SWEET STREETS: better roads, better Richfield

PROJECT GOALS ADAPTED FROM CITY OF RICHFIELD'S GUIDING PRINCIPLES AND SWEET STREETS INITIATIVE

I. Multimodal Design

Utilize innovative and non-traditional design standards in a way that is equitable for all modes/users, including bicycle, pedestrian, transit, and intermodal travel.

II. Connectivity and Public Realm

Connect public realm amenities so that a range of inter-modal activities support how neighborhood residents travel to and from destinations

III. Local Economy

Support all businesses in the local economy and provide a safe and more convenient way to access and connect across all modes.

IV. Design for People

Consider how people will use community amenities and facilities, addressing universal accessibility and the comfort, safety, and convenience of all users.

V. Community Character & Identity

Recognize and respond to community character and features with appropriate design, speeds, wayfinding, and amenities.

VI. Sustainable Solutions

Utilize solutions that are adaptable, flexible, built to last, and consider implications of long term maintenance.

VII. Health and Active Lifestyles

Incorporate elements that encourage comfortable corridors and places to walk and bike to, via safe and well-landscaped routes that connect the community.

VIII. Unique Location

Support a well-designed and functional system which complements local land use and capitalizes on Richfield's unique location through access to regional multimodal system.

What do you think?

Put a dot next to the project goals you think are most important for the Lyndale Avenue project

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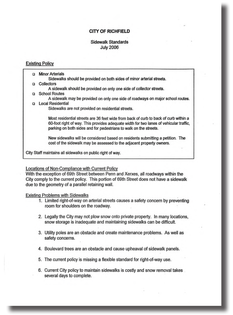
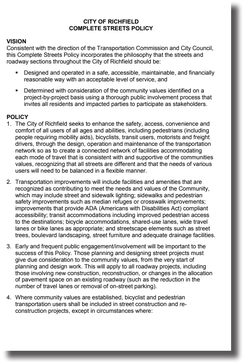
PLANS & POLICIES

Sweet Streets Initiative

Bicycle Master Plan (2012)

Sidewalk Standards and Snow Plowing Policies





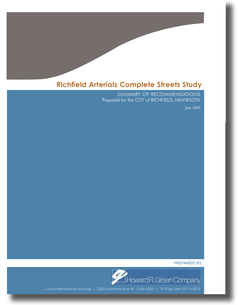
Complete Streets Policy

Distracted Driving Initiative

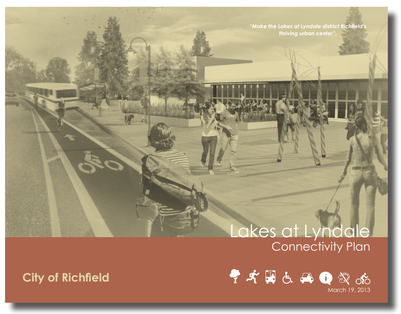
Lyndale Avenue

Comprehensive Plan Update

Richfield Arterials Complete Streets Study (2009)



Lakes at Lyndale Connectivity Plan (2013)



LYNDALE AVENUE RECONSTRUCTION PROJECT

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Project Overview

I. About the Project

*As part of its Sweet Streets initiative, The City of Richfield is planning for the **reconstruction of Lyndale Avenue South in 2019**. The project will extend from 66th Street on the north end to 76th Street on the south end. The project will evaluate corridor improvements to balance mobility, access, and non-motorized uses along the roadway, as well as improvements to the public utilities.*

The City has recognized this as a unique opportunity to revisit the street's design and function, to ensure they represent the best approach to meet the community's transportation needs into the future.

