

# DOWNTOWN AREA CIRCULATION STUDY

Boards & Commissions Update  
November 15, 2023



# AGENDA

## DOWNTOWN AREA CIRCULATION STUDY

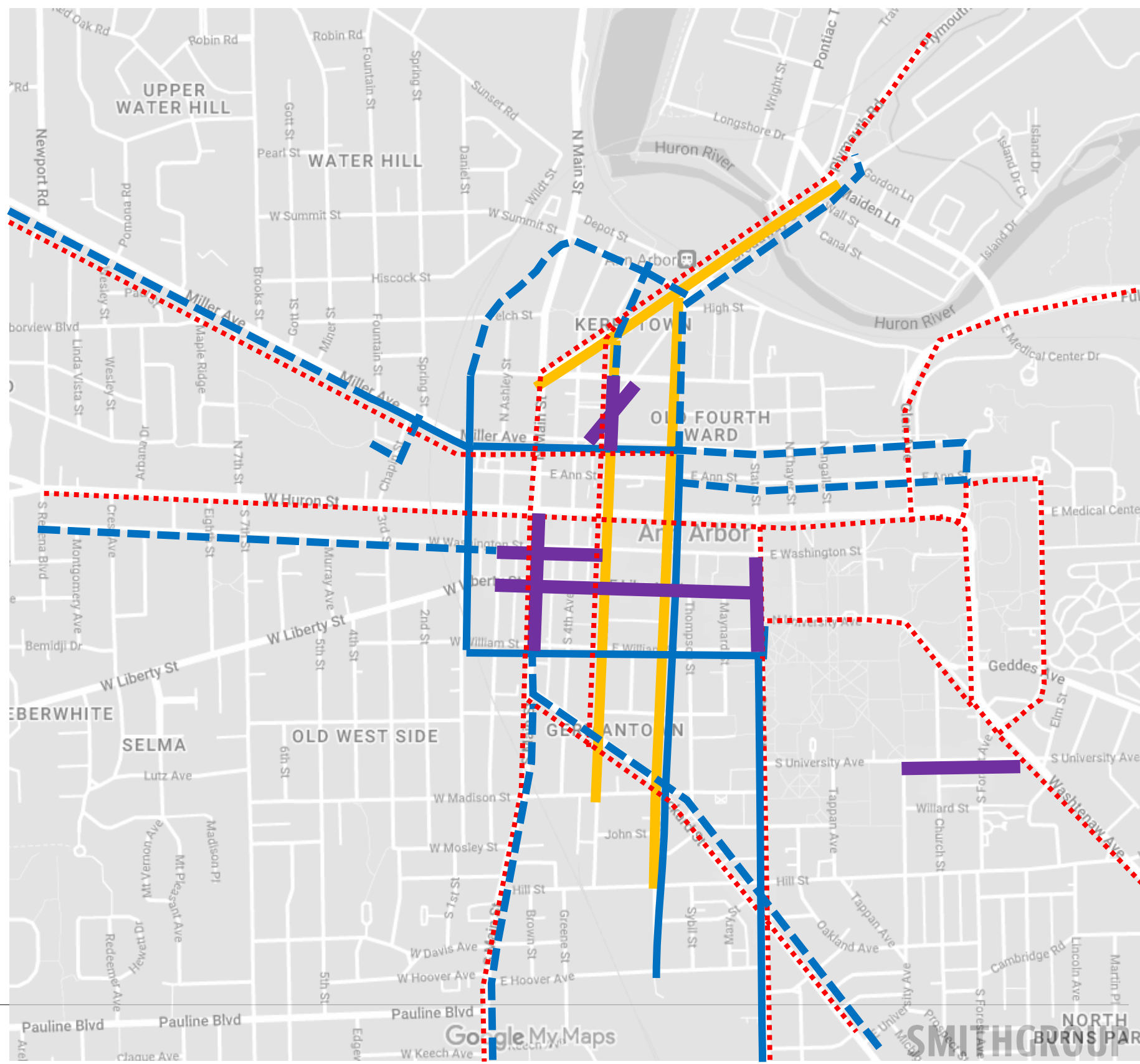
- **Context + Trends**
- **Best Practices + Analysis**
  - *Active Transportation*
  - *Transit Streets*
  - *Event Streets*
  - *Two-Way Restoration*
- **Decision-Making + Next Steps**

# BALANCING DEMANDS FOR PUBLIC SPACE

## DOWNTOWN AREA CIRCULATION STUDY

- Overlapping demand for limited street space.
- Assess how we meet these demands and adopted values.

