

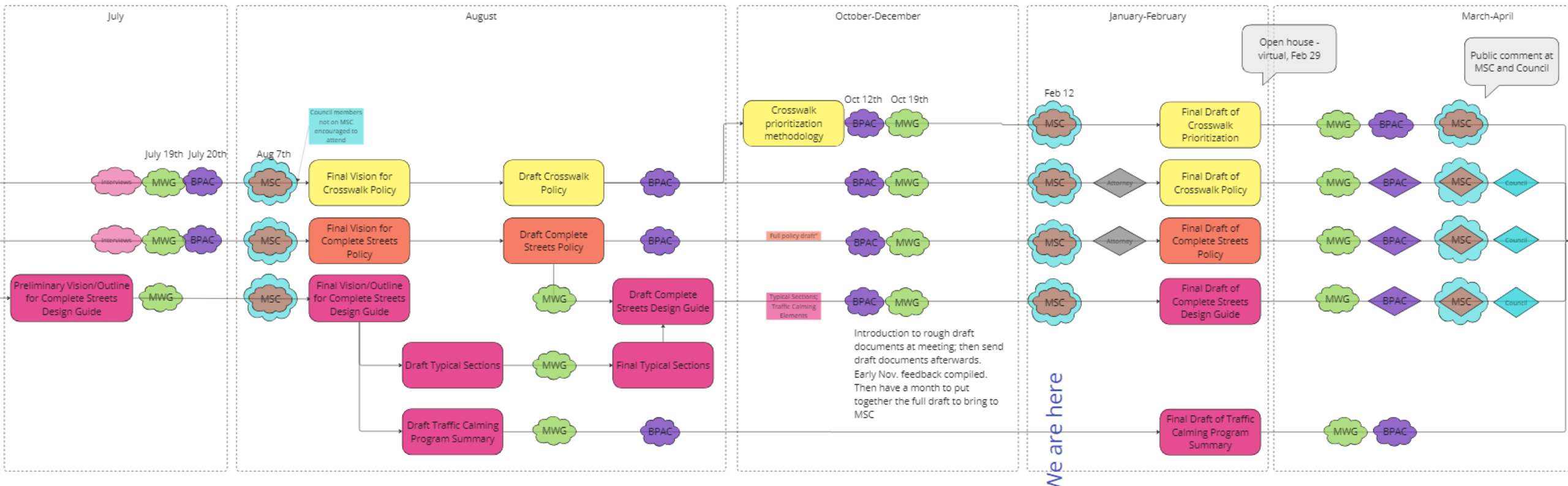
Appleton Complete Streets Study

February 12, 2024



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Project Timeline



Stakeholder Engagement:

- ✓ Stakeholder Interviews: July 2023
- ✓ BPAC: regular updates from July 2023 to present
- ✓ Multimodal Work Group: July, August, October
- ✓ Municipal Services Commission: August, today

Stakeholder Input Themes

- **Safety for all ages and abilities** is a high priority across stakeholders
- Strong consensus to **calm traffic** and support **transportation options**
- Desire to **prioritize** within budget constraints and **plan for maintenance**
- Increased **staff coordination** is seen as beneficial
- **Context** is important: commercial, developed and new residential areas
- Standout value: shared commitment to **youth and education**

Complete Streets Policy Vision

Appleton will strategically use resources to plan, design, build and maintain a multi-modal network of streets so that community gathering and traveling by walking, rolling, biking, transit and driving is a safe and positive experience for people of all backgrounds, ages and abilities, supporting Appleton's local economy, health and environment.

Pedestrian Crossing Improvements Vision

To improve access to destinations, the City of Appleton will invest in pedestrian crossing improvements using a consistent prioritization process grounded in the latest evidence on roadway safety treatments that are aligned with the Complete Streets Policy and Complete Streets Design Guide.

- Assess **Safety**
- Assess **Community Priorities**
- Identify **Highest Opportunity Locations**

Complete Streets Policy Update



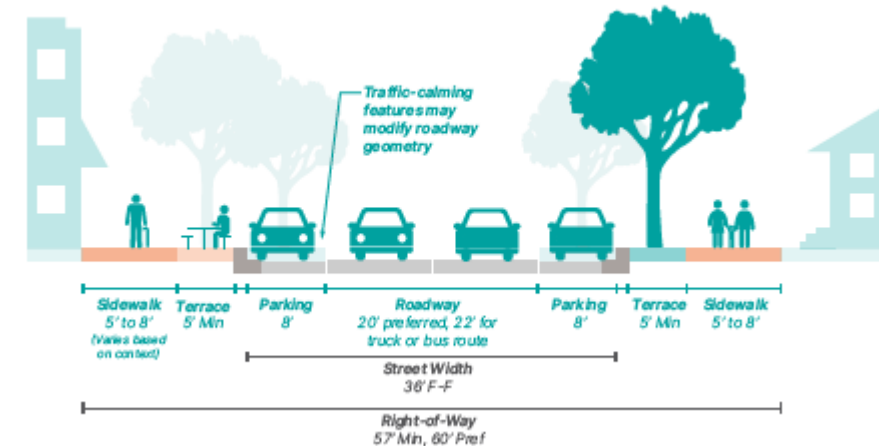
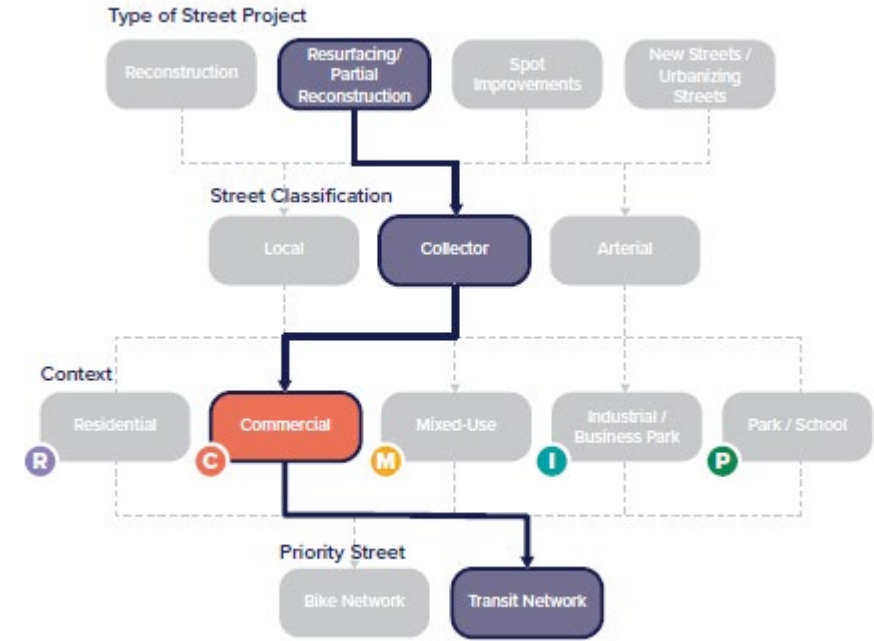
Complete Streets Policy

- Applies to **all transportation projects**, including new construction, reconstruction, rehabilitation and maintenance projects and street projects related to land subdivision or development
- **Safety and mobility** for the most **vulnerable road users** will be prioritized
- This policy allows **exceptions to be approved in writing** by the Director of Public Works



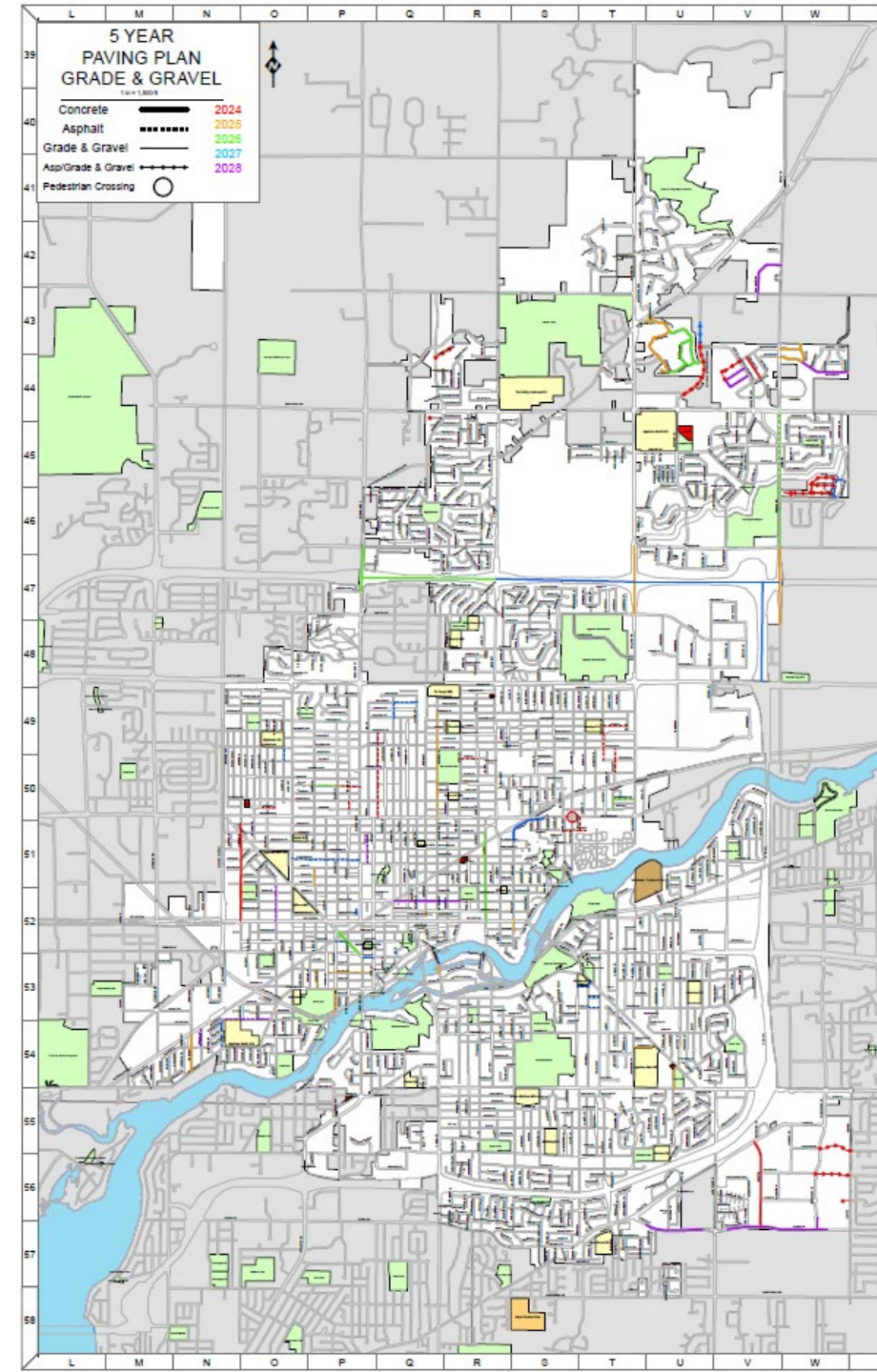
Complete Streets Policy

- Consult the latest **best practices** while designing projects, including national guidelines and the new **Design Guide** in project scoping and design
- The Complete Streets process **reflects context** including roadway classification and land use. Land use or zoning policies that conflict with the Complete Streets Policy will be revised.
- Departments of Public Works and Community Planning will **coordinate with partner agencies** and **private developers** to implement the policy on public and private projects



Complete Streets Policy

- Implementation: leverage and prioritize **existing resources** + seek **additional funding**
- **Prioritize projects** that: fill gap in user network (pedestrian, bicycle), serve vulnerable users, serve areas of the city with high potential for active trips, or meet other city-adopted mobility goals
- **Set aside funding** for specific network priorities, such as closing pedestrian or bicycle network gaps, making stand-alone crossing improvements, and Complete Streets demonstration and quick build projects
- Public Works will **report annually** to the Municipal Services Commission



Complete Streets Policy Worksheet

Appleton Complete Streets Design Worksheet

Project Overview

Street name:

Project extent:

Funding source:

Construction Year:

Context

This section summarizes the context for the street project. For more background information on the street context questions, see pages 7-11 of the Appleton Complete Streets Design Guide.