II. Project Contacts

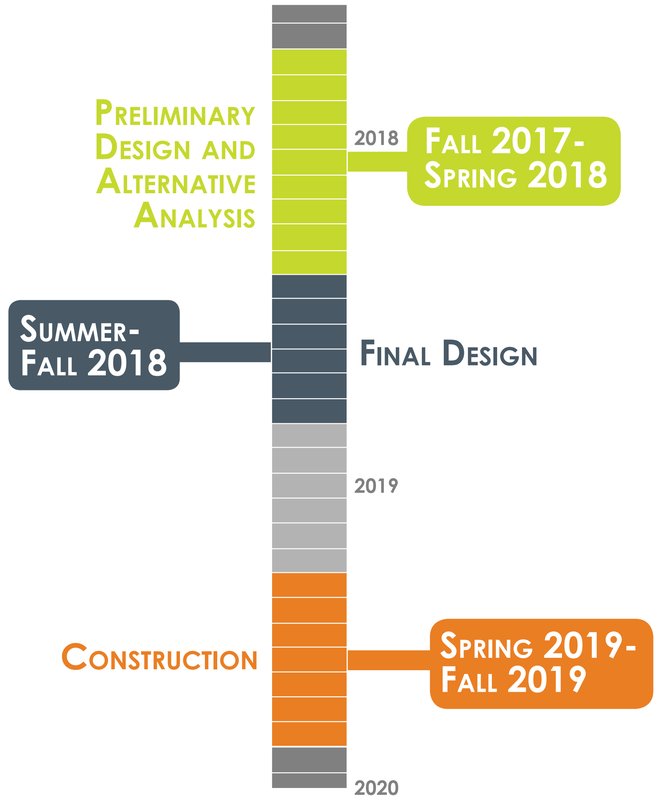
*Have **Questions**? Want to Provide us **Feedback**? Please reach out to these contacts and let us know what you think!*

Jeff Pearson, P.E. **City of Richfield**
City Engineer
Phone: (612)861-9791
Email: jpearson@richfieldmn.gov

Tim Lamkin, P.E. **Bolton & Menk Inc.**
Consulting Engineer
Phone: (952)890-0509 x 3026
Email: Timla@bolton-menk.com

III. Project Timeline

The approximate timeline for this project is:



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Corridor Context Map

61st St.
MINNESOTA 62
INTERSTATE 35W
63rd St.
63rd St.
64th St.
Girard Ave.
Richfield Lake Park
65th St.
Hub and West Shopping Center
53
Monroe Field
66th St.
67th St.
Academy of Holy Angels
Humboldt Ave.
68th St.
69th St.
Wood Lake Nature Center
Lyndale Ave.
Pleasant Ave.
Nicollet Ave.
70th St.
INTERSTATE 35W
71th St.
Richfield High School
Richfield Community Center
Augsburg Park
73rd St.
74th St.
Donaldson Park
Lincoln Field
77th St.
76th St.
INTERSTATE 494
American Blvd.

Legend

Land Use

- Farmstead
- Seasonal/Vacational
- Single Family Detached
- Manufactured Housing Park
- Single Family Attached
- Multifamily
- Retail and Other Commercial
- Office
- Mixed Use Residential
- Mixed Use Industrial
- Mixed Use Commercial and Other
- Industrial and Utility
- Extractive
- Institutional
- Park, Recreational or Preserve
- Golf Course
- Major Highway
- Railway
- Airport
- Agricultural
- Undeveloped
- Water

Transit

- Transit Route
- Transit Stop
- Bike Route - Existing
- Bike Route - Planned
- Bike Route - Potential Future

Map Not to Scale

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What We've Learned

Common Themes from Open House #1 (October 2017)

Input Received	Users Affected	Potential Result
• Sidewalks are too close to the roadway • Sidewalks are not well-maintained • Not enough space to store snow • High traffic volumes and speeds making crossing the road difficult • Traffic is noisy and sometimes causes vibrations/impacts to property	**Pedestrians** **Transit Users** **Adjacent Property Owners**	• Pedestrians do not feel safe walking along or across the corridor, or waiting for a bus • Poor maintenance makes walking difficult, so people don't use the sidewalks • Unhappy homeowners • Compromised sense of community
• Traffic volumes and speeds discourage bicycling • Not enough space for bicycling	**Bicyclists**	• Bicyclists do not feel safe in the corridor • Those who may wish to bike, do not
• Too much delay and congestion • High traffic volumes make it difficult to cross the corridor and turn from/onto the corridor • Signal Timing slows down corridor traffic • Signal Maintenance issues	**Drivers**	• Affects mobility and travel time; drivers may seek alternative routes through neighborhoods • Increased crashes/conflicts
• Not enough parking near businesses	**Parking**	• Unhappy business owners & patrons • Neighborhood impacts from overflow parking

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Addressing the Problem

Combining the Guiding Principles and public input, we've identified the following:

Community Problem Statement:

- Safety and comfort for pedestrians, transit users, bicyclists, and drivers is compromised and users are not satisfied with the way the existing road operates.

