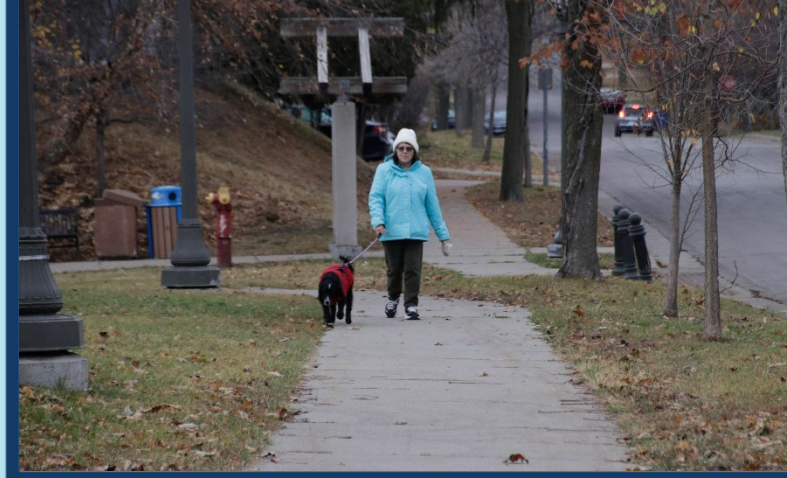
Flandrau Street Bicycle Boulevard Plan

City of Saint Paul, MN

SAINT PAUL
MINNESOTA

June 2023



Acknowledgement

Flandrau Planning/Advisory Team:

Jimmy Shoemaker, Senior Transportation Planner, Saint Paul Public Works

Joe Widing, Senior Transportation Planner, Saint Paul Public Works

Randy Newton, Traffic Engineer, Saint Paul Public Works

Reuben Collins, Transportation Planning Manager, Saint Paul Public Works

Kat Brown, Toward Zero Deaths Coordinator, Saint Paul Police Department

David Ackos, Community Organizer, Greater East Side Community Council (Saint Paul District 2)

Ianni Houmas, Board President and Flandrau Resident, Greater East Side Community Council (Saint Paul District 2)

Rebecca Tryon, Board Member, Greater East Side Community Council (Saint Paul District 2)

Uriah Ward, Executive Director, Southeast Community Organization (Saint Paul District 1)

Nick Frost, Flandrau Resident

James Bradford, Resident

Sarah Stewart, Safe Routes to School Lead, Saint Paul Public Schools

Eric Saathoff, Teacher and Patrol Supervisor, Nokomis Montessori South Campus

Zack Mensinger, Saint Paul Bicycle Coalition

DEPARTMENT OF TRANSPORTATION

The Plan was funded through the Minnesota Department of Transportation's (MnDOT) Active Transportation Program.

Learn more:

https://www.dot.state.mn.us/active-transportation-program/

MnDOT Planning Assistance Consultant Team:

Terra Soma, LLC

HDR, Inc.

Executive Summary

Flandrau Street Bicycle Boulevard Plan is the result of an eight-month collaboration from October 2022 to May 2023. This is the first step in the process towards creating a bicycle boulevard that not only connects people to where they want to go, but celebrates the diverse cultures and people of the Greater East Side of Saint Paul.

A Local Planning Team came together to set direction, co-create strategy and lead engagement, which included a bike audit of the corridor, a workshop, mailers to all Flandrau residents, virtual open house, multiple listening sessions and online information and interactive mapping to collect broader input.

This process illuminated the **need to address safety as a number one priority** for **active transportation users** and better manage and minimize vehicle through-traffic and speeding that occurs along Flandrau Street to make **walking, biking and rolling safer and more comfortable for people of all ages and abilities.** The Flandrau Street Bicycle Boulevard will create a **more equitable transportation** option and provide those traveling without a vehicle a direct and quiet route to walk, bike and/or roll to school, to a park, to visit a neighbor, access a shop or get to work. While Flandrau Street serves as an important backbone in Saint Paul's bicycle network, part of the community vision is to ensure the **street is beautiful and invites play and community connection**. Many of the starter ideas outlined in this Plan can be done relatively quickly and at a low cost to start to test and refine ideas with residents.

The City will continue to engage corridor residents, neighborhood partners and other stakeholders as they move the starter ideas forward.

The Plan serves as a living guide. It establishes clear, evidence-based and action-oriented recommendations and next steps to guide future design and implementation to make a model green, livable and more inviting residential street that puts people first.

What's Included in the Plan?

1. **Why Flandrau Street?**
   Why Flandrau Street and Active Transportation; Safe Systems Approach; How the Plan was Developed
2. **Flandrau Street Today**
   Existing Conditions; Key Insights
3. **Bicycle Boulevard Toolbox**
   Illustration of Key Tools and Treatments
4. **Corridor Vision**
   Vision and Goals; Key Segment Starter Ideas and Recommendations
5. **Moving Forward**
   Next Steps; Call to Action

Introduction

SECTION 1

Why Flandrau Street?

The **2015 Saint Paul Bicycle Plan** identified Flandrau Street as a bicycle boulevard given its low vehicle volume and low speed, residential nature. The **2023 Bike Plan Update** notes Flandrau as one of the city's priority routes and a backbone corridor within the city's bicycle network. Additional features of Flandrau Street that make it a good choice for a bicycle boulevard are:

- **Continuity:** Flandrau Street is one of the few north/south streets on the east side that crosses the east/west running Canadian Pacific railroad tracks. Other streets would require people walking, biking and rolling to divert their trip at the railroad tracks to another through street.
- **Connectivity & Equity:** Flandrau Street connects to multiple schools, low-income apartments and parks along its 2.8-mile length as well as the future Gold Line BRT (along with possible Purple Line BRT connectivity), regional trails and east/west bike facilities on Larpenteur Avenue, Arlington Avenue, Ivy Avenue and Margaret Street.
- **Destinations:** Flandrau Street is one block to the west of White Bear Avenue, a local business destination with many retailers and restaurants. While White Bear Avenue has many destinations people walking and biking would like to access, it is not comfortable or welcoming for people to bicycle (or walk) along due to multiple lanes, high traffic volumes and high motorist speeds. Flandrau Street bicycle boulevard would provide a comfortable parallel route for people on bike and foot.

What is a Bicycle Boulevard?

Bicycle boulevards (or neighborhood greenways) are **low-volume** and **low-speed** neighborhood **residential streets** that **prioritize people walking** and **bicycling**, and discourage motor vehicle through traffic.

This is achieved through **traffic calming** and **traffic reduction** treatments, **signage** and **pavement markings** and **intersection crossing treatments**. Combined, these treatments create an **attractive, convenient and comfortable shared street environment** that is welcoming to people of all ages and abilities walking and bicycling.

Photos (bottom left to right):

- Neighborhood traffic circle on Margaret Street Bicycle Boulevard serves as a traffic calming treatment near Harding High School.
- A median on Lexington Avenue eliminates through movement of motor vehicles traveling along Charles Avenue Bicycle Boulevard while providing continuous travel for people biking and walking, maintaining low vehicle volumes and priority to cyclists.
- A family of four biking along Charles Avenue Bicycle Boulevard.

Advancing Equity

Who Will Flandrau Street Serve?

Active transportation not only provides more sustainable streets, but it creates more equitable by design. People walk, bike and roll to meet their daily needs for many reasons: for exercise, to connect with friends, enjoy nature, access transit, get to work, school, the grocery store and more. Focusing on the most vulnerable transportation users – people walking and biking– ensures streets and land use connections are human-scale and designed for the needs of many. This is especially important for people with disabilities, children and older adults.

Foundational to the Plan, equity is infused into the goals, starter concepts and recommendations to ensure the bicycle boulevard is reflective of and co-created by the diversity of ages, abilities, cultures and backgrounds that make up the neighborhood. Flandrau Street Bicycle Boulevard has the opportunity to advance transportation and social equity:

- **25%** of Greater East Side residents who walk, bike and take transit to work **don't own a car**
- More than 4,300 Saint Paul Public School (SPPS) students attend schools within 0.6 miles of Flandrau Street. Of those **students**, more than **1,000 live within one mile of school**
- **26%** of Greater East Side residents **under 18 years old live in poverty**
- **43%** of Greater East Side residents **speak a language other than English** (Mncompass.org)

This Plan uses a broad definition of pedestrian and walking. The terms "pedestrian" and "walking" includes people who travel on foot and use mobility devices such as wheelchairs, strollers and scooters. In addition, the term "rolling" is used to also include people who use mobility aid devices to move along Flandrau Street.

Low Stress Street for People of All Ages and Abilities

> **“This plan is meant to meet the needs of the largest cross section of the Saint Paul community: the ‘interested but concerned’ who want to bike more, but do not currently feel comfortable or safe doing so.”**

- DRAFT Saint Paul Bike Plan Update (2023)

Who Will Flandrau Serve?

Bicycle boulevards create low stress bikeways and walking routes, providing direct and convenient connections to the places people want to go.

To maximize the potential for more people to bike, walk and roll, and achieve this vision, it is important to design Flandrau with the “interested but concerned” bicyclist in mind, specifically the target group of children and families. This will ensure routes attract users of all ages and abilities.

Interested but Concerned
Saint Paul, MnDOT and national surveys find just over half of the population are interested in bicycling more often but are concerned about having to share the road with motor vehicles. This means bicycle boulevards need to ensure the target speed—the speed drivers should go– of 15-20 mph to maximize the safety, comfort and convenience of people walking and biking.

PRIMARY CHARACTERISTICS

Bicycle Boulevard

- Low motor vehicle volumes
- Low motor vehicle speeds –***20 mph is plenty!***
- Direct, coherent (logical) and continuous route that is well marked and signed
- Convenient access to community destinations (e.g. schools, parks, transit)
- Priority given to people walking and cycling, providing minimal delay
- Comfortable and safe intersection crossings

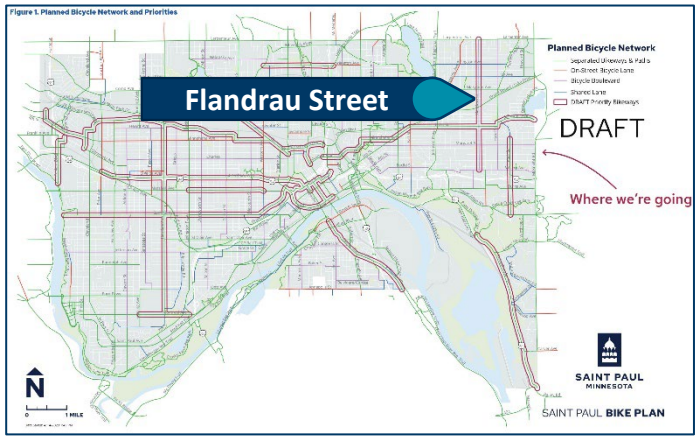
Building on Existing Plans and Efforts

First Priority is Safety | Slower is Safer!

Saint Paul is part of the **MN Toward Zero Deaths** initiative to achieve zero **traffic-related injuries and deaths,** believing they are **unacceptable and preventable**.

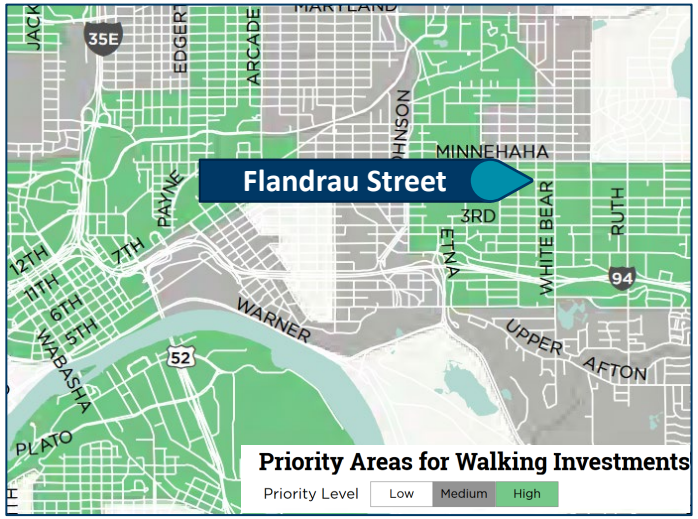
The city's Pedestrian and Bicycle Plans strive to reduce pedestrian and bicyclist exposure to motor vehicles by design. In 2020, local residential street speed limits were lowered to 20 mph citywide. Now, the city is working to pursue changes in street design to reinforce lower speeds by design and improve the safety and comfort for people of all ages and abilities walking, bicycling, driving and taking transit.

EXISTING PLANS



Bike Plan Update (2023)

Identified in the Bike Plan Update as a **bicycle boulevard, major bikeway,** Flandrau is a backbone corridor within the city's network and greater weight should be given to the needs of bicyclists.



Pedestrian Plan (2019)

Flandrau is identified within the **"high priority areas for walking investments"** in the Pedestrian Plan (between I-94 and Minnehaha Ave). The Plan also notes **"develop a school zone speed policy"** as a key action.

Building on Existing Plans and Efforts

EXISTING PLANS, CONTINUED

*"There's so much potential for Flandrau to be a **great route for so many SPPS students** – either on their way to school or during their school day. We want schools to be able to take students on walks/bikes in the neighborhood. We want everyone to be able to **travel safely** and **explore their neighborhood**."*

- SPPS SRTS Staff Member

Safe Routes to School (SRTS)

Saint Paul Public Schools (SPPS) SRTS program supports students walking, biking and rolling to school. The school district's program is funded by MnDOT SRTS Program, Statewide Health Improvement Program (SHIP) and Allina Health. SRTS infrastructure is funded through federal, state and city funding. Flandrau Street is a critical route connecting many schools:

- 2 schools on Flandrau: L'Etoile du Nord French Immersion and Nokomis Montessori South
- 8 schools (a combination of public and private) within a half-mile or less
- SPPS recently completed SRTS Plans for Nokomis Montessori South and Harding High School

Additionally, Nokomis Montessori South held a Walk, Bike and Roll to School event to promote using active modes to get to school. The school bus dropped students off at East View Park and students and staff walked to school along Flandrau Street.

◀ SPPS students at the Nokomis Montessori South Walk, Bike and Roll to School event, Spring 2023

Flandrau Street: An Important Connection to Schools

10 schools and the Boys and Girls Club are located within **½ mile of Flandrau Street** and there are at least 6 more schools (public and private) located **within 1 mile** of Flandrau Street (see map).

15% of students attending Nokomis Montessori South live less than ½ mile from school and **35% live within a mile.**

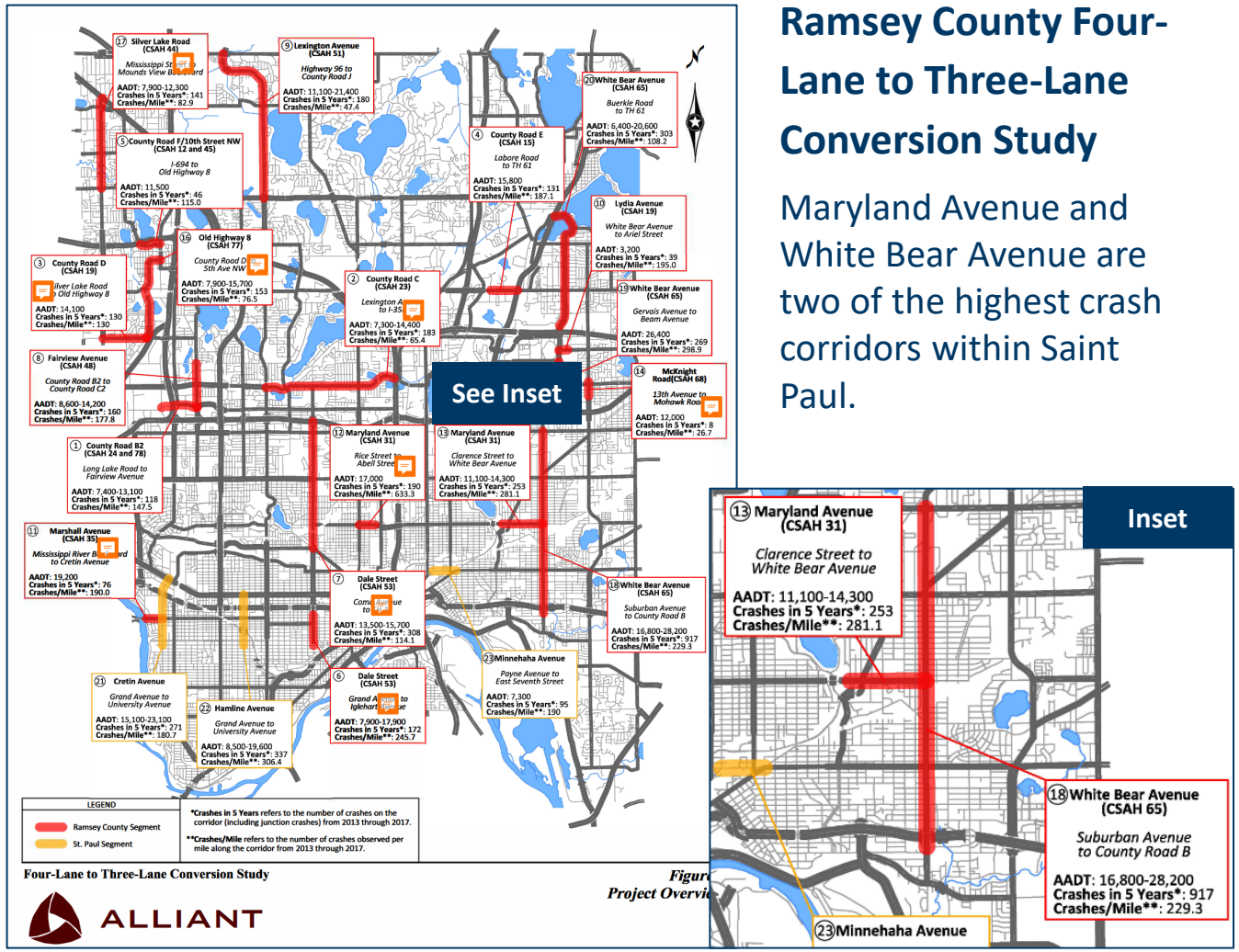
The Flandrau Street bicycle boulevard will serve as the **backbone of a connected active transportation network** for **students to access schools** in the area.

