SUMMIT LAKE PEDESTRIAN SAFETY MASTER PLAN

Akron Metropolitan Area Transportation Study
City of Akron
WSP

+

CITY

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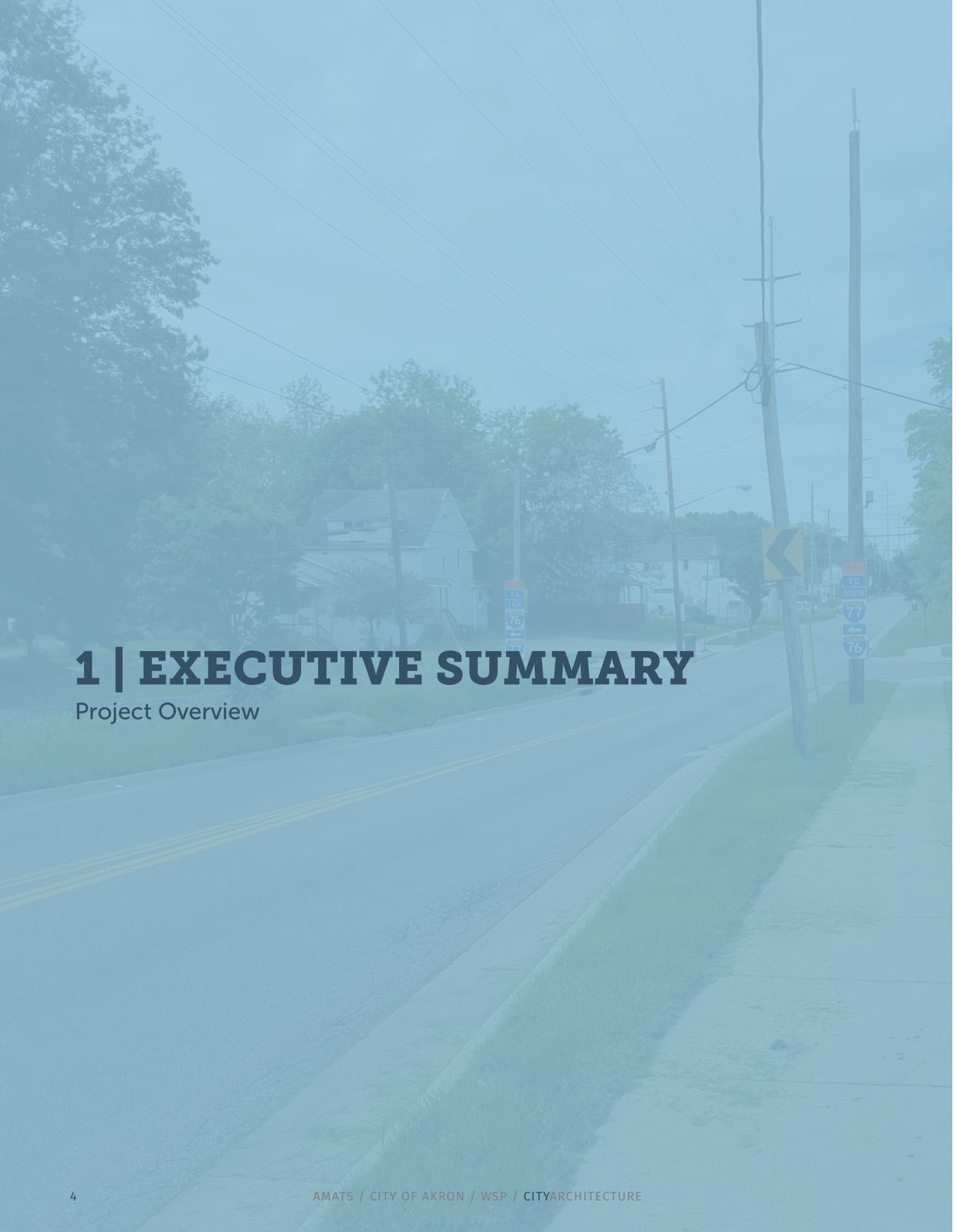
SUMMIT LAKE - AKRON, OHIO



1 | EXECUTIVE SUMMARY

Project Overview

PROJECT OVERVIEW

The Summit Lake Neighborhood is well situated to be one of the jewels of the City of Akron. The Lake, recent developments of the Towpath and loop trails, several community assets situated along the lake shore, and proximity to downtown Akron set Summit Lake up to be a vibrant community and local destination.

The City and other organizations have invested in the development of several different planning initiatives in the Summit Lake Community: some which have already begun to be implemented. These include the development of trails, the building of the Nature Center, and the completed North Shore Park on the north end of the lake. Stronger awareness of the presence of the lake and associated amenities is needed for these community assets as well as greater connectivity and safer access through the neighborhood.

The Summit Lake Pedestrian Safety Master Plan aims to increase safety for all modes of transportation and improve neighborhood connectivity in the Summit Lake Community. The plan builds on the momentum of previous initiatives in the Summit Lake Neighborhood and is the next actionable step in transforming community vision into reality.

The planning process, outlined in this report, was facilitated by the Akron Metropolitan Area Transportation Study (AMATS), City of Akron, City Architecture, and WSP. The City of Akron recognizes the importance of a safer, interconnected community. They looked to the AMATS Connecting Communities program for assistance in addressing gaps in pedestrian safety, access, and sustainable transportation choices for all residents in Summit Lake.

Through its application the city identified the following objectives:

- Identify appropriate locations for alternative modes of transportation (bike lanes, pedestrian walkways, multi-purpose trails, sidewalks).
- Provide alternative methods of transportation to employment, education and recreational centers, which in turn will support economic development activities.
- Ensure an equity focus in the community planning process by including residents of all abilities and income.
- Improve community collaboration (internally and externally).
- Identify community action items and implementation strategies.

The planning process in this report builds upon observation and analysis of the neighborhood to develop a methodology for applying traffic calming tools to improve safety. Though the focus of this report is the Summit Lake neighborhood, the methodology has been developed to be used in neighborhoods all across Akron — with the Summit Lake neighborhood set at the forefront of these initiatives. The methodology is applied in this report to the Summit Lake neighborhood to identify specific interventions and identify priority projects. At the conclusion of this work, the proposed concepts and collective recommendations aim to result in immediate implementation. The results of this process seek to build on previous initiatives to move towards a more vibrant, safe, and connected Summit Lake.

AMATS CONNECTING COMMUNITIES PLANNING GRANT

Overview

In order to begin to change the transportation patterns that have created auto-dependent communities and create places that are more vibrant and livable, the planning agency has developed the Connecting Communities program. This helps communities work together and rethink their approach to transportation and economic development.

The Connecting Communities Planning Grant program is designed to provide communities with funding to develop transportation plans that will lead to the identification of projects eligible for AMATS funds.

The purpose of these plans is to focus on the concept of livability as it relates to a community's transportation systems. Plans developed through this program should enhance neighborhoods by improving transportation connections and promoting alternative modes of transportation like bicycling, walking and transit. Grant funding is used to hire a consultant to study a general area of a community. The funds are not used for preliminary engineering, but instead to develop plans containing analysis and recommendations. Recommended projects are then eligible for implementation funding.

In AMATS' words:

> *"We can, however, begin to give serious thought to a new way of doing things; of creating a built environment where walking, biking, and using public transportation again become a viable option for the majority of our residents; where roads are designed to accommodate a variety of modes of transportation; and where public buildings and residential spaces retain their utility, but regain a sense of dignity and an appealing design aesthetic."*

And this is what Connecting Communities is all about: Encouraging incremental, small-scale, and practical modifications to the way that our transportation systems and our built environments interact with one another. It is our hope that by following the recommendations contained in this document, communities, such as Summit Lake, will become better, more interconnected places to live.

Goals

The recommendations in this document are intended to be used by AMATS and other agencies as a framework for increasing transportation alternatives and supporting land use patterns through targeted investments. They have been framed around the eight goals of Connecting Communities, listed on the previous page.

While many communities in Northeast Ohio have developed trails and implemented street improvements, much roadway infrastructure has historically been geared toward vehicular movement rather than complete streets that provide safe and equitable transportation options within a shared right-of-way.

Thankfully, that is changing, with opportunities provided for planning and implementation through programs like the AMATS Connecting Communities Program—and with many such initiatives well under way in the City of Akron. The city has completed several trails and developed over 30 miles of complete street improvements since 2013. With smart investments in our infrastructure such as have already begun to be implemented in Akron, we can begin to create an interconnected region.

This will lead to:

- Increased community health
- Safer transportation options
- Improved access and opportunity
- New investment opportunities
- Positive impacts on community character
- Positive impacts on the environment

When we create neighborhoods and districts that decrease dependence on automobiles, we create healthier, more supportive, and more sustainable communities for all.

2 | UNDERSTAND

Setting the Framework

INTRODUCTION

Through a 2024 Connecting Communities Planning Grant, the City of Akron, in partnership with the Akron Metropolitan Area Transportation Study (AMATS), is pursuing greater safety and connectivity in the Summit Lake neighborhood. This plan is a response to the needs and desires of Summit Lake residents identified through previous planning initiatives. Thanks to the extensive community outreach during these collective processes, the Planning Team was able to review and identify community priorities to guide strategies for implementation as a "next step."

At the kickoff of the Pedestrian Safety Master Plan process, AMATS provided a detailed Discovery Document and an online digital mapping tool. Within the Discovery mapping tool, there are a series of existing conditions maps covering a wide range of information including: zoning; ownership; roadway types, locations, and conditions; existing pedestrian scale connections; transit routes and stop locations; bike routes; traffic counts; crash data; and photos. This information supported a deeper analytical dive into the existing conditions and helped reveal challenges and opportunities in the Summit Lake neighborhood.

The Planning Team also spent time on location, walking and driving through the Summit Lake neighborhood in order to understand existing conditions from a 'boots on the ground' perspective. In-person experiences gave the team a deeper understanding of the context and situations presented by the Discovery Map data. While the data is incredibly informative, it is equally important to experience the context firsthand. This ensures that any suggested interventions are realistic and appropriately scaled.

From these collective findings emerged an initial set of priority locations for further study and a road-map to guide ultimate recommendations for immediate and long-term implementation.

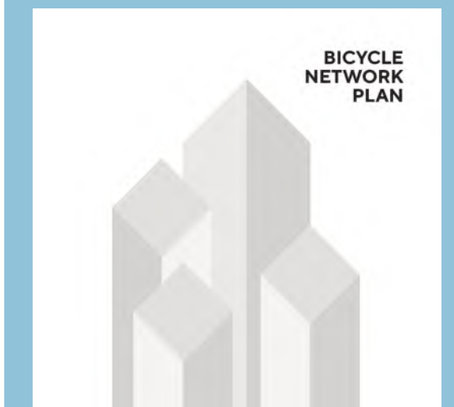
PLAN INFLUENCES

Numerous studies and recent plans were reviewed for their applicability to the Summit Lake Pedestrian Safety Master Plan process. These plans reflect critical thinking, creative ideas, and renewed investment in Summit Lake that have already begun to transform the neighborhood. Thanks to the extensive community engagement done through these plans and the work already implemented, the Summit Lake Pedestrian Master Plan is well positioned as the next actionable step towards a more vibrant community.

The Summit Lake Choice Neighborhoods Plan identified a larger vision for the Summit Lake Neighborhood where "Summit Lake is a safe, welcoming and family-friendly community with quality housing and local businesses, where new and long-term residents, proud of their community, work side-by-side to improve the neighborhood." The Choice Plan worked in tandem with the Our Summit Lake Community Land Use Plan and built on the work of Akron Civic Commons' Summit Lake Vision Plan. Through a combination of collaboration and extensive community engagement, these plans (as well as larger initiatives in the City of Akron) identified key initiatives and next steps.

Several community themes emerged through the Our Summit Lake Community Land Planning Process: more lake access, transit, safety, street trees, improved neighborhood condition, enhanced sidewalk conditions, and good street design. The Summit Lake Pedestrian Safety Master Plan is able to address each of these themes and is the next logical step in implementing the vision of these previous plans.

*From the "Our Summit Lake Community Land Use Plan"



PLAN ANALYSIS & COORDINATION

The following plans were studied to gain an understanding of their influence and relevance to the Summit Lake Pedestrian Safety Master Plan process.

- **SUMMIT LAKE VISION PLAN**
  Prepared by Environmental Design Group for Akron Civic Commons
- **SUMMIT LAKE CHOICE NEIGHBORHOODS**
  Prepared by Interface Studio for AMATS and the City of Akron
- **OUR SUMMIT LAKE COMMUNITY LAND USE PLAN**
  Prepared by Seventh Hill for the City of Akron
- **CITY OF AKRON SUMMIT LAKE REZONING**
  Prepared by the City of Akron
- **CITY OF AKRON BICYCLE NETWORK PLAN**
  Prepared by Copenhagenize Design Co. for the City of Akron
- **AKRON METRO BRT FEASIBILITY STUDY**
  Prepared by Kimley-Horn and Associates, Inc. for Akron Metro RTA
- **CITY OF AKRON TRAFFIC CALMING PROGRAM**
  Prepared by the City of Akron
- **CITY OF AKRON FORM-BASED CODE**
  Prepared by the City of Akron
- **UPCOMING SUMMIT LAKE NORTH SHORE**
  Prepared by City Architecture
- **BETTER KENMORE**
  Prepared by Kenmore Neighborhood Alliance

COMMUNITY DRIVEN PRIORITIES

In addition to the themes from the Our Summit Lake Land Use Plan, several community-driven priorities emerged from review of the collective planning efforts in and around Summit Lake. Many of these priorities mirror or encompass the community themes, while also picking up on additional priorities from the collective planning efforts. They have been identified through their priority in previous initiatives and their relevance to the Pedestrian Safety Master Plan.

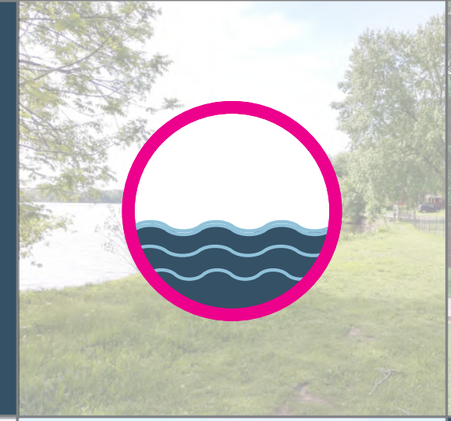
As the Pedestrian Safety Master Plan moves forward, these priorities will guide design ideas, interventions, and priorities for implementation within the Summit Lake neighborhood.

These community-driven priorities include:

- Make Streets Pedestrian and Bike Friendly
- Create Gateways
- Reconnect Residents to the Lake
- Improve Lakeshore Boulevard
- Create Safe Passageways
- Community-Driven Process

While the first four will guide implementation strategies, 'Improving Lakeshore' is a specific area to study. Continuing a Community-Driven Process is key to the plan's success. The Pedestrian Safety Master Plan is the next step in showing the Summit Lake Community that their voices have been heard and real change is happening.

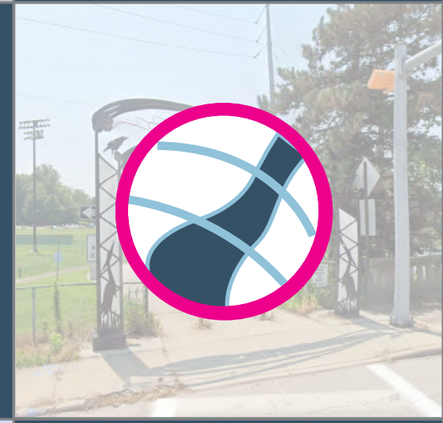
RECONNECT RESIDENTS TO THE LAKE. Improve multi-modal access and connections to Summit lake and adjacent amenities.

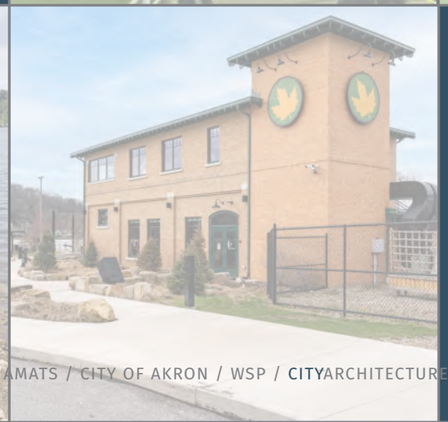


IMPROVE LAKESHORE BOULEVARD to be the front door to the neighborhood and connecting north-south spine.

Make streets **PEDESTRIAN AND BIKE FRIENDLY.** Enhance walkability, safety, and accessibility.

CREATE SAFE PASSAGEWAYS and improved linkages to neighborhood destinations.





CREATE GATEWAYS that connect the larger Summit Lake neighborhood, internally and to destinations beyond Summit Lake.

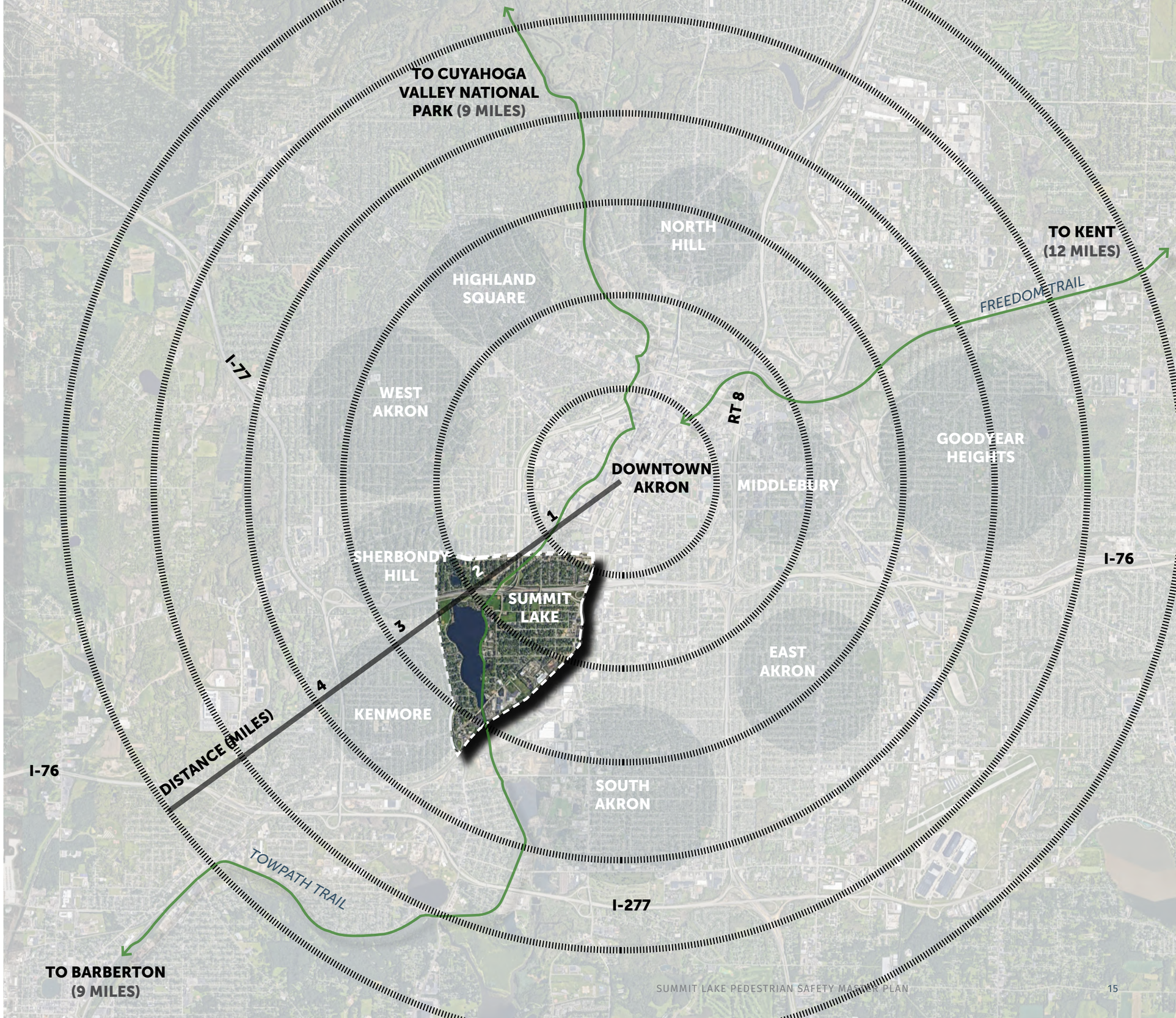
COMMUNITY-DRIVEN PROCESS Continuing the work of transforming community vision into reality.

REGIONAL CONTEXT

The Summit Lake neighborhood is located on the southwest side of Akron, between the historic Kenmore neighborhood and Downtown Akron. With improved accessibility, the convenient proximity to these areas and other neighborhoods can be leveraged to advance the neighborhood's growth, prosperity, and success.

The Summit Lake neighborhood contains a 100 acre glacial lake along the Ohio & Erie Canal way, named Summit Lake (the neighborhood's namesake) due to it's position as the highest point along the canal way. The lake anchors the neighborhood, and recent investments in the lake and surrounding areas have begun to restore Summit Lake's historic position as a destination once again. Additionally, the Ohio & Erie Canal Towpath trail runs through the neighborhood along the lake: linking the area to Greater Akron and beyond.

Given the neighborhood's amenities and proximity to downtown, Summit Lake is poised to be an important link in the fabric of Akron.



STUDY AREA

To generate a comprehensive understanding of the Summit Lake community, the planning team completed a range of physical analysis studies to understand the area's basic structure, organization, and influences. This included site visits by the planning team to understand physical conditions and functionality through direct observation.

The Summit Lake Neighborhood study area is identified by the following boundaries:

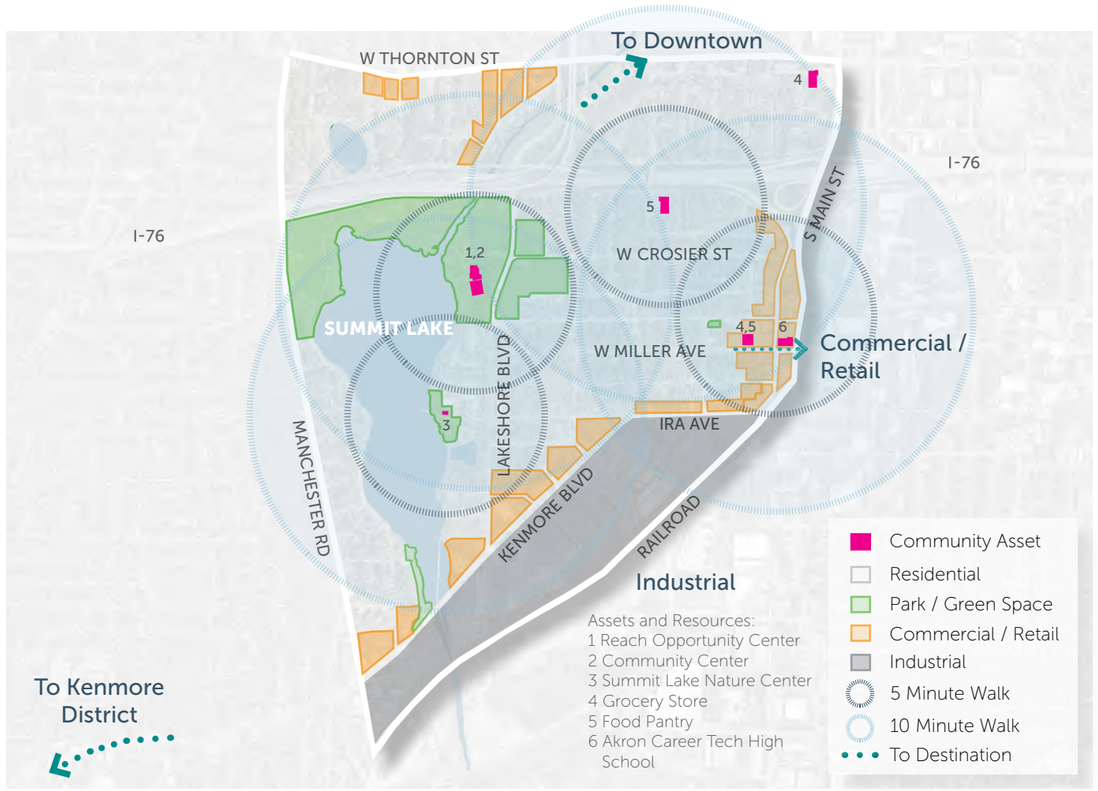
- W Thornton St to the north
- Manchester Rd to the west
- Railroad to the south
- S Main St to the east

AT A GLANCE

- +/- 1.3 Square Miles
- 100 acre glacial lake
- 4,200 residents
  (Estimate from US Census data)
- Connection to Ohio & Erie Canal Towpath
- To Downtown Akron:
  - 5 Minutes by car
  - 20 Minutes by public transit
  - 15 Minutes by bike

"I ABSOLUTELY LOVE THAT THIS NEIGHBORHOOD IS GETTING BETTER AND THE CITY AND THESE ORGANIZATIONS ARE TRYING TO BETTER THE COMMUNITY. THIS NEIGHBORHOOD HAS THE POTENTIAL TO BE GREAT."

