PEOPLE FRIENDLY STREETS

First & Ashley Project / William Street Bikeway / Huron Street Design

Public Workshop #2, June 2018

DDA

CITY OF ANN ARBOR MICHIGAN

SMITHGROUPJJR ToolDesignGroup WADETRIM Q+M

Outline

- People-Friendly Streets Overview
- Huron Street Update
- First/Ashley Project & William Street Bikeway
  - Goals and overview
  - Design direction
  - Technical findings
- Next Steps
- Questions (20 min)
- Review drawings, plans, and team discussions (45 min)

On a Mission to Strengthen Downtown Ann Arbor

*The mission of the **Ann Arbor Downtown Development Authority** (DDA) is to undertake public improvements that have the greatest impact in strengthening the downtown area and attracting new private investments.*

Streets are ***the primary*** public-space in the downtown and the means by which we connect with local destinations for exchange; including: shops, cultural centers, people, events, retail spaces, jobs, and ideas.

Acknowledge the land use context. *Streets are places.*

Not all streets can support all modes of travel equally.

Emphasize safety for all modes of travel to create safe and comfortable networks for movement.

PEOPLE-FRIENDLY STREETS *Will …*

IMPROVE SAFETY AND COMFORT

A safe and comfortable street for everyone for all modes of travel.

PROMOTE GREEN DESIGN

Improves the city's sustainability by encouraging active transportation, using resources efficiently, and using practices that protect air and water quality.

STRENGTHEN BUSINESSES

Streets designed to increase access to local businesses while supporting commercial operations.

INCREASE ACCESS & CONNECTIVITY

Connects people to where they want to go and makes it easy to get there by foot, bike, car and bus. Designed to encourage people to connect to each other and the community around them.

DESIGN RESPONSIBLY

Keeps people in mind throughout the process. Design streets that make the best use of public dollars for the benefit of all.

CELEBRATE CIVIC LIFE & ACTIVITY

Streets that are fun and interesting and celebrate the character of downtown. They invite you to linger, to talk to your neighbors and to shop.

PEOPLE-FRIENDLY STREETS

STREETS FOR PEOPLE

People-Friendly Street Projects

Fifth & Detroit
Design Completed: 2017
Construction: 2018 Spring to Fall

First & Ashley Project
Design & Feasibility Phase: 2018
Engineering: 2019
Construction: 2020

- **Two-Way Restoration**
- **Protected bikeway**
- **Safety Improvements**

Huron Street (3rd to Division)
Design Phase: 2018
Construction: 2019 Spring to Fall

- **Streetscape**
- **Safety Improvements**

William Street Bikeway
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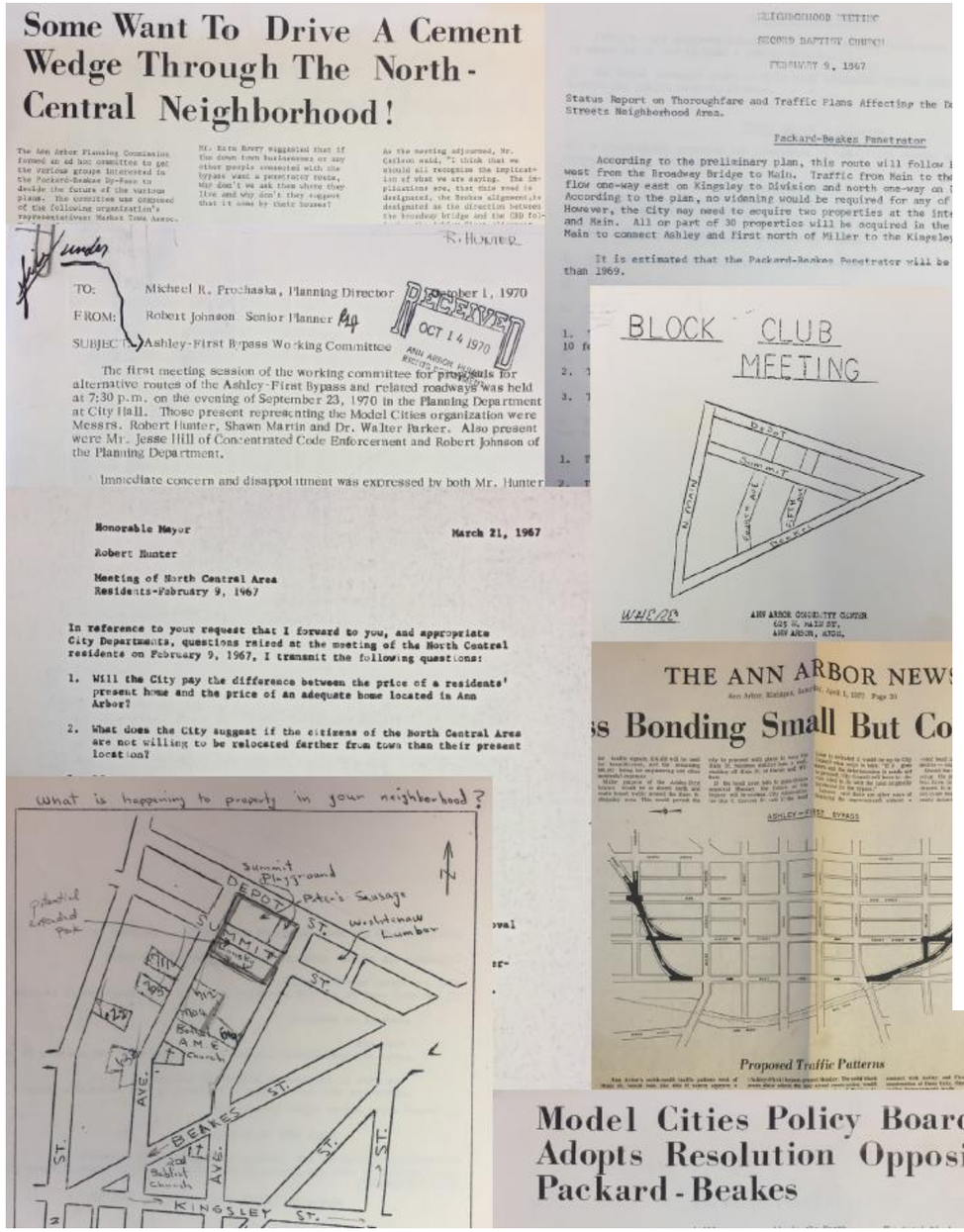
South University
Project Completed: 2017

- **First & Ashley** were made into a one-way pair in the 1960's as part of a **partially completed downtown "bypass"**.

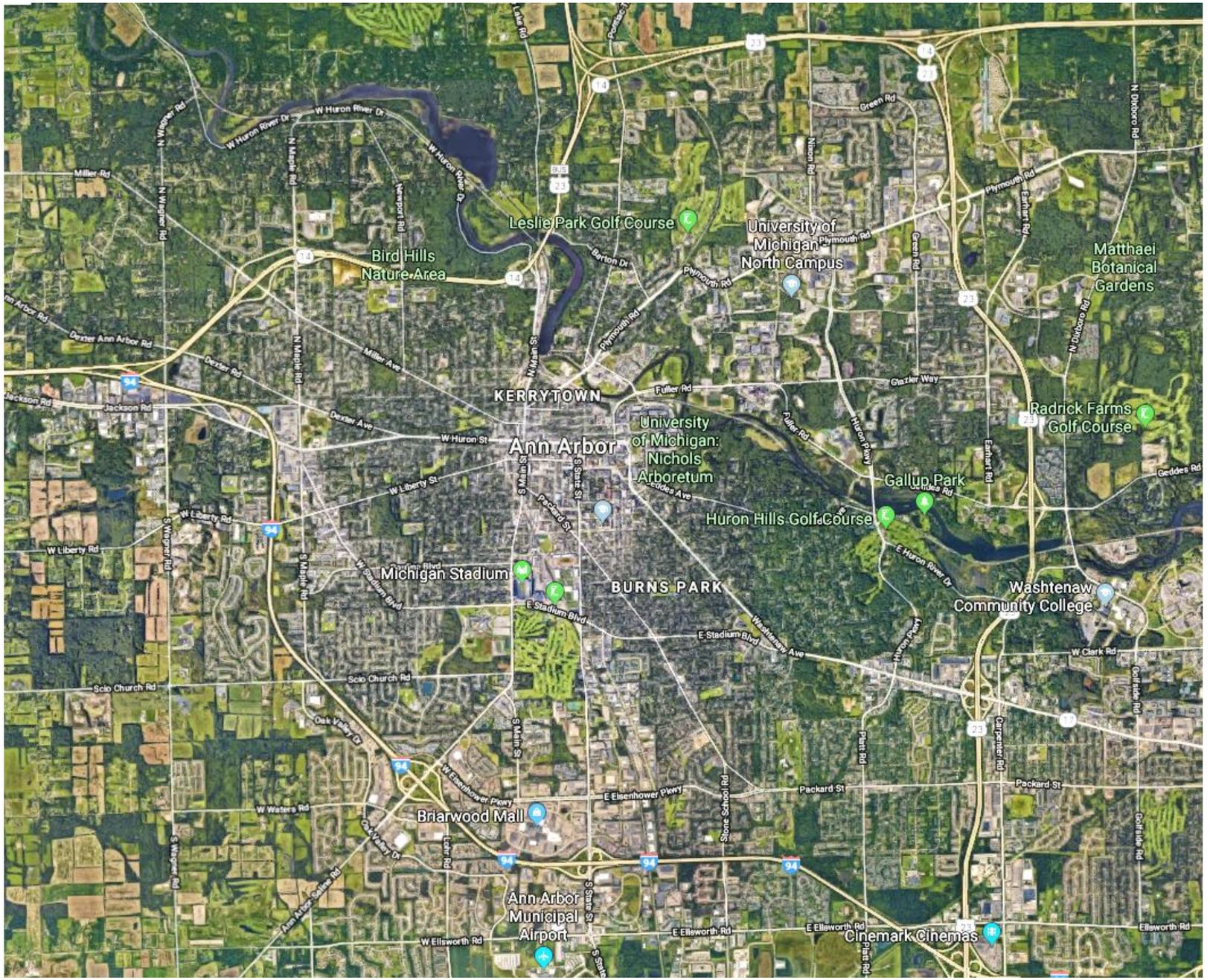
Problems:

- Safety concerns for all users
- Uncomfortable for cycling and walking
- Excessive travel speeds
- Confusing way-finding
- Reduced business access
- Diminished street character



Downtown is about a 15 minute bike ride from Highways I-94, M14, and US-23

There is no legitimate need to speed through downtown or the neighborhoods



- **Benefits:**
  - **Direct routing** for motorists, cyclists, and transit riders
  - **Revitalization** and place-making
  - **Better image** – do-not-enter signs, place vs thoroughfare
  - **Increased access** to businesses
  - Respects **historic intent**: better social & economic exchange
  - **Redundancy** for events, parades, maintenance, emergencies…
  - **Easier way-finding** and tourism
  - **Easier Enforcement** – less speeding, reckless driving, weaving, wrong-way travel

South Bend, Indiana

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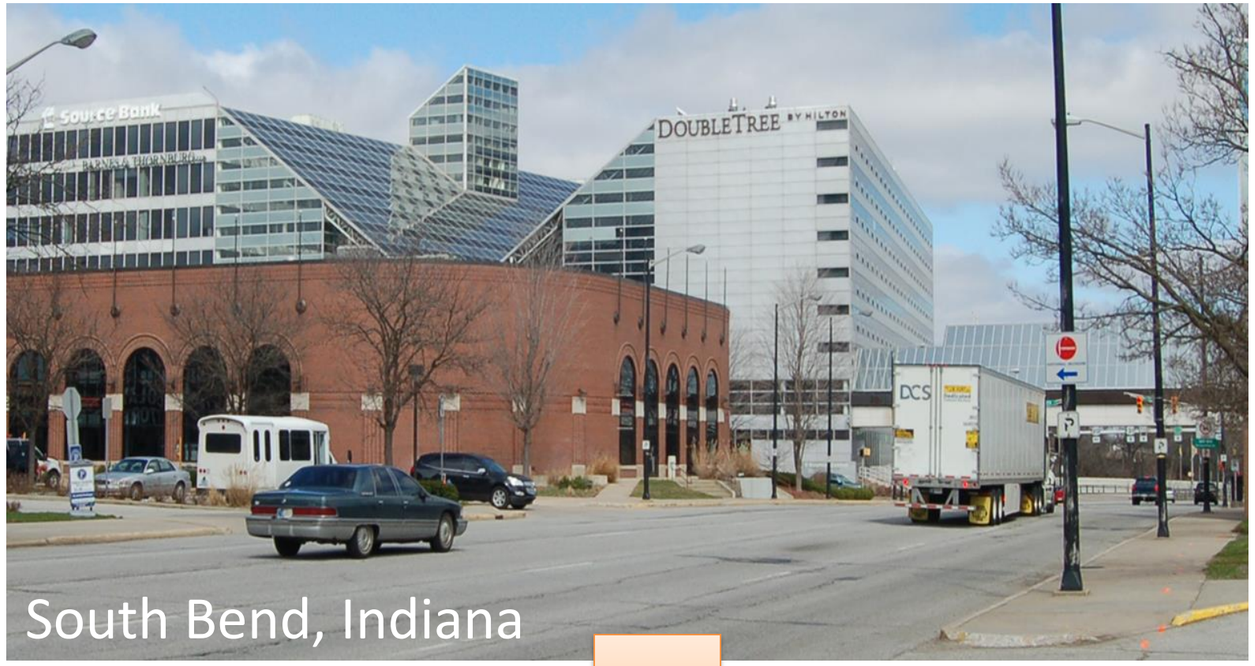
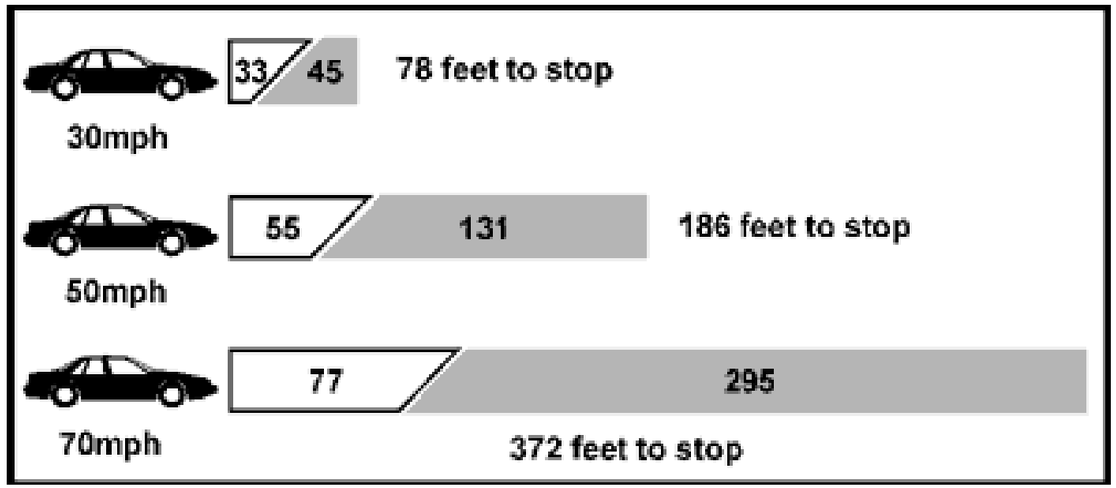
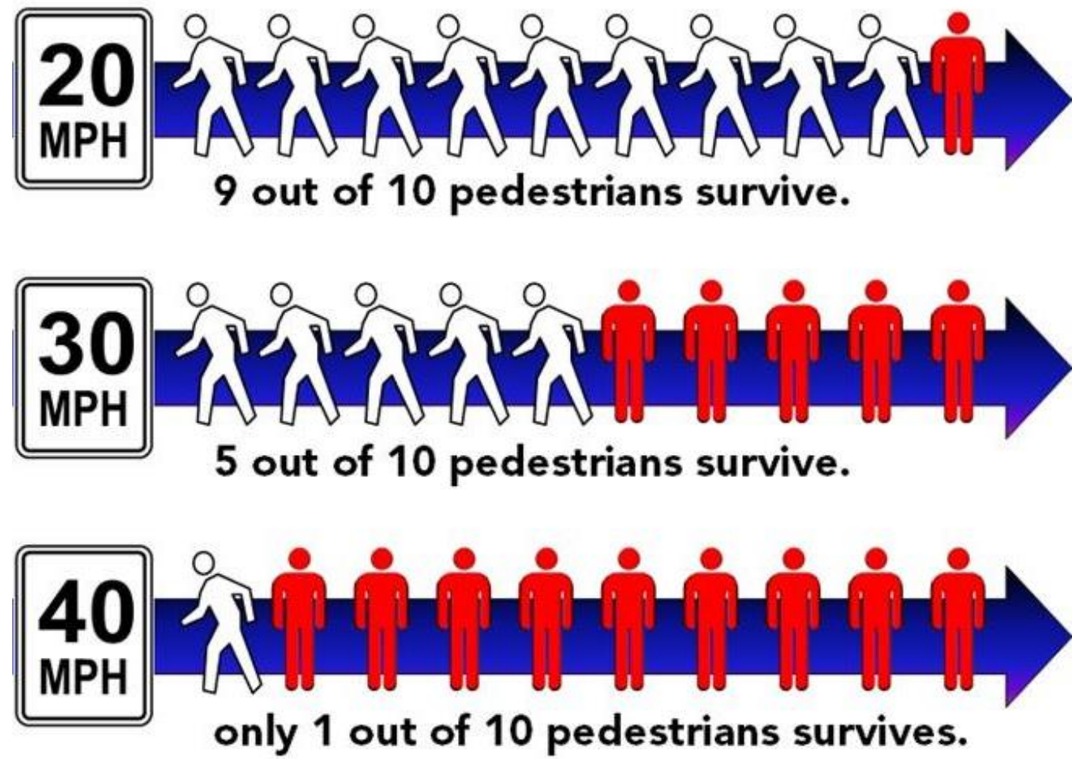