LEGEND

- Intersecting Existing Bikeway
- Neighborhood Traffic Circle
- Half-mile Buffer

Building on Existing Plans and Efforts

EXISTING PLANS, CONTINUED



Ramsey County Four-Lane to Three-Lane Conversion Study

Maryland Avenue and White Bear Avenue are two of the highest crash corridors within Saint Paul.

2040 Saint Paul Comprehensive Plan

Improvements for people walking and bicycling on Flandrau Street support the focus areas of Saint Paul's 2040 Comprehensive Plan:

- **Equitable Cities** create opportunities for all residents to achieve their highest potential.
- **Aging in Community** means that residents can stay in their community as they age.
- **Community/Public Health** connects the design of housing, transportation, land use, parks and economic development opportunities to personal health and well-being.
- **Economic Development** includes efforts to improve the economic well-being and quality of life of a community by creating and/or retaining jobs and supporting or growing incomes and the tax base.
- **Resiliency** focuses on sustainability strategies aimed at protecting Saint Paul families from the effects of climate change.
- **Urban Design** is the thoughtful arrangement of the public realm, or the public spaces between buildings (including parks, streets and sidewalks).

Why Active Transportation?

Health

Trails, paths and safe streets encourage physical activity as part of daily life.

Walking and biking is as effective as structured workouts for improving health.
Only **52% of Minnesotans meet daily physical activity recommendations**.

Bike commuting at least **2 miles, 3 times per week** is linked to:

46% lower odds of **heart disease or diabetes**
31% lower odds of **obesity**
28% lower odds of **high blood pressure**

All of which lowers medical costs.

"Minnesota Walks", Minnesota Department of Transportation, n.d.

“Active Transportation: Benefitting health, safety and equity”, American Public Health Association, n.d.

“Health Benefits of Bicycle Commuting”, Minnesota Department of Transportation and University of Minnesota, n.d.

Happiness

Bicycling has been found to be the **happiest form of transportation**.

“U Of M Researcher: Biking Found To Be The Happiest Form Of Transport, Public Transit The Least”, CBS News Minnesota, n.d.

Photos: Samantha Lorenz

Why Active Transportation?

Economy

Active transportation stimulates local economies: job creation, tourism, and business development.

A **one-point increase** in Walkscore **boosts property values** between **$500- $3,000**.

People walking and biking make **more frequent trips** than people driving, **spending more money at local businesses**.

"Walking the Walk; How Walkability Raises Home Values in U.S. Cities", Joe Cortright, n.d.

"Cyclists and Pedestrians Can End Up Spending More Each Month Than Drivers", Emily Badger, n.d.

Environment

Less driving means cleaner air.

Minnesota must **reduce transportation** related **greenhouse gas emissions** by **80%** and **vehicle miles traveled 20%** by **2050**.

Active transportation networks help people shift from driving, reducing carbon emissions.

Replacing pavement with permeable surfaces, rain gardens or bio swales, and trees helps absorb and filter rainwater, reducing stormwater costs.

"Statewide Pedestrian System Plan", Minnesota Department of Transportation, n.d.

Equity

Owning one car costs roughly **$10,700 per year.** (American Automobile Association (AAA))
Car ownership should not be a requirement for getting around safely and efficiently.

25% of residents on the East Side do not have access to a car[1].

"Complete Streets." Advancing Transportation Equity - Complete Streets - MnDOT.

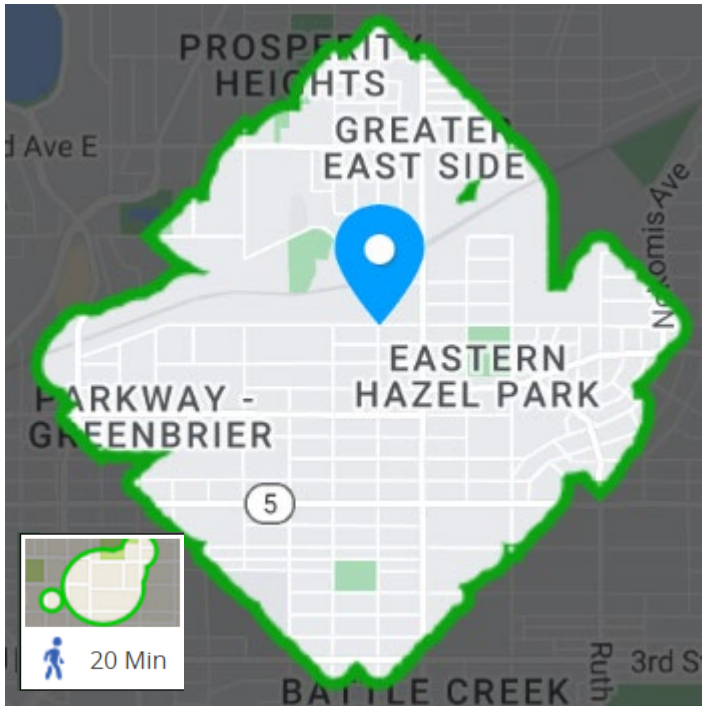
[1]East Side of Saint Paul refers to census tracts within Saint Paul that are east of I-35E or fully or partially north of I-94.

Photos: Samantha Lorenz

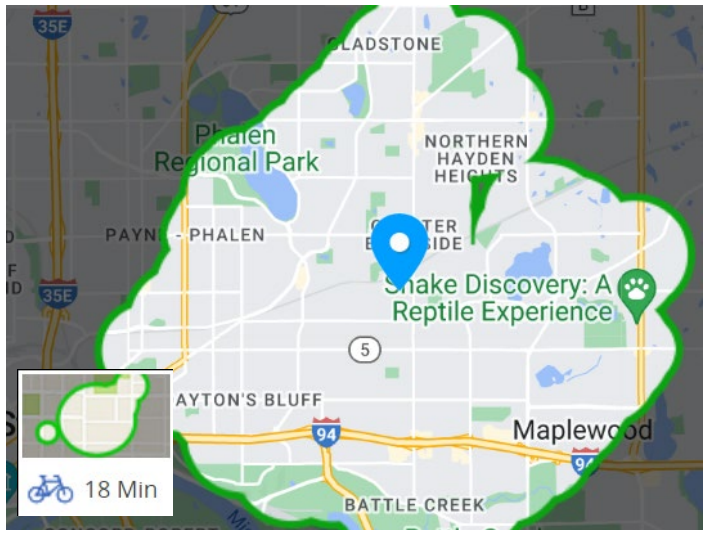
A Culture of Active Living

Saint Paul promotes a culture of active living through several focus areas in its 2040 Comprehensive Plan as well as its Bicycle and Pedestrian Plans. Saint Paul encourages rights-of-way to be **designed for all users**, particularly the young, old and those with mobility constraints through its Street Design Manual and Safe Routes to School program and calls **out intersection safety improvements** as important tools for improving the experience of people walking and biking. These actions are important, as active living research finds **more people bike when cities build low-stress bike routes, protected bike lanes or sidewalks** within a **¼ mile** from where they live. Additionally, studies show that most people (51-56%) are "interested but concerned" about biking and would like higher-comfort facilities.

Almost **half of all trips** taken in a private vehicle are **suitable for a short bike ride** (3 miles/18 mins), and a **quarter of trips** are **suitable for a short walk** (1 mile/20 mins) (National Housing Travel Survey, 2017). A large area is accessible from Flandrau Street within short walk or bike (as shown in the graphics to the right). Comfortable and safe facilities within these zones will help people make the choice to bike or walk rather than drive.



A 20-minute walk radius from the intersection of Flandrau Street & Case Avenue (Walkscore.com)



An 18-minute bike radius from the intersection of Flandrau Street & Case Avenue (Walkscore.com)

Active Transportation Principles

To provide transportation choice and ensure active trips, routes must be:

Safe: Does the route minimize risk of injury and danger (both traffic and personal security)?

Comfort: Does the route appeal to a broad range of age and ability levels and are there user amenities (e.g., places to sit, protection from the weather)?

Coherent: How easy is it to understand where to go, how to navigate a crossing or an intersection? How connected is the network?

Direct: Does the route provide direct and convenient access to destinations?

Attractive: Is the route green, well-maintained, and celebrate local identity?

These best practice Active Transportation Principles are founded in a Safe Systems approach. The significance of each principle may vary from route to route and from person to person. For example, people walking or biking to the grocery store often prioritize directness. Whereas people out for a recreational bike ride value attractiveness and comfort more than a direct route. Regardless of trip type, safety is paramount for all users, especially when ensuring children have safe routes to school and parks.

Safe System Approach

Many agencies and jurisdictions, including the Federal Highway Administrations and the Minnesota Department of Transportation (MnDOT), follow a Safe System approach to traffic safety, which aims to eliminate fatal and serious injuries for all road users, including people walking, bicycling and rolling.

Safe Systems approach focuses roadway safety efforts on ways to effectively:

1. Design for the people in the system;
2. Manage vehicle speeds by design;
3. Employ proactive tools to manage risks across an entire roadway network, especially for the most vulnerable users; and
4. Foster integrated, collaborative and coordinated action.

Given the application of this approach across many agencies, its relevancy in the state of Minnesota and the vision and goals of the Flandrau Street Bicycle Boulevard, a Safe Systems approach is important to consider in the design of this roadway.

> “Prevent traumatic life-altering, costly crashes by focusing on creating low-speed environments in population centers and around other destinations where people are likely to walk [and bike]." – MnDOT Statewide Pedestrian Systems Plan

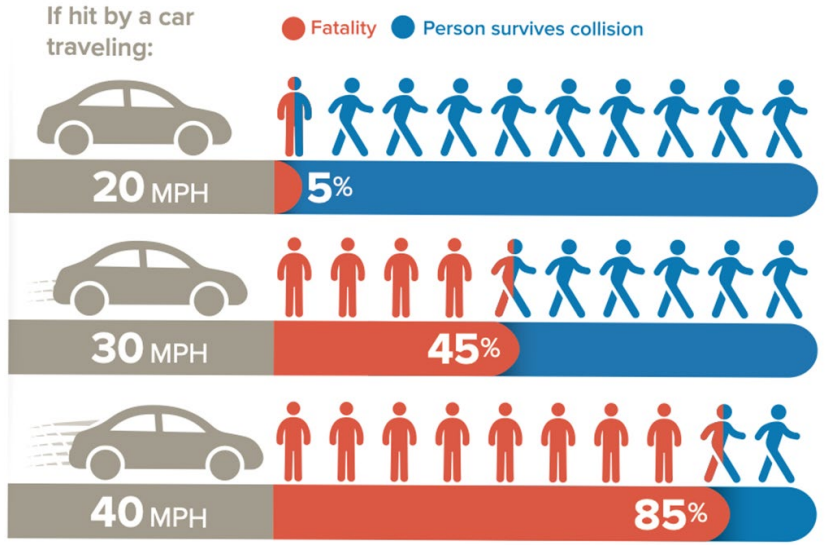
Making Safety a Top Priority Over Speed

This Plan focuses on designing safer streets to ensure all people have safer, more comfortable options and more transportation choices. Reducing driver speeds directly improves the safety of streets and sense of place.

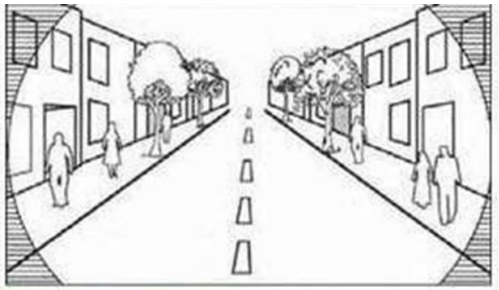
Why Speed Matters

The impact of motor vehicle travel speed on crashes that involve people walking and biking is well documented. For example, a person walking has a 95-percent chance of surviving the crash if struck by a person driving at 20 mph. The chances of survival decrease by almost 50 percent when the person driving is traveling only 10 mph faster. In addition, the mass differential between street users results in more severe injuries to the lighter (e.g. pedestrian) of the two colliding bodies. Traffic crashes that kill and injure people are a serious transportation and public health concern. More and more communities are working Toward Zero Traffic Deaths.

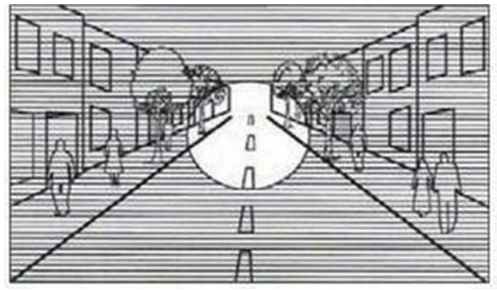
Lower speed streets also increase motorists' visibility. At lower speeds, drivers can see more of their surroundings and have more time to react, yield and stop for people crossing, parking and to avoid potentially fatal crashes.



National Traffic Safety Board (2017) Reducing Speeding-Related Crashes Involving Passenger Vehicles. Available from: https://www.ntsb.gov/safety/safety-studies/Documents/SS1701.pdf



Field of vision at 15 MPH



Field of vision at 30 to 40 MPH

Target Speed

Street Design Influences Behavior

The design of streets directly influences behavior. Most motorists drive to match the "design speed" of the road, using cues such as lane width, street texture, the distance between buildings, street trees, other edge features and sight-line distances rather than solely relying on the posted speed limit. In turn, streets should be designed to promote safety by taking a proactive design approach to ensure lower "target" speeds—the speed drivers *should* be going.

Historically, roadways have been designed by observing the operating speed of the majority of drivers and designing the street for that speed. This has resulted in design speeds that are often higher than the posted speed due to wide turn radius, wider travel lanes, guardrails, clear zones and more.

Streets should be designed using target speed, a proactive approach to multimodal street design, by first identifying the speed drivers should go and then implementing street design treatments to ensure the operating speeds of motorists are aligned with the target speed. This convention **puts vulnerable users like people walking and biking first in the roadway design** while ensuring the safety of motorists.

Conventional Street Design

Operating Speed = Design Speed = Posted Speed

Proactive Multimodal Street Design

Target Speed = Design Speed = Posted Speed

Adapted from NACTO.org

Today Flandrau has a posted speed limit of 20 mph. Despite this relatively low posted speed, **community members still have concerns with motorists speeding**. Based on best practices from NACTO, local streets intended for walking and biking (such as bicycle boulevards) often set the **target speed below the posted speed** to help ensure the street design encourages slower vehicle speeds than the posted speed limit**.** Moving forward, **to achieve the top priority of safety for all users, Flandrau Street** should be designed using a **target speed of 15-20 mph.**

This Plan provides starter ideas on how to start to bringing the **design speed closer to the target speed** through traffic calming treatments like neighborhood traffic circles, chicanes, raised table intersections and crossings, curb extensions and more to create a safer and higher quality environment for all.