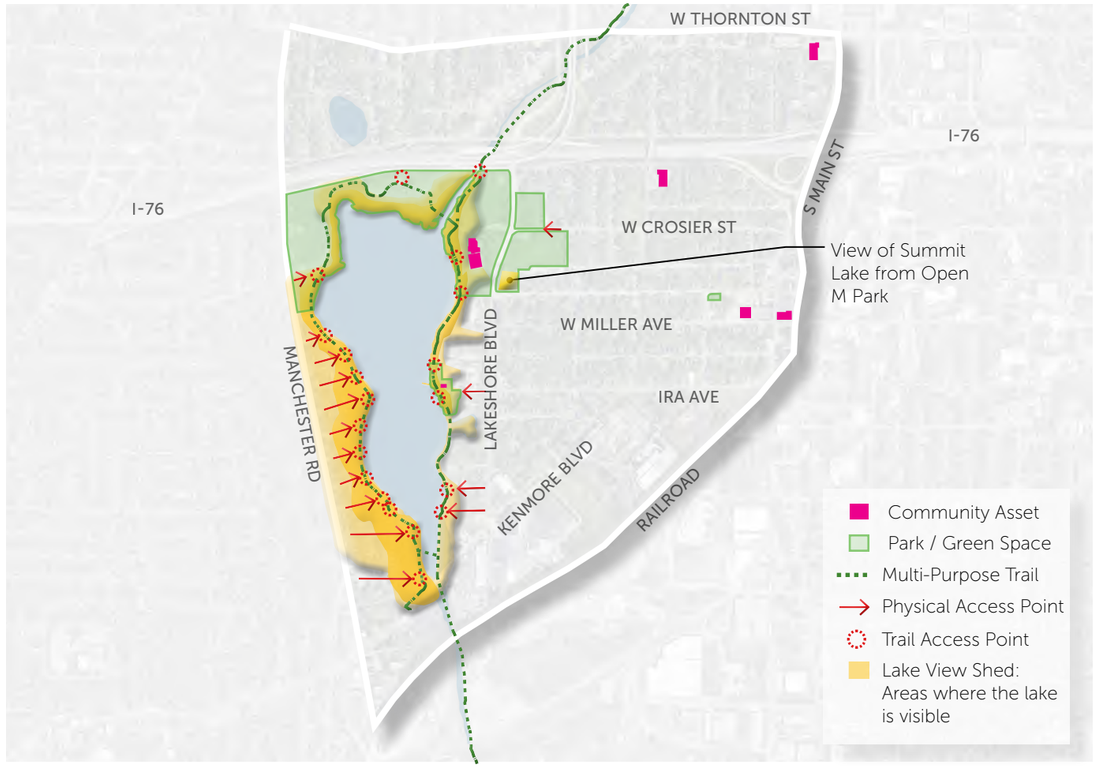
- Community Member (Summit Lake Choice Plan)



DISTRICTS + ASSETS

Summit Lake is largely a residential community edged by commercial and industrial uses to the south and east. The neighborhood benefits from close proximity to Downtown Akron and the Kenmore historic district. It also contains several valuable community assets: Summit Lake, Summit Lake Nature Center, Community Center and Reach Opportunity Center, Summit Lake Trail, connection to the Ohio and Erie Canal Towpath, and the upcoming North Shore park.

A large portion of the neighborhood sits within a 5-15 minute walk of these resources. Their value and use could benefit greatly from safety improvements, improved access and links, and an enhanced experience along Lakeshore Boulevard.

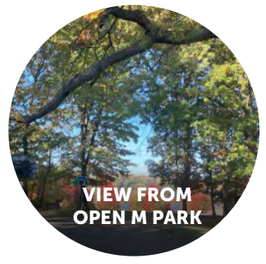


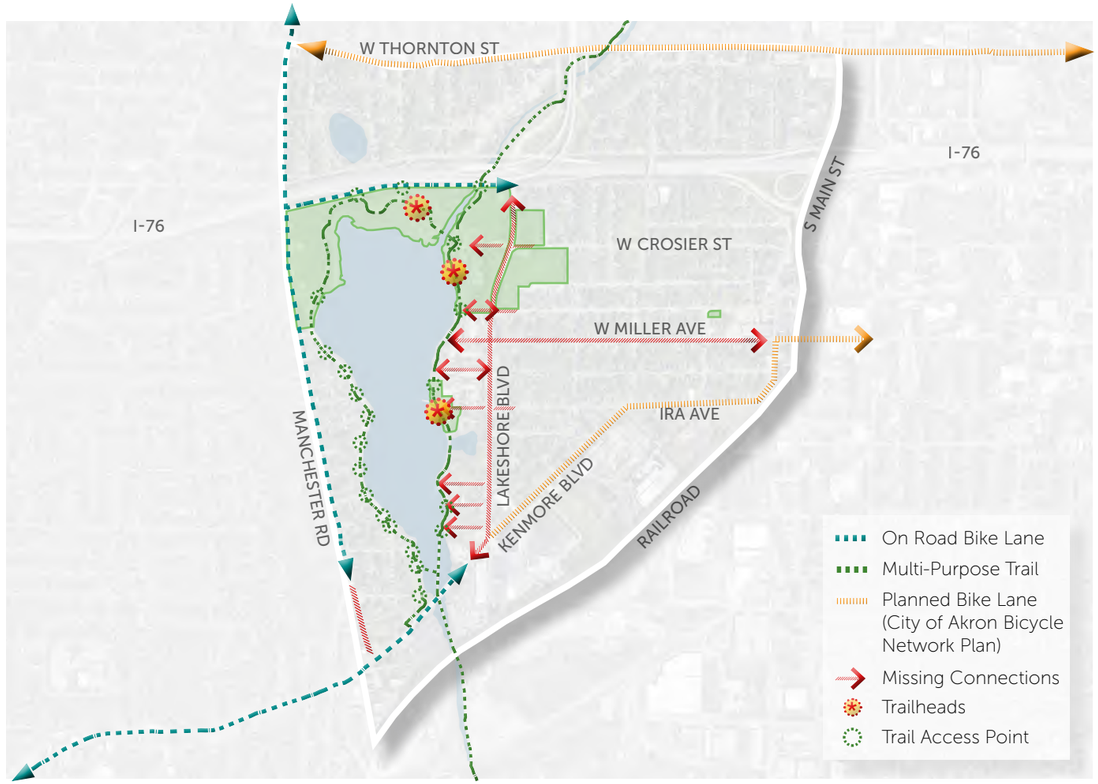
LAKE ACCESS

The lake is an important anchor to the Summit Lake neighborhood. The west side of the neighborhood benefits from access and views to the lake all along the western shore. Awareness of the lake extends as far as Manchester Rd. with views down nearly every street.

Though the east side of the lake contains many important lakeside assets, access points are limited. Topography, foliage, housing, and lack of safe passage for non-motorists challenge physical and visible connections to the lake. Consequently, there is minimal awareness of the lake's presence along Lakeshore Boulevard and the surrounding neighborhood.

Consideration should be given to increasing access points on the east side, strengthening connections to the north, and celebrating the presence of the lake throughout the neighborhood.





BICYCLE + TRAIL NETWORK

The Summit Lake neighborhood boasts the Summit Lake trail around the lake, connection to the Ohio & Erie Canal Towpath, and bike lanes along Kenmore Blvd. and Manchester Rd, as well as a one-way bike lane along a portion of South St. Possible extension of lanes along Kenmore and future bike lanes on W Thornton are included in Akron's Bicycle Plan.

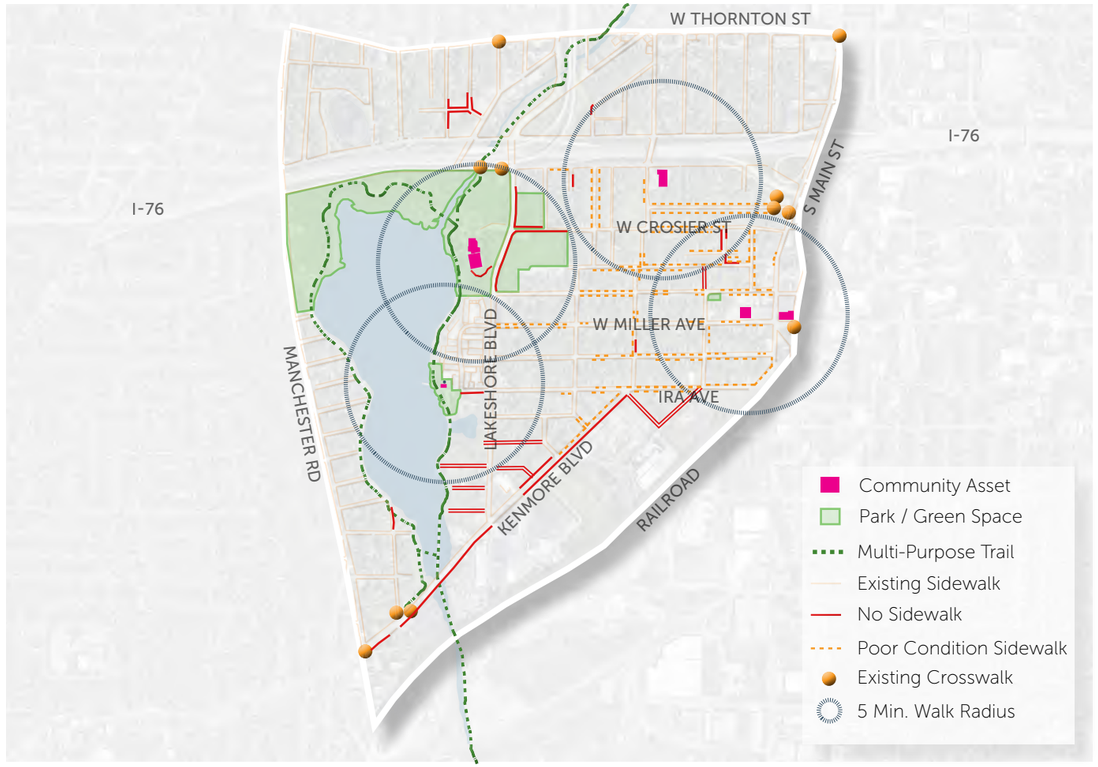
Safe bike access to the towpath and multi-purpose trail on the east side are limited by the lack of connections and safe routes through the neighborhood. Missing connections give the trail a sense of bypassing the neighborhood. Additionally, portions of the neighborhood's bike network contain gaps. Consideration should be given to filling these gaps, enhancing the safety and priority of existing bike lanes, and providing safe routes and increased access to the multi-purpose trail, as well as to neighborhood destinations.


SUMMIT LAKE NATURE CENTER TRAILHEAD


TOWPATH GATEWAY


LEWIS ST CONNECTOR


TRAIL UNDER I-76 / I-77




ENTRY TO COMMUNITY CENTER


ALONG LAKE SHORE


TYP. SIDEWALK NORTH OF I-76/I-77


CROSIER (NO SIDEWALK)

PEDESTRIAN NETWORK

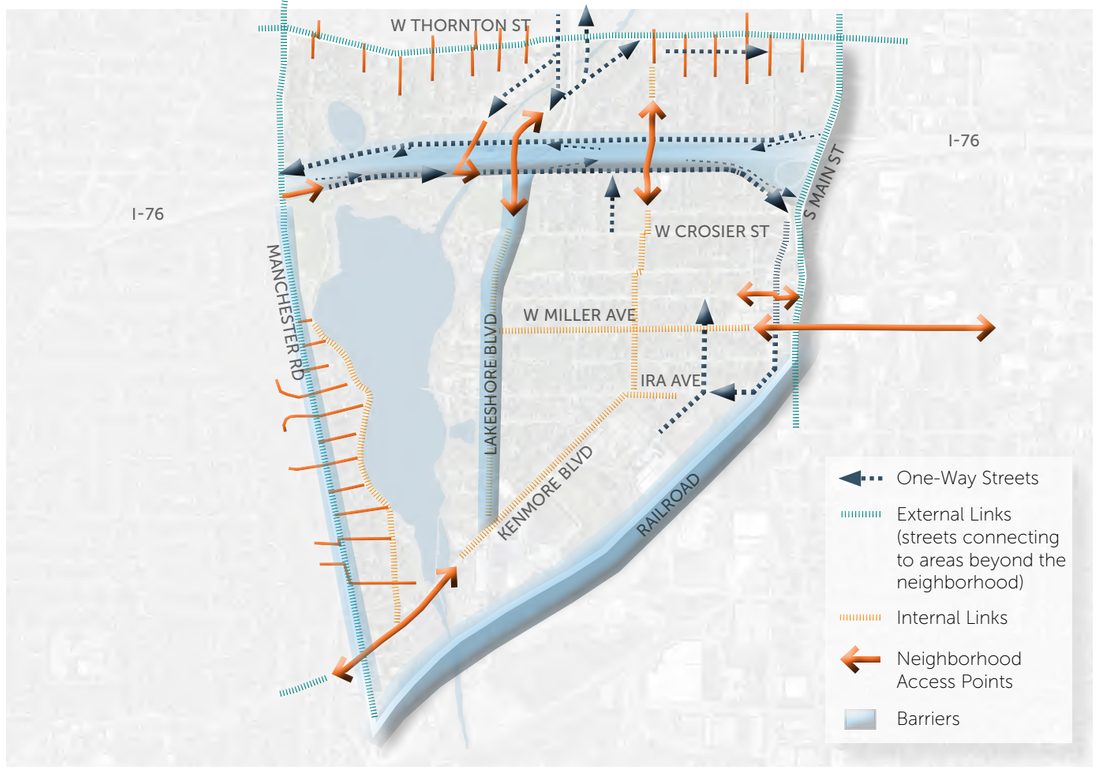
While most of the neighborhood has sidewalks, pedestrian travel is challenged by missing sidewalks at key destinations and safe crossings over busy streets. Additionally, in many areas, the existing sidewalk is in need of repair or is crowded by overgrown vegetation. The sidewalk network is generally in better condition on the west side of the lake and north of I-76.

The lack of crosswalks within the neighborhood decreases the ease of access to the lake and community assets, especially the Reach Opportunity Center and the Community Center, as well the upcoming North Shore Park. Priority should be given to improving pedestrian access to these locations as well as to commercial / retail on the east end and within the neighborhood.

TRANSIT NETWORK

Three Akron Metro bus routes traverse through or along the edge of the Summit Lake neighborhood: Bus Route 29, which connects Coventry township to downtown Akron; Bus Route 40, which connects the northern part of the neighborhood to Downtown Akron; and Bus Route 8, which runs along Lakeshore Boulevard from Downtown out to Barberton and Norton.

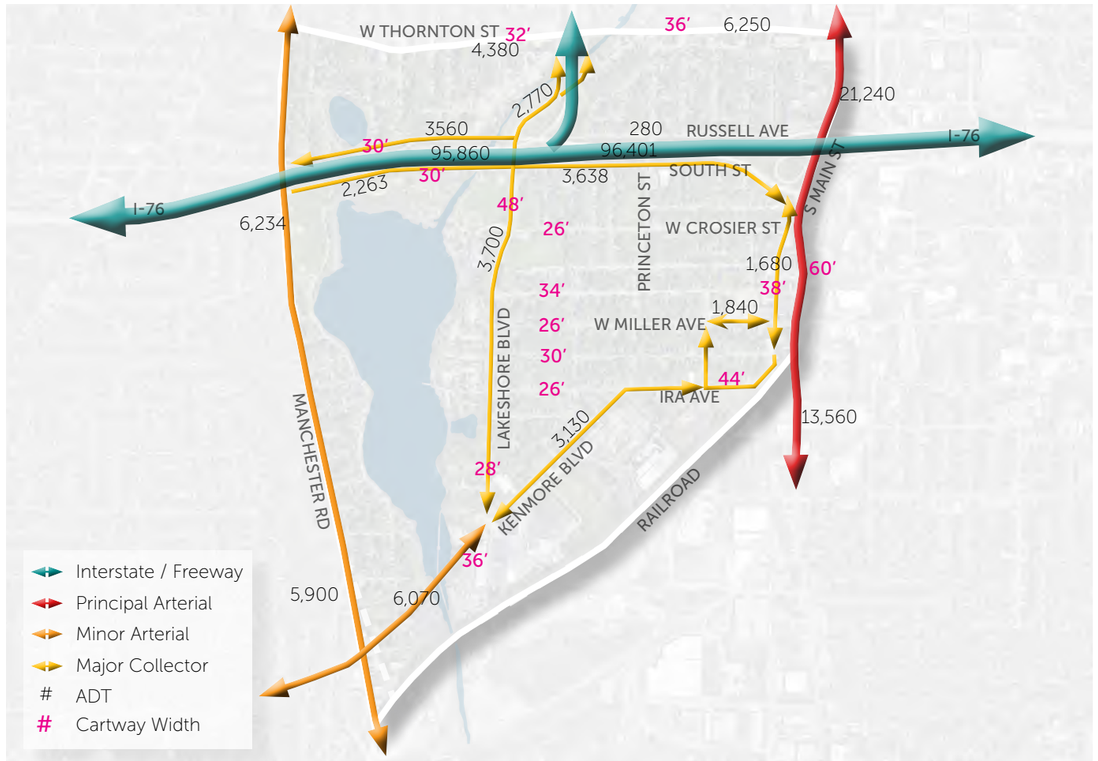
The highest use transit stops (greater than 3,000 alights and/or boardings) occur along Lakeshore Boulevard, near the intersection of W Miller and S Main, and close to the intersection of Princeton and W Thornton. It will be important to improve access and safety to these pedestrian "hot spots" and consider how other stops might have higher use with improved pedestrian access.

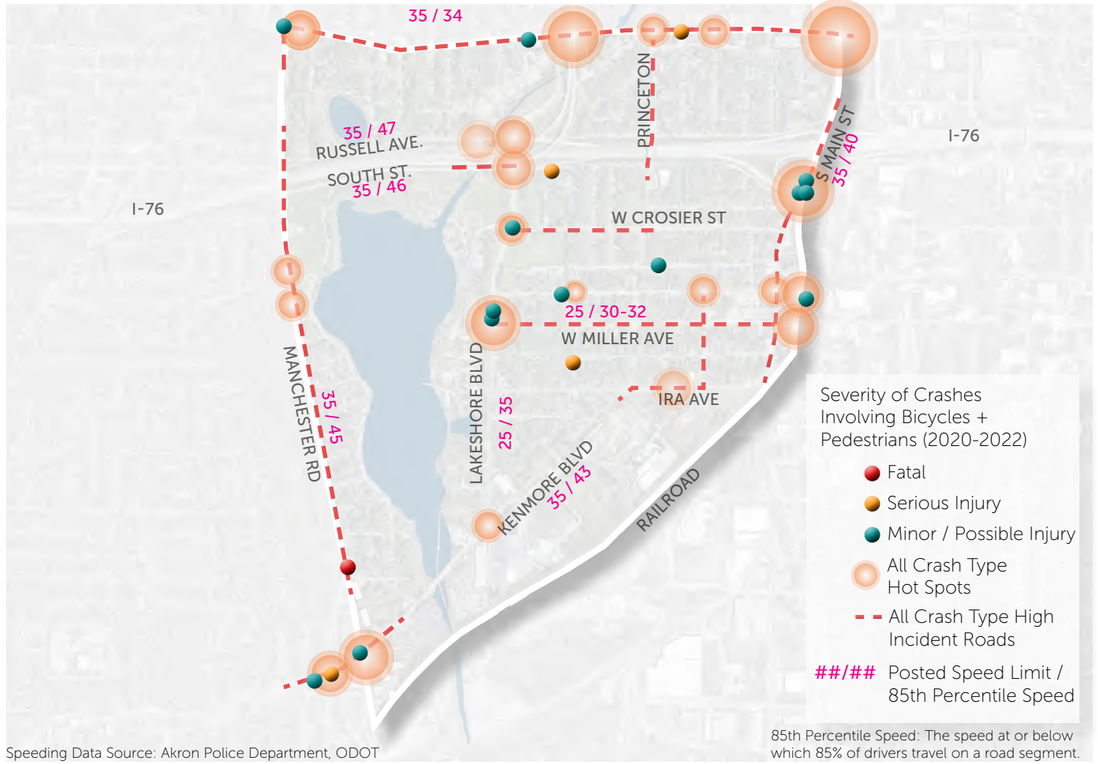


LINKS AND ACCESS

The I-76 highway cutting through the north end as well as the railroad to the south and east are barriers to neighborhood access. The neighborhood has limited east-west and south-west connections to streets that extend beyond the area. In contrast, most of the neighborhood west of the lake and north of I-76 are well connected to external links.

A series of one-way streets make the neighborhood difficult to navigate. The lack of safe multi-modal east-west connections across Lakeshore Boulevard classify this street as a barrier to lake access and community connections. There is opportunity to enhance existing links, increase east-west links, and reconfigure one-way streets to strengthen Summit Lake's connection to the Greater Akron fabric.





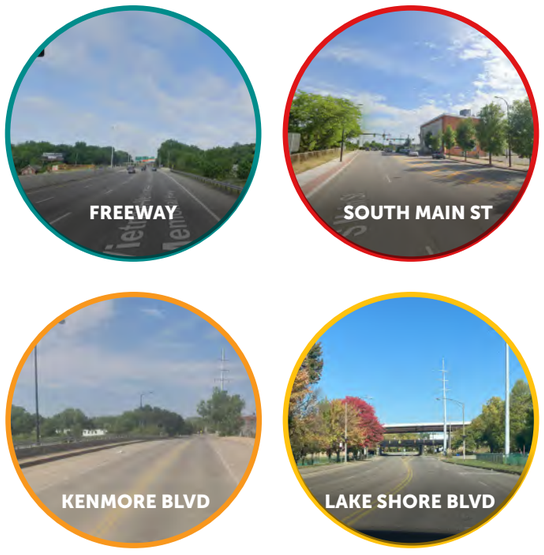
Speeding Data Source: Akron Police Department, ODOT

85th Percentile Speed: The speed at or below which 85% of drivers travel on a road segment.

FUNCTION + VOLUME

Analysis of Summit Lake's roadway infrastructure in comparison to traffic counts (ADT) shows many oversized cartways (pavement width) that were built for higher traffic capacities than Summit Lake is currently experiencing. In particular, the width of the northern portion of Lakeshore Boulevard makes crossing over to the lake and its amenities difficult.

Many internal neighborhood streets are oversized with low traffic counts and contribute to neighborhood complaints of speeding - and consequently, decreased pedestrian safety. Yet, there is great opportunity within the right of way, as well as the wider cartway for road diets, landscape bumpouts, and on-road bicycle infrastructure.



CRASH + SPEEDING DATA

Crash data reveals several high incident roads and crash "hot spots." A hot spot intersection is defined as a concentrated area with greater than 3 crash incidents (per the AMATS Discovery Map). Some of the more concerning areas involving pedestrian related crashes include: the W. Miller / Lakeshore Blvd. intersection; South Main / W. Miller intersection; and the W. Crosier St. / Lakeshore Blvd. intersection - all which are crossing points to neighborhood destinations.

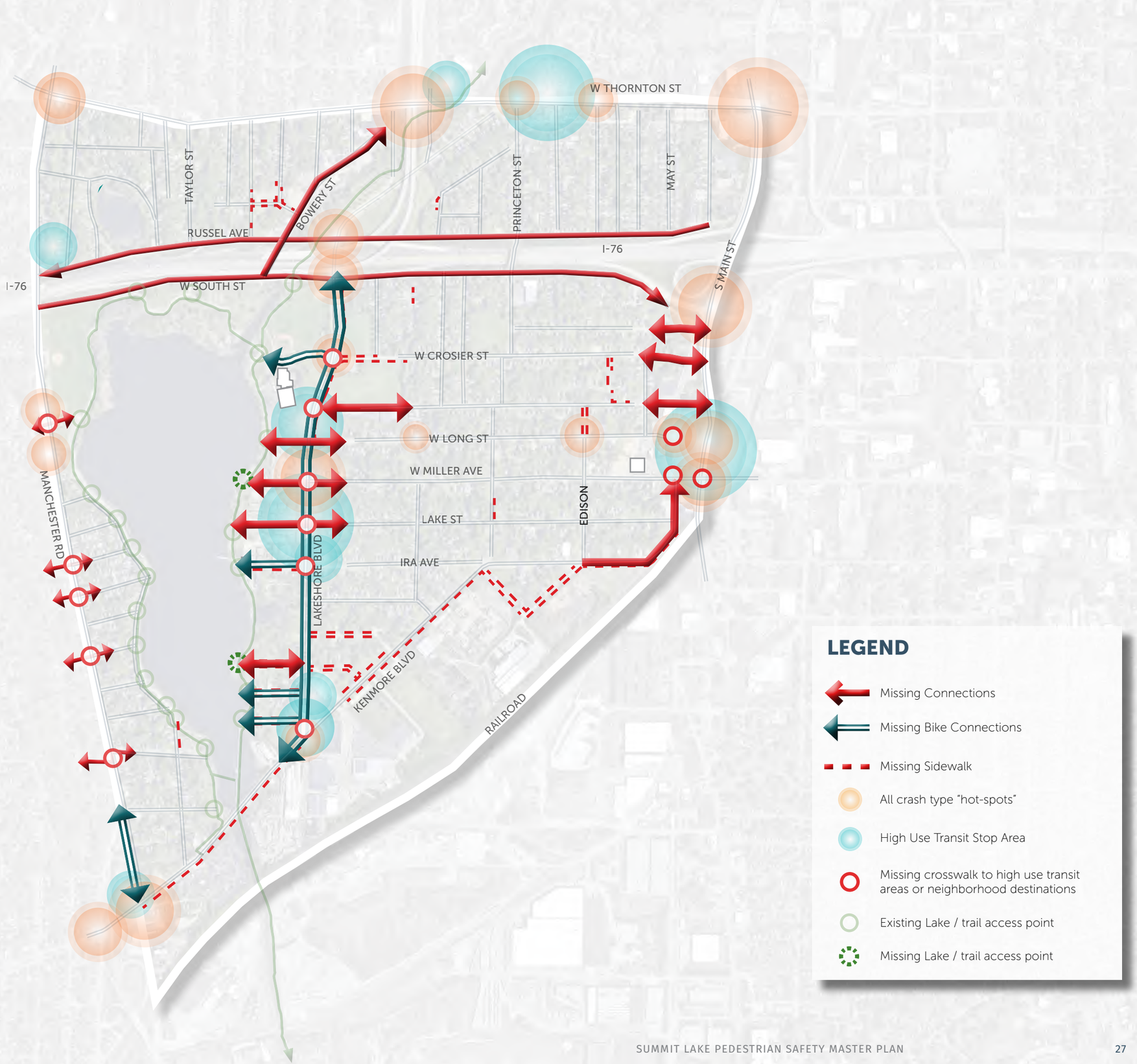
Lack of pedestrian safeguards, oversized streets, and complicated traffic patterns likely contribute to the high incident roads and intersections. Residents have complained about speeding within the neighborhood, particularly on Lakeshore Boulevard, W Miller, Princeton, and Long. Though limited, the available speeding data supports residents insights and reveals other streets where speeding occurs.

MISSING CONNECTIONS

The Summit Lake neighborhood contains many valuable community assets and activity generators, especially along the lake. These need to be highlighted and better connected to create logical paths of movement as well as access where physical and visual links are currently limited or non-existent.

