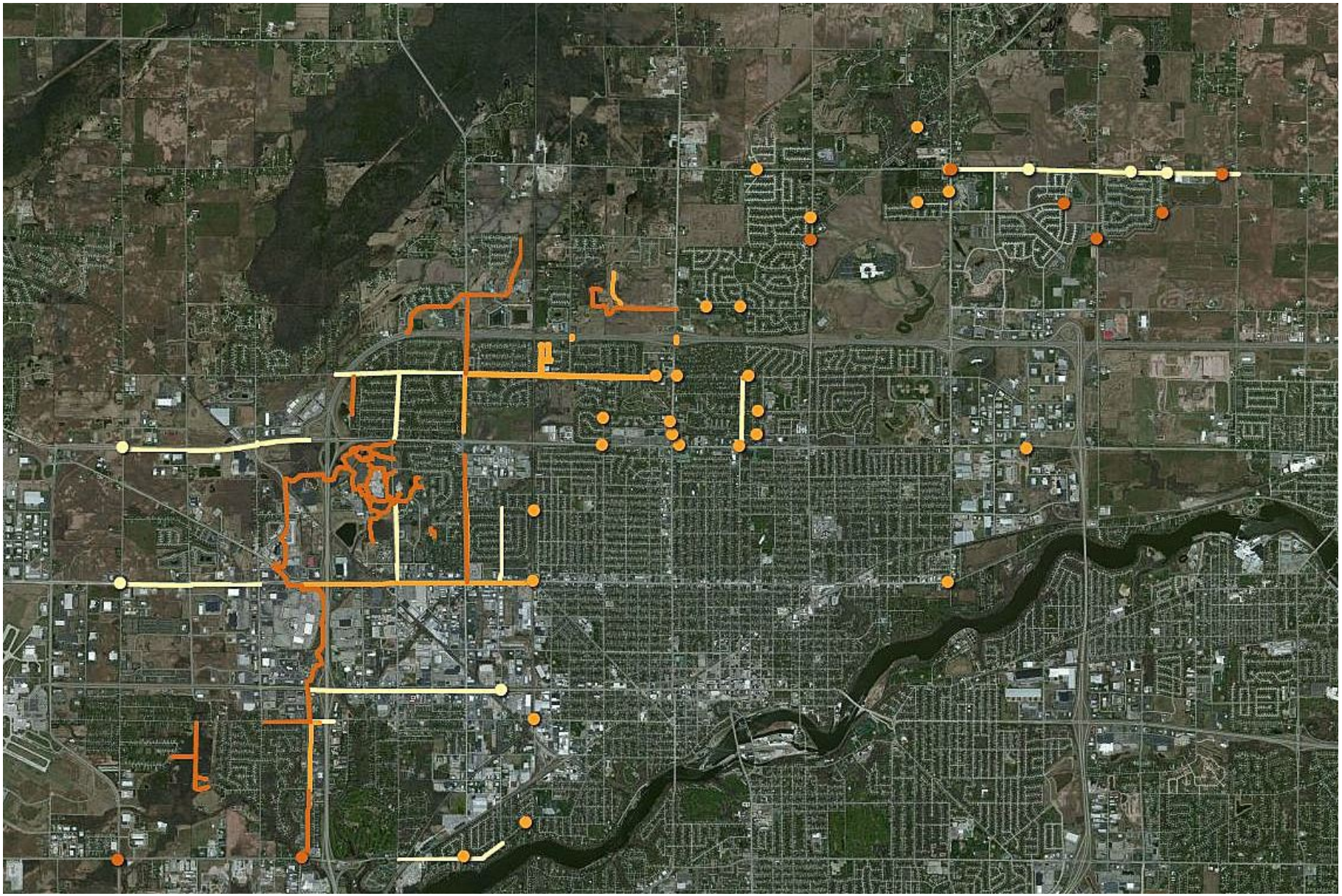
DISABLED RESIDENTS
Some individuals have visual, hearing, mobility, mental, emotional, or other impairments. A broken limb or pregnancy may also pose temporary mobility challenges. People who have been institutionalized may not be trained to be pedestrians.

(Dumbaugh and Li 2011; Huber 2010; Short and Pinet-Peralta 2010; Johnston 2008; Dumbaugh and Rae 2009; Kuhlmann et al. 2009; Fitzpatrick et al. 2006; Ewing et al. 2003; Pucher and Dijkstra 2003; Retting et al. 2003).

4 | INCREASE CAPACITY. The emphasis on maximizing automobile mobility led transportation planners and engineers to design streets with wider lanes, increased turning radii, and minimum interference, often at the expense of pedestrians and bicyclists. Our current system looks the way it does because practitioners – and the people from whom they learned – never received formal education on pedestrian and bicycle planning and design. Adding lanes or constructing additional streets is expensive – both in upfront capital and long-term maintenance costs. A comprehensive pedestrian and bicycle network increases the overall capacity of the transportation network, alleviating pressure to develop additional auto lane miles. Most trips are short; if an individual can make that trip on foot or bicycle, rather than by car, auto traffic volumes will decrease. (Harris 2011; Khayesi et al 2010; Dill 2009; Krizek et al. 2009; Sener, Eluru, and Bhat 2009; Agrawal et al. 2008; Kim and Ulfarsson 2008; Laplante and McCann 2008; Hunt and Abraham 2007; Cao et al. 2006; Ishaque and Noland 2006; Krizek and Johnson 2006; Schlossberg et al. 2006; Balsas 2001).

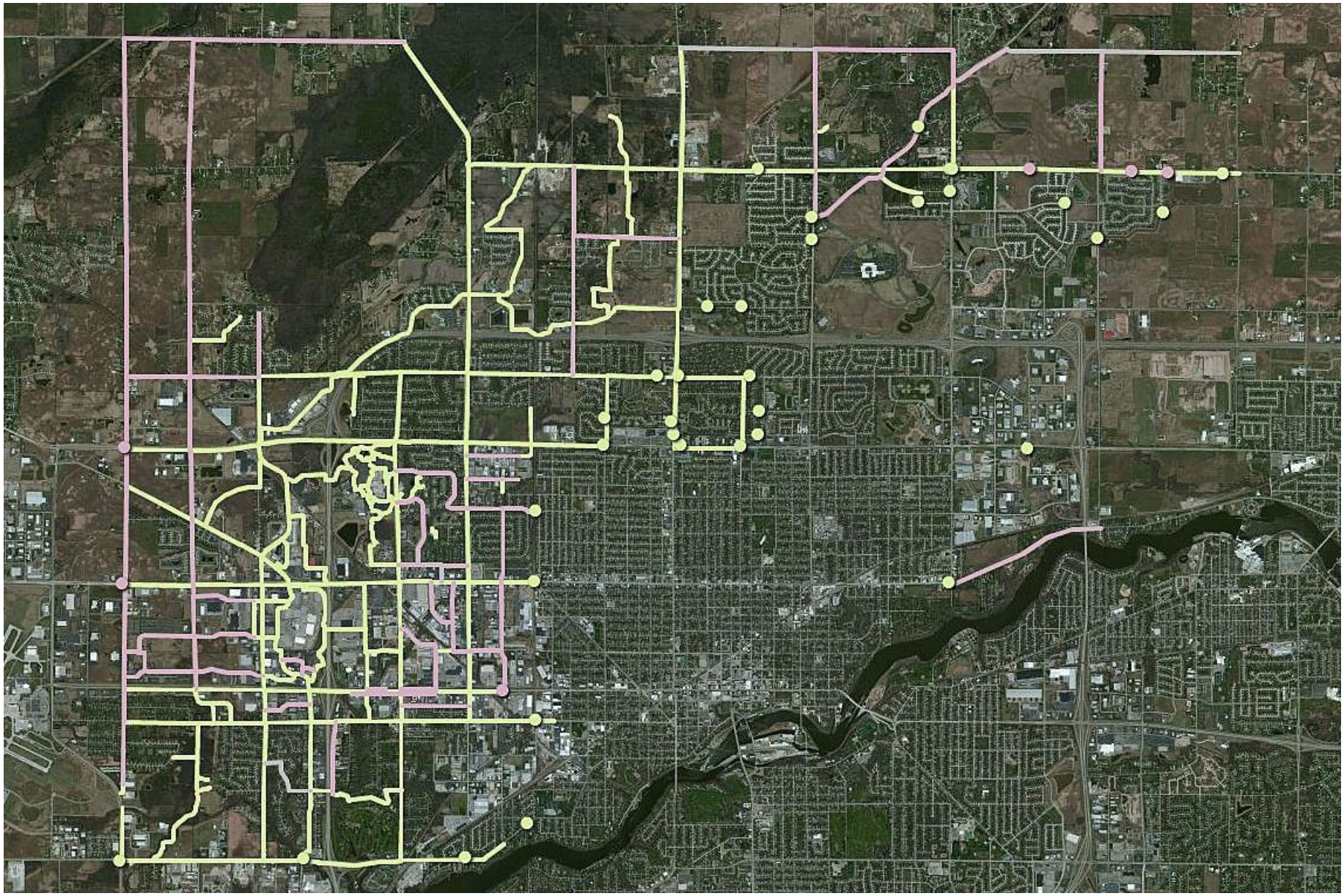
A completed pedestrian and bicycle network will strive to fulfill these four objectives. In the following pages, maps on the left (even-numbered pages) show existing conditions, while maps on the right (odd-numbered pages) illustrate the potential network at future completion. Future maps show how near-term projects are pieces of a long-term puzzle. It is important to note that future (yet-to-be-constructed) facilities shown on these maps are conceptual: they show the desire of the Town to construct a pedestrian or bicycle facility in a general area. The actual on-the-ground location of facilities will be determined through plats, subdivision agreements, development district master plans, and site plan agreements.

1.1.1 | EXISTING PEDESTRIAN NETWORK



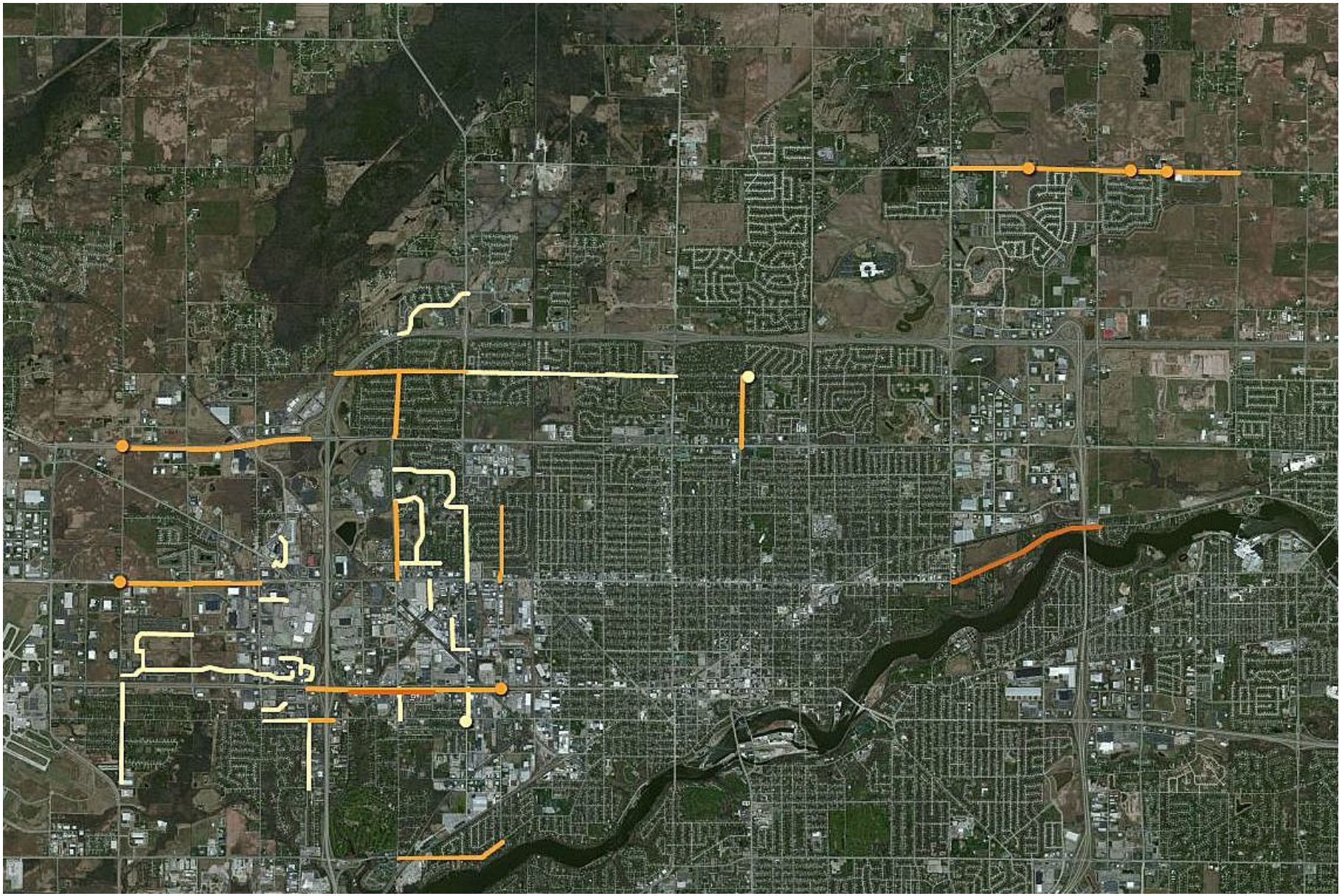
PAVED TRAILS AND CONNECTIONS (DOTS)	SIDEWALKS AND CONNECTIONS (DOTS)	PAVED SHOULDERS AND CONNECTIONS (DOTS)

1.1.2 | FUTURE PEDESTRIAN NETWORK



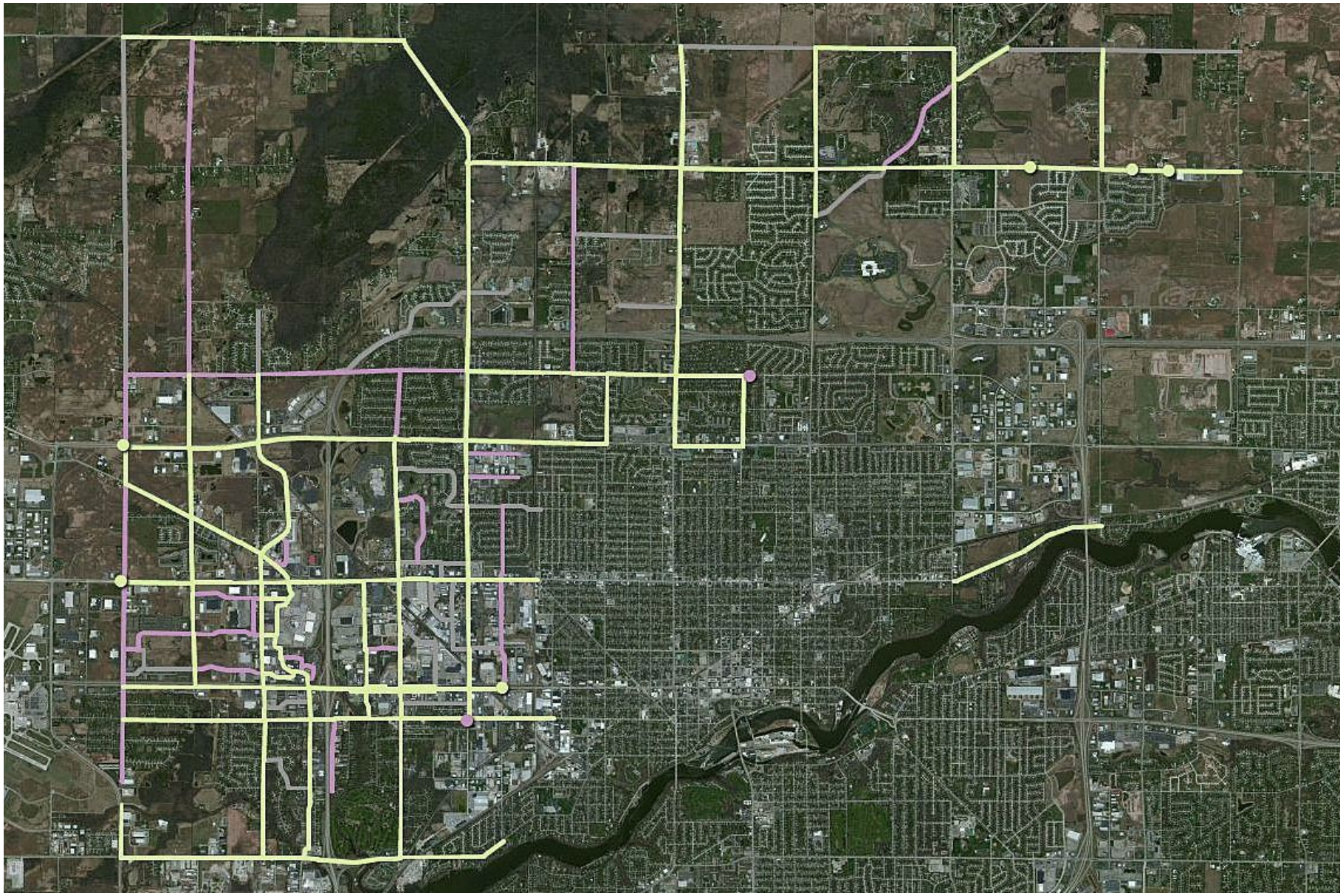
PAVED TRAILS OR SIDEWALKS AND CONNECTIONS (DOTS)	SIDEWALKS OR PAVED SHOULDERS AND CONNECTIONS (DOTS)	SHARED TRAVEL LANES

1.2.1 | EXISTING BICYCLE NETWORK



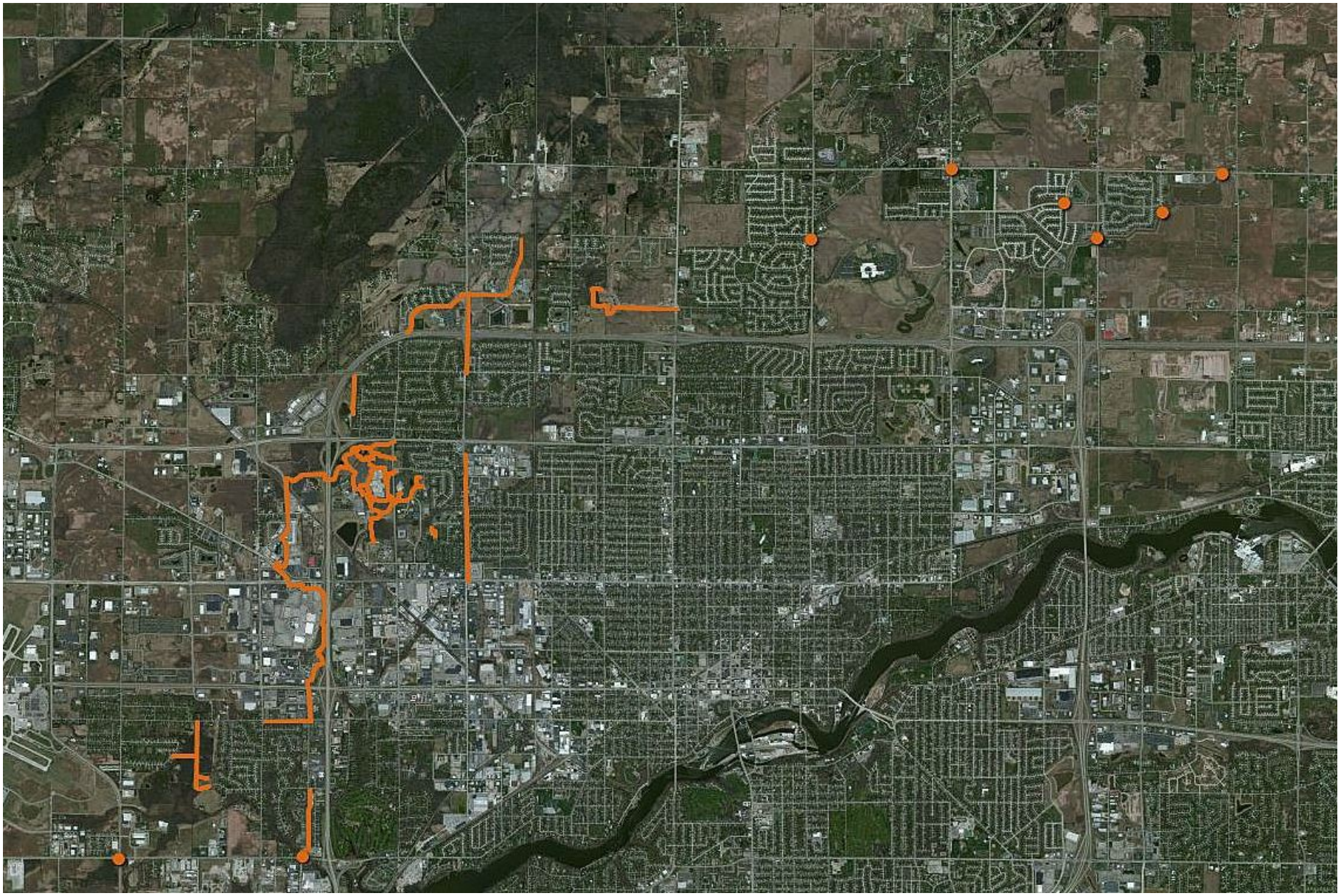
BICYCLE LANES	PAVED SHOULDERS AND CONNECTIONS (DOTS)	WIDE OUTSIDE LANES AND CONNECTIONS (DOTS)