What type of project is this?

Reconstruction | Resurfacing | Spot Improvements | New Streets / Urbanizing Streets | Quick Build

What is the official class designation of the street?

Local | Collector | Arterial

What is the existing land use context?

Residential | Commercial | Mixed-Use | Industrial / Business Park | Park / School

Are there any anticipated land use or development changes in the future?

Is any part of the segment on a priority network?

Bike Network | Transit Network | Other

Does this project fall within an area of highest equity concern (in the top 20%)?

Yes | No

Are there any known equity considerations for the area served by this street project, i.e., priority populations in the project area, or destinations that serve priority populations?

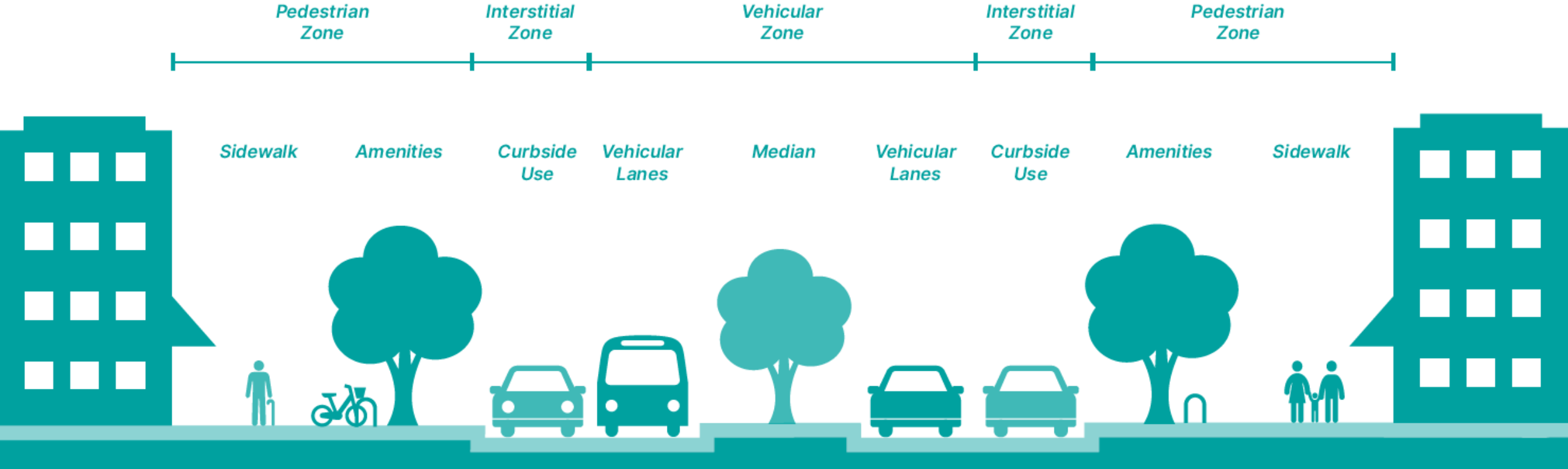


Complete Streets Design Guide

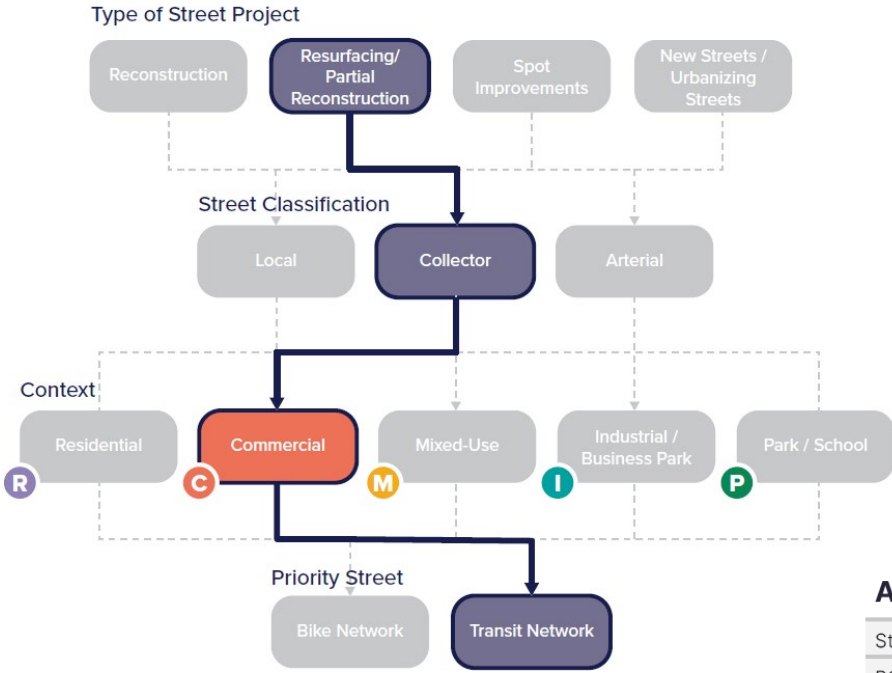


Design Guide Content

- Complete Streets Cross-Sections
- Design Guide Toolkit
- Traffic Calming Retrofit Program

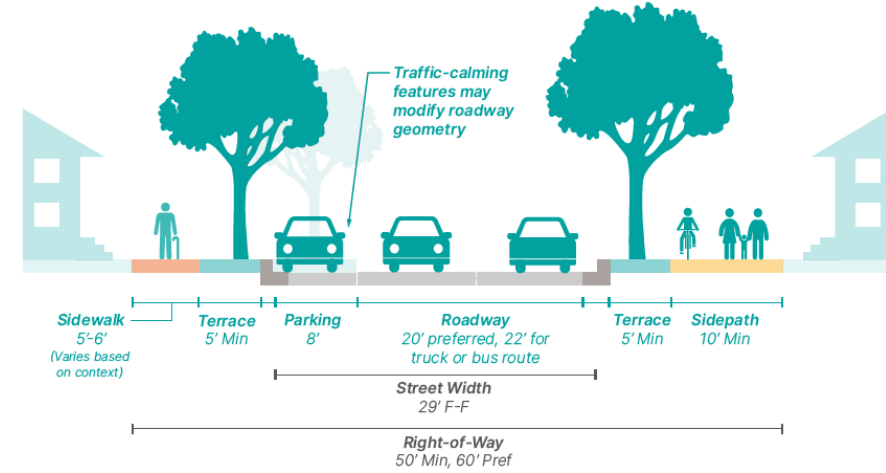


Design Guide: Cross-Sections



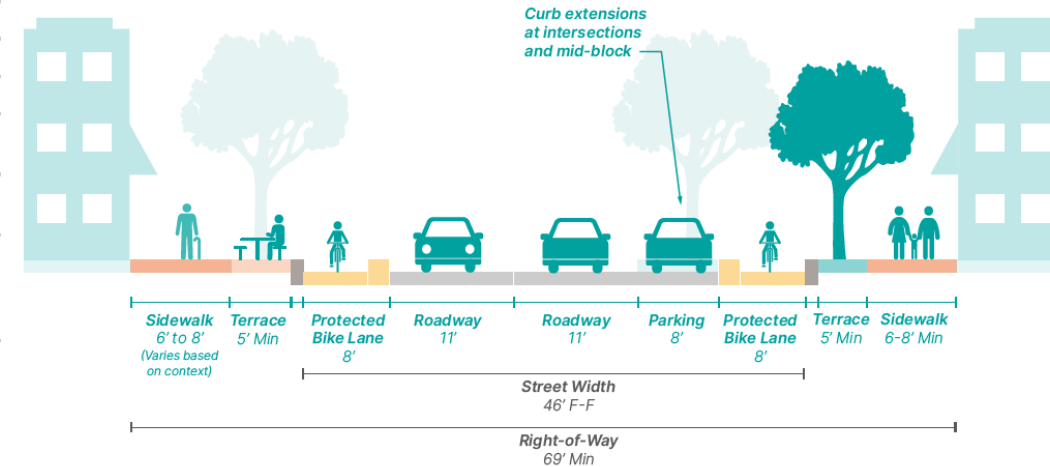
C.1 Low-Density Residential Collector

Street Width	29ft F-F
ROW	50ft Min, 60ft Preferred
Parking	1 side
Context	R P I
Description	Residential collector street with parking along one side and a sidepath along the opposite side.
Use	<ul style="list-style-type: none"> Residential collectors in outlying lower-density neighborhoods Low parking demand May also apply to park/school and industrial contexts in outlying areas
Traffic Calming Features	<ul style="list-style-type: none"> Curb extensions Mid-block crossings Street trees



A.2 Multimodal Arterial

Street Width	46ft F-F
ROW	69ft Min
Parking	1 side
Context	C M P I
Description	Arterial with parking on one side and protected bike lanes.
Use	<ul style="list-style-type: none"> Critical corridor for bike connectivity High to average parking demand, particularly in commercial, mixed-use, or school contexts
Options	<ul style="list-style-type: none"> Curb extensions
Traffic Calming Features	<ul style="list-style-type: none"> Mid-block crossings Street trees



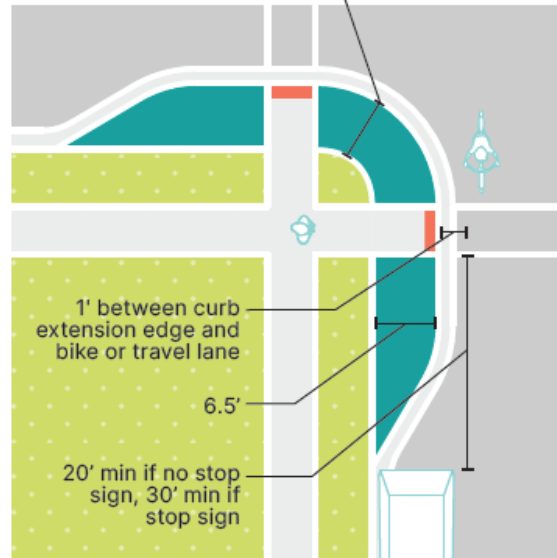
Design Guide: Toolkit

- General Traffic Calming Treatments
- Intersection & Mid-block Crossing Treatments
- Multimodal Street Improvements
- Intersection Operations & Signal Modifications

CURB EXTENSIONS

Curb Extensions are a traffic calming and pedestrian safety measure that help delineate parking, maximize landscaping, and shorten crossing distance, giving pedestrians and bicyclists a better chance to see and be seen before committing to crossing. In addition to shortening crossing distances and slowing traffic, they protect parked cars and provide space for trash receptacles and other amenities without blocking the sidewalk.

Curb Radius varies by street classification, context, and vehicle types - Reference "Corner Radii Design"(pg.44)



Typical Application

- Arterial, Collector, and Local Roads.
- May be placed mid-block or at an intersection.
- May be combined with crossing treatments.
- Most effective on streets with parking lanes.

Features

- In most cases, the curb extensions should be designed to transition between the extended curb and the running curb to approximately match the existing no parking/no standing area design standards.
- Curb extensions are most appropriate where there is an on-street parking lane and where transit and bicyclists would be traveling outside the curb edge for the length of the street.
- The turning needs of larger vehicles, such as school buses or emergency vehicles, need to be considered in curb extension design at intersections. For curb radii requirements, reference Table 6 (on page 44).
- Curb extensions should not block bicycle lanes or shoulders being used by bicyclists. In locations with protected bike lanes next to a parking lane, the curb extension begins at the inside edge of the bike lane and occupies the parking lane.
- Curb extensions can contain grass, landscaping, decorative concrete, public art, and tree grates in larger curb extensions.