Safe Systems: When to Mix, When to Separate?

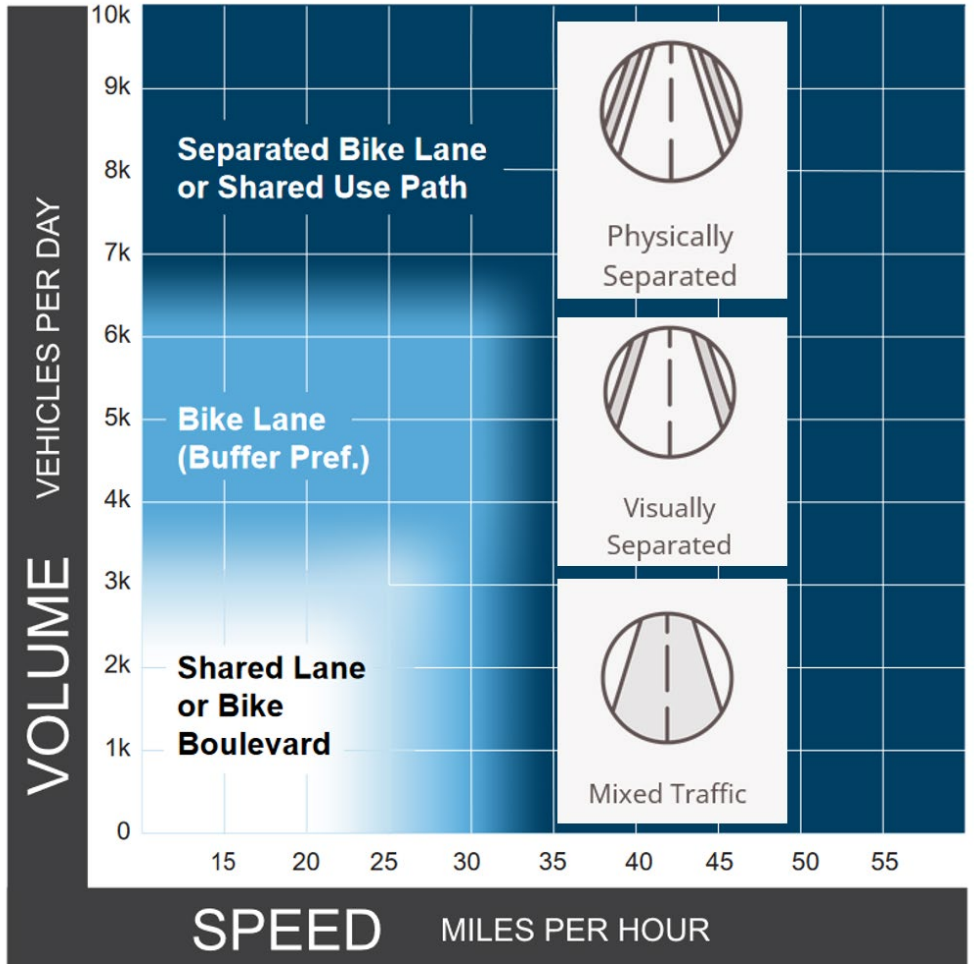


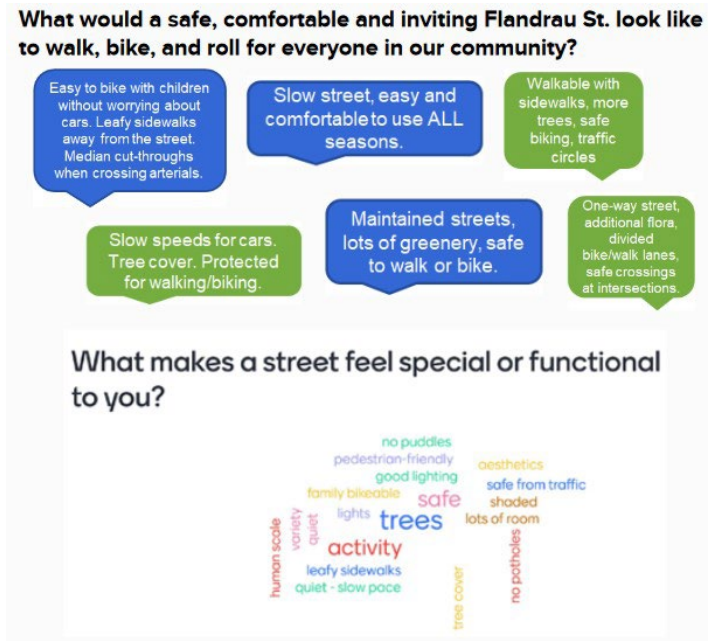
Chart adapted from *Federal Highway Administration Bicycle Selection Guide*.
Note: Chart assumes operating speeds are similar to posted speeds. If they differ, operating speed should be used rather than posted speed.

The greater the vehicle speed, the greater the physical separation needs to be between vehicle traffic and people biking (and walking).

A shared street environment, where users are mixed, can be created for people biking and driving when target speeds are at or below 20 mph.

Separate and protect people biking from traffic when vehicle speeds are above 20 mph.

How the Plan Was Developed



Photos (clockwise from top left):

- Bike audit participants met with St. Paul Fire Department Station 9 to discuss bike boulevard safety treatments and emergency vehicle access.
- Mapping workshop participants met at the Greater East Side Community Council's Richard Kramer Community Room to discuss priorities for Flandrau Street.
- Responses from District 2 Greater Eastside Neighborhood Council.

4 Virtual Meetings: The Planning Team met four times to learn from existing conditions and discuss evidenced-based best practices and community feedback to co-create this Plan. The team conducted a Bike Audit of Flandrau Street to see the existing conditions.

Community Meetings: Members of the Planning Team hosted in-person listening sessions with each district council, the city's Transportation Committee and with families at Nokomis Montessori. Other activities included a city-hosted virtual open house, Harding High School and Nokomis Montessori SRTS workshop, Ramsey County Active Living Committee and direct mailers, email and phone calls with residents.

Mapping Workshop: Community members and Planning Team members met in-person to identify priorities and key locations for bicycle boulevard treatments.

Interactive Online Map: An interactive map was shared to gather additional feedback on challenges and opportunities.

Flandrau Street Today

SECTION 2

By the Numbers

PROJECT FOCUS

Flandrau Street between Larpenteur Avenue (North end) to I-94 (South end)	
Total Corridor Length	**2.8 miles**
Annual Average Daily Traffic (AADT) (City Data 2011-2016)	**519-1,407** vehicles per day
Right-of-Way	**60 feet** total right-of-way **28-32 feet** curb-to-curb
Posted Speed	**20** miles per hour (mph)
Major Intersections	Larpenteur Ave (Ramsey County)
	Arlington Ave
	Maryland Ave (Ramsey County)
	7th Street
	Minnehaha Ave (MnDOT Highway 5)
	3rd Street
Minor Intersections	**33**

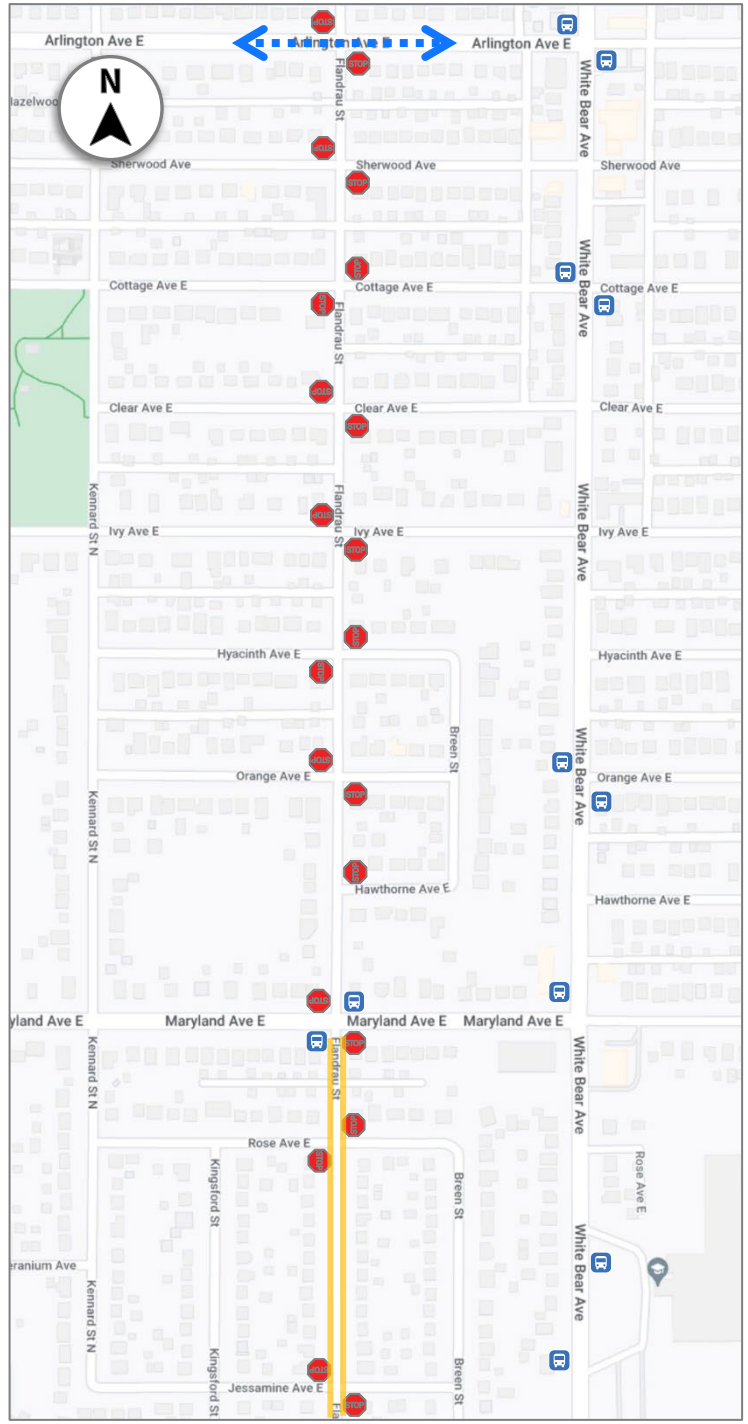
FACILITIES

Sidewalks	
Total Existing Sidewalk Length	14,486 linear feet
Total Missing Sidewalk Length	9,703 linear feet
Sidewalk Width	Variable – 5ft where present
Boulevard Width	Variable – 5-10 feet

Transit	Number of Boardings & Alightings at Flandrau (2019 Metro Transit Data)
Route 64 (Maryland Ave)	10 boardings; 15 alightings
Route 74 (7th Street)	38 boardings/alightings
Route 63 (3rd Street)	10 boardings; 12 alightings
Route 80 (White Bear Ave)	Multiple Stops, one block away
Gold Line (I-94 Bus Rapid Transit)	Closest stop will be Hazel Street Transit Station via Old Hudson Rd

Existing Conditions and Bike Network Connectivity

Larpenteur Ave to Jessamine Ave

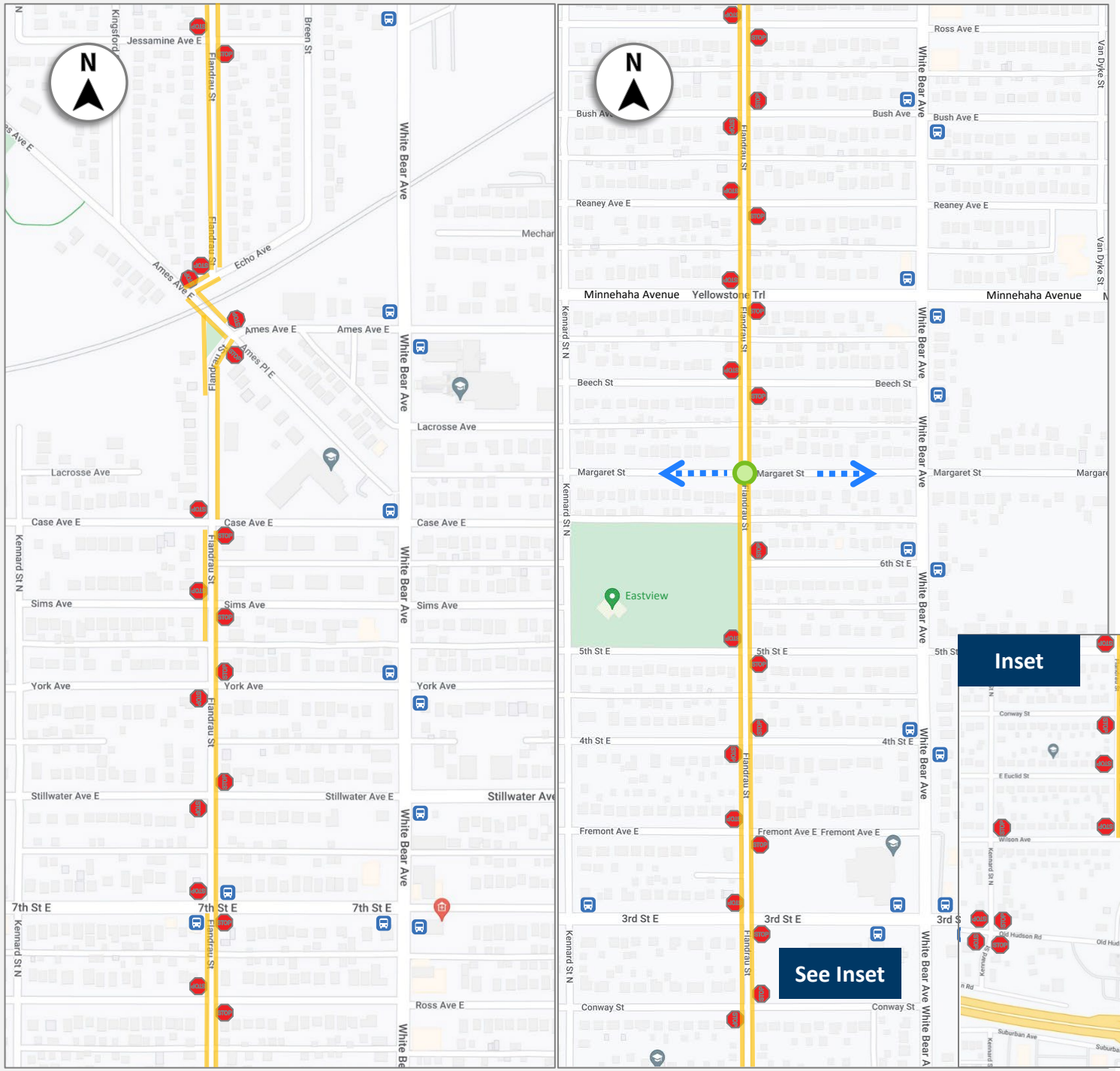


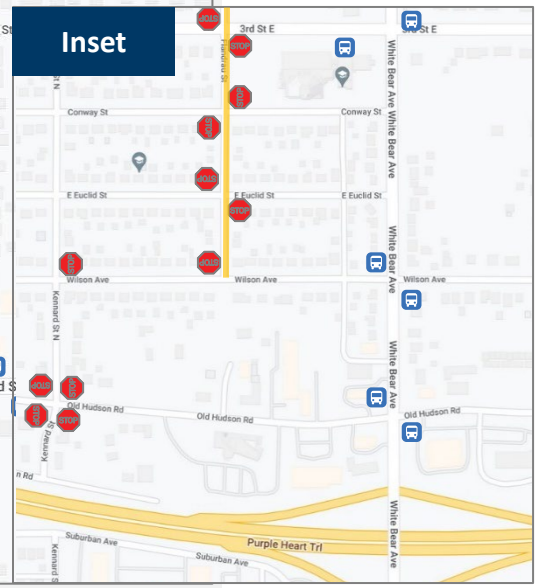
LEGEND

- Existing Intersecting Bikeway
- Neighborhood Traffic Circle
- Sidewalk

Existing Conditions and Bike Network Connectivity

Jessamine Ave to I-94



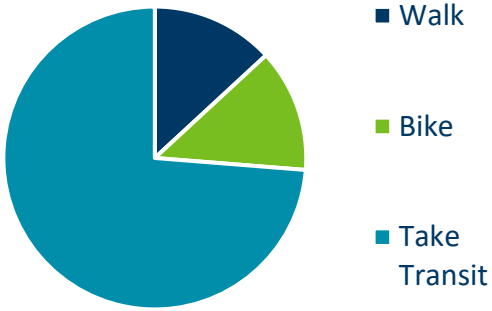


LEGEND

- Intersecting Existing Bikeway
- Neighborhood Traffic Circle
- Sidewalk

How are we moving today?