- **Critical goal** within community
- Every trip is a **pedestrian trip** at some point
- **Reduced speeding** on two-way streets
- **Slower speeds**
  - ***reduce***:
    - Number of crashes
    - Number of injuries & fatalities
    - Noise, accelerating, deceleration
    - Stopping distances
  - ***increase***:
    - comfort for customers, residents, & employees
    - comfort cyclists & pedestrians
  - ***eliminate***:
    - "double threat" of two lanes in one direction
    - weaving





Key Concepts: **Designing for Vulnerable Users**

- **Inclusive** of pedestrians, bike riders, businesses, residents, cafés, loading, servicing, transit riders…

- City's **Vision Zero** Commitment
  - Goal of zero fatalities

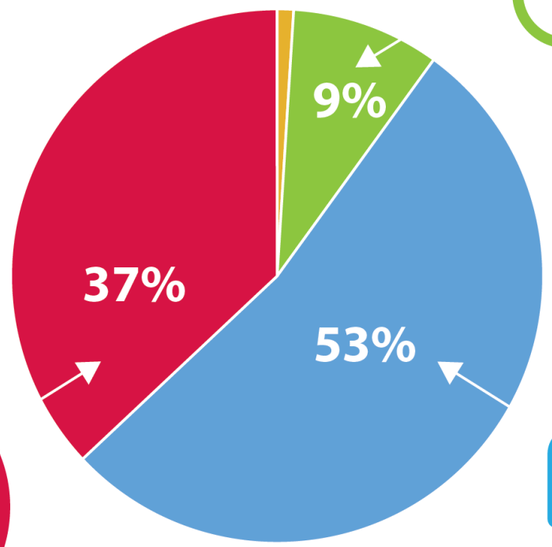
- **Comfortable** Design Elements:
  - Good lighting
  - Legible crosswalks
  - Unobstructed walk zones
  - Curb ramps and smooth transitions

Key Concepts: **Bicycle Level of Stress & Active Transportation**

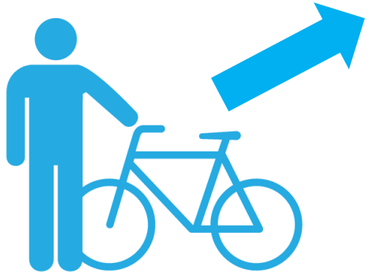
Strong & Fearless

1%

Enthusiastic & Confident



No way, no how

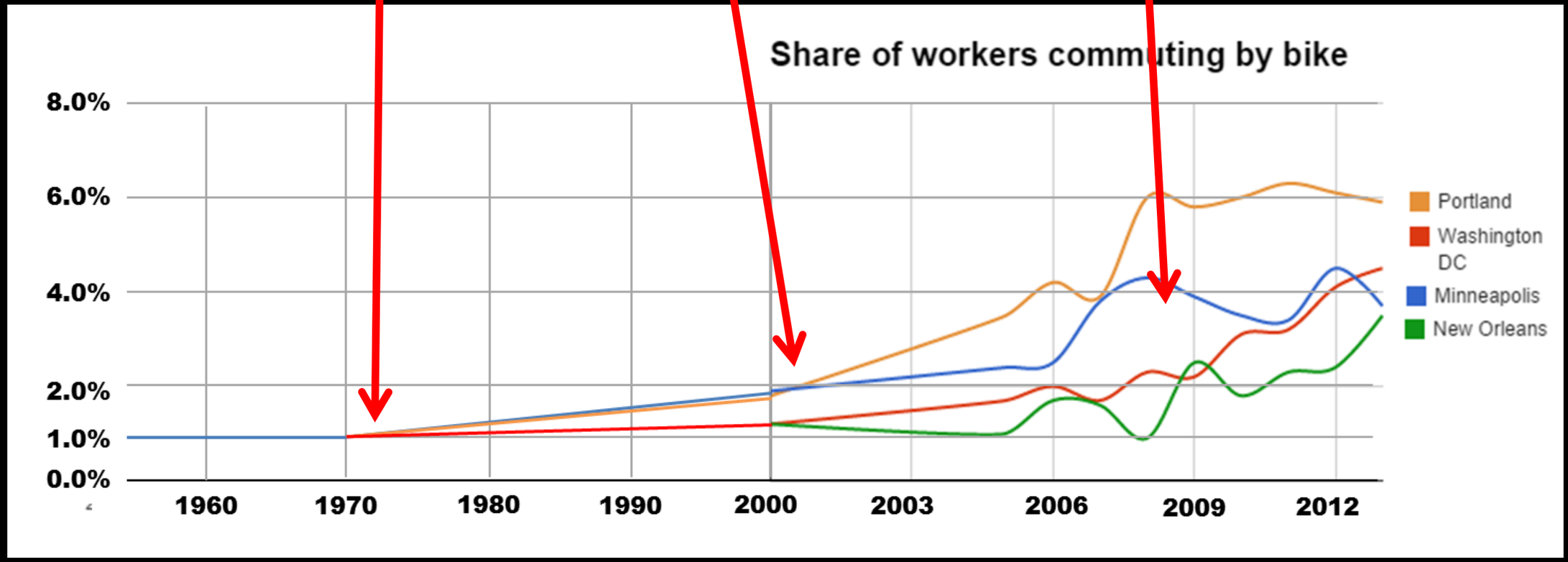


Interested but Concerned

1970
1st Bike Lanes

2000
Lots of Bike Lanes

2009
Protected Bike Lanes

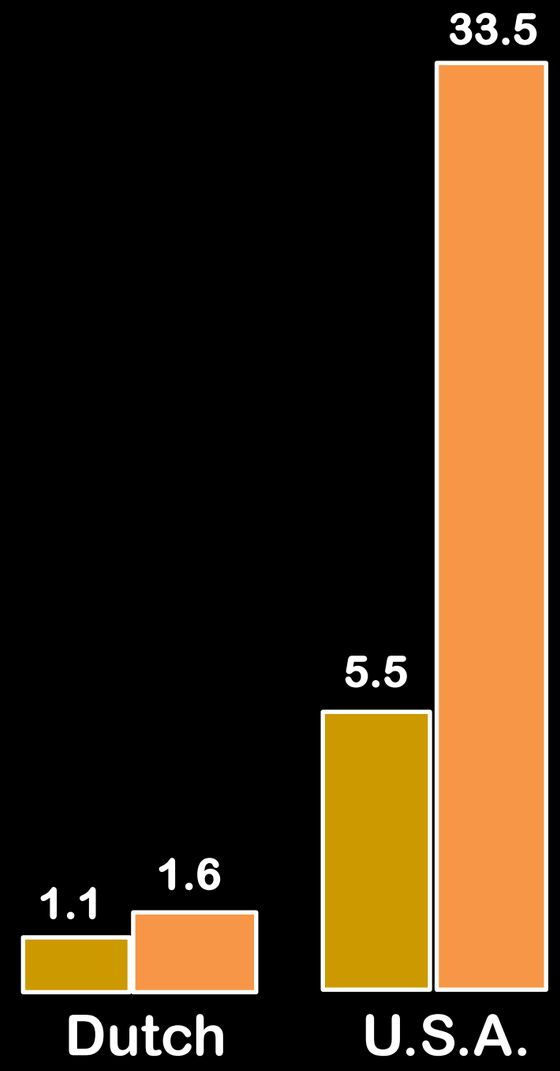


Conclusion: More Comfortable Bike Infrastructure Results in More Bike Use

Source: Based on graphic from www.bikeportland.org

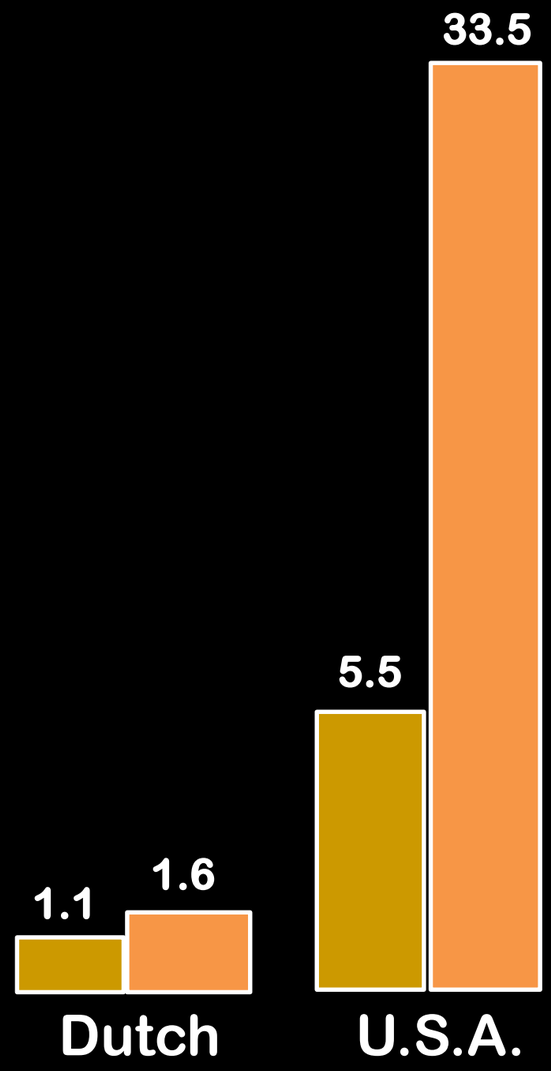

Dutch
ComFortable


Americans
Nervous



Cyclist Killed per 100 million km cycled

Cyclist Injured per 10 million km cycled



Cyclist Killed per 100 million km cycled

Cyclist Injured per 10 million km cycled

Conclusion: Comfortable Bike Infrastructure Results in Increased Comfort and Increased Safety

- **Protected bike lanes = Safer for more users:**
  - Provides **physical separation** between bike and vehicle lanes (e.g. flex-posts, medians, parked cars).
  - Can be one-directional or bi-directional
  - Provides **legitimacy** to cyclists using streets
  - Provides **fewer conflicts** with motorists and pedestrians.
  - **Increases retail/food sales** (New York City and Toronto)
  - Increase in cycling!

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PEOPLE-FRIENDLY STREETS

HURON STREET

Huron Street Project: Third Street to Division

Huron Street

- A vehicle emphasis corridor **but…**

  … Still needs to be comfortable and safe for pedestrians!

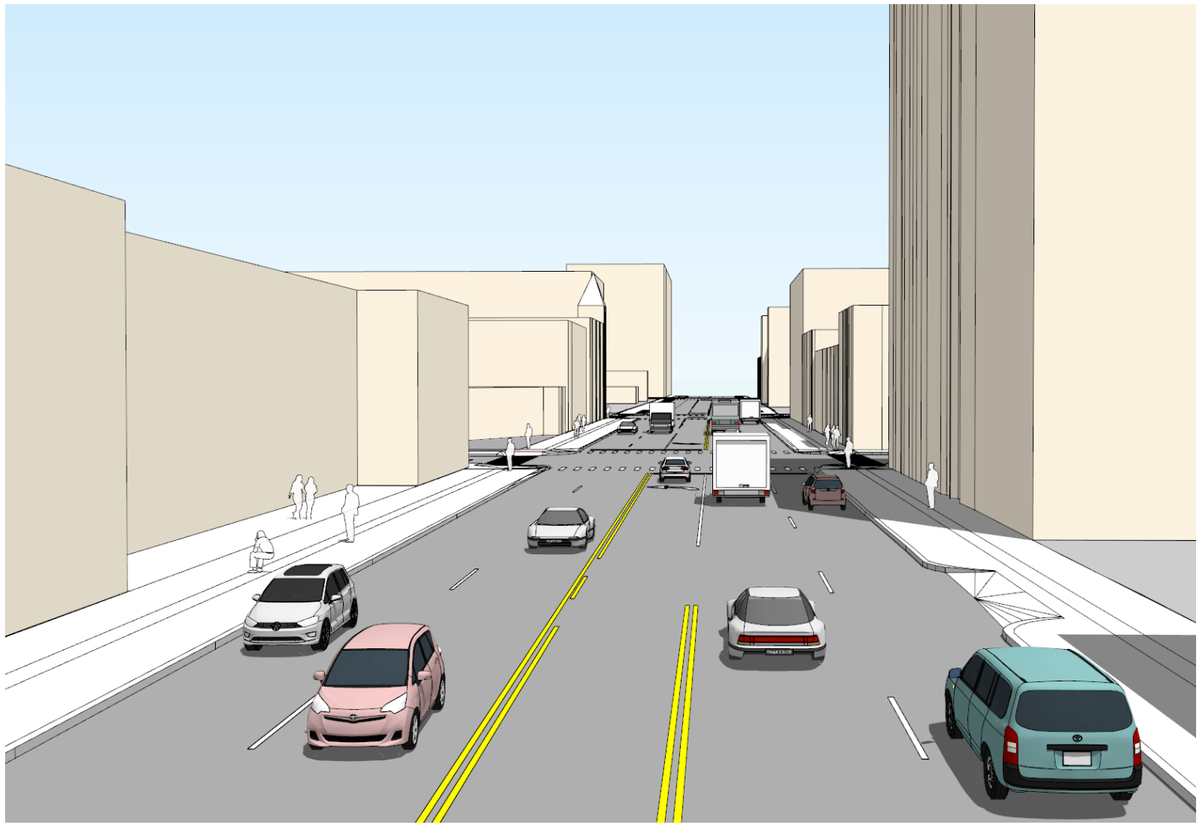
- Mixed, Commercial, and Civic frontage context
- Gateway into Downtown Ann Arbor

Huron Streetscape Design Objectives

1. Seek **transformational change** for the corridor
2. Provide **protection and greater comfort** for pedestrians
3. Increase **safety for all users**
4. Develop an **adaptable design** for future street use patterns
5. Reduce **vehicular speeds** (and improve safety!)
6. Improve street for **transit user comfort** and function
7. Add **more green** and be sustainable!

Invest In Trees

- Can be the <u>single</u> most impactful transformation



Huron Street: **Safety Improvements & Operational Changes to the Street**

1. On-street parking (except during rush hour) to buffer sidewalk ***(reduces vehicle crashes by 29%)***

2. "No turn on red" along corridor to reduce crosswalk encroachment ***(reduces all crashes by 3%)***

3. Permitted/protected left signal at Fifth Ave ***(reduces crashes by 14%)***

4. Optimize signal timings for pedestrians (longer crossing times, leading pedestrian interval) ***(reduces vehicle/ped crashes by 59%)***

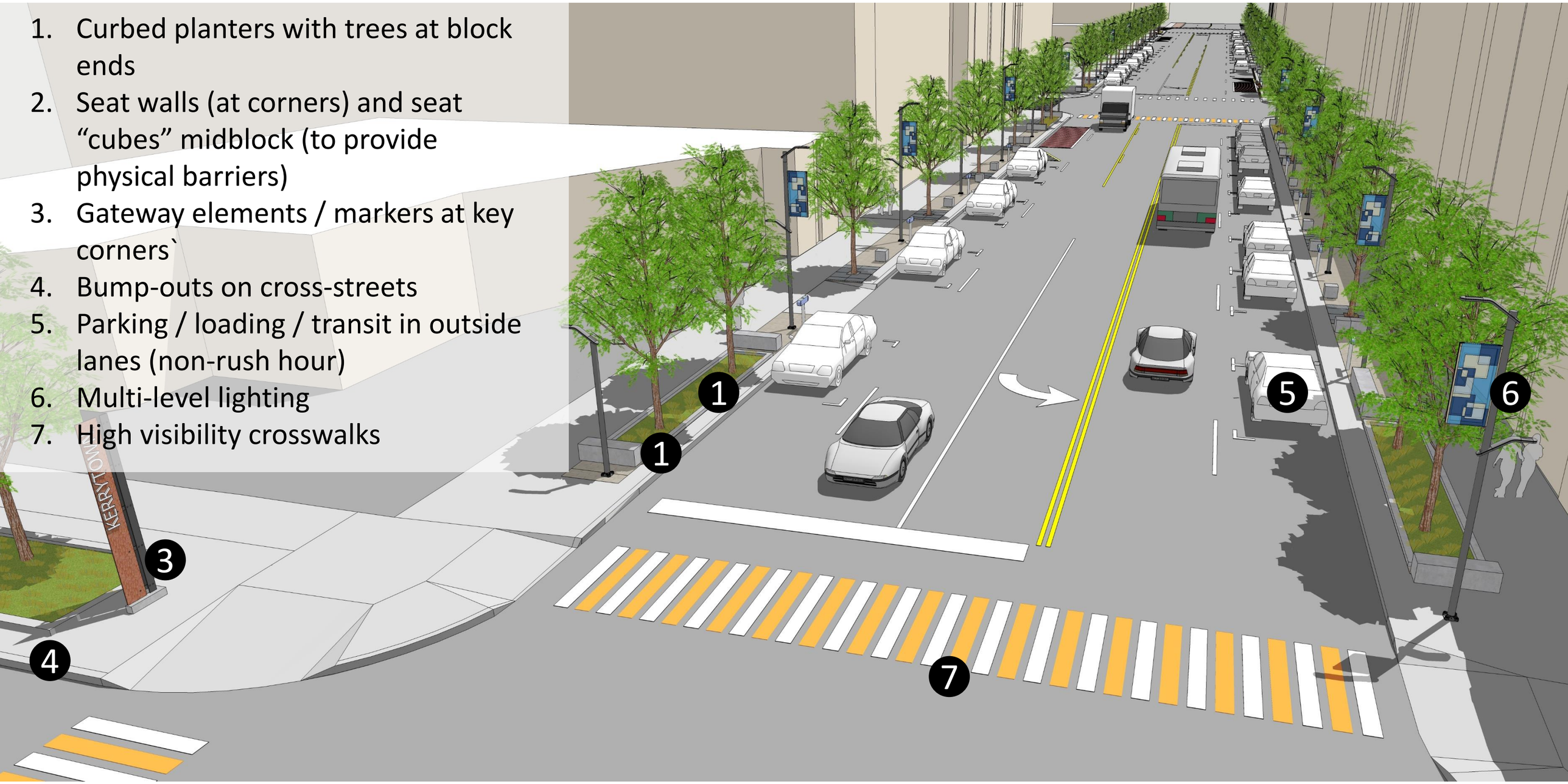
5. Full traffic signal at Chapin/Third

Vehicle Traffic Outcomes:

- Travel time decreases slightly along the corridor during the AM/PM rush hour.
- Slight increase in travel time (~15 seconds per block) during non-rush hour parking.

