

PEOPLE FRIENDLY STREETS

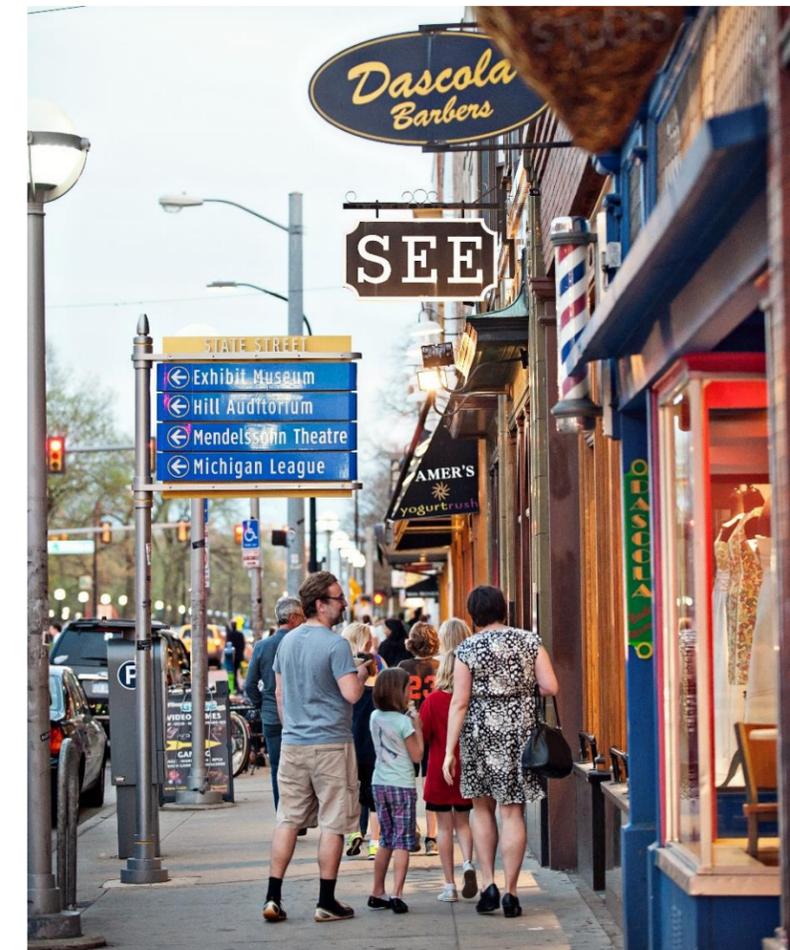
First & Ashley Project / William Street Bikeway / Huron Street Design

City Council Work Session, June 11, 2018



*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 *Will ...*



IMPROVE SAFETY AND COMFORT

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

VISION ZERO INITIATIVE

No loss of life is acceptable.

City council resolution of support for the Vision Zero initiative in 2017

- *Whereas, City Council has adopted a Vision Zero policy, which prioritizes human lives above all other considerations, including motor vehicle travel time; and*
- *Whereas, Vision Zero seeks to minimize consequences of inevitable human errors in the transportation system;*

Ann Arbor Sustainability Framework

- Combined goals from over 20 city-wide planning documents.
- Central part of the city's master plan
- Reflection of *community values*

Streets directly relate to many goals:

- Economic vitality
- Energy conservation
- Safe community
- Active living
- Transportation options
- Integrated land use
- Clean air & water
- Responsible resource use

ENVIRONMENT | ECONOMY | EQUITY



First & Ashley Project

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

- Two-Way Restoration
- Protected bikeway
- Safety Improvements

Fifth & Detroit

Design Completed: 2017
Construction: 2018 Spring to Fall

Huron Street (3rd to Division)