- Existing Bikeways
- Potential Bikeways
- Potential Priority Transit Corridors
- Potential Event Streets
- Two-way restoration study extents



# PROGRESS TOWARDS OUR VALUES

## DOWNTOWN AREA CIRCULATION STUDY

# SHARED VALUES & GOALS

**ANN ARBOR  
MOVING  
TOGETHER**  
TOWARDS VISION ZERO

**DDA ANN ARBOR**

**A<sup>2</sup>ZERO**  
EQUITABLE • SUSTAINABLE • TRANSFORMATIVE



**SAFETY + COMFORT**



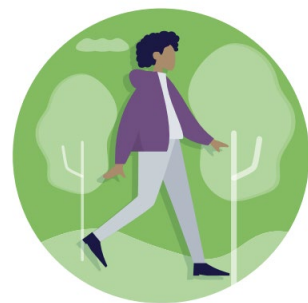
**CONNECTION + MOBILITY**



**VIBRANT ECONOMY**



**ACCESS + INCLUSION**



**SUSTAINABILITY + RESILIENCE**

*All factors in supporting a high quality of life and economic development*

# VALUES IN ACTION

## DOWNTOWN AREA INFRASTRUCTURE PROJECTS

Quick Build Projects



William Street Bikeway



Fifth & Detroit Project



State Street Curbless Street



State & Hill Project



First Street Bikeway

# INFRASTRUCTURE + QUALITY OF LIFE

VALUES AND OUTCOMES



THE AVENUE

**Improving quality of life—not just business—is the best path to Midwestern rejuvenation**

John C. Austin, Amanda Weinstein, Michael Hicks, and Emily Wornell · Wednesday, January 26, 2022

THE AVENUE

“...community amenities such as recreation opportunities, cultural activities, and excellent services (e.g., good schools, transportation options) are likely bigger contributors to healthy local economies than traditional “business-friendly” measures...” [Brookings Institute]

# SAFETY + COMFORT FOR ALL

## VALUES AND OUTCOMES

Projects have demonstrated improved safety for all users of the street:

- Increased stop compliance for pedestrians (e.g. 5<sup>th</sup> & Detroit more than doubled the rate that cars stop for pedestrians)
- Reduced vehicle speeds by 43% and 30% on First and Ashley street after two-way restoration
- Bicyclist & pedestrian crashes have decreased on all bikeway streets, even while bicycle traffic has increased. (Jan 2022 – July 2023)
- On bikeway streets, no serious injuries or fatal crashes have occurred to street users of any mode (bikes, peds, cars) (Jan 2022 – July 2023)





# CONNECTED, ACCESSIBLE, SUSTAINABLE

VALUES AND OUTCOMES

## SEPTEMBER 2023 – 40,000 bicycle trips!

BIKEWAY	MONTHLY COUNT	WEEKLY AVERAGE	DAILY AVERAGE
WILLIAM @ THOMPSON	21,146	5,287	755
	<i>High ridership steady since 2021</i>		
DIVISION @ WASHINGTON	11,540	2,885	412
	<i>240% Increase since construction</i>		
CATHERINE @ FOURTH *	6,487	1,817	260
	<i>152% Increase since construction</i>		
<b>TOTAL</b>	<b>39,173</b>	<b>9,989</b>	<b>1,427</b>