Streetscape Design: Translating Ideas into Physical Design

1. Curbed planters with trees at block ends
2. Seat walls (at corners) and seat “cubes” midblock (to provide physical barriers)
3. Gateway elements / markers at key corners`
4. Bump-outs on cross-streets
5. Parking / loading / transit in outside lanes (non-rush hour)
6. Multi-level lighting
7. High visibility crosswalks



Project Status

- Traffic analysis and technical studies complete
- Currently in engineering design phase
- Functional recommendations approved by the Transportation Commission
- On track with MDOT for permitting and approvals
- Seek city council support for project
- Project going to bid in Fall 2018
- Construction begins Spring 2019

PEOPLE-FRIENDLY STREETS

FIRST & ASHLEY PROJECT & WILLIAM STREET BIKEWAY

First/Ashley Project & William Street Bikeway

First & Ashley Project

Design & Feasibility Phase: 2018
Engineering: 2019
Construction: 2020

William Street Bikeway

Design & Feasibility Phase: 2018
Engineering: 2019
Construction: 2020

What will the First/Ashley Project & William Street Bikeway do?

1. Restore First and Ashley streets to two-way travel.
2. Add protected bike lanes and stronger connections to exiting bicycle facilities.
3. Enhance streetscape and pedestrian experience along portions of the corridor.
4. Improve loading, drop-off, and other curbside street uses.
5. Advance implementation of the Treeline Urban Trail.

Combined Project Goals

- **Improve Safety and Comfort**
  - **Improve safety** and comfort for <u>all</u> street users
  - Emphasize **protection for vulnerable users**
  - Advance the **Vision Zero** objectives

- **Strengthen Businesses**
  - Supports **business access & visibility**
  - **Be a catalyst** for encouraging reinvestment and vitality

- **Increase Connections**
  - Make the streets **easier to navigate**.
  - Enhance the **bike network**
  - Support existing and future **transit service**
  - Advance implementation of the **Treeline Urban Trail**

- **Promote Green Design & Sustainability**
  - Incorporate **stormwater management**
  - Improve **public health** through supporting active transportation

Why Have Protected Bike Lanes?

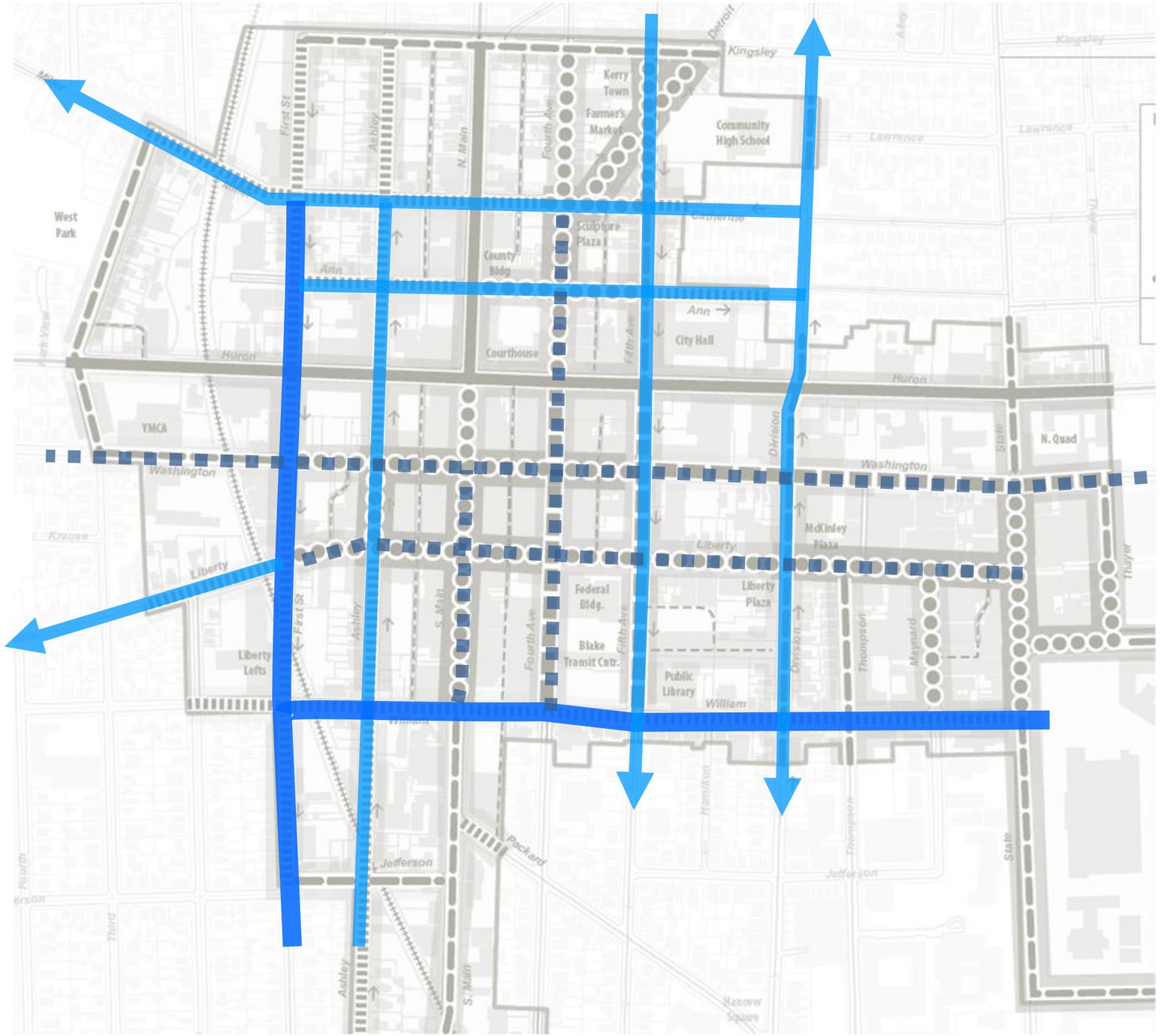
– Provides lower stress connections to other existing bike facilities, making the network more accessible to more people

– Protected facilities give all cyclists better access to and through downtown

– Work towards creating a “loop” of lower stress bicycle circulation:

- First/Ashley
- 5th/Division
- Miller/Ann/Catherine

This loop can get people on bikes within a block of almost any location in the downtown.



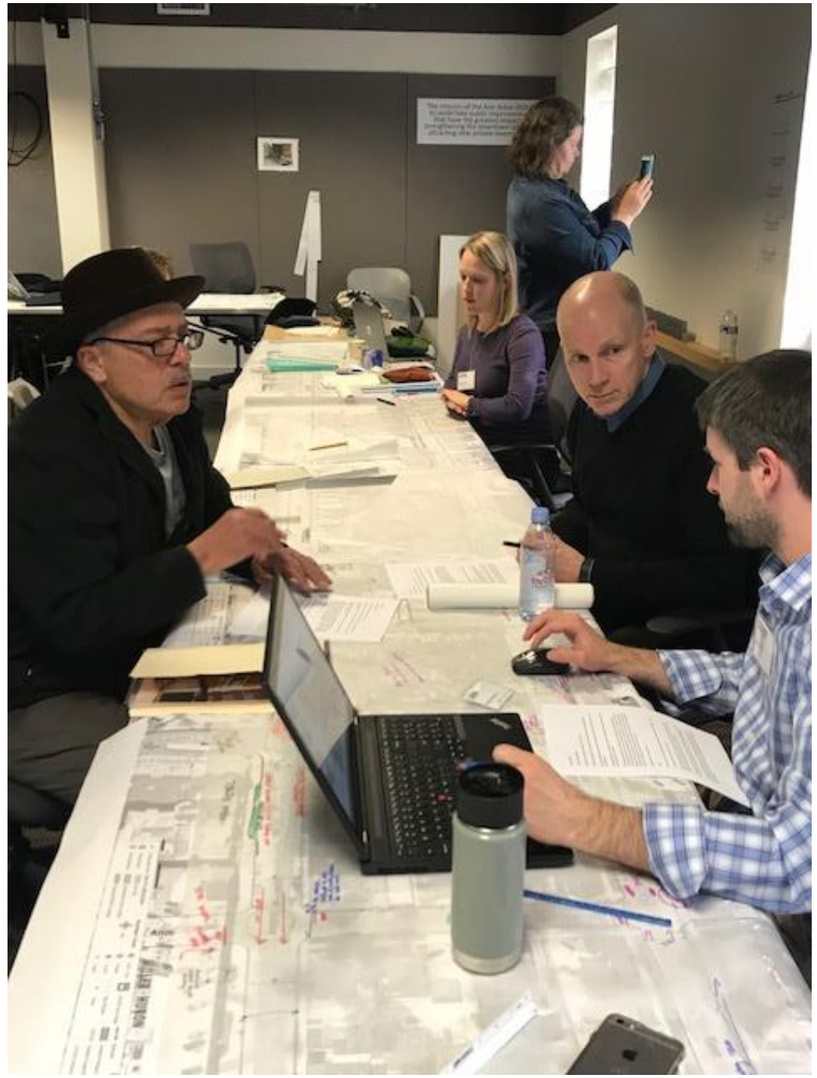
Engagement: Discovery Workshop (March, 2018)

- **Public meetings**: 131 people attended public meetings
  - 53 residents
  - 22 business owners / employees
  - 7 property owners
  - 49 unidentified

- **Stakeholder meetings**: 29 meetings attended by over 150 business owners, property owners, employees and residents *(additional meetings being scheduled due to connections made at public meetings)*

- **1673 postcards mailed** to residents & businesses on first Ashley William and Huron

- **Email invitation:**
  - 300 hundred individual businesses / residents
  - 6 neighborhood associations
  - 4 community managers at residential units who then shared with residents
  - getDowntown email newsletter
  - Washtenaw Biking Coalition, which then shared with their members & organized a ride to the event
  - 14 City and AAATA staff– we requested that they share with all Boards and Commissions that may be interested (included planning, engineering, parks, system planning, and public works)
  - Michigan Department of Transportation



Engagement: Discovery Workshop (March, 2018)

Slower speeds desired

Pedestrian safety important

Improved bicycle facilities supported

Coordinate with businesses on loading zones

Expand ADA parking where possible

Maintenance and condition

Education for all street users

PEOPLE-FRIENDLY STREETS

FIRST/ASHLEY & WILLIAM: **DESIGN DIRECTION**

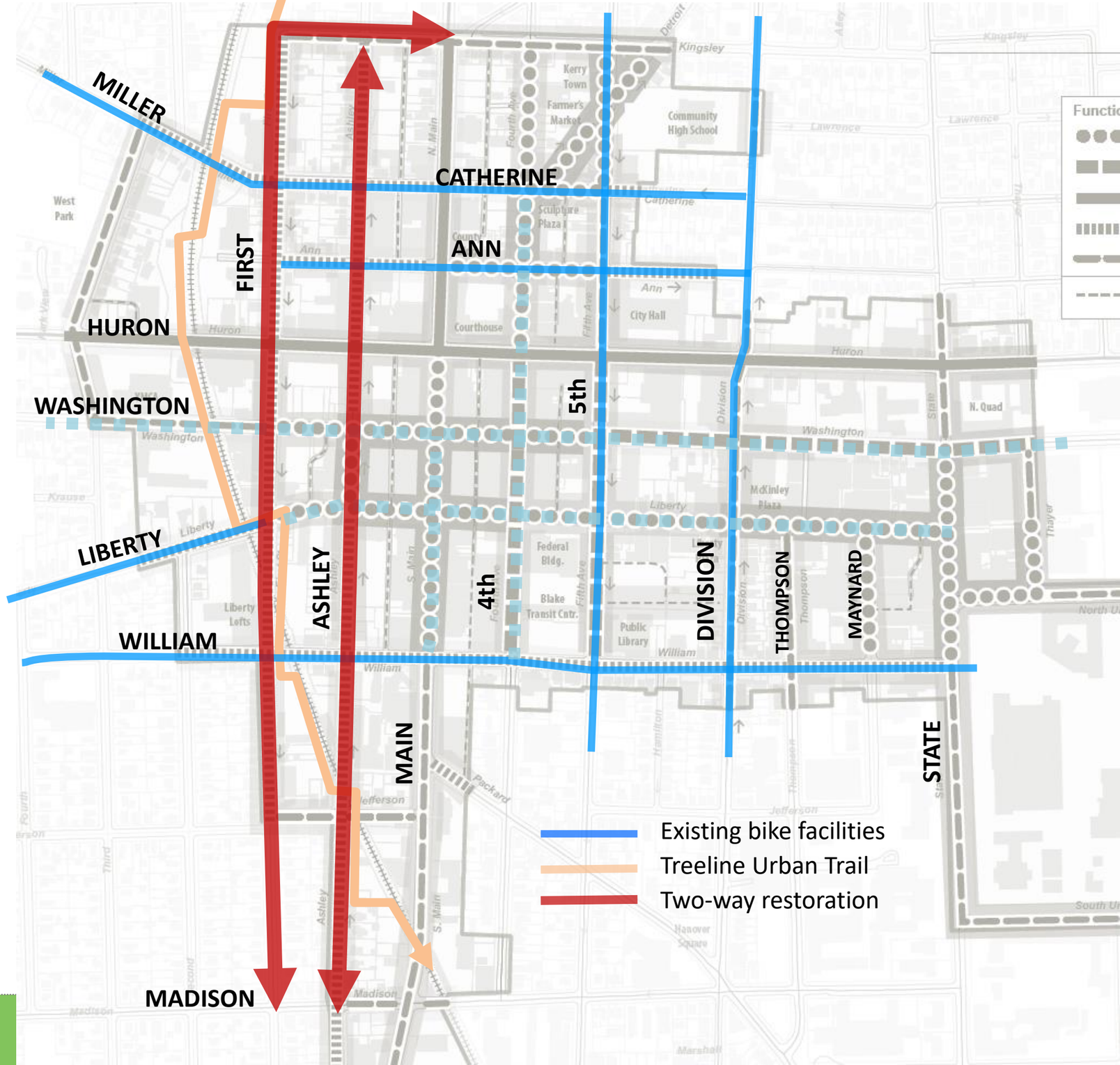
Design Direction: Two-Way Travel on First & Ashley

Based on existing and projected traffic volumes, the two-way restoration is feasible.

STREET CONFIGURATION:

1. Generally travel lane in each direction on Ashley & First

2. Includes two-way travel on Kingsley from First Street to the North Main Intersection.



Design Direction: First & Ashley Protected Bike Facility

Two-way protected bicycle facility on the <u>EAST</u> side of First Street from Kingsley to William.

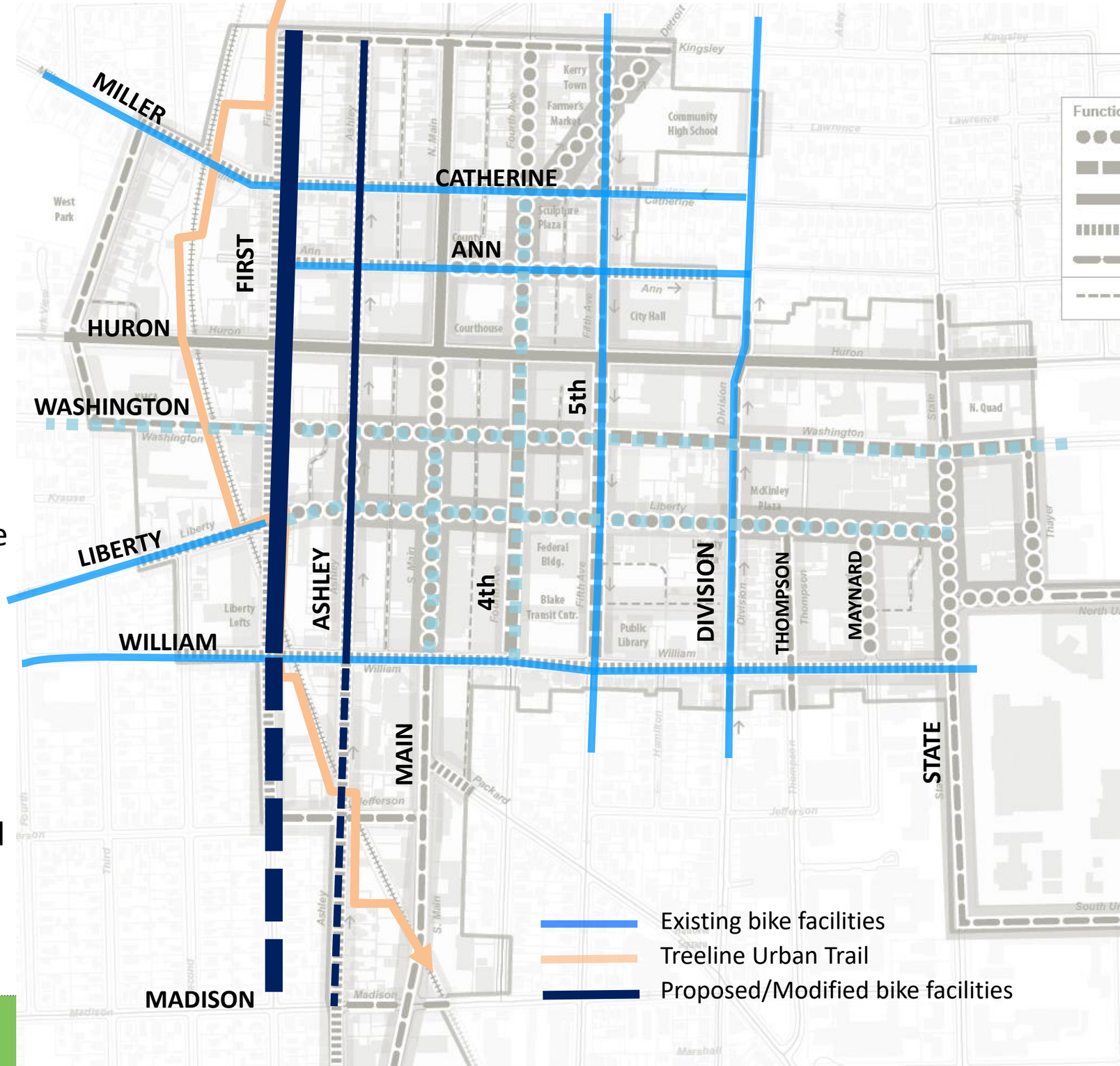
1. Parking and loading preserved and improved on west side of First Street.