Means of Transport to Work for Those Who Don't Drive



10%

of **residents on the east side of Saint Paul walk, bike, or take transit** to work[1]. (ACS, 5-year estimates, 2021)

59% People of Color

Within the Greater East Side neighborhood[2] 59% are people of color, 11% are Hispanic or Latino, and 33% are white. 4.3% of residents are under 18 years old. 26% of those under 18 years old are living in poverty. (Mncompass.org)

25% People Without a Car

24.6 percent of people on the east side of Saint Paul[1] who walk, bike and use transit do not have access to a car. (ACS 5-year estimates, 2021)

10 Schools

10 schools and the Boys and Girls Club are located within approximately ½ mile of Flandrau Street, three are located on Flandrau Street.

3 Stores and 6 Parks

Three stores/markets and 6 parks are accessible within ½ mile of the Flandrau Street and Case Avenue intersection. There are **8 buses per hour** available within ¼ mile of this intersection. (AARP livability index)

More than 1,000 Students

More than 4,300 SPPS students attend schools within 0.6 miles of Flandrau St. Of those students, more than 1,000 live within one mile of school.

30% Greenhouse Gas

Approximately 30 percent of St. Paul's greenhouse gas emissions are transportation related, the largest single source. (Saint Paul Climate Action and Resilience Plan, 2019)

[1]For this analysis the east side of Saint Paul refers to census tracts within Saint Paul that are east of I-35E or fully or partially north of I-94.
[2]The Greater East Side Neighborhood is also Saint Paul District 2. This is a smaller geographical area than the east side of Saint Paul.

Insights from SRTS Plan Updates

The top reasons caregivers do not allow a child to walk to school are:

79% Safety of intersections and crossings

65% Amount of vehicle traffic along route

58% Traffic speeds along route. (Constituents also commented)

37% Walking or biking to school is fun!

75% Walking or biking to school is healthy!

Safe Routes to School (SRTS) Plans

In 2022-2023 SRTS Plans were completed for Harding High School and Nokomis Montessori South. As a part of the planning process a caretake survey was conducted which revealed that **42% of students live a mile or less from school** and most students take the school bus or a family vehicle to school. **8% of Harding and Nokomis Montessori students walk to or from school and none bike.** However, 27% of students have asked for permission from their caretakers to walk or bike to school. In the caretaker survey, there were several comments related to the need for safer crossing for pedestrians at 3rd and Flandrau Street. To promote walking to school, Nokomis Montessori piloted a remote bus drop-off at Eastview Park from which student's walked to school in May.

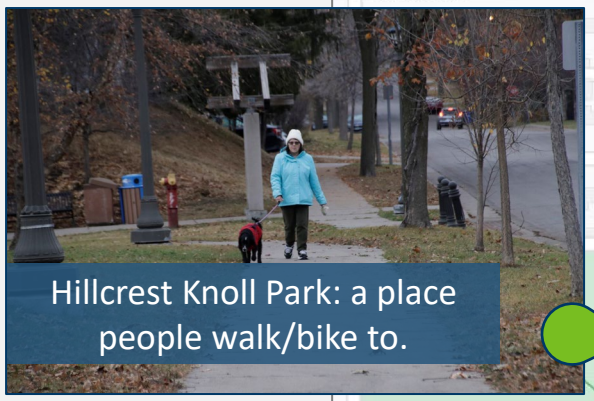
"Sidewalks provide safe pathways. I just don't trust drivers to pay attention or yield for pedestrians."

-SRTS survey respondent

WHAT WE HEARD & OBSERVED

Existing Conditions

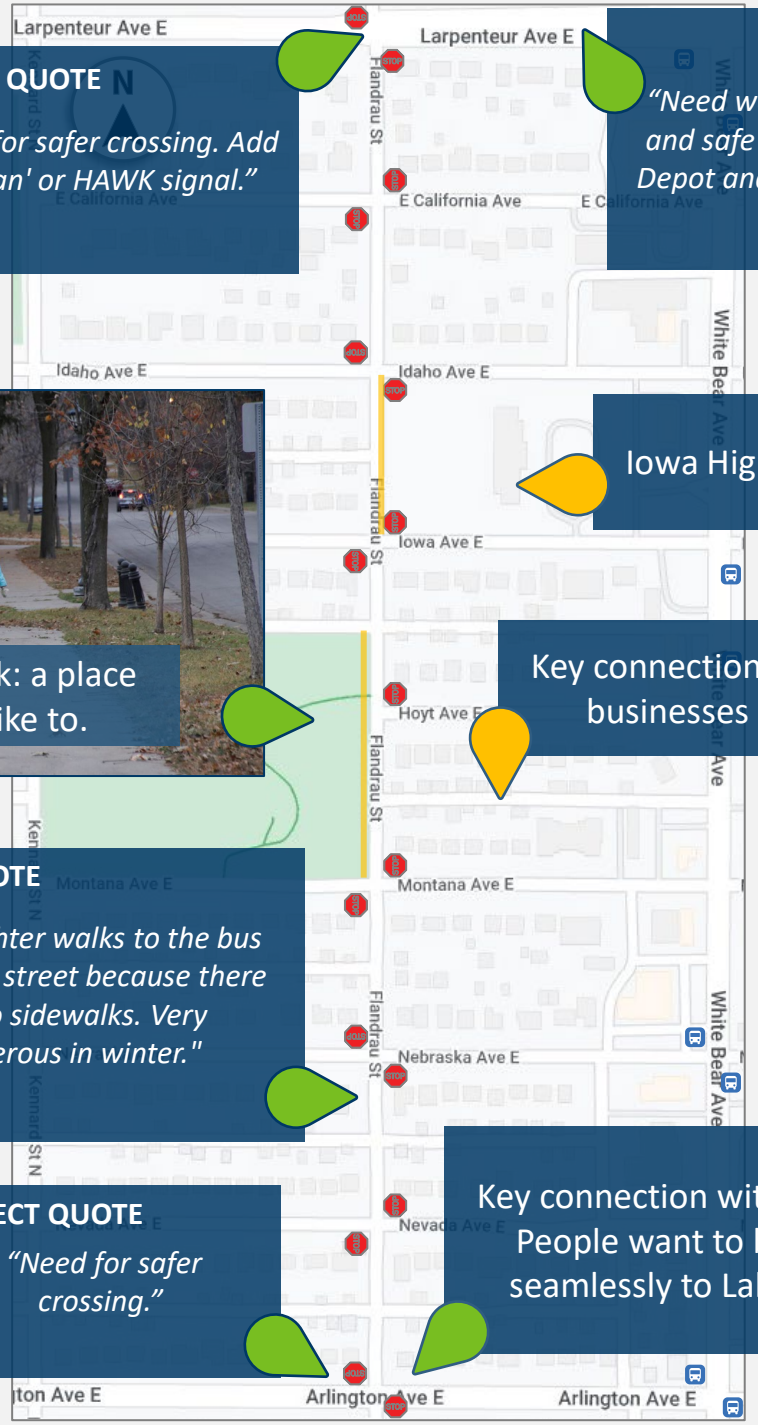
Larpenteur Ave to Arlington Ave



Hillcrest Knoll Park: a place people walk/bike to.

Section without sidewalks.

LEGEND
- Existing Sidewalk
- Stop Sign Locations



DIRECT QUOTE

"Need for safer crossing. Add 'Toucan' or HAWK signal."

DIRECT QUOTE

"Need wayfinding to Gateway Trail and safe connections to Cub, Home Depot and other businesses/offices."

Iowa High Rise.

Key connections to White Bear businesses and transit.

DIRECT QUOTE

"My daughter walks to the bus stop in the street because there are no sidewalks. Very dangerous in winter."

DIRECT QUOTE

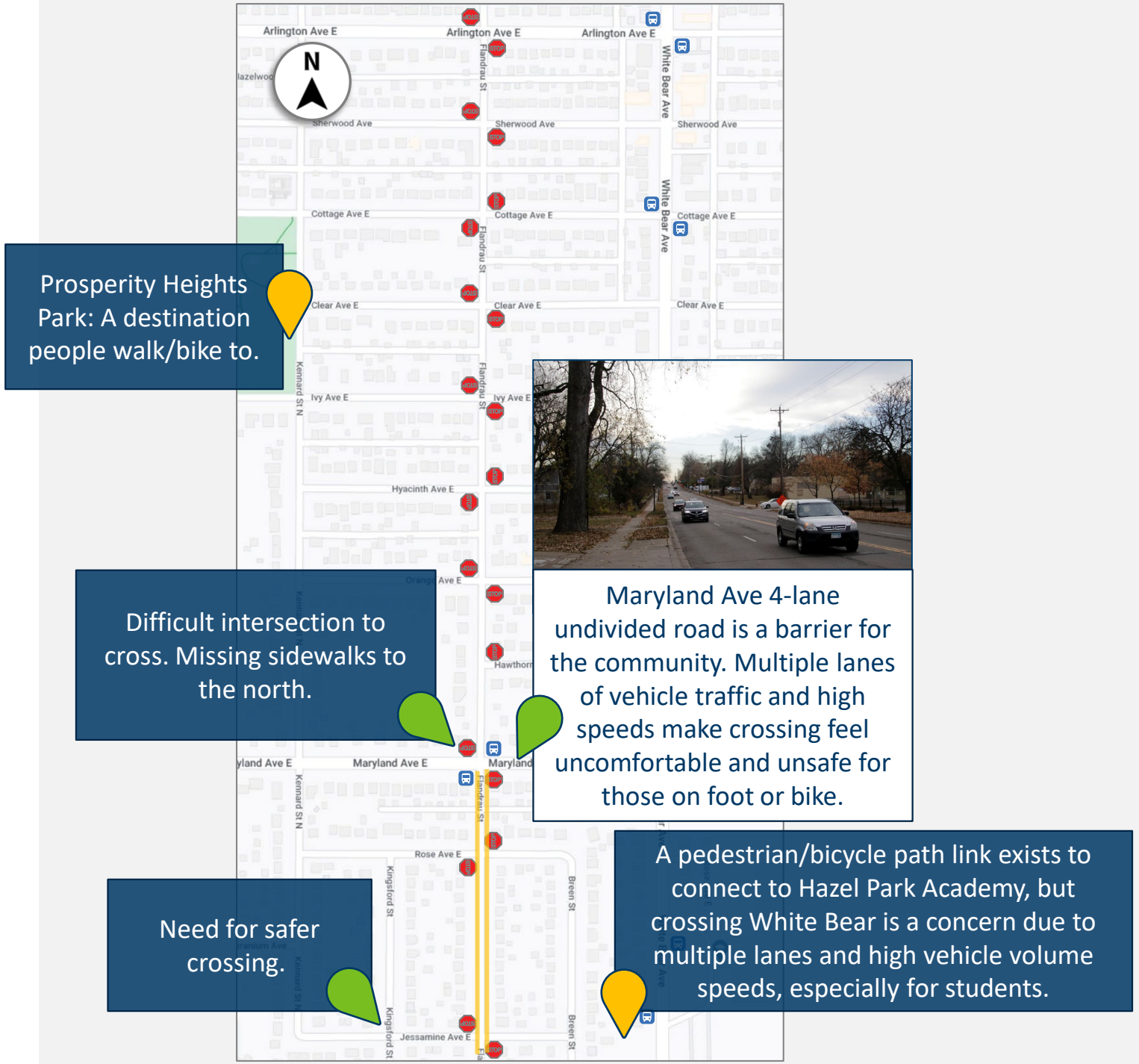
"Need for safer crossing."

Key connection with Arlington; People want to bike more seamlessly to Lake Phalen.

Existing Conditions

Arlington Ave to Jessamine Ave

> “Maryland is a boundary/barrier we don’t cross because we don’t feel safe.”
>
> *-Flandrau Street Workshop Participant*

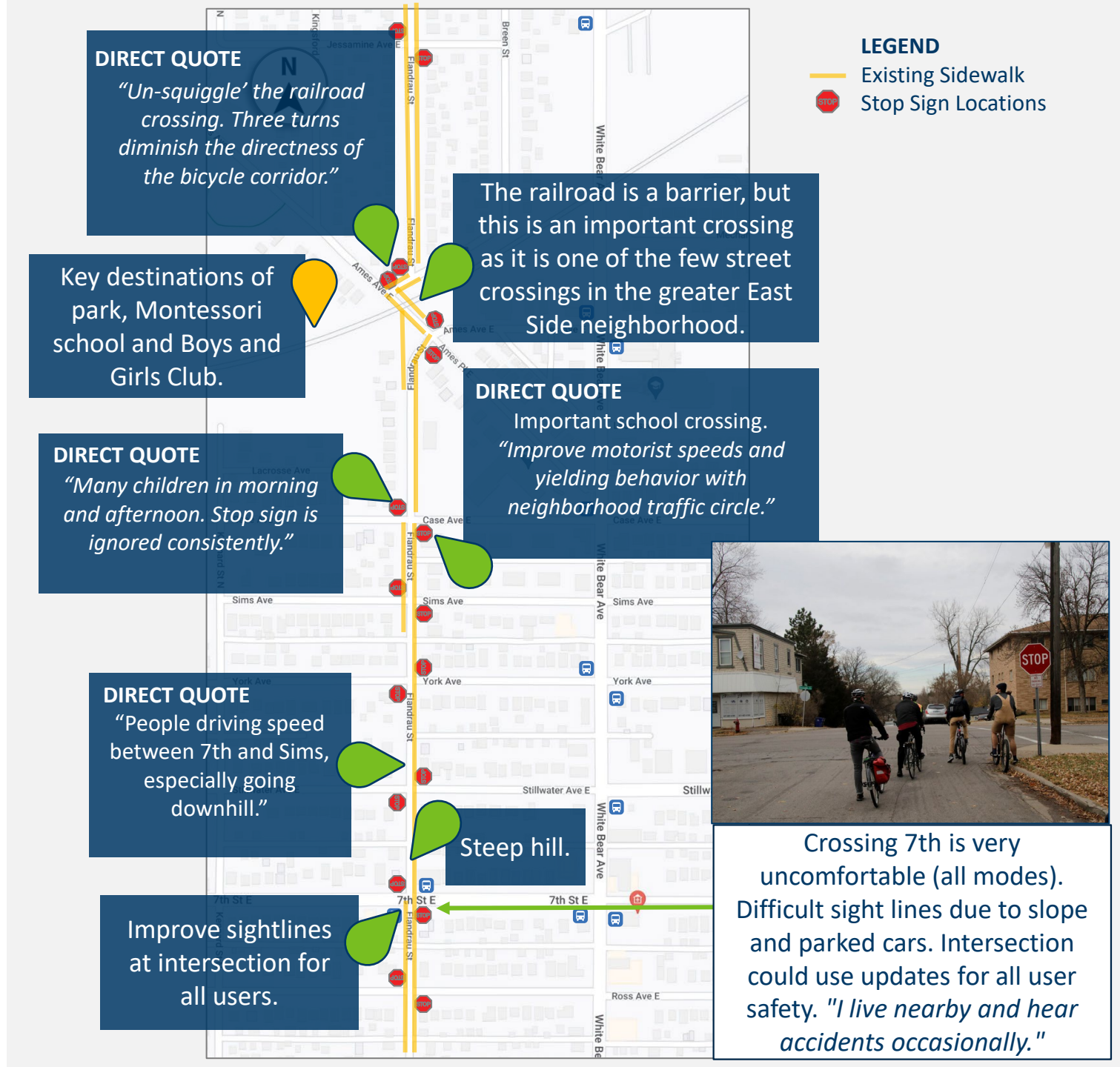


LEGEND
Existing Sidewalk
Stop Sign Locations

Existing Conditions

Jessamine Ave to 7th St E

Family-owned grocery store, apartments, restoration business and transit at the corner of Flandrau and 7th.