Design Phase: 2018
Construction: 2019 Spring to Fall

- Streetscape
- Safety Improvements

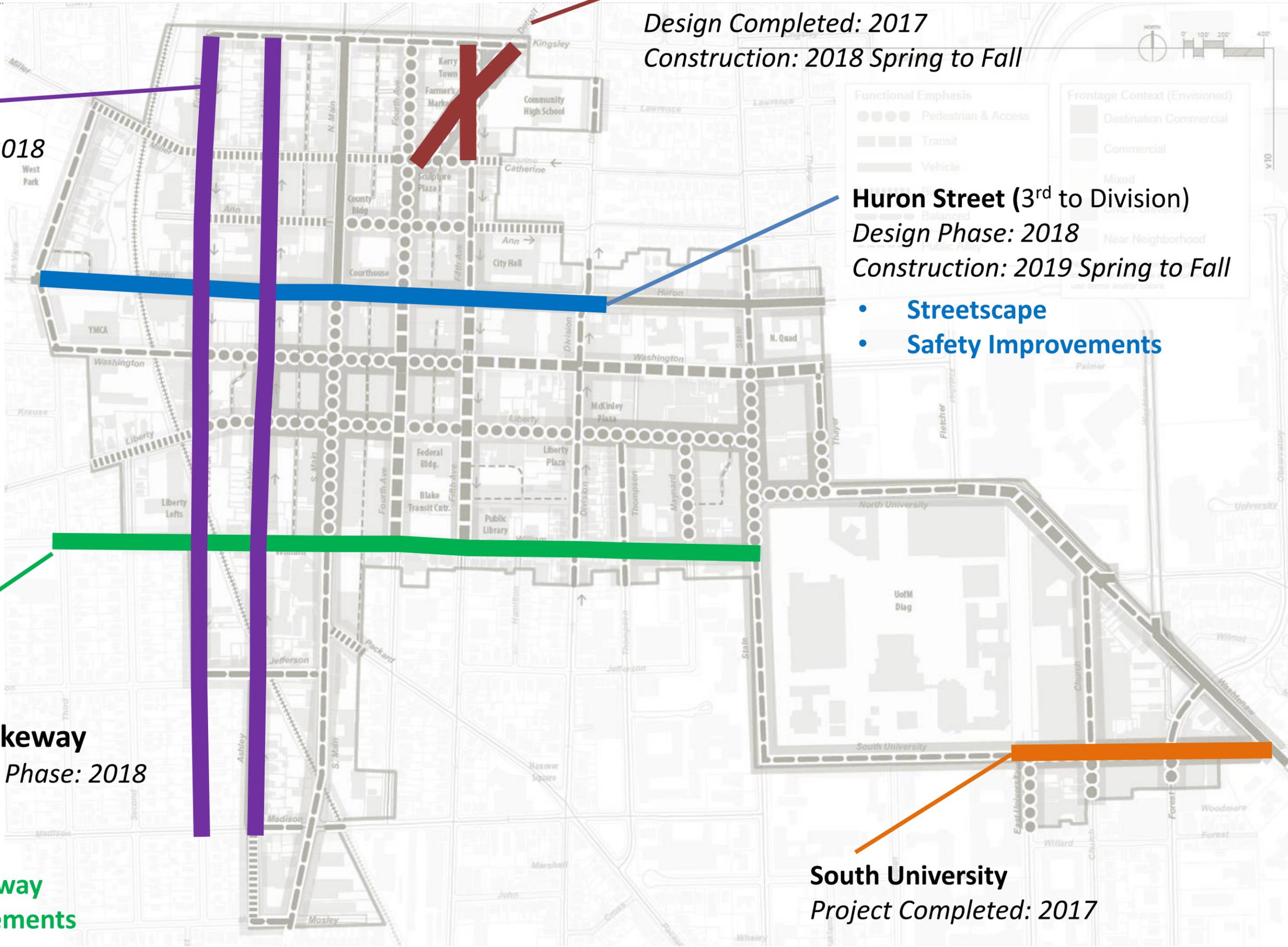
William Street Bikeway

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

- Protected bikeway
- Safety Improvements

South University

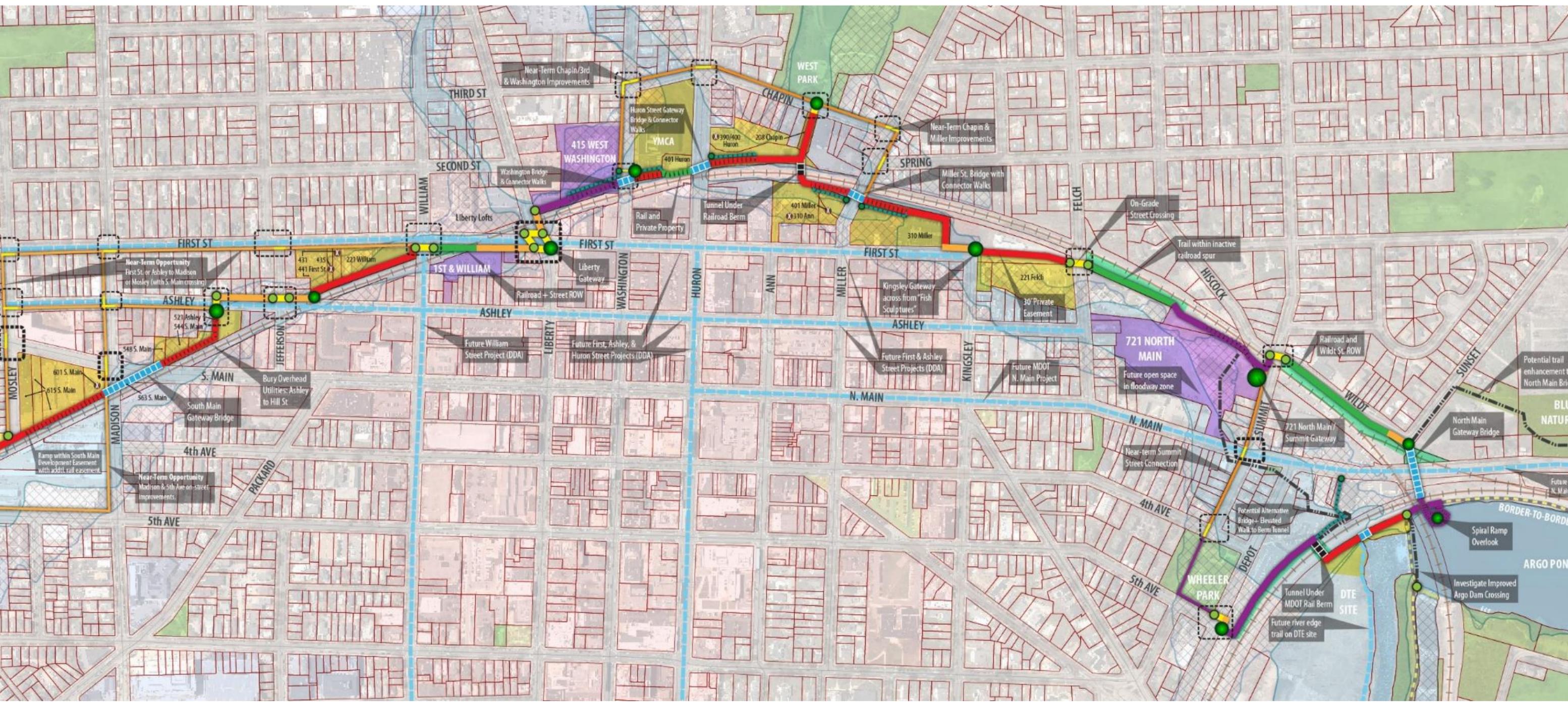
Project Completed: 2017



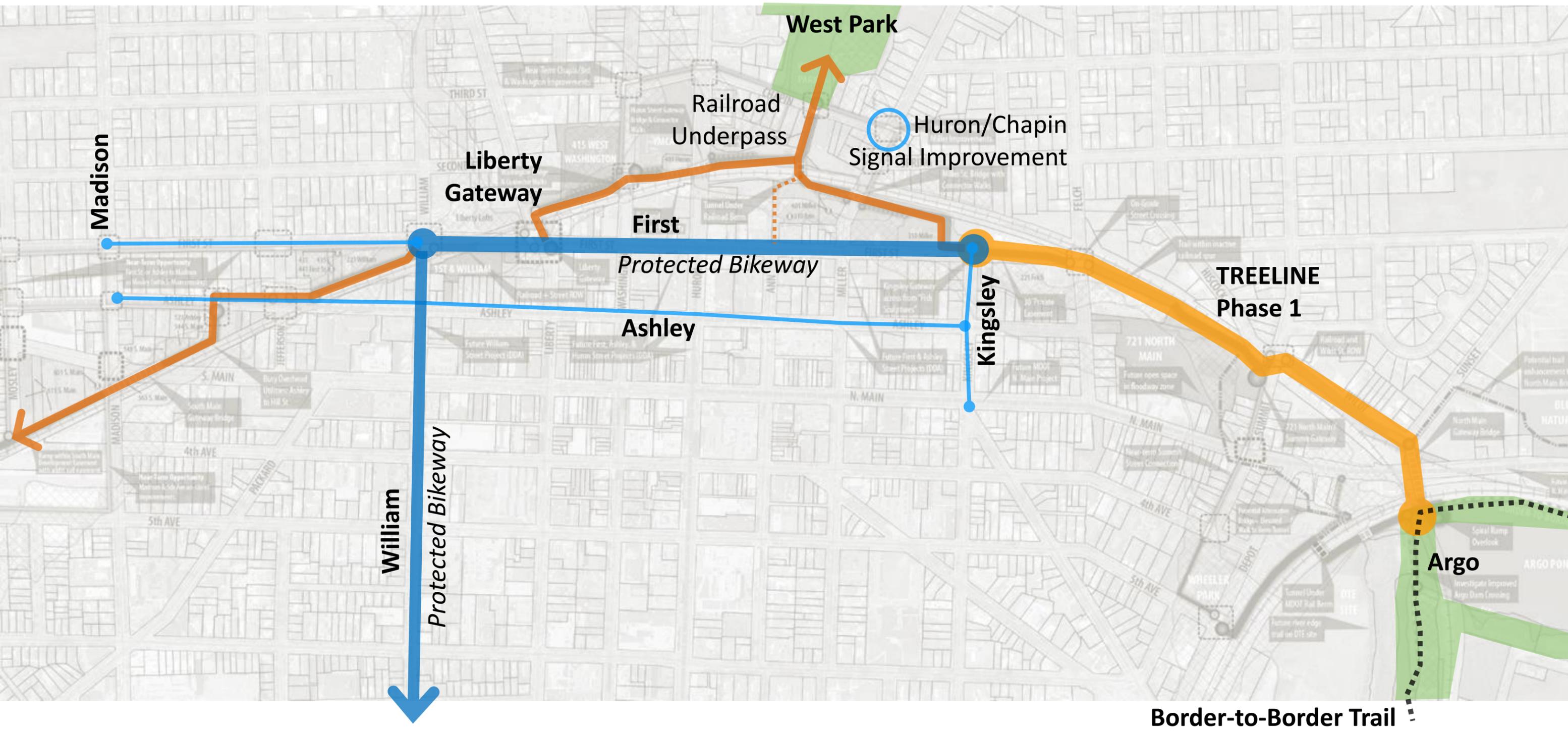


PEOPLE-FRIENDLY STREETS
KEY CONCEPTS

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



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



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.

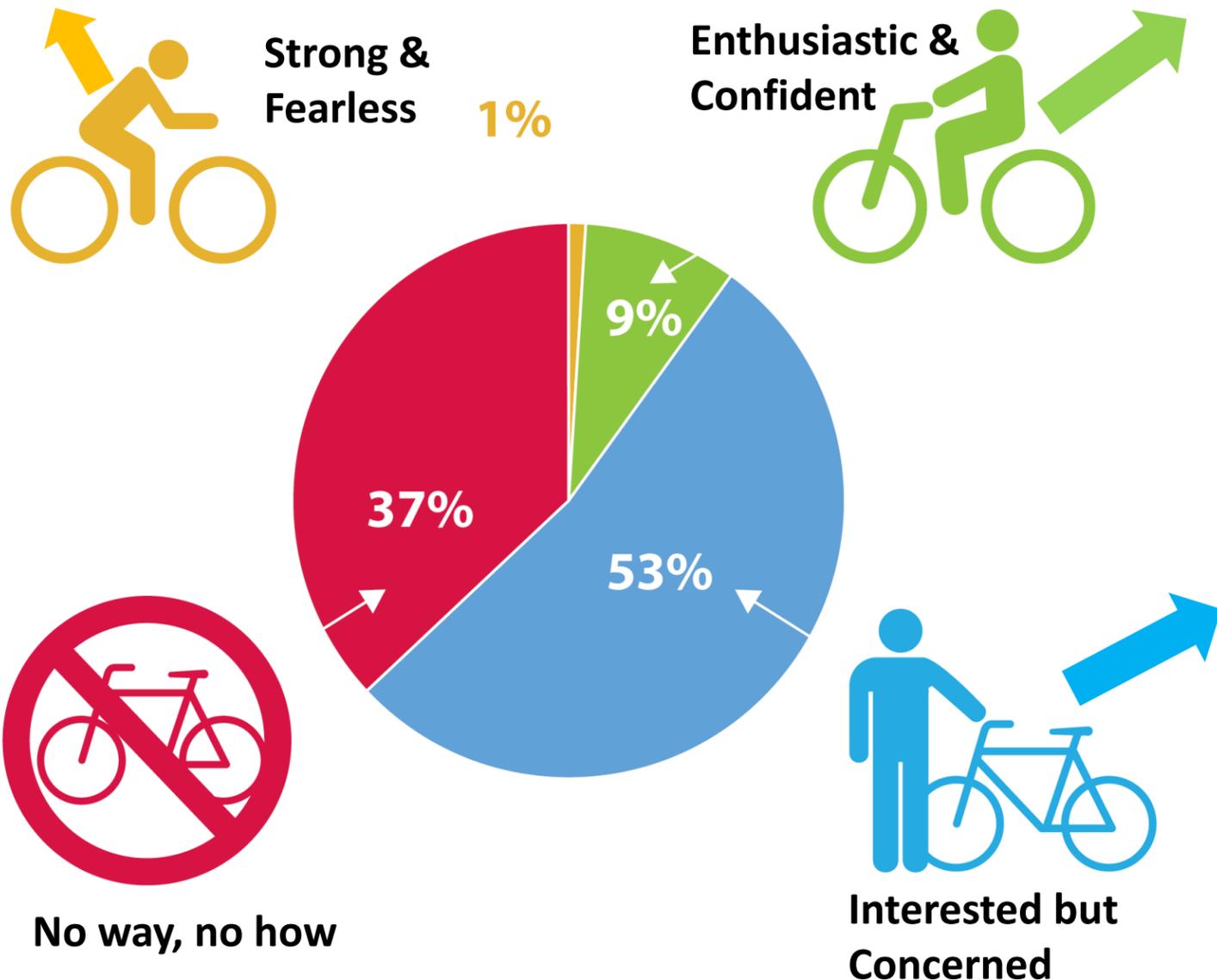
1 Large Trees with geo-engineered growing zone (example from Huron Street Project)