Quick-Build Option

- Quick-build implementation with paint, traffic tape, and flexible posts.

Maintenance Considerations

- For efficient street sweeping and snow plowing, minimum radius for the reverse curves of the transition is 10 feet and the two radii should be balanced to be nearly equal.

SOURCES

NACTO Urban Street Design Guide: curb-extensions
 FHWA Pedestrian Safety Guide and Countermeasure Selection System
 Appleton Downtown Streetscape Design Guide

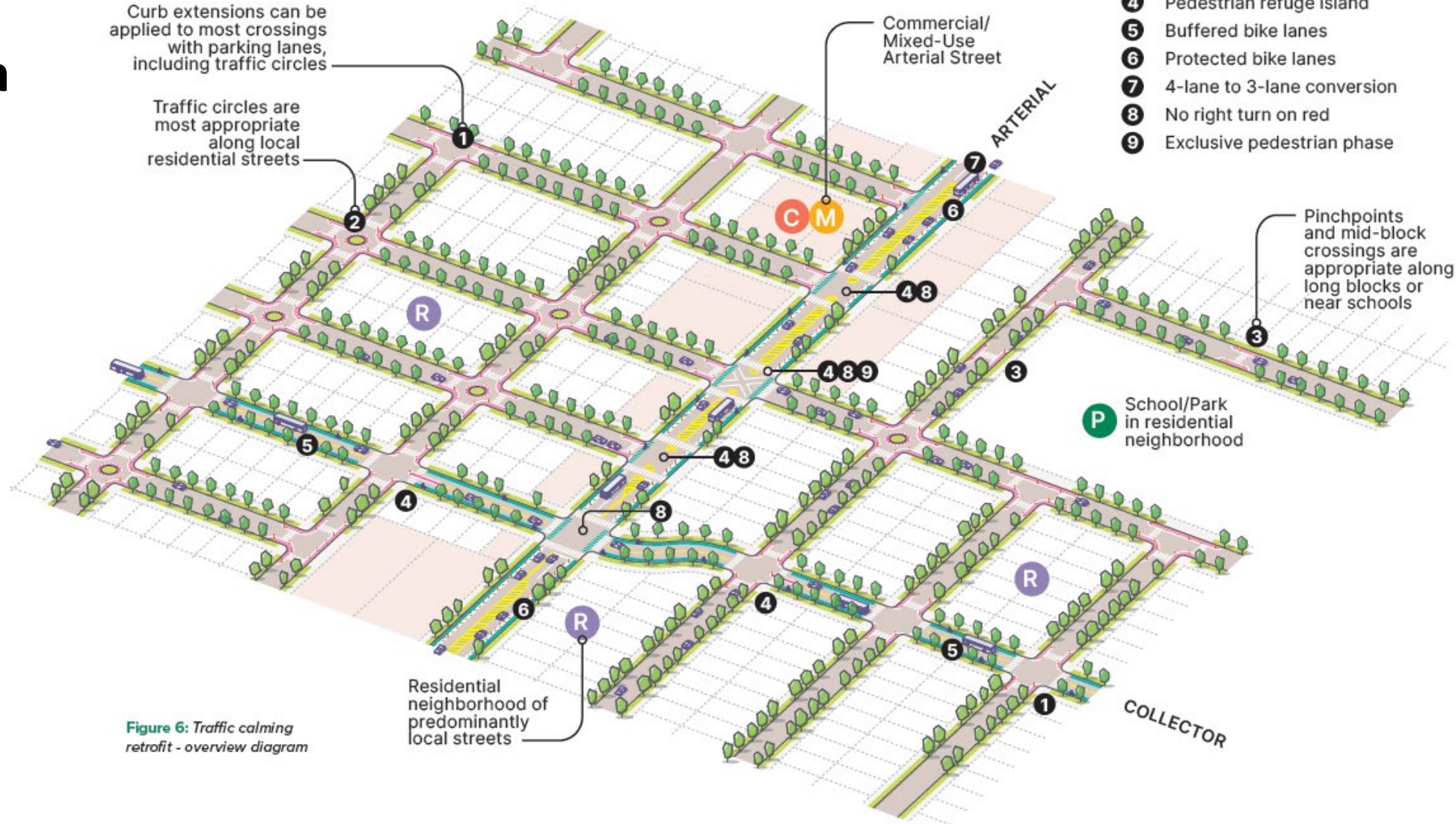
Design Guide: Traffic Calming Retrofit Program

- Quick-build projects are low-cost roadway projects that can be used to provide and evaluate solutions to improve safety and mobility.



Design Guide: Traffic Calming Retrofit Program

OVERVIEW TRAFFIC CALMING RETROFIT DIAGRAM



LEGEND:

- 1 Curb extensions
- 2 Traffic circle
- 3 Pinchpoint with mid-block crossings
- 4 Pedestrian refuge island
- 5 Buffered bike lanes
- 6 Protected bike lanes
- 7 4-lane to 3-lane conversion
- 8 No right turn on red
- 9 Exclusive pedestrian phase

Figure 6: Traffic calming retrofit - overview diagram



Improving Pedestrian Crossings

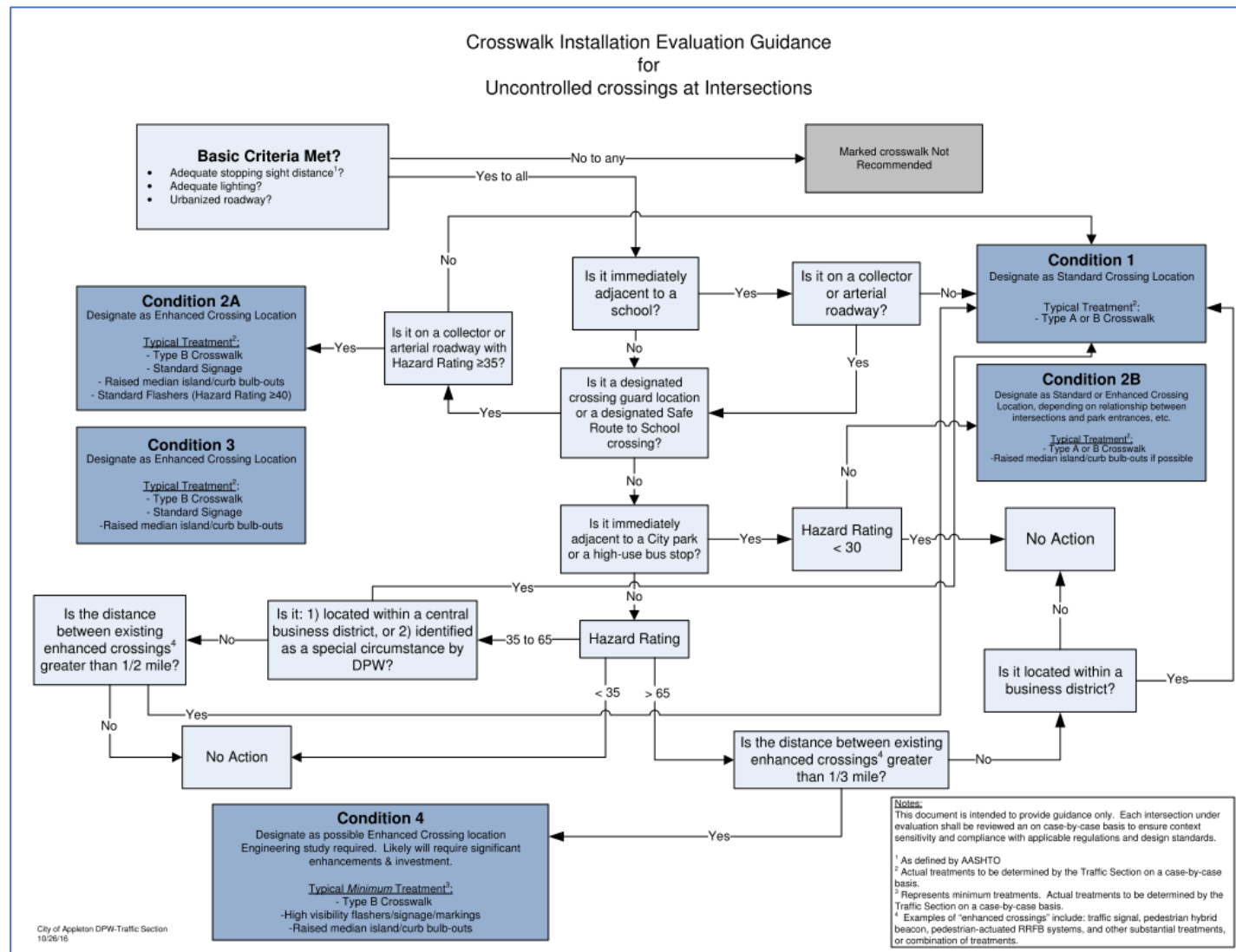
Improving Pedestrian Crossings: Previous Efforts

- Many successes
- 25 RRFB crossings + additional neighborhood improvements
- Completing last project this summer
- Projects are popular, with high demand



Improving Pedestrian Crossings: Previous Efforts

- Hazard index: speed, traffic volume, number of lanes, crossing width, number of pedestrians, special circumstances
- Decision flowchart
- Requests exceed budget and staff capacity



Improving Pedestrian Crossings: Lessons from Efforts to Date

- There is a lot of community demand for pedestrian improvement projects
- Need a way to prioritize the next phase of work
- Arterial corridors rise to the top of the hazard index
- RRFBs are not the best fit for some wide, fast arterials
- Complete Streets Design Guide provides expanded toolbox of intersection safety tools – including corridor approaches



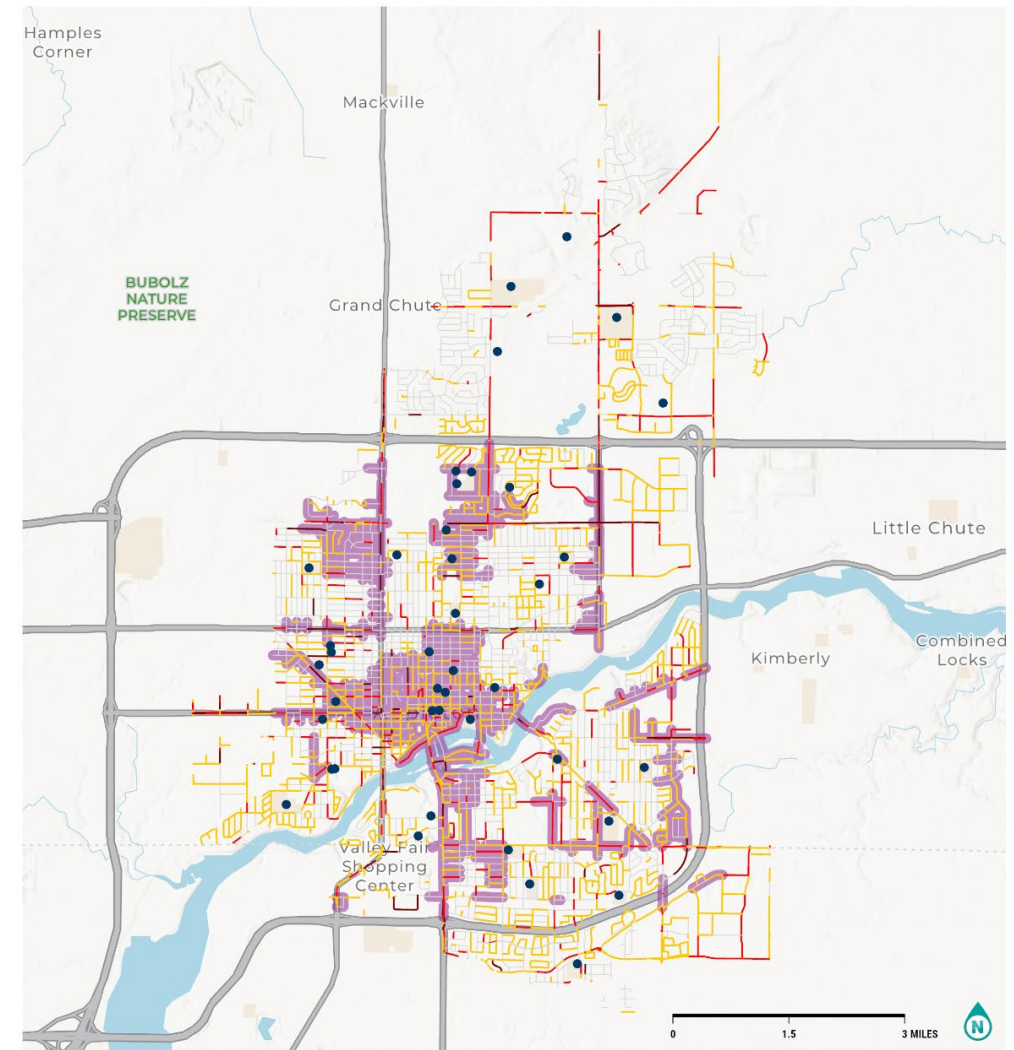
Recommendations: Expanding the Toolkit for Pedestrian Safety