Crossing 7th is very uncomfortable (all modes). Difficult sight lines due to slope and parked cars. Intersection could use updates for all user safety. *"I live nearby and hear accidents occasionally."*

INTERACTIVE MAP & BIKE AUDIT –
Summary and Community Quotes

Existing Conditions

Ross Ave to I-94

DIRECT QUOTE

"Use traffic/mini circle at Ross to help slow traffic and reduce cut through traffic."

DIRECT QUOTE

"I don't bike in this neighborhood because of the speeding and reckless driving I see at this intersection."

Opportunity to coordinate with MnDOT for intersection improvements.

DIRECT QUOTE

"Intersection is difficult to cross. People driving do not stop for pedestrians here."

Traffic circle is a solid start for the tone of the corridor.

School bus stop and key crossing to park.

Need for safer, more kid friendly crossing.

See Inset

Key connections to Gold Line. Need safe connection across I-94.

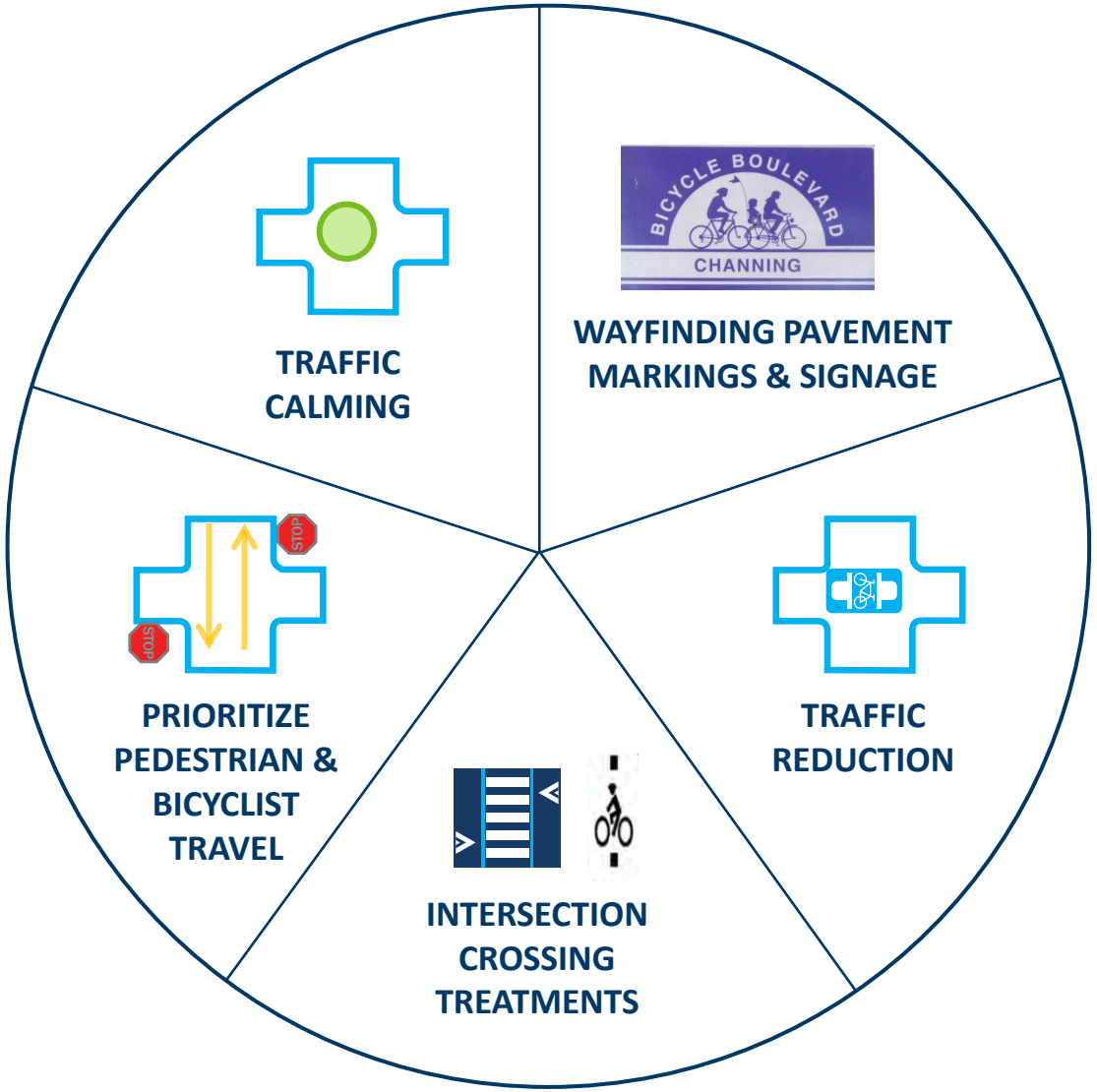
Inset

Future pedestrian and bicycle bridge.

LEGEND
- Existing Sidewalk
- Stop Sign Locations
- Traffic Circle

Bicycle Boulevard Toolbox

SECTION 3



Adapted from Portland Bicycle Boulevard Guide: PortlandBicycleBoulevardGuidebook.pdf

A MIX OF DESIGN ELEMENTS

Bicycle Boulevard Development

Street design elements are mixed and matched along the corridor to:

- Reduce or maintain low motor vehicle volumes
- Reduce or maintain low motor vehicle speeds
- Create a direct, coherent (logical) and continuous route
- Create access to key community destinations
- Create comfortable and safe intersection crossings
- Give priority to people walking and cycling, reducing delay

TRAFFIC CIRCLES

TOOLS FOR CHANGE
Visualizing Concepts

Traffic circles help achieve neighborhood motorists' speeds of 20 mph by design.

Saint Paul, MN

Street trees in traffic circles further calm traffic, help address climate goals and green the street. The City of Seattle works in cooperation with neighborhood residents on landscaping, which brings forward a lot of creative touches.

Seattle, WA

The focus of this treatment

- Traffic calming
- Beautification and greening

Look for this symbol on the corridor vision starter concepts pages

Their function

Traffic circles (also called mini-circles) work to reduce vehicle speeds in a few ways. First, they interrupt the "straightaway" feel of many residential streets that can signal to drivers to go a faster speed than the posted speed. Second, traffic circles narrow the intersection, slowing drivers' through and turning movements. Slower intersection speeds increases motorists' yielding behavior to people walking and biking. Traffic circles are a proven safety treatment, reducing all types of intersection crashes by 90% and injury crashes by 97% (Seattle Department of Transportation (DOT)). They are most effective when installed as a series at multiple intersections along the corridor.

Factors for implementation

- Convert two-way or four-way stop controlled intersections along Flandrau Street to neighborhood traffic circles
- Consider and coordinate with fire and emergency services:
  - Design circles with a mountable curb so larger vehicles can travel through without damaging the curb or equipment like ladder trucks
  - Provide mapping or documentation to fire departments so vehicle operators are aware of neighborhood traffic circle locations
- Pilot a "Neighborhood Traffic Circle" caretaker program with local neighbors, schools, or community groups to maintain greenery in the circle during warmer months

DIVERTER

TOOLS FOR CHANGE
Visualizing Concepts

Look for this symbol on the corridor vision starter concepts pages

Traffic Diverters Overview

Traffic diverters help maintain low vehicle volumes or reduce the overall volume of vehicle through trips on a bicycle boulevard, while maintaining and enhancing the continuous through travel for people bicycling, walking and rolling. Diverter treatments vary. They are designed to fully to partially eliminate motor vehicle movements, forcing motorists to turn off and/or restricting turns onto the bicycle boulevard. The following are common diverter treatments.

Traffic Diverter Bump Out (or Half Closures)

Half closures block one lane of vehicle travel, turning the bicycle boulevard into a one-way street for a short segment. Emerson Street Bicycle Boulevard and N 33rd Ave. Minneapolis, MN

Source: Reliance Foundry

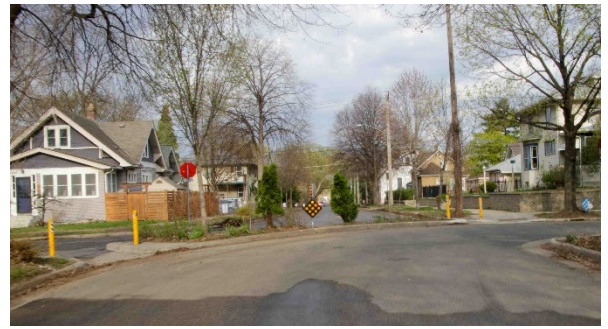
The focus of this treatment

- Reduces vehicle traffic volumes on the bicycle boulevard
- Gives people walking and biking the through travel priority
- Creates a gateway

Factors for implementation

- A traffic analysis is needed to identify the number and locations of traffic diverters along Flandrau Street, and how to mitigate any traffic impacts onto nearby streets
- Adequate signage is needed for drivers
- Often used in sets

Diagonal Traffic Diverter



The focus of this treatment

- Reduces vehicle traffic volumes on the bicycle boulevard
- Calms driver speeds

Factors for implementation

- Used in sets to maintain neighborhood traffic flow
- Consider impacts to emergency services access and residential access
- Adequate signage is needed for drivers

Their function

Diagonal traffic diverters are used at four-way intersections of minor streets, forcing drivers to turn left or right and preventing them from using the bicycle boulevard as a through street. The required turn also forces drivers to slow down, thus calming speeds. Diagonal diverters have gaps allowing people bicycling to continue straight through the intersection.

DIVERTER

TOOLS FOR CHANGE
Visualizing Concepts

Look for this symbol on the corridor vision starter concepts pages

Street Closure to Vehicles

Source: City of Seattle

Source: NACTO.org

The focus of this treatment

- Removes vehicle traffic from a street permanently or temporarily (with regularly scheduled closing daily or weekly)

Their function

Street closure to vehicles allows expanded use of the street for play, people walking and biking and community programs and events. Play streets are often near parks and closed on weekends or afternoons to expand the play-space of the park onto the street.

Factors for implementation

- Removable barriers or traffic control devices should be used to restrict vehicle access in temporary closures
- Programming, events, street furniture and public art help reinforce this alternate use of the street.
- The street closure should be carefully branded to communicate the intended use and participants

INTERSECTION

TOOLS FOR CHANGE
Visualizing Concepts

Look for these symbols on the corridor vision starter concepts pages

Median Refuge (closed to vehicles)

Motorists can only take a right off the 40th Street Bicycle Boulevard at this traffic diverter located on Cedar Ave. Minneapolis, MN

Motorists can make a right-turn onto and off of the Charles Ave Bicycle Boulevard at Lexington Pkwy. St. Paul, MN

The focus of this treatment

- Improve the crossing experience for people walking and biking, especially at major intersections by shortening the crossing distance into two separate sections with a place to stop in the middle
- Reduces vehicle traffic volumes on the bicycle boulevard

Factors for implementation

- Traffic analysis is needed to assess potential impact of diversion onto nearby streets and consider additional traffic calming measures needed to mitigate any traffic impacts
- Coordination with Ramsey County or MnDOT if the diverter is on their roadway
- Consider impacts to emergency responders

INTERSECTION

TOOLS FOR CHANGE
Visualizing Concepts

Look for these symbols on the corridor vision starter concepts pages

HAWK Signal of Pedestrian Hybrid Beacon

The focus of this treatment

- Improve pedestrian and bicyclist crossing experience and safety at busy crossings

Their function

The HAWK—High Intensity Activated Crosswalk– Signal is a proven safety countermeasure used for crossing higher speed, higher volume and multi lane streets. The signal remains dark until activated, then turns yellow to slow traffic before tuning red to allow pedestrians to cross while motorists wait behind at the stop bar.

Factors for implementation

- Number of traffic lanes, speed of traffic, and heavy traffic volumes, a history of traffic collisions all factor into the selection of this tool
- Typically located at least 300 feet from existing traffic signal
- Provide accessible push buttons for bicyclists
- They can be paired with other tools like Pedestrian and Bicycle Median Refuge Island Traffic Diverters

TUCAN Signal

The focus of this treatment

- Improve pedestrian and bicyclist crossing experience and safety at busy crossings

Their function

The TUCAN Signal restricts motor vehicle through movements on a bicycle boulevard at major street intersections, allowing only right turns to/from the major street, creating a traffic diversion effect.

Factors for implementation

- A special bicycle signal head and lane for cyclists in the center of the street is provided with a push button
- Typically costs more than a HAWK Signal

INTERSECTION

TOOLS FOR CHANGE
Visualizing Concepts

Look for these symbols on the corridor vision starter concepts pages

Curb Extension

Source: NACTO.org

Source: NACTO.org

The focus of this treatment

- Calm vehicle traffic
- Improve pedestrian crossing experience
- Beautification and greening
- Provide space for transit shelters, benches and other features

Factors for implementation

- Curb extensions can be applied at intersections, mid block or in an alternating, staggered pattern to create a chicane effect
- Curb extensions can be implemented quickly and at low-cost with temporary curbs, bollards, planters or striping

Their function

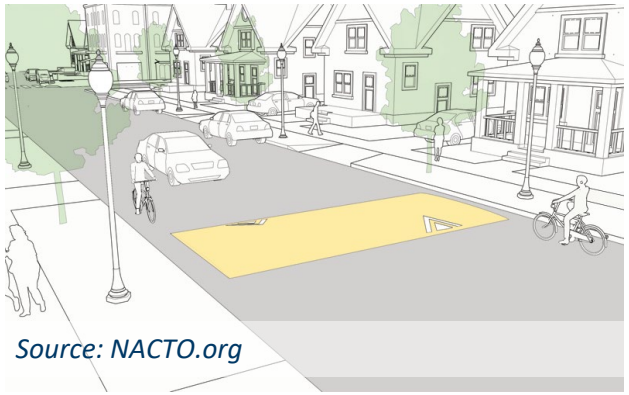
Curb extensions inset on-street parking. This narrows the lane of travel, encouraging drivers to slow down, increases visibility of pedestrians thus increasing yielding behavior from drivers and shortens the crossing distance of the intersection for pedestrians. They also make the turning radii of the corner smaller, requiring drivers to reduce their speed.

MID-BLOCK

TOOLS FOR CHANGE
Visualizing Concepts

These elements will be considered for implementation at different points along the corridor.

Speed Humps



Source: NACTO.org

The focus of this treatment

- Slows vehicle traffic

Their function

Speed humps are vertical, parabolic bumps installed on the roadway that are typically 3-4 inches high and 12-14 feet wide with an incline and decline (ramp) of 3-6 feet. Speed humps can reduce vehicle traffic speeds to 15-20 mph.

Factors for implementation

- Spacing of speed humps along a roadway depends on the Target design speed of the roadway. Humps spaced closer together achieve greater reductions in vehicle speeds.
- Speed humps need to be accompanied by signs to alert drivers of the upcoming hump.

Pinchpoints

Photo, Above: NACTO.org
Photo, Right: City of Dallas Traffic Calming Toolbox

The focus of this treatment

- Traffic calming
- Provide mid-block crossings for pedestrians

Their function

Curb extensions can be used mid-block or at corners to create pinchpoints, which narrow the road to one lane and **requires drivers to slow down and yield** to other drivers, thus calming traffic. Pinchpoints can create a comfortable **mid-block crossing location** for pedestrians or create a **gateway treatment** at the start of a block to indicate a slow, shared environment.

Factors for implementation

- Appropriate for low volume, low speed streets
- To be effective, the width of the travel way cannot be wide enough for two cars to pass. A 12’ travel-way is generally effective and still allows emergency vehicles through.
- Can be implemented by brining the curb in on both sides of the street or by significantly bumping out the curb on one side of the street.

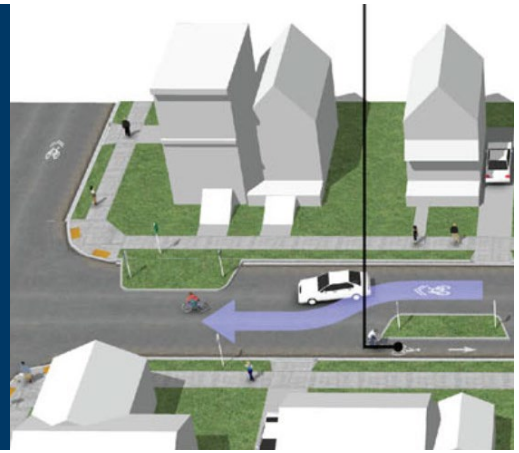
CHICANE

TOOLS FOR CHANGE
Visualizing Concepts

Chicanes provide space for native vegetation as seen on Grand Avenue in Minneapolis, MN.