Goal: To address safety in design through consideration of:

- Speed - Reduce vehicle speeds along the corridor.
- Reduce crash severity by slowing traffic, reduce crashes by reducing conflict points.
- Reallocate Space - Allocate space for walking, bicycling, bus stops, parking, snow storage and green space while maintaining adequate traffic capacity for motor vehicles.

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What We've Done

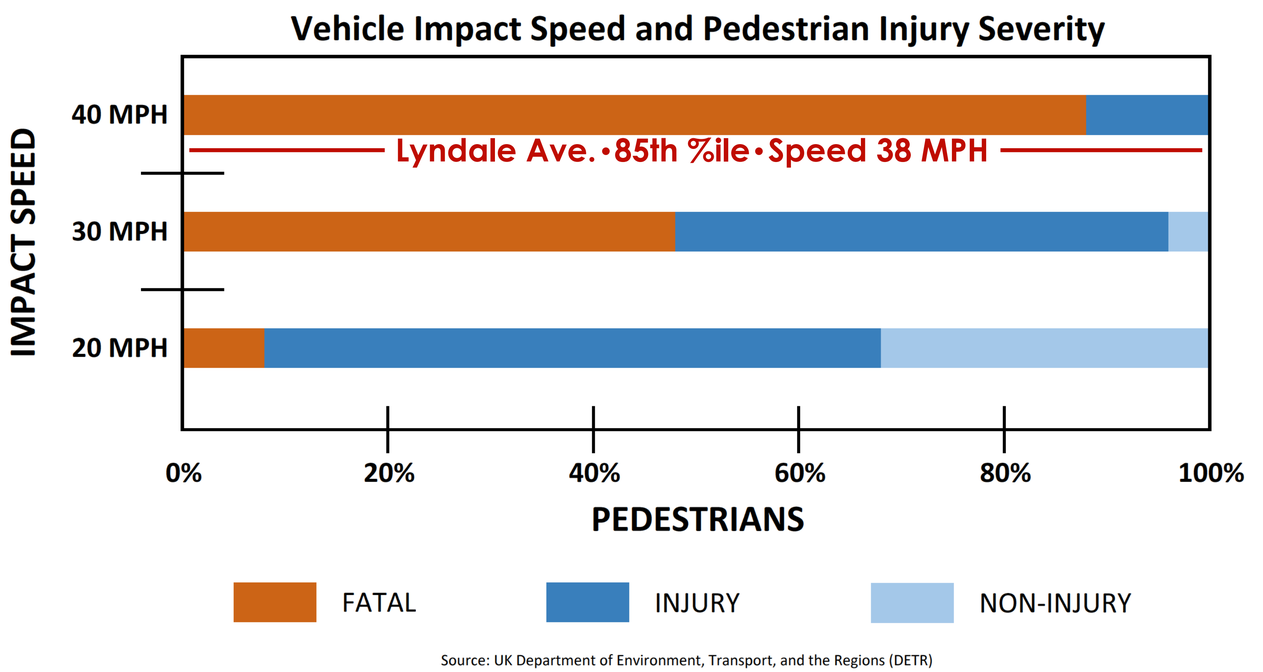
Conducted Speed Studies:

- Vehicle travel speeds along Lyndale Avenue typically exceeded posted speed limits
- Travel time study shows corridor is not congested
  - AM Avg. Travel Time = 147 sec.; 30 MPH Avg. Speed
  - PM Avg. Travel Time = 138 sec.; 32 MPH Avg. Speed

Conducted Crash Analysis:

- Lyndale Avenue is below critical and statewide average crash rates, but exceeds the critical severity crash rate
- Intersection of Lyndale Avenue/Lakeshore Drive exceeds critical severity rate
- The intersections of Lakeshore Dr., 75th St. & 76th St. exceed state average crash rates
- Crashes within business area warrant access control

Figure 1. Vehicle Impact Speed and Pedestrian Injury Severity



Source: UK Department of Environment, Transport, and the Regions (DETR)

As speeds increase, the number of pedestrian fatalities also increases.