1.2.2 | FUTURE BICYCLE NETWORK



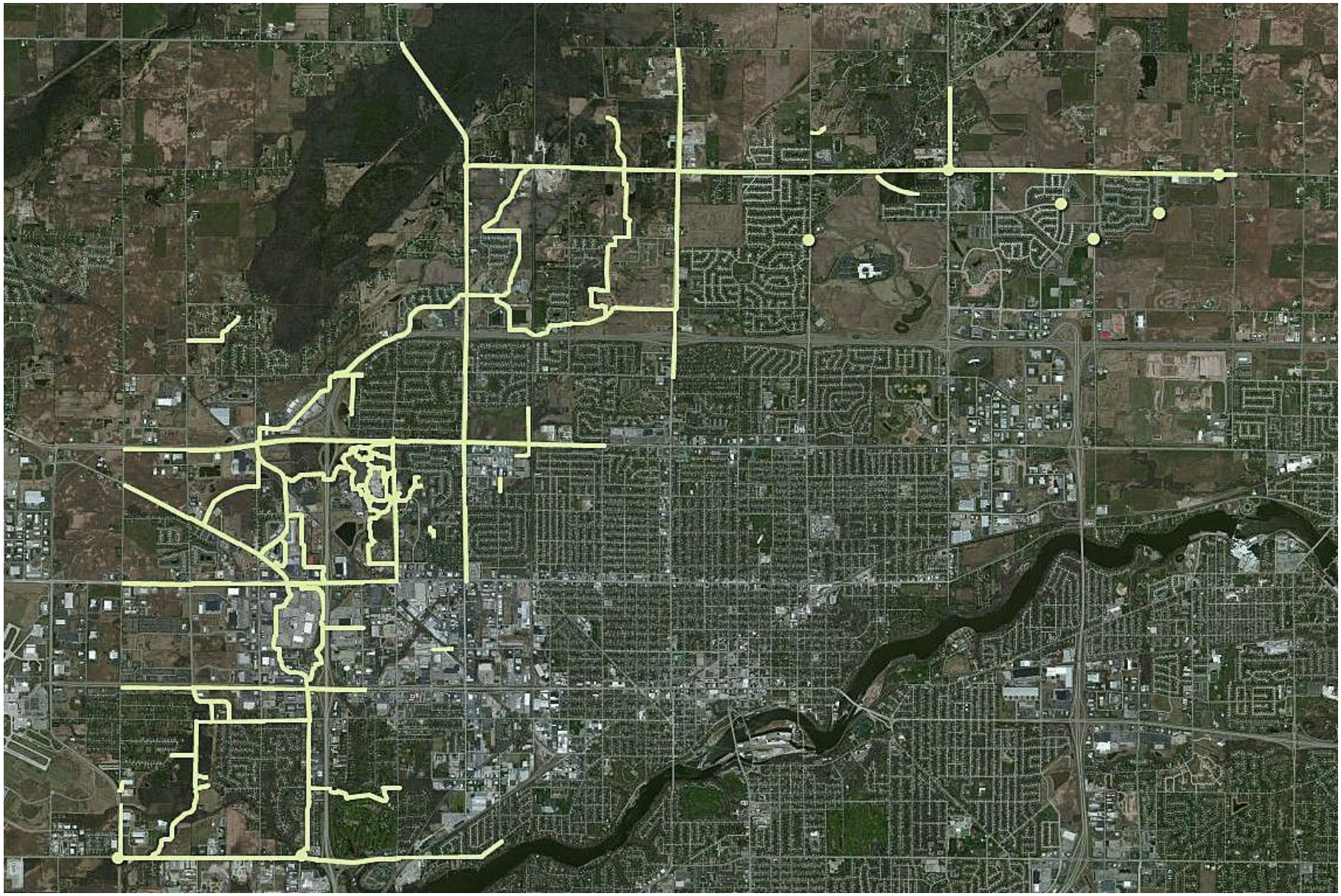
BICYCLE LANES OR PAVED SHOULDERS AND CONNECTIONS (DOTS)	PAVED SHOULDERS OR WIDE OUTSIDE LANES AND CONNECTIONS (DOTS)	SHARED TRAVEL LANES

1.3.1 | EXISTING TRAIL NETWORK



PAVED TRAILS AND CONNECTIONS (DOTS)

1.3.2 | FUTURE TRAIL NETWORK



PAVED TRAILS AND CONNECTIONS (DOTS)

1.4 | COMPLETE STREETS POLICY

Moving from existing conditions to the comprehensive, connected pedestrian and bicycle network illustrated in the preceding maps can be a long and complicated process. To ensure the Town (and other entities) make progress towards building a complete system, the Town should adopt a "Complete Streets Policy" that requires the Town to consider constructing pedestrian, bicycle, and transit facilities in transportation projects. The following is a template for such a policy for the Town of Grand Chute, which should be drafted and discussed after the Town Board formally adopts this document:

A RESOLUTION OF THE TOWN BOARD OF THE TOWN OF GRAND CHUTE TO ADOPT A COMPLETE STREETS POLICY

WHEREAS, Complete Streets are defined as roadways that enable safe, convenient, and comfortable access and travel for pedestrians, bicyclists, motorists, and public transport users of all ages and abilities; and

WHEREAS, Complete Streets help create more direct connections between places, provide transportation options for significant segments of our population, enhance safety for all types of users, and increase the capacity of the overall transportation system; and

WHEREAS, Complete Streets provide residents greater opportunities for everyday exercise, which effectively combats obesity, diabetes, heart disease, and stroke, and improves overall community health; and

WHEREAS, Complete Streets provide residents more affordable transportation options, allow households to control transportation expenses when fuel prices spike, and stimulate economic development; and

WHEREAS, Complete Streets encourage more residents to travel by foot or bicycle for short-distance trips, thereby reducing carbon monoxide, nitrogen oxides, sulfur dioxide emissions from automobiles, which improves overall air quality and the environment; and

WHEREAS, Wis. Stats. 84.01(35) and Administrative Code Trans 75 require the Wisconsin Department of Transportation to ensure that pedestrian and bicycle facilities are included in all new highway construction projects funded in whole or in part from certain state or federal funds; and

WHEREAS, The *Town of Grand Chute Comprehensive Plan*, adopted in December 2009, states that the Town will encourage development and expansion of cost-effective and affordable transportation alternatives; and

WHEREAS, The *Town of Grand Chute Pedestrian and Bicycle Strategy*, adopted in [month, year], provides the vision for future pedestrian and bicycle network, a toolbox of alternatives that can be used to complete this network, and a framework for identifying areas most in need of facilities;

NOW THEREFORE, BE IT RESOLVED, THAT THE TOWN BOARD OF THE TOWN OF GRAND CHUTE ESTABLISHES A COMPLETE STREETS POLICY AS FOLLOWS:

1) In accordance with recommendations in the *Pedestrian and Bicycle Strategy*, the Town will plan for, fund, design, construct, operate, and maintain Complete Streets throughout the community, meaning roadways that enable safe, convenient, and comfortable access and travel for pedestrians, bicyclists, motorists, and public transport users of all ages and abilities.

2) This Complete Streets Policy covers all development and redevelopment in the public right-of-way. This includes all public transportation projects, such as, but not limited to new street construction, reconstruction, retrofits, upgrades, rehabilitation, and resurfacing.

3) This Complete Streets Policy does not apply to projects that only involve routine or ordinary maintenance activities such as mowing, cleaning,

sweeping, spot repaint, concrete joint repair, pothole patching, whose primary purpose is to keep existing infrastructure in serviceable condition.

4) The Town recognizes that there are a variety of methods available to "complete" a street. This Complete Streets Policy does not require the Town install a sidewalk and paint bicycle lane on every street segment, but rather provide facilities that fit the context of the street and the surrounding built environment, using recommendations presented in the *Pedestrian and Bicycle Strategy* or other peer-reviewed, professional publications.

5) The Town Board may consider exempting a project from this Complete Streets Policy if:

a) Pedestrians, bicyclists, or transit vehicles are legally prohibited from the street segment; or
b) The addition of pedestrian and bicycle facilities is greater than or equal to twenty percent (20%) of the estimated total project cost; or
c) Required pedestrian, bicycle, or transit accommodations can be provided through existing facilities on adjacent properties; or
d) A professional engineer (PE) determines that there is insufficient space to properly and safely accommodate new pedestrian, bicycle, or transit facilities within the existing pavement, curb-to-curb, or right-of-way width; or
e) A professional engineer (PE) determines that new pedestrian, bicycle, or transit facilities decrease the safety of a segment or intersection; or
f) An official representative from a federal, state, or county agency determines that new pedestrian, bicycle, or transit facilities will have a significant negative impact on legally-protected natural or cultural resources.

6) The Town recognizes that while it, Outagamie County, and the State of Wisconsin are primarily responsible for building infrastructure, other public, private, and community-based organizations will play a significant role in supporting operation and maintenance of these facilities. They will also have a role in educating users on the proper and safe use of facilities, encouraging people to travel by foot or bicycle, and enforcing rules of the road.

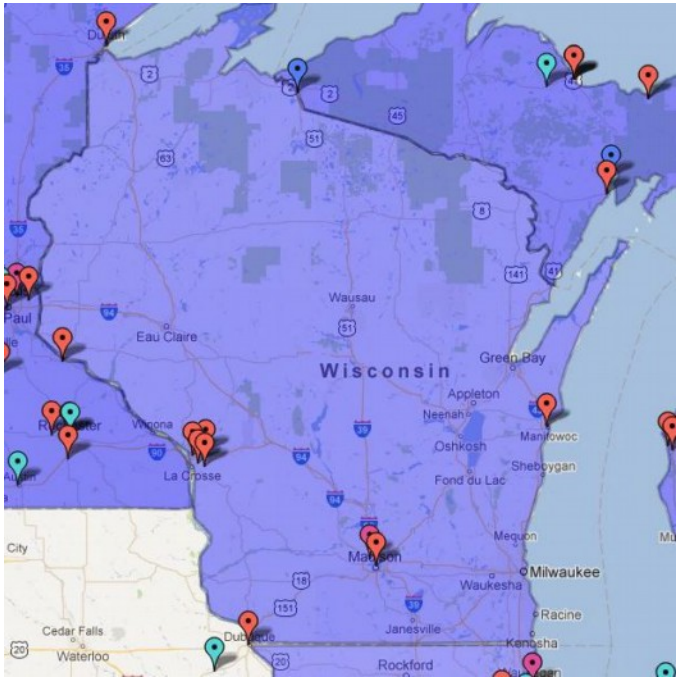
Several state and local governments have taken steps toward creating more complete streets.

The National Complete Streets Coalition, a program area of Smart Growth America, maintains an interactive, nationwide atlas that shows complete streets policies and programs.

The map to the right shows activities in Wisconsin (as of December 2012). Blue markers indicate laws and ordinances; red markers indicate resolutions; purple markers indicate internal (agency or department) policies or executive orders; magenta markers indicate plans; and green markers indicate design manuals or guides. Shading indicates state-level policies.

Wis. Stats. 84.01(35) and Administrative Code Trans 75 are reflected on the map. Currently, no municipality in the Fox Cities metropolitan area has a complete streets policy. The City of Manitowoc, about 45 miles to the southeast of Grand Chute, passed a policy in February 2012.

The most up-to-date information can be found at:
http://www.smartgrowthamerica.org/complete-streets/changing-policy/complete-streets-atlas.



2 | ALTERNATIVES

This section identifies options that the Town can use to complete the pedestrian and bicycle network. These elements help create more “complete” streets: “roadways designed and operated to enable safe, convenient, and comfortable access and travel for all users. Pedestrians, bicyclists, motorists, and public transport users of all ages and abilities can move along and across a complete street with safety and comfort” (WisDOT 2011). Recommendations come from Wisconsin design manuals (WisDOT 2011, WisDOT 2010, WisDOT 2004) and best practice manuals (NACTO 2012, Harkey and Zeeger 2004). Recommendations also follow U.S. Department of Transportation, Federal Highway Administration (FWHA) rules; the Manual on Uniform Traffic Control Devices (MUTCD) guidelines; Wisconsin State Statutes: Section 84.01; and the Wisconsin Administrative Code: Trans 75 so projects will be eligible for federal and state funding.

This section is divided into two major sub-sections: 1) alternatives that facilitate pedestrian and bicycle travel between destinations, and 2) alternatives that help pedestrians and bicyclists cross streets safely. For each alternative, this document provides a basic description, a visual representation, guidelines for proper application, and references with technical details on design, installation, operation, and maintenance.

The Town will use the volume and speed of vehicles on a street segment to determine the most appropriate pedestrian and bicycle facilities. The matrix below, developed using existing rules and best practices (WisDOT 2011, WisDOT 2010, Mn/DOT 2007, and King 2002), recommends minimum accommodations. The Town will assume a higher vehicle average daily traffic (ADT) or speed for segments with inadequate driver sight distances; a high percentage of trucks, buses, or other large vehicles; or a high percentage of vulnerable non-motorized users (as mentioned in the introduction).

VEHICLE ADT	PEDESTRIAN FACILITIES (1)	BICYCLE FACILITIES (2)			
		25 MPH OR LESS	30 OR 35 MPH	40 OR 45 MPH	50 MPH OR MORE
less than 750	shared travel lane	shared travel lane	shared travel lane	shared travel lane	shared travel lane
750 to 1,500	sidewalk or paved shoulder (3)	shared travel lane	14' wide outside lane or 4' paved shoulder	14' wide outside lane or 4' paved shoulder	6' bicycle lane or 4'-6' paved shoulder (5)
1,500 to 3,000	sidewalk or paved shoulder (3)	15' wide outside lane or 5' paved shoulder	15' wide outside lane or 5' paved shoulder	6' bicycle lane or 5'-6' paved shoulder (5)	6' bicycle lane or 5'-6' paved shoulder (5)
3,000 to 6,000	sidewalk or paved shoulder (3)	15' wide outside lane or 5' paved shoulder	6' bicycle lane or 5'-6' paved shoulder (5)	6' bicycle lane or 5'-6' paved shoulder (5)	6'-8' bicycle lane or 5'-8' paved shoulder (5)
6,000 to 12,000	sidewalk or paved trail (4)	6' bicycle lane or 6' paved shoulder (5)	6' bicycle lane or 6' paved shoulder (5)	6'-8' bicycle lane or 6'-8' paved shoulder (5)	6'-8' bicycle lane or 6'-8' paved shoulder (5)
12,000 and up	sidewalk or paved trail (4)	6' bicycle lane or 6' paved shoulder (5)	6'-8' bicycle lane or 6'-8' paved shoulder (5)	6'-8' bicycle lane or 6'-8' paved shoulder (5)	6'-10' bicycle lane or 6'-10' paved shoulder (5)

(1) If space limits the ability to construct pedestrian and bicycle facilities, preference will be given to pedestrian facilities (WisDOT 2011 11-46-1.2).

(2) Bicycles are legal users of the roadway (WisDOT 2011, 11-46-1), so the Town will provide on-street facilities. More vulnerable users may benefit from additional separated facilities on segments with high vehicle ADT or speeds.

(3) The Town will install sidewalks in urban and suburban areas where parcel frontages are small (less than 200'), parcels are more deep than wide, and there are frequent driveway crossings and access points. The Town will install paved shoulders in suburban and rural areas where parcel frontages are large (greater than 200'), parcels are more wide than deep, and driveway crossings and access points are infrequent.

(4) The Town will install sidewalks when pedestrians are using the facility to access places on the segment, parcels are generally an acre or less, and there are frequent driveway crossings and access points. The Town will install paved trails when pedestrians are using the facility to access places beyond the segment, parcels are generally greater than an acre, and driveway crossings and access points are infrequent.

(5) The Town will install bicycle lanes in urban and suburban areas. The Town will install paved shoulders in suburban and rural areas, especially segments where paved shoulders are the recommended pedestrian facility.

SHARED TRAVEL LANES

Motorists, pedestrians, and bicyclists use the same width of pavement on shared travel lanes. Pedestrians travel in the opposite direction of automobiles; bicyclists in the same direction.

Shared travel lanes may be appropriate for urban and suburban streets in residential areas with low speed limits and traffic of less than 1,500 vehicles per day and rural streets with traffic of less than 750 vehicles per day.

A shared travel lane is not wide enough for motorists, pedestrians, and bicyclists to operate side-by-side, so it is not a considered a true pedestrian or bicycle facility for state or federal regulations.

(WisDOT 2011: 11-46-15.3.3, 15.5.1; WisDOT 2004: 2.5)

WIDE OUTSIDE LANES

Also known as wide curb lanes, wide outside lanes provide separation between bicyclists and passing vehicles. Pedestrians travel in the opposite direction of automobiles; bicyclists in the same direction.

The preferred order for wide outside lanes on an urban segment with no parking:
2' gutter | 15' outside travel lane
1' gutter | 15' outside travel lane
2' gutter | 14' outside travel lane
15' combined gutter, travel lane
1' gutter | 14' outside travel lane

On segments with parking, outside lanes should be 23' or greater.

The Town may add shared lane markings (“sharrows”) on segments with higher volumes of auto traffic and speeds 35 MPH or less. Sharrows show bicyclists where to safely position themselves in the lane (at least 4' from a curb or 2.5' from a parking zone); provide a means of way-finding; and alert motorists to the potential presence of bicyclists.

(WisDOT 2011: 11-46-15.3, 15.5; NACTO 2012; U.S. DOT 2012: 9C.07)

PAVED SHOULDERS

Paved shoulders contain an edgeline that provides more definitive separation from automobiles. Pedestrians travel in the opposite direction of automobiles; bicyclists in the same direction.

The addition of paved shoulders along a street segment can reduce pedestrian crashes by 70%.

The preferred order for shoulders on an urban segment with 11' to 12' travel lanes and no parking:
2' gutter | 4' paved shoulder
1' gutter | 4' paved shoulder
2' gutter | 3' paved shoulder
1' gutter | 3' paved shoulder

On rural segments, provide at least a 4' paved shoulder. Provide additional width for segments identified in bicycle plans, segments with 25 or more expected bicyclists per day, and those that complete short gaps in an otherwise continuous bicycle route.

Consider adding a 2' buffer marking on high-speed, high-volume streets.

(WisDOT 2011: 11-46-15.3.2, 15.4.1; WisDOT 2004: 2.6; Moule and Isebrands 2010)

BICYCLE LANES

Bicycle lanes use signage, striping, and markings to designate a part of the street for exclusive use by bicycles, which ride in the same direction as automobiles. Lanes are preferred over paved shoulders because they separate pedestrians and raise motorists' awareness.

The preferred order for bicycle lanes on an urban segment with 11' to 12' travel lanes and no parking:
2' gutter | 5' bicycle lane
6' combined gutter and lane
1' gutter | 5' bicycle lane
2' gutter | 4' bicycle lane
1' gutter | 4' bicycle lane
5' combined gutter and lane

For urban segments with on-street parking, create an 8' to 10' parking zone with 5' to 6' bicycle lane; a 12' combined lane may be feasible.