3 Urban infiltration planters



2 Huron Street Proposed Lighting



Key Concepts: Protected Bike Lanes

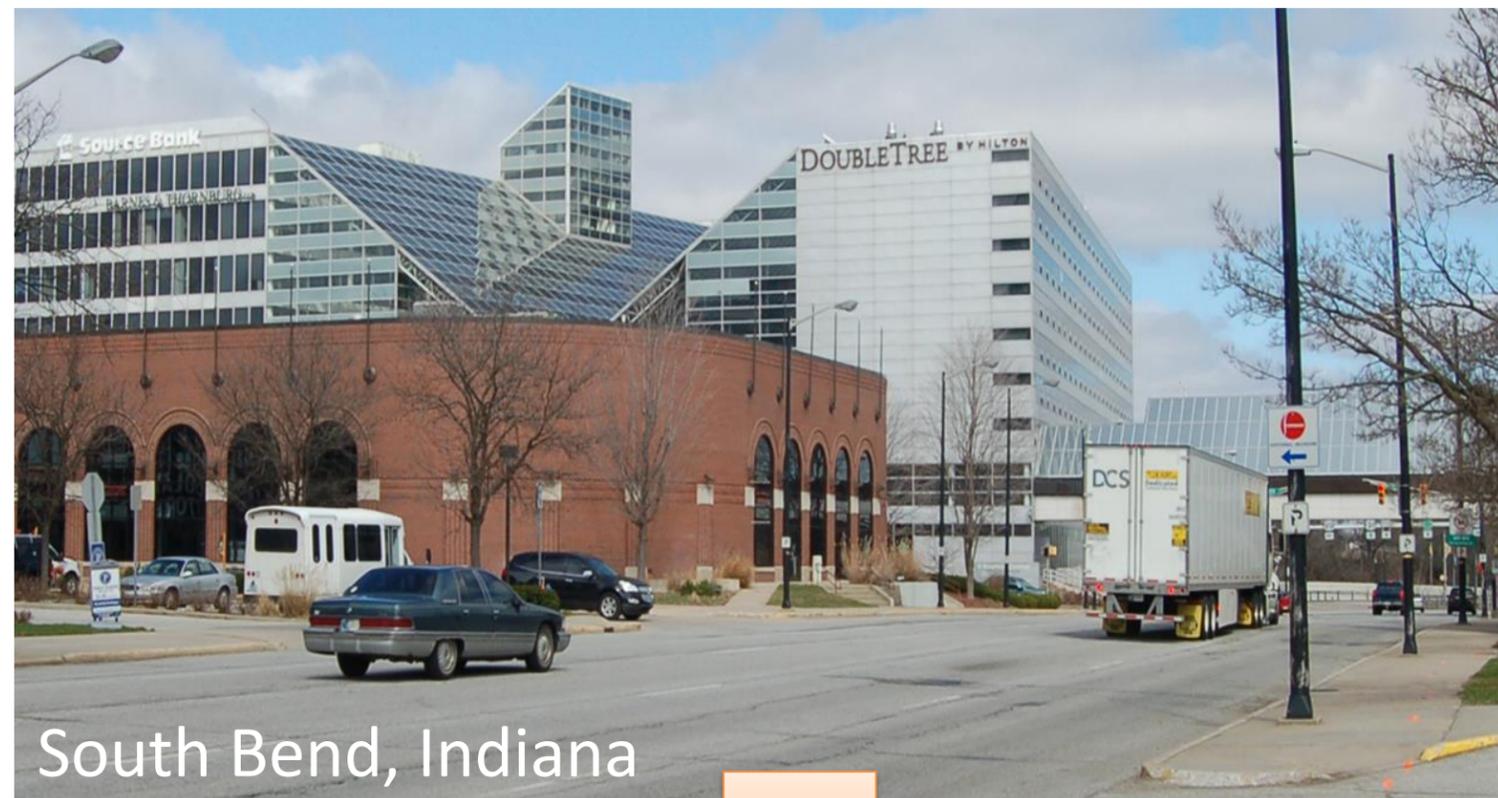
- **Protected bike lanes = Safer for more users:**
 - Provides **physical separation** between bike and vehicle lanes (e.g. flex-posts, medians, parked cars).
 - Can be one-directional or bi-directional
 - Provides **legitimacy** to cyclists using streets
 - Provides **fewer conflicts** with motorists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



Key Concepts: Two-Way Street Restoration on First and Ashley

• 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



Key Concepts: Safety

- **Critical goal** within community
- Every trip is a **pedestrian trip** at some point
- **Reduced speeding** on two-way streets
- **Slower speeds**

–reduce:

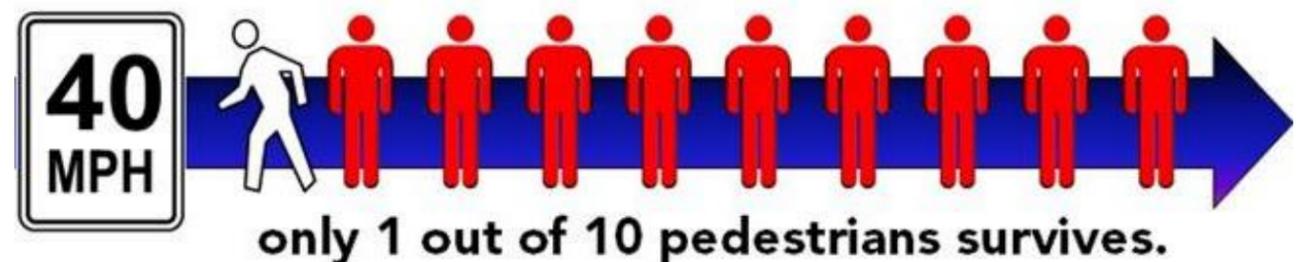
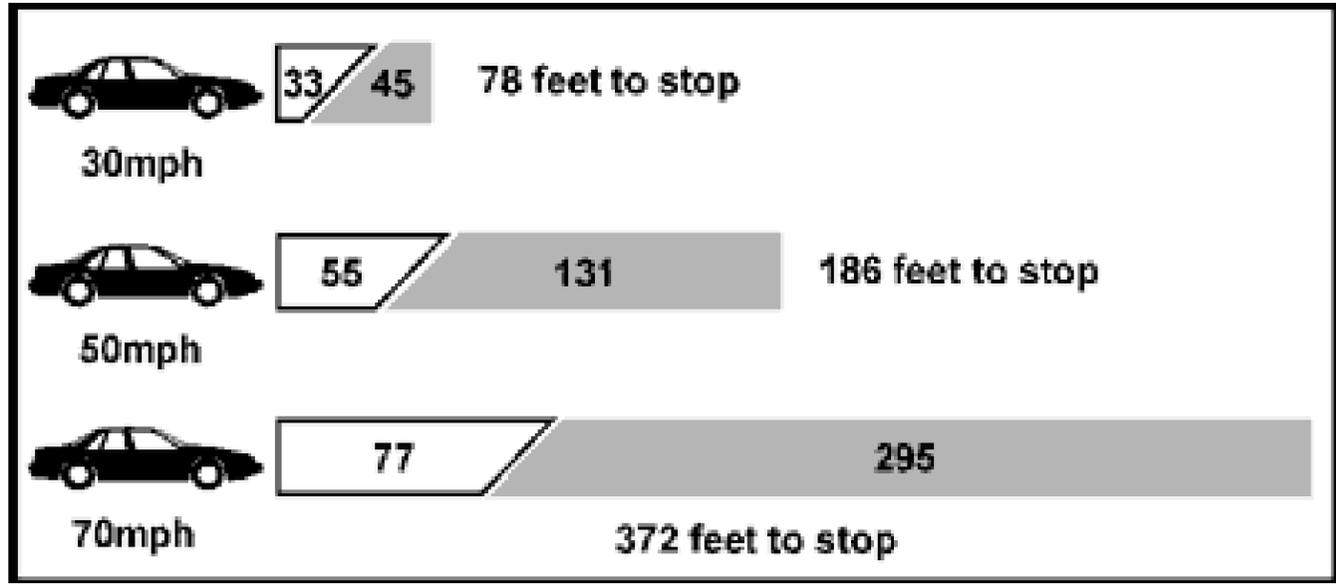
- Number of crashes
- Number of injuries & fatalities
- Noise, accelerating, deceleration
- Stopping distances

–increase:

- comfort for customers, residents, & employees
- comfort cyclists & pedestrians

–eliminate:

“double threat” of two lanes in one direction weaving



PEOPLE-FRIENDLY STREETS

HURON STREET





Huron Street

- A vehicle emphasis corridor **but...**
... Still needs to be comfortable and safe for all users!

