PEOPLE FRIENDLY STREETS

First & Ashley Project / William Street Bikeway

Ann Arbor Transportation Commission

July 18, 2018

DDA

CITY OF ANN ARBOR MICHIGAN

SMITHGROUPJJR ToolDesignGroup WADETRIM Q+M

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.

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;*

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

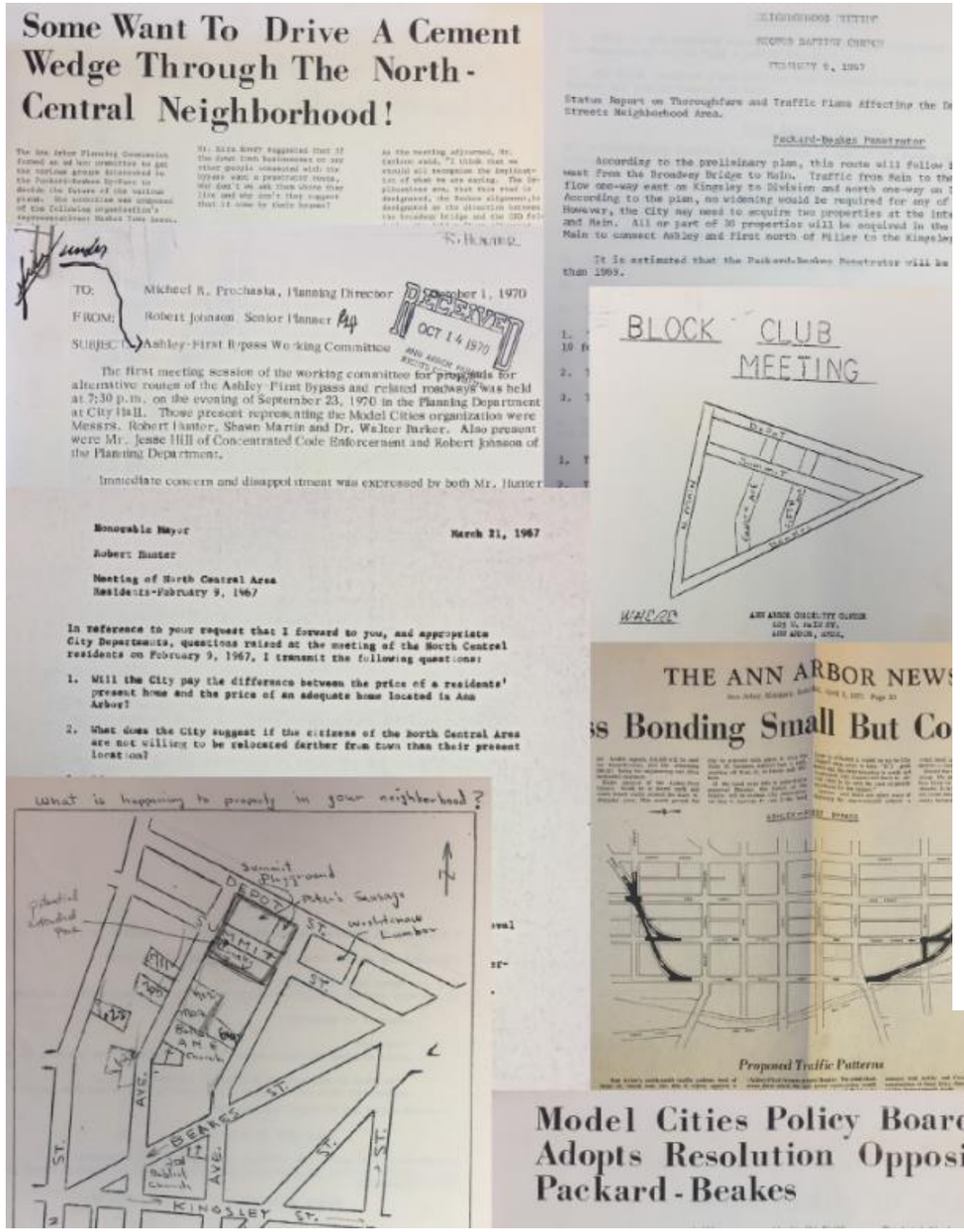
- **Protected bikeway**
- **Safety Improvements**

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"**.

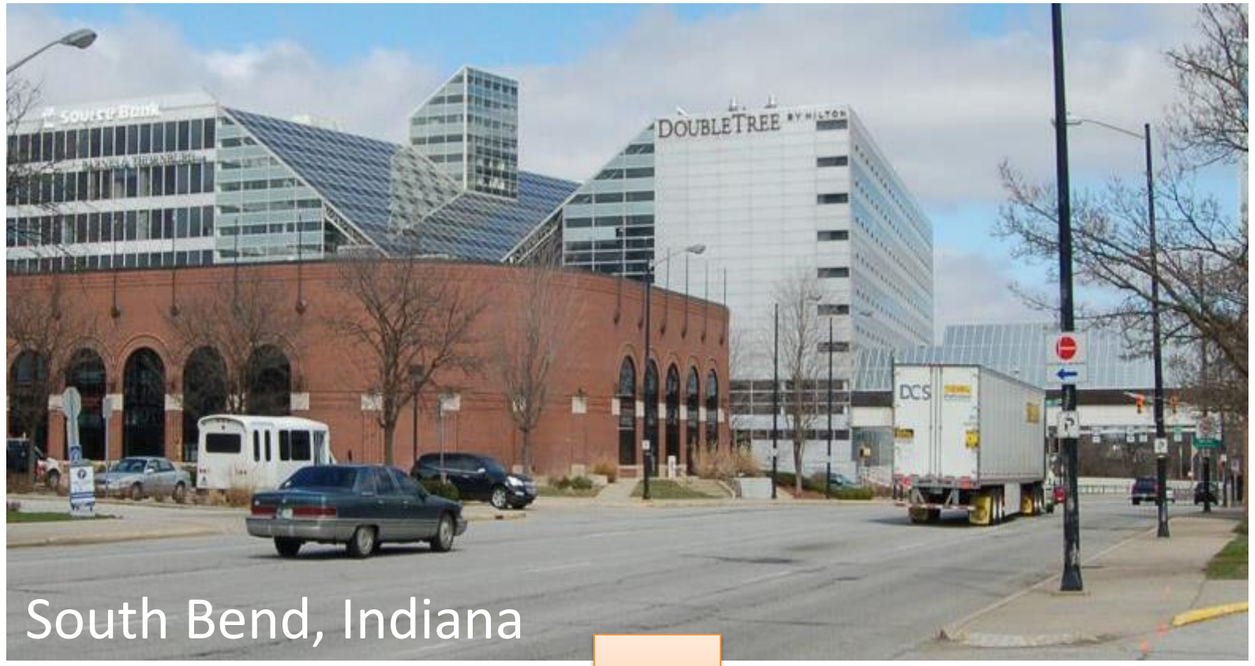
Problems:

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



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

- **Benefits:**
  - **Safer for everyone,** less speeding, no ‘wrong way’ travel
  - **Direct routing** for motorists, cyclists, and transit riders
  - **Comfort & revitalization** – more business supportive atmosphere, 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

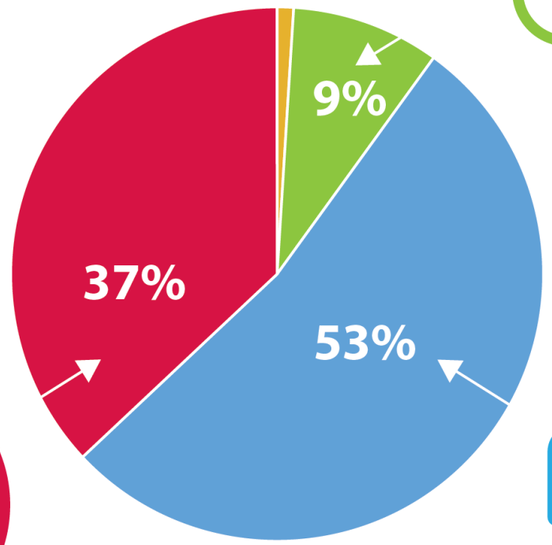
- **Protected bike lanes = Safer for more users:**
  - Provides **physical separation** between bike and vehicle lanes (e.g. flex-posts, medians, parked cars).
  - Can be one-directional or bi-directional
  - Provides **legitimacy** to cyclists using streets
  - Provides **fewer conflicts** with motorists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

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

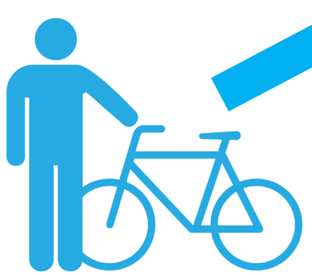
Strong & Fearless

1%

Enthusiastic & Confident



No way, no how



Interested but Concerned

Recent Outreach & Engagement

- **June 4-7 Design Workshop**
  - 101 attendees
  - 2 public evening meetings
  - 1 resident association meeting
  - 2 open design studio sessions
  - Street design team
  - University of Michigan
  - The Ride / AAATA

- **Overall Positive Responses**
  - Broad community support for improved bicycle facilities
  - Two-way restoration seen as beneficial for safety (speed reduction treatment) and for making streets calmer
  - Very little concern about impacts to travel times
  - Concerns usually limited to spot locations (sight lines, loading or parking needs)
  - Education & maintenance

Other outreach:

- Booth at Mayor's Green Fair
- 2x First Street Neighbors Meetings
- City Council Work Session (June 11)

PEOPLE-FRIENDLY STREETS

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

Design Direction: Street Cross-Sections

Recommended:

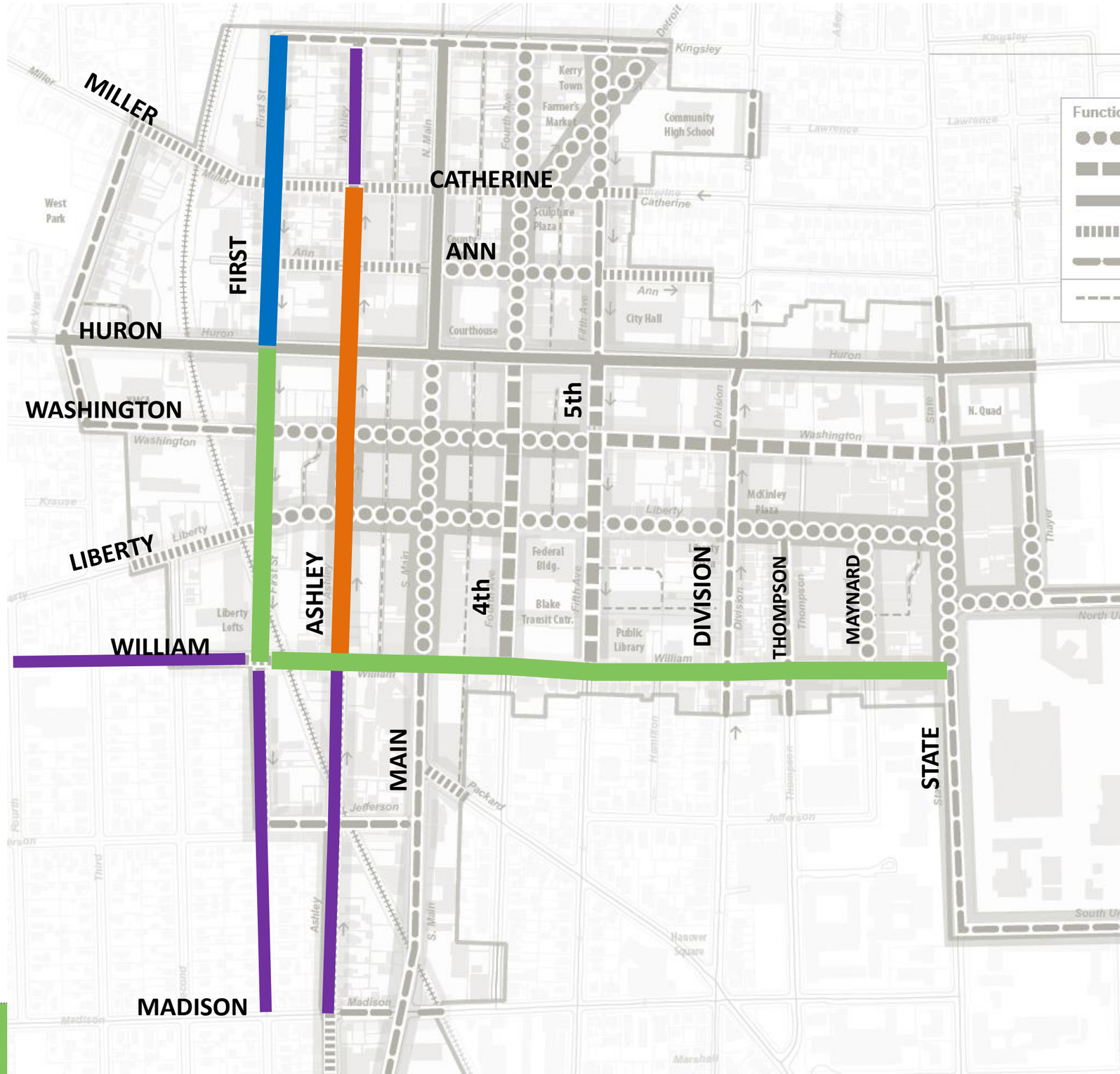
- Restoration of two-way traffic on First & Ashley Streets
- Two-way protected bike lanes on the east side of First Street and the north side of William Street.

A Bikeway – Preferred Width

B Bikeway – Constrained Width

C Commercial Street

D Neighborhood Street with Advisory Bike Lanes



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.

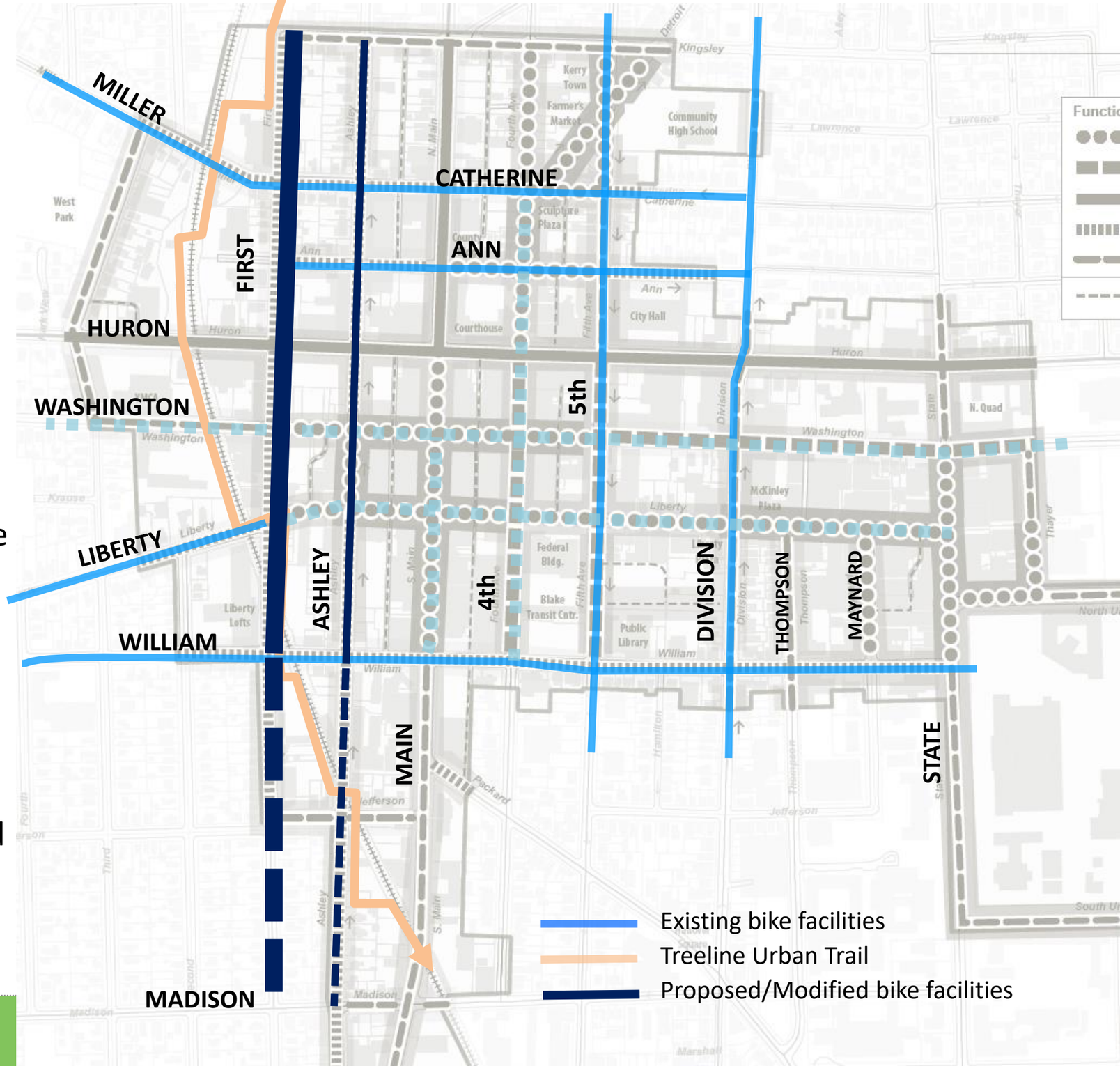
1. Parking and loading preserved and improved on west side of First Street.