\*Not installed until Sept 5th



# VIBRANT ECONOMY

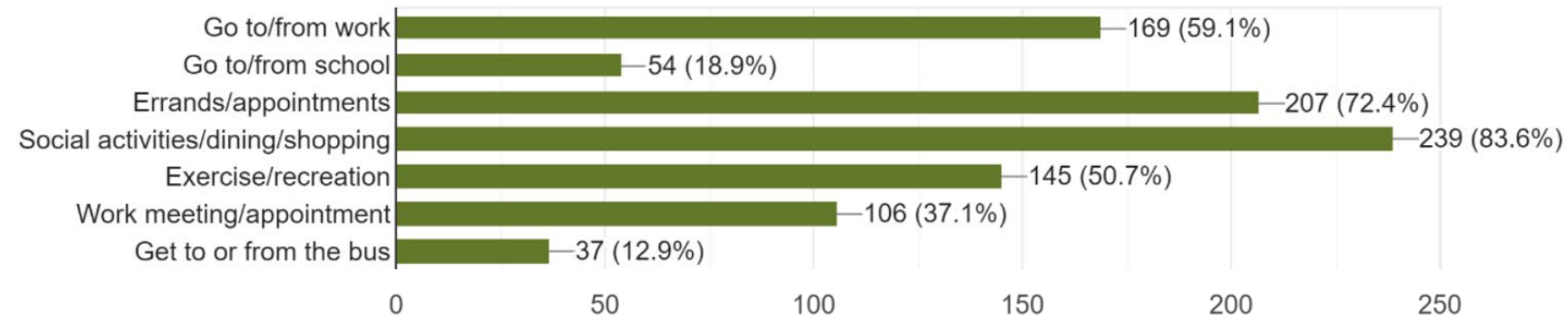
## VALUES AND OUTCOMES

### Of 287 Bikeway survey respondents:

- 78% shop and dine downtown at least once per week.
- 86% are more likely to come downtown because of the Bikeway.
- 84% use the Bikeway for social activities/dining/shopping.
- 80% would use the Bikeway more often if there were more connections to neighborhoods.

The bikeways help a wider range of people get downtown & support businesses without driving.

### What have you or do you plan to use the bikeway for?



**TOP 2:**  
**BUSINESS PATRONAGE**

Love the bikeways, please extend them into neighborhoods and connect to neighborhood retail areas (packard, stadium/maple, Washtenaw, plymouth)

These lanes are amazing enable both us and our young children to bike downtown (we call the one on 1st the "Blank Slate Bike lane")

# CIRCULATION STUDY SCOPE

PLANNING INITIATIVES AND COMMUNITY DIALOGUE

## ACTIVE TRANSPORTATION



## TRANSIT STREETS



## EVENT STREETS



## TWO-WAY RESTORATION



# BEST PRACTICES & ANALYSIS

## DOWNTOWN AREA CIRCULATION STUDY

# ACTIVE TRANSPORTATION

# WHY A LOW-STRESS BIKE NETWORK?

Significant progress has been made by building a downtown Bikeway loop.

Now we need to:

- Address remaining gaps in connectivity
- Extend low-stress connections to the rest of the City



# LOW-STRESS BICYCLE FACILITY TYPES

## ACTIVE TRANSPORTATION

### SEPARATED BIKEWAYS (one or two-way)

Typically used on primary, non-residential streets to separate bikes from vehicle traffic



### BIKE BOULEVARDS / SLOW STREETS

Typically used on local, residential streets to manage speed and volume of traffic to comfortable levels



[Google Street View](#)



# LOW-STRESS BICYCLE NETWORK

## ACTIVE TRANSPORTATION

***Need to be strategic about what streets should provide a low-stress bicycle facility. Balance between access, coverage, and street space availability.***

### Guidelines for a Low-Stress Bicycle Network:

1. Provide direct bikeway access to important community destinations
2. Strive to provide a low-stress connection within 2-blocks throughout study area
3. Provide low-stress facilities on direct routes into downtown and that reduce barriers to access.