2. Parking and loading preserved, reconfigured, and/or expanded on both sides of Ashley.

3. Bicycle access lanes and/or enhance sharrows (share the road markings) to be used on Ashley to continue to provide bicycle service.

4. Connection to the Treeline Trail at Kingsley.

5. Potential to transition to a neighborhood street with advisory bikes lanes south of William on First and Ashley streets. Exploring other alternatives as well.



Design Direction: William Street Bikeway

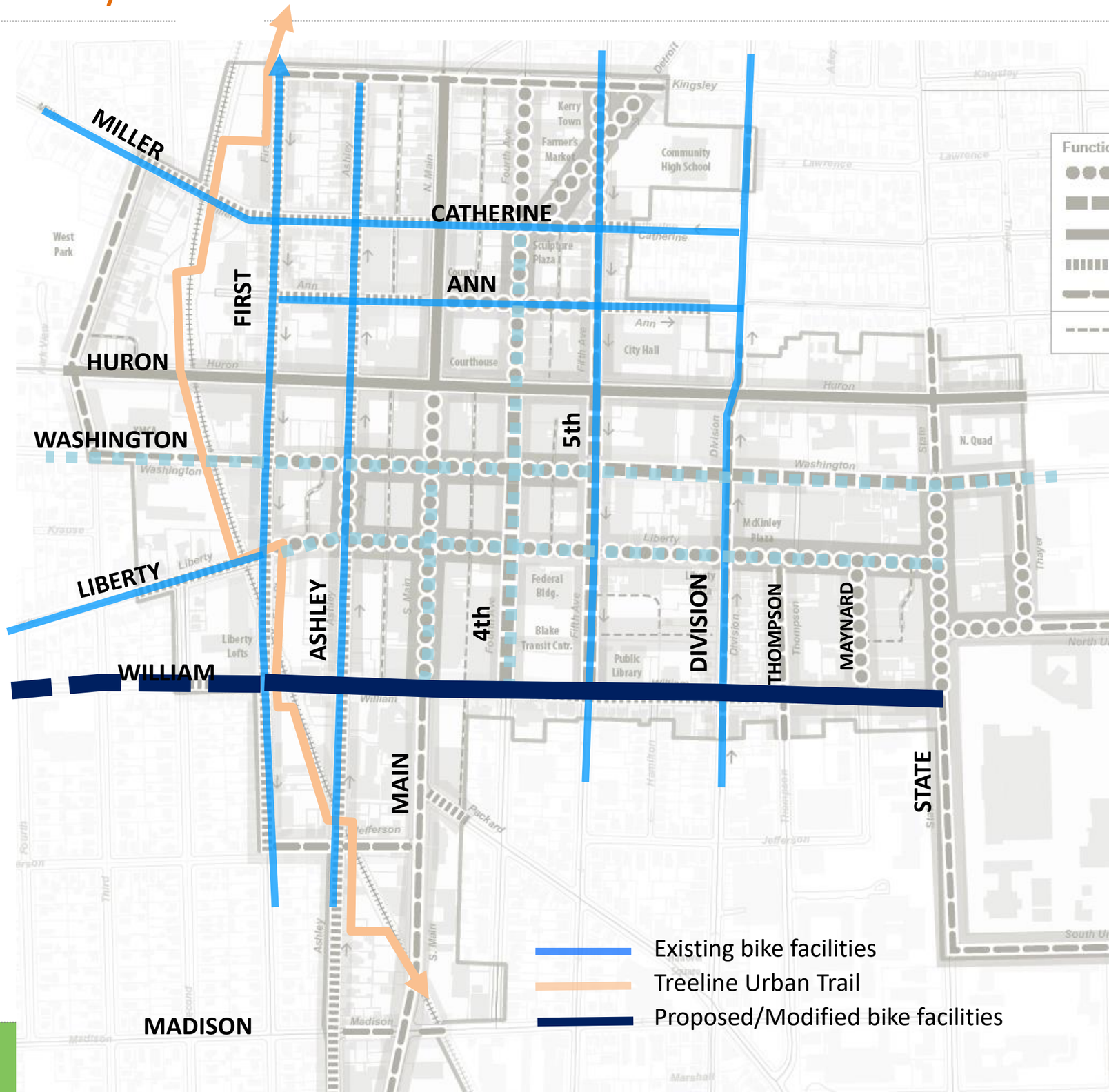
Two-way protected bicycle facility from First Street to State Street on <u>NORTH</u> side of William.

1. Travel lanes configured typically with with one travel lane in each direction. *Left turn lanes preserved between Main & 4th Ave.*

2. Parking and loading maintained on one side of the street and removed on the other. Some blocks gain parking.

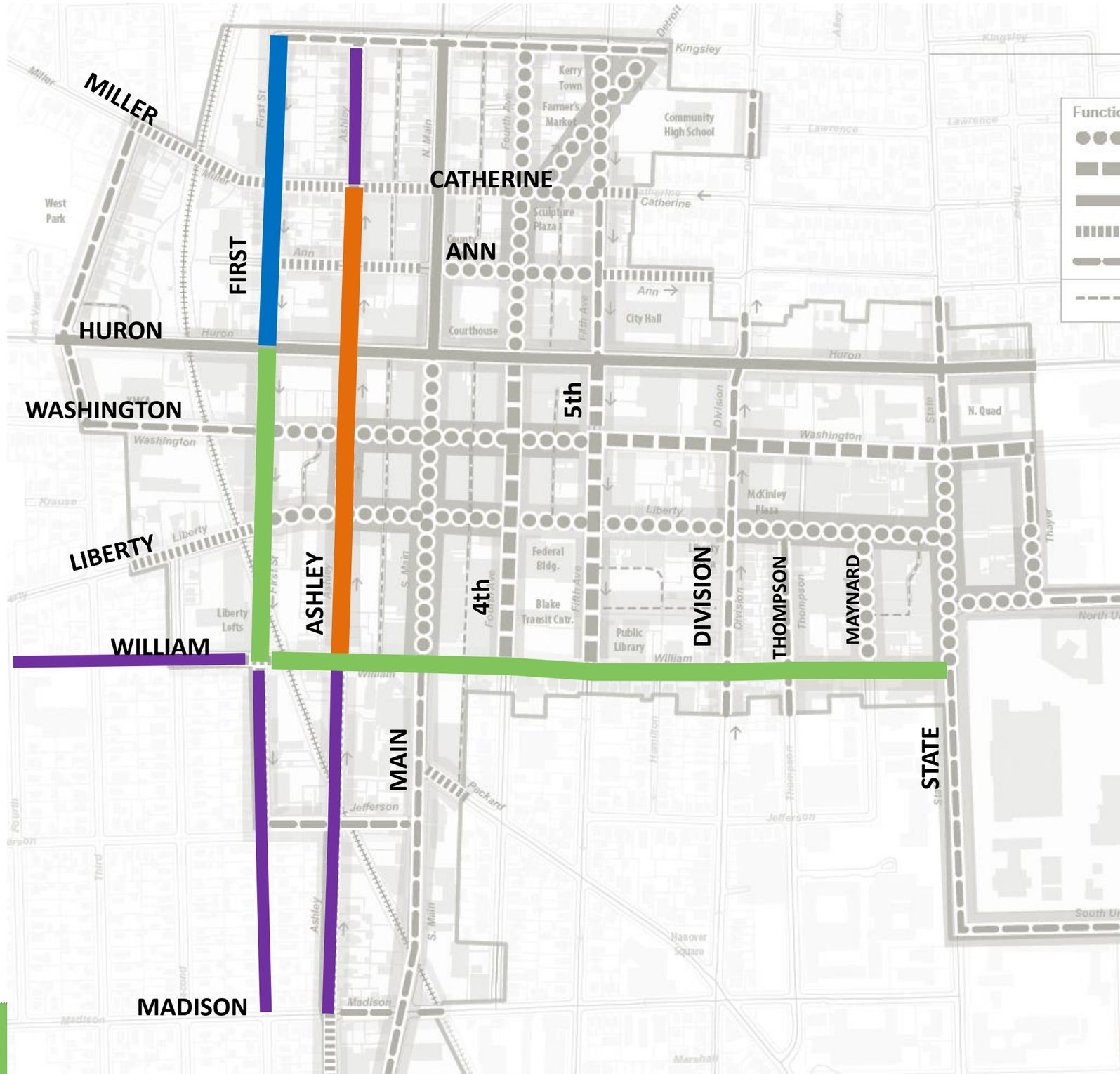
3. Transition to neighborhood street with advisory bikes lanes west of First Street.

4. William Street identified as a potential for protected bikeways in the City Non-Motorized Plan.

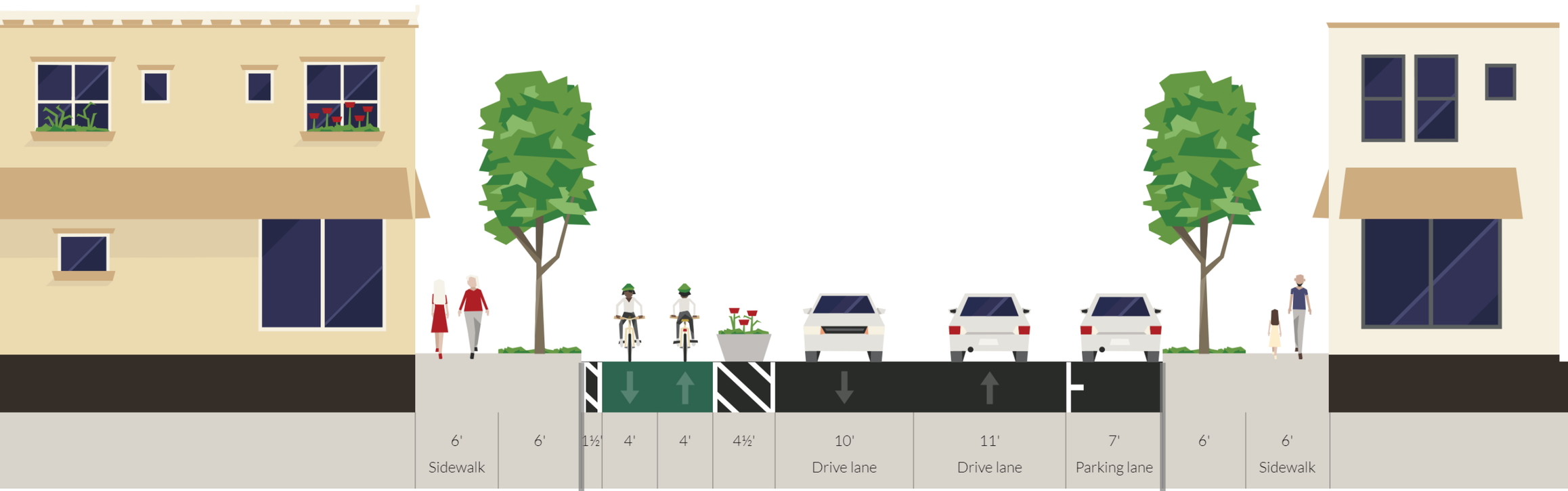


Design Direction: Street Cross-Sections

- **A** Bikeway – Preferred Width
- **B** Bikeway – Constrained Width
- **C** Commercial Street
- **D** Neighborhood Street with Advisory Bike Lanes