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

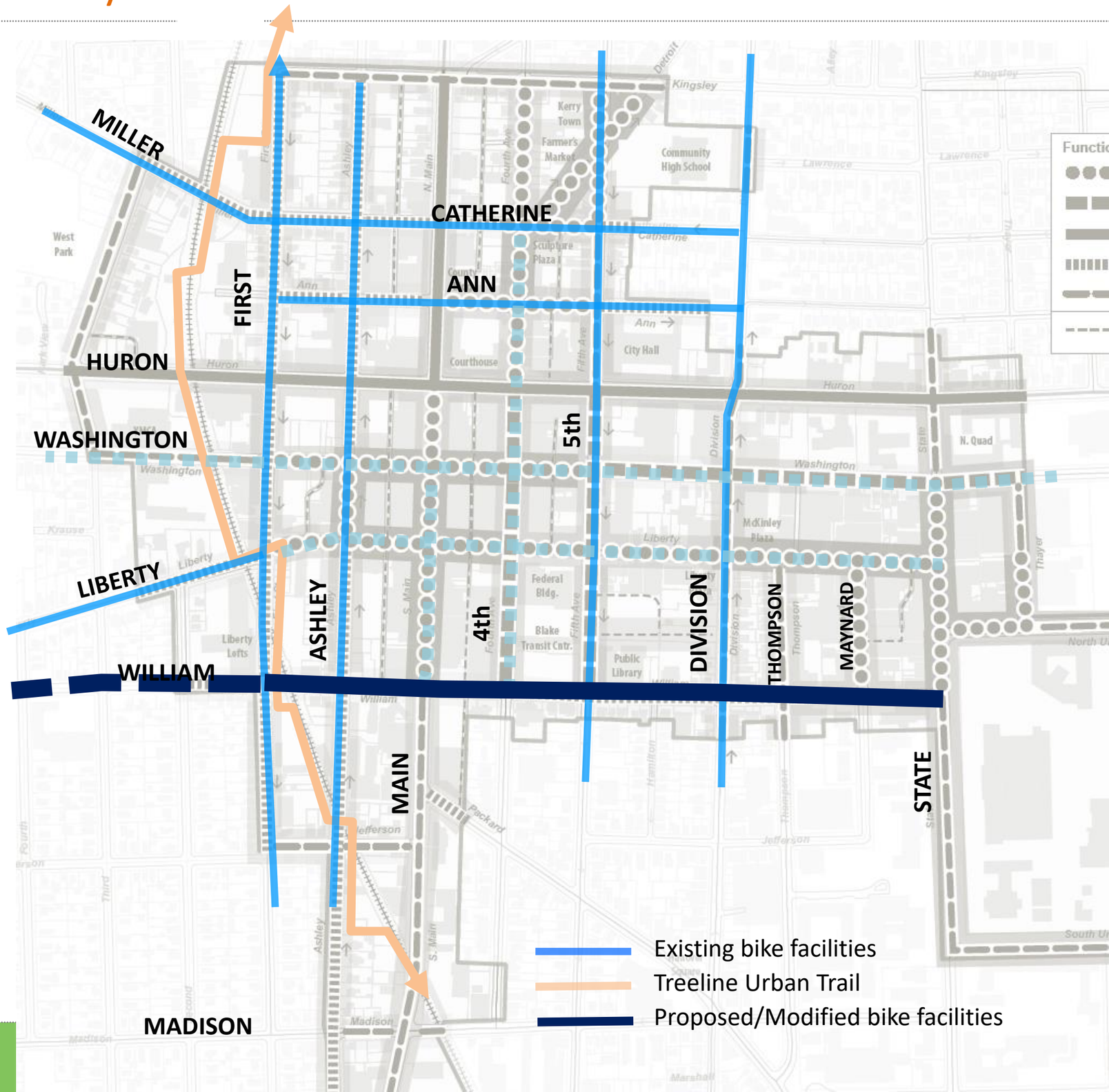
Two-way protected bicycle facility from First Street to State Street on <u>NORTH</u> side of William.