Several missing connections and points of conflict have emerged from the analysis process. This diagram combines multiple layers of information to reveal the gaps in the safety and connectivity of the Summit Lake neighborhood. The confluence of high-use transit areas and high-incident traffic areas reveals several priority areas for traffic calming measures and pedestrian safety enhancements.

East-west connections across Manchester, Lake Shore Boulevard, and Old Main lack physical and visual links, as well as safe crossings. North-south links continue to be challenged by the I-76 highway and associated one-way street configurations. These gaps most impact the east side of the lake, where priority consideration should be given to safe street design, enhanced connections, and traffic calming measures.



3 | TRANSFORM

Connecting People and Places: Establishing the Recommended Approach

RECOMMENDED APPROACH

The identification of Missing Links in the Summit Lake Neighborhood begins to reveal, not only gaps, but opportunities and Key Connections in the neighborhood. Building on the "Understand" phase of analysis, the "Transform" portion of the report builds out a recommended process and approach to applying traffic calming measures to Summit Lake. In the development of this process and conversations with the City of Akron, the question arose: How can the work done here in Summit Lake position this neighborhood to be a front-runner in pedestrian safety that sets the tone for future initiatives in Akron?

The team identified the value of an implementation process that was applicable and specific to Summit Lake *and* applicable to other areas and neighborhoods in Akron. From this arose the development of a Traffic Calming Toolkit and accompanying guides which include:

- **Key Connections Map**
  (Seeing the missing links as opportunities to guide the development of this initiative)
- **Traffic Calming Toolkit**
  (A menu of traffic calming tools available for application and use. Please see appendix for crash and speed reduction data sources)
- **Dynamic Toolkit Chart**
  (At-a-glance data and decision making chart)
- **Outlined Implementation Process**
  (When and where to apply tools? A guide to implementation.)
- **Scoring Criteria**
  (Setting data-driven priorities)

The Transform section of the report begins and ends with the Summit Lake Neighborhood. Yet the majority of this section will focus on traffic calming at a larger scale: establishing the processes, tools, and criteria that have application across Akron, before specifically applying these to the Summit Lake neighborhood.

In establishing the following guide, the consideration of best practices from other places and national standards can help to inform relevant design approaches and solutions. Towards this end, the Federal Highway Administration was one of the main resources referenced for traffic calming best practices and accepted guidelines. The Appendix at the end of this report lists the specific resources from which the data used in this guide is referenced. The resulting traffic calming toolkit is not an exhaustive list of all possible traffic calming measure, but includes those measures which the City of Akron is willing to utilize and assess for applicability in local areas.

Key to understanding this guide is that the traffic calming toolkit and process outlined in the following pages is meant for initiatives at the neighborhood scale. While some tools are applicable to larger scale roadway projects, this process is intended for streets at the level of: neighborhood / local streets, network collectors, and some minor arterials. As such, it is recommended that this guide be used in areas and neighborhoods like Summit Lake to improve pedestrian safety and neighborhood connectivity.

The recommendations made later in this plan will focus on the specific interventions in Summit Lake that are born out of the Traffic Calming Toolkit guide, analysis from the Understand section, and the community feedback and work done in previous initiatives.

KEY CONNECTIONS

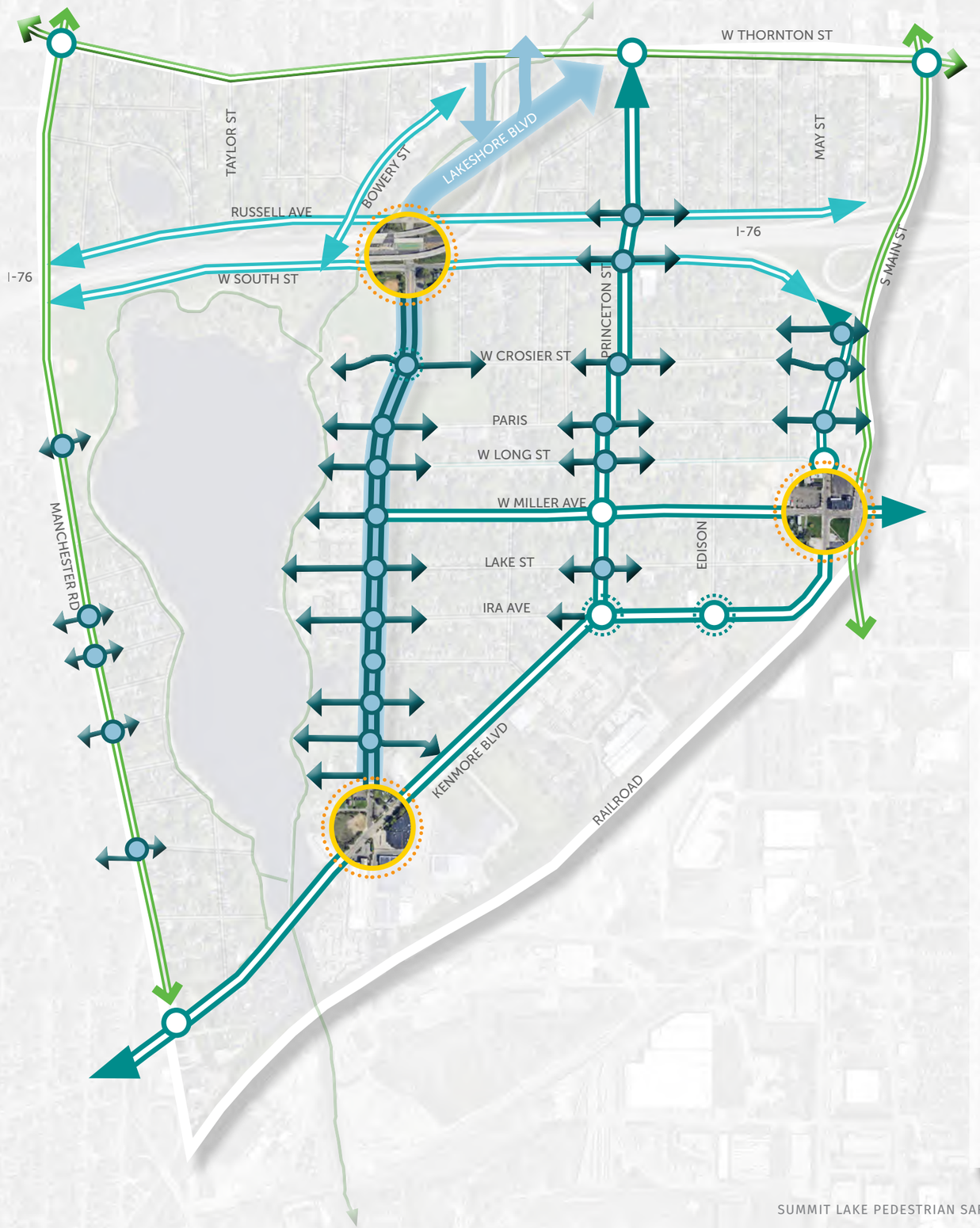
The analysis process revealed where there is opportunity to enhance safety, walkability, and access. Building on the analysis findings, this map identifies assets and corridors for potential development, guided by the Community Priorities.

The process has identified gateways (yellow circles on the map) where a clear sense of direction and wayfinding is important. A distinct sense of arrival and communication of neighborhood character should be emphasized at each of these points.

Primary external and internal corridors (green and blue double lines) connect Summit Lake to local and regional assets. These should be assessed for traffic calming measures, improved streetscape design, enhanced crossings, and improved pedestrian and cyclist experience. Lakeshore Boulevard is an important north-south spine that has the potential to play a key role in improving neighborhood connectivity and should be given special consideration along its length.

Princeton, W Miller, and Kenmore are important secondary spines. In the east-west direction, W Miller has the potential to be a front door to the neighborhood that strengthens connection to the lake. Consideration should also be given to studying Bowery, Russell Ave, and W South to improve traffic flow and access as they are barriers in their present configurations.

The dark blue circles are intersections where enhanced crossings would improve safety and access across and along key corridors - as well as awareness of the lake's presence and value in the neighborhood. The resulting planning recommendations will be founded on the opportunities uncovered by this map.



COMMUNITY PRIORITIES

- Make streets **PEDESTRIAN AND BIKE FRIENDLY.** Enhance walkability, safety, and accessibility.
- **RECONNECT RESIDENTS TO THE LAKE**. Improve multi-modal access and connections to Summit Lake and adjacent amenities.
- **CREATE SAFE PASSAGEWAYS** and improved linkages to neighborhood destinations.
- **CREATE GATEWAYS** that connect the larger Summit Lake neighborhood, internally and to destinations beyond Summit Lake.

LEGEND

- Gateways
- **Improve Lakeshore Boulevard**
- Enhance Internal Corridors and Strengthen Connections
- Enhance External Corridors
- Consider Traffic Flow Reconfiguration For Increased Access
- Proposed Links to be Enhanced or Added
- Enhanced Crossings
- Potential Intersection Enhancements
- Existing Multi-Purpose Trail

TRAFFIC CALMING TOOLKIT

INTRODUCTION

The following toolkit is intended to be a 'menu of options' of traffic calming measures, or 'tools', for use throughout Akron, with a specific focus on the Summit Lake neighborhood. Inclusion of a tool does not necessarily suggest recommendation of that tool for the Summit Lake neighborhood. The traffic calming tools shown in this chart and the proceeding pages are organized into the following categories:

Type 1 Awareness and Education
Signage and speed monitoring devices that are intended to increase driver awareness of speed and neighborhood safety desires.

Type 2 Pavement Markings
Either paint or thermoplastic markings applied directly to the roadway. Markings that are inherently included with other traffic calming devices are not shown as separate tools.

Type 3 Horizontal Deflection
Horizontal shifts in the roadway that prevent motorists from driving in a straight path and/or adjust their path of travel, causing them to slow down and navigate the road more carefully.

Type 4 Vertical Deflection
Elements that create a change in height of the roadway that forces motorists to slow down to maintain an acceptable level of comfort.

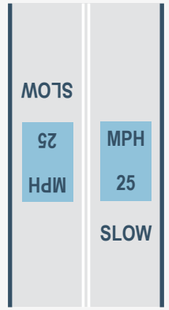
Type 5 Signalization
Electronic traffic control devices that manage and regulate traffic flow at pedestrian crossings and/or increase driver awareness of pedestrians.

Type 6 Street Improvements
Additional techniques that do not fall under the previous categories. These include conversions and improvements along roadways that contribute to multi-modal safety.

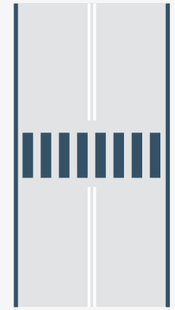
T1: YARD + INFO SIGNS

T1: SPEED SIGNAGE

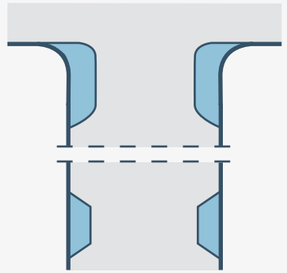
T2: SPEED LIMIT / "SLOW" MARKINGS



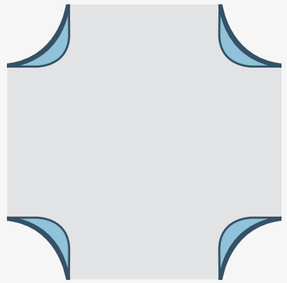
T2: HIGH VISIBILITY CROSSWALK



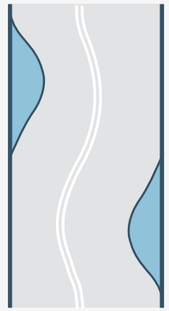
T3: CURB BUMPOUT



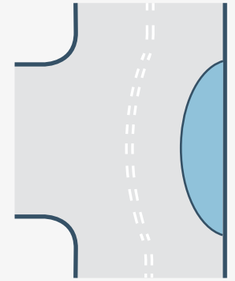
T3: CORNER RADIUS REDUCTION



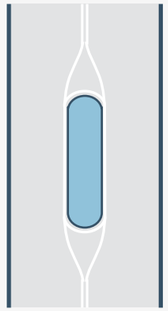
T3: CHICANE STANDARD



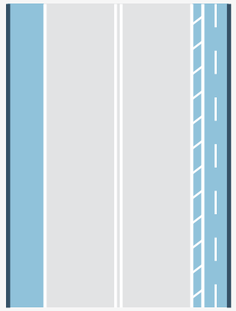
T3: T-INTERSECTION



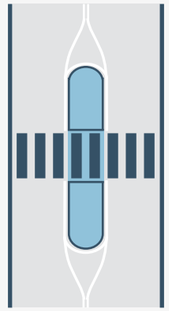
T3: MEDIAN



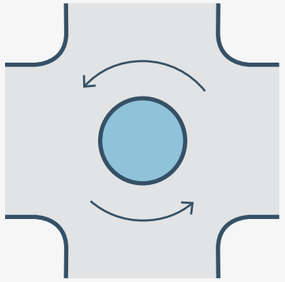
T3: ROAD DIET



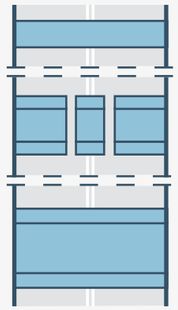
T3: PEDESTRIAN REFUGE ISLAND



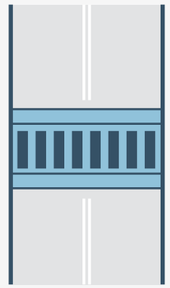
T3: ROUNDABOUT



T4: SPEED HUMPS/CUSHIONS/TABLES

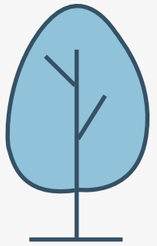


T4: RAISED CROSSWALK



T5: SIGNALIZATION

T6: STREET IMPROVEMENTS

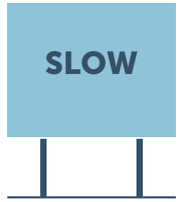


T1: AWARENESS + EDUCATION

EDUCATIONAL SIGNS

Yard signs can be placed on residential and commercial properties with messages encouraging drivers to slow down, drive with caution, and look out for others. Educational signs can be placed at pilot locations to help users understand effectiveness, use, and processes for implementation. Though their impact is low, yard and educational signs are a low cost way to educate the community and raise awareness about traffic calming projects.

Speed Reduction: No Data
Crash Reduction: No Data
Maintenance: Low
Impact to City Services: None
Cost Scale: Low
$4-8/Yard Sign; $110/A-Frame Sign



ADDITIONAL SPEED SIGNAGE

Additional speed signage is a low-cost, low-impact way to increase driver awareness and remind them of the posted speed limit. Although, Dynamic feedback or radar speed signs are a more effective traffic calming measure.

Speed Reduction: No Data
Crash Reduction: 5%
Maintenance: Low
Impact to City Services: None
Cost Scale: Low $400 / Sign

COMMUNITY INVOLVEMENT - YARD SIGNS

INFORMATION SIGNS AT TESTING LOCATIONS

INFORMATION SIGN AT TESTING LOCATION

POSTED SPEED LIMIT SIGN

MOBILE PATROL RADAR SIGN

PORTABLE SIGN-MOUNTED RADAR SIGN

DYNAMIC FEEDBACK SIGN

Dynamic Feedback signs are used to measure and give feedback on the speed of approaching vehicles. They may be mobile patrol stands or portable sign-mounted radars. They can serve as both a traffic calming and data collection tool.

Speed Reduction: 0-7 MPH
Crash Reduction: 0-10%
Maintenance: Low to Medium
Impact to City Services: None
Cost Scale: Medium
$3,049 / Portable Radar Sign
$7,000 / Mobile Radar Sign

Variations: Mobile Patrol Stand, Mobile Sign, Solar powered or hard-wired

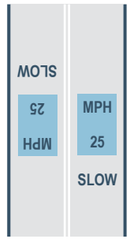
T2: PAVEMENT MARKINGS

SPEED LIMIT / "SLOW" MARKINGS

Speed limit markings are best used as an awareness tool. "SLOW" markings should be located in key areas with high pedestrian activity and key pedestrian generators (typically near schools). *Note that overuse of these symbols decreases their effectiveness.

Speed Reduction: 0-3 MPH
Crash Reduction: 38%
Maintenance: Low
Impact to City Services: None
Cost Scale: Low $400 / Each

Variations: Paint, Thermoplastic
Rapid Build: Spray Paint, Removable Paint, Stencils



SPEED LIMIT PAVEMENT MARKING

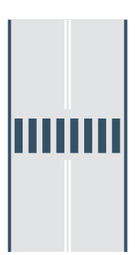
"SLOW" PAVEMENT MARKING

HIGH VISIBILITY CROSSWALK

High visibility crosswalks should be placed in areas with high pedestrian use such as recreation areas, schools, transit stops, and commercial districts. Consideration should also be given to key neighborhood routes to these activity zones.

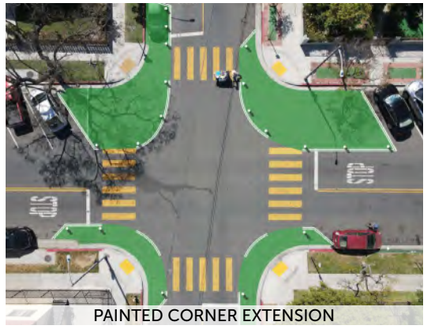
Speed Reduction: 1-3 MPH
Crash Reduction: 19-40%
*More effective when paired with yield markings, lighting, pedestrian activated signals, and signage
Maintenance: Low
Impact to City Services: Low
Cost Scale: Low $12 / SF
$5,000 / Pair

Variations: Paint, Thermoplastic, Various styles of crosswalks
Rapid Build: Spray Paint, Removable Paint, Tape




PAINTED CROSSWALK

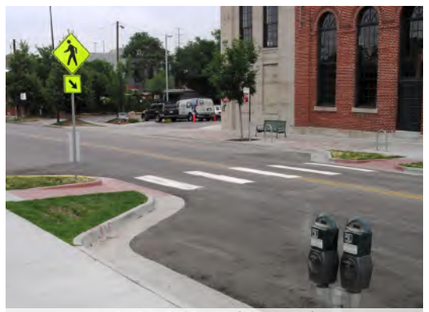

HIGH VISIBILITY CROSSWALK



PAINTED CORNER EXTENSION

CURBED CORNER EXTENSION

RAPID-BUILD CHOKER (MID-BLOCK)


CURB CHOKER (CHOKER)

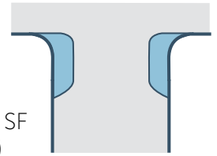
T3: HORIZONTAL DEFLECTION

CORNER EXTENSION / BULBOUT

Corner extensions can provide protected parking lanes, reduced crossing distances for pedestrians, and reduced speeding through intersections. They can come in a variety of forms from painted areas to built out curbs with landscape.

Speed Reduction: 1-4 MPH
Crash Reduction: 15%
Maintenance: Medium
Impact to City Services: Medium
Cost Scale: Medium - High $15-24 / SF
$12,000 - 40,000 (depending on size)

Variations: Striping, Material Change, Mountable Curb, Painted, Concrete, Landscaped
Rapid Build: Paint, Striping, Traffic Cones, Lane Delineators, Planters, Temporary Curb

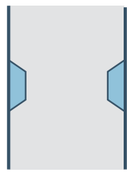


CHOKER: MID-BLOCK EXTENSION

Mid-block curb bump outs ("chokers") reduce the crossing distance for pedestrians, make them more visible to drivers, and narrow the roadway to slow vehicles. They should be placed at key pedestrian crossing locations.

Speed Reduction: 1-4 MPH
Crash Reduction: No Data
Maintenance: Medium
Impact to City Services: Medium
Cost Scale: Medium - High $15-24 / SF
$10,000 - 25,000 (depending on size)

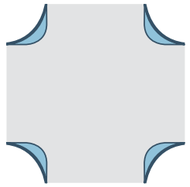
Variations: Striping, Material Change, Concrete, Landscaped
Rapid Build: Paint, Striping, Traffic Cones, Lane Delineators, Planters, Temporary Curb



CORNER RADIUS REDUCTION

Corner radius reduction helps slow traffic and reduce accidents by creating tighter turns at intersections. They also reduce crossing distances for pedestrians and improve their visibility to drivers. Typically, these are best avoided in areas with high truck traffic.

Speed Reduction: No Data
Crash Reduction: 40%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium - High $15-24 / SF

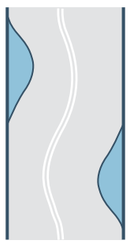


Variations: Striping, Material Change, Mountable Curb
Rapid Build: Paint, Traffic Cones, Lane Delineators, Planters, Temporary Curbs

CHICANE

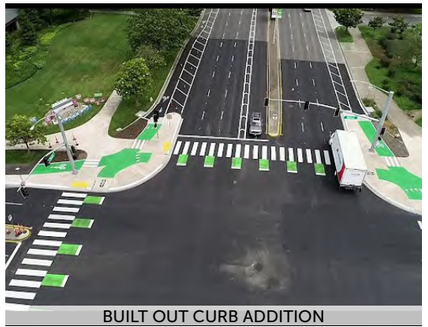
Chicanes are curb extensions that often alternate from side to side forcing vehicles to slow to navigate the non-linear path of travel. They also create a pinch point which slows drivers as well.

Speed Reduction: 3-9 MPH
Crash Reduction: No Data
Maintenance: High
Impact to City Services: High
Cost Scale: Medium - High $15-24 / SF
$10,000 - 30,000 (depending on size)



Variations: Striping, Concrete, Landscaped
Rapid Build: Paint, Striping, Traffic Cones, Lane Delineators, Temporary Curb

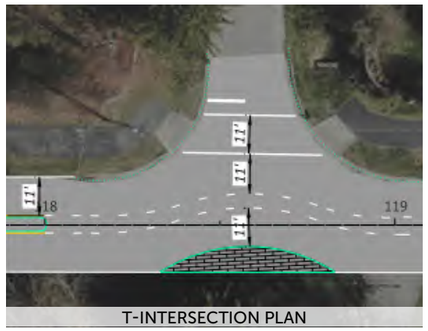
RAPID BUILD



BUILT OUT CURB ADDITION

RAPID-BUILD CHICANE

LANDSCAPED CURB CHICANE



T-INTERSECTION PLAN

HALF CHICANE AT T-INTERSECTION

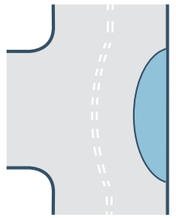
RAPID-BUILD MEDIAN

LANDSCAPED CURB MEDIAN

CHICANE: HALF T-INTERSECTION

Half T-intersection chicanes are curb extensions at T-intersections that slow traffic through the intersection by removing straight paths through the intersection.

Speed Reduction: 5-13 MPH
Crash Reduction: No Data
Maintenance: Medium
Impact to City Services: Medium
Cost Scale: Medium - High $15-24 / SF
$10,000 - 30,000 (depending on size)

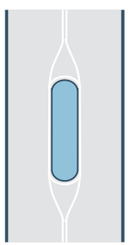


Variations: Striping, Concrete, Landscaped
Rapid Build: Paint, Striping, Traffic Cones, Lane Delineators, Temporary Curb

CHICANE: MEDIAN

Medians help to reduce roadway width and slow traffic. They can be used in combination with standard chicanes or can double as a pedestrian refuge island for shortened crossings.

Speed Reduction: 1-8 MPH
Crash Reduction: 0-44%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium - High $15-24 / SF
$15,000 - 60,000 (depending on size)

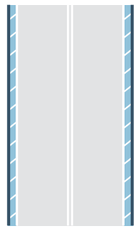


Variations: Striping, Concrete, Landscaped
Rapid Build: Paint, Striping, Traffic Cones, Lane Delineators, Temporary Curb

ROAD DIET - LANE NARROWING

When roadway lanes are narrowed, the sense of friction and risk causes drivers to slow down. This can be accomplished in various ways from temporary paint to center and edge line striping. Lane narrowing can also create space for on-street facilities such as bike lanes or street parking.

Speed Reduction: 1-4 MPH
Crash Reduction: 24%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium $6 / LF Striping
$5,000-30,000 / Mile



Variations: Center and Edge line Striping, Medians, On Street Parking, Bike Lanes
Rapid Build Options: Spray Paint, Paint, Tape, Striping, Traffic Cones, Lane Delineators

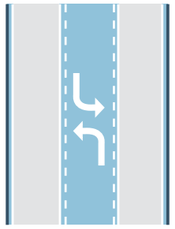
TAPED EDGE LINES FOR NARROWING

RE-STRIPING CENTER AND EDGE LINES

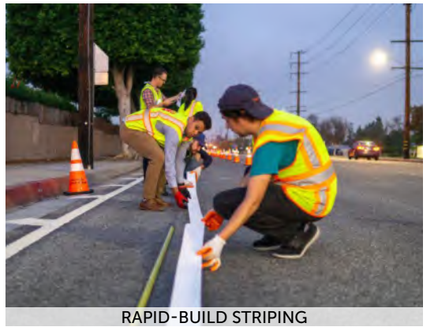
ROAD DIET - LANE REDUCTION

Lane reductions can improve safety and comfort, reduce speeds, and increase sight distances for turning vehicles. A more typical type is the reduction of a four lane road to 3 (two way with a center turn lane). This tool should be considered for roadways with documented safety concerns, moderate volumes (15,000-25,000 ADT), and along priority bicycling and walking routes.

Speed Reduction: 1-4 MPH
Crash Reduction: 17-62%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium-High
$6 / LF Striping
$10,000-50,000 / Mile



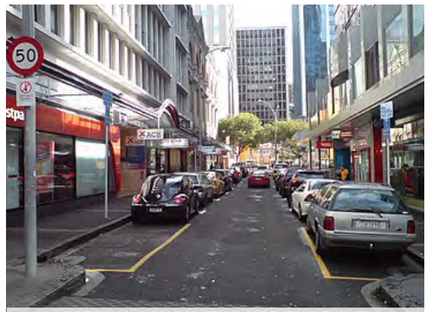
Variations: Lane Quantity Reduction, Striping, Medians, On Street Parking, Bike Lanes
Rapid Build Options: Spray Paint, Paint, Tape, Striping, Traffic Cones, Lane Delineators



RAPID-BUILD STRIPING

ROAD DIET WITH MEDIAN, PARKING LANE, ETC.