For rural segments, provide at least a 5' wide lane, with additional width for higher auto volumes and speeds.

Consider adding a 2' buffer marking on high-speed, high-volume streets.

(WisDOT 2011: 11-46-15.3.1; WisDOT 2004: 3.0; NACTO 2012; U.S. DOT 2012: 9C.04)

SIDEWALKS

Sidewalks provide the greatest degree of safety and comfort for pedestrians by providing a paved surface with horizontal and vertical separation from vehicles. Sidewalks are appropriate for urban and suburban areas where parcels are an acre or less, more deep than wide, and frontages are small (less than 200'); there are frequent driveway crossings and access points; and pedestrians' purpose is to access places on that segment.

The addition of sidewalks along a street can reduce pedestrian crashes by 88%.

Sidewalks should be at least 5' wide on local and collector streets; 6' to 8' wide on minor and major arterials; and 8' to 12' on streets with significant numbers of pedestrians. Concrete is the preferred paving material.

(WisDOT 2011: 11-46-5.1.1; WisDOT 2010: 4.4.2, 5.3.1; Moule and Isebrands 2010)

PAVED TRAILS

Paved trails provide a smooth surface with horizontal and vertical separation from vehicles. They are designed for both pedestrians and bicyclists, though a trail shall complement, not replace, on-road bicycle facilities.

Trails are the preferred facility when highways are converted to limited-access or posted speeds to increase over 55 MPH. This is especially important when there are no frontage roads or parallel streets within ½ mile.

Away from street segments, paved trails can provide connections through parks or large parcels.

Trails should be at least 10' wide and at least 5' from the street to allow for safe passing. Asphalt is the preferred paving material, for it provides a smoother ride for bicyclists.

(WisDOT 2011: 11-46-1, 15.6; WisDOT 2010: 5.3.9.1; WisDOT 2004: 4.1 to 4.17)

CYCLE TRACKS

Cycle tracks are facilities where the bicycle travel area is physically separated from auto lanes and the sidewalk. Tracks are located to the curb side of on-street parking. They offer a higher level of security and comfort than bike lanes.

The Town may consider cycle tracks on segments with multiple lanes, high speeds, high volumes, or high on-street parking turnover.

At street level, medians, bollards, or on-street parking separates tracks from auto lanes. Provide at least 3' of space between the parking zone and cycle track.

At sidewalk level, different-colored or textured pavement separates tracks from pedestrian areas.

(NACTO 2012)

UNPAVED TRAILS

Unpaved trails provide a space horizontally and vertically separated from vehicles. They provide connections through natural and rural settings.

Primary users are recreational.

The Town will build unpaved trails in areas where it is important to preserve the integrity of the natural landscape and limit impervious surfaces in sensitive watersheds.

The Town may consider using a crushed limestone surface as an interim measure before adding sidewalks or a paved trail.

2.2.1 | SHORTEN THE DISTANCE

CURB EXTENSIONS

Also known as bulb-outs, curb extensions shorten the distance pedestrians are in a travel lane at intersections. They increase pedestrian storage space and increase the visibility of pedestrians and motorists to each other. They slow vehicles by reducing turning radii and creating the perception of narrower lanes. Shorter crossing times also reduce motorists' delay.

Install extensions at intersections with high auto traffic volumes.

In areas with on-street parking, build extensions the width of the parking lane. Lengthen them to serve as bus stop.

Install low-level landscaping in planting strips or boxes to enhance aesthetics and make extensions more visible after snowfall.

Provide an at-grade channel through the extension for bicycle lanes.

(WisDOT 2010: 5.2.1.4, 5.2.1.8.1, 5.3.4.2.3; WisDOT 2004: 2.10.2)

CHOKERS

Also known as neck-downs, chokers are mid-block curb extensions. They shorten the distance pedestrians are in a travel lane and reduce motorists' speed.

Install chokers on high-speed, high volume segments that are difficult for pedestrians or bicyclists to cross.

On low-speed, low-volume residential streets, it may be appropriate to narrow the street to a single lane.

Install low-level landscaping in planting strips or boxes to enhance aesthetics and make extensions more visible after snowfall.

Do not install extensions if they interfere with a bicycle lane, or provide an at-grade channel through the choker.

(WisDOT 2010: 5.2.1.8.1)

NARROW TRAVEL LANES

Reducing the width of auto lanes shortens the distance pedestrians are in a travel lane, provides space for off-street pedestrian and bicycle facilities, and reduces motorists' speed.

Narrow travel lanes on segments where motorists' regularly exceed posted speed limits or where extra space would allow for separated pedestrian and bicycle facilities.

On most segments, 12' wide lanes can be reduced to 11' without compromising safety. 10' wide travel lanes may be appropriate on on low-speed, low-volume segments.

The Town may need to retain wide lanes on some segments to accommodate a high volume of truck or bus traffic. Federally-designated truck routes require at least one 12' travel lane in each direction.

(WisDOT 2010: 5.2.1.3)

FEWER TRAVEL LANES

Also known as a “road diet,” fewer auto lanes provide space for on-street pedestrian and bicycle facilities. It can lead to a 23% increase in pedestrian volume and a 30% increase in bicyclist volume. A road diet also enhances safety: it can result in a 34% reduction in crashes; a 68% reduction in injuries; a 9% to 47% reduction in auto speed.

Eliminate travel lanes on segments with steady or decreasing traffic volumes or segments with a high number of crashes caused by left-turning vehicles. A reduction in lanes is appropriate for segments with traffic of 15,000 vehicles per day or less.

A common application is when 4 lanes are reduced to 3 lanes: one travel lane in each direction with a center two-way left turn lane.

(WisDOT 2010: 5.2.1.3; Moule and Isebrands 2010)

MEDIANS

Medians are vertically-elevated spaces than run between opposing travel lanes. They are used to eliminate left turns and/or cross traffic. Medians provide pedestrians and bicyclists a refuge so they only have to negotiate one direction of vehicles at a time. The addition of medians can reduce pedestrian crashes by 46% at marked crosswalks and 39% at unmarked ones.

Install medians on streets with few acceptable gaps to cross traffic. Add at intersections or mid-block crosswalks where the crossing distance exceeds 48'.

Make medians with crosswalks at least 6' wide (10' is best) and contain street-level cut-throughs or ramps to a central level landing. It may be appropriate to angle the cut-through so pedestrians face oncoming traffic before making the second half of the crossing.

(WisDOT 2010: 5.2.1.8.2, 5.3.4.2.1; WisDOT 2004: 2.10.1; NACTO 2012; Moule and Isebrands 2010; U.S. DOT 2012: 3I.06)

REFUGE ISLANDS

Refuge islands are vertically-elevated spaces than run between opposing travel lanes like medians, but they are shorter in length.

Refuge islands provide pedestrians and bicyclists a refuge so they only have to negotiate one direction of vehicles at a time.

Install refuge islands on streets with few acceptable gaps to cross traffic. Add at intersections or mid-block crosswalks where the crossing distance exceeds 48'.

Make refuge islands with crosswalks at least 6' wide (10' is best) and contain street-level cut-throughs or ramps to a central level landing. It may be appropriate to angle the cut-through so pedestrians face oncoming traffic before making the second half of the crossing.

(WisDOT 2010: 5.2.1.8.2, 5.3.4.2.1; WisDOT 2004: 2.10.1; NACTO 2012; U.S. DOT 2012: 3I.06)

PORKCHOP ISLANDS

A raised “porkchop” island provides pedestrians more visibility and a shorter crossing distance at right-turn slip lanes.

Install porkchop islands at intersections with high volumes of right-turning automobiles.

Build porkchop islands at least 6' wide and build street-level cut-throughs or ramps to a central level landing. Install crosswalks perpendicular to slip lane, one car length back from intersection.

Properly designed slip lanes have a compound radius (a long radius followed by a short radius) that reduce the speed of turning vehicles. Make the turn lane 2:1 length-to-width; make width equal the turning path of vehicles.

(WisDOT 2010: 5.2.1.5.2, 5.3.4.2.2)

CURB RAMPS

Curb ramps provide a paved connection between surfaces at different vertical grades. Installed perpendicular to streets, they benefit pedestrians with strollers, walkers, luggage, delivery carts, or other items with wheels.

In order to connect existing or future sidewalks and multi-use trails, install curb ramps on both sides of the street, even if one may be outside of the project limits.

Make ramps at least 5' wide and offset no more than 10' from a sidewalk extension. Make sure all ramps have a slope no steeper than 8.33% and include detectable warning field of truncated domes.

(WisDOT 2011: 11-46-10.1; WisDOT 2010: 5.3.3)

ADVANCED YIELD/STOP LINES

Advanced yield and stop lines are painted across travel lanes before crosswalks. They help pedestrians and motorists see each other from all approaches to an intersection.

Install advanced lines at stop or signal-controlled intersections. Make markings 1' to 2' wide, with “sharks teeth” for yield and a solid line for stop. Place no less than 4' in advance of the nearest crosswalk line, and farther back on segments with higher vehicle speeds. Stagger stop lines when there is more than one lane approaching the intersection to reduce multiple-threat crashes.

(WisDOT 2010: 5.3.4.1; U.S. DOT 2012: 3B.16)

CROSSWALKS

Crosswalks are crossings where motorists must legally yield the right of way to pedestrians. They direct pedestrians towards the best place to cross the street and inform motorists that they are approaching the pedestrian right-of-way.

They can be located at intersections of in the middle of blocks. Install mid-block crosswalks where pedestrians already cross and where adequate sight distance exists and motorists expect pedestrians to cross. Install them when the next intersection is more than 660' away; where adjacent intersections are difficult to cross.

Make crosswalks 6' to 8' wide, up to 10' in areas of high pedestrian volume. Continental, ladder, and zebra markings are ten times more visible to motorists than longitudinal (standard) markings.

Enhance effectiveness by reducing speeds and/or adding signs, pavement striping, or signals.

(WisDOT 2010: 5.3.4.1; U.S. DOT 2012: 3B.18)

BICYCLE GUIDES

Bicycle intersection markings show bicyclists where to proceed through an intersection. Markings help motorists by making bicycle movements more predictable, increasing their visibility and showing that through bicyclists have priority over turning vehicles.

Install in conjunction with bicycle lanes or cycle tracks at wide or complex intersections where the preferred travel path may be unclear.

Paint markings to designate separate or shared bicycle and auto turn lanes. Pick a standard design to avoid confusion.

(NACTO 2012; U.S. DOT 2012: 9C)

BICYCLE BOXES

A bicycle box is a designated area at the head of an auto lane at signalized intersections. Boxes provides a way for bicyclists to get safely ahead of queuing traffic and makes them more visible to motorists. Boxes facilitate bicyclists turning left at intersections and help prevent “right-hook” conflicts with turning vehicles. They group bicyclists together to quickly clear an intersection, which minimizes motorist delay.

Use at signalized intersections with high volumes of bicycles, especially those with high numbers of right-turning vehicles or left-turning bicycles.

Bicycle boxes are often painted green, though they may also be painted red, blue, or not at all.

(NACTO 2012; U.S. DOT 2012: 9C)

CROSSWALK

Add crossing signs to crosswalks traversing: 1) multi-lane streets without a median and 12,000 or more vehicles per day; 2) multi-lane streets with a median and 15,000 or more vehicles per day; and any street segment with an average vehicle speed of 40 MPH or more.

Signs may be placed overhead or mounted on posts on the terrace.

(WisDOT 2010: 5.3.4.1; U.S. DOT 2012: 2B.12, 2B.51, 2C.50)

SCHOOL ZONE

School zone signs regulate vehicle speeds in areas with high volumes of students on foot or bicycle.

Sign text may reference the school, bus stops, pedestrian crossings, reduced speed limits, or higher fines. All signs should be fluorescent yellow-green with black text.

Use uniform controls within the school zone to increase compliance and reduce motorist confusion.

(U.S. DOT 2012: 7A)

BICYCLE AWARENESS

Bicycles are legal users of the roadway (WisDOT 2011, 11-46-1), so they are entitled to use the lane unless expressly prohibited (e.g. limited-access freeways).

Add “bicycles may use full lane” or “bikes sharing roadway” signs to segments where there is no room for bicycles and vehicles to operate side-by-side. Add signs to dangerous segments with a high volume of bicyclists to inform drivers that bicyclists may be in the lane.

(U.S. DOT 2012: 9B.06)

IN-STREET CROSSWALK

In-street crosswalk signs are placed in the roadway, either on the center line, a lane line, or a median island.

Signs should say “yield to pedestrians” to reflect state law.

These signs increase motorists' compliance. They are most effective on segments where drivers travel 30 MPH or less.

Signs should bend over and bounce back if struck by a vehicle.

Remove signs during the winter months if they interfere with plowing snow.

(WisDOT 2010: 5.3.4.1; U.S. DOT 2012: 2B.11; Harkey and Zeeger 2004)

2.2.5 | INSTALL SIGNALS

Add signals to crosswalks traversing: 1) multi-lane streets without a median and 12,000 or more vehicles per day; 2) multi-lane streets with a median and 15,000 or more vehicles per day; and any street segment with an average vehicle speed of 40 MPH or more.

FLASHING YELLOW BEACON

Flashing yellow lights advise drivers to slow down and prepare to stop for possible pedestrians or bicyclists using a crosswalk. They substantially increase motorists' compliance as compared to crosswalks alone.

Continuously operating beacons may blend into the background environment for motorists over time, leading to less awareness and compliance. Therefore, it is preferable that signals are activated by actual pedestrians or bicyclists waiting to cross.

(U.S. DOT 2012: 2C.50)

RAPID-FLASH BEACON

A rapid-flash beacon has rectangular yellow LED lights that emit a unique stutter "wig-wag" flash to motorists.

Use rapid-flash beacons at unsignalized intersections or mid-block crosswalks, especially high-volume pedestrian crossings or priority bicycle route crossings. Also use at crossings where motorists do not yield to pedestrians; rapid-flash beacons have increased motorist yield rates from 20% to 80%.

Beacons can be activated by active or passive detection. Lights can be powered by solar panels.

(WisDOT 2010: 5.3.5.4; NACTO 2012; U.S. DOT 2012: 4F; Moule and Isebrands 2010)

HYBRID BEACON

Also known as a "HAWK" (high-intensity activated crosswalk), a hybrid beacon has two red lenses over a single yellow lens.

Lights are dark by default. When a pedestrian activates the signal, yellow lights advise motorists to prepare to stop. A solid red light then requires vehicles to stop and allow pedestrians and bicyclists to cross. An alternating red phase then allows vehicles to proceed through the intersection after stopping.

Install hybrid beacons at mid-block crossings and intersections where warrants do not support installing full traffic signals, especially high-volume pedestrian crossings or priority bicycle route crossings. Also use at crossings where motorists do not yield to pedestrians; hybrid beacons have generated 90% to 95% motorist compliance.

(WisDOT 2010: 5.3.5.4; NACTO 2012; Moule and Isebrands 2010)

IN-STREET LIGHTS

In-street lights are embedded into the pavement under crosswalks. They increase the visibility of pedestrians in low-light conditions. Lights are generally visible up to 1,500' away, so they allow motorists time to stop.

Pedestrians press a button to activate lights embedded in the roadway on each side of the crosswalk. Lights flash for an amount of time equal to the pedestrian clearance time.

Use in-street lights at mid-block crosswalks, especially high-volume pedestrian crossings or priority bicycle route crossings.

(WisDOT 2010: 5.3.5.4)

2.2.6 | SLOW AUTOMOBILES

Reduced auto speeds increase pedestrian safety. The probability of a pedestrian dying from being struck by a vehicle is 85% at 40 MPH; 45% at 30 MPH; and only 5% at 20 MPH (Moule and Isebrands 2010). Wisconsin Statute 346.57 establishes 25 MPH as the default speed limit on local streets. WisDOT recommends 30 to 45 MPH limits on built-out arterial streets. Speed limit reductions need to be accompanied by other traffic calming modifications.

ON-STREET PARKING

On street-parking slows vehicles by visually narrowing streets. Tree wells in the parking zone can provide a canopy over the street, reducing speeds even more.

On-street parking uses one-third less space than off-street parking. It is the most affordable parking option for businesses.

Head-out angled parking is the safest type of on-street parking, for it creates a sight line between motorists and other users when pulling out; allows motorists to load trunk from the curb; and open doors direct youth back towards the sidewalk.

(WisDOT 2010: 5.3.10; WALC Institute 2012)

STREET TREES

Street trees slow vehicles by visually narrowing streets.

Plant street trees on any street where there is sufficient room in the terrace area or median.

Trees provide shade for pedestrians and bicyclists.

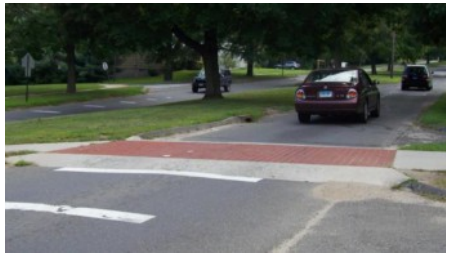
Provide adequate clearance underneath for pedestrians, bicyclists, and vehicles.

Avoid areas that obstruct sight lines, interfere with overhead utilities.

Refer to the *Grand Chute Community Forestry Strategy* (2012) for more specific guidelines.

(WisDOT 2010: 5.3.1.2.8)

SPEED HUMPS



Also known as speed tables, speed humps are raised strips of roadway with more gradual slopes than speed bumps. By forcing a vertical shift in vehicles, they slow traffic to 15 to 20 MPH.

Install speed humps on segments with auto volumes of at least 750 vehicles per day. Place humps in series 300' to 600' apart. They may include marked crosswalks.

Speed humps are generally 12' to 14' long and have slopes of 1:16 to 1:20 allow for snow plows to cleanly plow the hump.

Do not build speed humps on segments that are emergency routes or have steep slopes.

(WisDOT 2010: 5.2.1.8.1; WisDOT 2004: 2.10.2; WALC Institute 2012; U.S. DOT 2012: 2C.29, 3B.25, 3B.26)

CHICANES

Chicanes are designed to slow vehicles by shifting traffic from side to side. This is achieved through obstacles (e.g. curb extensions, planters, street furniture) staggered throughout the segment.

The Town can also create a chicane at intersections with curb extensions on one side and a median on the opposite side.

Use chicanes in urban and suburban residential areas with a history of speeding vehicles.

(WisDOT 2010: 5.2.1.8.1)

SIGNS

Signs use words, symbols, and arrows to convey messages about regulations, warnings, and guidance for road users.

The most common way to control an intersection is through the use of "yield" or "stop" signs.

(U.S. DOT 2012: 2B)

SIGNALS

Intersection signals help pedestrians and bicyclists safely cross intersections. More recent signals incorporate countdown timers that display the number of seconds left to safely cross. An actuated signal device requires pedestrians or bicyclists to push a button in order to activate the "WALK" phase.

Use at intersections that are complex or irregularly-shaped; have high volumes of turning traffic; vehicular actuation of traffic signals; complex signal phasing; or lots of people with visual impairments. Use actuated signals, or pedestrian or bike detectors, at intersections where pedestrian crossings are infrequent and fixed pedestrian signals makes the intersection inefficient for traffic.

To protect those crossing, signals may activate a "no turn on red" sign for vehicles.

(WisDOT 2010: 5.3.5; WisDOT 2004: 2.8; NACTO 2012; U.S. DOT 2012: 4)

ROUNDABOUTS

Roundabouts are controlled intersections where all traffic flows counter-clockwise around a center circle and all turning movements are to the right. They reduce motorist delay, increase intersection capacity, and improve safety. Roundabouts have lower operation and maintenance costs than signalized intersections. They can also improve streetscape aesthetics.

Roundabouts may, however, pose problems for pedestrians with visual or cognitive impairments.

Splitter islands must be accessible, detectable, and large enough for pedestrian traffic. Set back crosswalks to splitter islands one car length – about 20' – from yield lines.

Use shared-use paths to accommodate pedestrians and bicyclists through roundabouts.