A designated space outside of the chicane element helps bicyclists avoid having to merge into traffic at a narrow pinchpoint, and creates a route for people walking, especially when no sidewalks exist.

Source: NACTO.org



The focus of this treatment

- Slows vehicle traffic
- Adds greenery and stormwater management opportunities

Their function

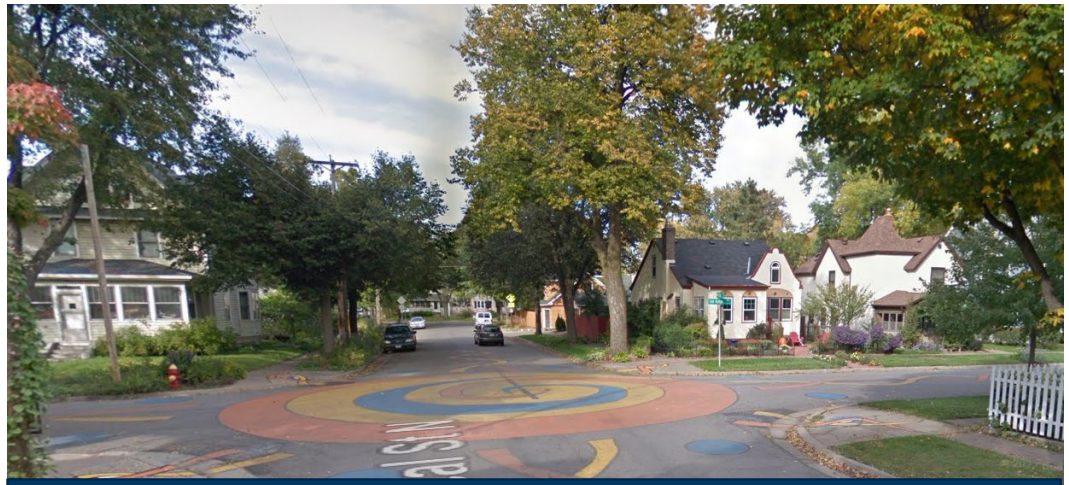
Chicanes are curb extensions that create a serpentine, horizontal shifting, effect. This shifting eliminates long stretches of straight streetway where motorists can pick up speed by requiring drivers to drive more slowly due to the lateral shift. They are often paired with median islands to further manage motorists speeds. Chicanes can be created with parking stalls, sidewalk extensions, or green infrastructure curb bump outs that allow for planting of native vegetation and rain gardens. Chicanes create space for street furniture or public art.

Factors for implementation

- Additional signage and striping may be needed to alert drivers to the serpentine nature of the roadway
- Temporary or demonstration chicanes can be installed using temporary curbs, bollards, planters, or striping
- Chicanes can be built as island bump outs to not interrupt drainage with a 1-2 foot gap from the curb to allow for movement of water
- Chicanes can also act as buffers for a bikeway/walkway space

PAINT THE PAVEMENT

TOOLS FOR CHANGE
Visualizing Concepts



Pascal St and Van Buren Ave in Saint Paul

Paint the Pavement organized by Greater East Side Community Council (District 2), June 2023

The focus of this treatment

- Community building and placemaking
- Traffic calming

Their function

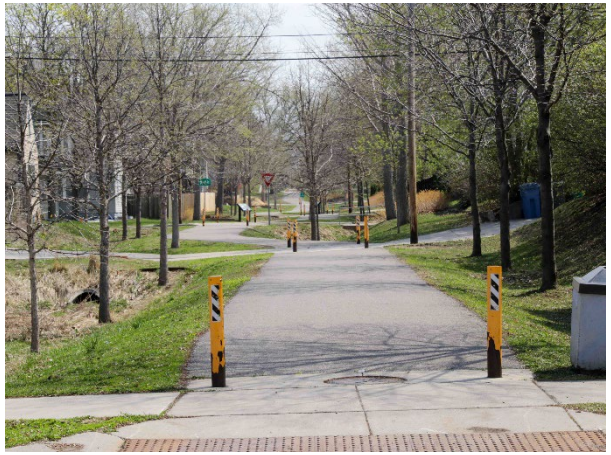
Painted intersections slow driver speeds by visually interrupting the roadway as well as signaling to drivers to expect people walking, cycling and playing in the street. Painted intersections and blocks are often the product of collaboration and community building among neighborhood residents and can be powerful tools in communicating the safe, comfortable and multipurpose vision they have for their neighborhood streets.

Factors for implementation

- The City of Saint Paul operates a Paint the Pavement program, but a neighborhood resident or group must organize, facilitate and fund the painting event, including design approval and street closure permits from the City for the day of the painting event
- The City outlines goals to publicize the program, streamline the application process and identify funding for City staff to implement Paint the Pavement projects
- Eligible streets and intersections are those that are local and residential with low traffic volumes, not in a construction project area and not to be seal coated in the current year

PARK & SCHOOL ZONES

TOOLS FOR CHANGE
Visualizing Concepts



Several block street closure along the N 37th Avenue Bicycle Boulevard/ Greenway leading to Folwell Park. Minneapolis, MN

Curbless yield street with rain garden tree wells, solar street lights creates a more flexible street space. Source: NACTO.org

Before: Neighborhood park in Seattle, WA

After: street closure and paint the pavement

The focus of this treatment

- Calm vehicle traffic
- Extend park space

Their function

Park and School Zones are segments of streets adjacent to established parks and schools that act as an extension of the park or school and signal to drivers to expect people walking, biking and playing in the area. Key crossings to the park should be noted with tools like raised table intersections or crossings, or neighborhood traffic circles. Curb extensions and chicanes can all be used to further calm traffic and emphasize the use of the space for people recreating and playing. Park and School Zones might also be good candidates for diagonal traffic diverters or street closers to create more of a greenway effect.

Factors for implementation

- Consider short, regular, temporary closures of the street with programmed activities and unstructured play opportunities for children and families to emphasize the multi-functional use of the street space
- Rain gardens, bioswales and planter boxes can be used as part of roadway design elements to extend the feeling of the park space onto the street and welcome park users
- Consider creating a unique street look and feel by creating a curbless street the entire Park Zone to create a more flexible street space for special neighborhood festivals and events
- Consider closing several blocks near parks to motor vehicles and creating a greenway feel with a multi-use trail (wide enough to support emergency responders) and rain gardens and other native plantings on the edges

Minneapolis, MN

37th AVENUE NORTH NEIGHBORHOOD GREENWAY

Three blocks of 37th Avenue North, a northside bicycle boulevard, were transformed into a neighborhood greenway with trees, 11 rain gardens and a trail for people walking and biking. Two blocks were narrowed to a single traffic lane with a bike contraflow lane and curb extensions to inset on-street parking, slowing traffic and increasing pedestrian safety and comfort. The one-lane block sections on either end of the greenway help to divert through traffic, encouraging only local residents. This project also addressed major flooding issues, reducing flood impacts to homes and improving water quality.

Photos (from left to right)**:**

- 37th Avenue North before the greenway project (Google Earth, 2009).
- The neighborhood greenway has transformed the residential street into a green oasis while providing a safer and more direct connection to community destinations like Folwell Park.

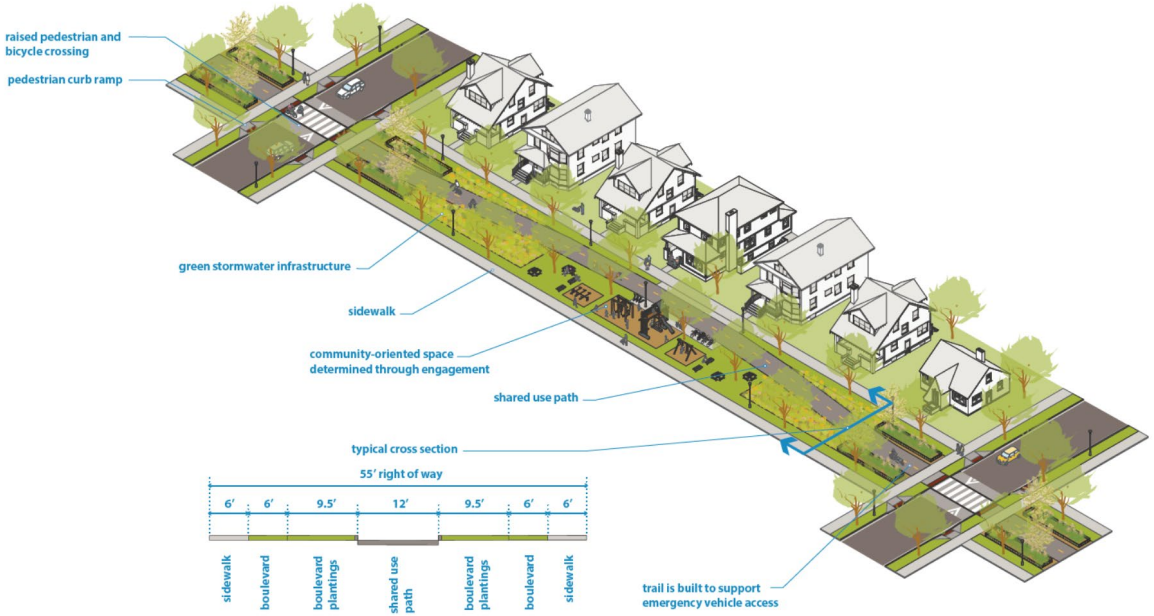
PARK & SCHOOL ZONES

TOOLS FOR CHANGE
Visualizing Concepts

Park and School Zones might be good candidates for diagonal traffic diverters or street closers to create more of a greenway effect and further prioritize the safety and comfort of children and families walking and biking to parks and schools.

Example of a bicycle boulevard that has 1-side multi-use trail, 1-way traffic and 1-side parking to create a neighborhood greenway.

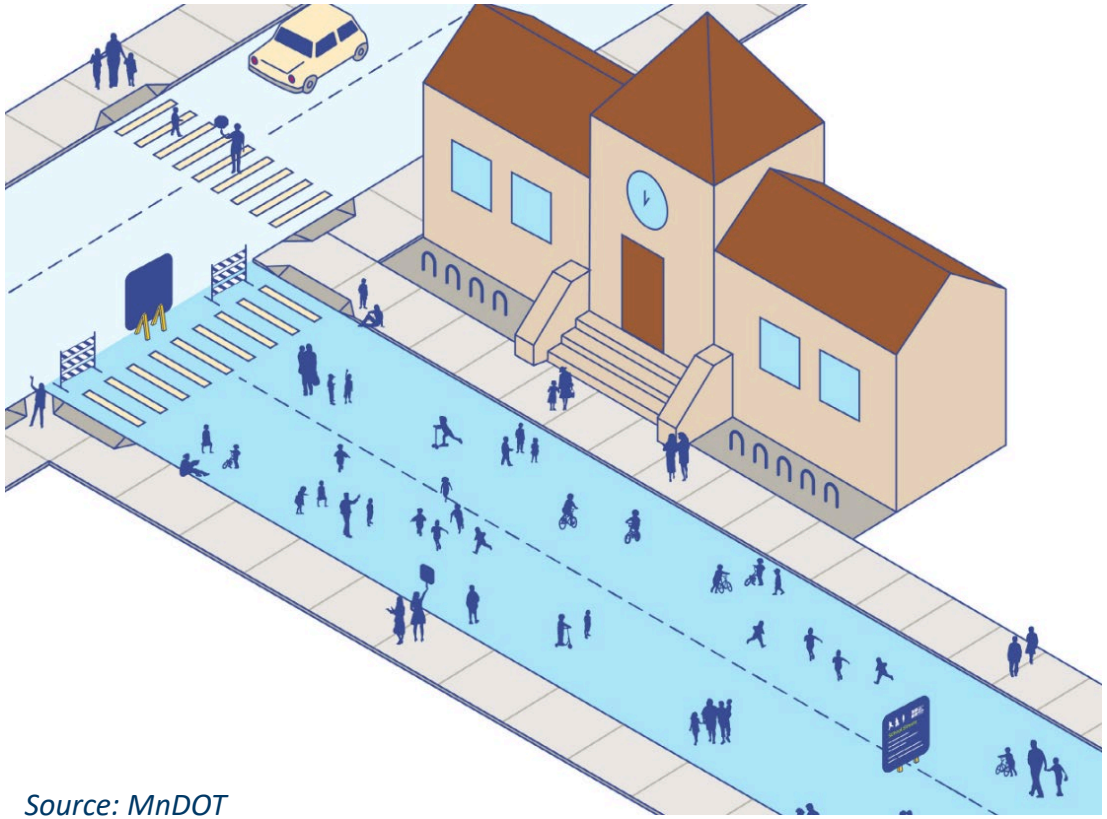
Example of bicycle boulevard with no motor vehicle access for a block or two.



Source: Minneapolis streets illustrated

SCHOOL STREETS

TOOLS FOR CHANGE
Visualizing Concepts



Source: MnDOT

The focus of this treatment

- Reduce vehicle traffic near schools
- Provide opportunities for outdoor learning and play
- Promote active transportation

Their function

School Streets use temporary street closures adjacent to or approaching schools to remove vehicle traffic and open the street for children to walk, bike, learn and play. They also make school pick-up and drop-off safer by removing vehicle traffic congestion in front of schools.

Factors for implementation

- Pair School Streets with a remote "Park & Walk" location a few blocks away from the school. School staff, caregivers or volunteers can help walk students from the parking location to the school street
- Collaborate with students, caregivers, teachers and local business owners and residents to gather support for the program
- Use signage to communicate the street closure and provide additional information
- Add informative signage along the Park & Walk route to provide information about the program. Collaborate with students to create art and signs for the route
- Leadership from the school is needed to activate and mange the set-up and take down of school street signage, materials (e.g. road barricades) and communication

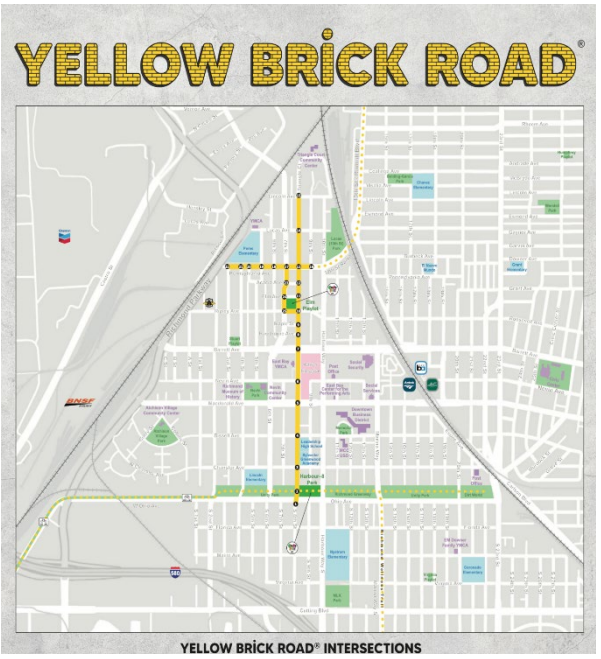
Richmond, CA

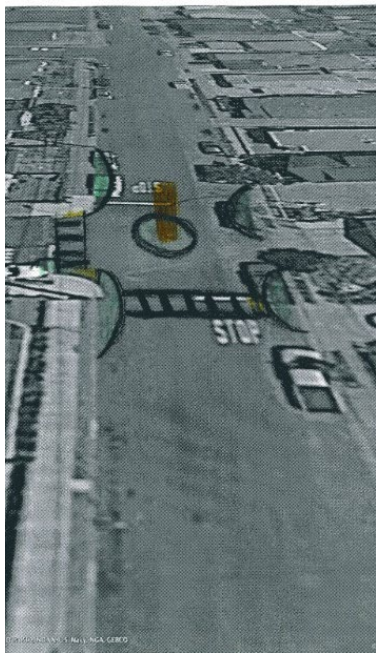
YELLOW BRICK ROAD, POGO PARK

In 2008, a group of teenagers from the community came up with an idea for how to make the neighborhood safer for children and families: the Yellow Brick Road. Yellow Brick Road is a safe and beautiful bike and walking route — a path through the neighborhood that connects key community assets such as churches, parks and schools. Together youth, Pogo Park, City of Richmond and other stakeholders held a "living preview" to test traffic calming ideas, including a traffic circles. Youth worked with a local chainsaw artist to construct art for the centers. The community received sustained funding to implement their vision for their Yellow Brick Road.