PARKING LANE STRIPING



PARKING LANE WITH CURB BUMPOUT

POP-UP BIKE LANE

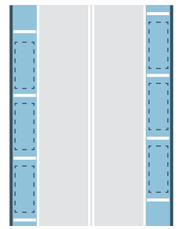
PROTECTED BIKE LANE

T3: HORIZONTAL DEFLECTION

ROAD DIET - ON STREET PARKING

On street parking creates visual friction for drivers that slows their speed. It can be as simple as adding a striped line to delineate a parking lane. Note that effectiveness depends on parking need and actual usage.

Speed Reduction: 1-5 MPH
Crash Reduction: 52%
Maintenance: Low
Impact to City Services: Low
Cost Scale: Medium-High
$6 / LF Striping
$10,000-50,000 / Mile

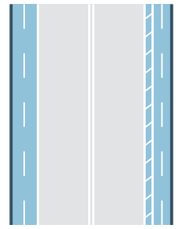


Variations: Parallel vs. Angled, Striping vs. Buffered with curb bumpouts
Rapid Build Options: Spray Paint, Pavement Paint, Roadway Striping, Tape

ROAD DIET - BIKE LANE

Bicycle lanes can be created by reallocating right-of-way. They may be protected (separated from driving lanes with various forms of vertical deflection) or unprotected (as simple as roadway markings). Consideration should be given to roadway characteristics, traffic volume, users, links in existing bike infrastructure.

Speed Reduction: 1-4 MPH
Crash Reduction: 30-53%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium - High
$4-10 / LF
$10,000-50,000 / Mile

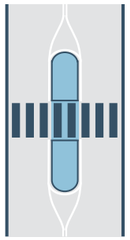


Variations: Protected (more effective) vs. Unprotected Bike Lane
Rapid Build: Chalk, Paint, Striping, Sharrows, Traffic Cones, Lane Delineators, Temporary Curb, Signage

PEDESTRIAN REFUGE ISLAND

Refuge islands are medians with a refuge area that helps protect pedestrians crossing a multi-lane road. They are best for mid-block pedestrian crossings on roads with four or more travel lanes, where speed limits are 35 MPH or greater, and/ or where ADT is 9,000 or higher. They should be paired with a high visibility crosswalk. .

Speed Reduction: 1-8 MPH
Crash Reduction: 32%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium - High $15-24 / SF
$3,000-40,000 (depending on size)



Variations: Striping, Concrete, Landscaped
Rapid Build: Paint, Traffic Cones, Lane Delineators, Temporary Curb

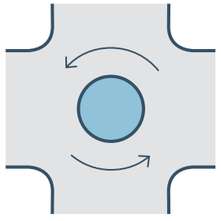
RAPID BUILD REFUGE ISLAND

LANDSCAPED REFUGE ISLAND

MINI-ROUNDABOUTS

Mini-roundabouts provide horizontal deflection at intersections which slow vehicle drivers. They are typically installed on local or neighborhood streets and often have stop signs in two directions. They are most effective in a series.

Speed Reduction: 5-13 MPH
Crash Reduction: 39%
Maintenance: Medium
Impact to City Services: High
Cost Scale: Medium - High
$15-24 / SF $15,000 - 50,000



Variations: Concrete, Landscaped
Rapid Build: Spray Paint, Asphalt Paint, Striping, Traffic Cones, Lane Delineators, Temporary Curb, Signage

RAPID BUILD MINI ROUNDABOUT

LANDSCAPED MINI ROUNDABOUT

MINI ROUNDABOUT

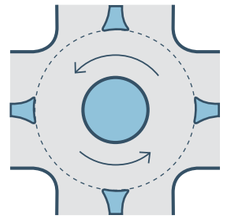
ROUNDABOUT

T3: HORIZONTAL DEFLECTION

ROUNDABOUT

Roundabouts provide larger scale horizontal deflection at intersections, which slow drivers. They are more appropriate on higher volume roads and most effective when more than one is used.

Speed Reduction: No Data
Crash Reduction: 20-40%
Maintenance: High
Impact to City Services: Low
Cost Scale: High $15-24 / SF
$200,000+ (depending on size)

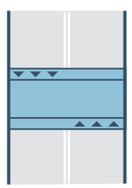


Variations: Concrete, Landscaped
Rapid Build: N/A

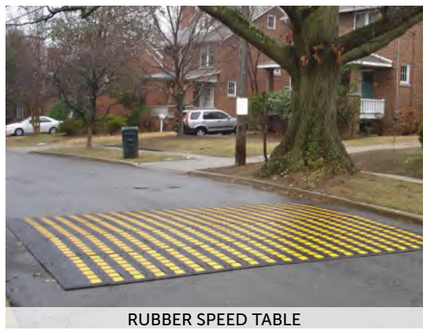
SPEED TABLE

Speed Tables are raised sections of asphalt that are typically used to slow speed on residential streets. Their spacing and profile help prevent hard braking and accelerating patterns.

Speed Reduction: 4-11 MPH
Crash Reduction:33-64%
Maintenance: High
Impact to City Services: High
Cost Scale: Medium
$6,000-15,000



Variations: Raised Crosswalk
Rapid Build Options:
$8,000 / Rubber Speed Table



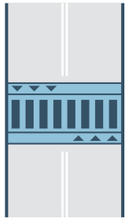
RUBBER SPEED TABLE

ASPHALT SPEED TABLE

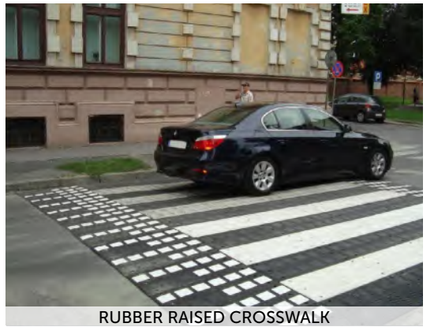
RAISED CROSSWALK

Raised crosswalks calm traffic similarly to speed tables while also raising walkers to a more visible position. They also provide flat crossings without curb ramps and are more effective when paired with pedestrian activated signals, advanced yield markings, signage, and curb bump outs.

Speed Reduction: 4-11 MPH
Crash Reduction: 33-64%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium-High
$5,000-30,000



Variations: Paint, Thermoplastic
Rapid Build: Spray Chalk, Paint, Signage
+ $8,000 / Rubber Speed Table



RUBBER RAISED CROSSWALK

ASPHALT RAISED CROSSWALK

RUBBER SPEED HUMP

ASPHALT SPEED HUMP

RUBBER SPEED CUSHION

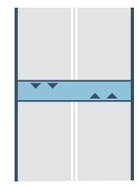
ASPHALT SPEED CUSHION

T4: VERTICAL DEFLECTION

SPEED HUMP

Speeds humps are narrow raised sections of asphalt that cause vehicles to slow down when driving over them. They are best for local or neighborhood streets where they will not impact emergency routes.

Speed Reduction: 6-13 MPH
Crash Reduction: 33-64%
Maintenance: Medium
Impact to City Services: High
Cost Scale: Low $4,000-6,000

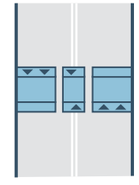


Variations: N/A
Rapid Build Options: $700 / Rubber Speed Hump

SPEED CUSHION

Speed cushions are raised sections of asphalt (or rubber) that are placed in groups of 2 or more. Their arrangement typically allows emergency vehicles to drive through the center with ease and are best for key emergency routes.

Speed Reduction: 5-7 MPH
Crash Reduction: 33-64%
Maintenance: Medium
Impact to City Services: Medium
Cost Scale: Low $4,000-8,000



Variations: N/A
Rapid Build Options:
$5,000 / Rubber Speed Cushion

PEDESTRIAN HYBRID BEACON (HAWK)

Pedestrian Hybrid Beacons are pedestrian activated traffic signals that stop all lanes of traffic at a pedestrian crossing. They are best used at mid-block crossings on roads with three or more lanes, speeds greater than 35 mph, and daily traffic greater than 9,000 ADT.

Speed Reduction: No Data
Crash Reduction:29%
Maintenance: Medium
Impact to City Services: Medium
Cost Scale: High
$21,000-128,000

Variations: N/A
Rapid Build Options: N/A

PEDESTRIAN HYBRID BEACON LIGHT + SIGN


PEDESTRIAN HYBRID BEACON AT CROSSWALK

LEADING PEDESTRIAN INTERVAL

A Leading Pedestrian Interval gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green light. They increase pedestrian visibility to turning motorists and should be considered at intersections with high turning vehicle volumes, vulnerable populations (i.e. older adults or children), and high pedestrian crossing volumes.

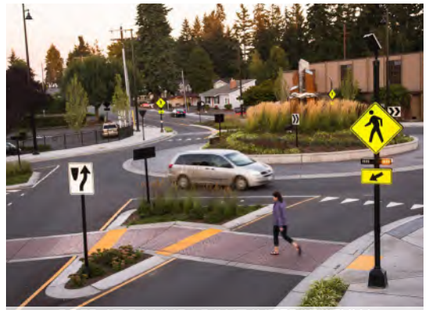
Speed Reduction: No Data
Crash Reduction: 13%
Maintenance: Low
Impact to City Services: Low
Cost Scale: Low $200-1200

Variations: N/A
Rapid Build: N/A


PEDESTRIAN WALK SIGN AHEAD OF GREEN SIGNAL


SOURCE: NACTO


RRFB AT MID-BLOCK CROSSING


RRFB AT ROUNDABOUT INTERSECTION

T5: SIGNALIZATION

RECTANGULAR RAPID FLASHING BEACONS (RRFB)

RRFBs are pedestrian activated signals that help increase pedestrian visibility to motorists (in combination with crossing signs and marked crosswalks). They are most effective for multi-lane crossings with speed limits less than 40 mph. RRFBs can increase motorist yielding rates up to 98%.

Speed Reduction: No Data
Crash Reduction: 47%
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium-High
$5,000-50,000

Variations: N/A
Rapid Build Options: N/A

CONVERSIONS

ONE-WAY TO TWO-WAY CONVERSION

Converting roads from one-way to two-way can improve access and increase safety. Traffic flows slower on two-way streets than on one-way streets.

Speed Reduction: N/A
Crash Reduction: 30%
Cost Scale: Medium $6/LF For Striping

ALL-WAY STOP CONVERSION

All-way stop conversions involve adding a stop sign at each leg of an intersection to help alleviate crash problems. Implementation requires traffic analysis.

Speed Reduction: No Data
Crash Reduction:50%
Cost Scale: Low $400/Sign + $9/LF for Stop Bar $3,000-6,000

FILL IN SIDEWALK GAPS

Providing safe pathways for pedestrians that are separate from the roadway has a significant impact on pedestrian safety. Special consideration should be given to repairing or filling in sidewalk gaps along routes to key neighborhood destinations.

Speed Reduction: No Data
Crash Reduction: 65-89%
*Of Pedestrian-related crashes
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Low-Medium $15-20/SF

Variations: N/A
Rapid Build Options: N/A

ONE-WAY AT IRA AND KENMORE

ALL-WAY STOP

MISSING SIDEWALK AT CROSIER AND LAKE SHORE

PRINCETON ST BRIDGE IMPROVEMENTS

MILLER AVE (LACK OF TREE CANOPY)

TREE LINED STREET

STREET IMPROVEMENTS

STREET TREES

Street trees create a sense of enclosure, provide shade for all users, increase overall perception of safety (and likelihood of pedestrians), and can decrease vehicle speeds. Certain portions of key streets in Summit Lake where speeding is an issue may benefit from having more street trees filled in along the roadway, while other areas would benefit from pruning along pedestrian walkways.

Speed Reduction: 0-3 MPH
Crash Reduction: 0-20% (Limited Data)
Maintenance: Medium
Impact to City Services: Low
Cost Scale: Medium-High
$805 / Tree (3.5" Caliper)

Variations: N/A
Rapid Build Options: N/A

RAPID-BUILD PRODUCTS + TOOLS			
USE	PRODUCT	COST	UNIT
EDUCATION + AWARENESS	Yard Signs	$2-8	Sign
	Plastic A-Frame Sign	$110	Sign
	Bike Lane Sign	$93	Sign
	Traffic Panel - Crosswalk (44" Height)	$163	Panel
RADAR	Portable Radar Sign, solar powered	$3,049	Each
	Mobile Radar Sign	$7,000	Each
PAVEMENT MARKINGS	Spray Chalk	$14	20 oz. Can
	Temporary Marking Paint	$12	20 oz. Can
	Rubberized Duct Tape	$9	55 Yard Roll
	Pavement Marking Tape	$320	30 Yard Roll
	Striping Paint (Can)	$10	18 oz. Can
	Striping Paint Machine	$180	Each
	Striping Paint (Gallon)	$53	Gallon
PAVEMENT MARKINGS: STENCILS	Slow	$428	Each
	MPH	$321	Each
	Person on Bike (48" x 24")	$125	Each
	Bike Lane Sharrow	$296	Each
	Pedestrian Crossing	$143	Each
	Yield Stencil	$257	Each
	Transverse / Striping	$99	Each
HORIZONTAL DEFLECTION	Plastic Planter Box + Dirt and Plant	$60	Each
	Traffic Cones (Heavy Duty - 36")	$35	Cone
	Reflective Heavy Duty Traffic Cones	$37	Cone
	Delineator Post	$35	Post with base
	Flexible Lane Delineator Post	$52	Post with base
	Stackable Traffic Barrier (78" x 18" x 36")	$330	Barrier
	Fold Up Barricade Sign	$71	Per Sign
	Rubber Parking Stop Kit (6' x 6" x 4")	$95	Kit
	Qwuick Kurb	$106	4' Section
	Qwuick Kurb Mega Marker	$100	Marker
	Qwuick Kurb End Pieces	$100	End piece
VERTICAL DEFLECTION	Rubber Speed Hump (100" x 36" x 2")	$1410	Per Set
	Rubber Speed Cushion	$4,978	Per Set
	Rubber Speed Table (21')	$8,000	Each

*Costs are for products only. They do no include installation cost. These products are not intended for long term installation, but for short term testing. Therefore, costs do not reflect ongoing maintenance. Click product names to view product website for purchase.

HOW TO USE THIS TOOLKIT

The Traffic Calming Toolkit is intended to serve as a menu of options from which to select and apply to neighborhood streets in Akron. It is important to note that most of the tools listed in this toolkit are most appropriate for local/neighborhood streets, network collectors, and minor arterials. Neither these, nor the process laid out in the following pages, are intended for application to major roadway projects, though some tools are applicable at multiple scales.

Now that the "What" (toolkit) of traffic calming has been established, this report seeks to lay out the "how", "when", and "where" for the application of these tools in Akron; and more specifically in the Summit Lake neighborhood. In recognition of the challenges to identifying and prioritizing neighborhoods or streets to invest resources in for traffic calming, the team has sought to create a sequenced, largely data-driven process for equitable decision making. Though the focus of this initiative is on the Summit Lake neighborhood, the Traffic Calming Toolkit and accompanying guides have been developed as tools that *begin* with the Summit Lake neighborhood *and* can be used *beyond* the Summit Lake neighborhood.

The question that arises from the Toolkit is: "How do you decide which traffic calming tool to use?" In answer: the "Dynamic Toolkit Chart' on the next page. This chart includes a list of all traffic calming tools in this report and accompanying data for an at-a-glance comparison. The selection of tools may be prioritized based on a number of factors: roadway type, traffic volumes, cost scale, effectiveness in reducing speed or crashes, level of maintenance, and impact on City services. The chart is a summary of the more detailed information outlined in the preceding toolkit pages for decision making when considering a specific street or intersection.

Following the Dynamic Chart, the team has laid out an "Implementation Process" that begins to answer "When and where do these traffic calming tools get applied?" The Implementation Process is intended to be a general guideline, to be adjusted to individual projects and aligned as needed to City of Akron team work-flows, budget cycles, and staff resources.

The outlined Implementation Process includes:

1. Focus Area Selection,

2. Analysis,

3. Project Prioritization,

4. Concept Plan,

5. Recommendations,

6. Approvals,

7. Implementation,

8. Evaluation and potential next steps.

The process also includes suggestions for points of Community Input and City approvals along the way.

The second component of answering "where and when?" is the Scoring Criteria Rubric. This rubric is a guide for specifically prioritizing (again, as part of a largely data-driven decision making process) which streets on which to focus resources within a given study area (which would be established by the steps outlined in the Implementation Process). Finally, the scoring criteria is applied to the Summit Lake Neighborhood to identify priority streets and intersections for traffic calming.

TRAFFIC CALMING TOOLKIT

DYNAMIC TOOLKIT CHART

CLICK HERE!

TRAFFIC CALMING MEASURE	LOCATION	ROADWAY TYPE			TRAFFIC VOLUME	SPEED LIMIT	COST SCALE		SPEED REDUCTION		CRASH REDUCTION		IMPACT
		L/N	C	A	Recommended Max (ADT)	Recommended Max (MPH)	Rapid Build	Permanent Build	Effectiveness	MPH	Effectiveness.	%	On City Services
Community Yard Signs	Either	☑	☑				Low	Low					None
Additional Speed Signage	Street segment	☑	☑	☑			N/A	Low			Minimum	5	None
Dynamic Feedback Sign	Street segment	☑	☑	☑			N/A	Low	Medium	0-7	Minimum	0-10	None
Speed Limit or "SLOW" Markings	Street segment	☑	☑			35	Low	Low	Minimum	0-3	Medium	38	None
High Visibility Crosswalk	Either	☑	☑	☑		45	Low	Low	Minimum	1-3	Minimum	19-40	Low
Corner Extension / Bulbout	Intersection	☑	☑	☑	Avoid High Truck Traffic	45	Low	Medium	Minimum	1-4	Minimum	15	Medium
Choker (Midblock Curb Bumpout)	Street segment	☑	☑	☑	Avoid High Truck Traffic	45	Low	Medium	Minimum	1-4			Medium
Corner Radius Reduction	Intersection	☑	☑	☑	Avoid High Truck Traffic	N/A	Low	Medium			Medium	40	Low
Chicane - Standard	Street segment	☑	☑		<20,000	35	Low	High	Medium	3-9			High
Chicane - Middle / Median	Street segment	☑	☑	☑	<20,000	45	Low	High	Medium	1-8	Medium	0-44	Low
Chicane - Half T-Intersection	Intersection	☑	☑			25	Low	High	Maximum	5-13			Medium
Road Diet - Lane Narrowing	Either	☑	☑	☑			Low	Medium	Minimum	1-4	Medium	24	Low
Road Diet - Lane Reduction	Either	☑	☑	☑	<25,000		Medium	High	Minimum	1-4	Medium	17-62	Low
Road Diet - On Street Parking Lane	Street segment	☑	☑	☑	<18,000	45	Low	High	Minimum	1-5	Maximum	52	Low
Road Diet - Unprotected Bike Lane	Street segment	☑	☑	☑	<6,000	35	Low	Medium	Minimum	1-4	Maximum	30-53	Low
Road Diet - Protected Bike Lane	Street segment	☑	☑	☑	<18,000	45	Medium	High	Minimum	1-4	Maximum	30-53	Low
Pedestrian Refuge Island	Either	☑	☑	☑	>9,000		Low	Medium	Medium	1-8	Medium	32	Low
Mini-Roundabout	Intersection	☑	☑		<20,000	35	Low	High	Maximum	5-13	Medium	39	Medium
Roundabout	Intersection			☑	<60,000		N/A	High	Maximum	5-13	Medium	20-40	Low
Speed Hump	Street segment	☑	☑		<4,000	25	Medium	Medium	Maximum	6-13	Maximum	33-64	High
Speed Cushion	Street segment	☑	☑		<10,000	25	Medium	Medium	Maximum	5-7	Maximum	33-64	Medium
Speed Table	Street segment	☑	☑		<5,000	25	Medium	Medium	Maximum	4-11	Maximum	33-64	High
Raised Crosswalk	Either	☑	☑	☑	<10,000	35	Medium	Medium	Maximum	4-11	Maximum	33-64	High
Pedestrian Hybrid Beacon	Street segment						N/A	High			Medium	29	Medium
Leading Pedestrian Interval	Either						N/A	Low			Minimum	13	None
Rectangular Rapid Flashing Beacons	Street segment						N/A	Medium			Maximum	47	Low
One-way to two-way conversion	Either	☑	☑	☑			N/A	Medium			Medium	30	None
All-Way Stop Conversion	Intersection	☑	☑	☑	<12,000		N/A	Low			Medium	50	None
Fill in Sidewalk Gaps	Either	☑	☑	☑			N/A	Medium			Maximum	65-89	None
Street Trees	Street segment	☑	☑	☑			N/A	Medium	Minimum	0-3	Minimum	0-20	None

SEE NEXT PAGE FOR HOW TO USE

*****USE THE BUTTONS ABOVE EACH COLUMN TO FILTER THE LIST OF TRAFFIC CALMING TOOLS BASED ON ROADWAY CRITERIA AND KEY CONSIDERATIONS.******

Select multiple categories / buttons by using CTRL + click.

What kind of location are you looking at? Street segment or an intersection? Select "Street Segment" and "Either" to include all tools that may be used along a street. Or select "Intersection" and "Either" to see tools applicable at intersections.

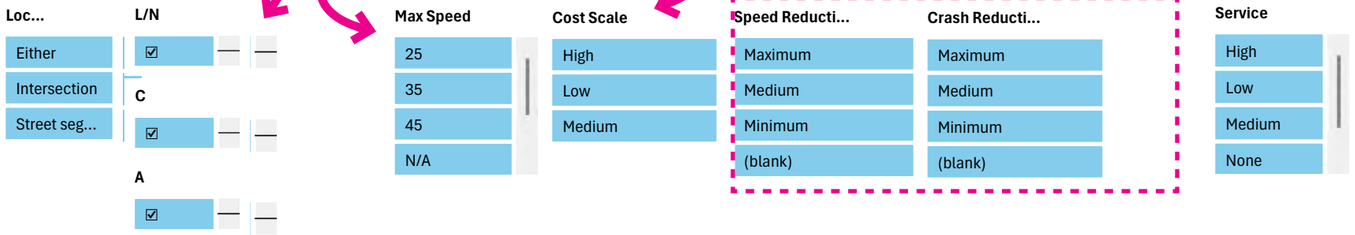
Filter by street classification. L/N = Local or neighborhood street.; C = Collector street; A = Arterial. Selecting one button will show all tools that can be used on that street type.

Filter by maximum speed limit allowed for each tool. Clicking a button will remove that speed maximum from the list. For example, if you have a 35 MPH roadway, click 25 to remove all tools that have a 25 MPH speed limit maximum.

Most concerned about cost? Filter by cost scales. See the cost ranges below the chart to see what each cost scale category represents.

Concerned about specific traffic issues? Select a button to see which tools are most effective on speeding and/or vehicle crashes.

Have a street that is a common emergency route? Select both "Low" and "None" to see tools that have little to no impact on City or Emergency services.



A few key considerations to take into account when choosing a traffic calming tool. Refer to the Traffic Calming Toolkit full package to see additional details.

TRAFFIC CALMING MEASURE	LOCATION	ROADWAY TYPE			TRAFFIC VOLUME	SPEED LIMIT	COST SCALE		SPEED REDUCTION		CRASH REDUCTION		IMPACT	KEY CONSIDERATIONS
		L/N	C	A	Recommended Max (ADT)	Recommended Max (MPH)	Rapid Build	Permanent Build	Effectiveness	MPH	Effectiveness.	%	On City Services	
Community Yard Signs	Either	☑	☑				Low	Low					None	
Additional Speed Signage	Street segment	☑	☑	☑			N/A	Low			Minimum	5	None	
Dynamic Feedback Sign	Street segment	☑	☑	☑			N/A	Low	Medium	0-7	Minimum	0-10	None	
Speed Limit or "SLOW" Markings	Street segment	☑	☑			35	Low	Low	Minimum	0-3	Medium	38	None	Overuse diminishes value.
High Visibility Crosswalk	Either	☑	☑	☑		45	Low	Low	Minimum	1-3	Minimum	19-40	Low	Pair with lighting and signage to increase effect.
Corner Extension / Bulbout	Intersection	☑	☑	☑	Avoid High Truck Traffic	45	Low	Medium	Minimum	1-4	Minimum	15	Medium	
Choker (Midblock Curb Bumpout)	Street segment	☑	☑	☑	Avoid High Truck Traffic	45	Low	Medium	Minimum	1-4			Medium	
Corner Radius Reduction	Intersection	☑	☑	☑	Avoid High Truck Traffic	N/A	Low	Medium			Medium	40	Low	
Chicane - Standard	Street segment	☑	☑		<20,000	35	Low	High	Medium	3-9			High	
Chicane - Middle / Median	Street segment	☑	☑	☑	<20,000	45	Low	High	Medium	1-8	Medium	0-44	Low	Can double as pedestrian refuge.
Chicane - Half T-Intersection	Intersection	☑	☑			25	Low	High	Maximum	5-13			Medium	Use at T-Intersections with traffic issues.
Road Diet - Lane Narrowing	Either	☑	☑	☑			Low	Medium	Minimum	1-4	Medium	24	Low	
Road Diet - Lane Reduction	Either	☑	☑	☑	<25,000		Medium	High	Minimum	1-4	Medium	17-62	Low	Cost depends on variation.
Road Diet - On Street Parking Lane	Street segment	☑	☑	☑	<18,000	45	Low	High	Minimum	1-5	Maximum	52	Low	Effectiveness depends on parking need.
Road Diet - Unprotected Bike Lane	Street segment	☑	☑	☑	<6,000	35	Low	Medium	Minimum	1-4	Maximum	30-53	Low	Use on streets providing important links in bike network.
Road Diet - Protected Bike Lane	Street segment	☑	☑	☑	<18,000	45	Medium	High	Minimum	1-4	Maximum	30-53	Low	Use on streets providing important links in bike network.
Pedestrian Refuge Island	Either	☑	☑	☑	>9,000		Low	Medium	Medium	1-8	Medium	32	Low	Use on multi-lane roads.
Mini-Roundabout	Intersection	☑	☑		<20,000	35	Low	High	Maximum	5-13	Medium	39	Medium	Best for local or neighborhood streets.
Roundabout	Intersection			☑	<60,000		N/A	High	Maximum	5-13	Medium	20-40	Low	Best for arterials or larger streets.
Speed Hump	Street segment	☑	☑		<4,000	25	Medium	Medium	Maximum	6-13	Maximum	33-64	High	More effective in a series.
Speed Cushion	Street segment	☑	☑		<10,000	25	Medium	Medium	Maximum	5-7	Maximum	33-64	Medium	More effective in a series.
Speed Table	Street segment	☑	☑		<5,000	25	Medium	Medium	Maximum	4-11	Maximum	33-64	High	More effective in a series.
Raised Crosswalk	Either	☑	☑	☑	<10,000	35	Medium	Medium	Maximum	4-11	Maximum	33-64	High	
Pedestrian Hybrid Beacon	Street segment						N/A	High			Medium	29	Medium	
Leading Pedestrian Interval	Either						N/A	Low			Minimum	13	None	
Rectangular Rapid Flashing Beacons	Street segment						N/A	Medium			Maximum	47	Low	
One-way to two-way conversion	Either	☑	☑	☑			N/A	Medium			Medium	30	None	
All-Way Stop Conversion	Intersection	☑	☑	☑	<12,000		N/A	Low			Medium	50	None	
Fill in Sidewalk Gaps	Either	☑	☑	☑			N/A	Medium			Maximum	65-89	None	*Crash reduction is a percentage of pedestrian-related crashes.
Street Trees	Street segment	☑	☑	☑			N/A	Medium	Minimum	0-3	Minimum	0-20	None	

**Note: Blanks on the chart either indicate that data is not available or that there is not a restriction that applies (i.e.: maximum ADT).