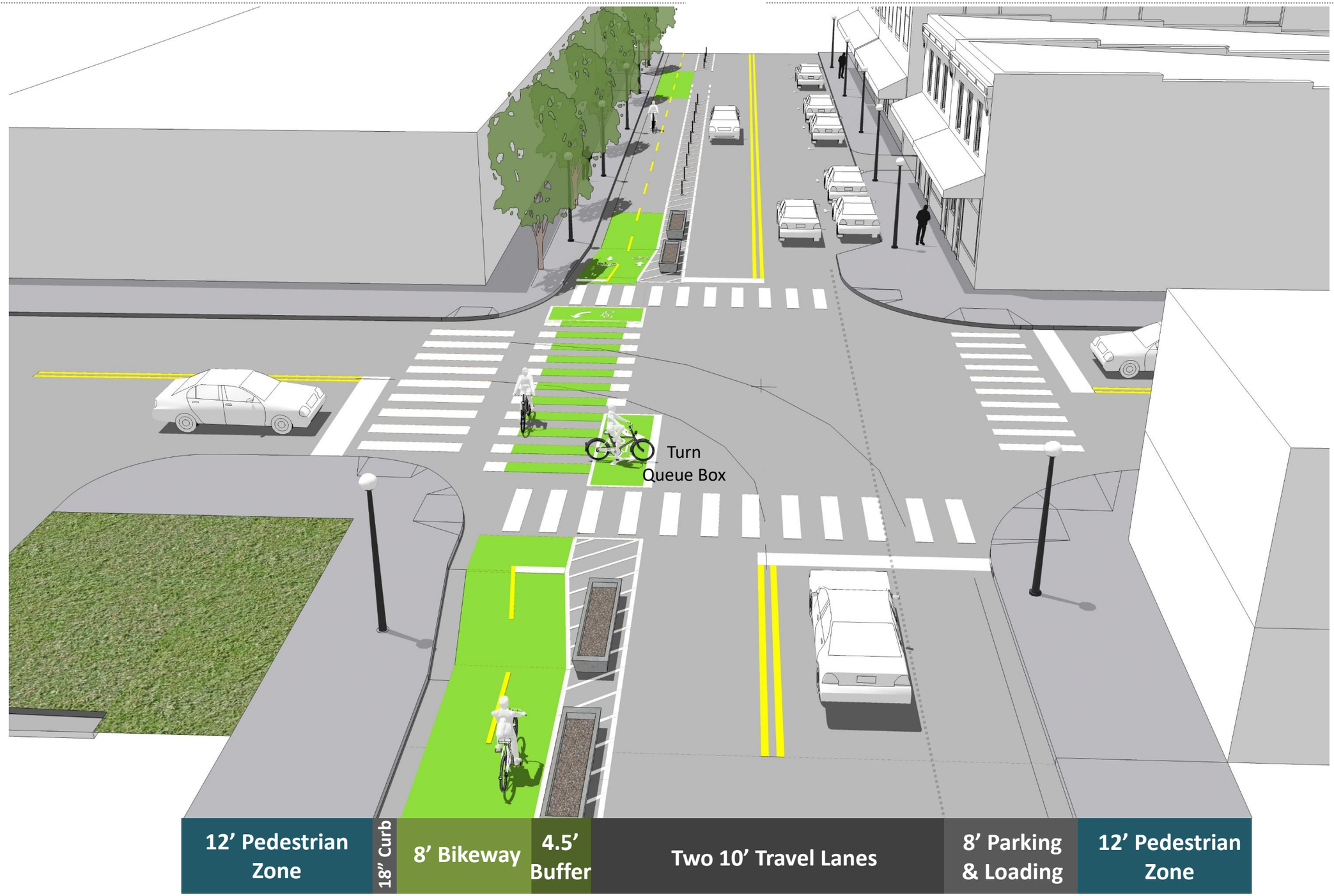


CROSS-SECTION: **BIKEWAY – PREFERRED WIDTH**

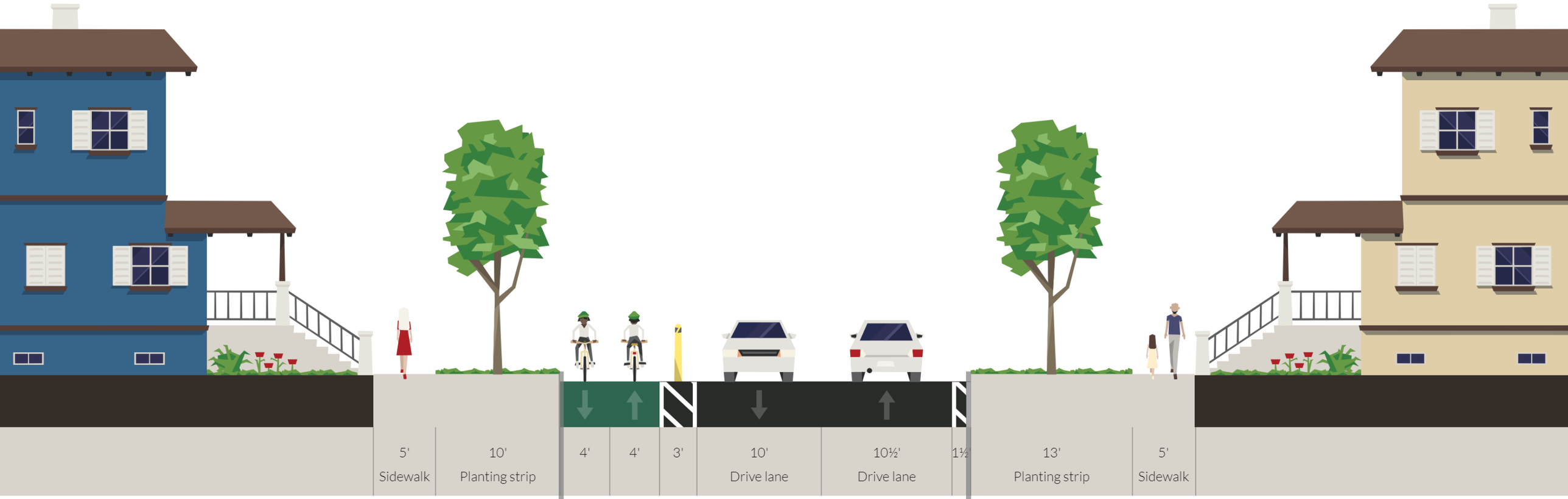


42’ Curb-to-Curb

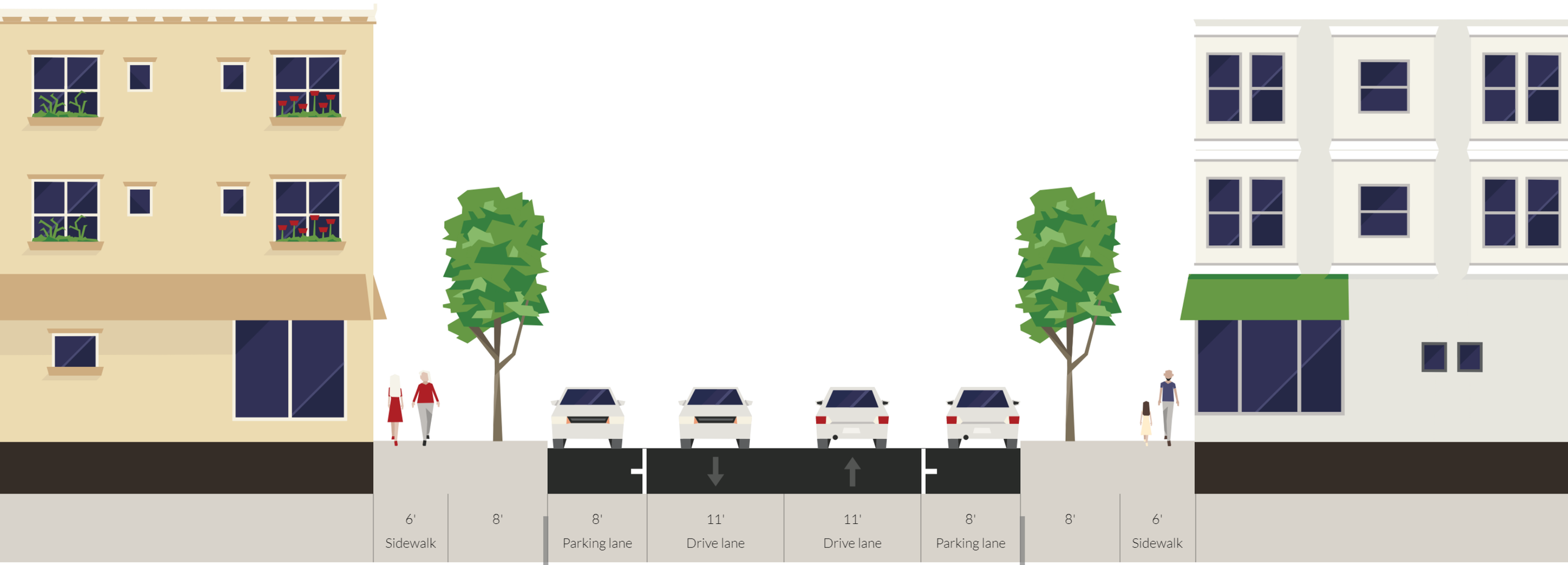
CROSS-SECTION & INTERSECTION: **BIKEWAY – PREFERRED WIDTH**



CROSS-SECTION: **BIKEWAY – CONSTRAINED WIDTH**



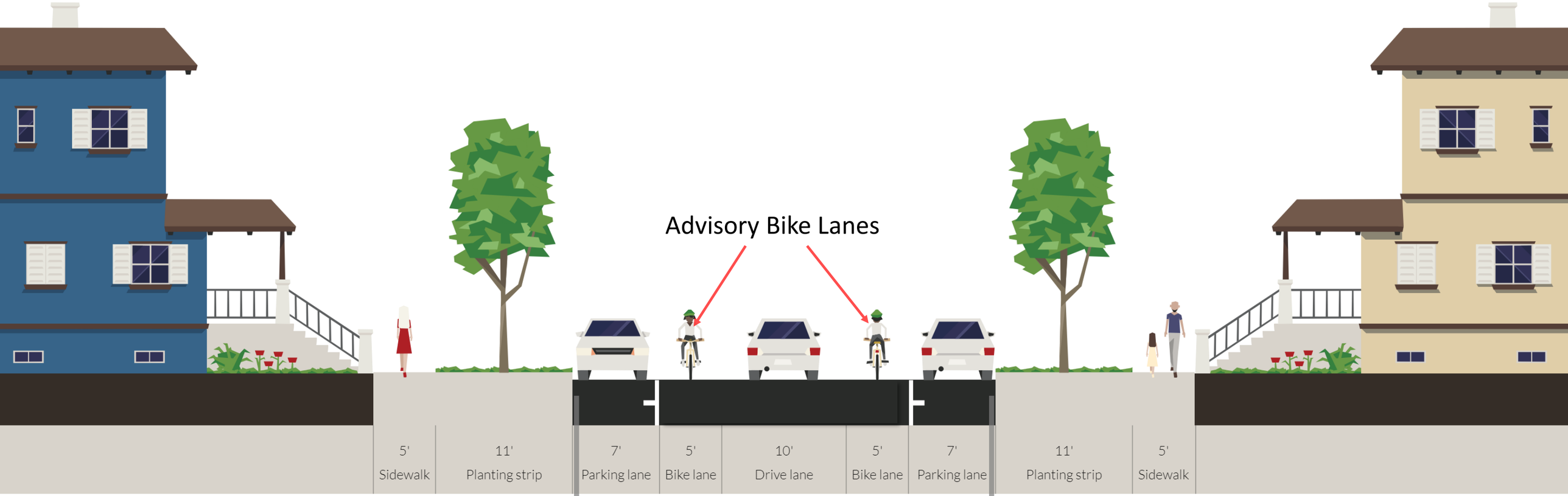
33-38’ Curb-to-Curb



38’ Curb-to-Curb Minimum

CROSS-SECTION & INTERSECTION: **COMMERCIAL STREET**

14’ Pedestrian Zone	8’ Parking & Loading	Two 11’ Travel Lanes (with High-Viz Sharrows)	8’ Parking & Loading	14’ Pedestrian Zone
	(or bump-out)	38’ Curb-to-Curb	(or bump-out)	



Two-way traffic w/ yield

33-38’ Curb-to-Curb

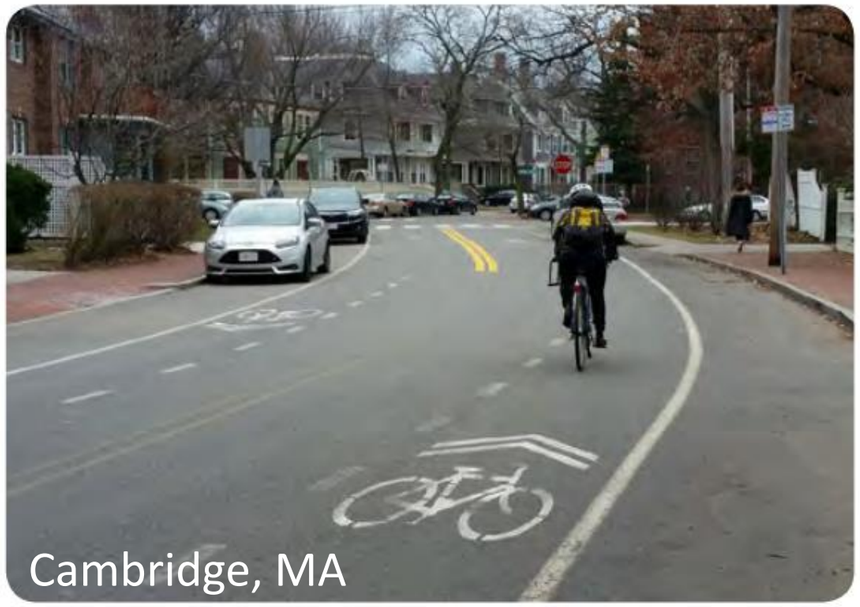
CROSS-SECTION & INTERSECTION: **NEIGHBORHOOD STREET w/ ADVISORY BIKE LANE**

16’ Pedestrian & Landscape Zone	7’ Parking (or bump-out)	20’ Shared Lane with Advisory Bike Lanes	7’ Parking (or bump-out)	16’ Pedestrian & Landscape Zone

34’ Curb-to-Curb

Advisory Bike Lanes

Ann Arbor: First Street south of Madison



- **Bump-outs locations**
  - Shorten cross-walks
  - No bump-outs at larger commercial loading zones to allow vehicles to pull directly into the loading zone

- **Adjust intersection controls**
  - Potential for 4-way stops at some new locations
  - Leading pedestrian + bicycle signals for two-way protected bike lanes to get them into the intersection before vehicles

- **Review location and size of loading, drop-off, and ADA parking zones**
  - Looking to add, not remove, loading and other curb-side use zones where feasible

- **Generally work within existing curb**
  - Opportunities for curb modifications will be limited to where necessary or beneficial

PEOPLE-FRIENDLY STREETS

First/Ashley & William: TECHNICAL FINDINGS

Historic crash data trends for latest 5 years (2013 - 2017)

Total of 650 crashes on study corridors

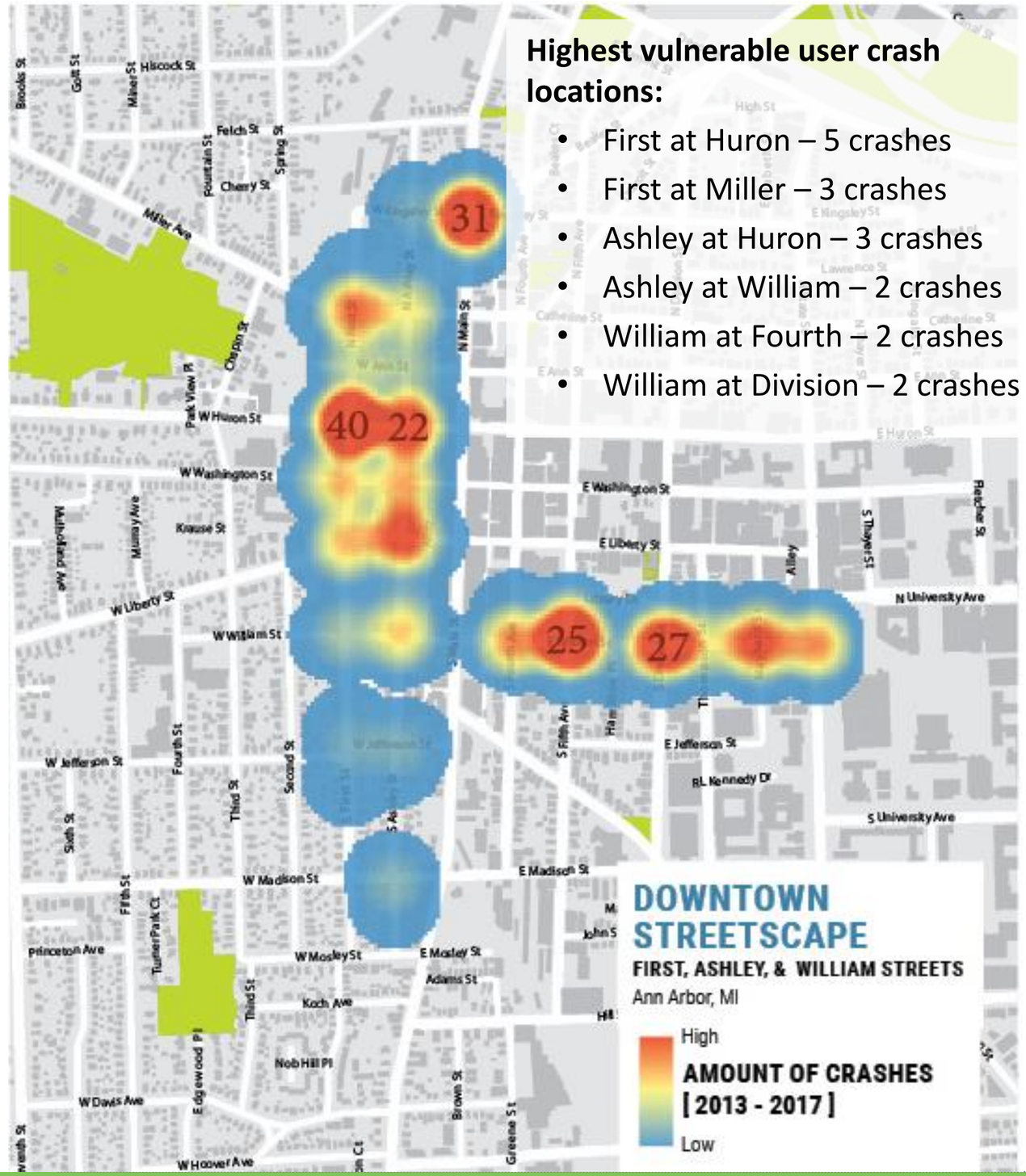
- 15% resulted in injury
- 43 involved vulnerable users (7% of crashes)
- 91% of vulnerable user crashes resulted in reported injury – 40% of overall injuries
- Disproportionally injured
- Does not include *near misses*

Angle/Sideswipe are most common vehicle crashes

- 54% on First Street
- 58% on Ashley Street
- 64% on William Street

This crash type is common with multi-lane roadways

Ann Arbor has Vision Zero goal by 2025



Highest vulnerable user crash locations:

- First at Huron – 5 crashes
- First at Miller – 3 crashes
- Ashley at Huron – 3 crashes
- Ashley at William – 2 crashes
- William at Fourth – 2 crashes
- William at Division – 2 crashes

- Restrict parking near intersections to increase visibility between turning vehicles, pedestrians, and bicyclists. ***(56% reduction in fatal crashes)***

- Use bump outs to “daylight” corners and increase visibility. ***(33% crash reduction, 40% increase in yield rates for pedestrians at crossing)***

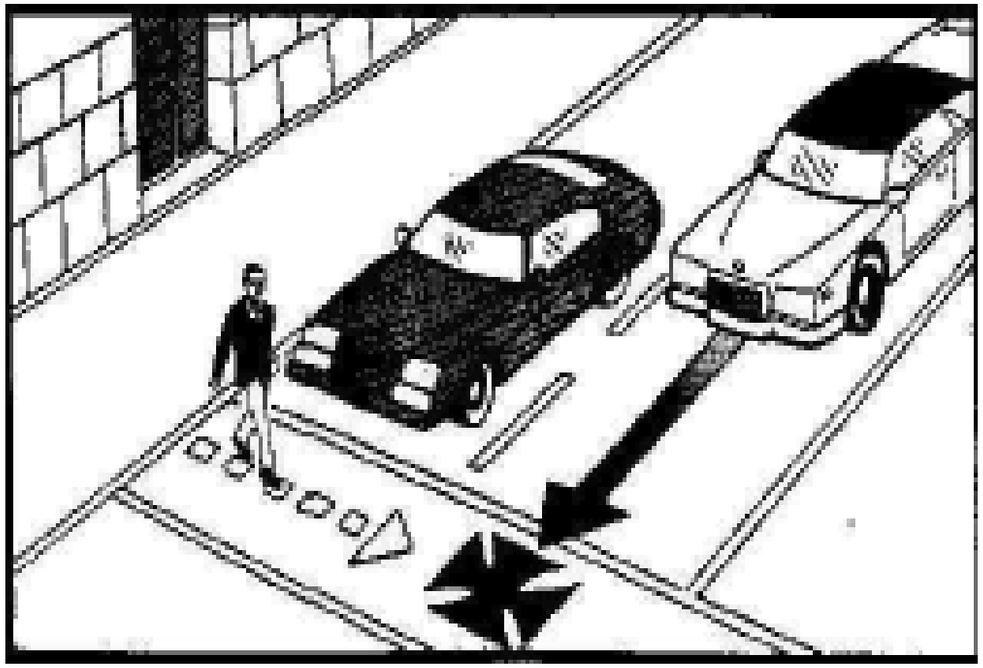
- Installation of colored bicycle lanes at intersections. **(39% reduction of vehicle-bicycle crashes at intersections)**

- Provide separated bicycle lanes. **(35% reduction for vehicle-bicycle crashes; 59% reduction for vehicle-bicycle injury rates)**

- Add Leading Pedestrian Intervals to signalized intersections. ***(59% reduction for vehicle-pedestrian crashes – and would benefit cyclists using leading pedestrian signal)***

- Reduce number of travel lanes. ***(29% reduction for all crash types when converting from 4-lanes to 2-lanes)***

Removal of the “double threat”