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Safety tools considered with the following Guiding Principles in mind:

- **I.** Multimodal Design
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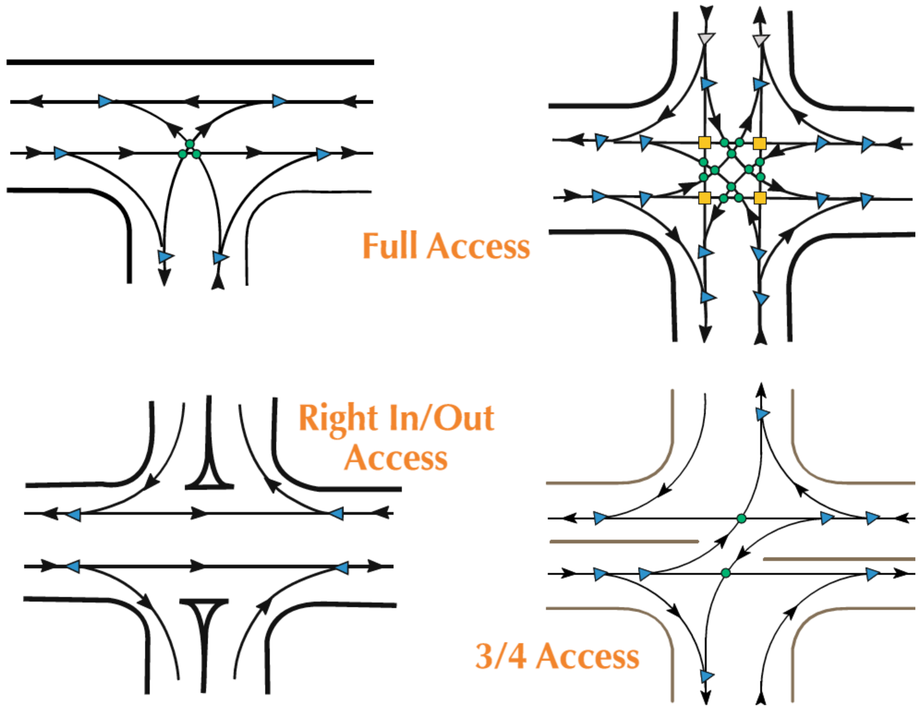
Safety Tool: Reducing Conflict Points



	Crossing	Turning	Merge/ Diverge	Total	Typical Crash Rate (crashes per mil. entering vehicles)
Full Access +	4	12	16	32	0.3 (1)
Full Access T	0	3	6	9	0.3 (2)
3/4 Access	0	2	8	10	0.2 (3)
Right In/Out Access	0	0	4	4	0.1 (3)

Source: *MnDOT Safety Handbook*

- Conflict points are locations where vehicle paths merge, diverge, or cross (also applies to pedestrians and bicycles)
- Safety research suggests intersection crash rates are related to the number of conflict points
- Controlling access by reducing the number of driveways/intersections reduces the number of conflict points
- ***A reduction in conflict points generally improves safety by reducing the number of crashes and the crash severity***