Low	$0-8,000	Minimum	0-3	Minimum	0-20
Medium	$8,000-20,000	Medium	4-6	Medium	21-45
High	>$20,000	Maximum	>6	Maximum	>45

What do the categories Low / Medium / High represent? Or Minimum / Medium / Maximum effectivenss? Check out this list to see. Each column is related to the column category above it in the chart.

IMPLEMENTATION PROCESS

1	**Focus Area Selection** Determine a focus area for data collection and traffic calming implementation based on City Initiatives or priority areas from other plans. (E.g.: the focus on the Summit Lake neighborhood based on previous initiatives). OR Determine a focus area based on available existing data on speeding, traffic volumes, or crashes. Utilize the thresholds in the chart on the opposite page to help identify areas that may warrant further study and intervention. *__City:__ Introduce traffic calming study area to appropriate city officials, departments, council members, and/or neighborhood leaders.
2	**Analysis + Evaluation** Collect available data for streets in the study area. Analysis considerations may include: • community assets • existing and proposed multi-modal networks (bus, bike, pedestrian) • crash, speeding, and volume data • street classification, sizing, and pavement condition • previous plans and initiatives • community feedback *Note that this is not an exhaustive list and other data / considerations may be appropriate for study. **__Community__: If appropriate, community input on problem streets or areas may be used to identify streets for data collection and/or further study.
3	**Project Prioritization** Use the scoring criteria on the following page to identify priority projects for testing and implementation.
4	**Traffic Calming Concept Plan** Identify traffic calming toolkit items to be applied (using the dynamic toolkit chart) and develop concept plans for the selected street(s). Where appropriate, develop a rapid implementation plan first. Establish criteria for testing and evaluating the rapid-build for long term implementation. Note that rapid implementation will not be as effective as permanent installations. Identify funding sources. *__City:__ Update City officials, neighborhood leaders, and/or council members. **__Community__: Share out an update to residents, if appropriate.
5	**Recommendation** After development of the plan and appropriate public process, recommend a select number of plans or street projects for inclusion in the City budget.
6	**City Approval** Present for approval to appropriate City agencies / departments.
7	**Implementation** For rapid-build, implementation can happen after concept development. For full design projects, implementation will occur after securing funding and preparing construction documents.
8	**Evaluation** Establish criteria for evaluating effectiveness and prioritization. Data points may include: • Pre and post 85th percentile speed data • Pre and post crash data • Observed behavior (neighborhood feedback in the form of online surveys or follow-up engagement) • If follow-up community engagement is deemed appropriate: What is the neighborhood response? Perception of effectiveness? Feedback on pursuing permanent build implementation?
*	**Next Steps** Make any necessary field adjustments and/or use the above evaluation criteria to identify rapid implementation projects that warrant full design implementation.

THRESHOLDS FOR INTERVENTION:

TRAFFIC ISSUE	FUNCTIONAL STREET CLASSIFICATION	THRESHOLD WARRANTING FURTHER STUDY FOR IMPLEMENTATION OF TRAFFIC CALMING TOOLS
SPEEDING	Minor Arterial	85th Percentile Speed > 9 MPH over posted speed limit
	Collector	85th Percentile Speed > 8 MPH over posted speed limit
	Local Street	85th Percentile Speed > 7 MPH over posted speed limit
VOLUME	Minor Arterial	ADT > 12,000
	Collector	ADT > 5,000
	Local Street	ADT > 1,500
CRASHES	Minor Arterial	10 or more crashes in a 12-month period
	Collector	10 or more crashes in a 12-month period
	Local	10 or more crashes in a 12-month period
PEDESTRIAN SAFETY	Minor Arterial	2 or more pedestrian crashes in a 12-month period
	Collector Street	2 or more pedestrian crashes in a 12-month period
	Local Street	2 or more pedestrian crashes in a 12-month period

DATA-DRIVEN PRIORITIZATION

Scoring criteria has been developed to help guide data-driven prioritization of streets in a given area or neighborhood for traffic calming intervention. The point-based system is broken into three main categories for basic scoring of streets: traffic issues (crash history), activity (pedestrian related), and street characteristics.

Many of the traffic calming tools listed in this report are most appropriate for local / neighborhood or collector streets. In Akron, these streets are less likely to have speeding and traffic volume data available. As a result, traffic volume and 85th percentile speed are broken out as additional criteria. They may be used to provide additional insight or may be included in the future as this data is collected and made available.

Note that the scoring system is intended to be a data-driven guide to support the decision making and implementation process. This scoring system should be used in tandem with a place-based understanding of the neighborhood, street, or area being considered. As such, some streets may warrant additional consideration or increased priority based on criteria and considerations not covered in this scoring system, such as: traffic flow, street configuration, qualitative analysis, community input, location, and/or future development.

SCORING CRITERIA

Base Scoring Criteria:

	CRITERIA	POINT DEFINITIONS	POINTS
Traffic Issues	Crash History	1 point for each crash within a 3 year period	22
		Extra 3 points for each crash involving a pedestrian	12
Activity	Vicinity to Schools	5 points per school if the street segment fronts a school	10
		4 points per school if the street provides access to a school or is within a 20-mph school zone	
	Pedestrian Generators	2 points for each major transit stop, park, regional trail or civic facility **within 1000 feet** of the street	30
		4 points for reach major transit stop, park, regional trail, or civic facility **along** the street	
		8 points if there is a commercial / retail district **along** the street being improved	
		4 points if the street is an existing bus route (Additional 2 points if the bus route is a high frequency route with 15, 20, or 30 minutes headways)	
Street Characteristics	Street Characteristics	4 points if a street is an existing bike route **OR** 3 points if a street has been identified as a future bike route (or could fill the gap of a missing bike connection)	16
		4 points if a street has sidewalk gaps or poor condition sidewalks	
		2 points if cartway width of the road is > or = 34 feet	
		2 points if the street has 4 lanes or more	
		4 points if the street has a pavement condition index of "failed" **OR** 3 points for "poor" **OR** 2 points for "fair"	
	Subtotal		90

Additional Scoring Criteria:

	85th Percentile Speed	2 points for every 1 mph above the posted speed limit	20
	Traffic Volumes	2 points for ADT <1,000 4 points for ADT 1,000-3,999 6 points for ADT 4,000-6,999 8 points for ADT 7,000-9,999 10 points for ADT >10,000	10
	Total		120

SUMMIT LAKE SCORES

Location	Crash History	Vicinity to Schools	Pedestrian Generators	Additional Concerns	Total
Lakeshore Boulevard (Kenmore to W Thornton)	28	0	30	14	72
W Miller Ave (Lakeshore to South Main)	32	5	18	7	62
South St (Manchester to Lakeshore)	25	0	20	14	59
W Thornton St (Manchester to South Main)	31	0	16	7	54
Manchester (Kenmore to W Thornton)	31	0	10	4	45
***Kenmore Boulevard** (Manchester to Ira)	21	0	12	11	44
***Ira Ave** (Kenmore to Old Main)	14	0	14	12	40
W Long St (Lakeshore to Old Main)	19	0	14	6	39
Old Main St (Ira to W South)	13	5	16	2	36
W Crosier St (Lakeshore to Old Main)	12	0	20	4	36
Russell Ave (Manchester to Coburn)	18	0	8	8	34
***Edison Ave** (Ira to Paris)	13	0	10	7	30
***Princeton St** (Ira to W Thornton)	16	0	6	2	24
W Bowery (Rhodes Ave to South St)	8	0	12	4	24
Lake St (Lakeshore to Old Main)	7	0	6	4	17

*Note:
In the context of the Summit Lake Neighborhood, the noted streets warrant increased priority based on early analysis, community feedback, links and connections identified through the neighborhood, proposed development, and traffic configuration issues.

PRIORITIZING INTERSECTIONS

Score intersections by adding the total points of the two intersecting streets. This can help prioritize key intersections for either increased intervention or for applying limited resources along a corridor or within a neighborhood. A few examples:

Score:	Intersection:
134	Lakeshore and W Miller
131	Lakeshore and South St
116	Lakeshore and Kenmore
108	Kenmore, Ira and Princeton
108	Lakeshore and W Crosier
89	Kenmore and Manchester
70	Ira and Edison

HOW DOES SUMMIT LAKE SCORE?

Lakeshore Boulevard, W Miller Ave, and South St score as the three priority streets for traffic calming intervention. Lakeshore Boulevard has consistently emerged as the key connective "spine" in the Summit Lake neighborhood and priority #1. Additionally, Lakeshore improvements will impact east-west streets at key locations: where they cross Lakeshore and connect to the lake and other important neighborhood assets. W Miller's high score matches its value as an important east-west connector from South Main to the lake.

Kenmore, Ira, and Edison are worth considering as higher priorities than their scores reflect. This is due to their use as connectors from the Kenmore district to the commercial district on the east side of Summit Lake neighborhood. The one-way configurations on both Ira and Edison impact neighborhood safety by drawing commercial traffic into the interior of the neighborhood. As such, the Ira / Edison intersection should be studied to alleviate this problem (which improves safety on the high-priority W Miller). Additionally, the Kenmore, Ira, and Princeton intersection scores fairly high and should be considered to improve the Kenmore to Summit Lake connection.

4 | IMPLEMENT

Setting Actionable Next Steps for the Summit Lake Neighborhood

ACTIONABLE IMPLEMENTATION

After establishing the project approach in 'Transform', now it's time to apply the Traffic Calming Toolkit and process to the Summit Lake Neighborhood. Using this methodology, the project team identified the following intersections and streets as priority projects for implementation:

- Lakeshore Boulevard
- The Intersection of Lakeshore Boulevard, South St / W South St, and Russell Ave
- The Intersection of Kenmore Boulevard, Ira Avenue, and Princeton St
- The Intersection of Ira Avenue and Edison Avenue

It is one thing to develop a methodology and a plan. However, it is another to develop and implement the vision that actually begins to transform the safety and connectivity of the Summit Lake Neighborhood.

Towards that end, the project team has developed conceptual plans and estimated construction costs for each priority project. The following plans have been developed to be fund-able and buildable: taking the analysis, observation, and methodology of this plan from an idea to an actionable next step.

The Implementation Section includes:

- **Implementation Plan**
  (Update to the Key Connections Plan identifying priorities, key intersections, and application of the Traffic Calming Toolkit)
- **Detailed Conceptual Plans**
  (Plans for Key Intersections and Lakeshore Boulevard, including: traffic calming tools used, cost estimate, key features, short term implementation options, and the community priorities addressed in each plan)
- **Construction Cost Estimates**
  (Detail estimates broken down by project element included in each plan)

The Community Driven Priorities identified early on continue to guide the ideas, interventions, and priorities of this plan and process. Look for the icons on each plan page to see which community priorities are in action:

Make streets **PEDESTRIAN AND BIKE FRIENDLY**. Enhance walkability, safety, and accessibility.

RECONNECT RESIDENTS TO THE LAKE. Improve multi-modal access and connections to Summit Lake and adjacent amenities.

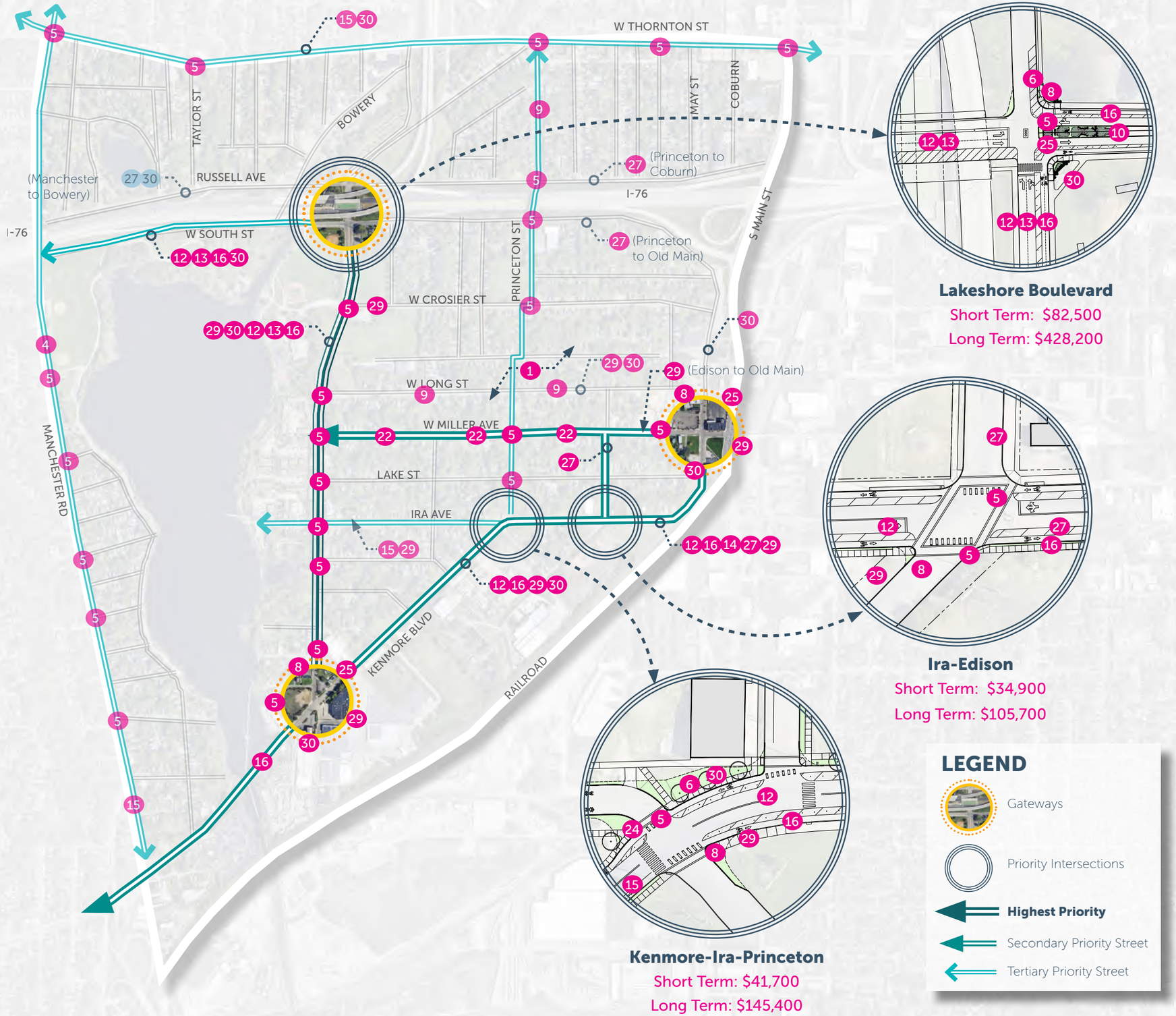
CREATE SAFE PASSAGEWAYS and improved linkages to neighborhood destinations.

CREATE GATEWAYS that connect the larger Summit Lake neighborhood, internally and to destinations beyond Summit Lake.

IMPLEMENTATION PLAN
TRAFFIC CALMING TOOLS:

1. Community Yard Signs
2. Additional Speed Signage
3. Dynamic Feedback Sign
4. Speed Limit or "SLOW" Markings
5. High Visibility Crosswalk
6. Corner Extension / Bulbout
7. Choker
8. Corner Radius Reduction
9. Chicane
10. Median
11. Half T-Intersection
12. Road Diet - Lane Narrowing
13. Road Diet - Lane Reduction
14. Road Diet - On Street Parking
15. Road Diet - Unprotected Bike Lane
16. Road Diet - Protected Bike Lane
17. Pedestrian Refuge Island
18. Mini-Roundabout
19. Roundabout
20. Speed Hump
21. Speed Cushion
22. Speed Table
23. Raised Crosswalk
24. Pedestrian Hybrid Beacon
25. Leading Pedestrian Interval
26. Rectangular Rapid Flashing Beacon
27. One-Way to Two-Way Conversion
28. All-way Stop Conversion
29. Fill in Sidewalk Gaps
30. Street Trees / Landscape

*Note: This is the comprehensive toolkit list. Not all tools will necessarily be used.



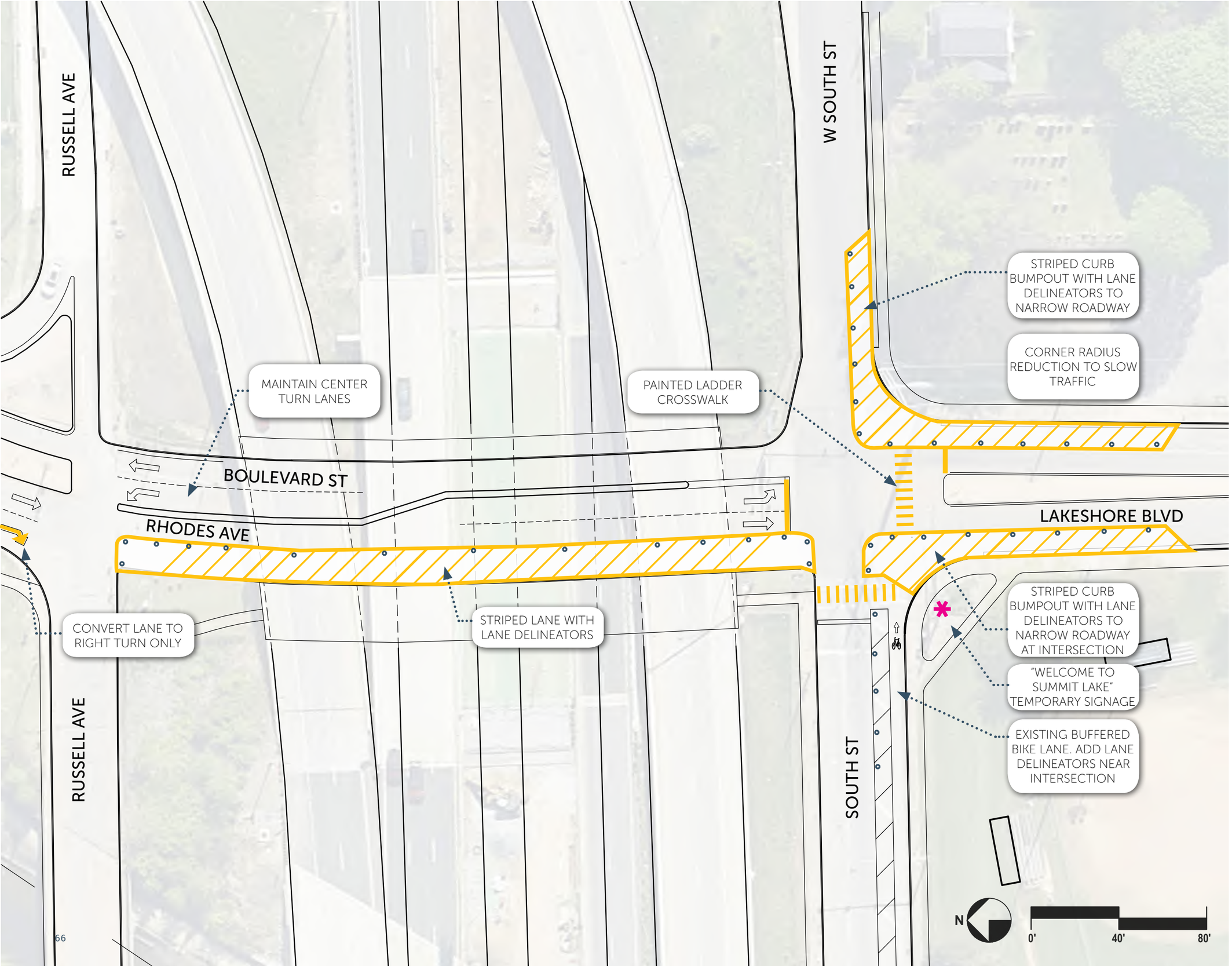
Lakeshore Boulevard
Short Term: $82,500
Long Term: $428,200

Ira-Edison
Short Term: $34,900
Long Term: $105,700

Kenmore-Ira-Princeton
Short Term: $41,700
Long Term: $145,400

LEGEND

- Gateways
- Priority Intersections
- **Highest Priority**
- Secondary Priority Street
- Tertiary Priority Street



PRIORITY PROJECTS

SHORT TERM IMPLEMENTATION

LAKESHORE BLVD + SOUTH ST + RUSSELL AVE

Projected Cost: $39,900

SHORT TERM IMPLEMENTATION KEY FEATURES

- Intersection reconfigured using diagonal striping to increase pedestrian safety: Painted curb bumpouts to narrow roadway at intersection and decrease pedestrian crossing distance
- Lane reduction along Rhodes / Lakeshore under bridge
- Articulated pedestrian crossings
- Corner radius reduction to slow turning vehicles

TRAFFIC CALMING TOOLS USED:

PRIORITY PROJECTS

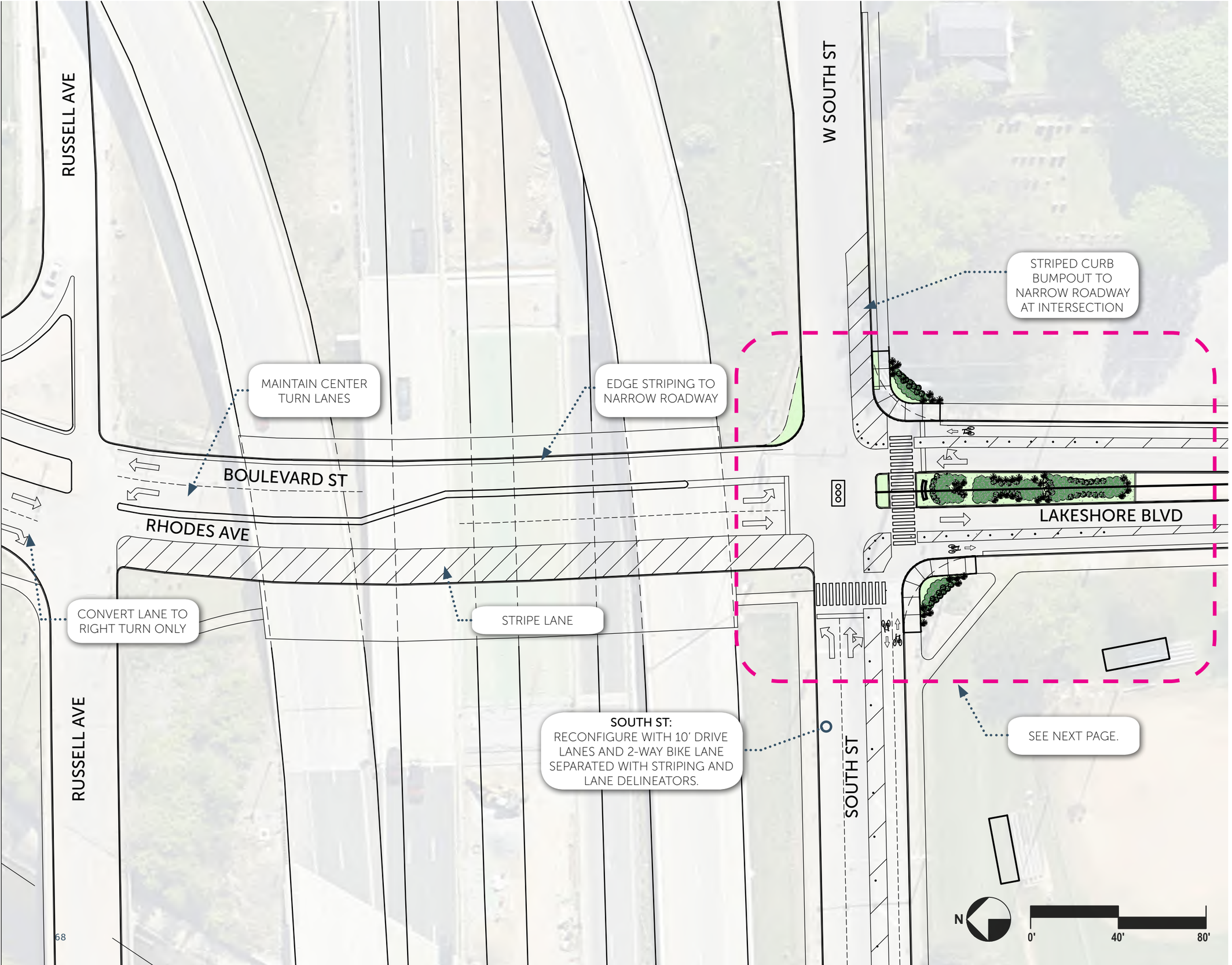
LONG TERM IMPLEMENTATION

LAKESHORE BLVD + SOUTH ST + RUSSELL AVE

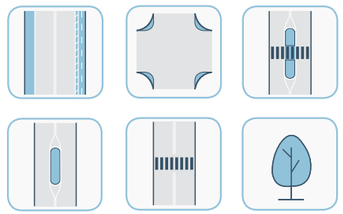
Projected Cost: $131,600

KEY FEATURES

- Intersection formalized as a gateway and reconfigured to increase pedestrian safety
- Landscaping and signage to calm traffic and enhance intersection as a gateway
- Narrowing of lanes for traffic calming
- Lane reduction
- Bike route connections: Lakeshore Blvd lanes connecting Kenmore route to South St lanes
- Articulated bike and pedestrian crossings
- Reduce crossing distances for pedestrians and bikes