- Incorporate safety improvements into planned maintenance projects
- Look at 4-lane roadways at the corridor level, not intersection by intersection
- Utilize map-based data to identify potential projects based on the highest priority locations
- Consider a mix of quick-build and permanent treatments at as many locations as budget allows each year
- Follow the Complete Streets Policy and use input from the Complete Streets Design Guide



Community Priorities for Future Projects

- Safety
- Areas with high numbers of trips under one mile
- Areas of equity focus
- Streets adjacent to schools, parks, trails, transit stops, and commercial areas
- Crossings of major barrier, such as wide roadways, the Fox River, and railroads



REVISED CROSSING
PRIORITIZATION
CITY OF APPLETON
COMPLETE STREETS STUDY

- School
- Top 20%
- Crash Analysis Rank
 - Less than 100
 - 100 - 499
 - 500 - 2499
 - 2500 or Higher

Safety

- Streets ranked based on crash analysis score
- Source: East Central Wisconsin Regional Planning Commission (ECWRPC)

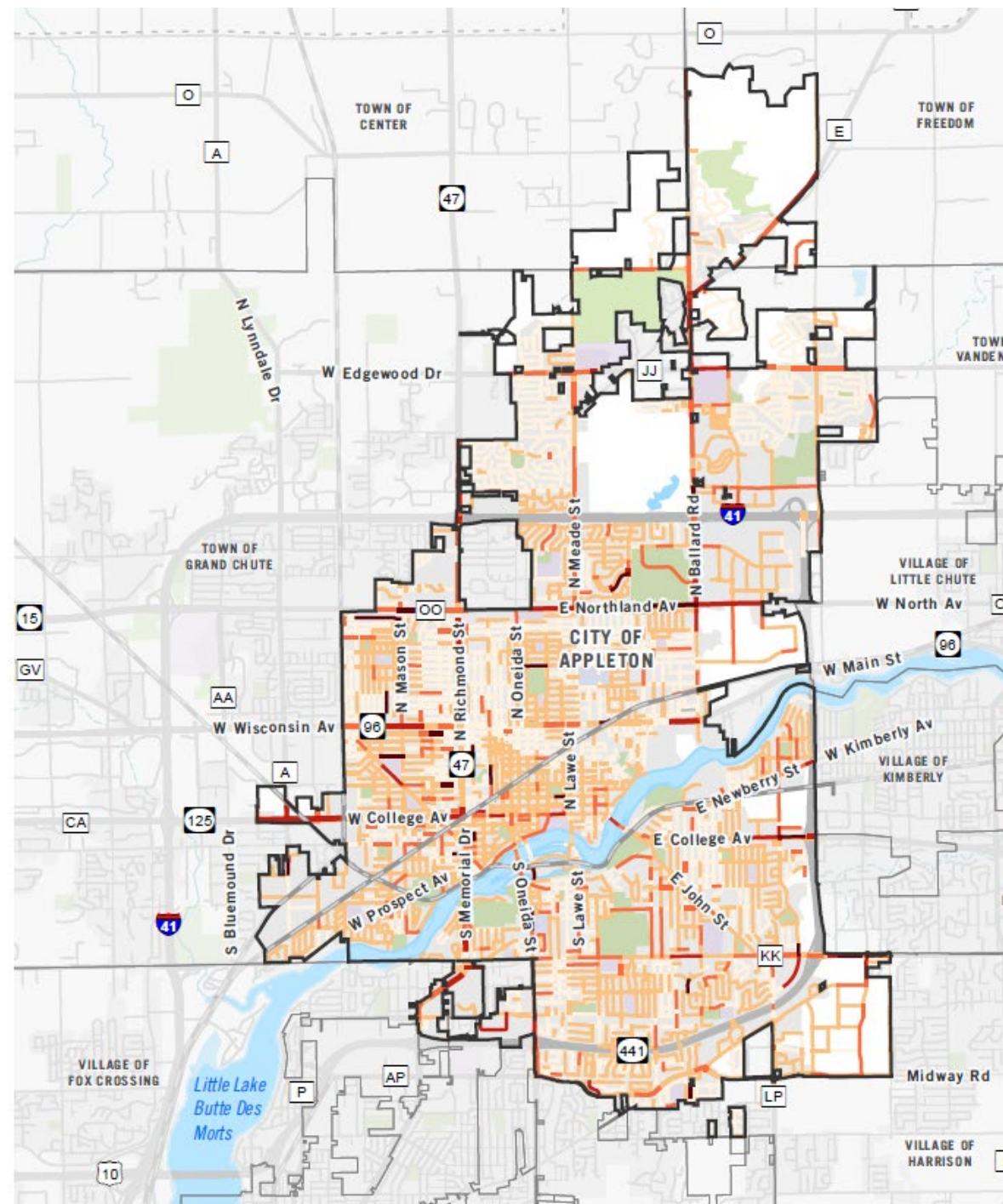
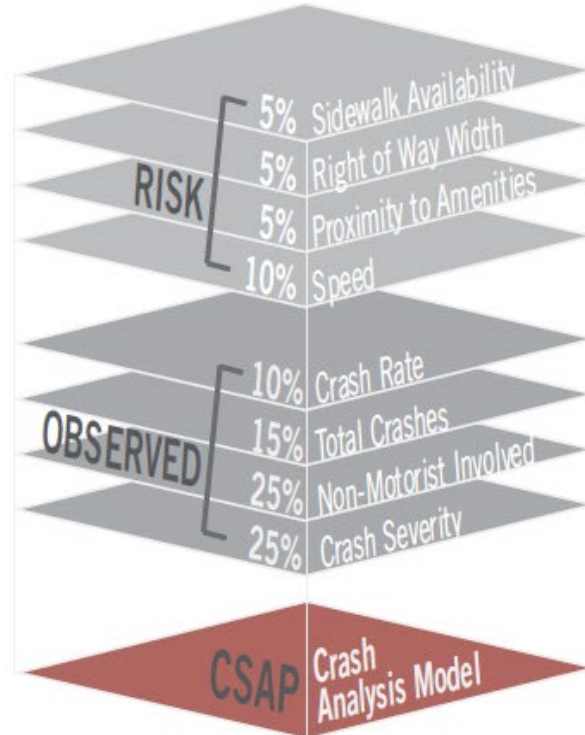
CITY OF APPLETON

CRASH ANALYSIS

■ CSAP Crash Analysis Model

The crash analysis model weighs eight criteria to determine areas of traffic safety concern. The model considers observed crash factors as well as environmental factors which increase risk of crashes and injury for non-motorists. The criteria weights are adjusted to best fit the safety concerns of the Comprehensive Safety Action Plan requirements.

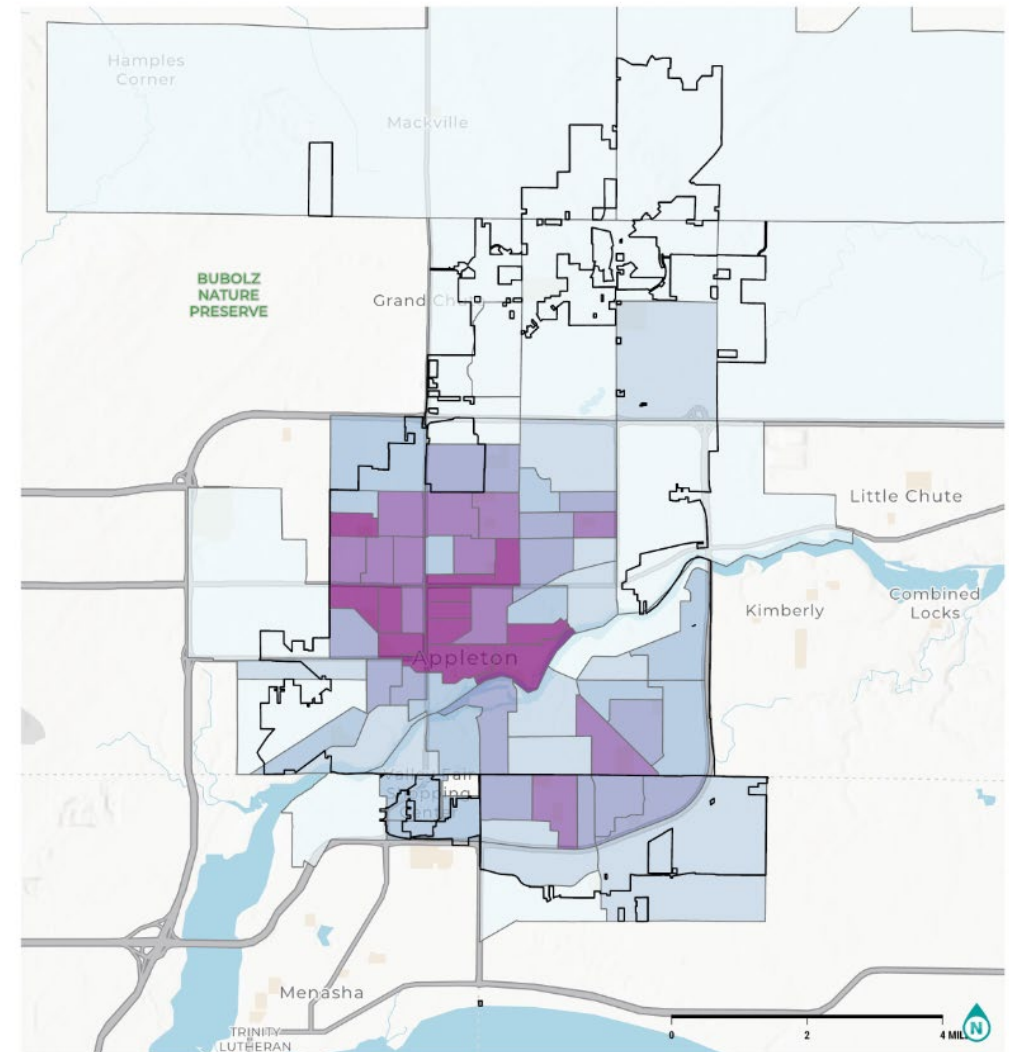
Weighting of the eight criteria are as follows:



Density of Short Trips by Block Group

- Identifies areas where driving trips could shift to walking
- Streets ranked from lowest density of trips under 1 mile to highest
- Weighted at 37.5% of total demand score
- Source: Replica*

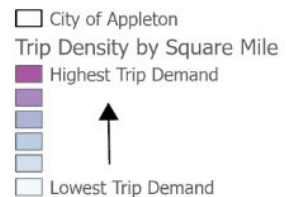
*Replica is an activity-based travel demand model simulating trips based on a combination of mobile location data, consumer/resident data, built environment data, and economic activity data. The model is calibrated using ground truth data. The latest available data represents a typical Thursday in Spring 2023.