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SAFETY TOOL: 3-LANE SECTION

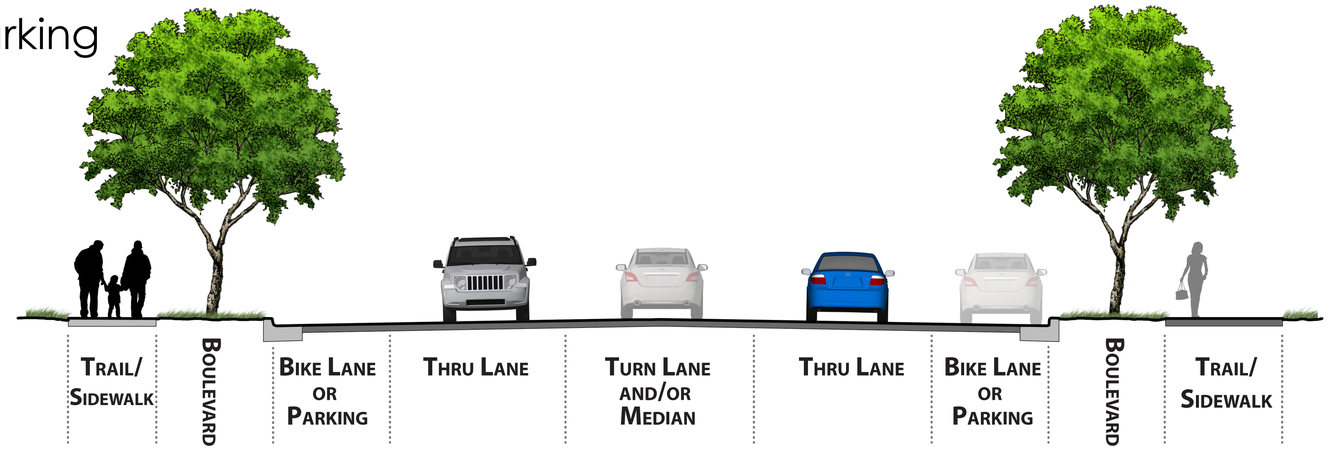
SAFETY BENEFITS:

- **Speed**
  - Reduces excessive speeding
  - Slight decrease in average speed
- **Conflict Points**
  - Fewer conflict points for crossing traffic and pedestrians (shorter crossing distance)
  - Proven to reduce crashes on 4-lane to 3-lane conversions
- **Space**
  - Narrows roadway footprint
  - Allows space for on-street bicycling or parking
  - Green Space

3-Lane Section of Portland Avenue

TRADEOFFS:

- **Fewer gaps for cross street traffic**
- **Increased delay on side streets**



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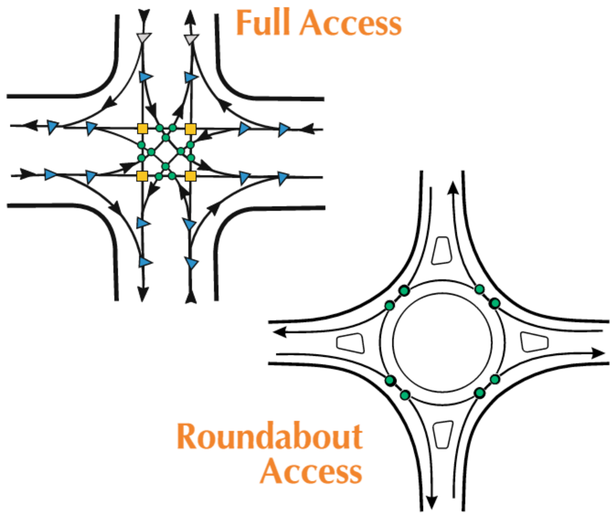
SAFETY TOOL: ROUNDABOUT



Source: *MnDOT Safety Handbook*

SAFETY BENEFITS:

- **Speed**
  - Slows speeds within 1/4 mile of the roundabout (both approaching and exiting)
  - Calms traffic
- **Conflict Points**
  - Reduces from 32 to 8 for vehicles
  - Reduces from 16 to 8 for pedestrians
- **Space**
  - Boulevard space/pedestrian refuge
  - Bicycles have option of using pedestrian crossing or ride through roundabout

TRADEOFFS:

- **Additional right-of-way impacts at corners**
- **Shorter gaps for turning on to/off side streets, but generally more**

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SAFETY TOOL: COMPACT ROUNDABOUT

SAFETY BENEFITS:

- **Speed**
  - Lower vehicular speeds
- **Conflict Points**
  - Fewer conflict points for vehicles and pedestrians
- **Space**
  - More space allocation
  - Little to no additional right-of-way impacts
  - Traversable islands to handle large trucks

TRADEOFFS:

- **Traffic movement violations**

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SAFETY TOOL: PEDESTRIAN RAISED MEDIAN CROSSING

SAFETY BENEFITS:

- **Speed**
  - Slower speeds due to perceived narrowing of road
- **Conflict Points**
  - Fewer conflict points for vehicles and pedestrians
  - Provides refuge for pedestrians to cross one lane at a time
- **Space**
  - Provides refuge for pedestrians and bicycles

TRADEOFFS:

- **Rerouting of traffic if median extends through intersection**
- **Mid-block crossings impact parking/bike lanes or turn lanes depending on configuration**

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SAFETY TOOL: BICYCLE FACILITIES

SHARE THE ROAD/BIKE BLVD.