TRAFFIC CALMING TOOLS USED:



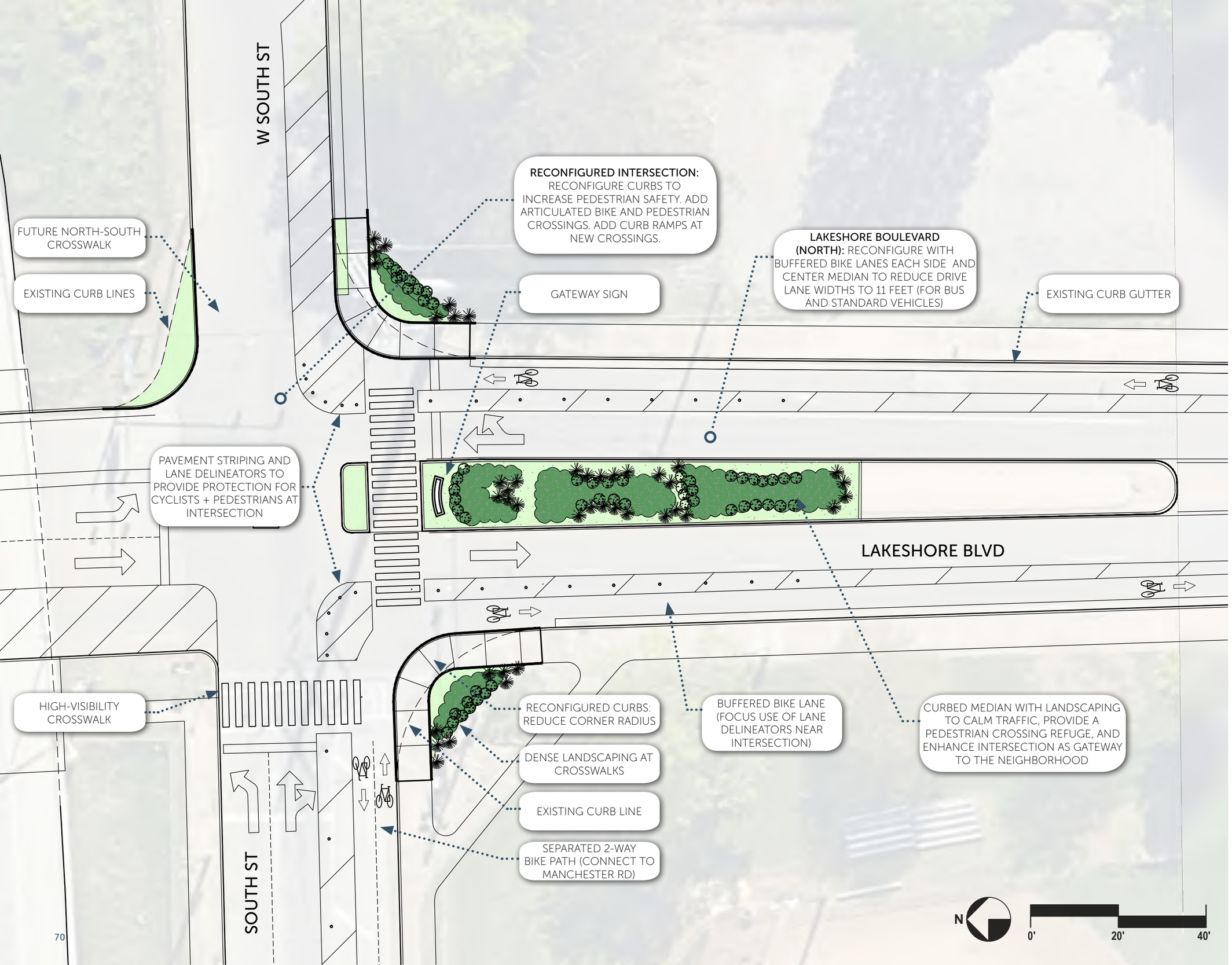
PRIORITY PROJECTS

LONG TERM IMPLEMENTATION

LAKESHORE BLVD + W SOUTH / SOUTH ST

KEY FEATURES

- Formalize intersection and reconfigure to increase pedestrian safety
- Landscaping and signage to calm traffic + enhance intersection as a gateway
- Narrowing of lanes for traffic calming
- Lane number reduction
- Buffered bike lanes
- Articulated bike and pedestrian crossings
- Corner radius reductions and striping to create protected intersection
- Pedestrian leading interval signalization update.
- Reduce crossing distances for pedestrians and bikes



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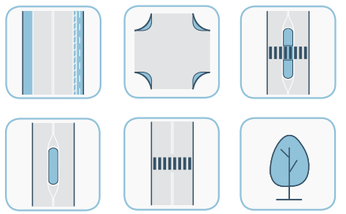
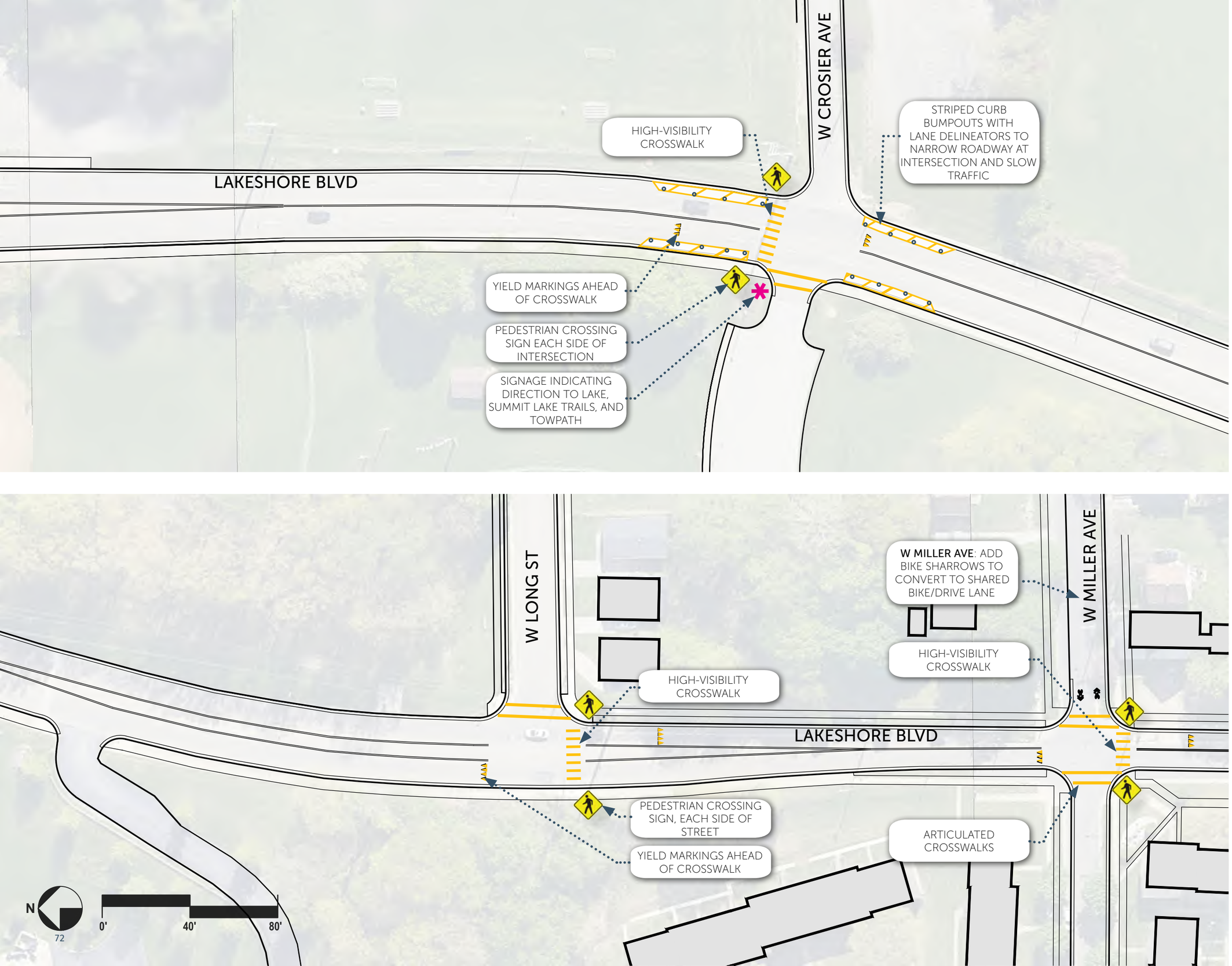




PRIORITY PROJECTS

SHORT TERM IMPLEMENTATION

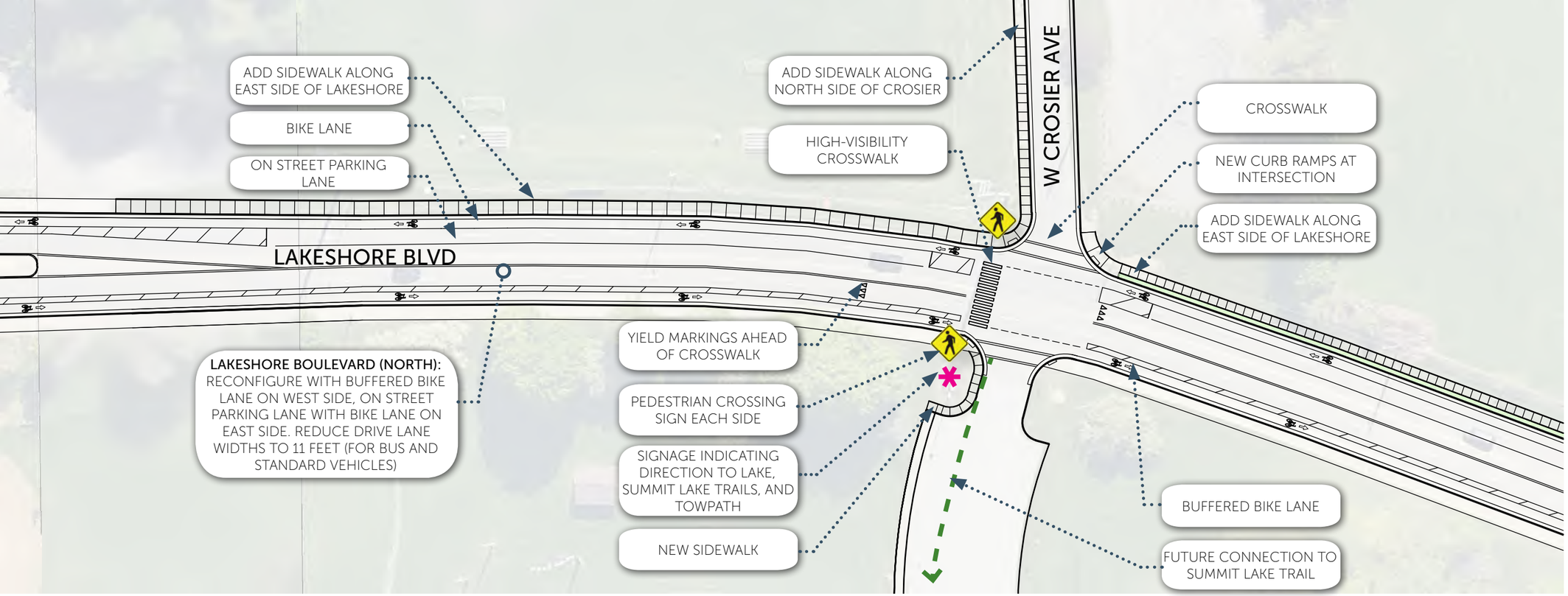
LAKESHORE BLVD: TYPICAL SEGMENTS

Projected Cost: $42,600

SHORT TERM IMPLEMENTATION KEY FEATURES

- Striped curb bumpouts at Lakeshore Boulevard and Crosier Ave intersection to slow traffic and decrease pedestrian crossing distance.
- Articulated pedestrian crossings, including high visibility crosswalks to connect east west streets across Lakeshore to the Lake (at Crosier, W Long, W Miller, Lake, Ira, Thedoore, Vincent)
- Pedestrian crossing signs at crosswalks
- Yield markings ahead of crosswalks to increase driver awareness.

TRAFFIC CALMING TOOLS USED:



PRIORITY PROJECTS

LONG TERM IMPLEMENTATION

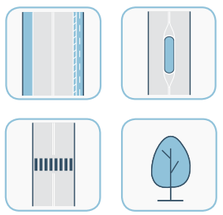
LAKESHORE BLVD: TYPICAL SEGMENTS

Projected Cost: $296,700

KEY FEATURES

- Lane quantity reduction
- Narrowing of lanes to 11 feet (for bus use) for traffic calming
- Striped median that transitions to center line
- Buffered bike lanes along Lakeshore Boulevard that transition to shared bike / drive lane where Lakeshore narrows
- On street parking lane at north end that serves the soccer fields and future development, while also protecting the bike lane on the east side
- Articulated pedestrian crossings and signage, including high visibility crosswalks to connect east west streets across Lakeshore to the Lake.

TRAFFIC CALMING TOOLS USED:



PRINCETON ST

EXISTING CURB LINES

HIGH VISIBILITY CROSSWALK WITH PEDESTRIAN CROSSING SIGN EACH SIDE

LANE DELINEATORS TO PREVENT VEHICLES FROM DRIVING THROUGH STRIPED AREA

IRA AVE

IRA AVE

EXISTING CURB LINES

KENMORE BLVD

RECONFIGURED INTERSECTION: RECONFIGURE CURBS USING PAVEMENT PAINT AND STRIPING TO INCREASE PEDESTRIAN SAFETY AND CLARIFY PATHS OF TRAVEL. ADD ARTICULATED PEDESTRIAN CROSSINGS.

ARTICULATED PEDESTRIAN CROSSINGS

N

0' 20' 40'

PRIORITY PROJECTS

SHORT TERM IMPLEMENTATION

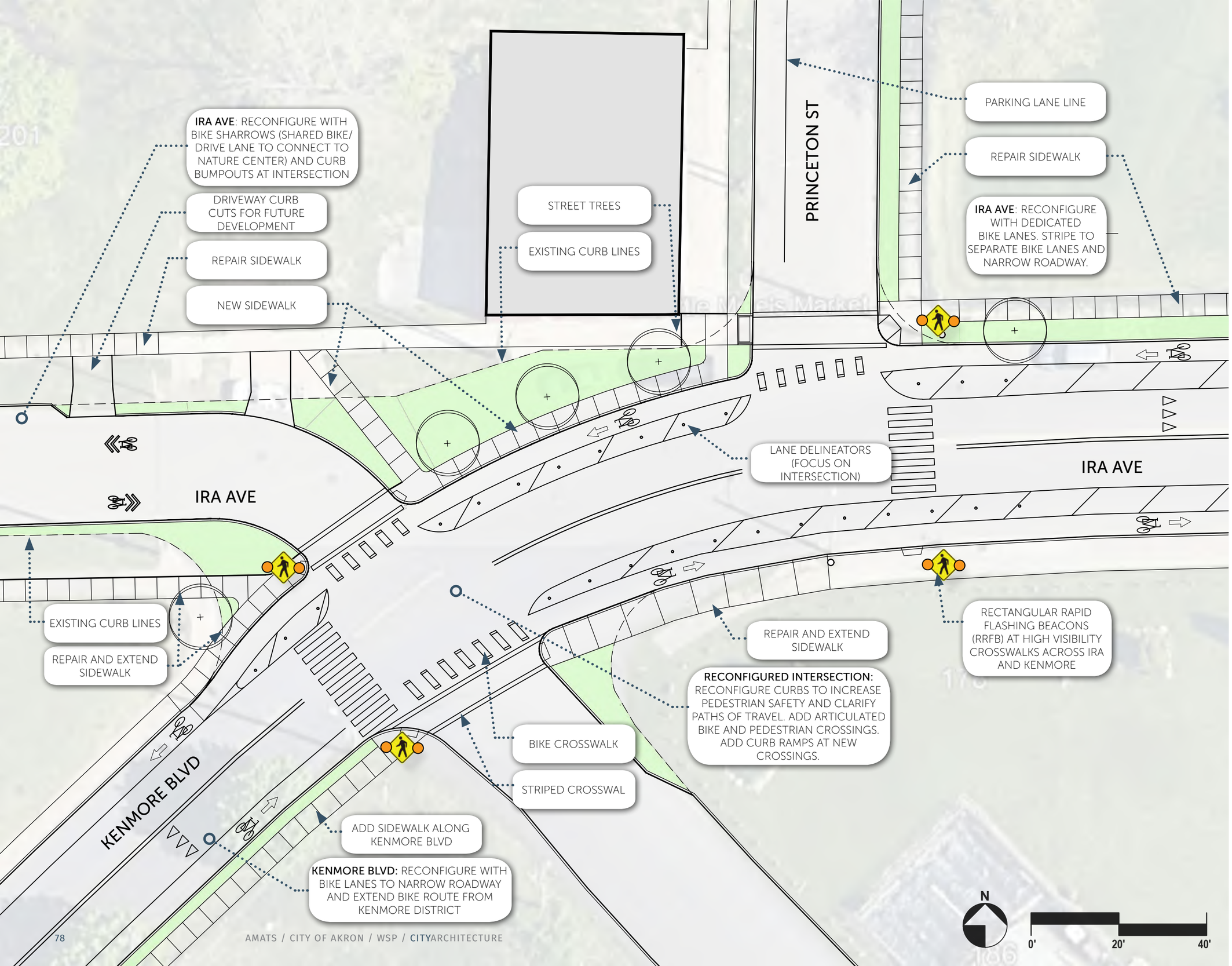
KENMORE BLVD. + PRINCETON ST. + IRA AVE

Projected Cost: $41,700

SHORTER TERM IMPLEMENTAITON KEY FEATURES

- Reconfigured intersection: to clarify path of travel and increase pedestrian safety.
- Striped curb bumpouts with flexible lane delineators to create intersection configuration.
- Adjust stop sign locations to new intersection configuration.
- Articulated pedestrian crossings in east-west direction.
- High visibility crosswalk across Ira Ave and Kenmore Blvd with pedestrian crossing signs,

TRAFFIC CALMING TOOLS USED:



PRIORITY PROJECTS

LONG TERM IMPLEMENTATION

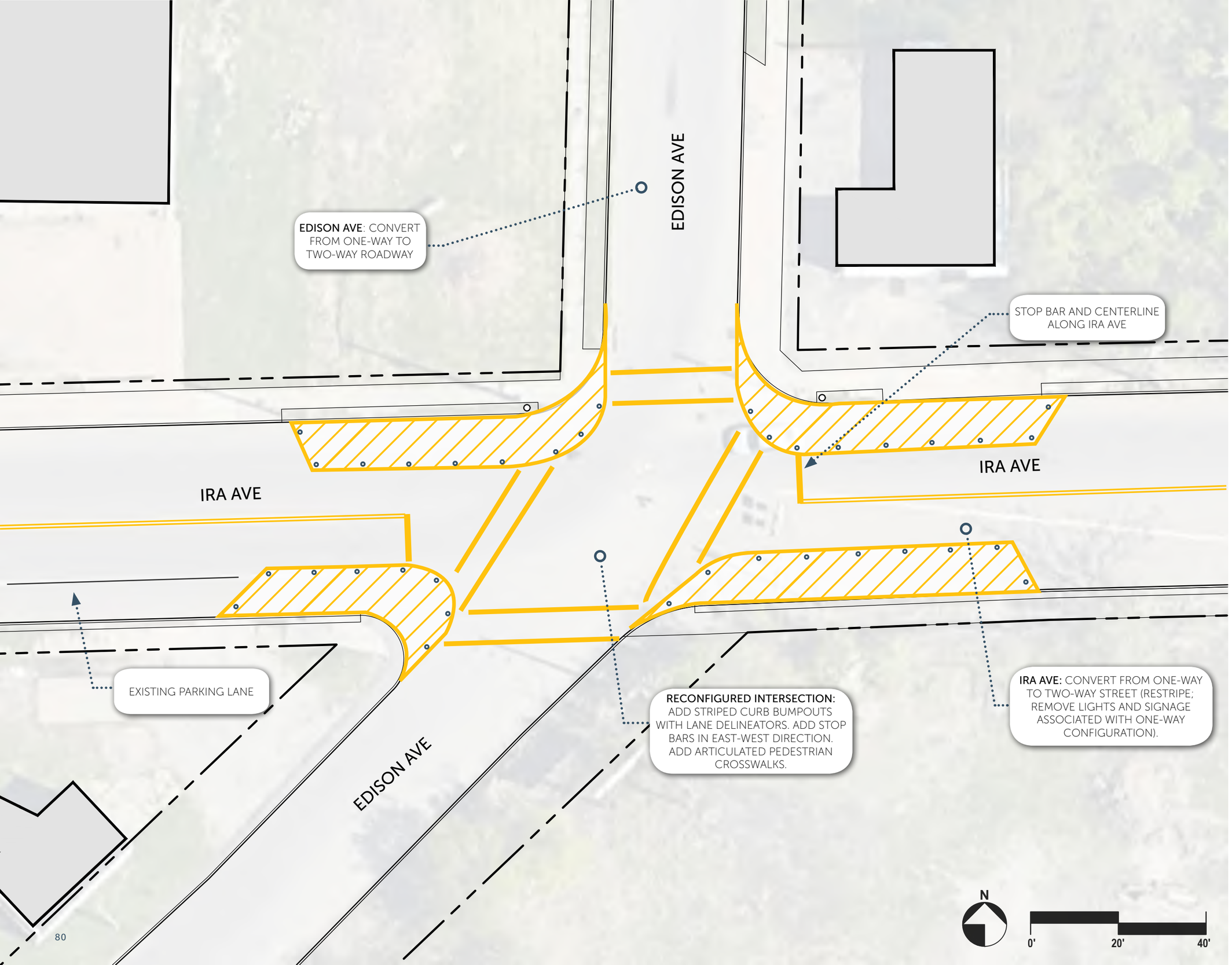
KENMORE BLVD. + PRINCETON ST. + IRA AVE

Projected Cost: $145,400

KEY FEATURES

- Reconfigured intersection to clarify path of travel and increase pedestrian safety.
- Narrowing of lanes to 11'-0" for traffic calming while still accommodating commercial vehicles.
- Articulated bike and pedestrian crossings in east-west direction.
- Street trees
- Rectangular rapid flashing beacons at high visibility crosswalks across Ira and Kenmore (to increase pedestrian visibility to drivers around the curve of the road).
- Repairs and extensions of sidewalks where noted.
- Bike route connections (shared lane on Ira Ave, to the west, bike lanes on Kenmore, and buffered bike lane Ira Ave to the east). ***Not included in the above cost.**

TRAFFIC CALMING TOOLS USED:



PRIORITY PROJECTS

SHORT TERM IMPLEMENTATION

IRA AVE + EDISON AVE

Projected Cost: $34,900

KEY FEATURES

- Conversion of Edison Ave and Ira Ave, from one-way to two-way roadways
- Articulated pedestrian crossings
- Striped curb bumpouts with flexible lane delineators to narrow roadway at intersection, slow traffic through intersection, and decrease pedestrian crossing distances

*Note: cost estimate includes center line striping of Ira Ave from Edison Ave to Old Main St

TRAFFIC CALMING TOOLS USED:

PRIORITY PROJECTS

LONG TERM IMPLEMENTATION

IRA AVE + EDISON AVE

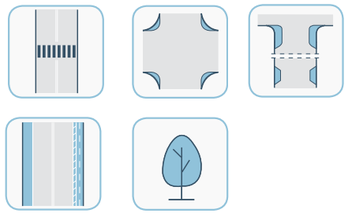
Projected Cost: $105,700

KEY FEATURES

- Conversion of Edison Ave and Ira Ave, from one-way to two-way roadways
- Narrowing of lanes on Ira Ave to 11'-0" for traffic calming while still allowing for commercial and industrial vehicles
- Buffered bike lanes on Ira Ave
- Parking lane on north side of Ira Ave
- Articulated bike and pedestrian crossings
- Repairs and extensions of sidewalks where noted.