TRIP DEMAND

CITY OF APPLETON
COMPLETE STREETS STUDY

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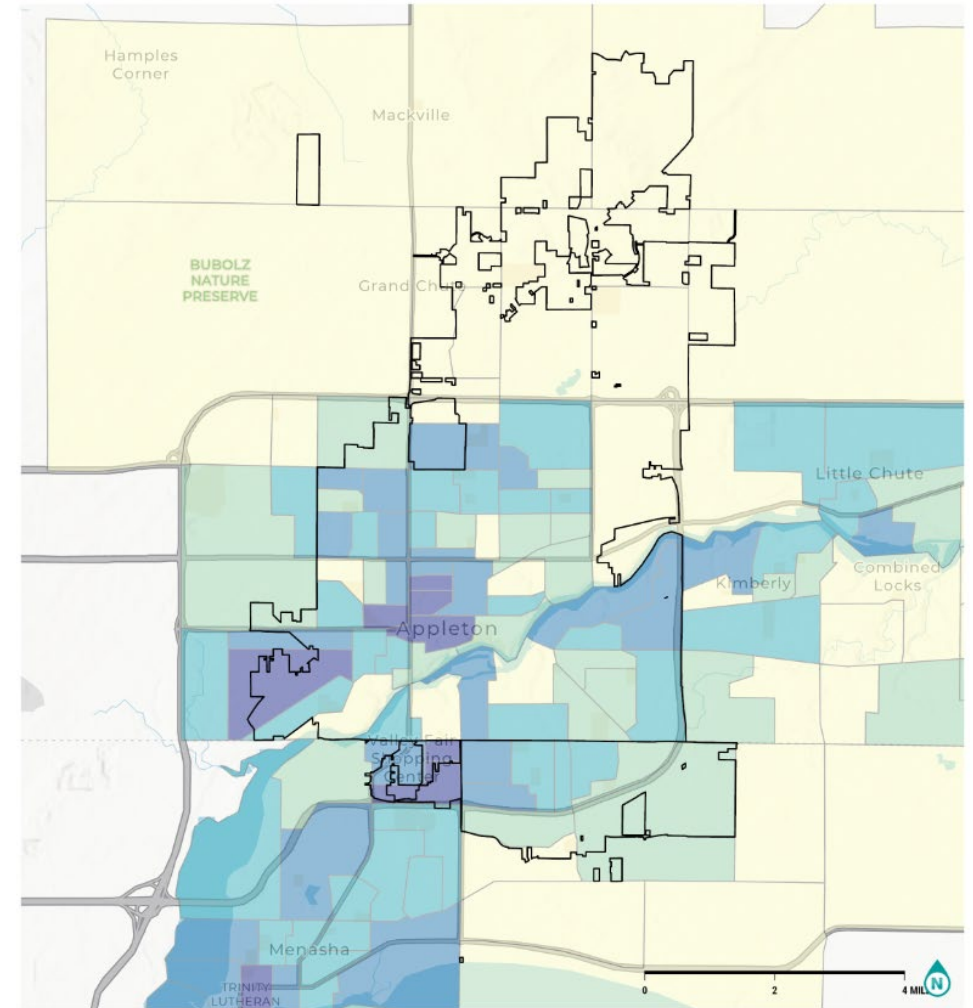
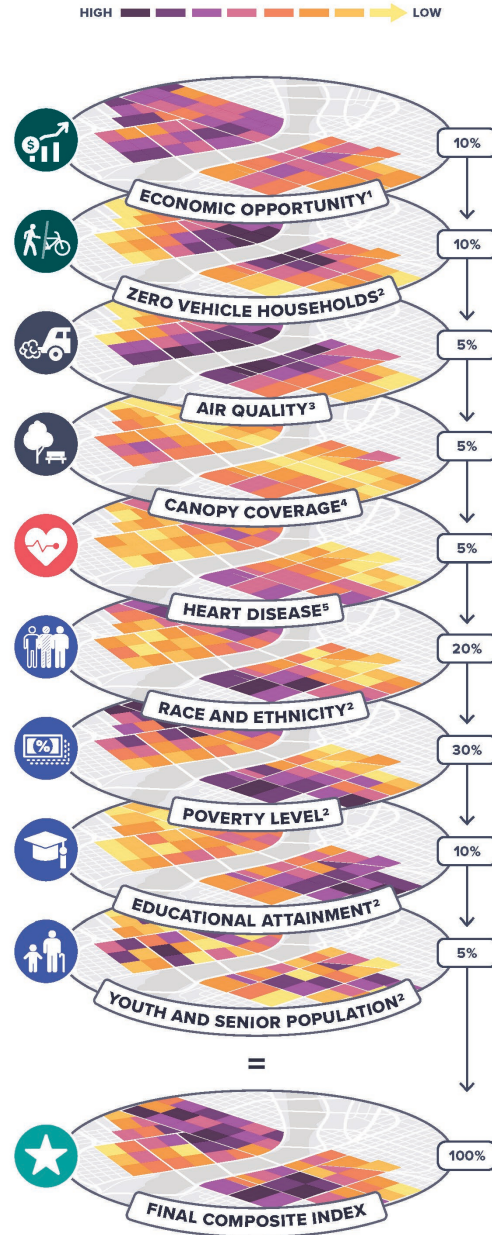
Equity Focus Areas by Block Group

- Streets ranked from lowest equity concern to highest
- Weighted at 37.5% of total demand score
- Source: Weighted combination of nine dimensions of equity from public sources

¹ Opportunity Atlas, ² Census Bureau's American Community Survey 5-Year Estimates, ³ Environmental Justice Screening and Mapping Tool, ⁴ Tree Equity Index, ⁵ Centers for Disease Control and Prevention.

How do we compile the index?

Ten variables relating different dimensions of equity are aggregated to census block group geographies and are then compiled into a composite index.

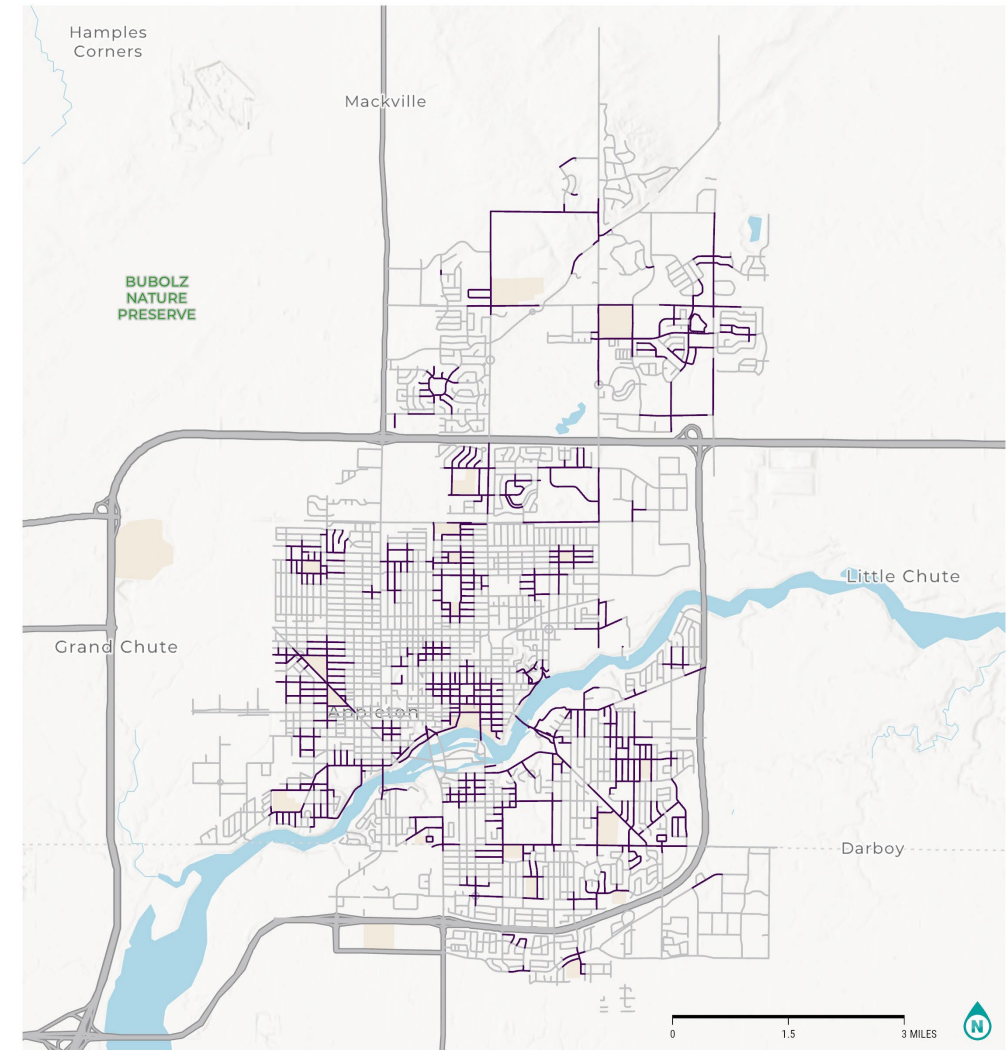


AREAS OF EQUITY CONCERN
CITY OF APPLETON
COMPLETE STREETS STUDY

City of Appleton
Areas of Equity Concern
Low Equity Concern
High Equity Concern

Proximity to a Park and/or School

- Streets within 100 feet of a parcel zoned as a park and/or school
- Weighted at 5% of total demand score
- Source: Data provided by City of Appleton