CYCLE TRACK

BIKE LANE

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SAFETY TOOL: RECTANGULAR RAPID FLASHING BEACON (RRFB)

SAFETY BENEFITS:

- **Speed**
  - Slower speeds due to perceived narrowing of road
  - High motorist yield rates
- **Conflict Points**
  - Fewer conflict points for vehicles and pedestrians
  - Provides refuge for pedestrians to cross one lane at a time
- **Space**
  - Provides refuge for pedestrians and bicycles
- **Much lower cost than signal**

TRADEOFFS:

- **Rerouting of traffic if median extends through intersection**
- **Mid-block crossings impact parking/bike lanes or turn lanes depending on configuration**

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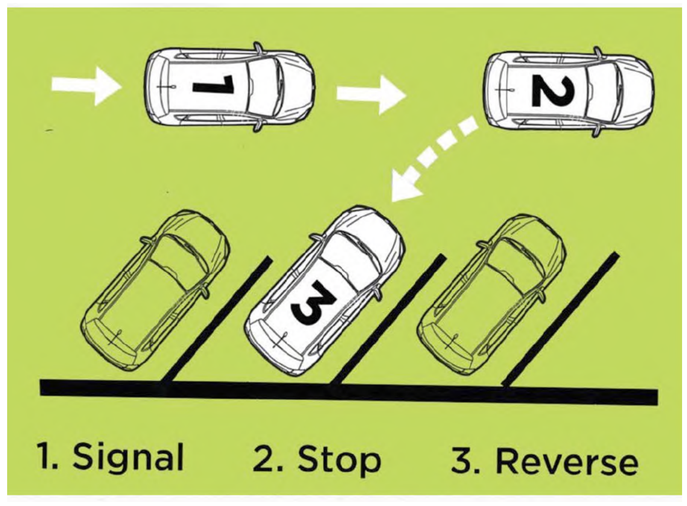
Parking Options

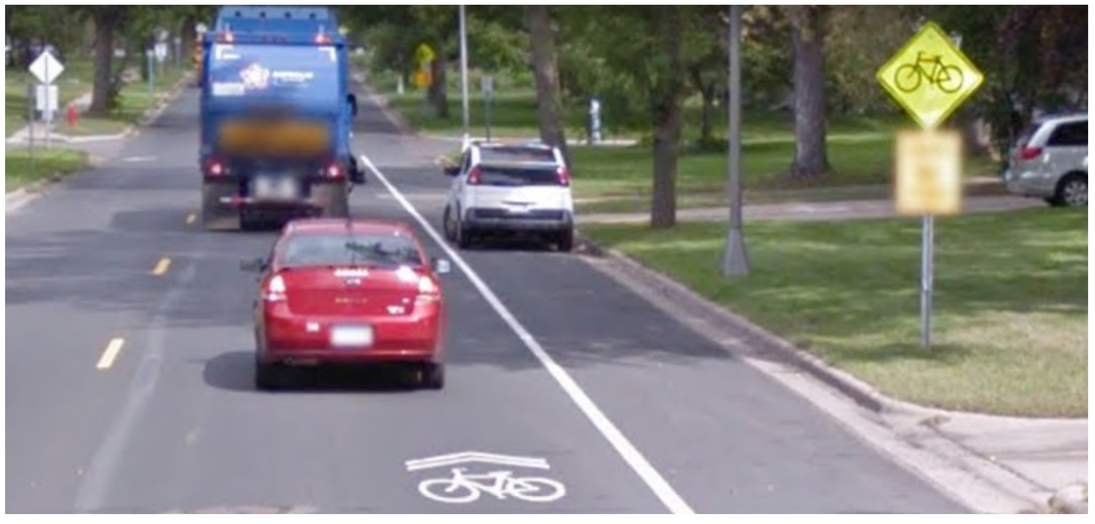
Typical On-Street

Bump-Out with Bike Lane

Back-In Angle Parking



Share the Road



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