***Note: Cost estimate includes Ira avenue road diet from Princeton St to Old Main St.**

TRAFFIC CALMING TOOLS USED:



EDISON AVE

IRA AVE

IRA AVE

EDISON AVE

EDISON AVE: CONVERT FROM ONE-WAY TO TWO-WAY ROADWAY

BIKE CROSSING

BUFFERED BIKE LANE

1.5' WIDE BUFFER

PARKING LANE

REPAIR AND EXTEND SIDEWALK

RECONFIGURED CURB: ADD NEW CURB RAMP AND ADJUST LOCATION OF STOP SIGN

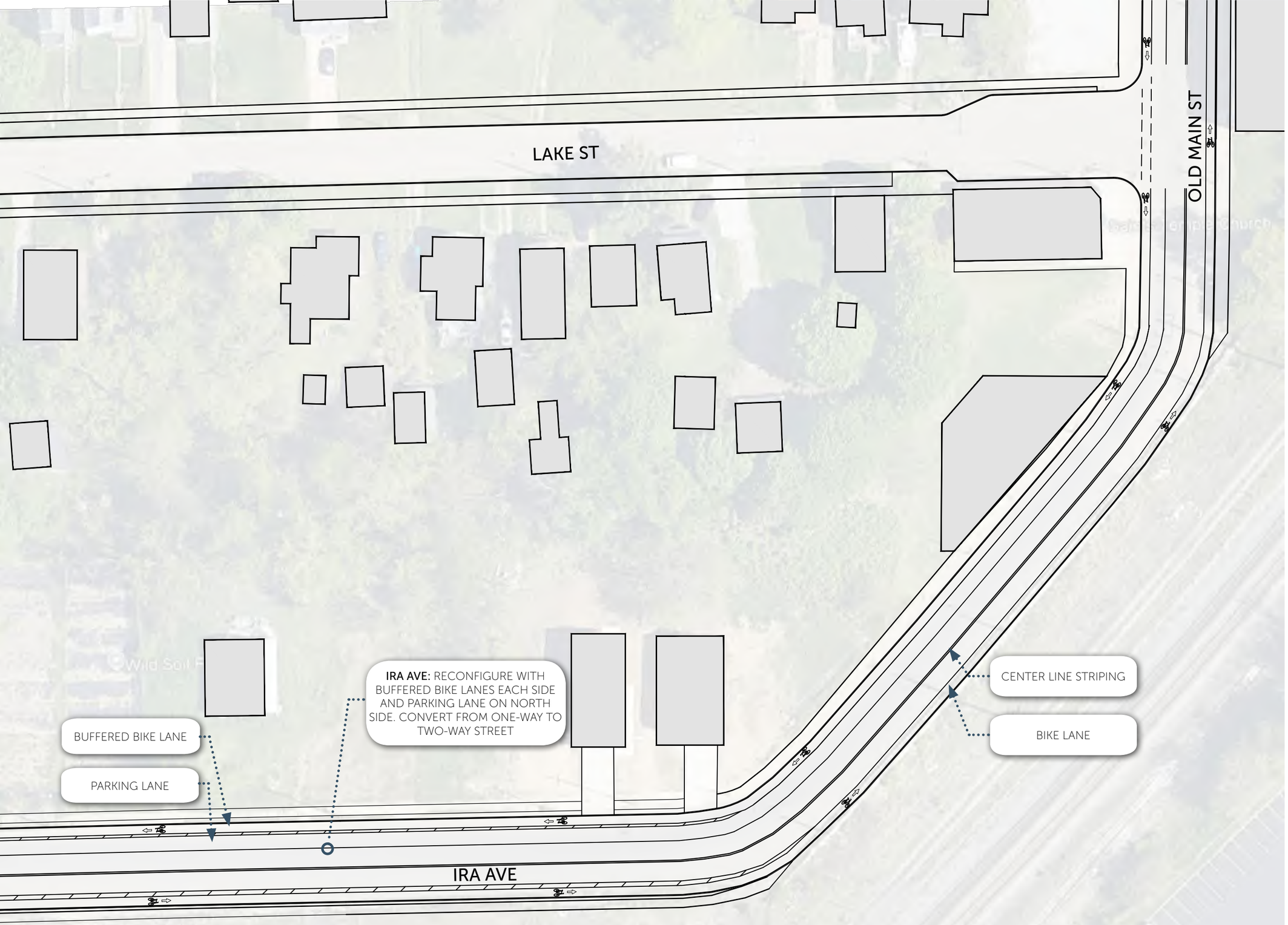
REPAIR SIDEWALK

RECONFIGURED INTERSECTION: FORMALIZE INTERSECTION. ADD STOP BARS IN EAST-WEST DIRECTION. ADD ARTICULATED BIKE AND PEDESTRIAN CROSSWALKS

IRA AVE: RECONFIGURE WITH BUFFERED BIKE LANES EACH SIDE AND PARKING LANE ON NORTH SIDE. CONVERT FROM ONE-WAY TO TWO-WAY STREET (RESTRIPE; REMOVE LIGHTS AND SIGNAGE ASSOCIATED WITH ONE-WAY CONFIGURATION).

N

0' 20' 40'



PRIORITY PROJECTS

LONG TERM IMPLEMENTATION

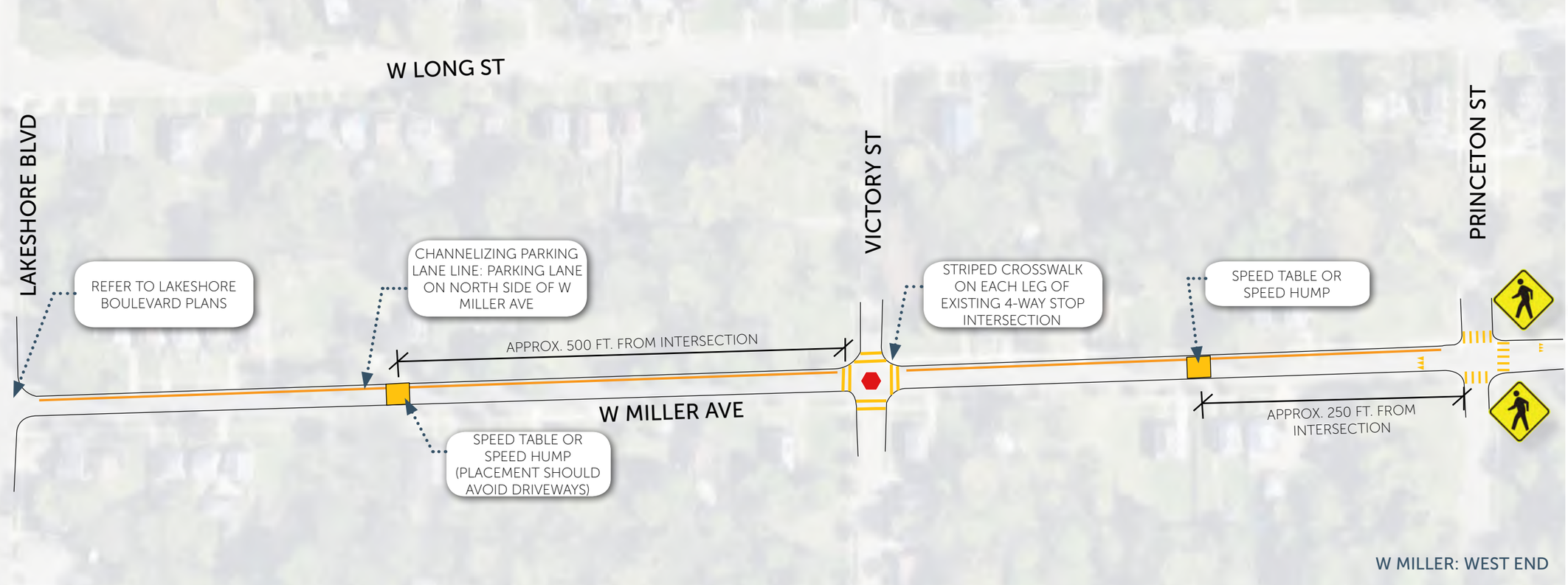
IRA AVE TO OLD MAIN ST

Projected Cost: Included in cost on previous page.

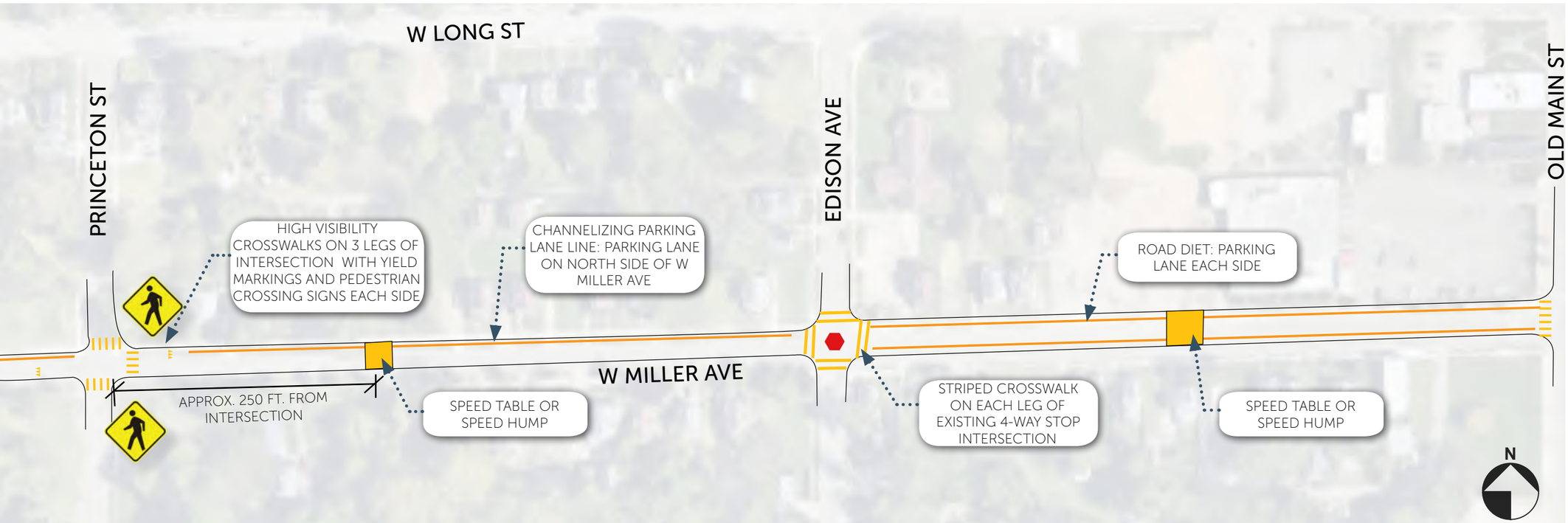
KEY FEATURES

- Conversion Ira Ave, from one-way to two-way roadways
- Narrowing of lanes on Ira Ave to 11'-0" for traffic calming while still allowing for commercial and industrial vehicles
- Buffered bike lanes on Ira Ave that transition to non-protected bike lanes connecting to Miller Ave
- Parking lane on north side of Ira Ave

TRAFFIC CALMING TOOLS USED:



W MILLER: WEST END



W MILLER: EAST END

PRIORITY PROJECTS

SHORT + LONG TERM IMPLEMENTATION

W MILLER AVE

Projected Cost: $63,700

KEY FEATURES

- Defined on street parking lane on the north side of the street (west of Edison Ave), and on both sides of the street east of Edison Ave
- Articulated pedestrian crossings
- High visibility crosswalk with yield markings at Princeton St interection to support north / south connections
- Speed tables to slow speeding traffic, especially along the section of W Miller from Victory St to Edison Ave. Avoid driveways when locating.

SHORT TERM IMPLEMENTATION

- Rubber Speed Tables

TRAFFIC CALMING TOOLS USED:

5 | APPENDIX

- Resources: National Traffic Calming Guidance
- Detailed Cost Estimates
- Funding Opportunities Database
- Community Engagement: Summit Lake Farmer's Market

NATIONAL TRAFFIC CALMING GUIDANCE

Several resources were referenced to compile the data contained in this report. The main resource was the Federal Highway Administration. Other resources were referenced to fill in additional data. Below are several (primarily) national resources that provide guidance and/or data in choosing specific countermeasures.

CRASH MODIFICATION FACTORS CLEARINGHOUSE DATA

The Crash Modification Factor (CMF) Clearinghouse is a database that stores research studies that have identified crash modification factors for various roadways treatments.

- Data
- User Guide

FEDERAL HIGHWAY ADMINISTRATION

These resources contain guidance and information for traffic calming measures as well as crash modification / reduction factors for those measures. Many of the crash and speed reduction figures included in the Traffic Calming Toolkit come from the Federal Highway Administration.

- Toolbox of Traffic Calming Measures
- Proven Safety Countermeasures
- Safety Programs

ENGINEERING SPEED MANAGEMENT COUNTERMEASURES

This resource contains studies that use pre- and post-implementation data to understand the effectiveness of different traffic calming tools in various contexts. Many of the speed reduction figures included in the Traffic Calming Toolkit are from this source.

- Desktop Reference of Potential Effectiveness 2023

PEDSAFE

This resource provides a quick reference guide to different kinds of traffic calming measures.

- Pedestrian Safety Guide and Countermeasure Selection System

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Though this resource is specific to California on a state level, it provides a thorough general overview of and guide to various traffic calming measures.

- Traffic Calming Guide

GREEN CITIES

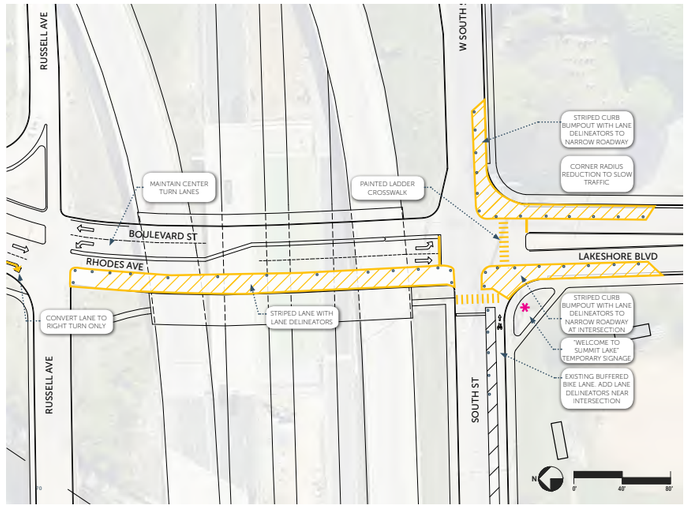
Though data is limited, this resource provided a guide to using landscaping and trees in traffic calming.

- Green Cities: Green Streets

DETAILED COST ESTIMATES

SHORT TERM IMPLEMENTATION

LAKESHORE BLVD + SOUTH ST + RUSSELL AVE INTERSECTION



Projected Cost: $39,900

Short term strategies for the intersection of Lakeshore, South, and Russell include using pavement marking and lane delineators to create curb bumpouts, articulate pedestrian crossings (with decreased distances), and remove a lane on the portion of Lakeshore that extends under the overpass.

Project Element	Quantity	Unit	Unit Cost	Total
Removal of Pavement Marking	60	LF	$2	$120
Stop Bar	30	LF	$9	$270
High Visibility Crosswalk (12" Wide)	60	LF	$4	$240
Transverse / Diagonal Striping	7,000	SF	$4	$28,000
Lane Arrow	1	EA	$105	$105
Flexible Lane Delineator Post	42	EA	$52	$2,184
Temporary Gateway Sign	1	Lump Sum	$1,000	$1,000
Construction Contingency			15%	$4,787
Professional Fees and Administration			10%	$3,192
			TOTAL	**$39,900**

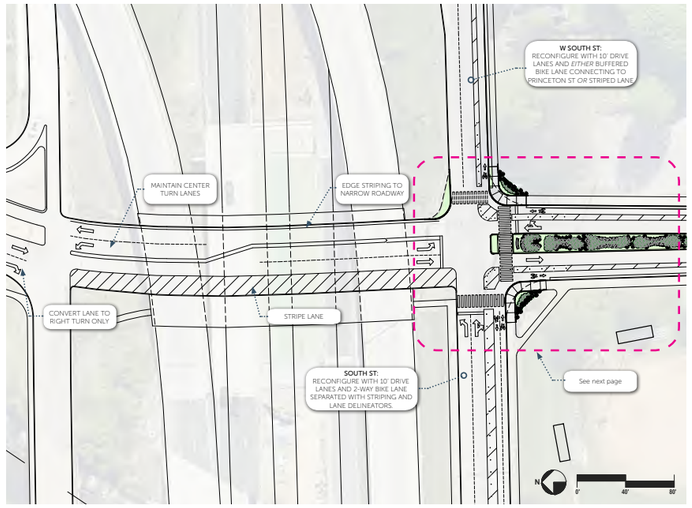
*Note that all estimates are rounded to the nearest $100.

LONG TERM IMPLEMENTATION

LAKESHORE BLVD + SOUTH ST + RUSSELL AVE INTERSECTION

Projected Cost: $131,600

As described previously, the Lakeshore Boulevard intersection with South St and Russell Ave is a key gateway to the Summit Lake neighborhood. The detailed cost includes improvements related to this intersection but not updates that carry down through each roadway leg of the intersection (e.g.: the road diets of South St and Lakeshore Boulevard). These are included as separate costs in the following pages.



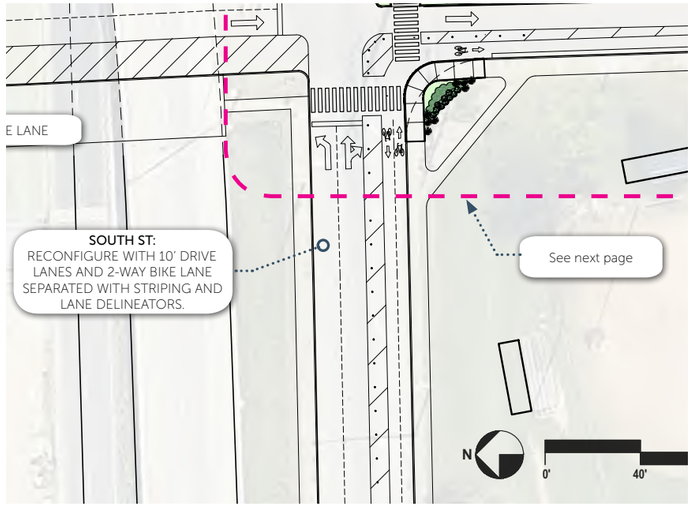
Project Element	Quantity	Unit	Unit Cost	Total
Removal of Pavement Marking	90	LF	$2	$180
Concrete Removal	2372	SF	$5	$11,860
New 4" Concrete	1776	SF	$10	$17,760
New 6" Curb	592	LF	$19	$11,248
Curb Ramp (Incl. Truncated Dome)	2	EA	$1,000	$2,000
Center Line	90	LF	$2	$180
Stop Bar	65	LF	$9	$585
High Visibility Crosswalk (12" Wide)	82	LF	$4	$328
Transverse / Diagonal Striping	6160	SF	$4	$24,600
Channelizing Line	455	LF	$2	$910
Lane Arrow	9	EA	$105	$945
Flexible Lane Delineator Post	30	EA	$52	$1,560
Densley Planted Low-Lying Landscaping and Mulch + Topsoil / Fill	2030	SF	$10	$20,300
Gateway Sign	1	EA	$8,000	$8,000
Pedestrian Leading Signalization Update	4	EA	$1,200	$4,800
Construction Contingency			15%	$15,788
Professional Fees and Administration			10%	$10,525
			TOTAL	**$131,600**

LONG TERM IMPLEMENTATION

SOUTH ST (MANCHESTER TO LAKESHORE)

Projected Cost: $154,600

With the development of the North Shore Park on the north end of the Lake, South St will be an important neighborhood link. Recommended improvements include pavement striping to narrow the drive lanes, provide a larger buffer to the bike lanes, convert the single bike lane to a two-way lane, and add lane delineators to provide increased protection to cyclists. *The conversion of South St from a one-way to a two-way is recommended, but requires analysis beyond the scope of this study, given the highway exit ramp.



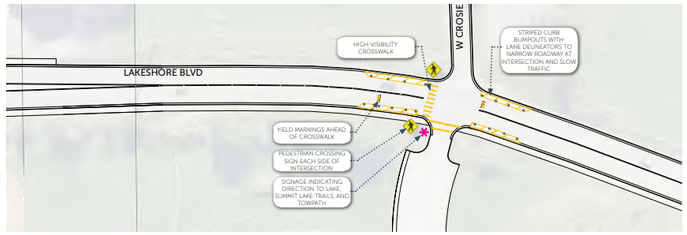
Project Element	Quantity	Unit	Unit Cost	Total
Removal of Pavement Parking	2700	LF	$2	$5,400
Transverse / Diagonal Striping (8 feet wide)	2700	LF	$36	$97,200
Channelizing / Lane Line	2700	LF	$2	$5,400
Bike Lane Center Line	2700	LF	$2	$5,300
Bike Lane Marking (2 every 250 LF)	22	EA	$150	$3,240
Flexible Lane Delineator Posts (1 every 20 LF)	135	EA	$52	$7,020
Construction Contingency			15%	$18,549
Professional Fees and Administration			10%	$12,366
			TOTAL	**$154,600**

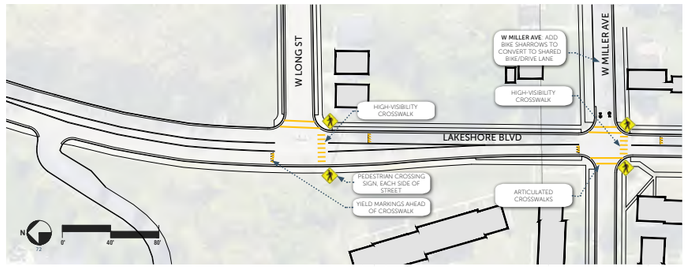
SHORT TERM IMPLEMENTATION

LAKESHORE BOULEVARD

Projected Cost: $42,600

As described in the previous section of the report, Lakeshore Boulevard is high priority for implementation to improve resident safety and access to the lake. The interventions on Lakeshore are primarily pavement markings to create a road diet on the northern portion of Lakeshore, increase pedestrian crossings, and convert the southern portion to a shared bike/drive lane that connects to the Kenmore Blvd bike route. The estimated cost excludes intersection specific treatments at Lakeshore and South St / Russell Ave.





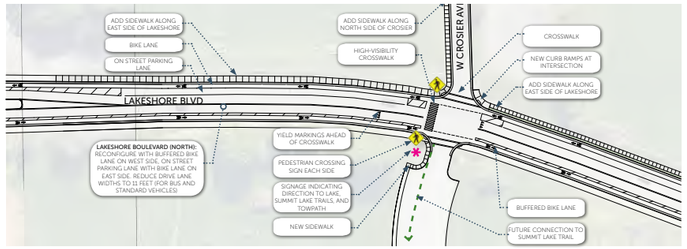
Project Element	Quantity	Unit	Unit Cost	Total
Pruning / Vegetation Removal	550	LF	$30	$16,500
High Visibility Crosswalk (12" Wide)	170	LF	$4	$680
Yield Line	60	LF	$18	$1,080
Transverse / Diagonal Striping	2,000	SF	$4	$8,000
Pedestrian Crossing Signs (2 at each crosswalk)	14	EA	$200	$2,800
Wayfinding Signage	1	Lump Sum	$5,000	$5,000
Construction Contingency			15%	$5,109
Professional Fees and Administration			10%	$3,406
			TOTAL	**$42,600**

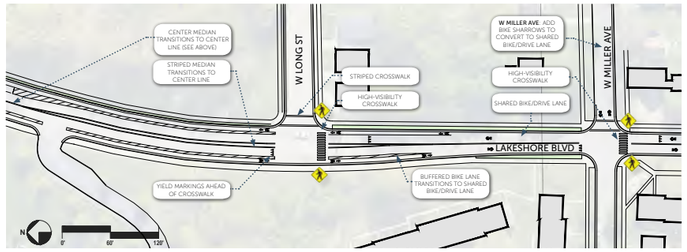
LONG TERM IMPLEMENTATION

LAKESHORE BOULEVARD

Projected Cost: $297,000

As described in the previous section of the report, Lakeshore Boulevard is high priority for implementation to improve resident safety and access to the lake. The interventions on Lakeshore are primarily pavement markings to create a road diet on the northern portion of Lakeshore, increase pedestrian crossings, and convert the southern portion to a shared bike/drive lane that connects to the Kenmore Blvd bike route. The estimated cost excludes intersection specific treatments at Lakeshore and South St / Russell Ave.





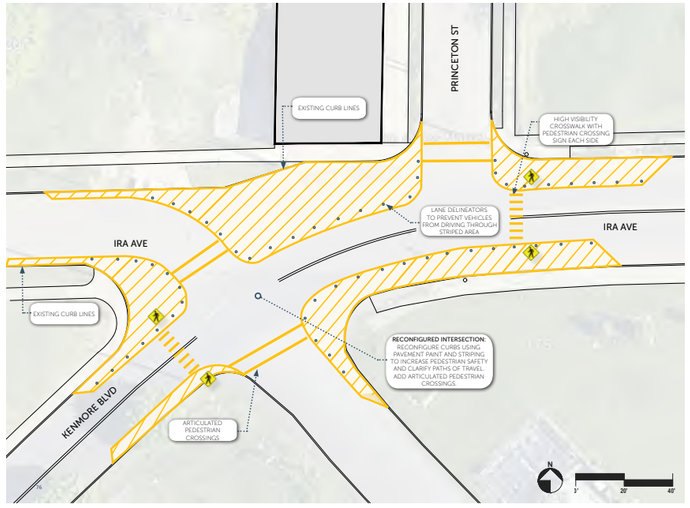
Project Element	Quantity	Unit	Unit Cost	Total
Removal of Pavement Marking	1500	LF	$2	$3,000
Pruning / Vegetation Removal	550	LF	$30	$16,500
New Sidewalk (4" Concrete + Curb)	1350	LF	$67	$90,450
Curb Ramp (Incl. Truncated Dome)	4	EA	$1,000	$4,000
Center Line	1600	LF	$2	$3,200
High Visibility Crosswalk (12" Wide)	170	LF	$4	$680
Striped Painted Crosswalk	220	LF	$2	$440
Yield Line	60	LF	$18	$1,080
Transverse / Diagonal Striping	7,800	SF	$4	$31,200
Channelizing Line	1,600	LF	$2	$3,200
Bike Sharrows (Southern Portion)	36	EA	$296	$10,660
Bike Lane Markings	14	EA	$150	$1,920
Pedestrian Crossing Signs (2 at each crosswalk)	14	EA	$200	$2,800
Wayfinding Signage	1	Lump Sum	$20,000	$20,000
Street Tree Allowance	1	Lump Sum	$12,000	$12,000
Retaining Wall (At Crosier Intersection)	60	LF	$600	$36,000
Construction Contingency			15%	$35,595
Professional Fees and Administration			10%	$23,730
			TOTAL	**$296,700**

SHORT TERM IMPLEMENTATION

KENMORE BLVD + PRINCETON ST + IRA AVE INTERSECTION

Projected Cost: $41,700

Short term improvements on the Kenmore / Princeton / Ira intersection include reconfiguration of the intersection using striped pavement markkings and flexible lane delineators posts. The plan also includes articulated crosswalks in the east west direction (across Ira and Princeton).