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

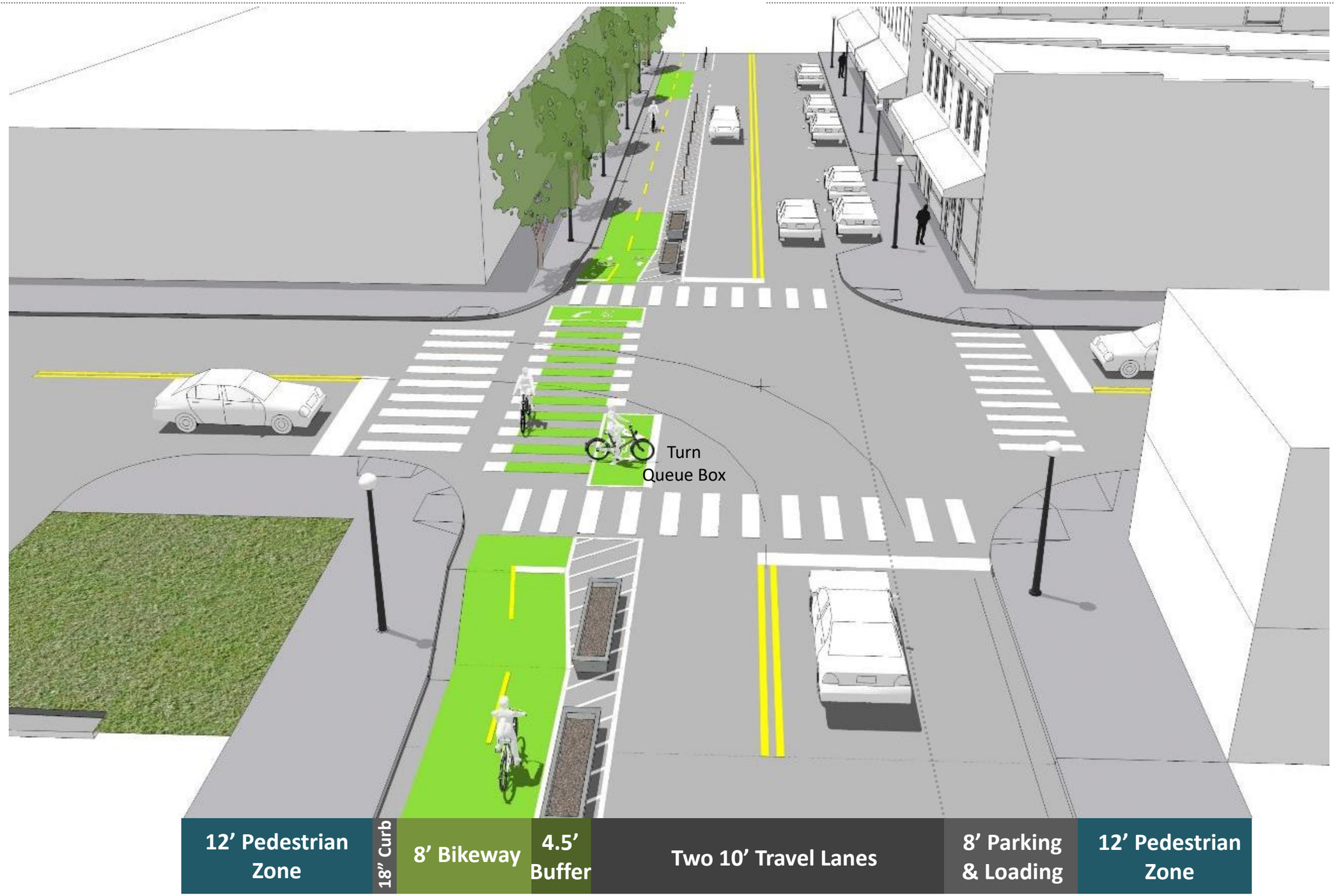
2. Parking and loading maintained on one side of the street and removed on the other. Some blocks gain parking.

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

4. William Street identified as a candidate for protected bike lanes



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



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)	

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		

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

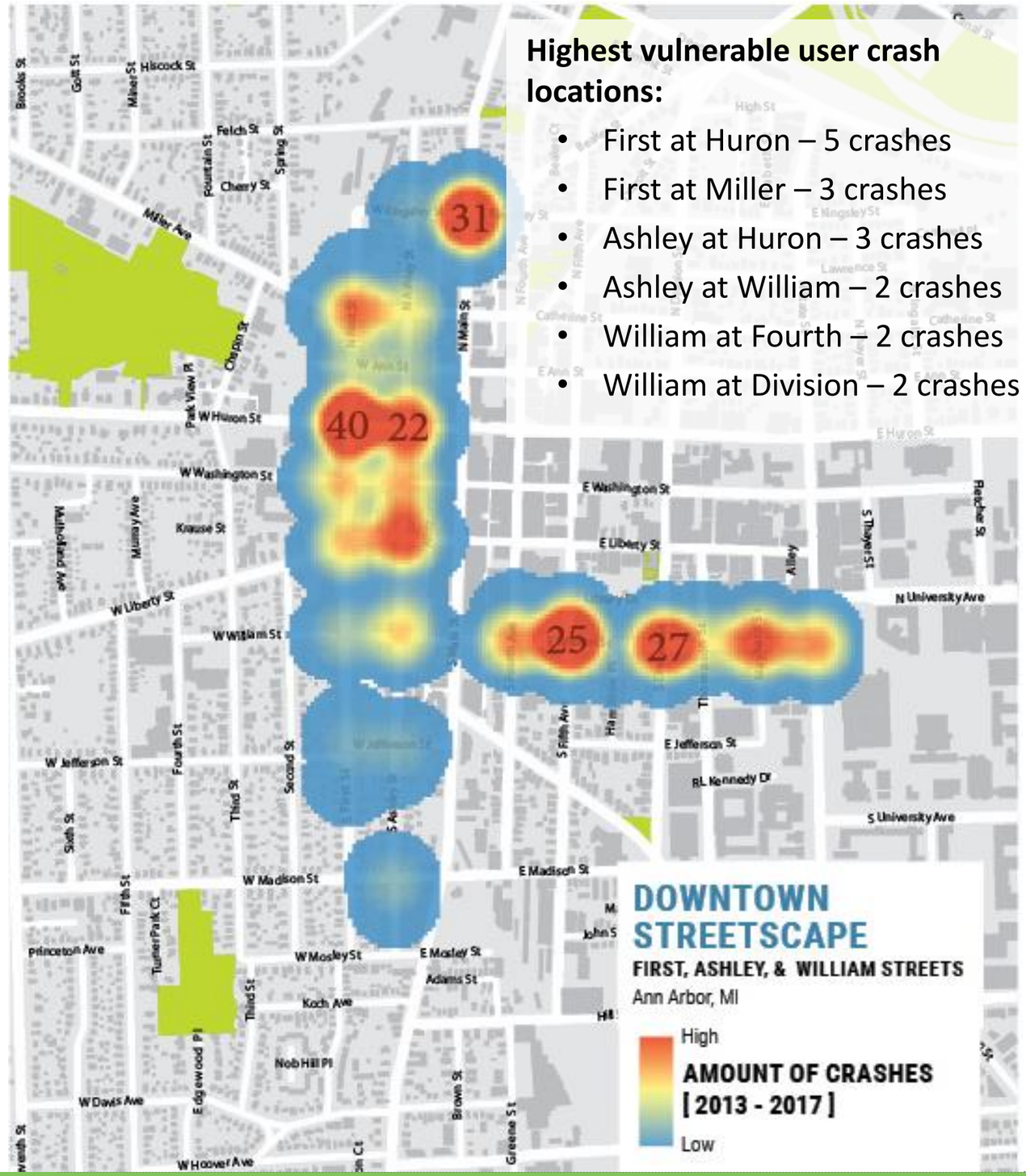
- 15% resulted in injury
- 43 involved vulnerable users (7% of crashes)
- 91% of vulnerable user crashes resulted in reported injury – 40% of overall injuries
- Disproportionally injured
- Does not include *near misses*