CROSSING PRIORITIZATION

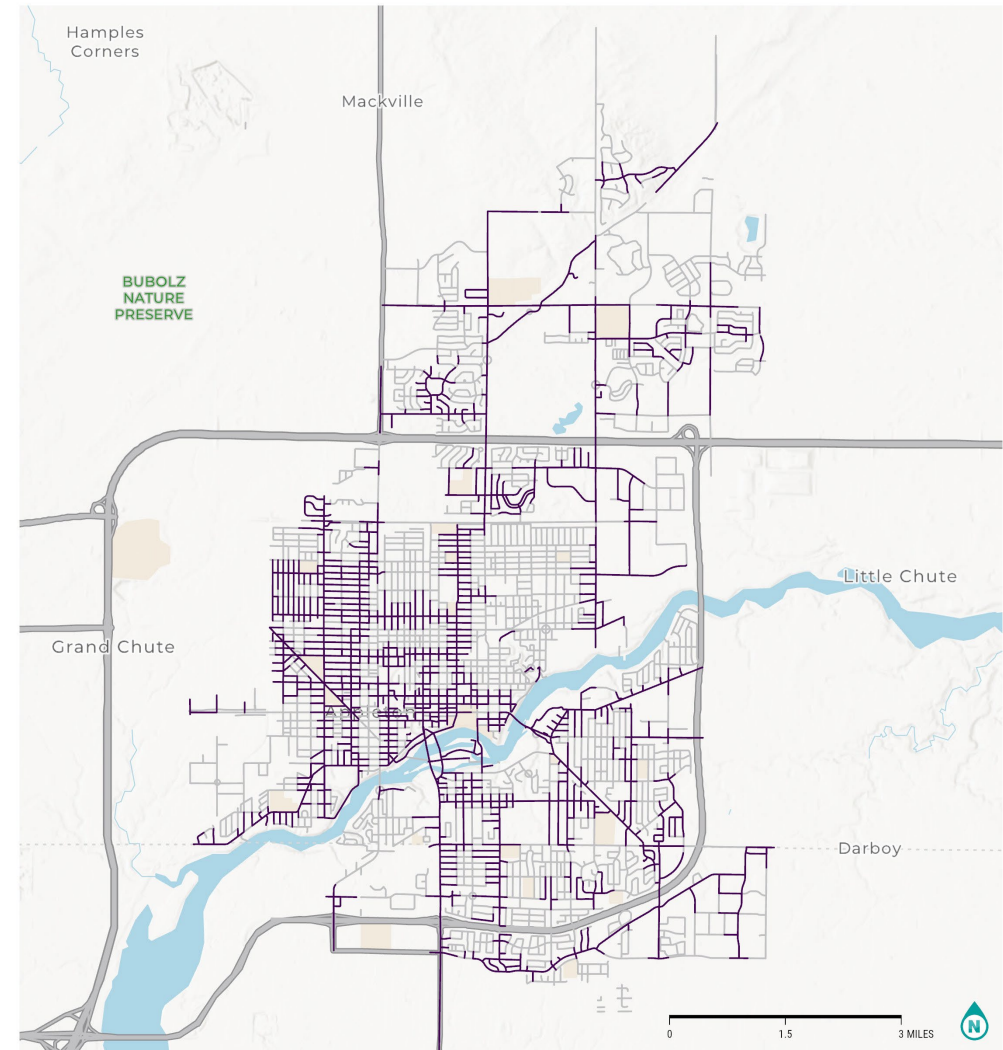
DEMAND FACTOR

CITY OF APPLETON
COMPLETE STREETS STUDY

— Streets within 100 feet of a Park and/or School

Proximity to a Trail

- Streets within 100 feet of a trail
- Weighted at 5% of total demand score
- Source: Data provided by City of Appleton



CROSSING PRIORITIZATION

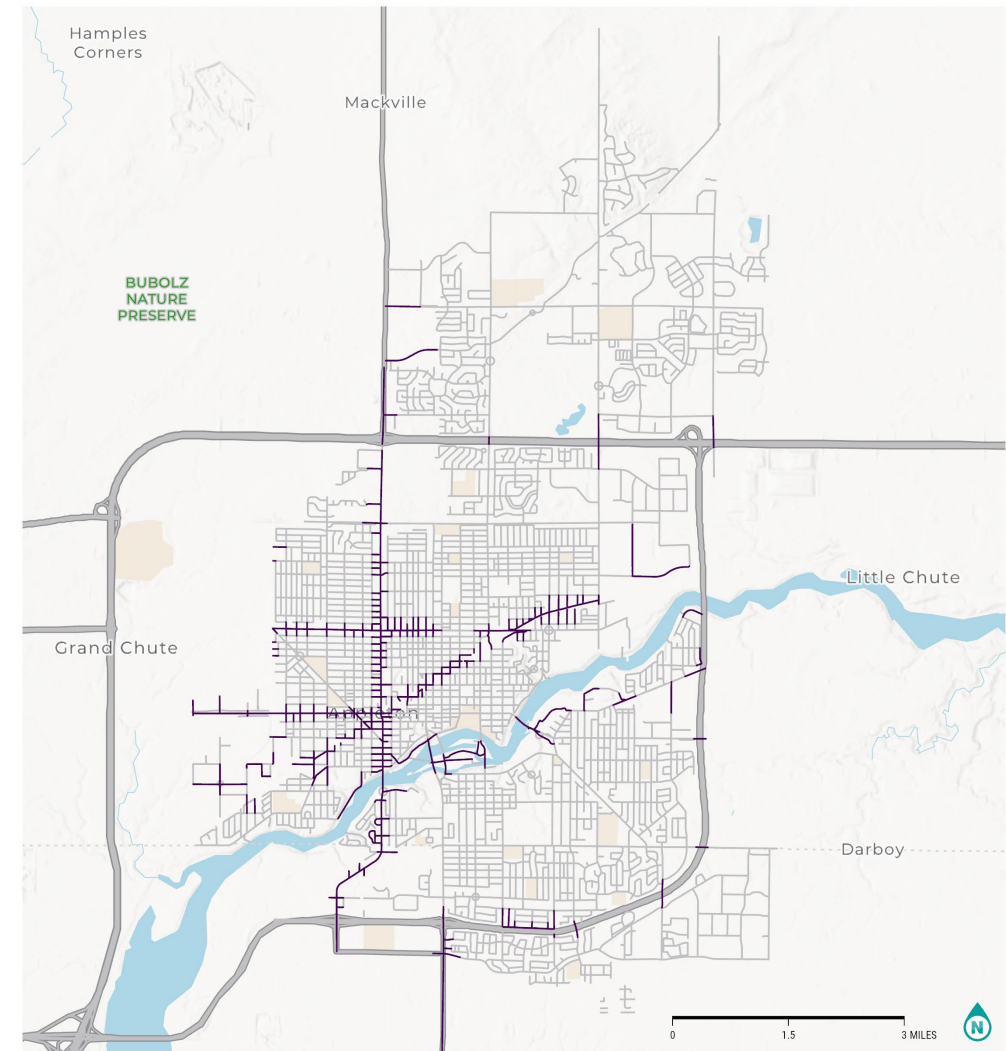
DEMAND FACTOR

— Streets within 100 feet of a Trail

CITY OF APPLETON
COMPLETE STREETS STUDY

Proximity to Major Barriers

- Crossings of major roadways, the Fox River, and railroads
- Weighted at 5% of total demand score
- Source: Wisconsin DNR (major roadways); USGS (railroads); City of Appleton (river)



CROSSING PRIORITIZATION

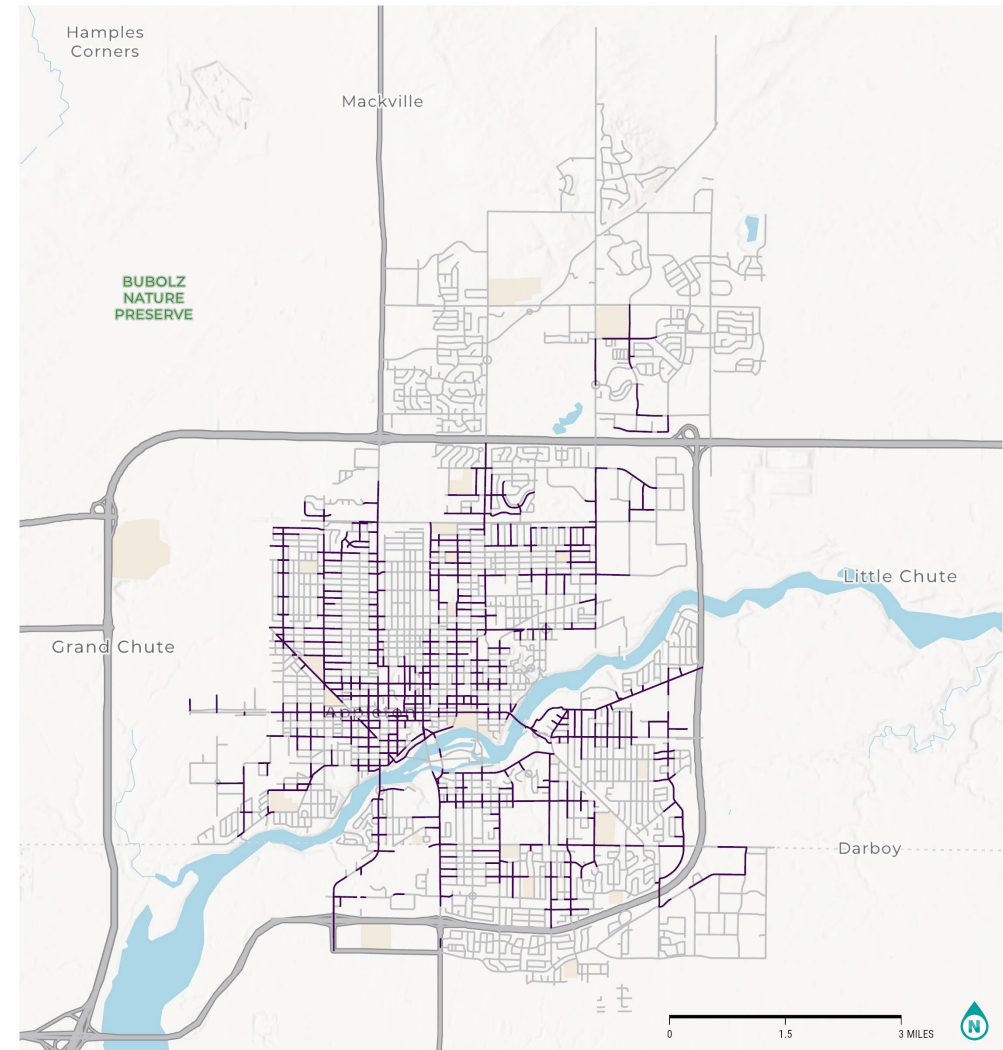
CITY OF APPLETON
COMPLETE STREETS STUDY

DEMAND FACTOR

— Streets within 100 feet of a Major
Roadway, the Fox River, and Railroads

Proximity to a Transit Stop

- Streets within 100 feet of a transit stop
- Weighted at 5% of total demand score
- Source: Data provided by City of Appleton



CROSSING PRIORITIZATION

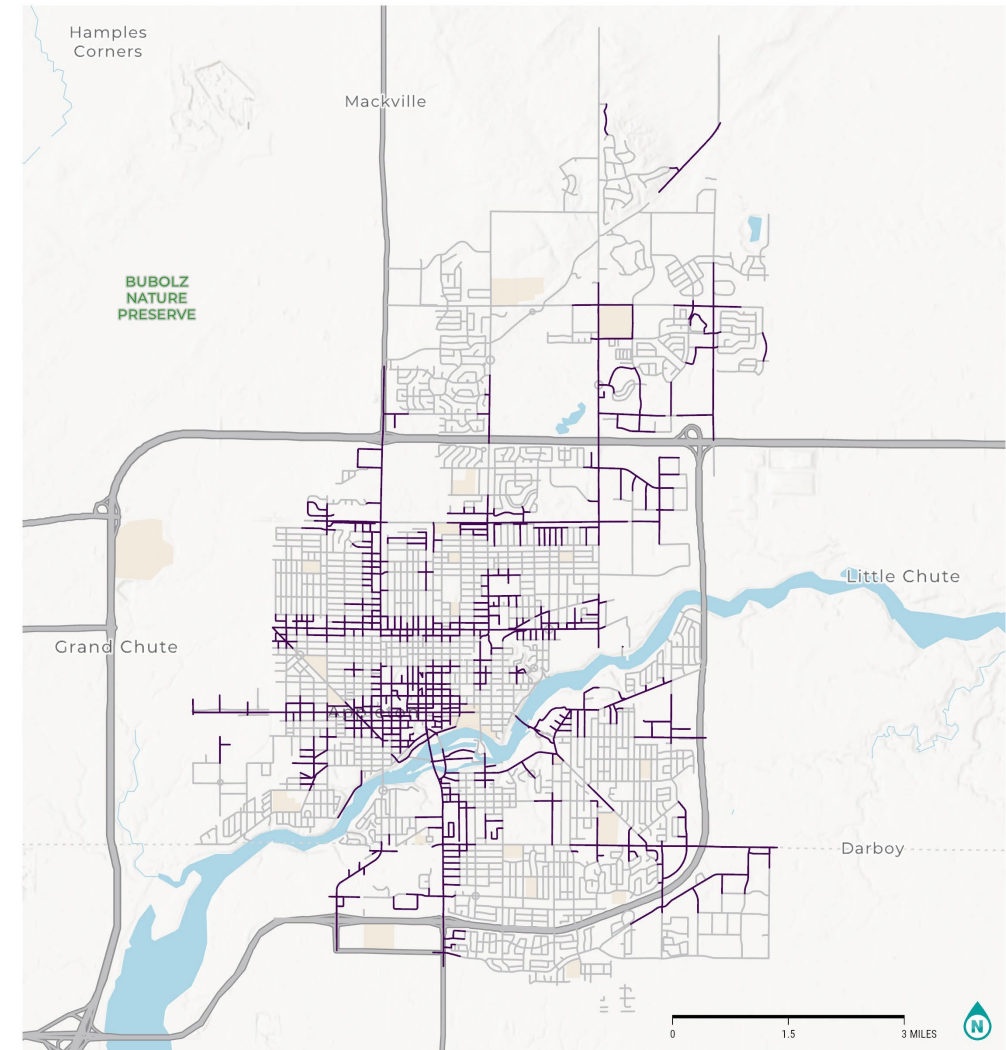
DEMAND FACTOR

— Streets within 100 feet of a Transit Stop

CITY OF APPLETON
COMPLETE STREETS STUDY

Proximity to a Commercial Area

- Streets within 100 feet of a parcel zoned for commercial land use
- Weighted at 5% of total demand score
- Source: Data provided by City of Appleton