Pedestrian/Bike related crashes by location 2013-2016



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!



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.

Huron Street: Chapin and Third Street Signalization



VIDEO 9:
Vehicles stop in crosswalk and ignore solid red signal

Huron Street: Chapin and Third Street Signalization



VIDEO 7:
YMCA groups uses HAWK signal, truck runs solid red signal, and kids must run to cross Huron

Promoting a subtle, but important, shift:

Huron as a parking street, which is managed to accommodate peak traffic demand.



Richmond VA- Main Street

- 4 lane street, 2 mile segment
- Parking available 9:00 am to 4:00 pm

Washington DC- 14th Street

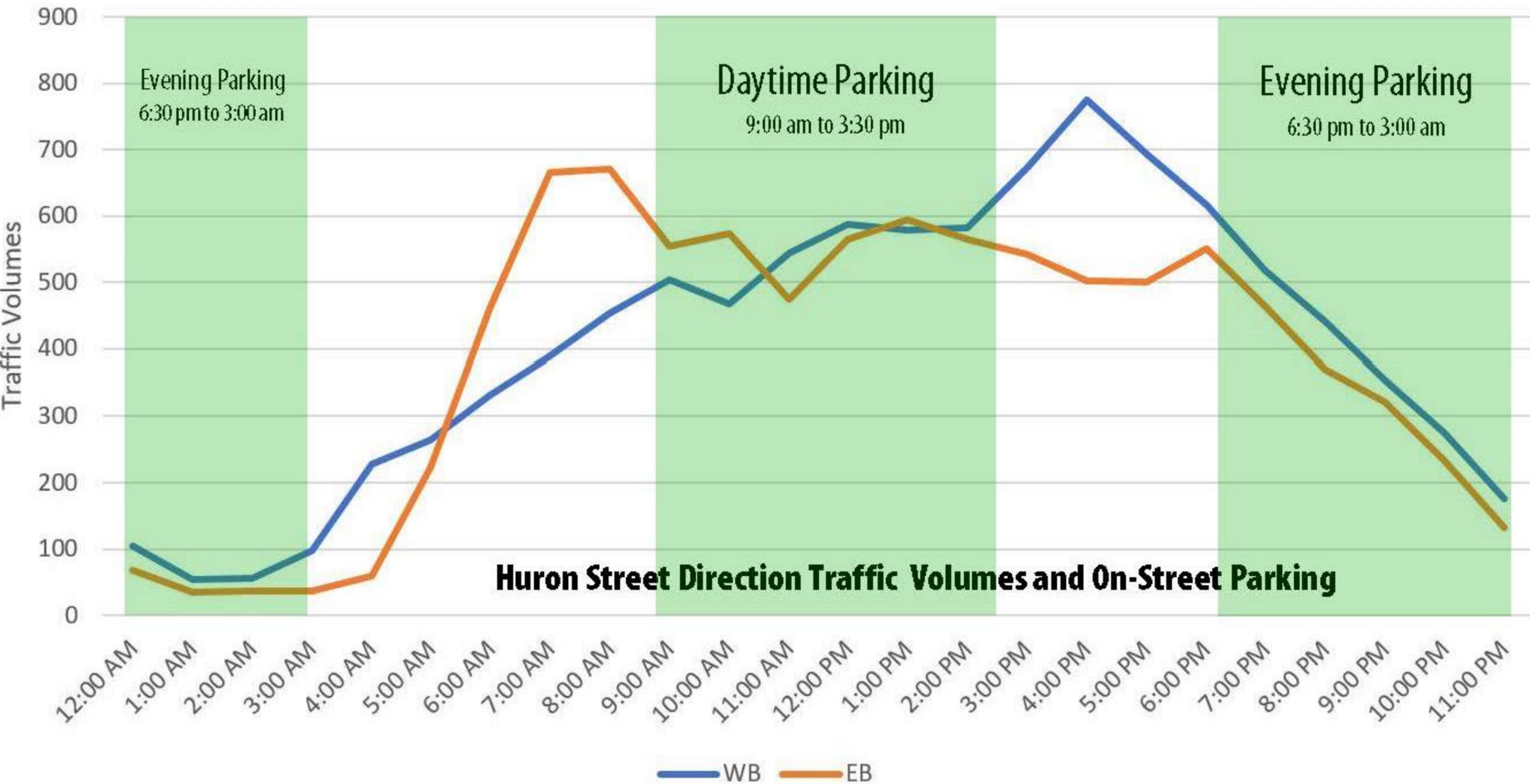
- 6 lane street, 1.5 mile segment
- Parking available between 9:00 am and 4:00 pm

Miami FL- Miami Avenue

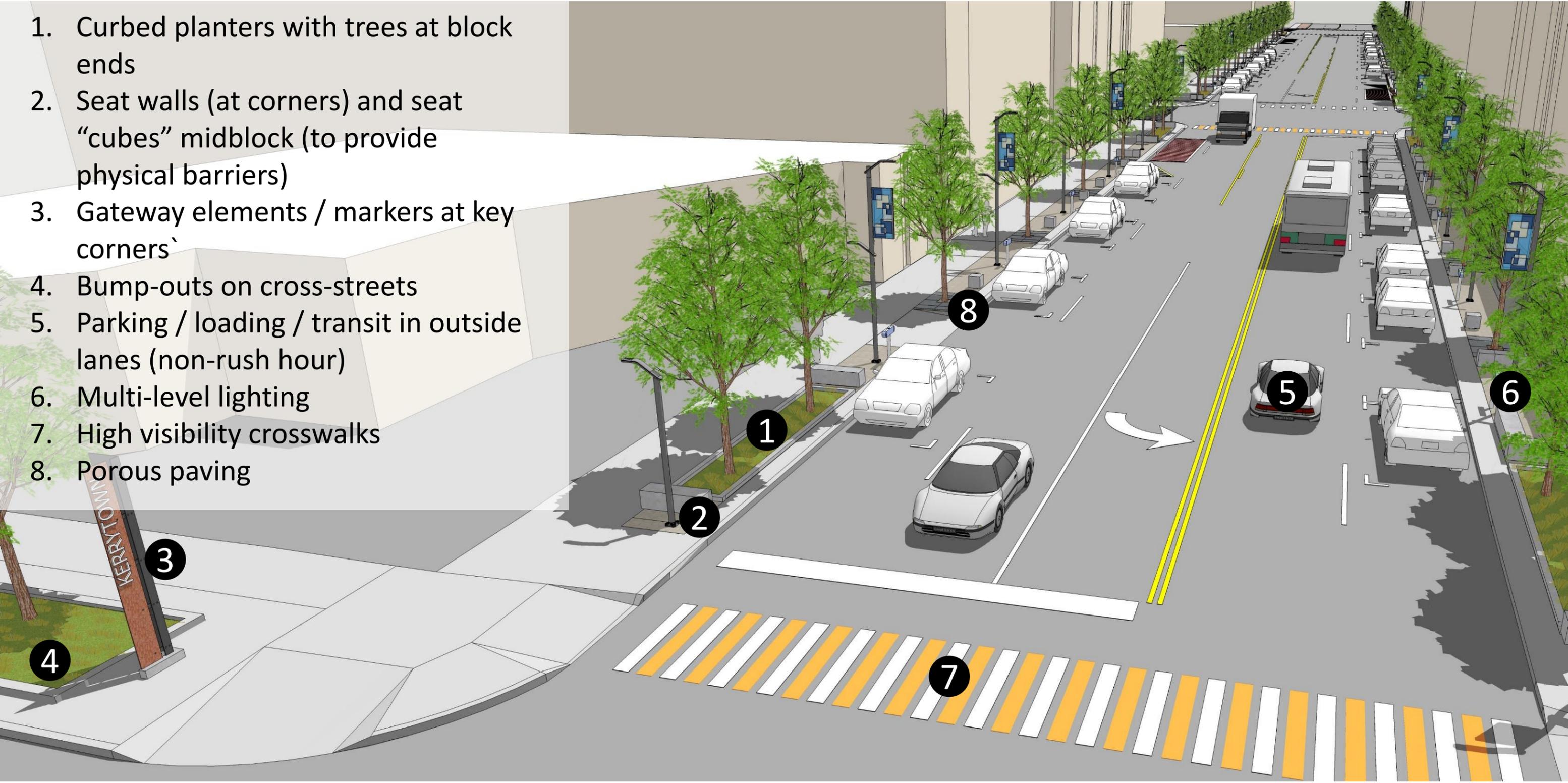
- 4 lane street, 2 mile segment
- Parking available 9:00 am to 4:00 pm

OUTCOMES from case studies

- *Enforcement & monitoring*
- *Long-term acceptance*
- *Increases pedestrian activity*
- *Parking is utilized*
- *Minimal traffic impacts*
- *Increases development investment*



- 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
- 8. Porous paving



PEOPLE-FRIENDLY STREETS

FIRST & ASHLEY PROJECT & WILLIAM STREET BIKEWAY



First & Ashley Project History

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

Corridor Problems:

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

Some Want To Drive A Cement Wedge Through The North-Central Neighborhood!