Angle/Sideswipe are most common vehicle crashes

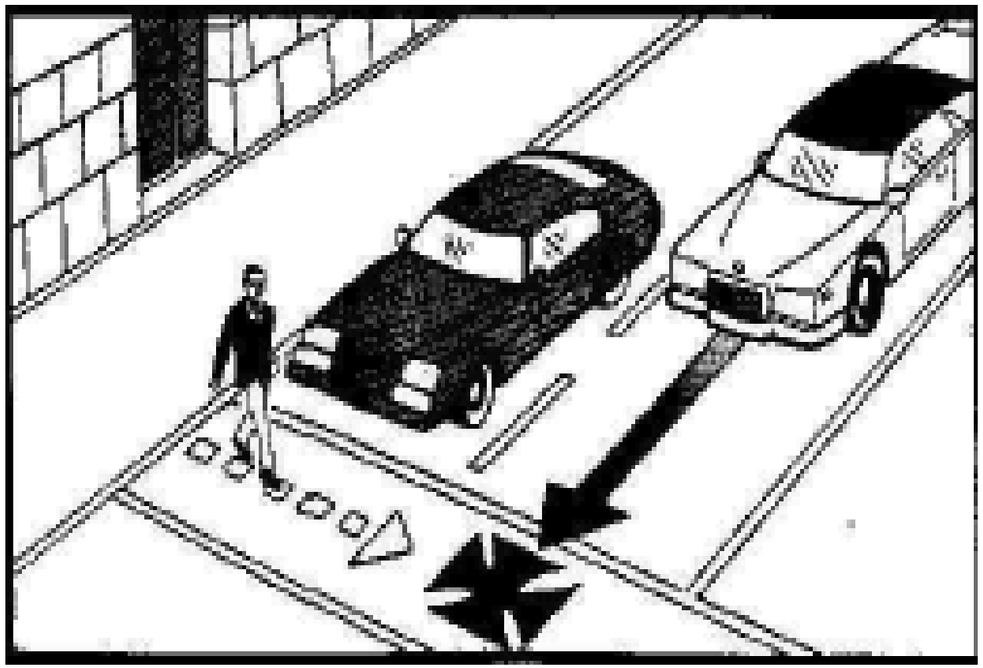
- 54% on First Street
- 58% on Ashley Street
- 64% on William Street

This crash type is common with multi-lane roadways

Ann Arbor has Vision Zero goal by 2025



Removal of the “double threat”