(WisDOT 2011: 11-46-15.6.1; WisDOT 2010: 5.2.1.5.3, 5.2.1.8.1; U.S. DOT 2012: 2B.43, 2B.44, 2B.45, 3C)

MINI-CIRCLES

Mini-circles are placed in the middle of intersections in residential areas. They slow vehicles by forcing a lateral shift in travel.

They help traffic flow more smoothly because there are fewer complete stops.

Provide signs with arrows in the circle and make sure landscaping does not obstruct sight lines.

Do not place in intersections with high numbers of left-turning vehicles.

(WisDOT 2010: 5.2.1.8.1; WisDOT 2004: 2.10.2)

OVERPASSES

Use grade-separated crossings to connect buildings, land uses, and transit stations. Use across places with topographic displacement: freeways, expressways, major arterials, rail lines, and bodies of water. Use where signals are unable to be installed for technical reasons.

Pedestrians and bicyclists will often ignore overpasses if they are not convenient. If it takes 50% longer to cross using a grade-separated facility, then very few will use it.

Make pedestrian-only overpasses 8' or more wide, shared-use overpasses 12' or more wide.

Stairs may supplement, but may not replace, ramps connecting the overpass.

Railings are required to prevent pedestrians and bicyclists from falling off.

(WisDOT 2011: 11-46-20.1; WisDOT 2010: 5.3.6.2.1; WisDOT 2004: 4.15.7, 4.16.1)

UNDERPASSES

Use grade-separated crossings to connect buildings, land uses, and transit stations. Use across places with topographic displacement: freeways, expressways, major arterials. And rail lines. Use where signals are unable to be installed for technical reasons.

Pedestrians and bicyclists will often ignore underpasses if they are not convenient. If it takes 50% longer to cross using a grade-separated facility, then very few will use it.

Underpasses require generous dimensions to be attractive. Users should be able to see the light at the end of the tunnel. Elevate the roadway slightly.

Vandal-resistant lights increase actual and perceived security.

(WisDOT 2011: 11-46-20.1; WisDOT 2010: 5.3.6.2.2; WisDOT 2004: 4.15.7, 4.16.2)

3 | PRIORITIES

To make the most effective and efficient investment in pedestrian and bicycle infrastructure, the Town will build facilities strategically:

PEOPLE. The Town will build facilities close to where people live so that they can walk or bike right from their door. This includes “temporary” residents like hotel guests who may not have access to a car.

PLACES. The Town will build facilities to places to which people may have an interest in walking or biking. This includes utilitarian places like school and work as well as recreational places like parks and entertainment.

SEGMENTS. The Town will build facilities along street segments that provide the most direct connections between people and places. The Town will build facilities along segments where auto volumes and speeds make it unsafe for pedestrians and bicyclists to share travel space. Segments include all arterials, collectors, and major local roads with high volumes or that connect arterials and collectors.

The map on the right indicates how the Town should prioritize street segments when constructing pedestrian and bicycle infrastructure. The rankings for each segment are composed of twenty-four equally-weighted variables that are within the three categories above.

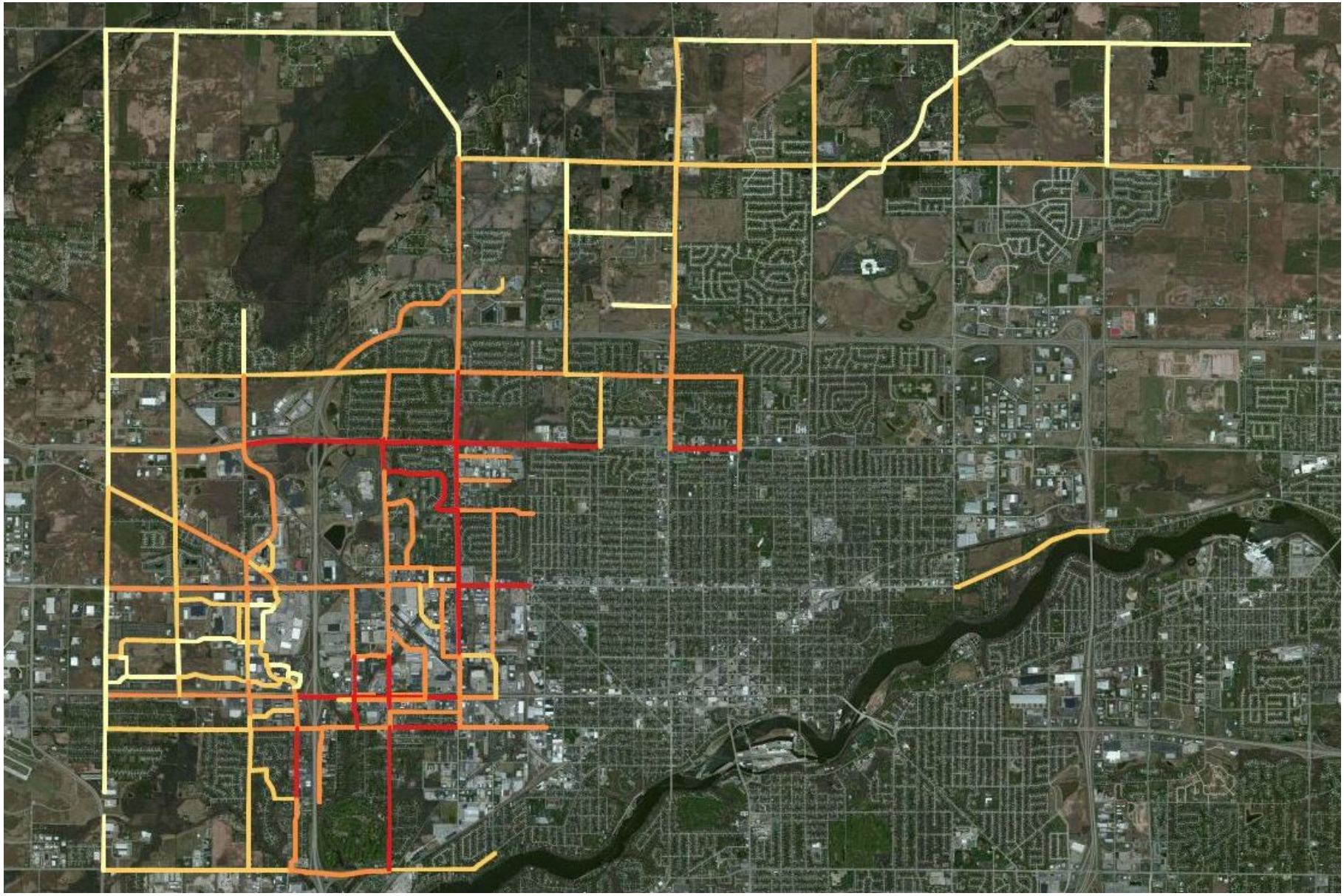
For **PEOPLE**, we counted the number of apartment units, hotel rooms, duplex units, and houses within a ¼ and ½ mile radius of each street segment. The ¼ mile radius is commonly used to approximate a five-minute walk, and a ½ mile radius to approximate a ten-minute walk.

For **PLACES**, we counted the number of places of education, business, industry, and government; parks; sports and arts facilities; and places identified in community workshops within a ¼ mile radius of each street segment.

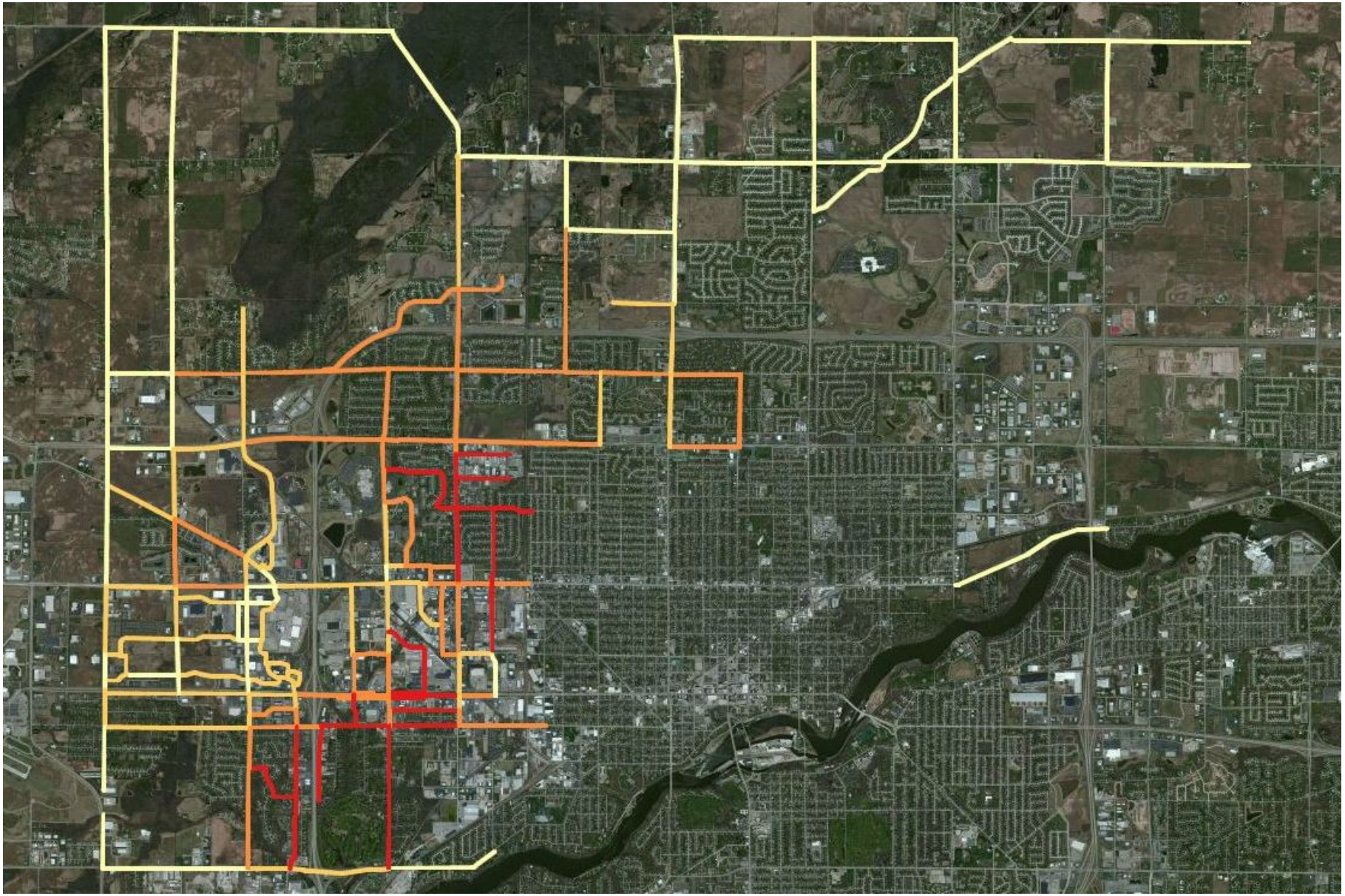
For **SEGMENTS**, we identified the functional class, amount of transit service, speed limit, and traffic volume and also counted the number of pedestrian and bicycle connections, auto crashes, and areas of concern identified in community workshops.

Steps we used to create a ranking:
1) order the data for a variable from “most to least,” “best to worst,” “highest to lowest,” etc.
2) separate the data into quadrants with roughly equal number of points
2) assign points for each quadrant: 3 for the top, 2, 1, or 0 for the bottom
4) repeat for each variable
3) add points together for people, places, and segments categories
4) add categories together for total priority

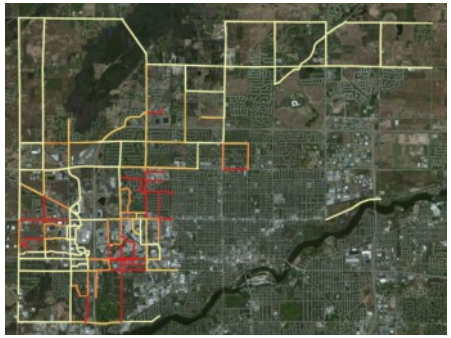
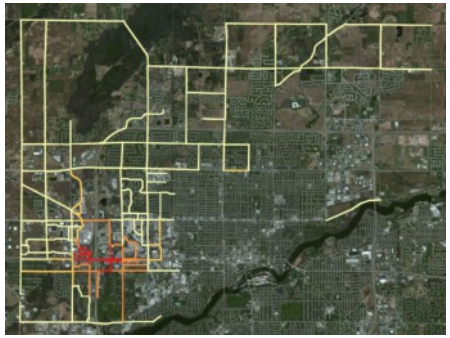
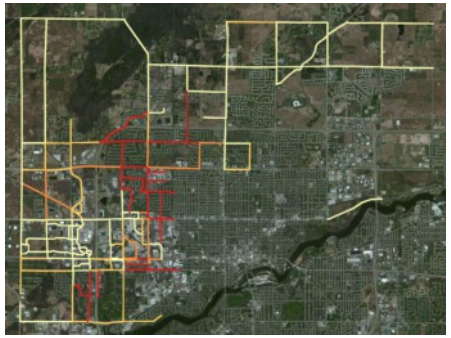
Each category is documented on a two-page spread. Maps on the left (even-numbered pages) show the category summation of the eight individual variables on the right (odd-numbered pages).

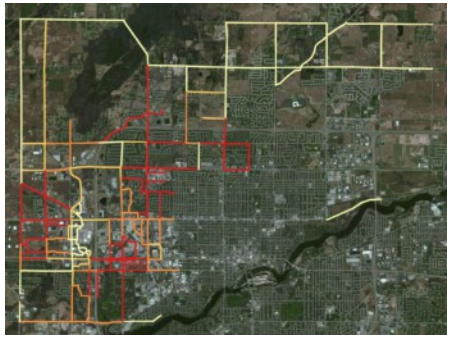
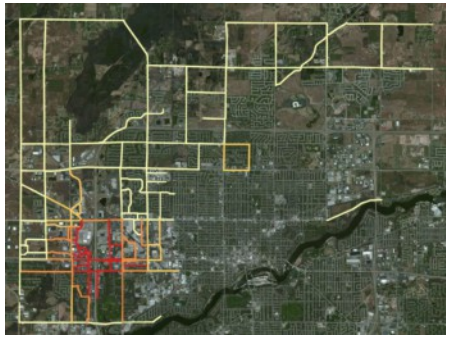
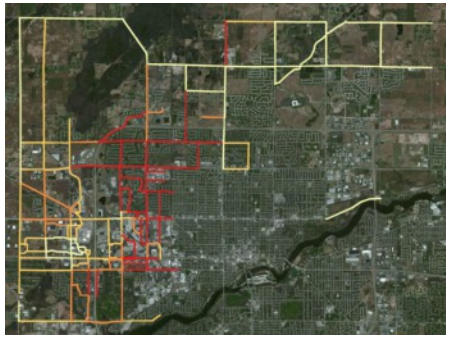


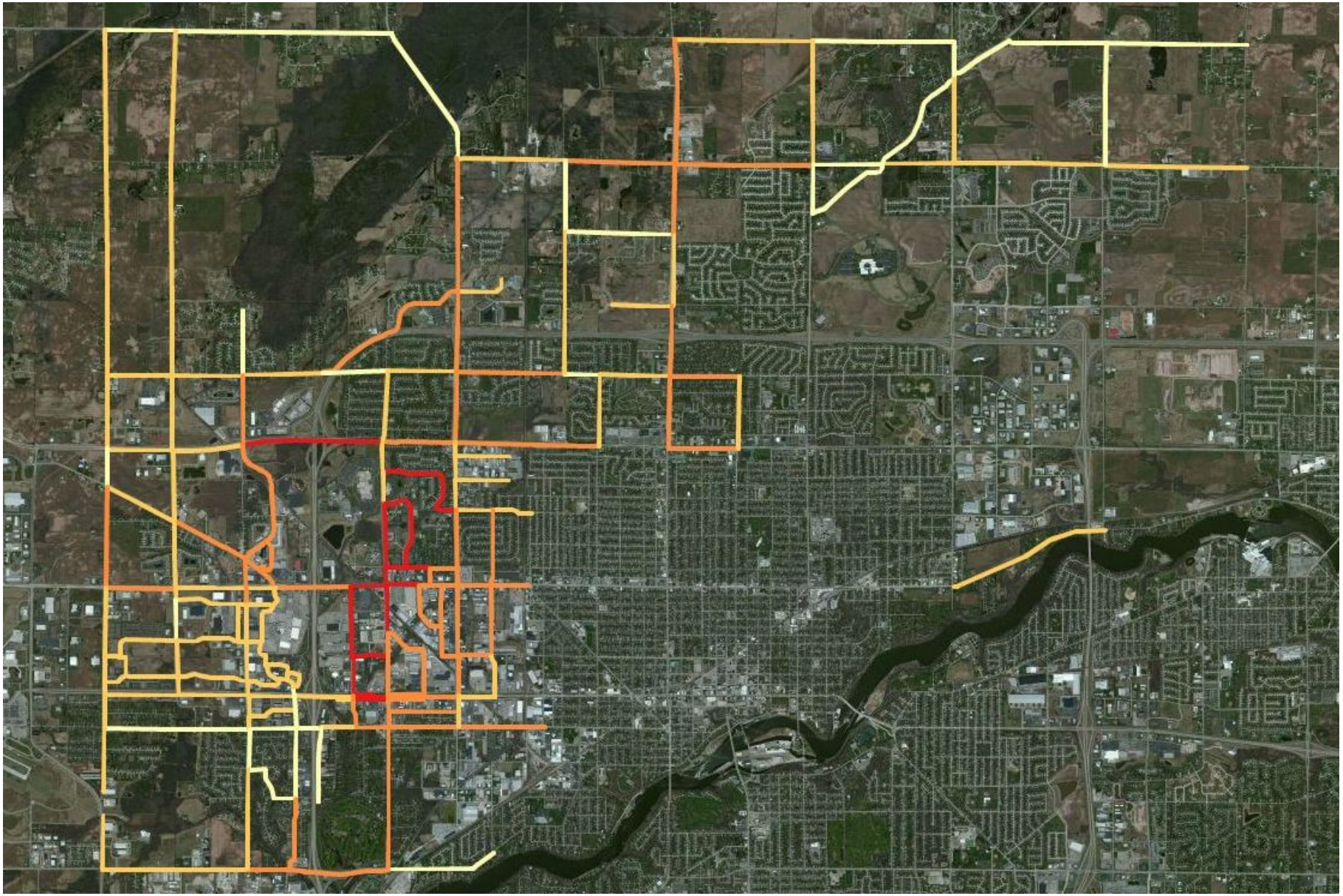
Immediate needs | | | Long-term needs



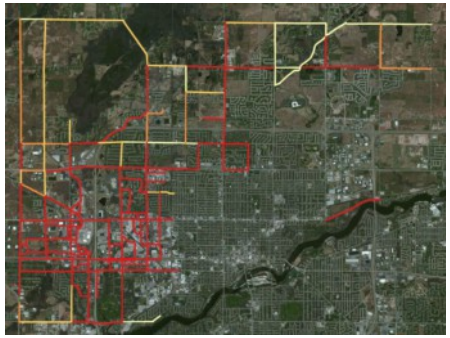
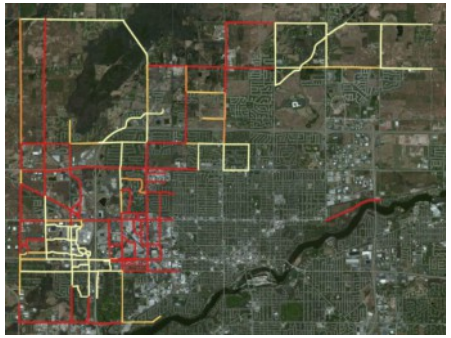
Greatest number of people | | | Fewest number of people