TO: Michael R. Prochaska, Planning Director
 FROM: Robert Johnson, Senior Planner
 SUBJECT: Ashley-First Bypass Working Committee

October 1, 1970
 RECEIVED
 OCT 14 1970

BLOCK CLUB MEETING

THE ANN ARBOR NEWS
 s Bonding Small But Co

Model Cities Policy Board Adopts Resolution Opposing Packard - Beakes



Combined Project Goals

- **Improve Safety and Comfort**

- Improve **safety** and comfort for all street users
- Emphasize **protection for vulnerable users**
- Advance the **Vision Zero** objectives

- **Strengthen Businesses**

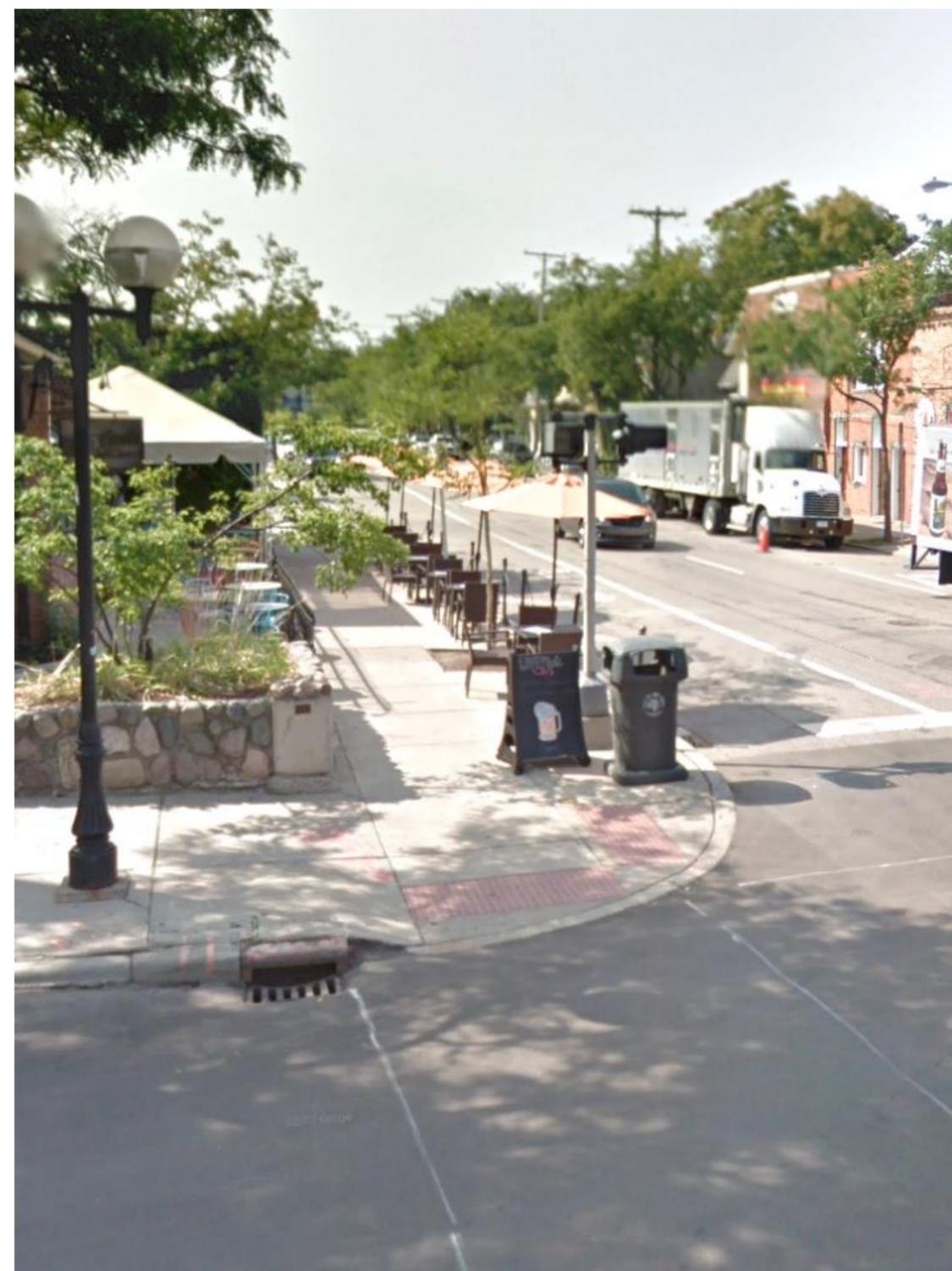
- Supports **business access & visibility**
- **Be a catalyst** for encouraging reinvestment and vitality

- **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

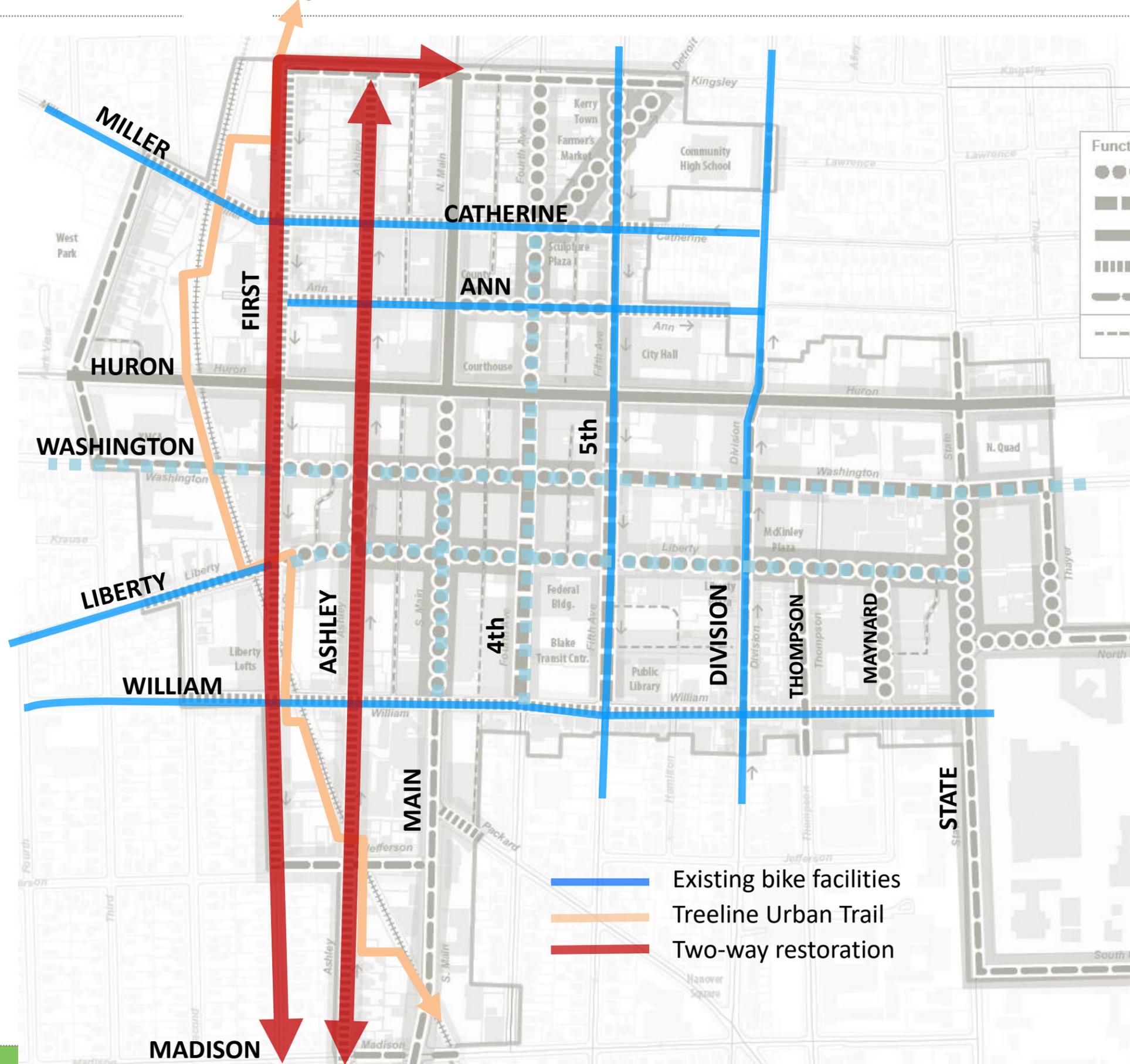


Design Direction: Two-Way Travel on First & Ashley

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

STREET CONFIGURATION:

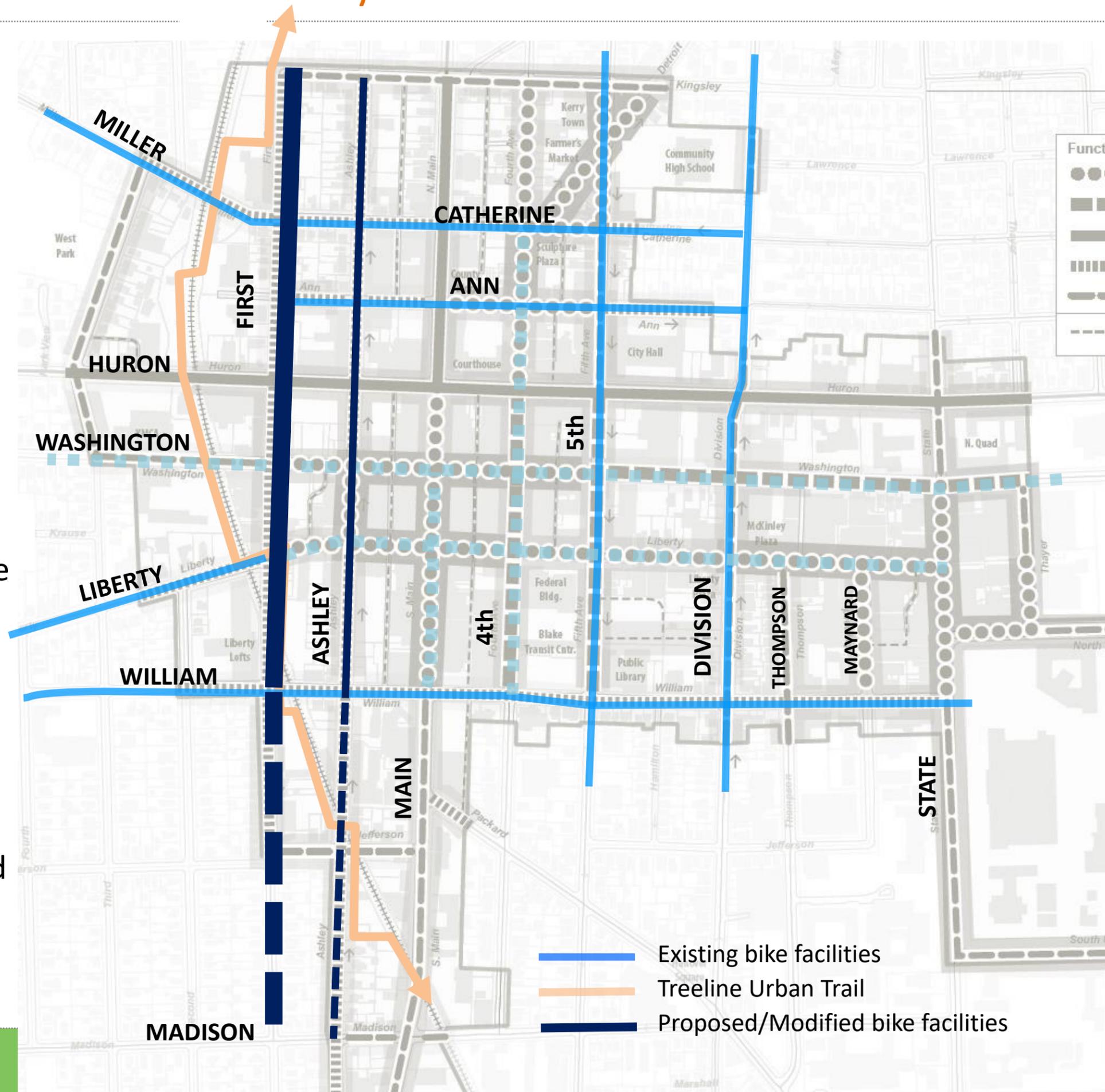
1. Generally travel lane in each direction on Ashley & First
2. Includes two-way travel on Kingsley from First Street to the North Main Intersection.



Design Direction: First & Ashley Protected Bike Facility

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

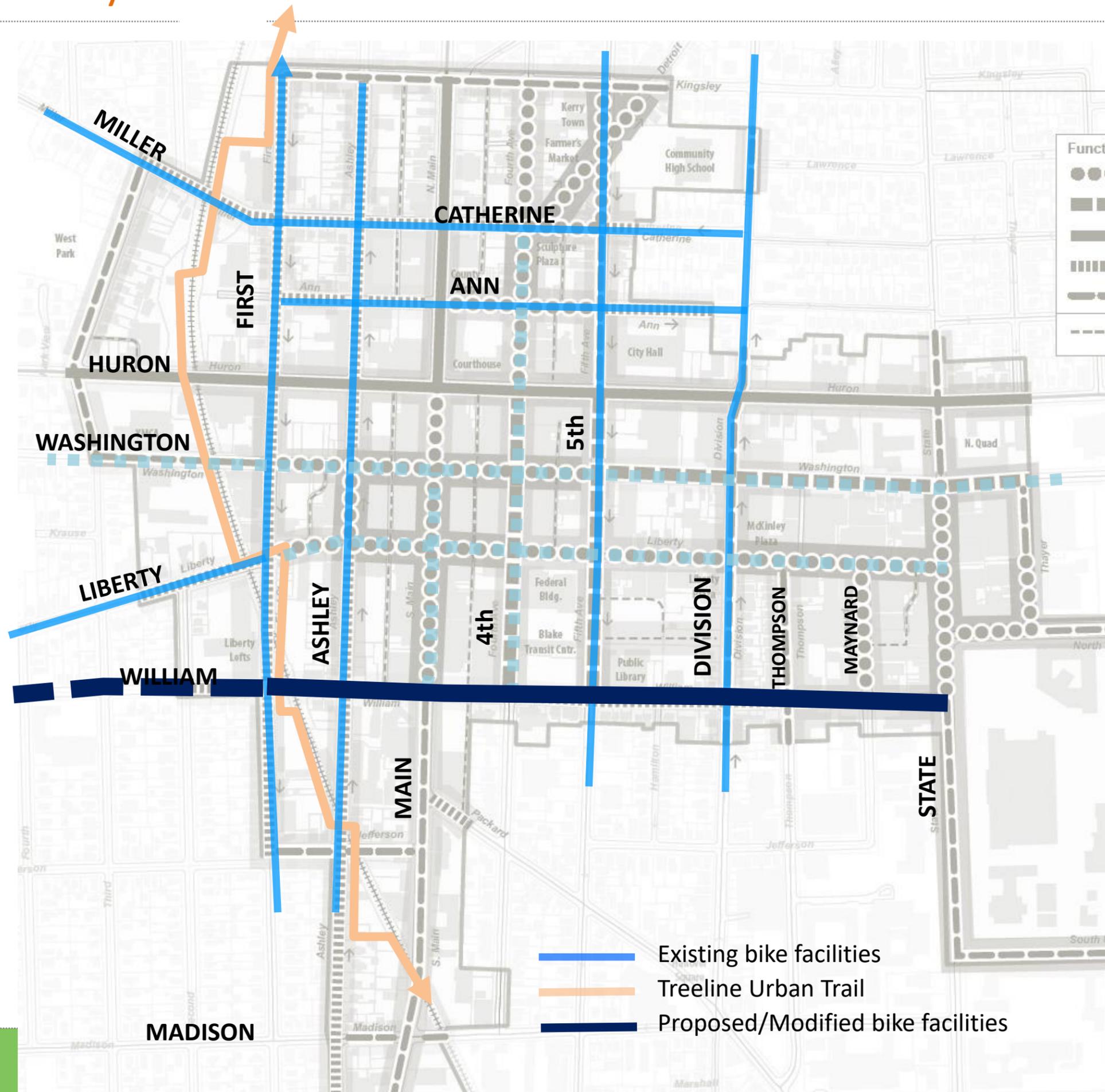
1. Parking and loading preserved and improved on west side of First Street.
2. Parking and loading preserved, reconfigured, and/or expanded on both sides of Ashley.
3. Bicycle access lanes and/or enhance sharrows (share the road markings) to be used on Ashley to continue to provide bicycle service.
4. 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 NORTH 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 candidate for protected bike lanes