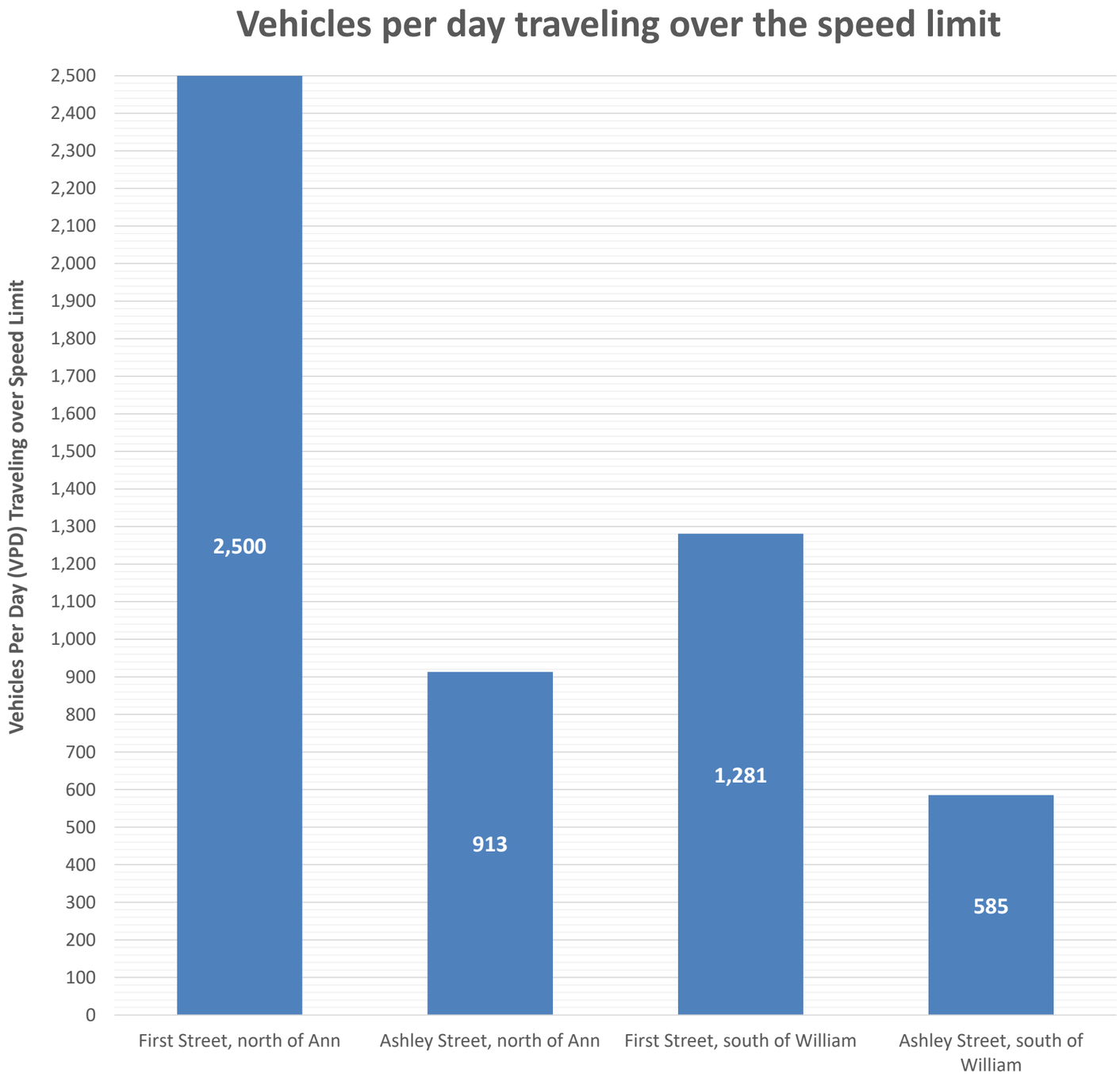


Source: FHWA

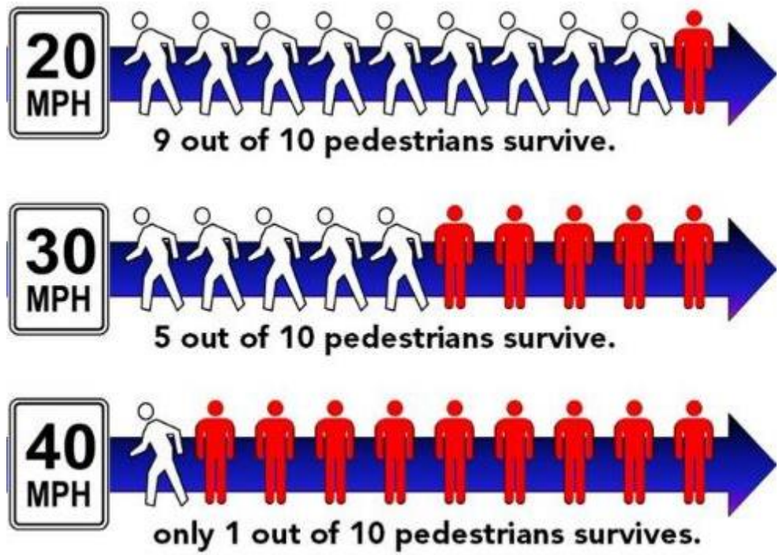
Qualitatively, pedestrians will enjoy a better walking experience with anticipated slower vehicular speeds, as well as being protected by bicycle facility