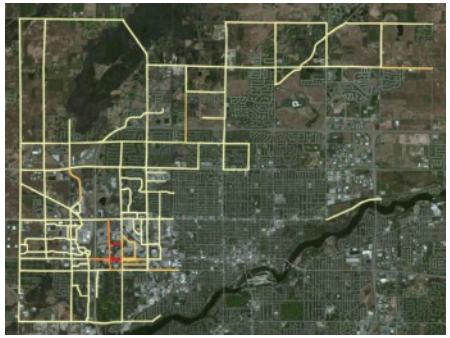
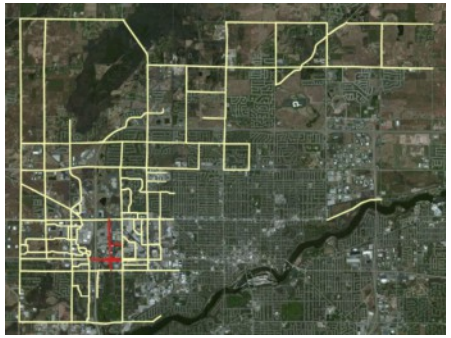
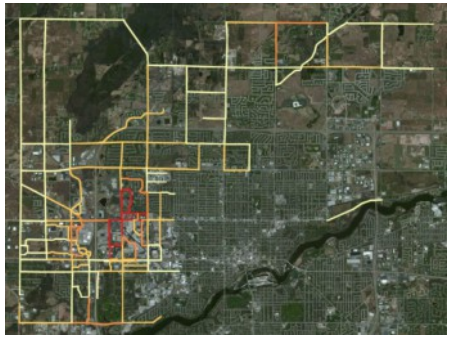
APARTMENT UNITS WITHIN ¼ MILE	HOTEL ROOMS WITHIN ¼ MILE	DUPLEX UNITS WITHIN ¼ MILE	HOUSES WITHIN ¼ MILE
			
200 or more units	400 or more rooms	30 or more units	100 or more houses
100 to 199 units	100 to 399 rooms	10 to 29 units	30 to 99 houses
fewer than 100 units	less than 100 rooms	less than 10 units	less than 30 houses
no units	no rooms	no units	no houses

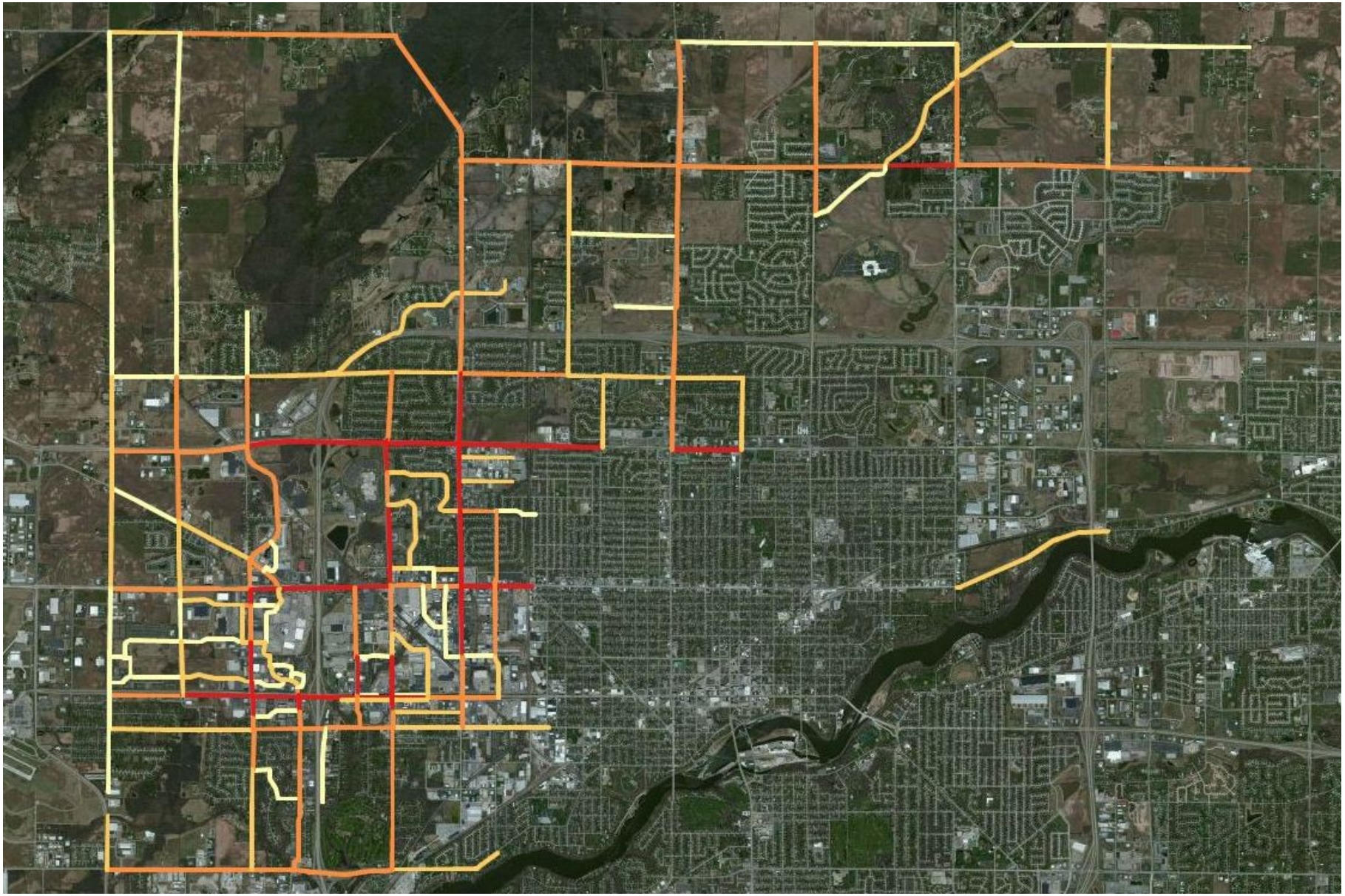
APARTMENT UNITS WITHIN ½ MILE	HOTEL ROOMS WITHIN ½ MILE	DUPLEX UNITS WITHIN ½ MILE	HOUSES WITHIN ½ MILE
			
300 or more units	500 or more rooms	50 or more units	200 or more houses
100 to 299 units	100 to 499 rooms	10 to 49 units	100 to 199 houses
fewer than 100 units	less than 100 rooms	less than 10 units	less than 100 houses
no units	no rooms	no units	no houses



Greatest number of places | | | Fewest number of places

EDUCATION WITHIN ¼ MILE	BUSINESS WITHIN ¼ MILE	INDUSTRY WITHIN ¼ MILE	GOVERNMENT WITHIN ¼ MILE
			
3 or more schools	3 or more places	3 or more places	3 or more places
2 schools	2 places	2 places	2 places
1 school	1 place	1 place	1 place
no schools	no places	no places	no places

PARKS WITHIN ¼ MILE	SPORTS WITHIN ¼ MILE	ARTS WITHIN ¼ MILE	WORKSHOP PLACES WITHIN ¼ MILE
			
3 or more places	3 or more places	3 or more places	3 or more places
2 places	2 places	2 places	2 places
1 place	1 place	1 place	1 place
no places	no places	no places	no places



Greatest potential | | | Least potential

FUNCTIONAL TYPE	TRANSIT ROUTE	PEDESTRIAN CONNECTIONS	BICYCLE CONNECTIONS
principal arterial	full segment	4 or more	4 or more
minor arterial	partial segment	2 or 3	2 or 3
collector	nearby segment	1	1
local	none	none	none

AUTO SPEED	AUTO VOLUME	AUTO CRASHES	WORKSHOP CONCERNS
50 MPH or more	6,000 ADT or more	10 or more per year	9 or more requests
40 or 45 MPH	3,000 to 5,999 ADT	4 to 9 per year	4 to 8 requests
30 or 35 MPH	1,500 to 2,999 ADT	2 to 3 per year	1 to 3 requests
25 MPH or less	less than 1,500 ADT	1 or less per year	no requests

4 | PROJECTS

The Town can create pedestrian and bicycle facilities within the existing paved surface by reconfiguring the width and number of travel lanes. It may:

REPAINT ON-STREET FACILITIES. On most segments, 12' wide lanes can be reduced to 11' without compromising safety. 10' wide travel lanes may be appropriate on on low-speed, low-volume segments. The Town may need to retain wide lanes on some segments to accommodate a high volume of truck or bus traffic. Federally-designated truck routes require at least one 12' travel lane in each direction (WisDOT 2010: 5.2.1.3).

REDUCE ON-STREET FACILITIES. A reduction in lanes is appropriate for segments with traffic of 15,000 vehicles per day or less. Research demonstrates that these “road diets” significantly improve safety without impeding auto traffic flow or vehicle capacity. A common application is when 4 lanes are reduced to 3 lanes: one travel lane in each direction with a center two-way left turn lane (WisDOT 2010: 5.2.1.3; Moule and Isebrands 2010).

The Town can create on-street pedestrian and bicycle facilities within the existing right-of-way by adding additional paved surfaces. It may:

REPAVE ON-STREET FACILITIES. Several rural segments have wide gravel shoulders that could be paved with a layer of asphalt to add on-street pedestrian and bicycle facilities, either when repaving the street or as a standalone project.

REBUILD ON-STREET FACILITIES. Some segments are reaching the end of their useful life. This is the most cost-effective opportunity to add pedestrian and bicycle facilities.

The Town can create off-street pedestrian and bicycle facilities within the public right-of-way or Town-owned easements on private property. It may:

BUILD PARALLEL OFF-STREET FACILITIES. Several segments are too dangerous (vehicle speed, volume) to allow for pedestrians or limited-skill bicyclists to use on-street facilities.

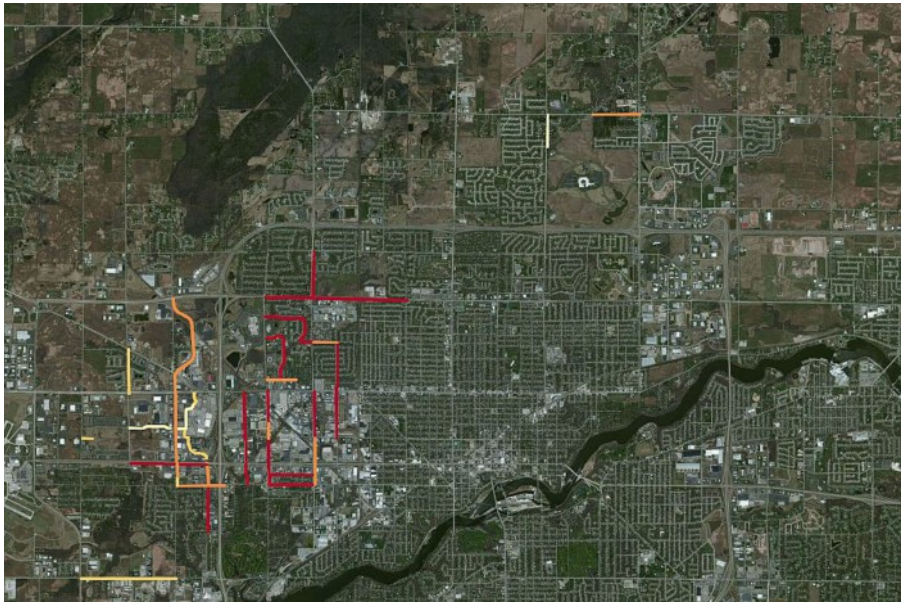
BUILD CONNECTING OFF-STREET FACILITIES. While a lack of space and topographic conditions may make it impractical to build a new street segment, it may be possible to build a connecting pedestrian and bicycle facility.

The Town can help pedestrians and bicyclists cross streets more safely. It can use paint, signs, signals, or other structural changes to **IMPROVE INTERSECTIONS** and **BUILD MID-BLOCK CROSSINGS**.

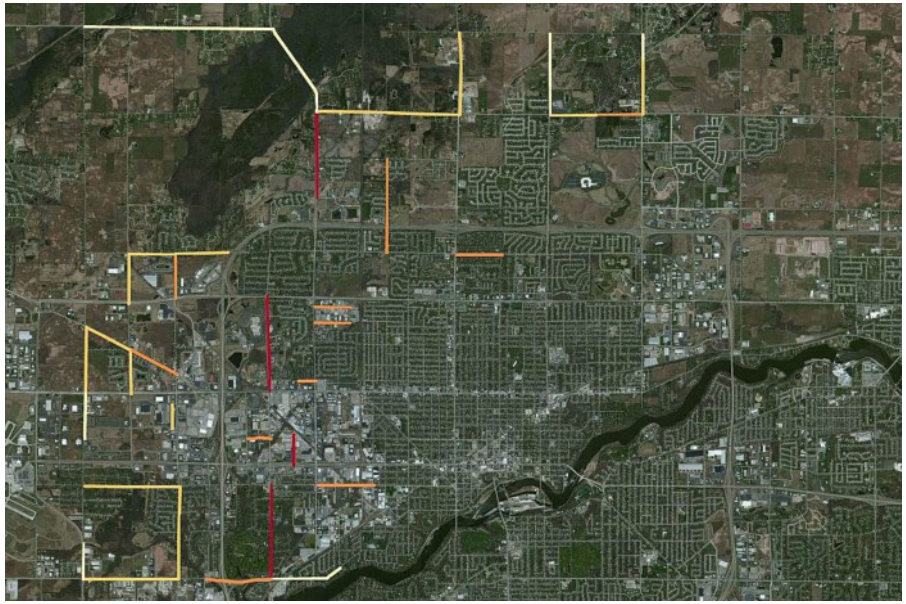
The following pages provide an overview of potential pedestrian and bicycle infrastructure projects. The Town should refer to this section when developing its annual capital improvement program (CIP); reviewing plats, subdivisions, or site plans for approval; or talking with the County or State about upcoming construction projects.

Maps on the left (even-numbered pages) shows the location of potential projects. Once again, future (yet-to-be-constructed) facilities shown on these maps are conceptual: they show the desire of the Town to construct a pedestrian or bicycle facility in a general area. The actual on-the-ground location of facilities will be determined through plats, subdivision agreements, development district master plans, and site plan agreements.

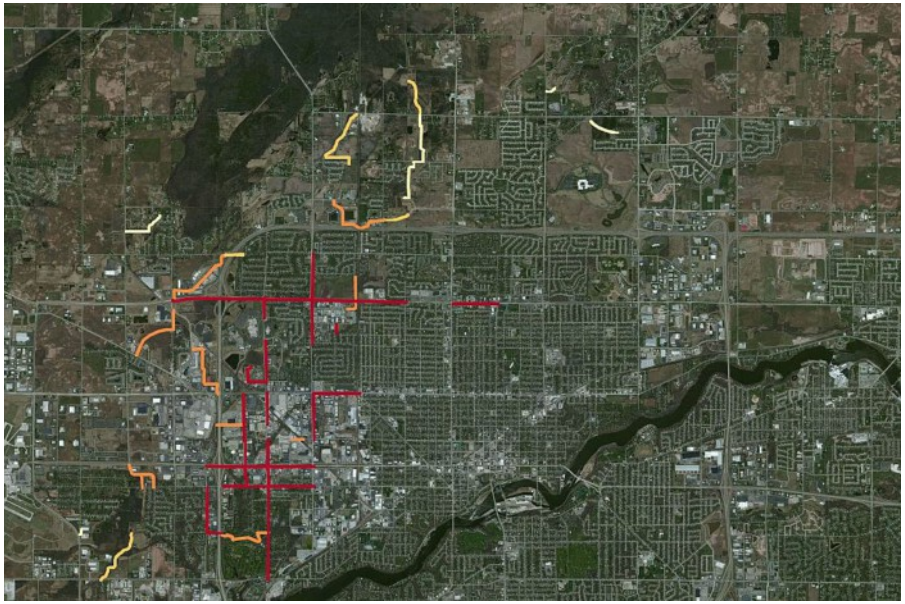
Tables on the right (odd-numbered pages) provide project details to guide engineering designs and estimate construction costs. Actual specifications may differ because of varying paved and right-of-way widths, curves, hills, and other differences in roadway geometry.



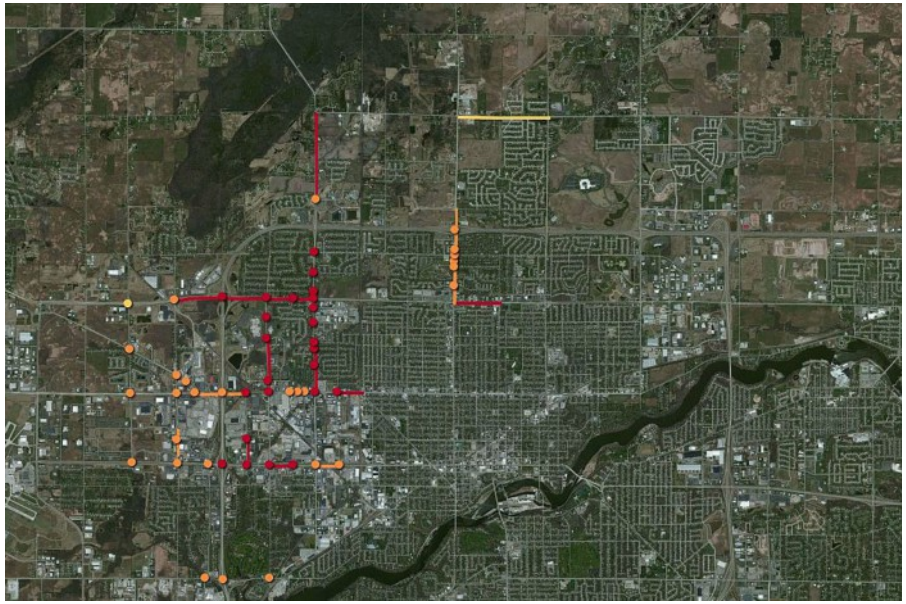
REPAINT AND REDUCE ON-STREET FACILITIES: 4.1 and 4.2



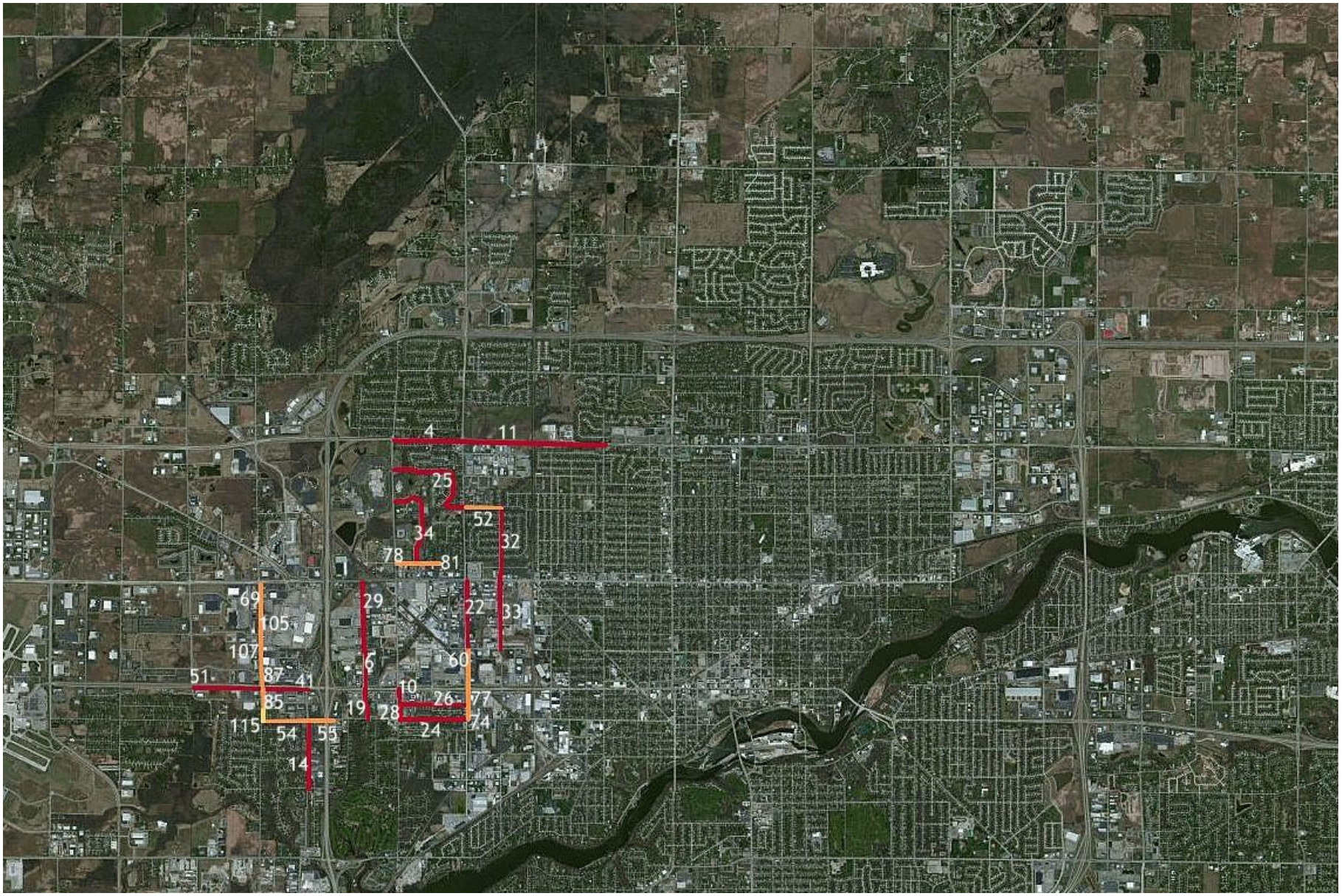
REPAVE AND REBUILD ON-STREET FACILITIES: 4.3 and 4.4