42' Curb-to-Curb

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

Total of 650 crashes on study corridors

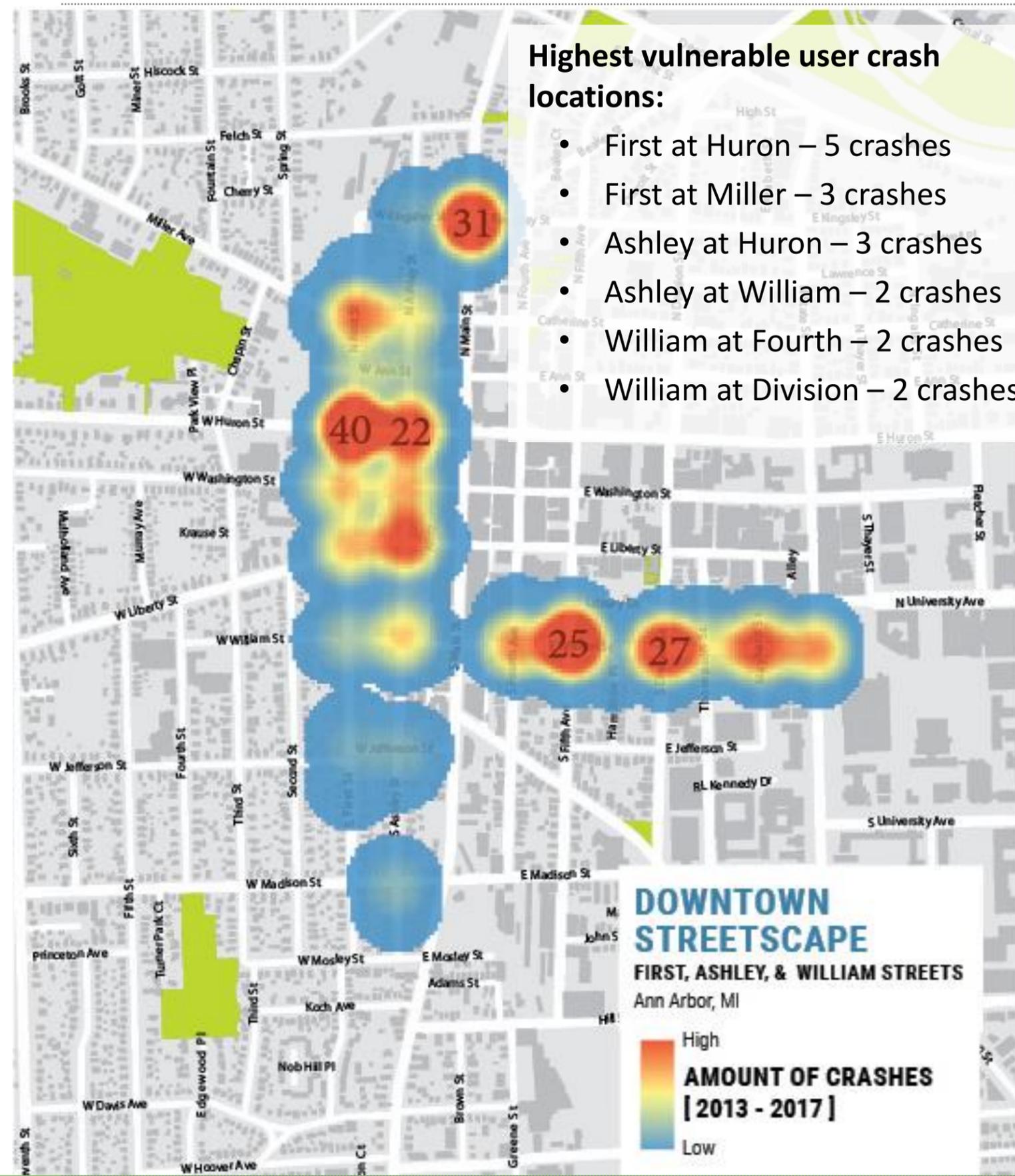
- 15% resulted in injury
- 43 involved vulnerable users (7% of crashes)
- 91% of vulnerable user crashes resulted in reported injury – 40% of overall injuries
- Disproportionally injured
- Does not include *near misses*

Angle/Sideswipe are most common vehicle crashes

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

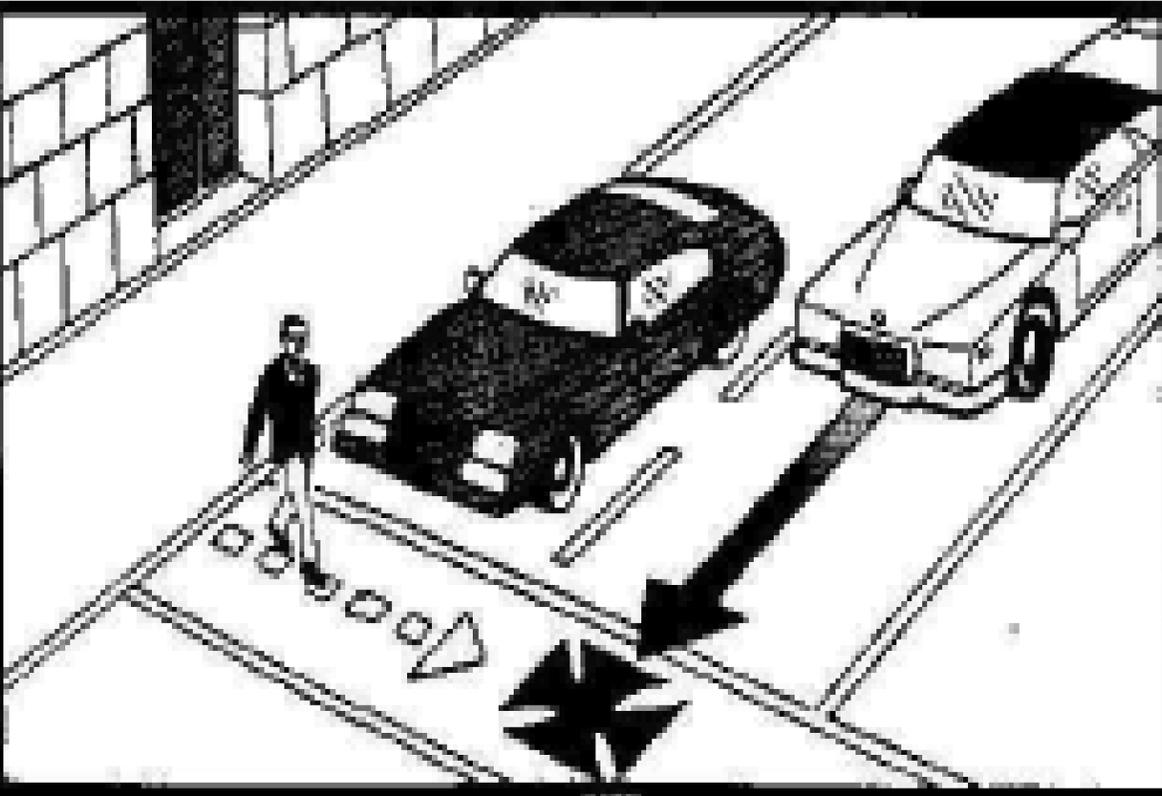
This crash type is common with multi-lane roadways