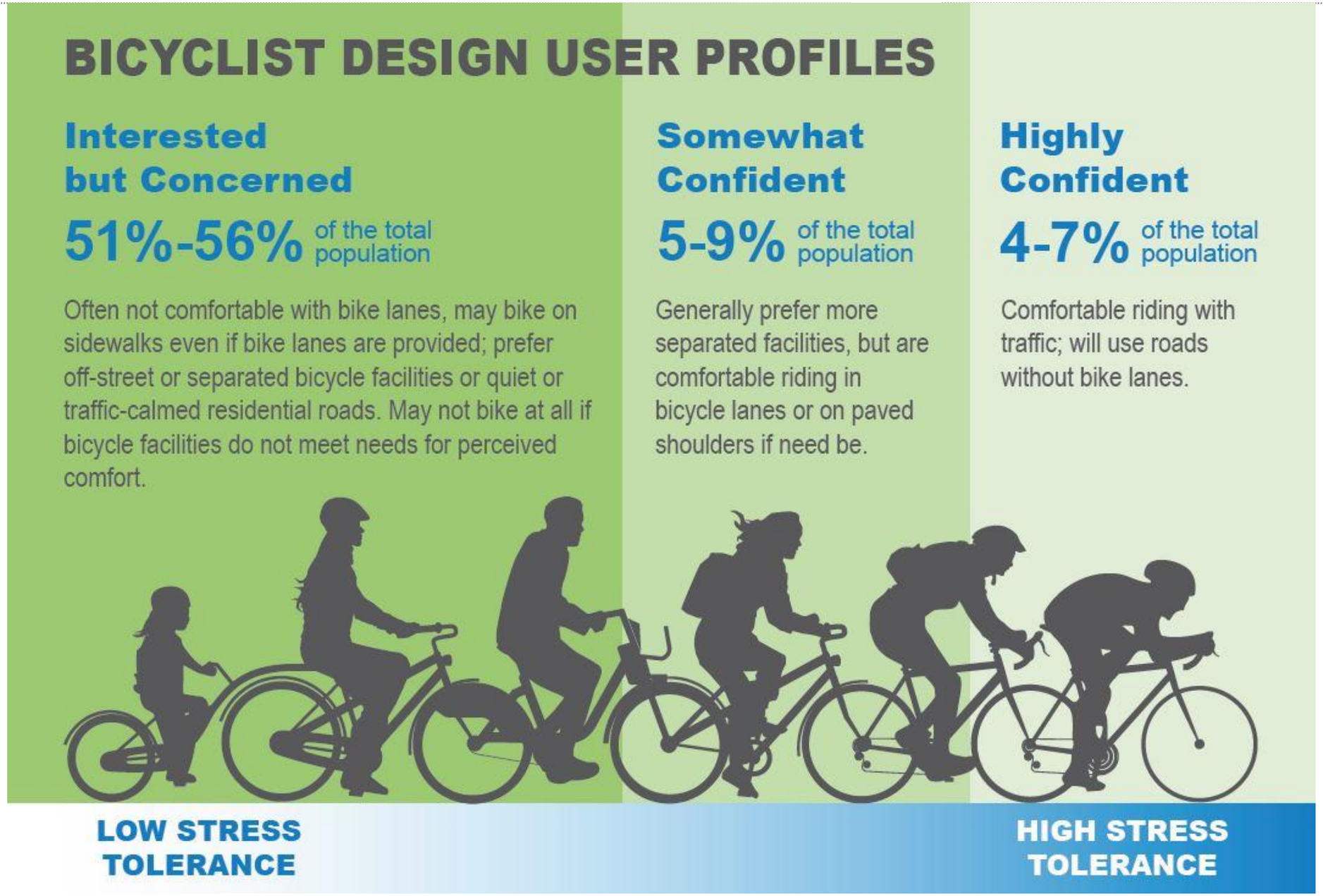


Source: FHWA

Qualitatively, pedestrians will enjoy a better walking experience with anticipated slower vehicular speeds, as well as being protected by bicycle facility

Sidewalk bicycle riding will reduce with the presence of enhanced bicycle facilities on-street

Bicycle Level of Traffic Stress



LTS 1 (children) – Low Stress
LTS 2 (adults) – Moderately Low Stress

LTS 3 – Moderately High Stress

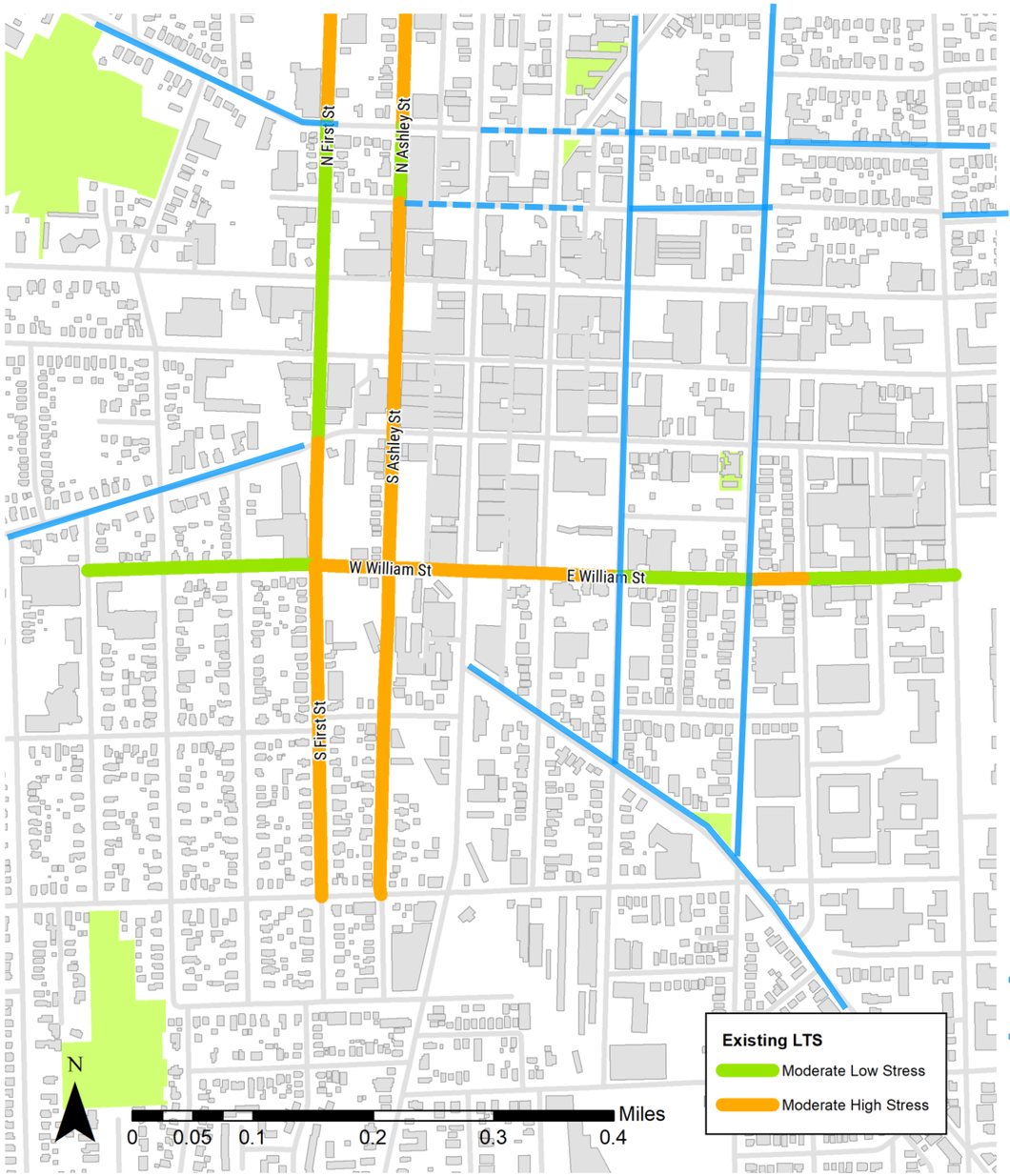
LTS 4 – High Stress

Analysis considers:

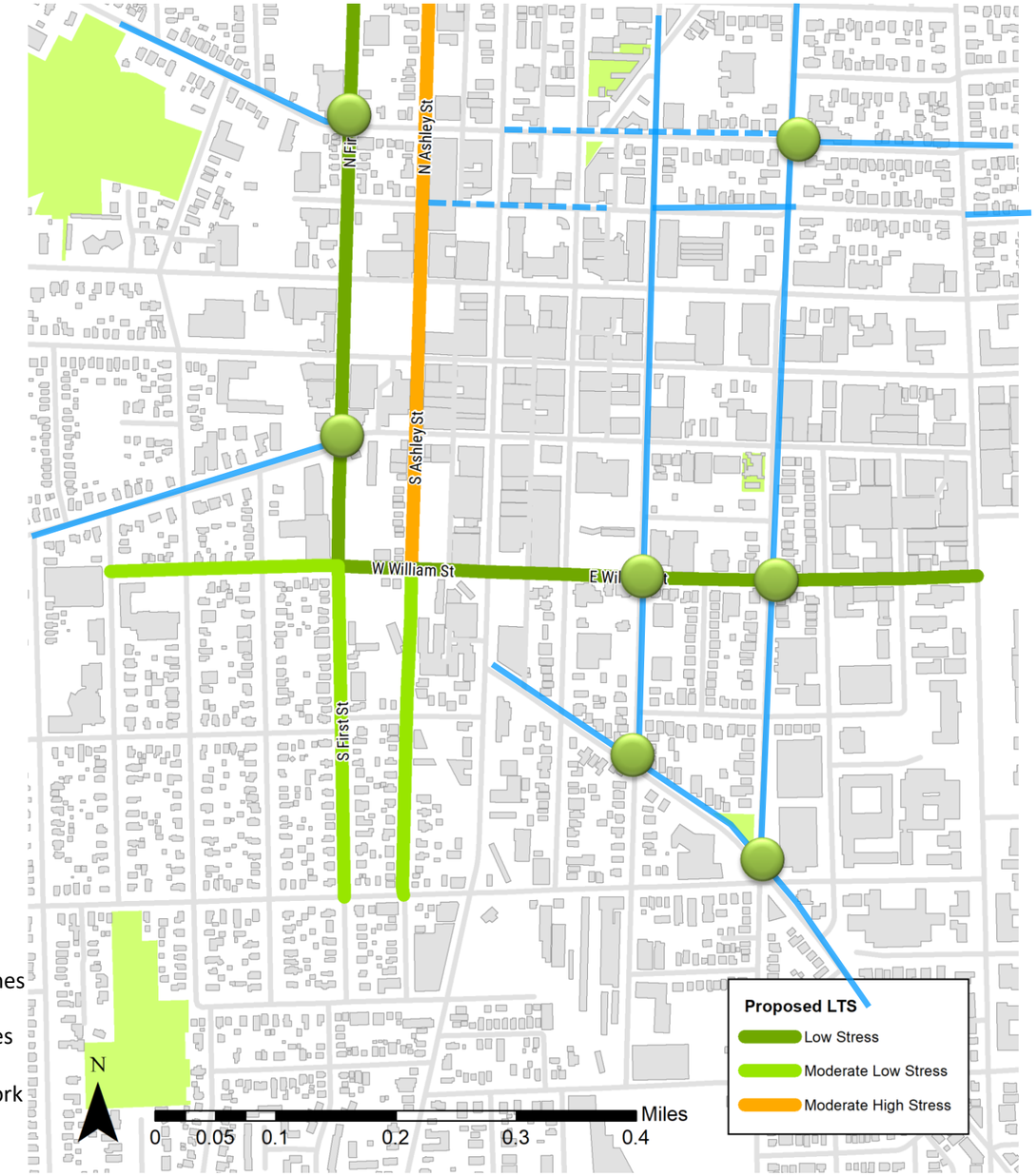
- Level of separation
- Vehicles speeds
- Number of travel lanes
- Vehicle volumes
- On-street Parking

Bicycle Level of Traffic Stress

- Existing captures 9-16% of population with LTS 3
- Gaps in the low stress network discourage interested riders
- One-way travel requires riders to circulate the study area to reach destinations on 1st and Ashley



- Proposed captures 100% of interested population
- Improvements in LTS level are experienced or maintained throughout the corridors
- Two-way travel is now available to riders, especially valuable for bicycling destinations along 1st and Ashley



Existing Bike Lanes

Partial Bike Lanes

New Bike Network Connection

Vehicle Patterns: Travel Time

- Traffic analysis modeled existing traffic patterns and predicted future patterns based on the proposed design direction.

- AM Peak Hour

Street	Existing	Proposed	Change
First	2.1 minutes	2.5 minutes	24 seconds
Ashley	2.8 minutes	3.4 minutes	36 seconds
William	2.6 minutes	2.5 minutes	Negligible

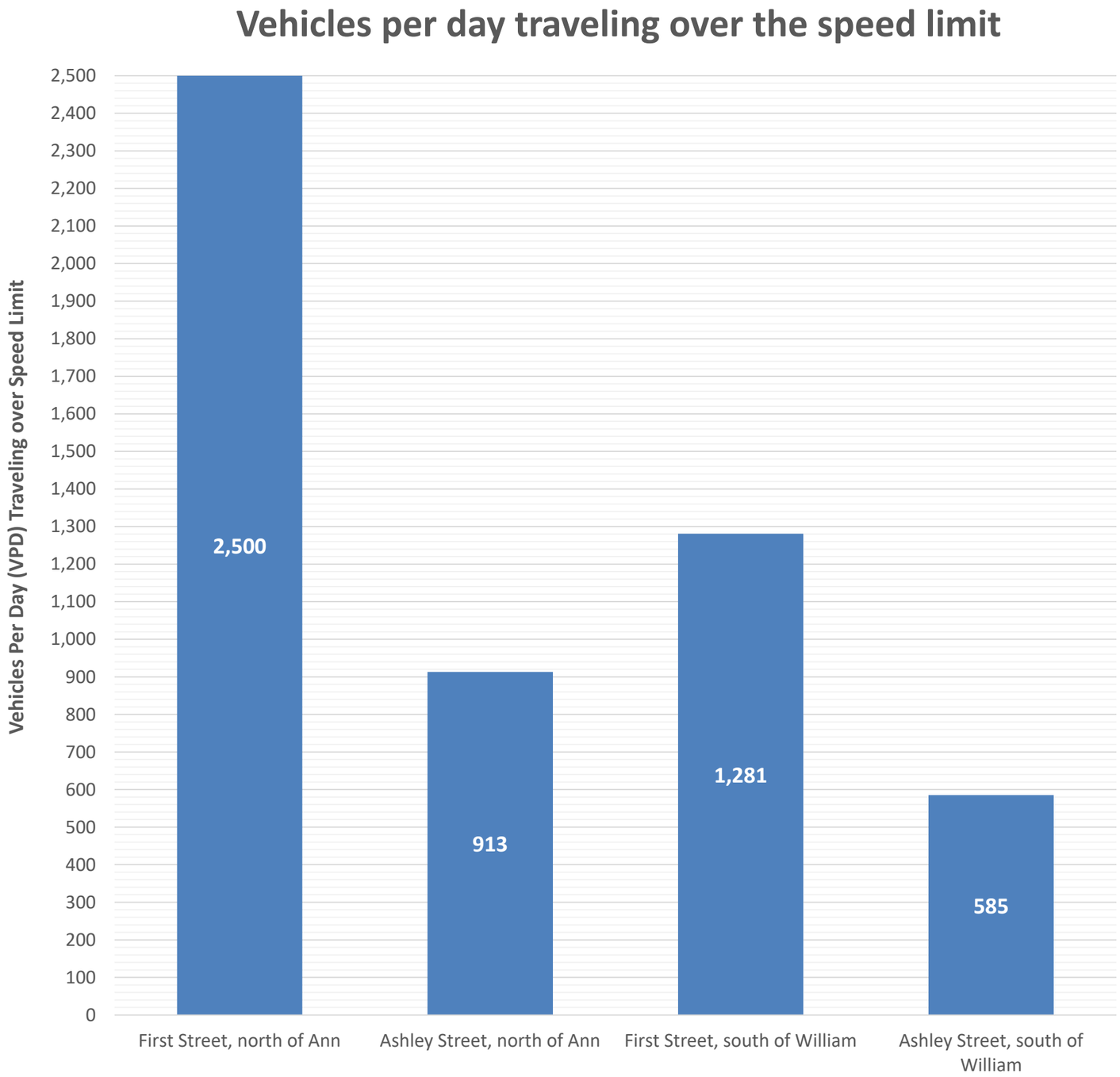
- PM Peak Hour

Street	Existing	Proposed	Change
First	2.8 minutes	3.6 minutes	48 seconds
Ashley	2.5 minutes	3.7 minutes	72 seconds
William	2.8 minutes	2.9 minutes	6 seconds

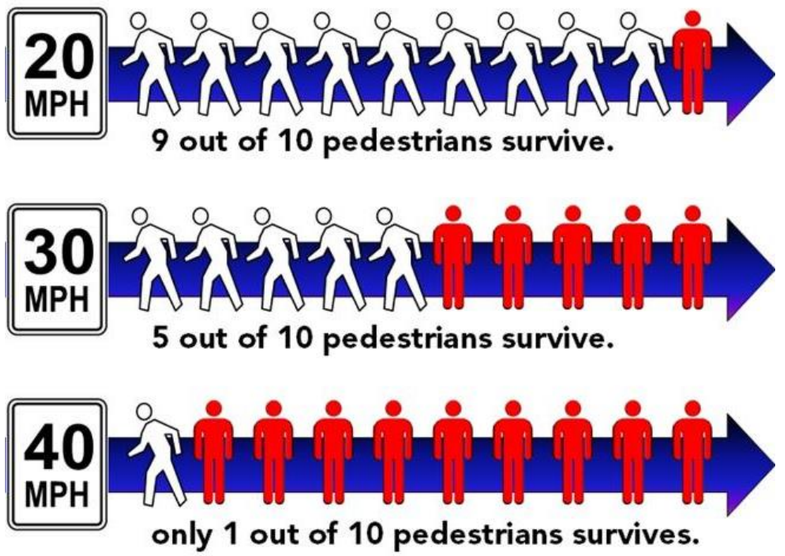
- Local trips will have a shorter travel time
  - Represents 85% of vehicles in the evening peak hour

- Average delay for any vehicle is 7 seconds
  - The maximum increase in delay = 72 seconds for vehicles traveling full length of Ashley Street during the evening peak hour. Represents 15% of vehicles in the evening peak hour

Vehicle Patterns: Vehicle Speeds



- Reducing the number of travel lanes is cited by the FHWA as a countermeasure for reducing mean vehicular speeds between 2 and 4 miles per hour
- Speed is directly correlated to likelihood of injury
- Approximately 45 people crossing these corridors in any one hour of the day at uncontrolled locations
- **Over 100 vehicles were captured exceeding 40 mph during our study**



Design Workshop: June 4 - 7

Monday, June 4

6:00 – 8:00 PM **Evening Presentation**
Ann Arbor District Library
343 S. Fifth Ave.