CROSSING PRIORITIZATION

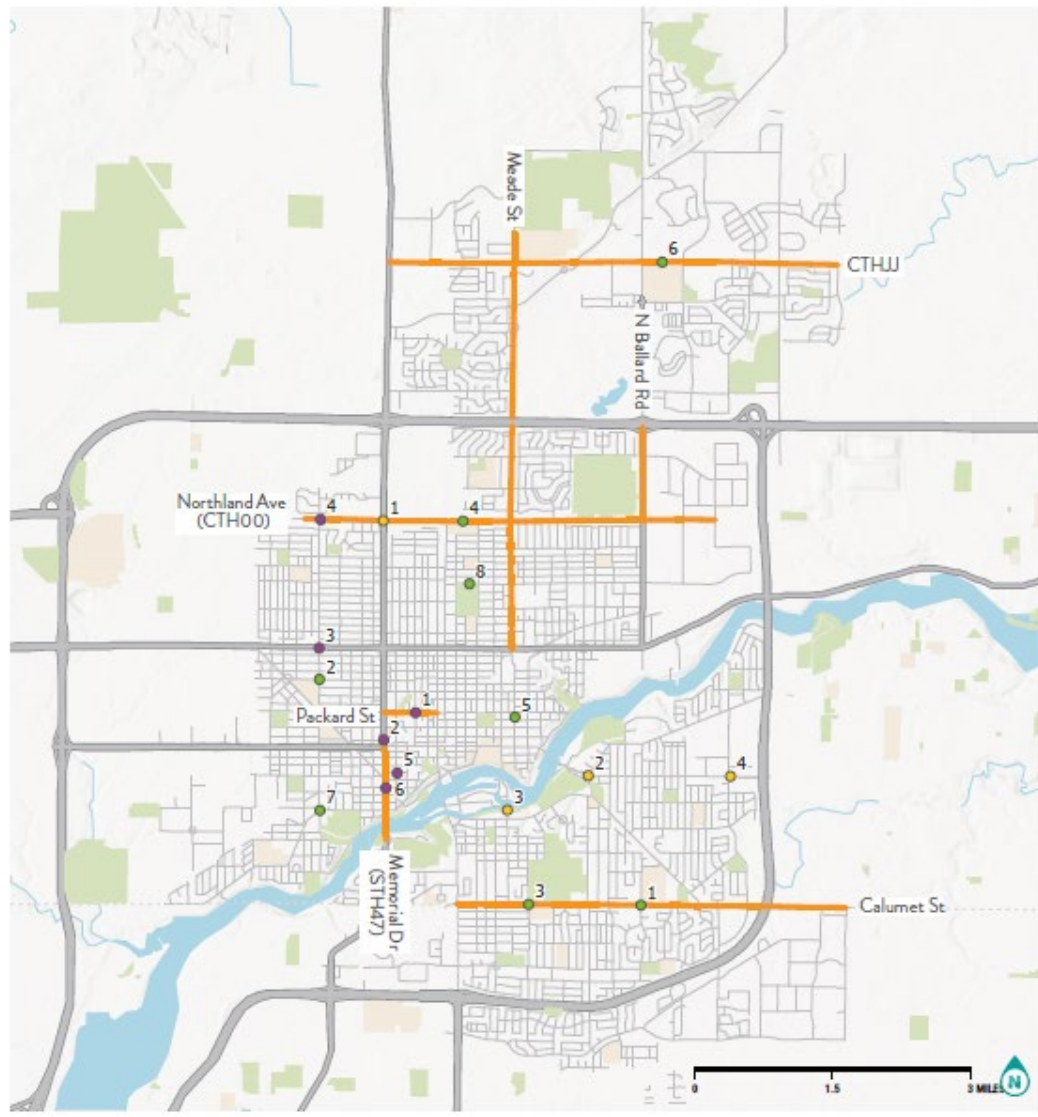
DEMAND FACTOR

CITY OF APPLETON
COMPLETE STREETS STUDY

— Streets within 100 feet of a Commercial Land Use

Potential Project Recommendations: Project Types

- Incorporate improvements into capital projects
- High-priority corridors
- Unique safety hazards
- Intersections in areas with high active trip potential
- Intersections in areas near schools and parks

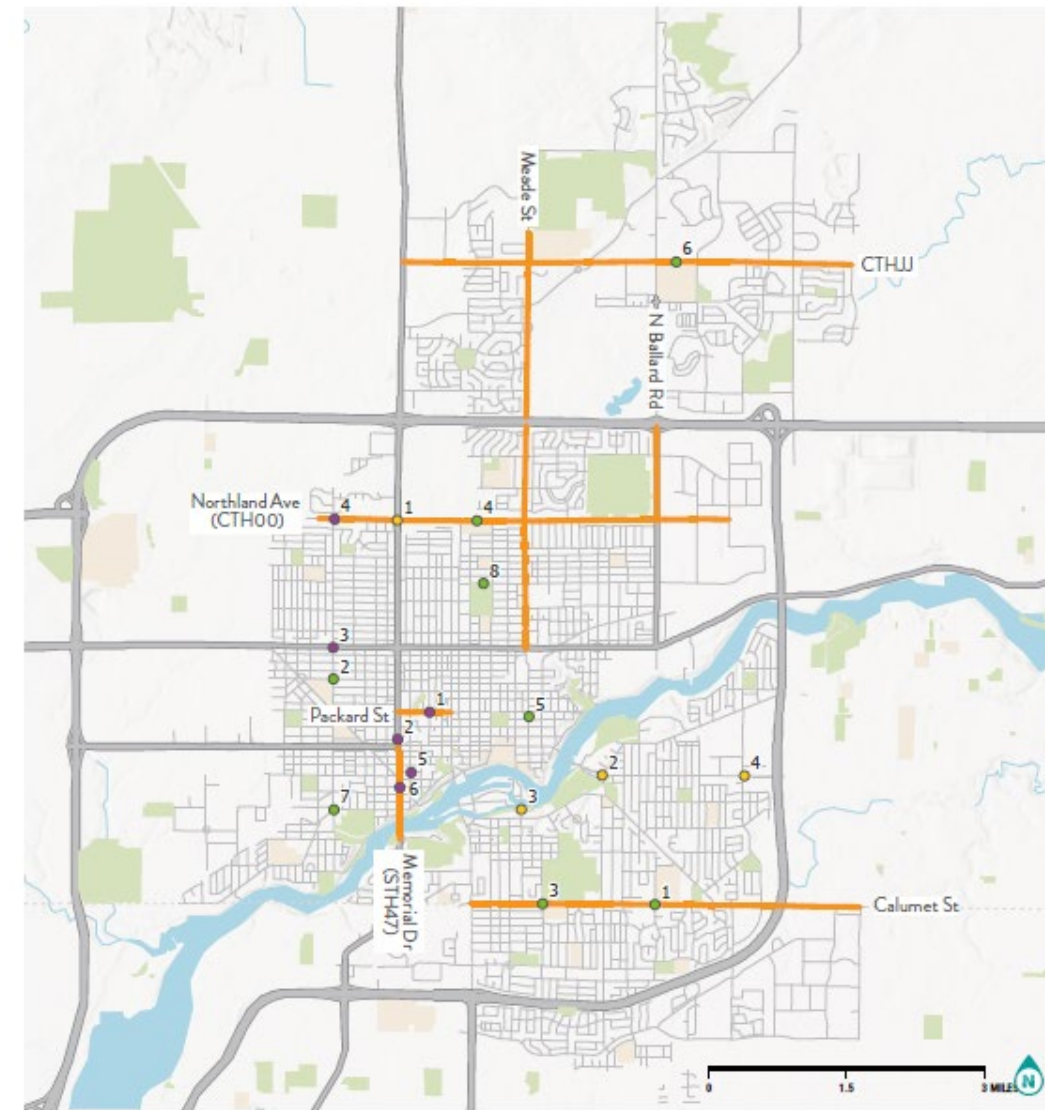


DRAFT PRIORITY PROJECT
LOCATIONS
CITY OF APPLETON
COMPLETE STREETS STUDY

Potential Project Category
● Downtown/High Active Trip Potential
● School/Park
● Other Spot Location
— Priority Arterial or Collector

Potential Projects: Corridor Studies

- Calumet Street from Oneida Street to John
- Meade Street – from Wisconsin Ave (STH96) north to the city limits
- Northland Ave (CTH00) – length of city limits
- CTHJJ – length of city limits
- W Packard St – from North Richmond (STH47) to N Appleton
- Memorial Dr (STH47) – W Prospect Ave to W College Ave



DRAFT PRIORITY PROJECT
LOCATIONS
CITY OF APPLETON
COMPLETE STREETS STUDY

- Potential Project Category
- Downtown/High Active Trip Potential
 - School/Park
 - Other Spot Location
 - Priority Arterial or Collector