BUILD OFF-STREET FACILITIES: 4.5 and 4.6



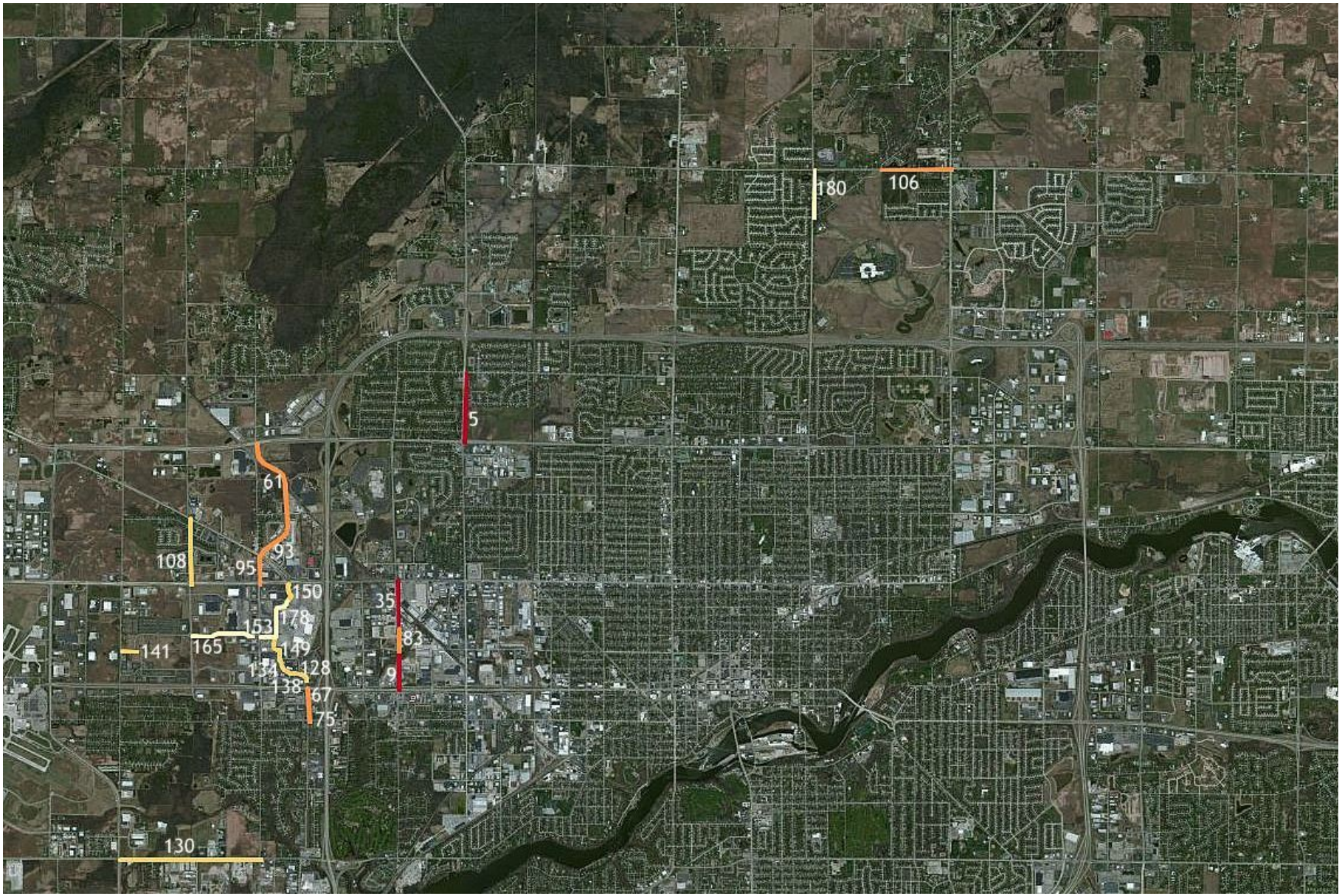
IMPROVE INTERSECTIONS AND MID-BLOCK CROSSINGS: 4.7 and 4.8



Immediate needs			Long-term needs

#	TOWN STREET	FROM	TO	CURRENT	POTENTIAL	FEET	PSR	ADT	SPD
6	Westhill Blvd	Woodman	College (STH 125)	(2) 11 | 12 | 20 | 12 | 11 (2)	(2) 4 | 11 | 11 | 14 | 11 | 11 | 4 (2)	1500	6	12900	35
10	Bluemound Dr	College (STH 125)	Lawrence	(2) 16 | 18 | 16 (2)	(2) 6 | 11 | 16 | 11 | 6 (2)	560	9	6100	25
14	Nicolet Rd	Spencer	Pine	(2) 16 | 16 (2)	(2) 5 | 11 | 11 | 5 (2)	2640	8	3500	35
19	Kools St	College (CTH 125)	Spencer	3 | 12 | 12 | 3	5 | 10 | 10 | 5	1200	7	4600	25
24	Spencer St	Bluemound	Lynndale (CTH A)	3 | 12 | 12 | 3	5 | 10 | 10 | 5	2630	7	5800	25
25	Glenpark/Cloudview	Bluemound (CTH AA)	Glendale	(2) 16 | 16 (2)	(2) 5 | 11 | 11 | 5 (2)	4230	8	1100	25
26	Lawrence St	Bluemound	Lynndale (CTH A)	(2) 16 | 16 (2)	(2) 5 | 11 | 11 | 5 (2)	2630	10	--	25
28	Bluemound Dr	Lawrence	Spencer	(2) 16 | 18 | 16 (2)	(2) 6 | 11 | 16 | 11 | 6 (2)	610	9	6100	25
29	Westhill Blvd	Wisconsin (STH 96)	Woodman	(2) 11 | 12 | 20 | 12 | 11 (2)	(2) 4 | 11 | 11 | 14 | 11 | 11 | 4 (2)	2630	6	10900	35
32	Perkins St	Glendale	Wisconsin (STH 96)	(2) 4 | 12 | 12 | 4 (2)	(2) 5 | 11 | 11 | 5 (2)	2860	9	2800	25
33	Perkins St	Wisconsin (STH 96)	Packard	16 | 16	5 | 11 | 11 | 5	2630	7	2300	35
34	Tri-Park Way	Bluemound (CTH AA)	Brewster	(2) 16 | 16 (2)	(2) 5 | 11 | 11 | 5 (2)	3490	7	--	25
52	Glendale Ave	Lynndale (CTH A)	Perkins	(2) 14 | 14 (2)	(2) 3 | 11 | 11 | 3 (2)	1370	7	1300	25
54	Spencer St	Casaloma	Nicolet	(2) 16 | 16 (2)	(2) 5 | 11 | 11 | 5 (2)	1760	8	7200	30
55	Spencer St	Nicolet	Westland	(2) 8 | 12 | 12 | 8 (2)	(2) 6 | 12 | 12 | 10 (2)	920	7	6600	30
69	Casaloma Dr	Wisconsin (STH 96)	Integrity	(2) 14 | 12 | M | 12 | 14 (2)	(2) 4 | 11 | 11 | M | 11 | 11 | 4 (2)	620	7	9300	35
78	Brewster St	Bluemound (CTH AA)	Tri-Park	(2) 18 | 18 (2)	(2) 4 | 11 | 11 | 10 (2)	720	6	1100	25
81	Brewster St	Tri-Park	Hine	(2) 18 | 18 (2)	(2) 4 | 11 | 11 | 10 (2)	950	6	1100	25
85	Casaloma Dr	College (CTH CA)	Eighth	(2) 12 | 12 | 16 | 12 | 12 (2)	(2) 4 | 11 | 11 | 12 | 11 | 11 | 4 (2)	810	5	6200	35
87	Casaloma Dr	Grande Market	College (CTH CA)	(2) 14 | 12 | M | 12 | 14 (2)	(2) 4 | 11 | 11 | M | 11 | 11 | 4 (2)	560	7	15000	35
105	Casaloma Dr	Integrity	Michael's	(2) 14 | 12 | M | 12 | 14 (2)	(2) 4 | 11 | 11 | M | 11 | 11 | 4 (2)	1380	7	15000	35
107	Casaloma Dr	Michael's	Grande Market	(2) 14 | 12 | M | 12 | 14 (2)	(2) 4 | 11 | 11 | M | 11 | 11 | 4 (2)	1470	7	15000	35
115	Casaloma Dr	Eighth	Spencer	(2) 12 | 12 | 16 | 12 | 12 (2)	(2) 4 | 11 | 11 | 12 | 11 | 11 | 4 (2)	450	5	6200	35

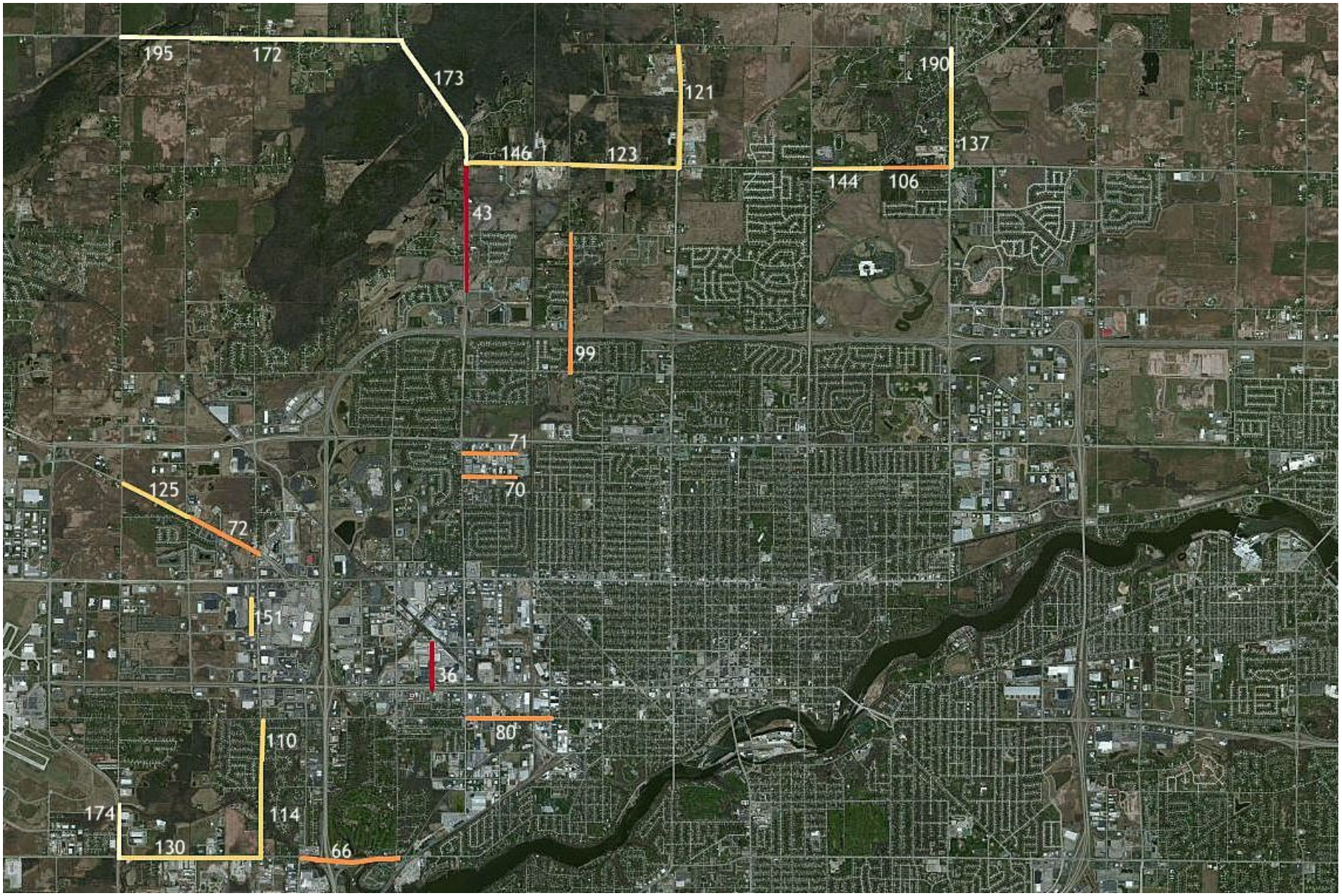
#	COUNTY HWY	FROM	TO	CURRENT	POTENTIAL	FEET	PSR	ADT	SPD
4	Northland (CTH OO)	Bluemound	Lynndale (CTH A)	4 | 12 | 12 | 16 | 12 | 12 | 4	7 | 11 | 11 | 14 | 11 | 11 | 7	2700	7	24000	45
11	Northland (CTH OO)	Lynndale (CTH A)	Mason	4 | 12 | 12 | 12 | 12 | 4	6 | 11 | 11 | 11 | 11 | 6	5390	7	19300	45
22	Lynndale Dr (CTH A)	Wisconsin (STH 96)	Packard	(2) 12 | 12 | 18 | 12 | 12 (2)	(2) 4 | 11 | 11 | 14 | 11 | 11 | 4 (2)	2650	9	8900	35
41	College Ave (CTH CA)	Casaloma	Mall	4 | 12 | 12 | 2 | M | 2 | 12 | 12 | 4	6 | 11 | 11 | 2 | M | 2 | 11 | 11 | 6	1730	7	17300	40
51	College Ave (CTH CA)	McCarthy	Casaloma	4 | 12 | 12 | 2 | M | 2 | 12 | 12 | 4	6 | 11 | 11 | 2 | M | 2 | 11 | 11 | 6	2620	8	11300	55
60	Lynndale Dr (CTH A)	Packard	College (STH 125)	(2) 12 | 12 | 18 | 12 | 12 (2)	(2) 4 | 11 | 11 | 14 | 11 | 11 | 4 (2)	1520	9	8900	35
74	Lynndale Dr (CTH A)	Lawrence	Spencer	(2) 16 | 18 | 16 (2)	(2) 6 | 11 | 16 | 11 | 6 (2)	600	9	7000	30
77	Lynndale Dr (CTH A)	College (STH 125)	Lawrence	(2) 16 | 18 | 16 (2)	(2) 6 | 11 | 16 | 11 | 6 (2)	580	9	7000	30



Immediate needs | | | Long-term needs

#	TOWN STREET	FROM	TO	CURRENT	POTENTIAL	FEET	PSR	ADT	SPD
9	Bluemound Dr	Woodman	College Ave (STH 125)	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	1500	9	5300	30
35	Bluemound Dr	Wisconsin (STH 96)	Highview	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	1830	9	6000	30
61	Casaloma Dr	Northland (STH 15)	Federated	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	4230	6	7200	35
67	Nicolet Rd	College (CTH CA)	Lawrence	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	620	8	5300	35
75	Nicolet Rd	Lawrence	Spencer	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	660	8	5300	35
83	Bluemound Dr	Highview	Woodman	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	880	9	6000	30
93	Casaloma Dr	Federated	Greenville (CTH GV)	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	1080	6	7200	35
95	Casaloma Dr	Greenville (CTH GV)	Wisconsin (STH 96)	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	1110	9	7600	35
108	McCarthy Rd	Greenville (CTH GV)	Wisconsin (STH 96)	(2) 11 | 11 | 11 | 11 (2)	(2) 5 | 11 | 12 | 11 | 5 (2)	2550	6	2600	25
128	Mall Dr	Metro	Fox River	(2) 10 | 11 | 11 | 10 (2)	(2) 4 | 11 | 12 | 11 | 4 (2)	390	10	8000	25
134	Mall Dr	Metro	Grande Market	(2) 10 | 11 | 11 | 10 (2)	(2) 4 | 11 | 12 | 11 | 4 (2)	760	10	8000	25
138	Mall Dr	Grande Market	Metro	(2) 10 | 11 | 11 | 10 (2)	(2) 4 | 11 | 12 | 11 | 4 (2)	340	10	8000	25
141	Packard St	Mayflower	McCarthy	(2) 11 | 11 | 11 | 11 (2)	(2) 5 | 11 | 12 | 11 | 5 (2)	560	7	2000	30
149	Mall Dr	Michael's	Metro	(2) 10 | 11 | 11 | 10 (2)	(2) 4 | 11 | 12 | 11 | 4 (2)	1050	8	8000	25
150	Mall Dr	Wisconsin (STH 96)	Integrity	(2) 10 | 11 | 11 | 10 (2)	(2) 4 | 11 | 12 | 11 | 4 (2)	810	8	8000	25
153	Michael's Dr	Casaloma	Mall	(2) 10 | 12 | 12 | 10 (2)	(2) 5 | 11 | 12 | 11 | 5 (2)	560	6	--	25
165	Michael's Dr	McCarthy	Mutual	(2) 11 | 11 | 11 | 11 (2)	(2) 5 | 11 | 12 | 11 | 5 (2)	2340	7	2200	25
178	Mall Dr	Integrity	Michael's	(2) 10 | 11 | 11 | 10 (2)	(2) 4 | 11 | 12 | 11 | 4 (2)	1620	6	8000	20
180	Meade St	Edgewood (CTH JJ)	Apple Creek	2 | 12 | 11 | 11 | 12 | 2	6 | 12 | 14 | 12 | 6	1840	3	3900	45

#	COUNTY HWY	FROM	TO	CURRENT	POTENTIAL	FEET	PSR	ADT	SPD
5	Lynndale Dr (CTH A)	Capitol	Northland (CTH OO)	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	2650	7	11400	35
106	Edgewood (CTH JJ)	Apple Creek	Ballard (CTH E)	(2) 12 | 12 | 12 | 12 (2)	(2) 6 | 11 | 14 | 11 | 6 (2)	2650	5	6300	45
130	Prospect Ave (CTH BB)	CTH CB	Casaloma	(2) 12 | 12 | 12 | 12 (2)	6 | 11 | 14 | 11 | 6	5440	7	8400	45