Tuesday, June 5

1:00 – 5:00 PM **Open Design Studio**
Ann Arbor District Library
343 S. Fifth Ave.

Wednesday, June 6

9:00 – 11:00 AM **Open Design Studio**
Ann Arbor District Library
343 S. Fifth Ave.

Thursday, June 7

6:00 – 8:00 PM **Evening Presentation**
Ann Arbor District Library
343 S. Fifth Ave.

NEXT STEPS

HURON

- Currently in design + engineering phase
- Council bond measure (August)
- MDOT coordination for non-rush hour parking & signal changes
- Working towards project going out to bid in Fall 2018

FIRST/ASHLEY & WILLIAM

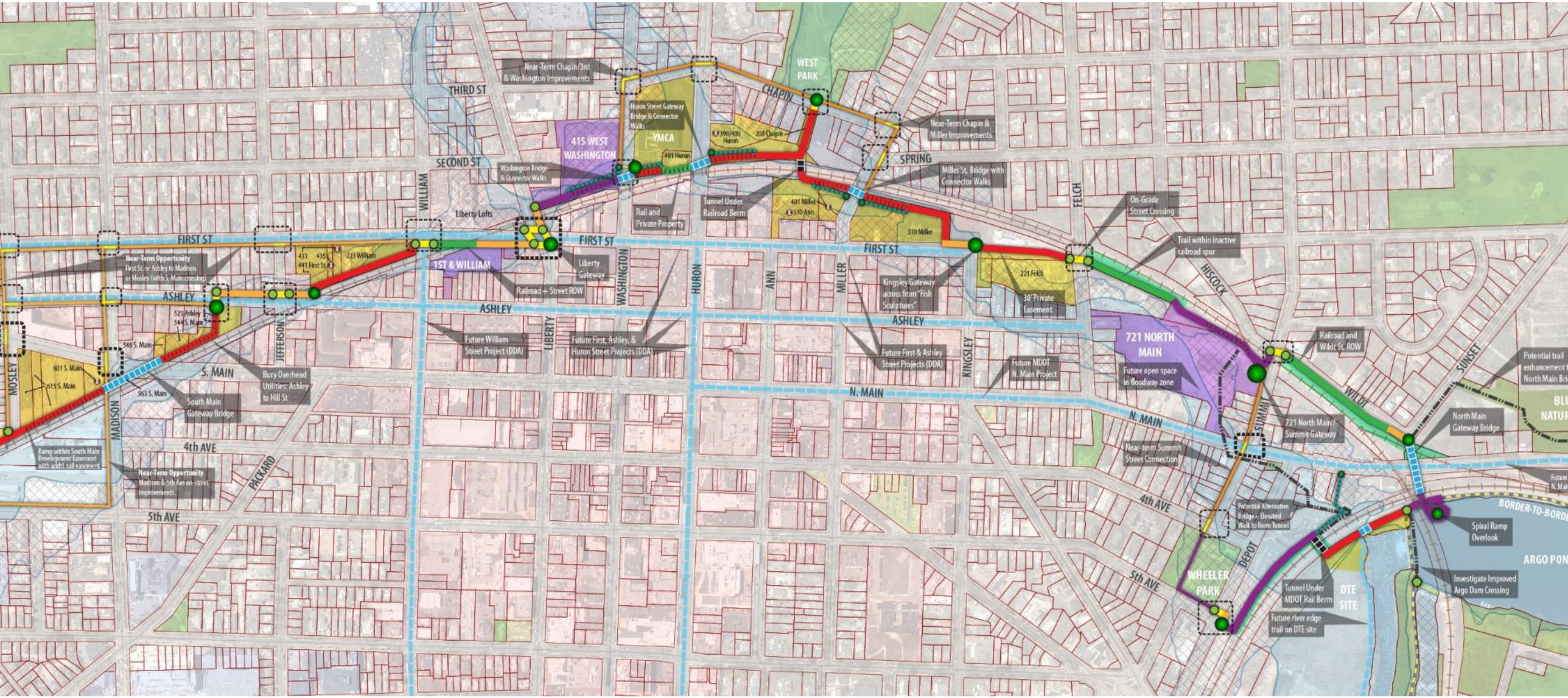
- Schematic layout of proposed changes
- Council resolution for two-way restoration (August)
- Continued outreach with community stakeholders
- Design & engineering phase begins late 2018

THANK YOU!
Questions?

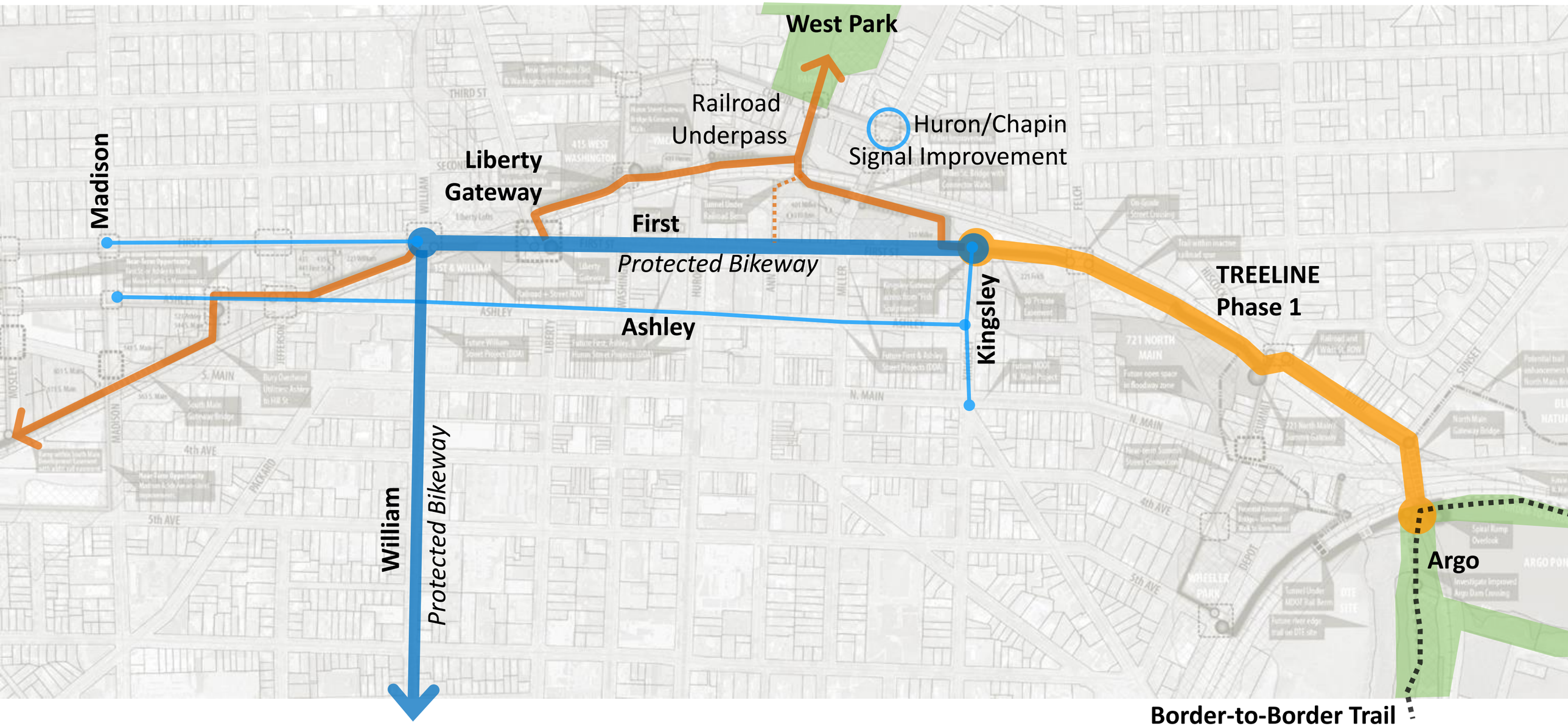
Key Concepts: **Recreation Opportunities**

Treeline Trail Master Plan: First & Ashley projects identified as coordinating projects with opportunity to implement near-term and long-term elements of the Treeline.

NORTH



Protected bikeways on First & Ashley advance implementation of the Treeline and build **low stress** connections to the Treeline Trail.



Key Concepts: **Sustainable / Green Street Design**

1. **Street Trees that will thrive!**
   - Micro-climate
   - Stormwater
   - Aesthetics + pedestrian comfort
   - Shade and energy conservation

2. **LED & Dark Skies compliant light fixtures.**

3. **Stormwater Management**
   - Allen Creek Stormwater Fund alignment for infiltration improvements on First, Ashley, & William Streets.
   - Partnering with City on stormwater improvements.

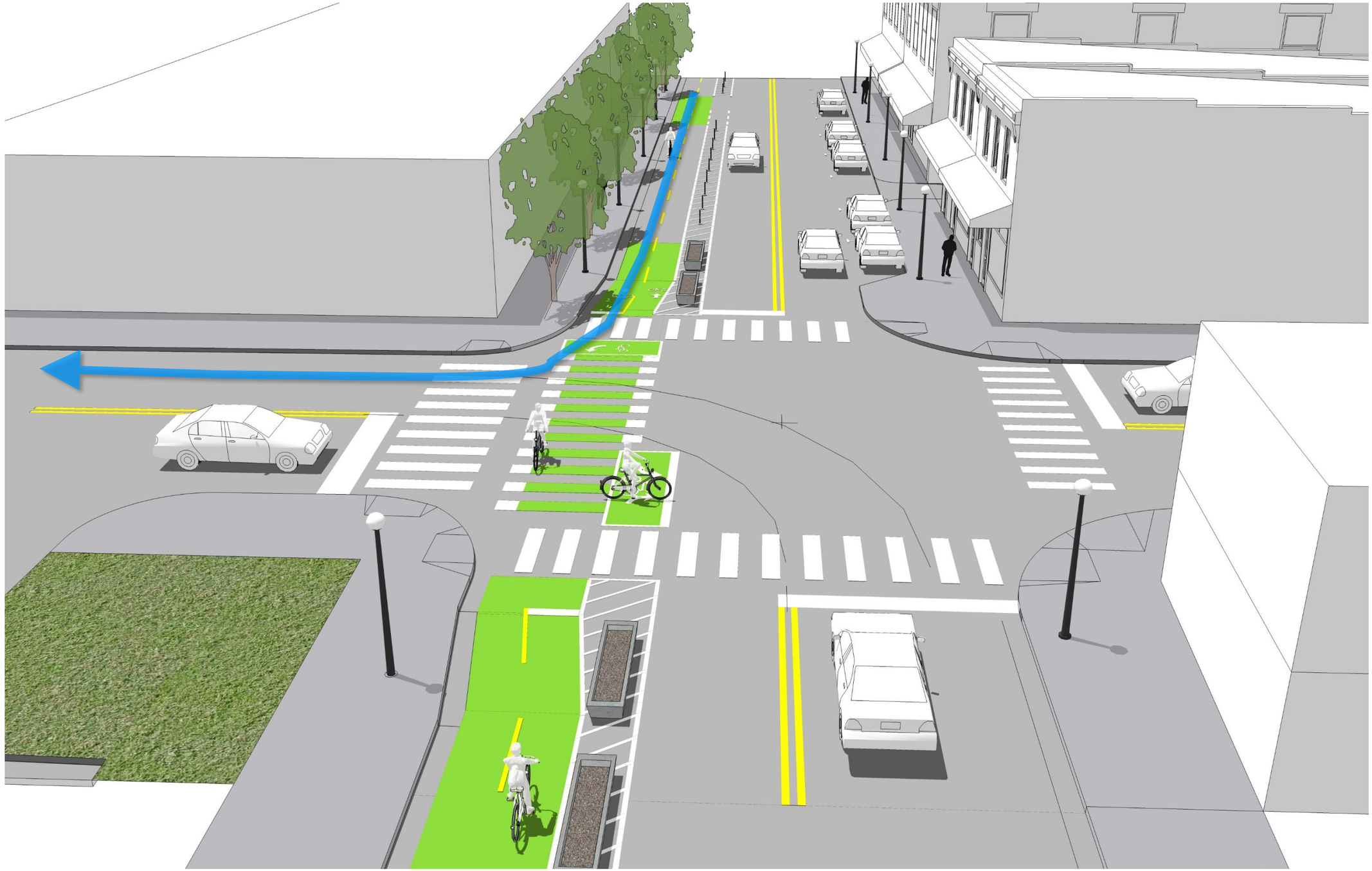
1 Large Trees with geo-engineered growing zone (example from Huron Street Project)