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

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**



Source: FHWA Pedestrian Safety Strategic Plan, 2010

Bicycle Level of Traffic Stress

LTS 1 (children) – Low Stress

LTS 2 (adults) – Moderately Low Stress

LTS 3 – Moderately High Stress

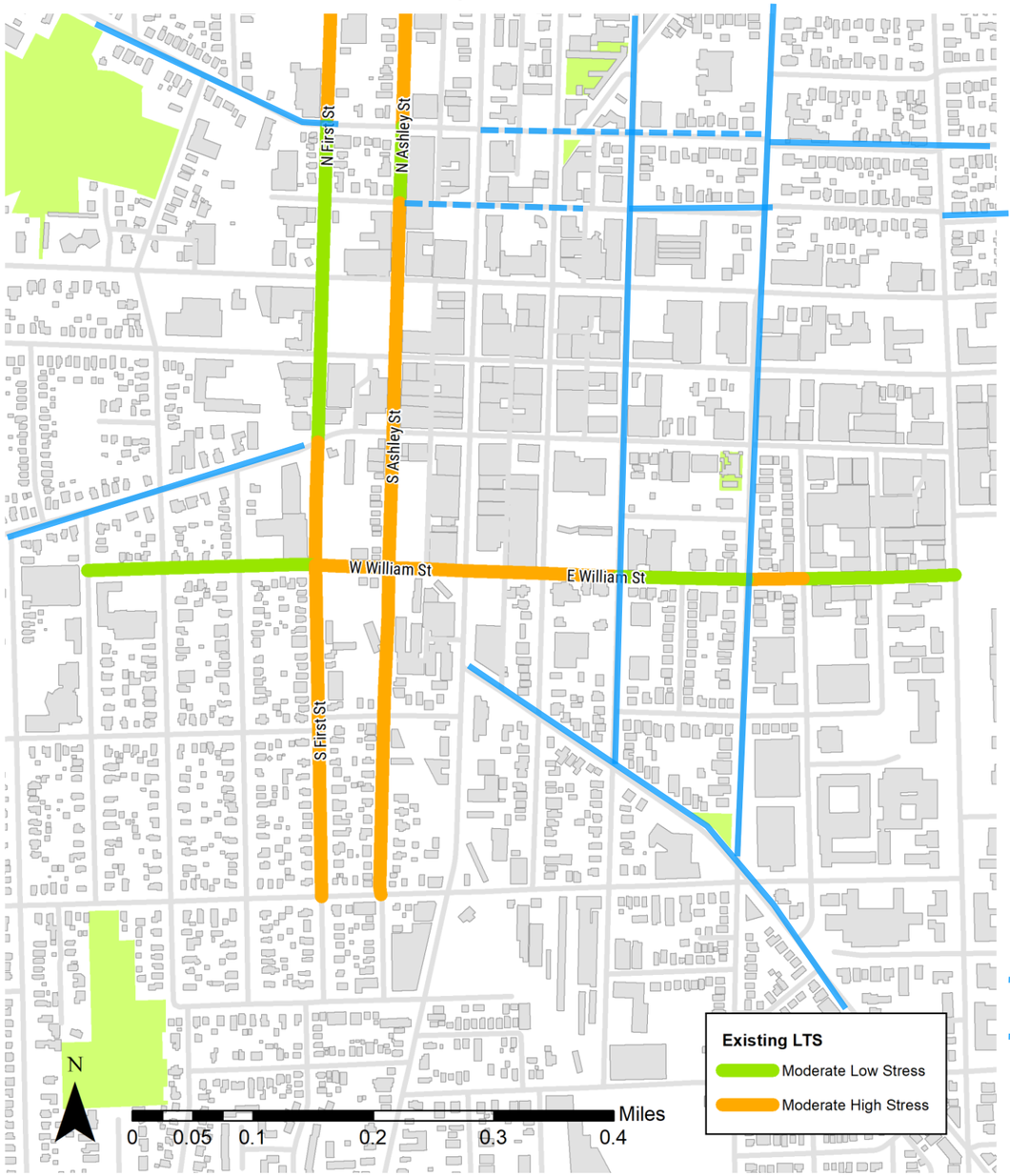
LTS 4 – High Stress

Analysis considers:

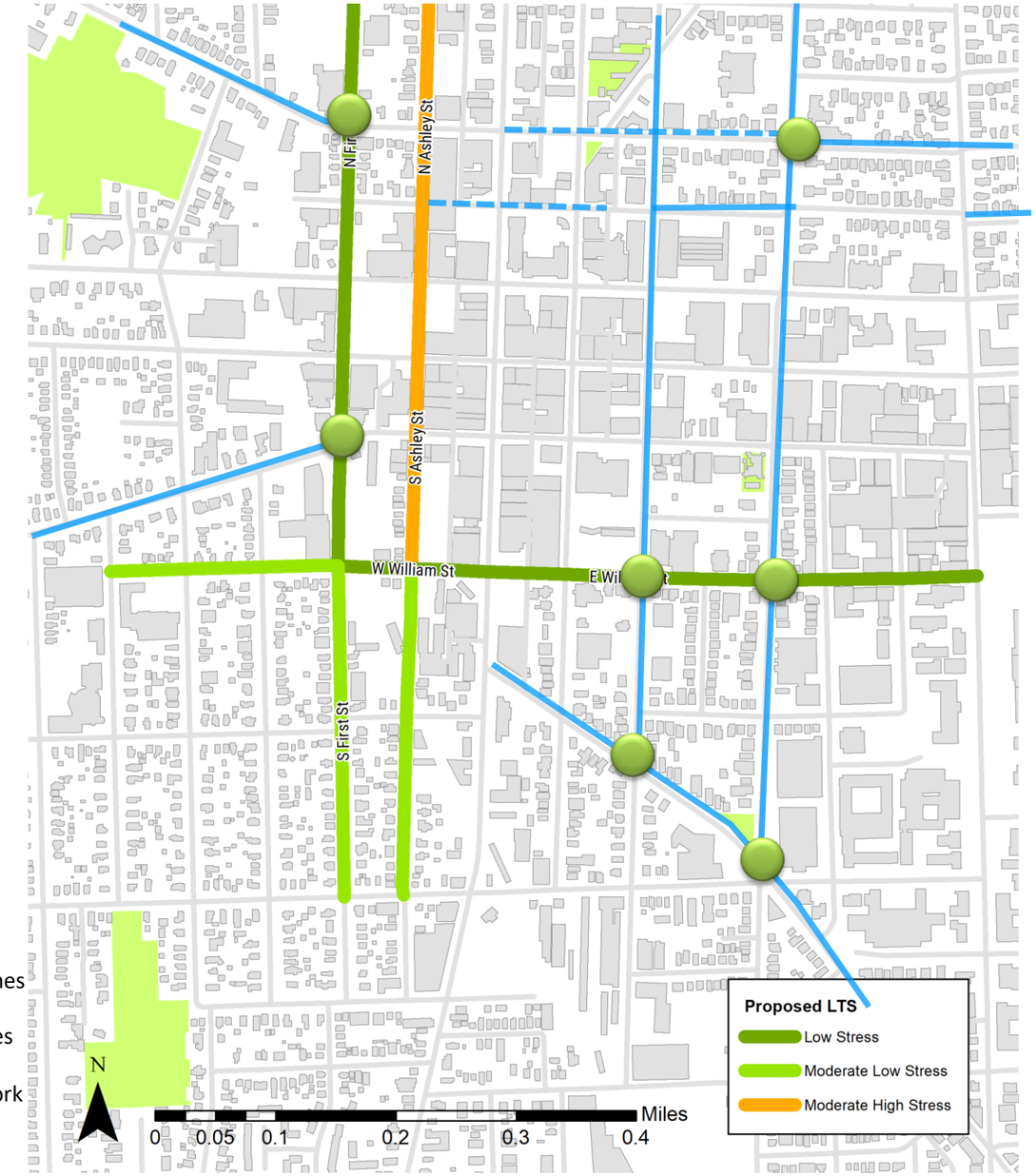
- Level of separation
- Vehicles speeds
- Number of travel lanes
- Vehicle volumes
- On-street Parking

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

Safety Analysis – Anticipated Outcomes

- 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)***

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

Other Project Elements

- **Generally work within existing curb**
  - Opportunities for curb modifications will be limited to where necessary or beneficial
- **Bump-outs to shorten crossing distance**
- **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
- **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
- **Watermain upsizing**
- **Stormwater improvements through additional City funding**
- **Road resurfacing**
- **Streetscape enhancements in core areas**
  - Sidewalks, street trees, street lights, etc.

NEXT STEPS

FIRST/ASHLEY & WILLIAM

- Schematic layout of proposed changes
- Survey underway
- Council resolution for two-way restoration (August 9) and bond
- Continued outreach
- Design Engineering begins late 2018