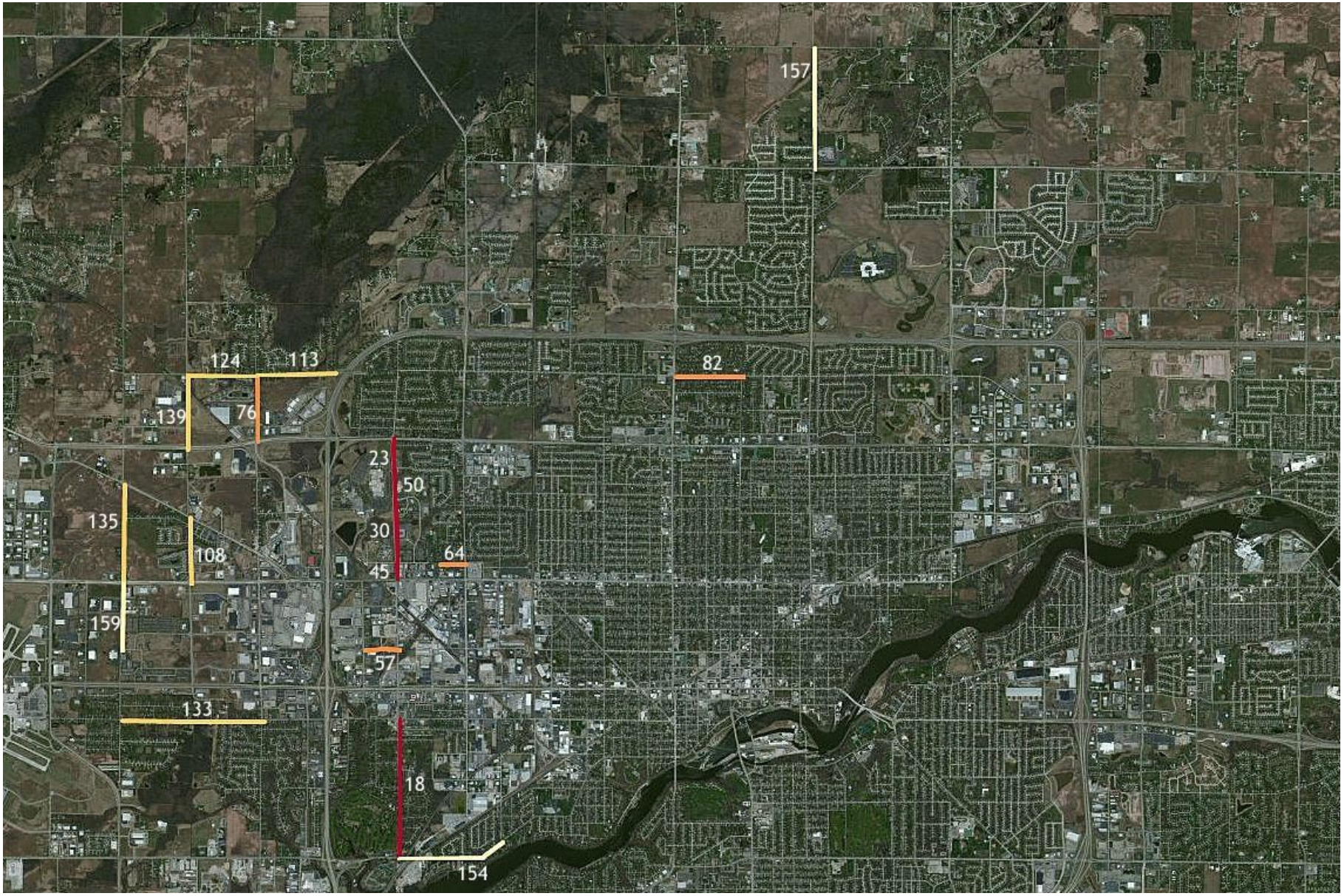


Immediate needs | | | Long-term needs

#	TOWN STREET	FROM	TO	CURRENT	POTENTIAL	FEET	PSR	ADT	SPD
36	Lilas Dr	Highview	College (STH 125)	13 | 13	4 | 11 | 11 | 4	1760	9	1500	25
70	Pershing St	Lynndale (CTH A)	Tyler	15 | 15	5 | 11 | 11 | 5	2010	4	1700	25
71	Nordale Dr	Lynndale (CTH A)	Tyler	15 | 15	5 | 11 | 11 | 5	2040	5	3200	25
80	Spencer St	Lynndale	Town Boundary	3 | 12 | 12 | 3	5 | 11 | 11 | 5	3230	7	5800	25
99	Gillett St	Elsner	Capitol	12 | 12	4 | 10 | 10 | 4	5290	6	800	25
110	Casaloma Dr	Spencer	Grand Meadows	1 | 13 | 13 | 1	5 | 10 | 10 | 5	1530	4	4900	35
114	Casaloma Dr	Grand Meadows	Prospect (CTH BB)	1 | 13 | 13 | 1	5 | 10 | 10 | 5	3750	4	4900	35
151	Mutual Way	Integrity	Michael's	15 | 15	5 | 11 | 11 | 5	1380	6	4900	25

#	COUNTY HWY	FROM	TO	CURRENT	POTENTIAL	FEET	PSR	ADT	SPD
43	Lynndale Dr (CTH A)	Edgewood (CTH JJ)	Grand Chute	2 | 12 | 12 | 2	6 | 11 | 11 | 6	4920	7	5600	45
66	Prospect Ave (CTH BB)	Van Dyke	Bluemound	3 | 12 | 12 | 3	8 | 11 | 11 | 8	3700	7	14500	35
72	Greenville (CTH GV)	McCarthy	Casaloma	3 | 12 | 12 | 3	7 | 11 | 11 | 7	3070	6	--	45
106	Edgewood Dr (CTH JJ)	Apple Creek	Ballard (CTH E)	4 | 12 | 12 | 4	8 | 11 | 11 | 8	2650	5	6300	45
123	Edgewood Dr (CTH JJ)	Gillett	Richmond (STH 47)	1 | 12 | 12 | 1	5 | 11 | 11 | 5	4180	7	4500	45
125	Greenville (CTH GV)	Mayflower	McCarthy	3 | 12 | 12 | 3	7 | 11 | 11 | 7	2800	6	--	45
130	Prospect Ave (CTH BB)	CTH CB	Casaloma	3 | 12 | 12 | 3	8 | 11 | 11 | 8	5440	7	8400	45
137	Ballard Rd (CTH E)	Apple Creek (CTH E)	Edgewood (CTH JJ)	3 | 12 | 12 | 3	8 | 11 | 11 | 8	3120	5	7700	45
144	Edgewood Dr (CTH JJ)	Meade	Apple Creek	4 | 12 | 12 | 4	5 | 11 | 11 | 5	2580	7	6300	45
146	Edgewood Dr (CTH JJ)	Lynndale (CTH A)	Gillett	1 | 12 | 12 | 1	5 | 11 | 11 | 5	4070	6	4500	45
172	Broadway Dr (CTH JJ)	McCarthy	Lynndale (CTH A)	3 | 12 | 12 | 3	6 | 11 | 11 | 6	8030	9	2900	55
173	Lynndale Dr (CTH A)	Broadway Dr (CTH JJ)	Edgewood (CTH JJ)	4 | 12 | 12 | 4	8 | 11 | 11 | 8	5440	7	7200	55
174	CTH CB	Consolidated	Prospect (CTH BB)	4 | 12 | 12 | 4	8 | 11 | 11 | 8	2040	4	7000	45
190	Ballard Rd (CTH EE)	Broadway	Apple Creek (CTH E)	3 | 12 | 12 | 3	6 | 11 | 11 | 6	1400	8	4100	45
195	Broadway Dr (CTH JJ)	Mayflower	McCarthy	3 | 12 | 12 | 3	6 | 11 | 11 | 6	2650	9	2900	55

#	STATE HWY	FROM	TO	CURRENT	POTENTIAL	FEET	PSR	ADT	SPD
121	Richmond St (STH 47)	Broadway	Edgewood (CTH JJ)	3 | 12 | 12 | 3	6 | 12 | 12 | 6	4700	8	8800	55

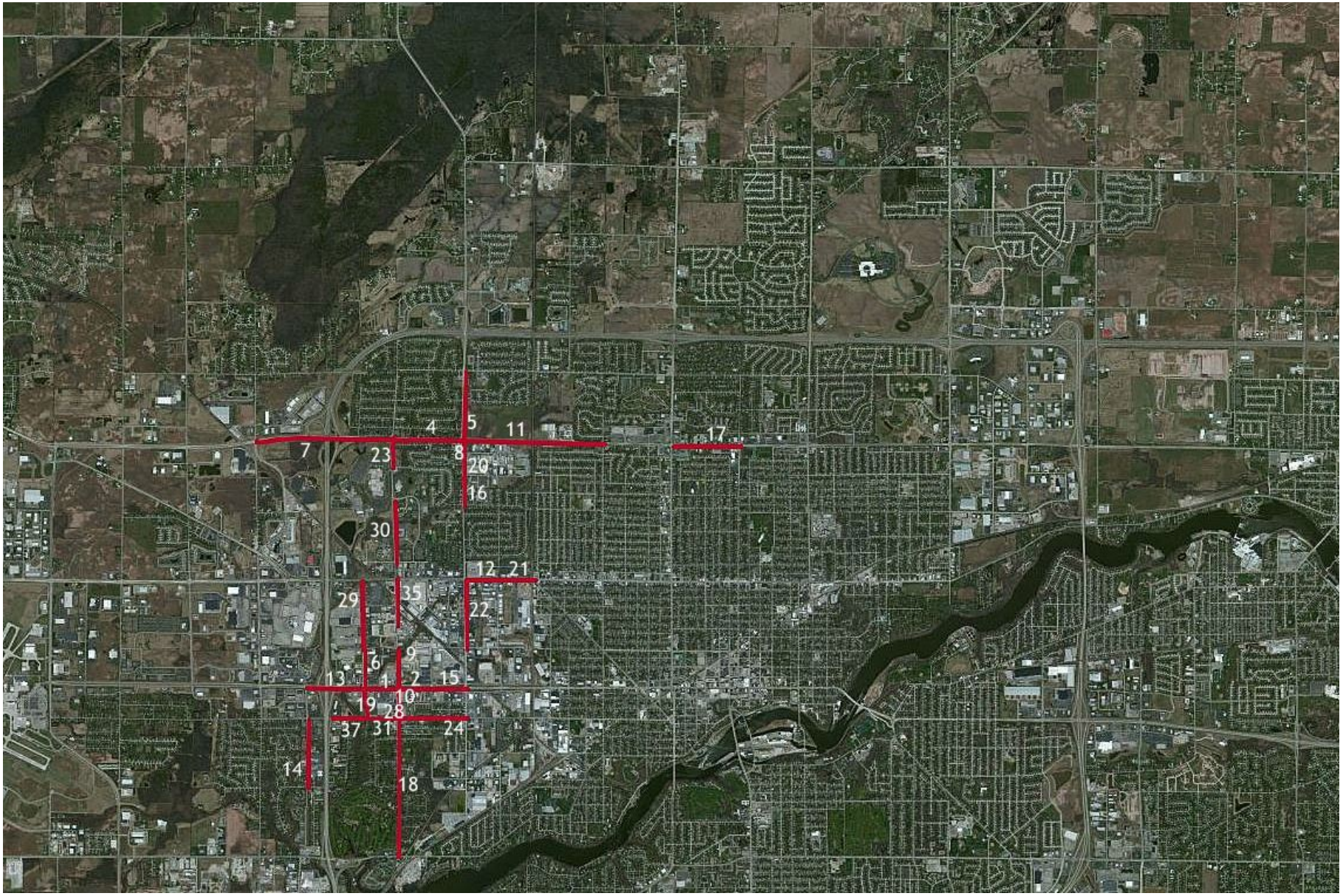


Immediate needs			Long-term needs

#	TOWN STREET	FROM	TO	RECOMMENDED PED FACILITY	RECOMMENDED BIKE FACILITY	FEET	PSR	ADT	SPD
18	Bluemound Dr	Spencer	Prospect (CTH BB)	sidewalk or paved shoulder	15' wide outside lane or 5' paved shoulder	5340	4	3200	25
57	Woodman Dr	Westhill	Bluemound	sidewalk or paved shoulder	15' wide outside lane or 5' paved shoulder	1340	6	--	35
64	Brewster St	Hine	Lynndale (CTH A)	sidewalk or paved shoulder	shared travel lane	1010	6	1100	25
76	Casaloma Dr	Capitol	Northland (STH 15)	sidewalk or paved shoulder	6' bicycle lane or 5'-6' paved shoulder	2530	6	3500	35
82	Capitol Dr	Richmond (STH 47)	Oneida	sidewalk or paved shoulder	15' wide outside lane or 5' paved shoulder	2590	3	3900	25
108	McCarthy Rd	Greenville (CTH GV)	Wisconsin (STH 96)	sidewalk or paved shoulder	15' wide outside lane or 5' paved shoulder	2550	6	2600	25
113	Capitol Dr	Casaloma	Rifle Range	sidewalk or paved shoulder	15' wide outside lane or 5' paved shoulder	3010	6	1800	30
124	Capitol Dr	McCarthy	Casaloma	sidewalk or paved shoulder	14' wide outside lane or 4' paved shoulder	2640	6	900	30
133	Spencer St	Mayflower	Casaloma	sidewalk or paved shoulder	15' wide outside lane or 5' paved shoulder	5440	4	1800	30
135	Mayflower Dr	Greenville (CTH GV)	Wisconsin (STH 96)	sidewalk or paved shoulder	14' wide outside lane or 4' paved shoulder	3750	5	830	45
139	McCarthy Dr	Capitol	Northland (STH 15)	sidewalk or paved shoulder	6' bicycle lane or 5'-6' paved shoulder	2860	6	2100	45
157	Meade St	Broadway	Edgewood (CTH JJ)	sidewalk or paved shoulder	14' wide outside lane or 4' paved shoulder	4650	3	1500	45
159	Mayflower Dr	Wisconsin (STH 96)	Packard	sidewalk or paved shoulder	shared travel lane	2600	4	1200	25

#	COUNTY HWY	FROM	TO	RECOMMENDED PED FACILITY	RECOMMENDED BIKE FACILITY	FEET	PSR	ADT	SPD
23	Bluemound (CTH AA)	Northland (CTH OO)	Glenpark	sidewalk or paved trail	6'-8' bicycle lane or 6'-8' paved shoulder	1220	4	9400	45
30	Bluemound (CTH AA)	Tri-Park	Brewster	sidewalk or paved trail	6'-8' bicycle lane or 6'-8' paved shoulder	2390	3	9400	45
45	Bluemound (CTH AA)	Brewster	Wisconsin (STH 96)	sidewalk or paved trail	6'-8' bicycle lane or 6'-8' paved shoulder	620	3	9400	45
50	Bluemound (CTH AA)	Glenpark	Tri-Park	sidewalk or paved trail	6'-8' bicycle lane or 6'-8' paved shoulder	1260	4	9400	45
154	Prospect (CTH BB)	Bluemound	Town Boundary	sidewalk or paved trail	6' bicycle lane or 6' paved shoulder	4180	6	7100	35

4.5 BUILD PARALLEL OFF-STREET FACILITIES

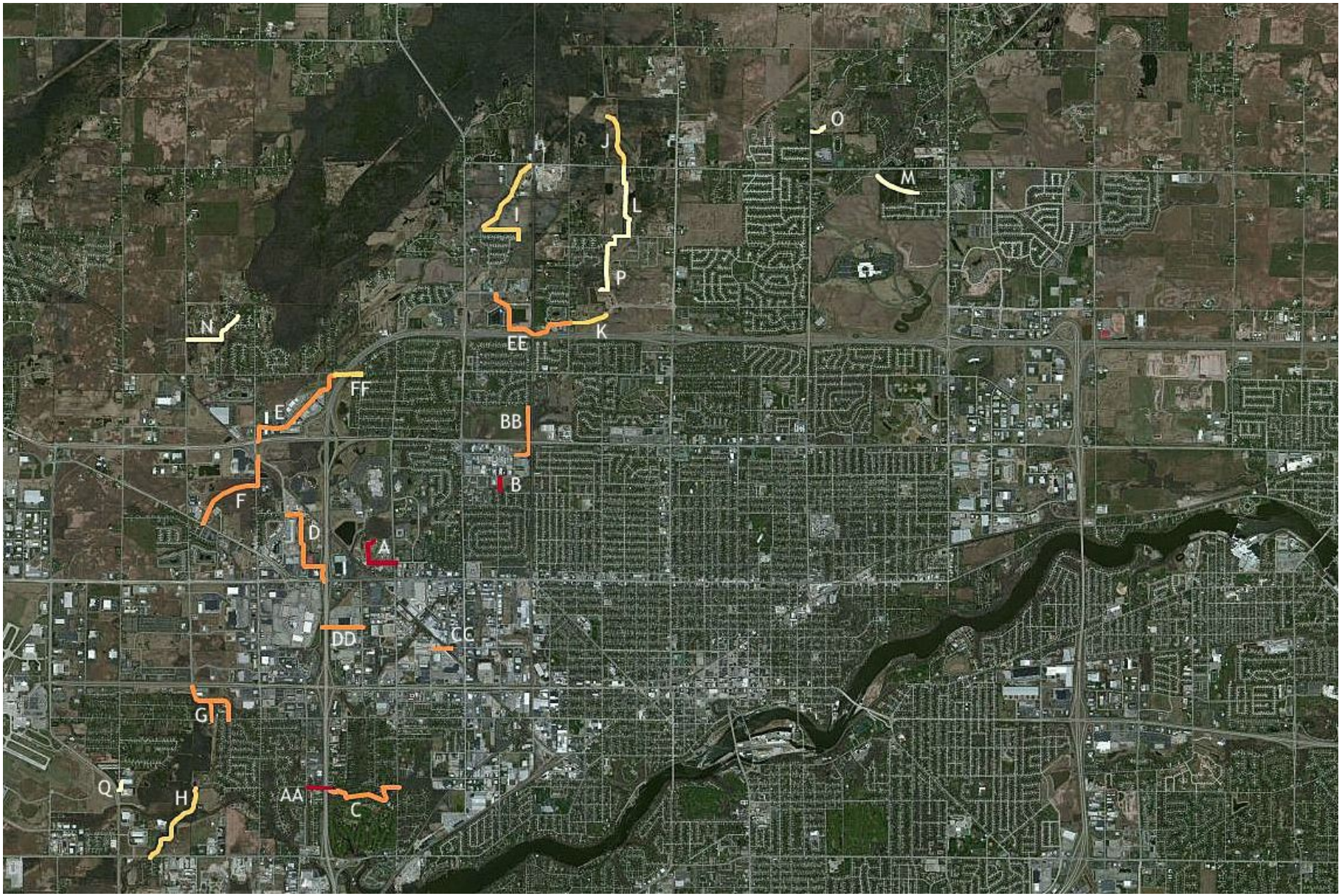


Immediate needs			Long-term needs

#	TOWN STREET	FROM	TO	RECOMMENDED PED FACILITY	CLASSIFICATION	RELATED	FEET	PSR	ADT	SPD
6	Westhill Blvd	Woodman	College (STH 125)	sidewalk	minor arterial	REPAINT	1500	6	12900	35
9	Bluemound Dr	Woodman	College (STH 125)	sidewalk	minor arterial	REDUCE	1500	9	5300	30
10	Bluemound Dr	College (STH 125)	Lawrence	sidewalk	minor arterial	REPAINT	560	9	6100	25
14	Nicolet Rd	Spencer	Pine	paved trail	collector	REPAINT	2640	8	3500	35
18	Bluemound Dr	Spencer	Prospect (CTH BB)	sidewalk	minor arterial	REBUILD	5340	4	3200	25
19	Kools St	College (STH 125)	Spencer	sidewalk	collector	REPAINT	1200	7	4600	25
24	Spencer St	Bluemound	Lynndale (CTH A)	sidewalk	local	REPAINT	2630	7	5800	25
28	Bluemound Dr	Lawrence	Spencer	sidewalk	minor arterial	REPAINT	610	9	6100	25
29	Westhill Blvd	Wisconsin (STH 96)	Woodman	sidewalk	minor arterial	REPAINT	2630	6	10900	35
31	Spencer St	Kools	Bluemound	sidewalk	local	REBUILD	1220	8	6600	25
35	Bluemound Dr	Wisconsin (STH 96)	Highview	sidewalk	minor arterial	REDUCE	1830	9	6000	30
37	Spencer St	Westland	Kools	sidewalk	local	REBUILD	1350	7	6600	30

#	COUNTY HWY	FROM	TO	RECOMMENDED PED FACILITY	CLASSIFICATION	RELATED	FEET	PSR	ADT	SPD
4	Northland (CTH OO)	Bluemound	Lynndale (CTH A)	paved trail	principal arterial	REPAINT	2700	7	24000	45
5	Lynndale (CTH A)	Capitol	Northland (CTH OO)	paved trail (east side)	minor arterial	REDUCE	2650	7	11400	35
8	Lynndale (CTH A)	Northland (CTH OO)	Nordale	paved trail	minor arterial	--	510	10	15100	35
11	Northland (CTH OO)	Lynndale (CTH A)	Mason	paved trail	principal arterial	REPAINT	5390	7	19300	45
16	Lynndale (CTH A)	Pershing	Glendale	sidewalk (east side)	minor arterial	--	1140	10	15100	35
17	Northland (CTH OO)	Richmond (STH 47)	Oneida	sidewalk	principal arterial	--	2600	9	22900	40
20	Lynndale (CTH A)	Nordale	Pershing	sidewalk (east side)	minor arterial	--	870	10	15100	35
22	Lynndale (CTH A)	Wisconsin (STH 96)	Packard	sidewalk	minor arterial	REPAINT	2650	9	8900	35
23	Bluemound (CTH AA)	Northland (CTH OO)	Glenpark	paved trail	minor arterial	REBUILD	1220	4	9400	45
30	Bluemound (CTH AA)	Tri-Park	Brewster	paved trail	minor arterial	REBUILD	2390	3	9400	45