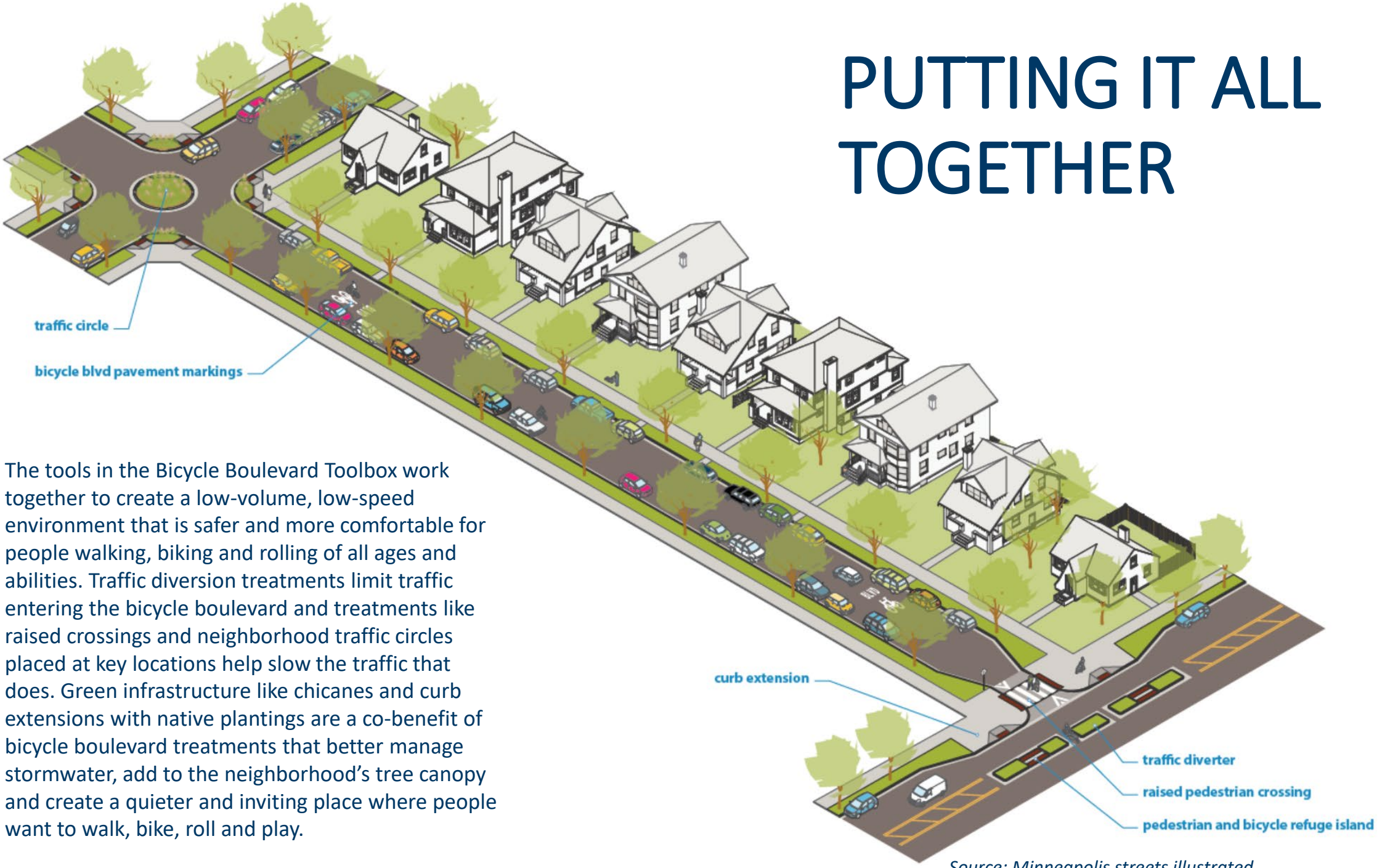
Photos (from left to right)**:**

- A map of the Yellow Brick Road.
- A sketch for a quick build project to test traffic circles.
- Kids testing out the temporary traffic circle.
- Part of the corridor implementation includes rain gardens with educational signs in both Spanish and English.





PUTTING IT ALL TOGETHER



The tools in the Bicycle Boulevard Toolbox work together to create a low-volume, low-speed environment that is safer and more comfortable for people walking, biking and rolling of all ages and abilities. Traffic diversion treatments limit traffic entering the bicycle boulevard and treatments like raised crossings and neighborhood traffic circles placed at key locations help slow the traffic that does. Green infrastructure like chicanes and curb extensions with native plantings are a co-benefit of bicycle boulevard treatments that better manage stormwater, add to the neighborhood's tree canopy and create a quieter and inviting place where people want to walk, bike, roll and play.

Source: Minneapolis streets illustrated

Corridor Vision

SECTION 4

Vision and Goals

VISION

People of all ages and abilities safely and comfortably walk, bike and roll* along Flandrau Street. The street is beautiful and invites play and community connection.

** Roll refers to people using a wheelchair, stroller, scooter or other assistive mobility device.*

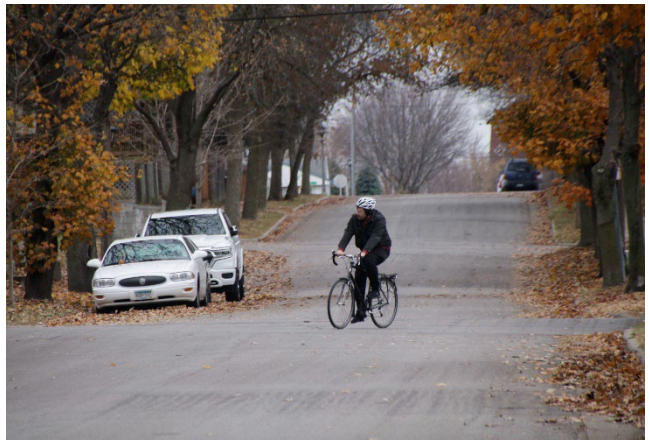
GOALS

- Increase the number of people walking and bicycling along Flandrau Street year-round.
- Design a low-speed environment that is safe and comfortable for people of all ages and abilities to walk, bike, roll and play.
- Create a route that provides clearly marked, appealing and direct access to neighborhood destinations and regional connections.
- Increase visibility and encourage safe driver behavior by design, especially at busy street crossings along the corridor to improve safety, comfort and convenience for people walking and biking.
- Foster a sense of pride among residents and neighborhood.
- Incorporate green infrastructure and landscaping to responsibly manage stormwater, enhance biodiversity and increase opportunities to enjoy nature.
- Identify opportunities to incorporate art, signage and other visual features that celebrate the people and cultures of the East Side of Saint Paul.

Key Themes

Based on input from the Flandrau Street Planning Team, District Council meetings, open house, workshop, interactive map comments, SRTS events and other public engagements the following are key themes:

- **Safety of children** walking, biking and rolling (most vulnerable users) is a **primary goal**.
- **Slow motorists' speeds, minimize vehicle volumes to local residents** and **improve intersection safety for all users** with tools like neighborhood traffic circles.
- **Green the street** through street trees and other native plants.
- **Improve maintenance** of the street, especially in the winter by **prioritizing the route for snow clearing**.



Starter Concepts

Larpenteur Ave to Arlington Ave

Key Recommendations – *Short-Term (1-5 Years)*

- Address major intersection crossings with a median refuge (closed to vehicles) with high visibility crosswalk markings at Larpenteur and Arlington Avenues so people biking can continue through, but vehicles can only turn right-in/right-out.
- Add neighborhood traffic circles at Idaho and Nebraska Avenues.
- Use signage and pavement markings to mark bicycle boulevard.
- Consider adding chicanes, speed humps and/or pinchpoints throughout this section to calm traffic.
- Build neighborhood buy-in and test above treatments through quick build demonstration projects using bollards, paint, removeable curbs, etc. to pilot the ideas and prepare for long-term implementation.

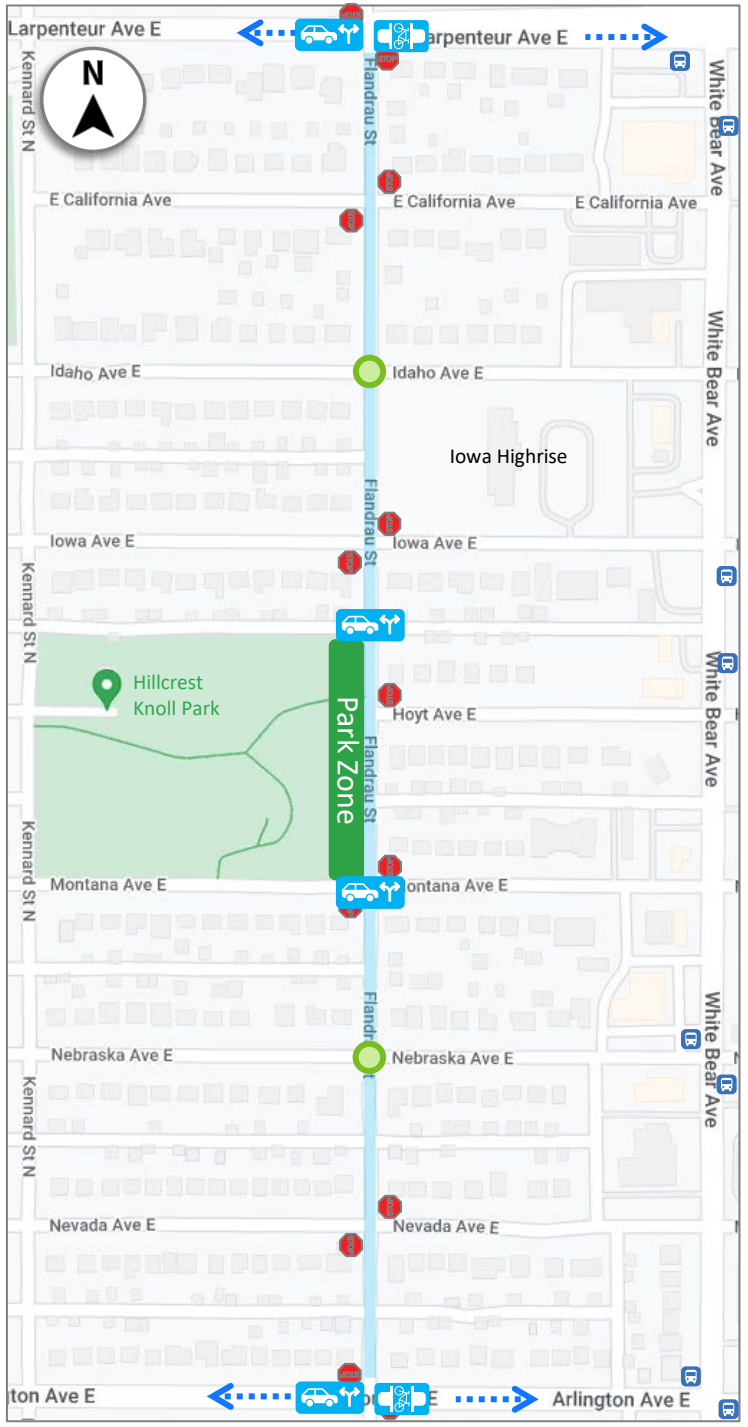
Key Recommendations – *Long-Term (5+ Years)*

- Create a unique "Park Zone" look and feel along Hillcrest Knoll Park. Use traffic diversion and partial to full street closure of Flandrau Street at Hoyt Avenue and Montana Avenue to create a green street and minimize or eliminate vehicle through traffic. Assess location of stop signs for drivers.
- Improve bikeway on Arlington Avenue as this is an important connection to the larger Saint Paul bicycle network.
- Add sidewalks in sidewalk gap (shown in blue on the map).

LEGEND

- Neighborhood Traffic Circle
- Major Intersection Crossing Treatment
- Traffic Diverter
- Existing Intersecting Bikeway

See the Bicycle Boulevard Toolbox section for a more detailed description of these concepts.



Starter Concepts

Arlington Ave to Jessamine Ave

Key Recommendations – *Short-Term (1-5 Years)*

- Address major intersection crossings with a median refuge (closed to vehicles) and high visibility crosswalk markings at Arlington and Maryland Avenues so people biking can continue through, but vehicles can only turn right-in/right-out. Evaluate Maryland Avenue for additional crossing tools such as HAWK, especially if it remains 4-lanes of traffic.
- Evaluate and add diagonal traffic diverter at Cottage Avenue.
- Add neighborhood traffic circles at Ivy, Orange and Jessamine Avenues.
- Use signage and pavement markings to mark bicycle boulevard.
- Flip stop signs on Flandrau Street to stop motorists traveling along Clear and Sherwood Avenues
- Consider adding chicanes, speed humps and/or pinchpoints throughout this section to calm traffic.
- Build neighborhood buy-in and test above treatments through quick build demonstration projects using bollards, paint, removeable curbs, etc. to pilot the ideas and prepare for long-term implementation.

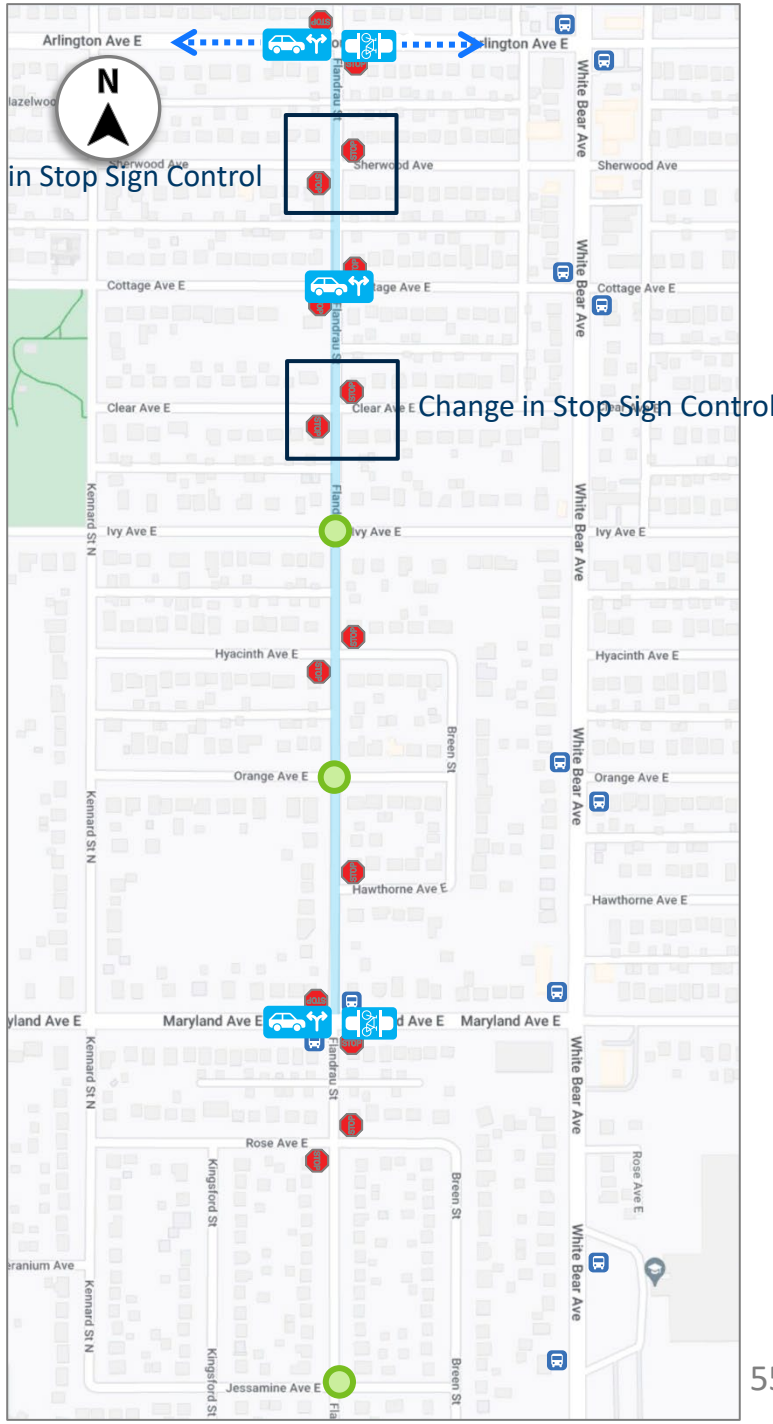
Key Recommendations – *Long-Term (5+ Years)*

- In partnership with Ramsey County, road diet (4 lane to 3 lane conversion) Maryland Avenue.
- Adjust the traffic signal at White Bear Avenue and Ivy Avenue so it responds to cyclists.
- Add sidewalks in gap (shown in blue on the map).