Ann Arbor has Vision Zero goal by 2025



- 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

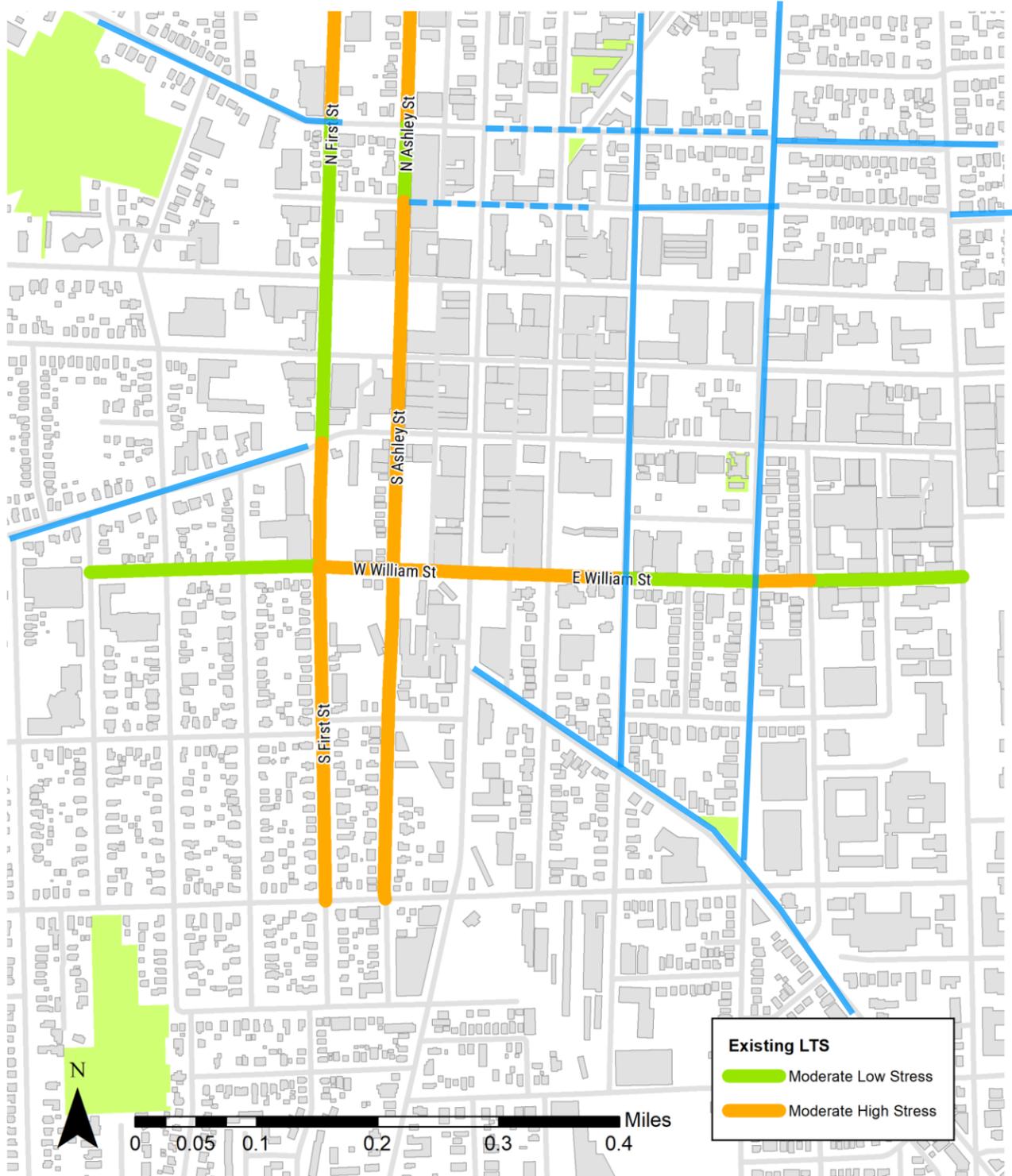
Qualitatively, pedestrians will enjoy a better walking experience with anticipated slower vehicular speeds, as well as being protected by bicycle facility

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



- 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



Vehicle Patterns: Travel Time

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

• AM Peak Hour

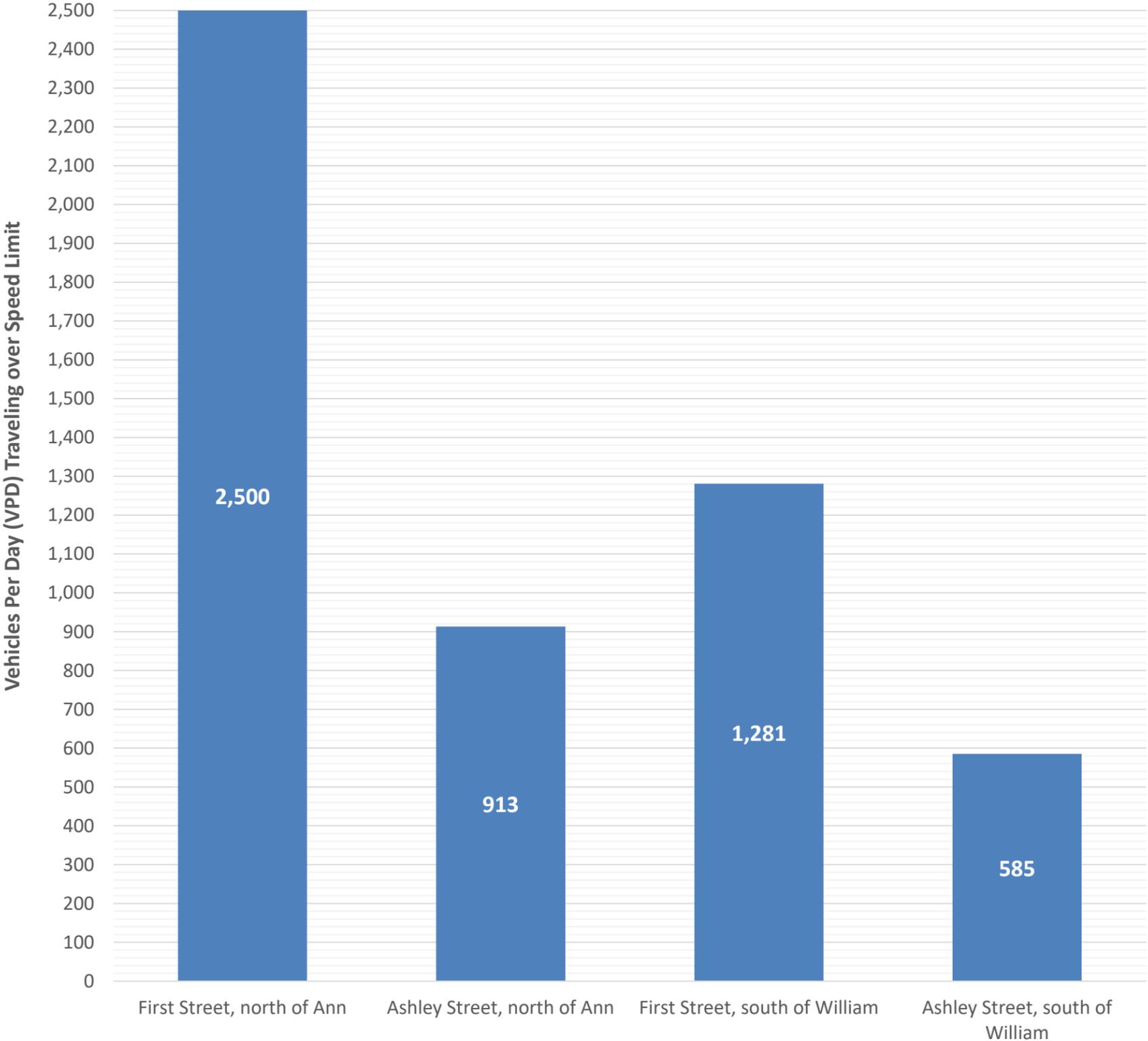
Street	Existing	Proposed	Change
First	2.1 minutes	2.5 minutes	24 seconds
Ashley	2.8 minutes	3.4 minutes	36 seconds
William	2.6 minutes	2.5 minutes	Negligible

• PM Peak Hour

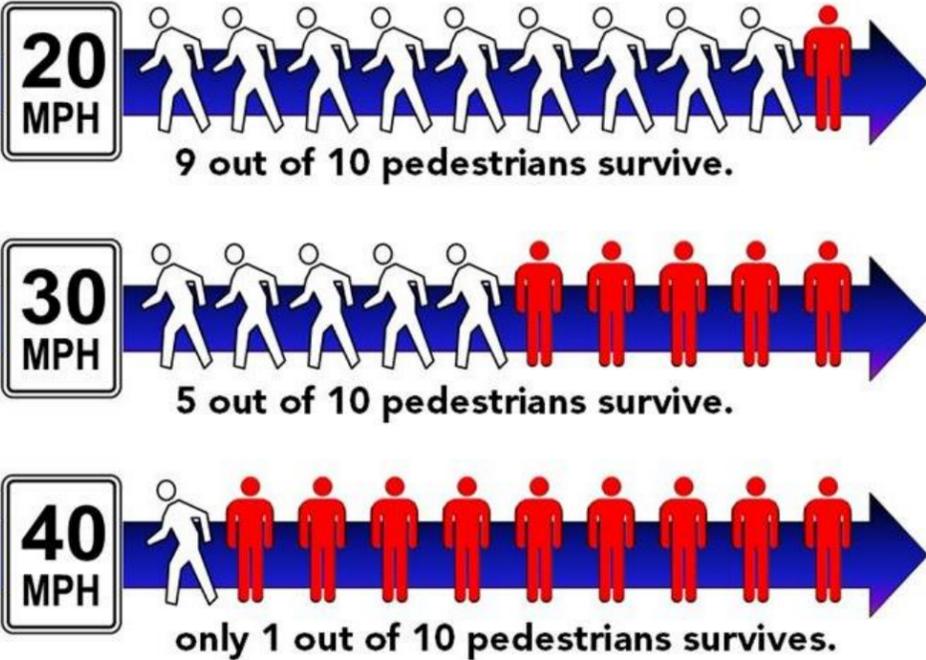
Street	Existing	Proposed	Change
First	2.8 minutes	3.6 minutes	48 seconds
Ashley	2.5 minutes	3.7 minutes	72 seconds
William	2.8 minutes	2.9 minutes	6 seconds

- 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

Vehicles per day traveling over the speed limit



- 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**



- **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





NEXT STEPS FOR ALL PROJECTS

Meetings for Support:

- DDA Board support (July 11, Noon)
- Transportation Commission (July 18, 7pm)
- City Council support (August 9, 7pm)
 - Transportation Changes
 - Project Bond Approval

Google