3 Urban infiltration planters

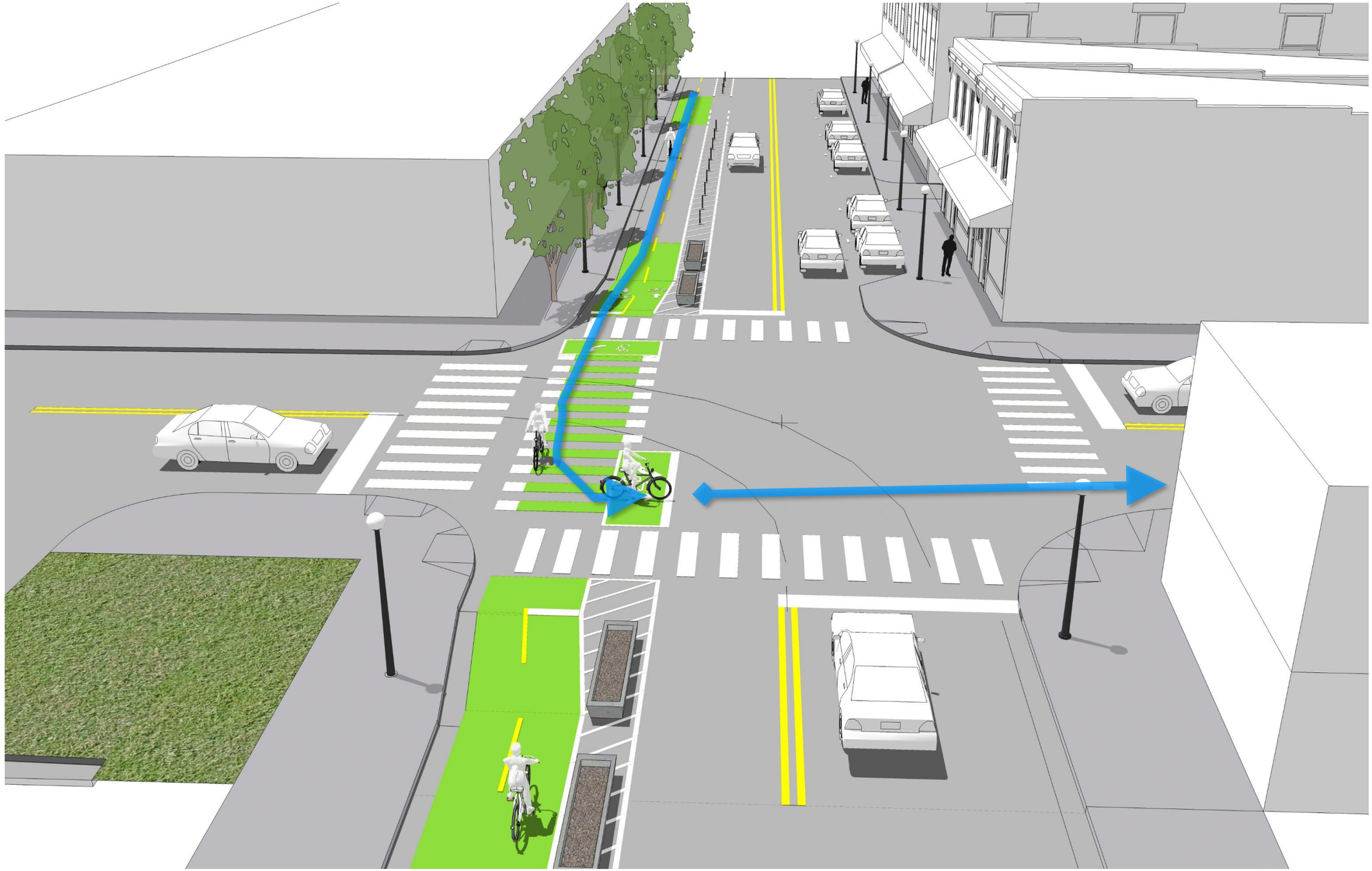
2 Huron Street Proposed Lighting

Basic Intersection

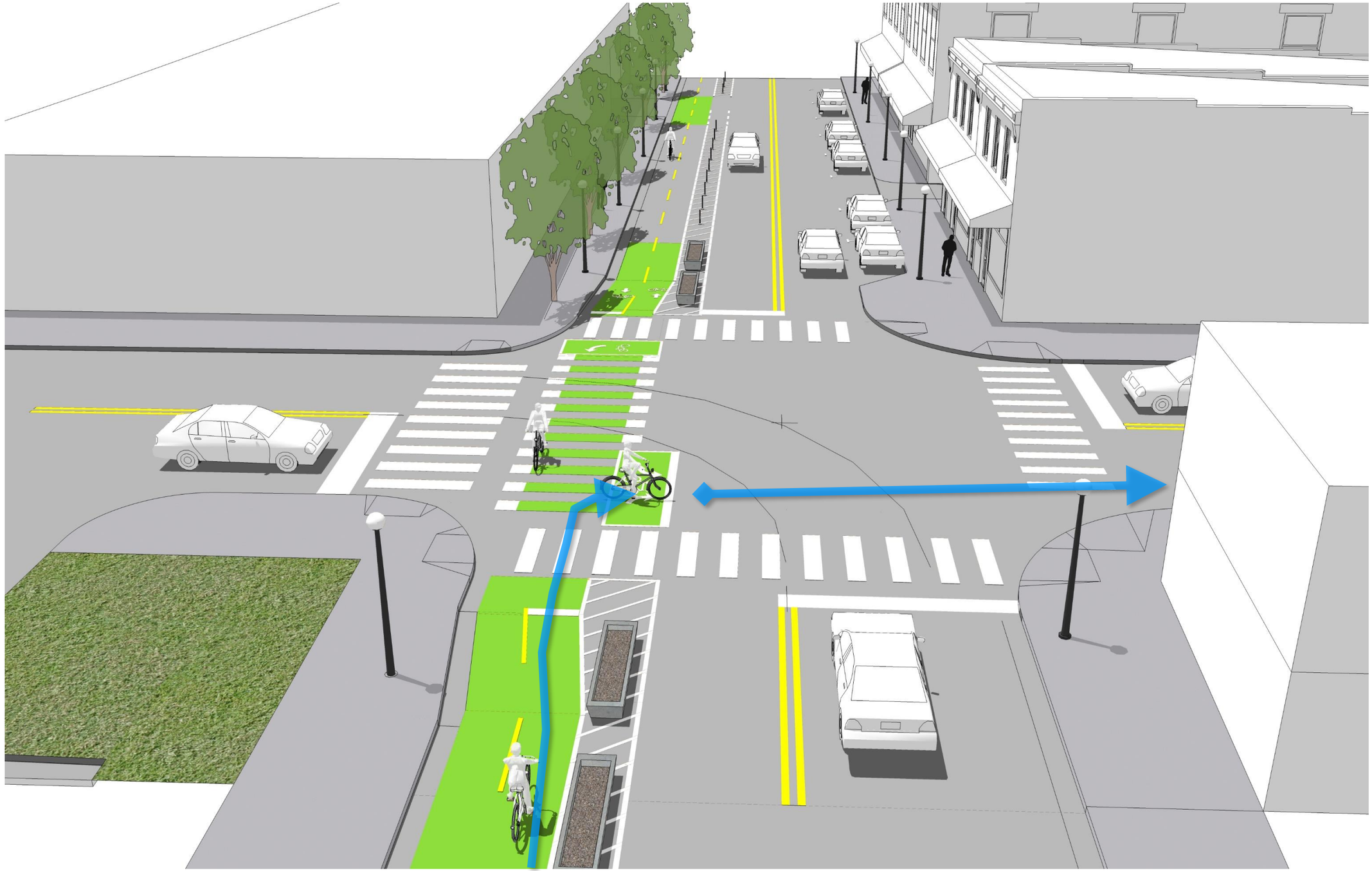
Right Turn OFF NB Bikeway



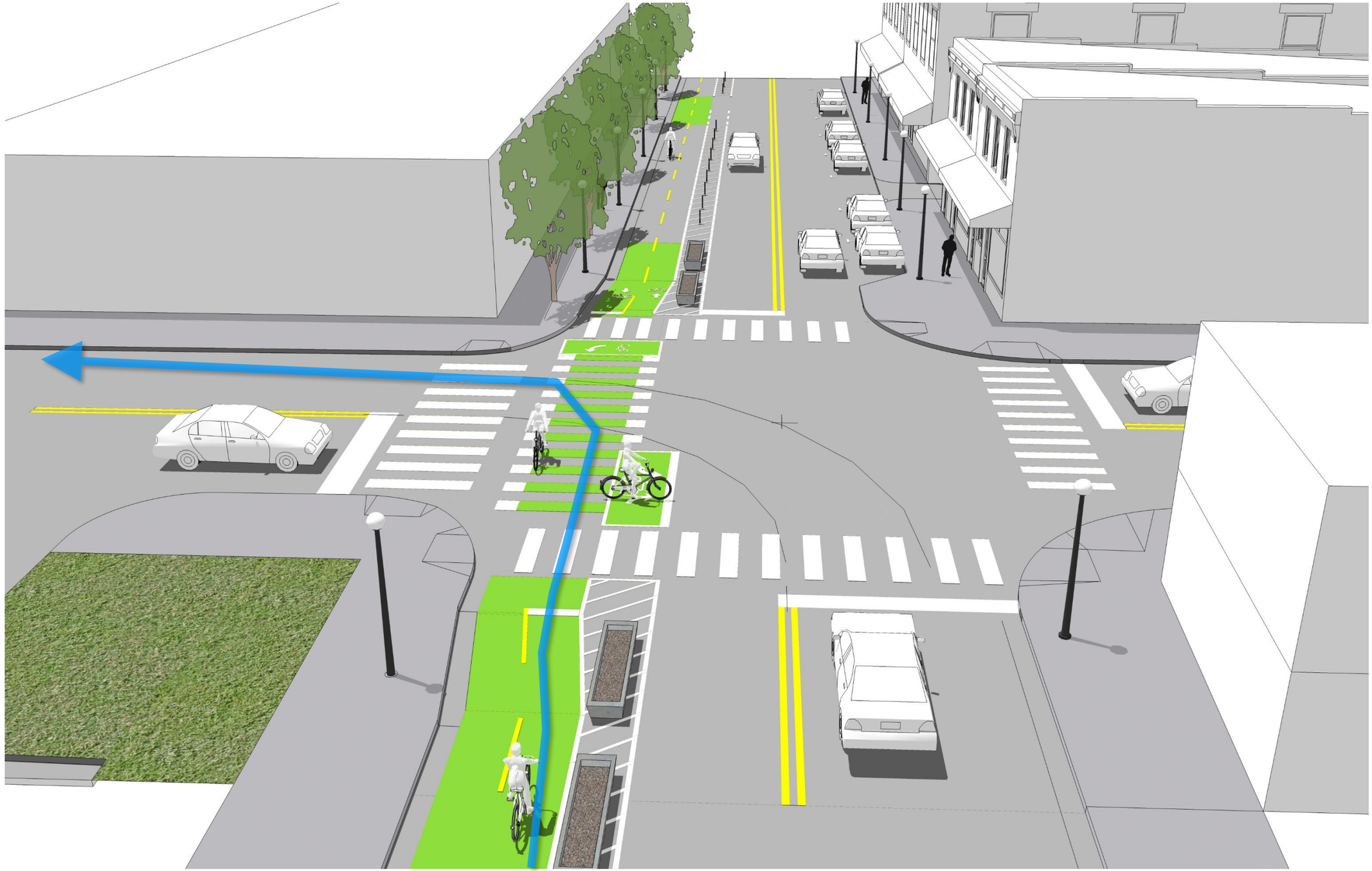
Left Turn OFF NB Bikeway



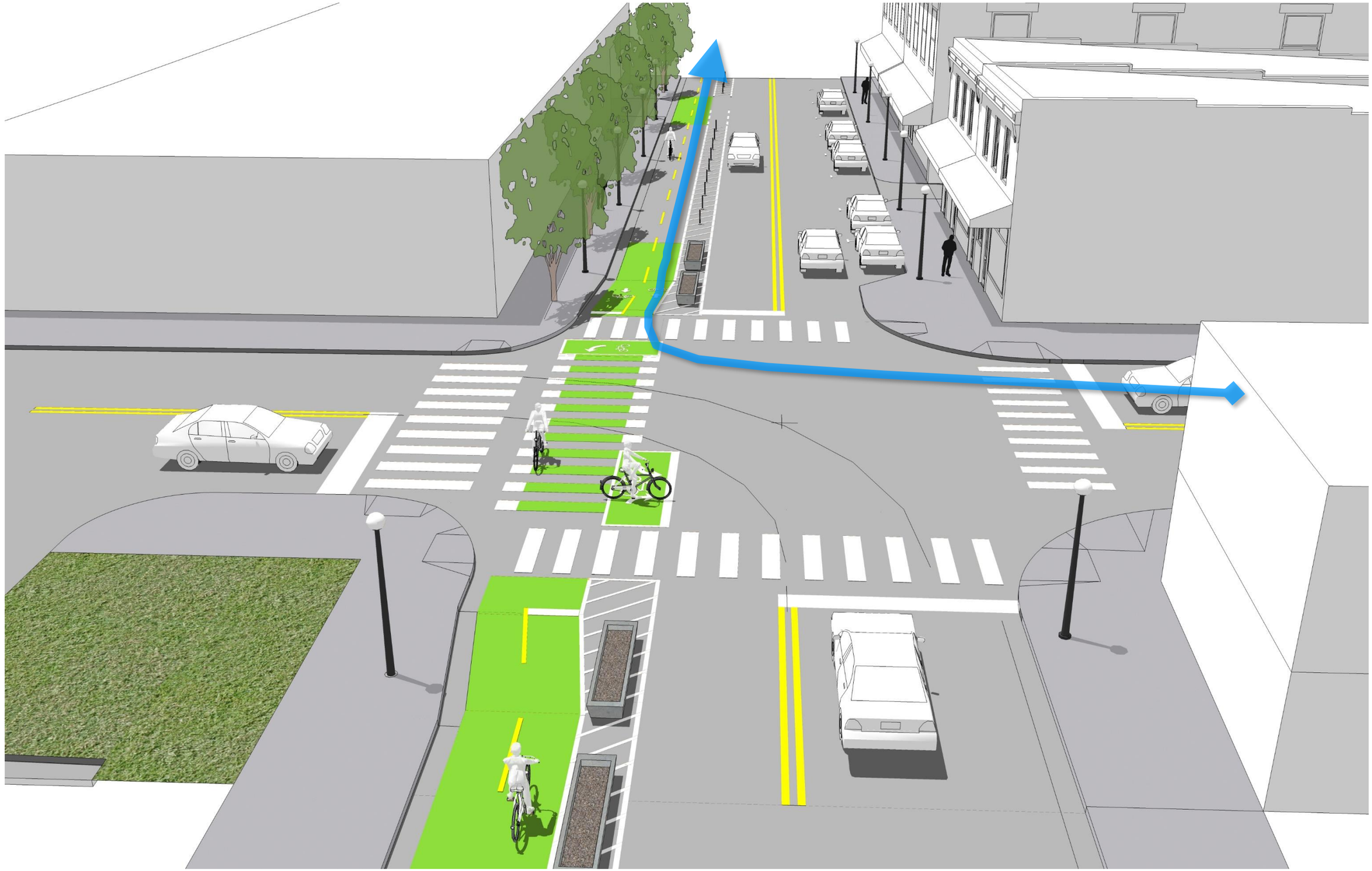
Right turn OFF SB bikeway



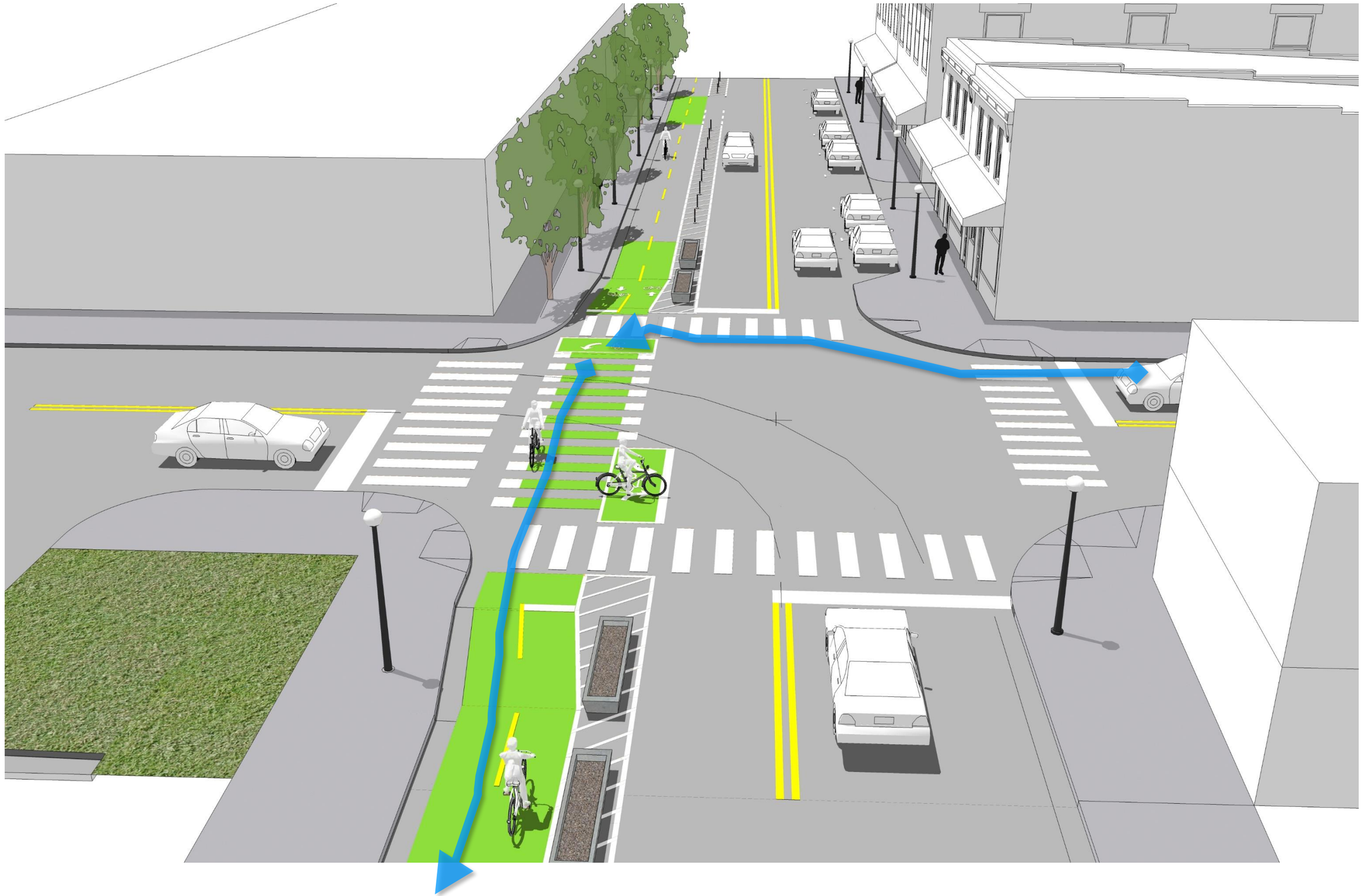
Left turn OFF SB bikeway



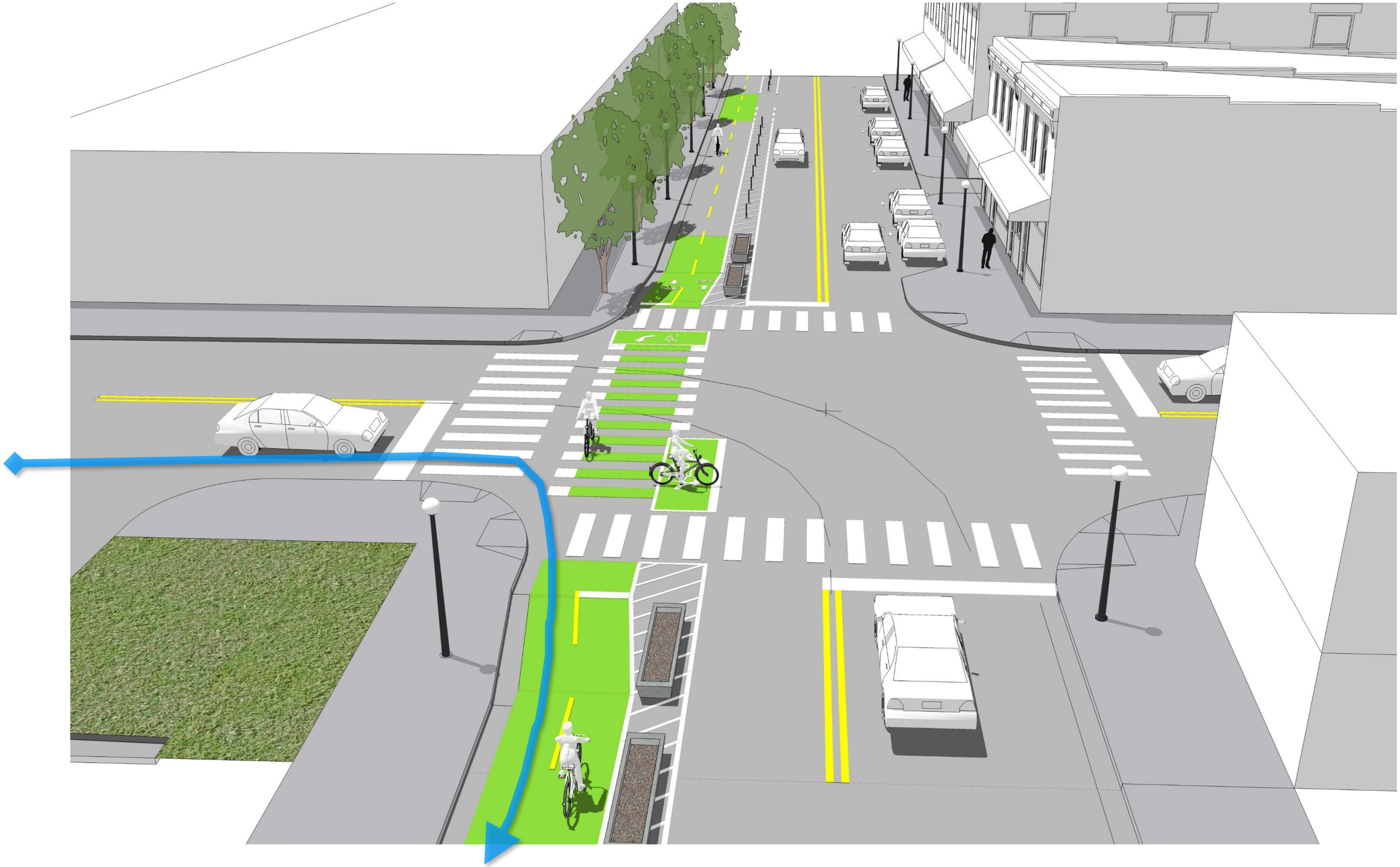
Right turn ONTO SB bikeway (from EB cross street)



Left turn ONTO NB bikeway (from EB cross street)



Right turn ONTO NB bikeway (from WB cross street)



Left turn ONTO SB bikeway (from WB cross-street)