LEGEND

- Major Intersection Crossing Treatment
- Neighborhood Traffic Circle
- Existing Intersecting Bikeway

See the Bicycle Boulevard Toolbox section for a more detailed description of these concepts.



Starter Concepts

Jessamine Ave to 7th St E

Key Recommendations – *Short-Term (1-5 Years)*

- Add neighborhood traffic circle at Jessamine Avenue.
- Improve existing railroad crossing by adding wayfinding to help users navigate.
- Use signage and pavement markings to mark bicycle boulevard.
- Install curb extensions at Case Avenue to shorten the crossing distance for students on foot.
- Evaluate and add diagonal traffic diverter at York Avenue.
- Flip stop signs on Flandrau Street to stop motorists traveling along Sims Avenue.
- Address major intersection crossings with a median refuge (closed to vehicles) and high visibility crosswalk markings at 7th Street so people biking can continue through, but vehicles can only turn right-in/right-out.
- Build neighborhood buy-in and test above treatments through quick build demonstration projects using bollards, paint, removeable curbs, etc. to pilot the ideas and prepare for long-term implementation.
- Consider adding chicanes, speed humps and/or pinchpoints throughout this section to calm traffic.

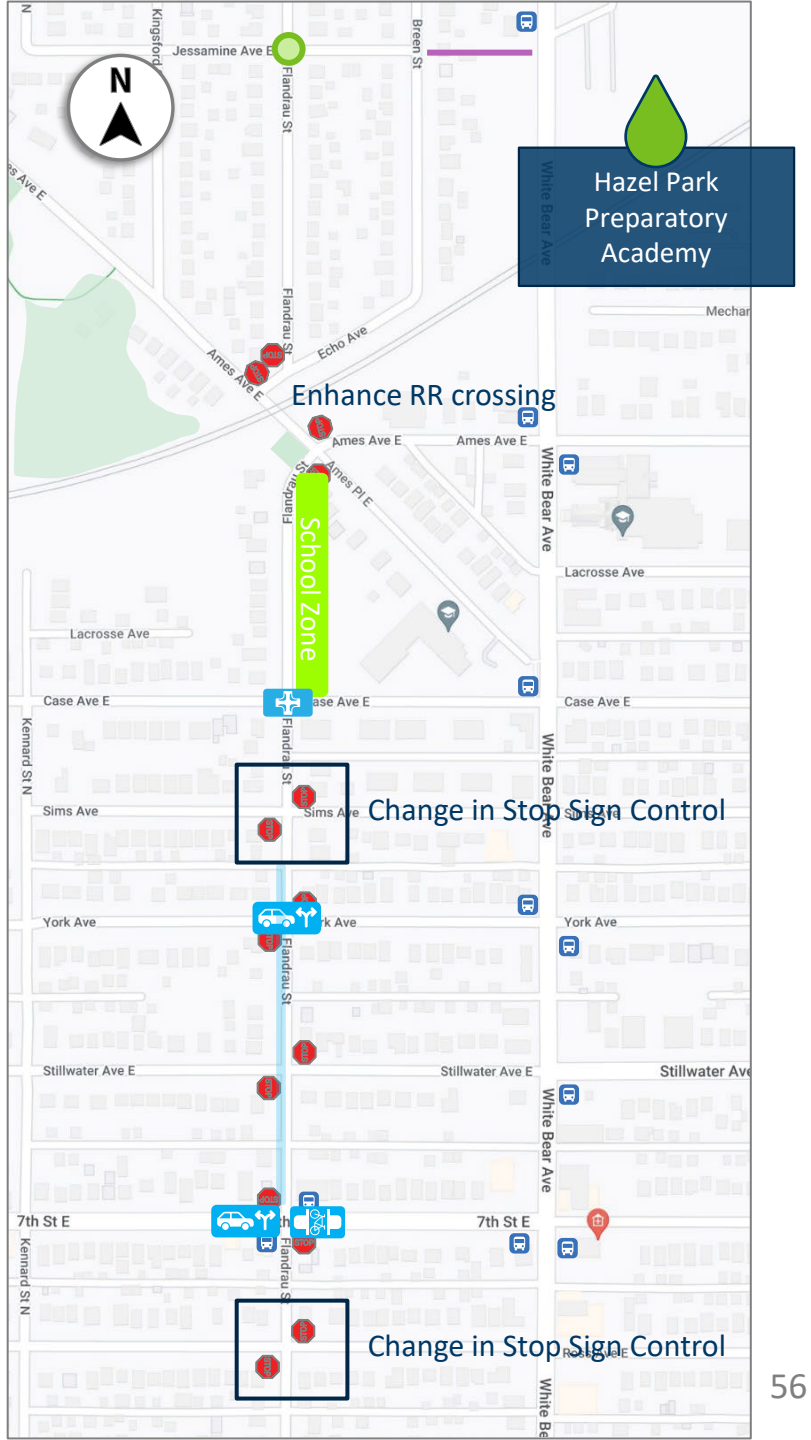
Key Recommendations – *Long-Term (5+ Years)*

- Consider raised table crossings on the north and south sides of Flandrau Street at 7th Street intersection
- Ensure a target speed of 15 mph and prioritize children and families walking and biking in School Zone section by design; continue SRTS partnerships for education and encouragement initiatives.
- Work with Ramsey County to create a safer midblock crossing of White Bear Avenue to Hazel Park Preparatory Academy; consider a HAWK signal.
- Add chicane on the hill between 7th Street and Case Avenue.
- Add sidewalks in gap (shown in blue on the map).

LEGEND

- Neighborhood Traffic Circle
- Major Intersection Crossing Treatment
- Traffic Diverter
- Curb Extensions
- Existing Path
- Existing Intersecting Bikeway

See the Bicycle Boulevard Toolbox section for a more detailed description of these concepts.



Starter Concepts

Ross Ave to I-94

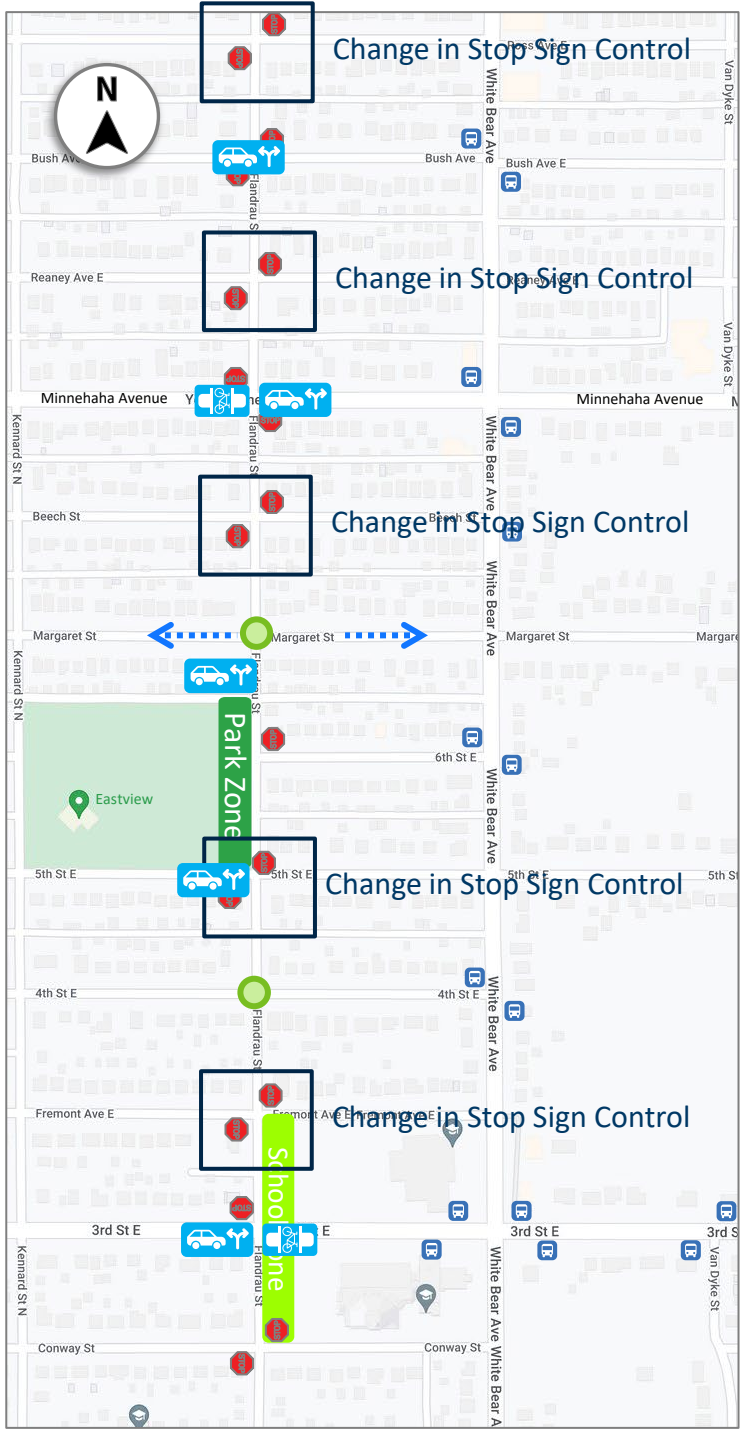
Key Recommendations – *Short-Term (1-5 Years)*

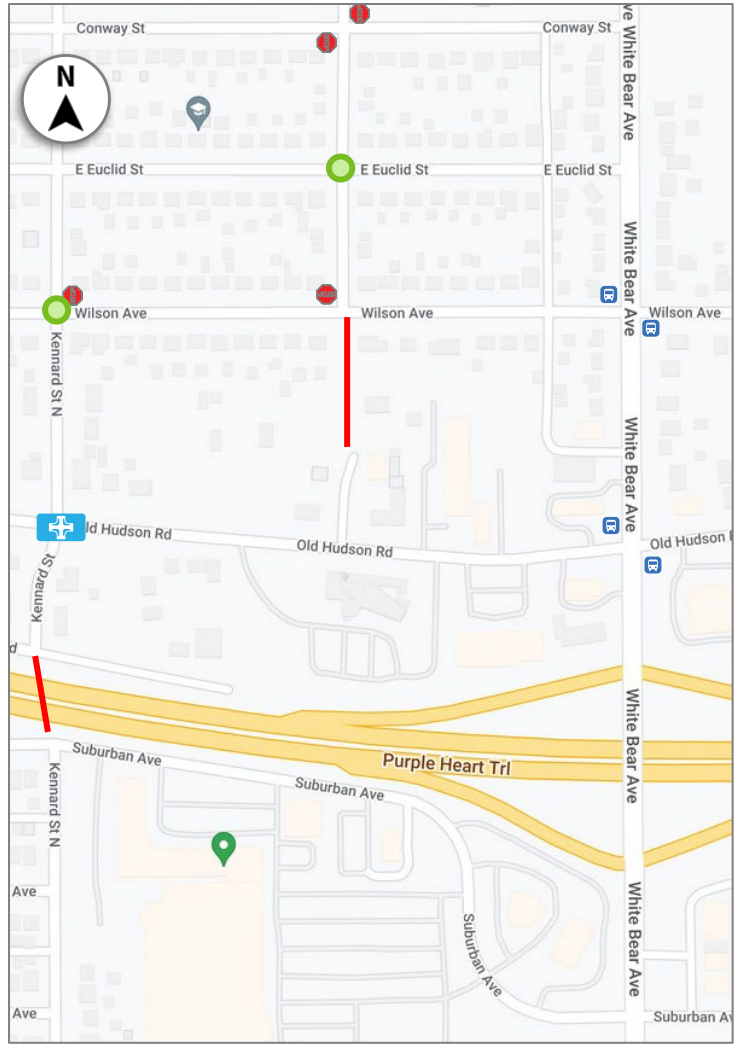
- Consider vehicle traffic diversion at Bush Avenue, Minnehaha Avenue, and 3rd Street to limit vehicle traffic on Flandrau Street.
- Add high visibility crosswalk and treatments at Minnehaha Avenue and 3rd Street.
- Add neighborhood traffic circles at 4th Street, Euclid Street and Wilson Avenue/Kennard Street intersection.
- Use signage and pavement markings to mark bicycle boulevard
- Add curb extensions at Old Hudson Road and Kennard Street.
- Flip stop signs on Flandrau Street to stop motorists traveling along Ross, Reaney and Beech Avenues.
- Continue to build momentum for Park and School Zones look and feel in partnership with residents and SPPS SRTS partnership.
- Consider adding chicanes, speed humps and/or pinchpoints throughout this section to calm traffic.

Key Recommendations – *Long-Term (5+ Years)*

- Create a "Park Zone" feel along Eastview Park. Explore traffic diversion at 5th and 6th Streets to remove vehicle traffic. Assess location of stop signs for drivers.
- Ensure a target speed of 15 mph and prioritize children and families walking and biking in School Zone by design; continue SRTS partnerships for education and encouragement initiatives.
- Use city right-of-way south of Wilson Ave to create a more direct link to Old Hudson Road, which connects to Hazel St Gold Line BRT station.
- Coordinate with MnDOT on a ped/bike freeway crossing at Kennard Street.

See the Bicycle Boulevard Toolbox section for a more detailed description of these concepts.





LEGEND

- Neighborhood Traffic Circle
- Vehicle Traffic Diversion
- Major Intersection Crossing Treatment
- Curb Extensions
- Needed or Potential Future Connection
- Existing Intersecting Bikeway

Moving Forward

SECTION 5

Next Steps for Moving the Plan Forward

Action Steps	Implementation Lead/ Partners	Timeframe
Share Plan with Council Members	District Councils (1 & 2) City Council	90-days
Seek Funding: apply for Regional Solicitation for bikeways project for furthering the design and ultimately construction.	City	within 1 year
Test and Refine Starter Ideas: • Seek demonstration project funds, consider applying for the next round of MnDOT Active Transportation or Safe Routes to School Demonstration Project solicitation funds. • Organize a quick build project to test traffic diverters, street closures or other starter ideas. • Conduct a traffic analysis to assess potential motor vehicle traffic diversion onto nearby streets and identify additional traffic calming measures that might be needed on nearby streets to mitigate any traffic impacts.	City, District Councils, Fire and Emergency Services, Residents	Summer 2024

Next Steps for Moving the Plan Forward

Action Steps	Implementation Lead/ Partners	Timeframe
Build Momentum and Awareness Through Community Rides and Street Events:		
• Paint the Pavement: Let public art help define the street space, especially near parks and schools along the corridor and increase neighborhood involvement.	District Councils (build from D2's intersection paint program), City, Local Artist, Schools, Residents	Summer 2024
• Open Streets Event: Close the street to motor vehicles and open it for people to walk, bike, stroll, scoot and play to further get the word out about Flandrau Street as a bicycle boulevard.	District Councils, City (including police and emergency service departments), St Paul Bike Coalition, Grease Rad Ride & Wrench, Bike MN, Schools, Ramsey County Active Living Coalition, Public Health/SHIP, Residents	Summer 2024
• Bicycle Parade with Schools: Showcase the strong connection Flandrau Street provides by organizing a "Bike N' Roll" parade with the schools on and off the corridor during National Bike Month (May). This is a great way to further envision the school zones and tie into SRTS programs to encourage children and families to walk or bike to school.	Schools, City (including police and emergency service departments), District Councils	Spring 2024

A Call to Action

COMMUNITY CHARGE

Bicycle boulevards of the future not only prioritize the through movement of people walking, biking and rolling, but allow neighbors to come together to share in the power of street design, building from the ideas, identities and cultures that make up Flandrau Street and the Greater East Side of Saint Paul.

Flandrau Street serves as a **critical spine connecting people to schools, parks, commercial nodes, transit and much more**. Continue to build momentum for a **bold, green street** that promotes **active transportation and active living by design**. Ensure **future engagement centers residents of Flandrau Street** by hosting **interactive, fun and multi-lingual events** such as Open Streets, Paint the Pavement or demonstration projects to let people further understand and envision new tools and treatments, together. **Applying for funding through the Regional Solicitation process** is a key next step in making Flandrau Street Bicycle Boulevard a reality.