Project Element	Quantity	Unit	Unit Cost	Total
Painted Striped Crosswalk	120	LF	$2	$240
High Visibility Crosswalk (12" Wide)	60	LF	$4	$240
Transverse / Diagonal Striping	6,800	SF	$4	$27,200
Flexible Lane Delineator Post	55	EA	$52	$2,860
Pedestrian Crossing Signs	4	EA	$200	$800
Adjust Stop Sign Locations	1	Lump	$2,000	$2,000
Construction Contingency			15%	$4,881
Professional Fees and Administration			10%	$3,254
			TOTAL	**$40,700**

Ira Avenue (Nature Center to Kenmore Blvd): $8,500 ($4.21/LF)

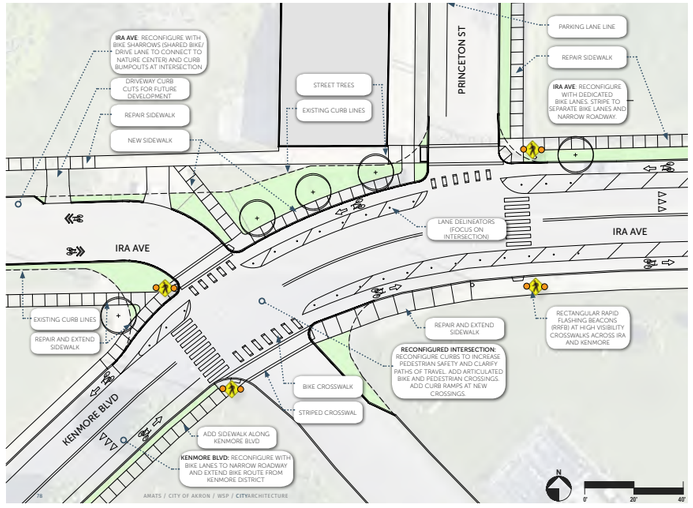
Bike Sharrows	16	EA	$296	$4,736
Graphics / Wayfinding (to Lake)	1	Lump	$2,000	$2,000
Construction Contingency and Fees			25%	$1,684
			TOTAL	**$8,500**

LONG TERM IMPLEMENTATION

KENMORE BLVD + PRINCETON ST + IRA AVE INTERSECTION

Projected Cost: $145,400

Proposed improvements to the Kenmore / Princeton / Ira intersection include a reconfiguration of the intersection to improve clarity of traffic flow, prioritizing Kenmore Blvd as the main thru-street and Ira / Kenmore as the main intersection. The reconfiguration is accomplished by building out new curbs and sidewalks. The concept proposes striping Kenmore (from Lakeshore Blvd to Ira Ave) to create a buffered bike lane to connect the Kenmore District and Summit Lake, as well narrowing of roadway and drive lanes for traffic calming.



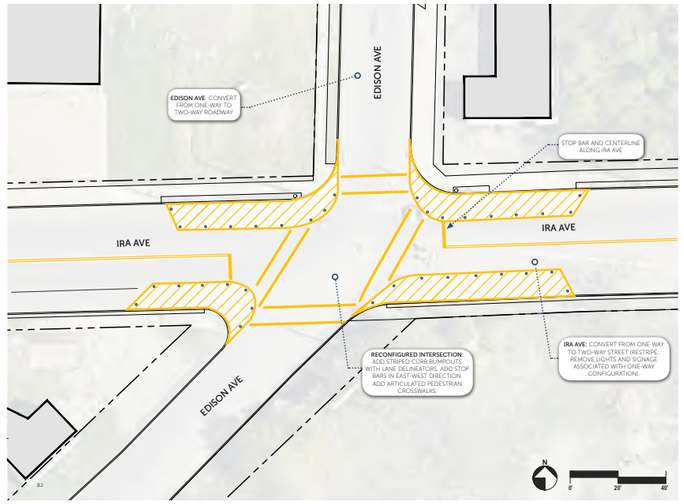
Project Element	Quantity	Unit	Unit Cost	Total
Sidewalk Replacement (Demo+New Concrete+Curb)	540	LF	$75	$40,500
New 4" Concrete	1000	SF	$10	$10,000
New 6" Concrete Curb	410	LF	$19	$7,790
Curb Ramp (Incl. Truncated Dome)	6	EA	$1,000	$6,000
Painted Bike Crossing	70	LF	$4	$280
Painted Striped Crosswalk	120	LF	$2	$240
Channelizing / Parking Lane Line	300	LF	$2	$600
Transverse / Diagonal Striping	2,000	SF	$4	$8,000
Flexible Lane Delineator Post	26	EA	$52	$1,352
Grass	2500	SF	$5	$12,500
Street Trees	5	EA	$805	$4,025
Wayfinding Signage (to Lake / Nature Center)	1	Lump Sum	$5,000	$5,000
Rectangular Rapid Flashing Beacons	4	EA	$5,000	$20,000
Construction Contingency			15%	$17,443
Professional Fees and Administration			10%	$11,628
			TOTAL	**$145,400**

SHORT TERM IMPLEMENTATION

IRAV AVE + EDISON AVE INTERSECTION

Projected Cost: $34,900

Short term Ira / Edison intersection improvements include: converting Ira Ave (to Old Main St) and Edison Ave from two-way to one way streets as well narrowing the intersection using pavement markings and lane delineators to create curb bumpouts. T



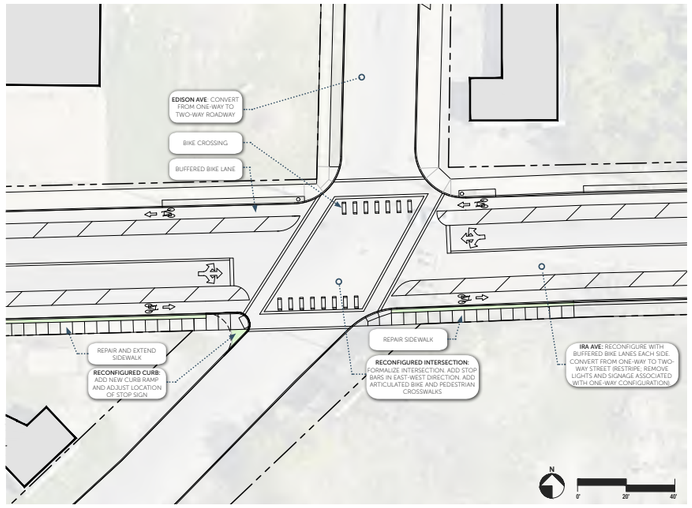
Project Element	Quantity	Unit	Unit Cost	Total
Site Demo: One Way Signage, Curb, Signalization	1	Lump Sum	$6,000	$6,000
Painted Striped Crosswalk	360	LF	2	$720
Stop Bar	22	LF	$9	$198
New Signage	2	EA	$500	$1,000
Remove Pavement Markings	1,000	LF	$2	$2,000
Center Line	1,000	LF	$2	$2,000
Transverse / Diagonal Lines	4,000	SF	$4	$16,000
Construction Contingency			15%	$4,187
Professional Fees and Administration			10%	$2,791
			TOTAL	**$34,900**

LONG TERM IMPLEMENTATION

IRA AVE + EDISON AVE INTERSECTION

Projected Cost: $105,700

The Ira / Edison intersection improvements include reconfiguring both Edison Ave and Ira Ave from one-way to two-way streets. The concept also proposes a road diet for Ira Ave that includes buffered bike lanes (continued from Kenmore Blvd and indicated as a future connection in the City of Akron Bike Plan). The cost estimate below includes both the intersection and the updates on Ira Ave from Princeton St to Ira's transition into Old Main St to the east.



Project Element	Quantity	Unit	Unit Cost	Total
Site Demo: One Way Signage, Curb, Signalization	1	Lump Sum	$5,000	$6,000
Sidewalk Replacement (Demo+New Concrete+Curb)	200	LF	$75	$15,000
New 4" Concrete	75	SF	$10	$750
New 6" Concrete Curb	38	LF	$19	$722
Curb Ramp (Incl. Truncated Dome)	1	EA	$1,000	$1,000
High Visibility Crosswalk (12" Wide)	56	LF	$4	$720
Painted Striped Crosswalk	360	LF	$2	$720
Stop Bar	22	LF	$9	$198
Grass	300	SF	$5	$1,500
Remove Pavement Markings	1,000	LF	$2	$2,000
Center Line	1,000	LF	$2	$2,000
Channelizing / Lane Lines	2,000	LF	$2	$4,000
Transverse / Diagonal Lines	12,000	SF	$4	$48,000
Bike Lane Marking	16	EA	$150	$2,400
Construction Contingency			15%	$12,677
Professional Fees and Administration			10%	$8,451
			TOTAL	**$105,700**

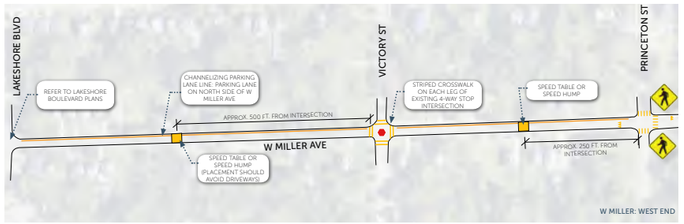
SHORT + LONG TERM IMPLEMENTATION

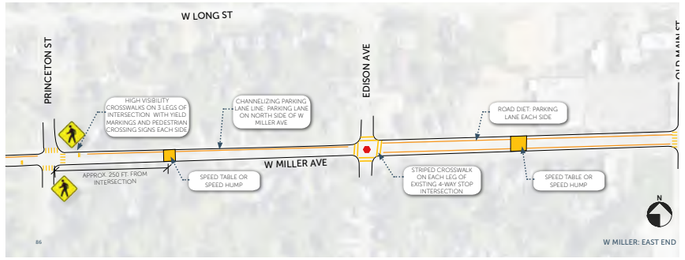
W MILLER AVE

Projected Cost: $63,700

Improvements to W MIller Ave include on street parking lanes, speed tables (with the option to use speed humps) and articulated pedestrian crossings.

Items may be implemented in stages as funding is available, but speed tables are recommended for initial implmentation to slow traffic on W Miller. It is possible that these may be implemented using the City of Akron's pre-existing stock of rubber speed tables as part of the Traffic Calming Program.





Project Element	Quantity	Unit	Unit Cost	Total
Channelizing / Parking Lane Line	4,500	Lump Sum	$2	$9,000
Painted Striped Crosswalk	200	LF	$2	$400
High Visibility Crosswalk	22	LF	$9	$198
Yield Line	24	LF	$18	$432
Pedestrian Crossing Signs	4	EA	$200	$800
Speed Tables	4	EA	$10,000	$40,000
Construction Contingency			15%	$7,638
Professional Fees and Administration			10%	$5,092
			TOTAL	**$63,700**

POTENTIAL FUNDING SOURCES

Description & Link	Eligible Applicants	Categories	Local Match
FEDERAL PROGRAMS			
Federal Highway Administration Bicycle and Pedestrian Planning, Program, and Project Development			
The Federal Highway Administration prepared a guide to identify and describe the range of opportunities to improve conditions for bicycling and walking, consistent with the Department of Transportation goals for a safe, comfortable, equitable, and integrated multi-modal transportation network infrastructure that serves all ages and abilities. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/	Counties, Municipalities, States, Tribes	Bike/Pedestrian, Bikeways, Pedestrian	0-20%
BUILD: Better Utilizing Investments to Leverage Development Transportation Grant Program			
The Better Utilizing Investments to Leverage Development (BUILD) Transportation Grant Program (formerly TIGER or Transportation Investment Generating Economic Recovery) provides funding for innovative, multi-modal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits to an entire metropolitan area, a region, or the nation. https://www.transportation.gov/BUILDgrants	Counties, Municipalities, Port Authorities, Transit Agencies	Bike/Pedestrian, Bikeways, Bridge, Pedestrian, Road, Road/Bridge, Transit, Transit Capital, Transit Center Facilities	20%
Rural Transportation Assistance Program (5311 b3)			
Federal and State funds are used to assist with operating and capital expenses in the provision of general public transportation services in rural and small urban areas. Section 5311 funds can be used for up to 50% of the net project cost of operating expenses and up to 80% of the cost of capital projects. State General Revenue funds, through the Ohio Public Transportation Grant Program, are also available to provide up to 30% of eligible operating costs and up to 10% of the costs of capital projects https://www.transportation.ohio.gov/programs/transit/transit-funding-resources/rural-transit	Counties, Municipalities, Non Profits, Transit Agencies	Communications Equipment, Computer Hardware/Software, Intelligent Transportation Systems, Mobility Management, Transit, Transit Capital, Transit Center Facility, Transit Operating, Vehicles	20%-50%
AMATS Resurfacing Program			
Resurfacing projects on non-state routes using AMATS STP funds. https://www.fhwa.dot.gov/infrastructure-investment-and-jobs-act/attain.cfm	Communities within the AMATS region.	Principal and minor arterials, urban collectors and major rural collectors that are not on a state route.	20%
Surface Transportation Block Grant			
STP funds are the most versatile and may be used for any project that is recommended in or consistent with the AMATS Regional Transportation Plan. STP funds can be used on any federal-aid roadway classified above a local road or a rural minor collector and bridge projects on any public road	Counties, Municipalities	Highway projects and bridge improvements (construction, reconstruction, rehabilitation, resurfacing, restoration, and operational), transportation system management, public transit capital improvement projects, commuter rail, carpool projects, bus terminals and facilities, bikeways, pedestrian facilities and planning studies	20%
Transportation Alternatives (TA Set-Aside)			
Highway Administration (FHWA) will refer to these funds as the TA Set-Aside. The TA Set-Aside authorizes funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity; recreational trail projects; safe routes to school projects; and projects for planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former divided highways. https://www.fhwa.dot.gov/environment/transportation_alternatives/	Local Governments, Regional Transportation Authorities, Transit Agencies, Natural Resource or Public Land Agencies, School Districts, Local Education Agencies or Schools, Tribal Governments, Nonprofit entities responsible for the administration of local transportation safety programs, other Local or Regional Governmental entity with responsibility for or oversight of transportation or recreational trails.	variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.	0-20%
Congestion Mitigation and Air Quality (CMAQ) Improvement Program			
Congestion Mitigation and Air Quality (CMAQ) funds can only be used for projects that help reduce traffic congestion and improve air quality. These funds may be used for traffic signal upgrade projects, bus replacements, bike facilities, intelligent transportation system improvements, transit center and Park-and-Ride construction. https://www.fhwa.dot.gov/infrastructure-investment-and-jobs-act/cmaq.cfm	Counties, Metroparks, Municipalities, Port Authorities, Transit Agencies	Bike/Pedestrian, Bikeways, Communications Equipment, Computer Hardware/Software, Congestion, Intelligent Transportation Systems, Pedestrian, Road, Road/Bridge Safety, Traffic Signal Upgrade, Transit Capital, Transit Center Facility, Vehicles	0%-25%
Building Blocks for Sustainable Communities (USEPA)			
Many communities around the country are asking for tools to help them achieve their desired development goals, improve quality of life, and become more economically and environmentally sustainable. In response to this demand, EPA developed the Building Blocks for Sustainable Communities Program in 2011. Building Blocks for Sustainable Communities provides quick, targeted technical assistance to selected communities using a variety of tools that have demonstrated results and widespread application. https://www.epa.gov/smartgrowth/building-blocks-sustainable-communities	Local, county, or tribal governments, or nonprofit organizations that have the support of the local government on whose behalf they are applying	Sustainable Communities	Not Provided

Description & Link	Eligible Applicants	Categories	Local Match
Active Transportation Infrastructure Investment Program (ATIIP)			
The ATIIP is available for 1) Planning and Design Grants and 2) Construction grants. Eligible project will help improve safety, efficiency, and reliability of active transportation networks and communities; improve connectivity; enhance resiliency of on- and off-road active transportation infrastructure; and improve quality of life in disadvantaged communities through connected active transportation networks. https://www.transportation.gov/rural/grant-toolkit/active-transportation-infrastructure-investment-program-atiip	Local or State governments, Tribes, Planning and Project Organizations	Bike/Ped; Roadway	Not Provided
Community Development Block Grant **State Administered CDBG and the Neighborhood Stabilization Program**			
The Community Development Block Grant (CDBG) program is a flexible program that provides communities with resources to address a wide range of unique community development needs. Federal funding through Housing and Urban Development (HUD) for public facilities: road resurfacing, crosswalks, street lights, traffic/pedestrian signals, barrier removal for handicap accessibility (e.g., sidewalks, curb ramps), and street furniture. The annual CDBG appropriation is allocated between states and local jurisdictions called "non-entitlement" and "entitlement" communities respectively. Entitlement communities are comprised of central cities of Metropolitan Statistical Areas (MSAs); metropolitan cities with populations of at least 50,000; and qualified urban counties with a population of 200,000 or more (excluding the populations of entitlement cities). States distribute CDBG funds to non-entitlement localities not qualified as entitlement communities. Check HUD's, County's, or City's website to see if funding is eligible in your location. https://www.hud.gov/program_offices/comm_planning/cdbg	Counties, Municipalities	Bike, Pedestrian, Bikeways, Bridge, Pedestrian, Road, Road/Bridge, Safety	Varies
STATE PROGRAMS			
Rural Transportation Assistance Program (5311 b3)			
Many communities around the country are asking for tools to help them achieve their desired development goals, improve quality of life, and become more economically and environmentally sustainable. In response to this demand, EPA developed the Building Blocks for Sustainable Communities Program in 2011. Building Blocks for Sustainable Communities provides quick, targeted technical assistance to selected communities using a variety of tools that have demonstrated results and widespread application https://www.epa.gov/smartgrowth/building-blocks-sustainable-communities	Local, county, or tribal governments, or nonprofit organizations that have the support of the local government on whose behalf they are applying	Sustainable Communities	Not Provided
Ohio State Infrastructure Bank (SIB) (Ohio Department of Transportation)			
The Ohio State Infrastructure Bank provides loans to fund highway, rail, transit, intermodal, and other transportation facilities and projects which produce revenue to amortize debt while contributing to the connectivity of Ohio's transportation system and further the goals such as corridor completion, economic development, competitiveness in a global economy, and quality of life. https://www.transportation.ohio.gov/programs/state-infrastructure-bank/	Counties, Municipalities, Port Authorities, Transit Agencies	Bike/Pedestrian, Bikeways, Bridge, Congestion, Freight, Pedestrian, Road, Road/Bridge, Safety, Traffic Signal Upgrade, Transit, Transit Capital, Transit Center Facility, Vehicles	N/A

Description & Link	Eligible Applicants	Categories	Local Match
Recreation Trails Program (Ohio Department of Natural Resources)			
Includes development of urban trail linkages, trailhead & trailside facilities, acquisition of easements & property, development and construction of new trails https://ohiodnr.gov/buy-and-apply/apply-for-grants/grants/recreational-trails-program	Counties, Metroparks, Municipalities, Non Profits, Port Authorities	Bike Safety Program, Bike/Pedestrian, Bikeways, Pedestrian, Pedestrian Safety Program	20%
Pedestrian and Bicycle Special Solicitation			
ODOT is hosting a special solicitation for projects that make walking and biking a safe, convenient, and accessible transportation option for all Ohioans. A variety of pedestrian and bicycle related projects are eligible for this opportunity with an emphasis on projects that can begin construction before July 2026. Eligible projects include pedestrian/bicycle related plans or studies; data collection; education and promotion on multi-modal transportation; short term infrastructure projects that can begin by June 30, 2026; traditional infrastructure projects. https://www.transportation.ohio.gov/working/funding/resources/pedbikefunding	Counties, Municipalities, School Districts, Park Districts, Regional Planning Organizations	Bike/Pedestrian, Bikeways, Pedestrian, Bike Safety Program, Pedestrian, Pedestrian Safety Program	20%
ODOT Program Resource Guide (Bicycle and Pedestrian)			
Bicycle and Pedestrian facilities can be eligible for funding in a variety of transportation funding programs if they are appurtenances to the roadway project itself. A standalone bicycle and/or pedestrian project can be funded with Transportation Alternative, Clean Ohio Trails, and Recreational Trails Program funds. The projects must relate to transportation, i.e., getting somewhere, with logical termini at each end. ODOT administers and funds projects in the rural areas of Ohio with Transportation Alternatives funding, while the Metropolitan Planning Organizations selects Transportation Alternative projects in urban areas https://www.transportation.ohio.gov/working/publications/odot-resource-guide	Municipalities	Bike Safety Program, Bike/Pedestrian, Bikeways, Safety	0-20%
Safe Routes to School Program (Ohio Department of Transportation)			
The purpose of Safe Routes to School is to encourage and enable students in grades K-8to walk or ride their bicycle to school. Projects can be either engineering (improved crossings, sidewalks, etc.) or non-engineering (education and encouragement programs). The responsibility of a safe route to school is ultimately shared by the user,government agencies, elected officials, schools, and safety advocates https://www.transportation.ohio.gov/programs/safe-routes-srts/home	Municipalities, Non Profits, School Districts	Bike Safety Program, Bike/Pedestrian, Bikeways, Helmets, Pedestrian, Pedestrian Safety, Program Planning, Road, Road/Bridge, Safety	0%
Highway Safety Improvement Program (Ohio Department of Transportation)			
Ohio Safety Improvement Program provides funding to ODOT district offices and local governments to make infrastructure improvements like installing high-visibility crosswalks, building a roundabout, or adding turn lanes at intersections. The goal is to help prevent serious injuries and traffic deaths on Ohio roads. https://www.transportation.ohio.gov/programs/highway+safety/highway-safety-improvement-program	Municipalities, Non Profits, School Districts	Bike Safety Program, Bike/Pedestrian, Bikeways, Safety	10%

Description & Link	Eligible Applicants	Categories	Local Match
Urban Paving Program (Ohio Department of Transportation)			
The ODOT Urban Paving Program provides funds to cities for surface treatment and resurfacing projects located on State and U.S. Routes within city corporation limits. Eligible projects are those that have a Pavement Condition Rating (PCR) of 55 or worse according to ODOT's Pavement Condition Rating System. https://www.transportation.ohio.gov/working/funding/resources/urban-paving	Counties, Municipalities	Bridge, Road, Road/Bridge	20%
OTHER PROGRAMS			
PeopleForBikes Bike Industry Community Grant Program			
People For Bikes Community Grant Program supports bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride. https://www.peopleforbikes.org/grant-guidelines	Counties, Metroparks, Municipalities, Non-Profits, Port Authorities, Sewer Districts, Transit Agencies	Bike/Pedestrian, Bikeways, Bridge, Road, Road/Bridge	
State Farm Insurance Good Neighbor Citizenship Company Grants			
Strong neighborhoods are the foundation of a strong society. State Farm is committed to maintaining the vibrancy of our communities by assisting nonprofits that support: affordable housing, first time homeowners, neighborhood revitalization, financial literacy, job training, and small business development. Through community outreach and community development grants and investments, State Farm gives back to the neighborhoods it serves and helps develop stronger neighborhoods by reinvesting in the community. https://www.peopleforbikes.org/grant-guidelines	Programs conducted by Municipal, county, state or federal government entities or Non Profits that align with State Farm's charitable focus.	Safety, Community Development, Education	Not Provided
Rockefeller Foundation Grants			
The Rockefeller Foundation works to spread the benefits of globalization to more people in more places around the world. Funding inquiries must fit within these core areas: Health, Food, Power, Resilient Cities, Innovation and Co-Impact. Resilient Cities focuses on helping cities worldwide build better and build back to improve the lives and well-being of urban populations. https://www.rockefellerfoundation.org/	Counties, Metroparks, Municipalities, Non Profits, Port Authorities, School Districts, Sewer Districts, Transit Agencies	Bike Safety Program, Bike/Pedestrian, Bikeways, Community Water System Improvements, Environmental, Helmets, Intelligent Transportation Systems, Mobility Management, Pedestrian, Pedestrian Safety Program, Planning, Resilience Efforts, Storm Water Improvement, Transit, Transit Center Facility	N/A
Goodyear Community Support			
Goodyear's grant program is designed to utilize resources to build and support collaborative programs within our community investment focus areas. Our key focus areas reflect the global and local nature of our business and where Goodyear can make the greatest impact including: promoting safe mobility to make our communities stronger (safe); inspiring people to reach their potential in school and prepare for careers (smart); and, reducing waste and conserving energy for our planet (sustainable). https://corporate.goodyear.com/en-US/responsibility/community/community-support.html	Organizations that demonstrate competency and effectiveness	Promoting safe mobility to make our communities stronger (safe), and reducing waste and energy conservation (sustainable)	N/A

Description & Link	Eligible Applicants	Categories	Local Match
GAR Foundation			
GAR grants are awarded to organizations and programs that help Akron, Ohio become smarter, stronger, and more vibrant. http://garfoundation.org/	High-functioning organizations working at scale in the Akron Community to benefit Akron, OH residents, and Section 501(c)(3) organizations	Economic and Workforce Development	Not Provided
REI Community Investment and Engagement			
REI is working to reduce the barriers to life outside. Their philanthropy and advocacy work helps push to imagine a world where green, outdoor natural space is within an easy walk from every American's home or work place. A lot of REI's work supports rural communities across the United States that serve as connection points to our iconic outdoor places. They are also committed to "rewilding" our big cities by developing green spaces and creating sustainable transportation alternatives because close to 80% of the American population lives in cities now. Each year, the REI co-op invests in local, regional, and national nonprofits throughout the country. At the very local level, the outdoor programs and outreach teams work with local store managers to identify partners that we invite to apply for grants. They support more expansive landscapes (like National Parks), innovative ways of connecting people to transformational outdoor experiences, and advocacy work that aligns with human-powered recreation. https://www.rei.com/stewardship/creating-access	local, regional, and national nonprofits	Trails, Sustainable Transportation Alternatives	Not Provided

COMMUNITY ENGAGEMENT: SUMMIT LAKE FARMER'S MARKET

The project team participated in the Summit Lake Farmer's Market on Tuesday, July 8th, 2025. The materials provided included a series of boards providing plans and project updates (included in this report) and asking for community feedback. Community members were asked to participate in a dot exercise to identify preferred types of elements to be included in the Summit Lake neighborhood's visual identity, as well as open ended questions for residents to provide additional feedback.

Community members responded favorably to artwork, signage (both temporary and permanent wayfinding and historic signage / ground markings), improved lighting, a gateway element (which is identified as part of the Lakeshore Boulevard and South Street intersection improvements), and pedestrian signalization. They also identified magenta and blue as the two most preferred colors to be incorporated into amenities, artwork, and signage.

As the recommendations of this plan are implemented, these elements and colors should be considered for incorporation into both temporary and long term improvements towards an increased sense of neighborhood identity, safety, and connectivity.

COMMUNITY FEEDBACK