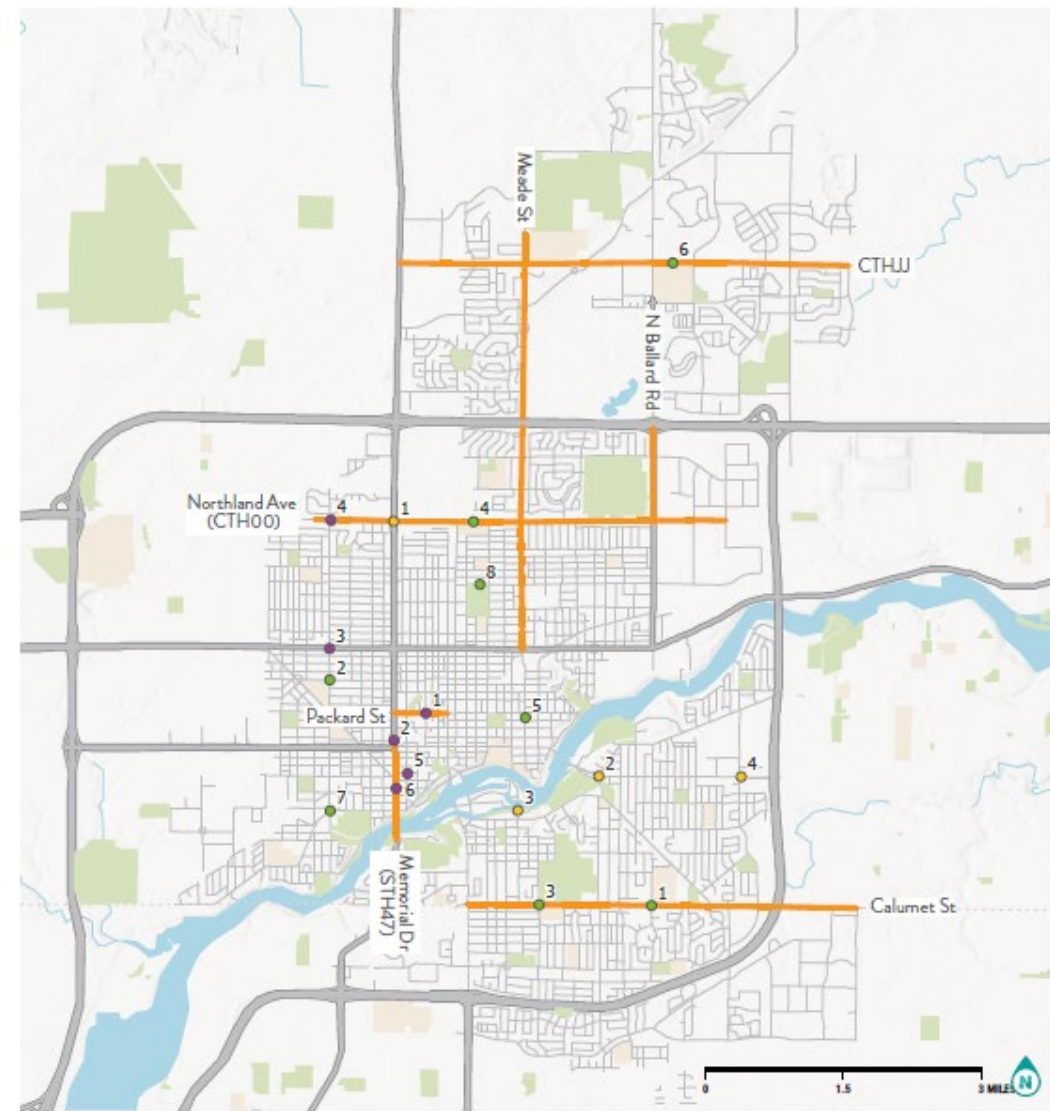
Potential Projects: Unique Safety Hazards

Multi-Lane Roundabouts:

- W Northland Ave and N Richmond St
- E College Ave and E John St.

Trail Crossings:

- Newberry Trail Crossing at Lawe St
- E College Ave and S Kensington Dr



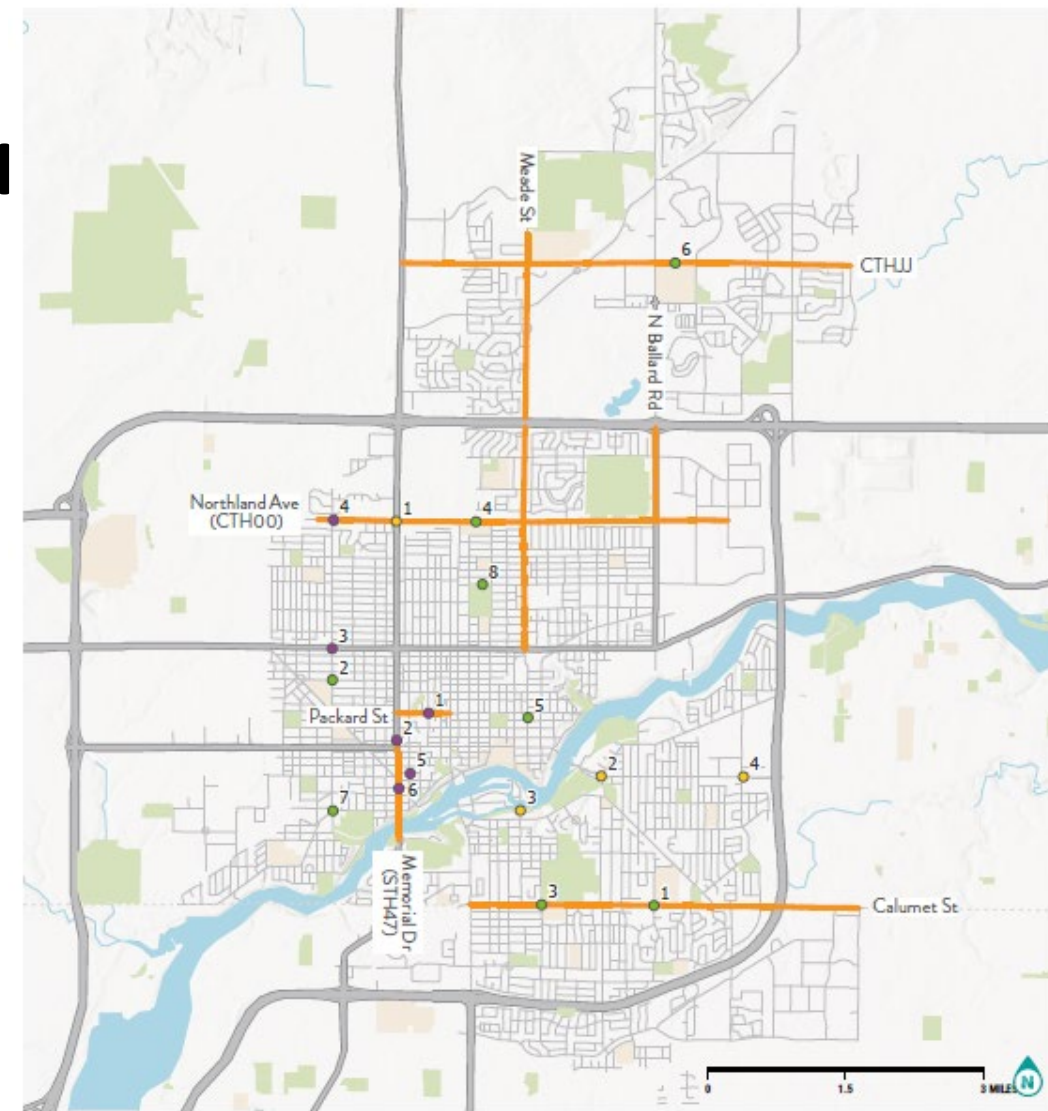
DRAFT PRIORITY PROJECT
LOCATIONS
CITY OF APPLETON
COMPLETE STREETS STUDY

Potential Project Category

- Downtown/High Active Trip Potential
- School/Park
- Other Spot Location
- Priority Arterial or Collector

Potential Projects: High Active Trip Potential

- E Calumet St and S Schaefer St
- W Winnebago St and N Mason St
- E Calumet St and S Carpenter St
- E Northland Ave (CTH00) – N Oneida to N Meade
- N Meade St – E North St to E Eldorado St
- Edgewood Dr at North High School
- W Prospect Ave and S Mason St
- E Glendale Ave at N Morrison St to N Drew St

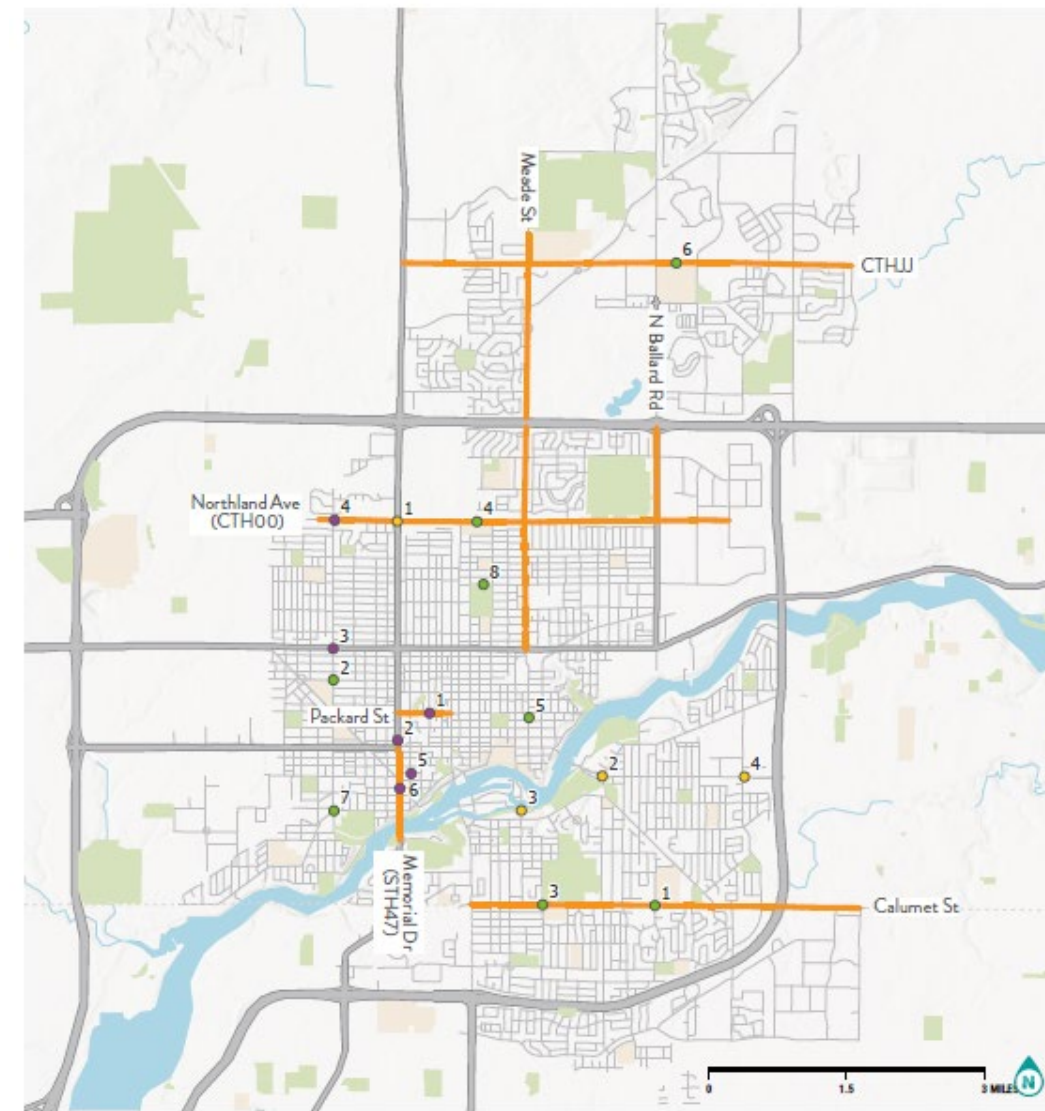


DRAFT PRIORITY PROJECT
LOCATIONS
CITY OF APPLETON
COMPLETE STREETS STUDY

Potential Project Category
● Downtown/High Active Trip Potential
● School/Park
● Other Spot Location
— Priority Arterial or Collector

Potential Projects: Schools and Parks

- W Packard St and N Division St
- W Washington St and N Richmond St (STH47)
- W Wisconsin Ave (STH96) and N Mason St
- W Northland Ave (CTH00) and N Mason St
- W Seventh St and S State St
- W Fifth St and S Memorial Dr (STH47)



DRAFT PRIORITY PROJECT
LOCATIONS
CITY OF APPLETON
COMPLETE STREETS STUDY

Potential Project Category

- Downtown/High Active Trip Potential
- School/Park
- Other Spot Location
- Priority Arterial or Collector

Next Steps



Next Steps

- February 26: Posting of draft documents on the city website
- February 29: Virtual Open House
- Late March/April: Action item at Municipal Services Committee



thank you!