#	STATE HWY	FROM	TO	RECOMMENDED PED FACILITY	CLASSIFICATION	RELATED	FEET	PSR	ADT	SPD
1	College Ave (STH 125)	Westhill	Bluemound	sidewalk	principal arterial	--	1300	5	23000	35
2	College Ave (STH 125)	Bluemound	Lilas	sidewalk	principal arterial	--	1350	5	22800	35
7	Northland (STH 15)	Casaloma	Bluemound	paved trail	principal arterial	--	5290	8	31100	50
12	Wisconsin (STH 96)	Lynndale (CTH A)	Perkins	sidewalk (north side)	minor arterial	--	1250	7	19100	35
13	College Ave (STH 125)	Mall	Westhill	paved trail	principal arterial	--	2230	5	27600	40
15	College Ave (STH 125)	Lilas	Lynndale (CTH A)	sidewalk	principal arterial	--	1320	5	22800	35
21	Wisconsin (STH 96)	Perkins	Town Boundary	sidewalk (north side)	minor arterial	--	1400	7	20300	35



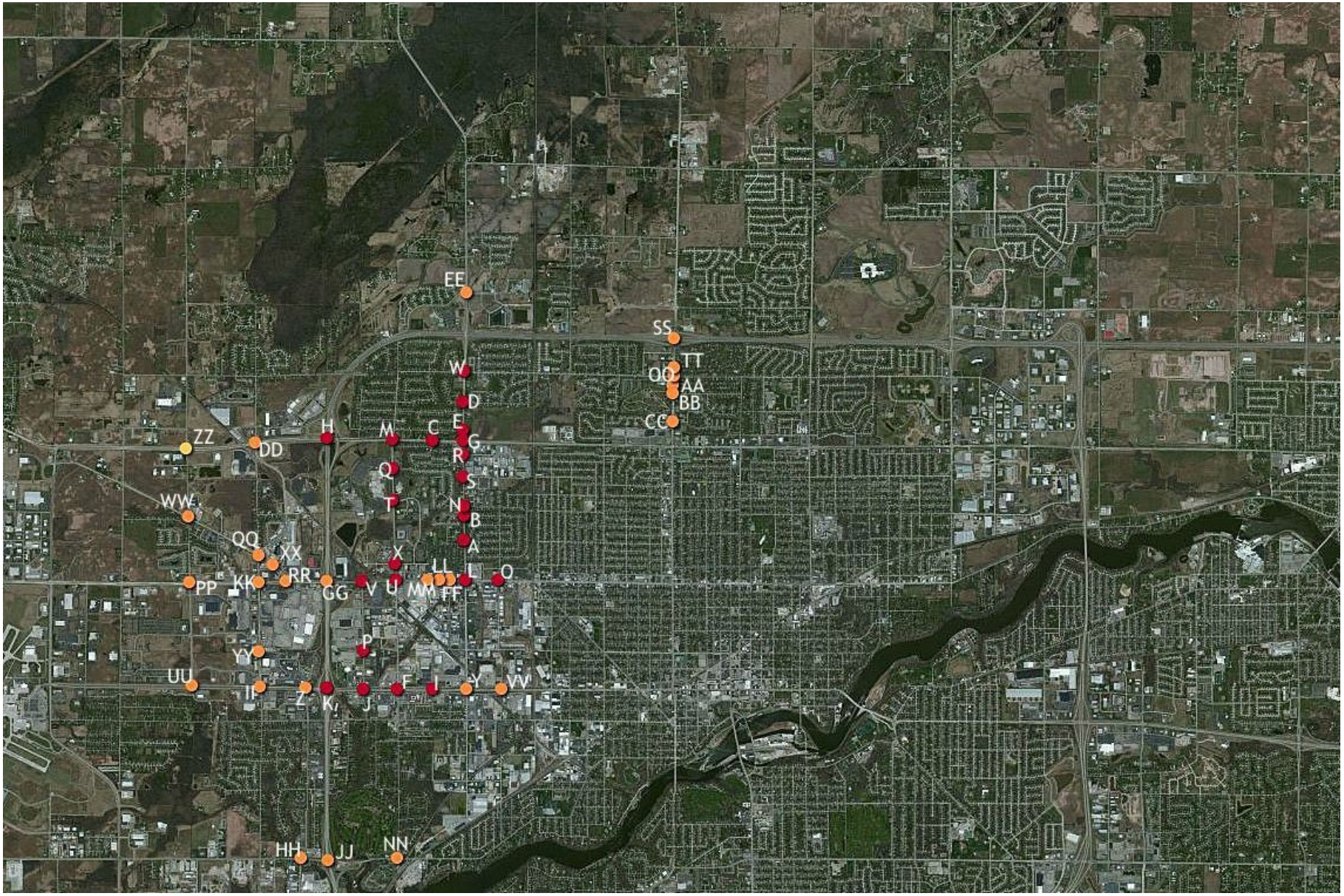
Immediate needs			Long-term needs

AT-GRADE

#	ID	FROM	#	TO	#	FEET	ESMNT	DESCRIPTION
34	A	FVTC Trail	23	Bluemound Dr (CTH AA)	45	2030	no	link USH 41 overpass and points east and south through County property
51	B	Pershing St	70	Perkins St	32	500	no	link neighborhood to points north, alternative to Lynndale (CTH A)
53	C	Golf Ter	88	Inverness Ci	18	3600	some	link neighborhoods through Butte des Morts golf course, fill 1-mile gap
62	D	Casaloma Dr	61	Wisconsin Ave	62	3910	no	link Fox Cities Stadium area with points south and east
64	E	Casaloma Dr	76	Capitol Dr	53	4600	no	link commercial area with points north and east, fill 1-mile gap
81	F	McCarthy Rd	102	Olde Casaloma Dr	61	3970	no	link (through Town-owned property) commercial area to points west
92	G	College Ave (CTH CA)	51	Maple Hill Dr or Misty Ln	133	2410	no	link College (STH 125) and Spencer, fill 1-mile gap
122	H	Arrowhead Park	114	SW Business Park	130	3600	yes	link (existing and future) CB Trail to neighborhoods
123	I	Edgewood Dr (CTH JJ)	146	Town Hall trail	100	4860	no	link trail and Edgewood (CTH JJ), alternative to Lynndale (CTH A)
135	J	Lecker Park	146	Edgewood Dr (CTH JJ)	123	2250	no	Link Lecker Park with trail system at Edgewood Acres
137	K	Gillett St	99	Evergreen Dr	176	1450	no	link points west with points east, fill 1-mile gap
153	L	Edgewood Dr (CTH JJ)	123	Elsner Rd	183	3380	no	provide north-south connection, fill 0.8-mile gap
167	M	Apple Creek Rd	194	Holiday Dr	140	1960	no	link Fox Valley Lutheran and Appleton North High Schools
171	N	McCarthy Rd	168	Cobble Creek Dr	175	2470	yes	link neighborhoods
177	O	Meade St	157	Broadway Dr	197	550	no	link Plamann Park to residential neighborhoods south and west
179	P	Starview Ct	183	Beau Ryan Ct	176	2620	yes	link Elsner Rd and Evergreen Dr neighborhoods
182	Q	Mayflower Dr	191	CTH CB	174	380	no	link neighborhoods and (existing and future) CB Trail, fill 1-mile gap

GRADE-SEPARATED

#	ID	FROM	#	TO	#	OVER/UNDER	FEET	REASON
51	AA	Pine St	14	Westland Dr	88	USH 41	850	provide east-west connection, fill 1-mile gap
59	BB	future Whitney Way	47	Nordale Dr	71	Northland (CTH OO)	2240	provide north-south connection, fill 1-mile gap
64	CC	Lilas Dr	36	Hickory Farm Ln	92	CN Railroad	700	provide east-west connection, fill 1-mile gap
92	DD	Fox River Mall trail	177	Westhill Blvd	6	USH 41	1590	provide safer east-west connection; connect major commercial areas
99	EE	Towne Lakes property	100	Evergreen Dr	99	CN Railroad	4230	provide east-west connection, fill 1.5 mile gap
118	FF	Capitol Dr	118	Capitol Dr	118	USH 41	1400	restore pedestrian and bicycle facilities eliminated with bridge repair

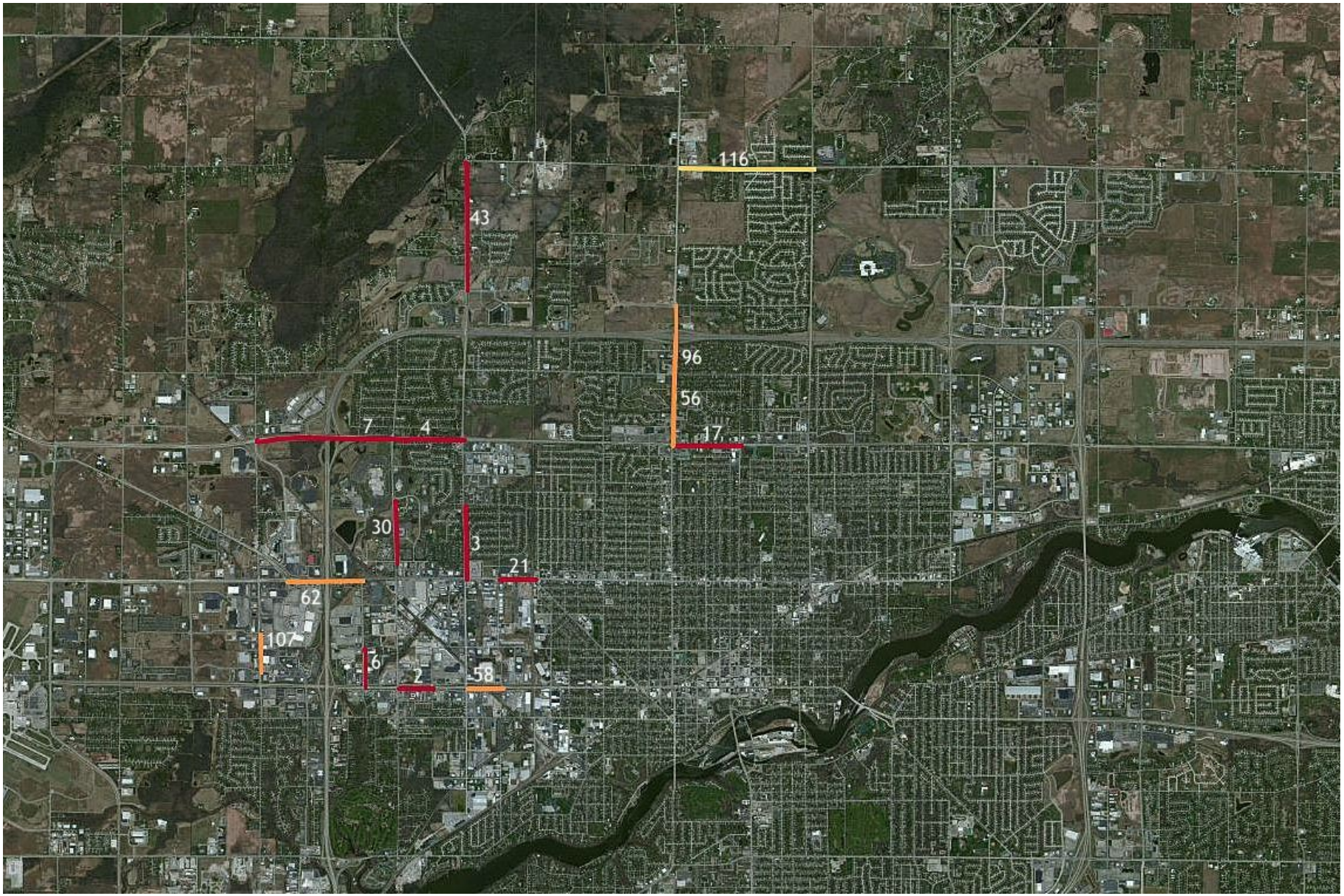


Immediate needs			Long-term needs

#	ID	WEST-EAST	#	#	NORTH-SOUTH	#	#
3	A	Applegate Dr	--	--	Lynndale Dr (CTH A)	3	3
3	B	Roberts St	--	--	Lynndale Dr (CTH A)	3	3
4	C	Northland Ave (CTH OO)	4	4	Edward St	--	--
5	D	Twin Willows Dr	--	--	Lynndale Dr (CTH A)	5	5
5	E	First Ave	--	--	Lynndale Dr (CTH A)	5	5
6	F	College Ave (STH 125)	1	2	Bluemound Dr	9	10
7	G	Northland Ave (CTH OO)	4	11	Lynndale Dr (CTH A)	5	8
7	H	Northland Ave (STH 15)	7	7	USH 41 ramps	--	--
9	I	College Ave (STH 125)	2	15	Lilas Dr	--	--
10	J	College Ave (STH 125)	13	1	Westhill Blvd	6	19
13	K	College Ave (CTH CA)	13	13	USH 41 ramps	--	--
19	L	Wisconsin Ave (STH 96)	40	12	Lynndale Dr (CTH A)	3	22
23	M	Northland Ave (CTH OO)	7	4	Bluemound Dr	59	23
24	N	Glendale Ave	25	52	Lynndale Dr (CTH A)	16	3
25	O	Wisconsin Ave (STH 96)	12	21	Perkins St	32	33
31	P	Woodman Dr	--	57	Westhill Blvd	29	6
33	Q	Glenpark Dr	--	25	Bluemound Dr (CTH AA)	23	50
33	R	Nordale Dr	--	71	Lynndale Dr (CTH A)	8	20
35	S	Pershing St	--	70	Lynndale Dr (CTH A)	20	16
38	T	Tri-Park Way	--	34	Bluemound Dr (CTH AA)	50	30
41	U	Wisconsin Ave (STH 96)	44	42	Bluemound Dr	45	35
45	V	Wisconsin Ave (STH 96)	62	44	Westhill Blvd	--	29
48	W	Capitol Dr	101	47	Lynndale Dr (CTH A)	39	5
51	X	Brewster St	--	78	Bluemound Dr (CTH AA)	30	45
53	Y	College Ave (STH 125)	15	58	Lynndale Dr (CTH A)	60	77
54	Z	College Ave (CTH CA)	41	13	Mall Dr	94	67

#	ID	WEST-EAST	#	#	NORTH-SOUTH	#	#
56	AA	Sunset Av	--	--	Richmond St (STH 47)	56	56
56	BB	Parkridge Ave	--	--	Richmond St (STH 47)	56	56
56	CC	Ridgeview Dr	--	--	Richmond St (STH 47)	56	56
58	DD	Northland Ave (STH 15)	86	7	Casaloma Dr	76	61
59	EE	Grand Chute Blvd	53	100	Lynndale Dr (CTH A)	43	39
60	FF	Wisconsin Ave (STH 96)	48	40	Hickory Farm Ln	--	92
62	GG	Wisconsin Ave (STH 96)	62	62	USH 41 ramps	--	--
66	HH	Prospect Ave (CTH BB)	104	66	Van Dyke Rd	27	--
66	II	College Ave (CTH CA)	51	41	Casaloma Dr	87	85
66	JJ	Prospect Ave (CTH BB)	66	66	USH 41 ramps	--	--
71	KK	Wisconsin Ave (STH 96)	49	68	Casaloma Dr	95	69
74	LL	Wisconsin Ave (STH 96)	65	48	Hine St	109	--
78	MM	Wisconsin Ave (STH 96)	42	65	Elberg Ave	--	127
79	NN	Prospect Ave (CTH BB)	66	154	Bluemound Dr	18	--
81	OO	Capitol Dr	90	82	Richmond St (STH 47)	96	56
89	PP	Wisconsin Ave (STH 96)	79	49	McCarthy Rd	108	119
91	QQ	Greenville Dr (CTH GV)	72	103	Casaloma Dr	93	95
94	RR	Wisconsin Ave (STH 96)	68	62	Mall Dr	97	150
96	SS	USH 41 ramps	--	--	Richmond St (STH 47)	96	96
96	TT	Seneca Dr	--	--	Richmond St (STH 47)	96	96
97	UU	College Ave (CTH CA)	84	51	McCarthy Rd	155	--
97	VV	College Ave (STH 125)	58	--	Perkins St	136	--
102	WW	Greenville Dr (CTH GV)	125	72	McCarthy Rd	102	108
103	XX	Greenville Dr (CTH GV)	103	103	Associated Dr	--	--
107	YY	Packard St	--	--	Casaloma Dr	107	107
112	ZZ	Northland Ave (STH 15)	120	86	McCarthy Rd	139	102

4.8 | BUILD MID-BLOCK CROSSINGS



Immediate needs			Long-term needs

#	TOWN STREET	BETWEEN	AND	REASON
6	Westhill Blvd	Woodman	College (STH 125)	provide east-west connection within suburban commercial area
107	Casaloma Dr	Michael's	Grande Market	provide east-west connection within suburban commercial area

#	COUNTY HWY	BETWEEN	AND	REASON
3	Lynndale Dr (CTH A)	Glendale	Wisconsin	provide east-west connection within suburban residential area
4	Northland (CTH OO)	Bluemound	Lynndale (CTH A)	provide north-south connection within suburban residential area
7	Northland (CTH OO)	Casaloma	Bluemound	provide north-south connection within suburban mixed-use area
17	Northland (CTH OO)	Richmond (STH 47)	Oneida	provide north-south connection within suburban commercial area
30	Bluemound Dr (CTH AA)	Tri-Park	Brewster	provide east-west connection within suburban mixed-use area
43	Lynndale (CTH A)	Edgewood (CTH JJ)	Grand Chute Blvd	provide east-west connection within rural residential area
116	Edgewood Dr (CTH JJ)	Richmond (STH 47)	Meade	provide north-south connection within suburban residential area

#	STATE HWY	BETWEEN	AND	REASON
2	College Ave (STH 125)	Bluemound	Lilas	provide north-south connection within suburban commercial area
21	Wisconsin Ave (STH 96)	Perkins	Town Boundary	provide north-south connection within suburban commercial area
56	Richmond St (STH 47)	Capitol	Northland (CTH OO)	provide east-west connection within suburban mixed-use area
58	College Ave (STH 125)	Lynndale (CTH A)	Perkins	provide north-south connection within suburban commercial area
62	Wisconsin Ave (STH 96)	Mall	Westhill	provide north-south connection within suburban commercial area
96	Richmond St (STH 47)	Evergreen	Capitol	provide east-west connection within suburban mixed-use area

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0.3: (1) Burden, Dan (2006); (2) Burden, Dan (2006); (3) Moser, Jan (2009)
2.1.1: (2) Bowden, Heather (2009); (4) Campos, Jennifer (2010)
2.1.2: (1) Burden, Dan (2006); (2) Moore, Reuben (2010); (3) Schneider, Nicole (2011)
2.2.1: (1) Burden, Dan (2006); (2) Harned, Tom (2009); (3) Burden, Dan (2009); (4) Burden, Dan (2009)
2.2.2: (1) Burden, Dan (2009); (2) Burden, Dan (2006); (3) Burden, Dan (2009); (4) Burden, Dan (2009)
2.2.3: (1) Burden, Dan (2009); (2) Robinson, Tiffany (2010); (3) Robitaille (2011); (4) Sandt, Laura (2009)
2.2.4: (1) Hamilton, Andy (2009); (3) Burden, Dan (2009); (4) Speer, Peter (2009)
2.2.5: (1) Burden, Dan (2009); (4) Burden, Dan (2006)
2.2.6: (1) Sundstrom, Carl (2008); (2) Burden, Dan (2006); (3) Harned, Tom (2009)
2.2.7: (1) Burden, Dan (2006); (2) Burden, Dan (2006); (4) Schaeffer, Larry (2009)