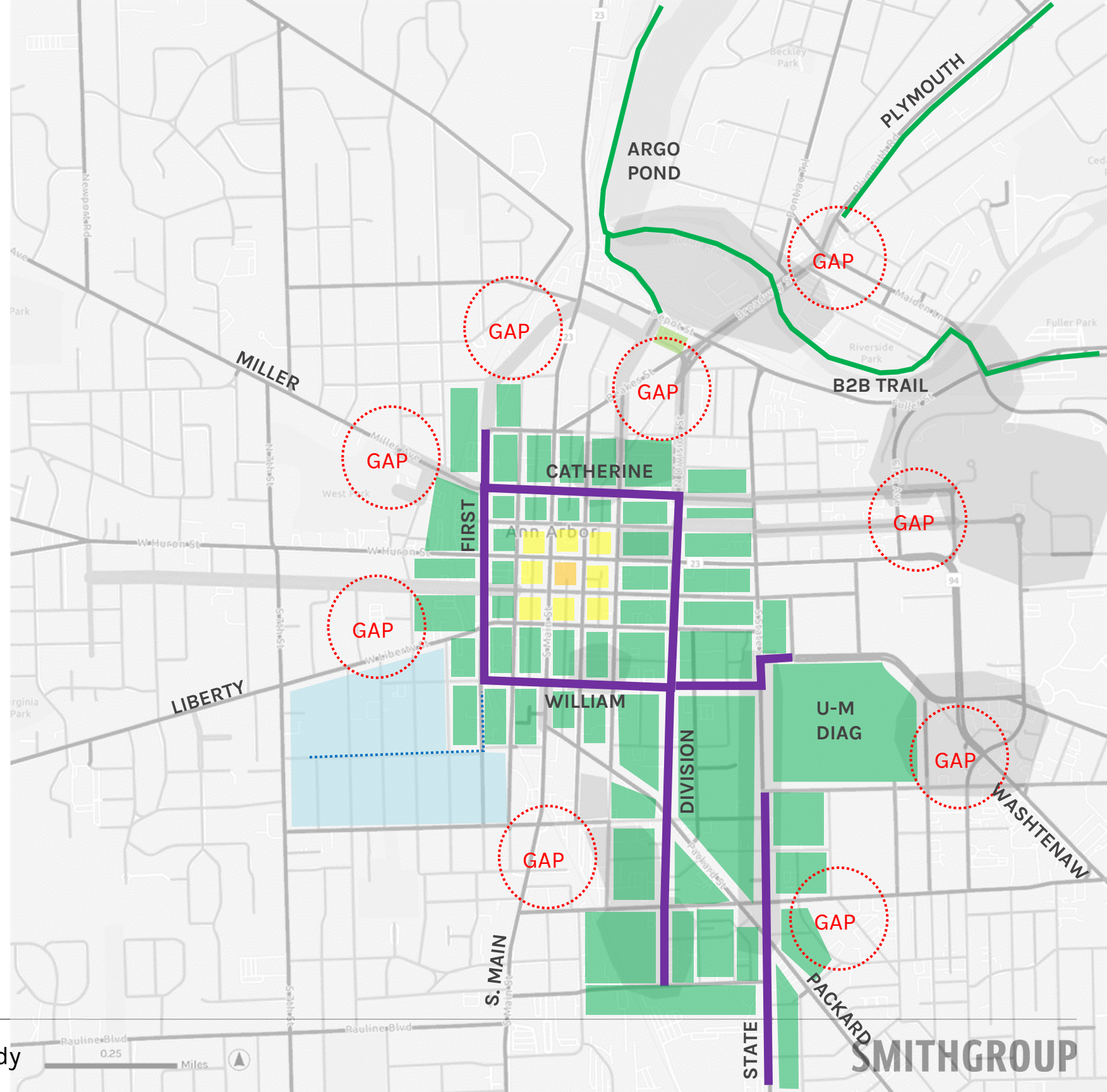




# EXISTING LOW-STRESS BICYCLE NETWORK

- Within 1-block
- Within 2-blocks
- Within 3-blocks
- Connected Neighborhood

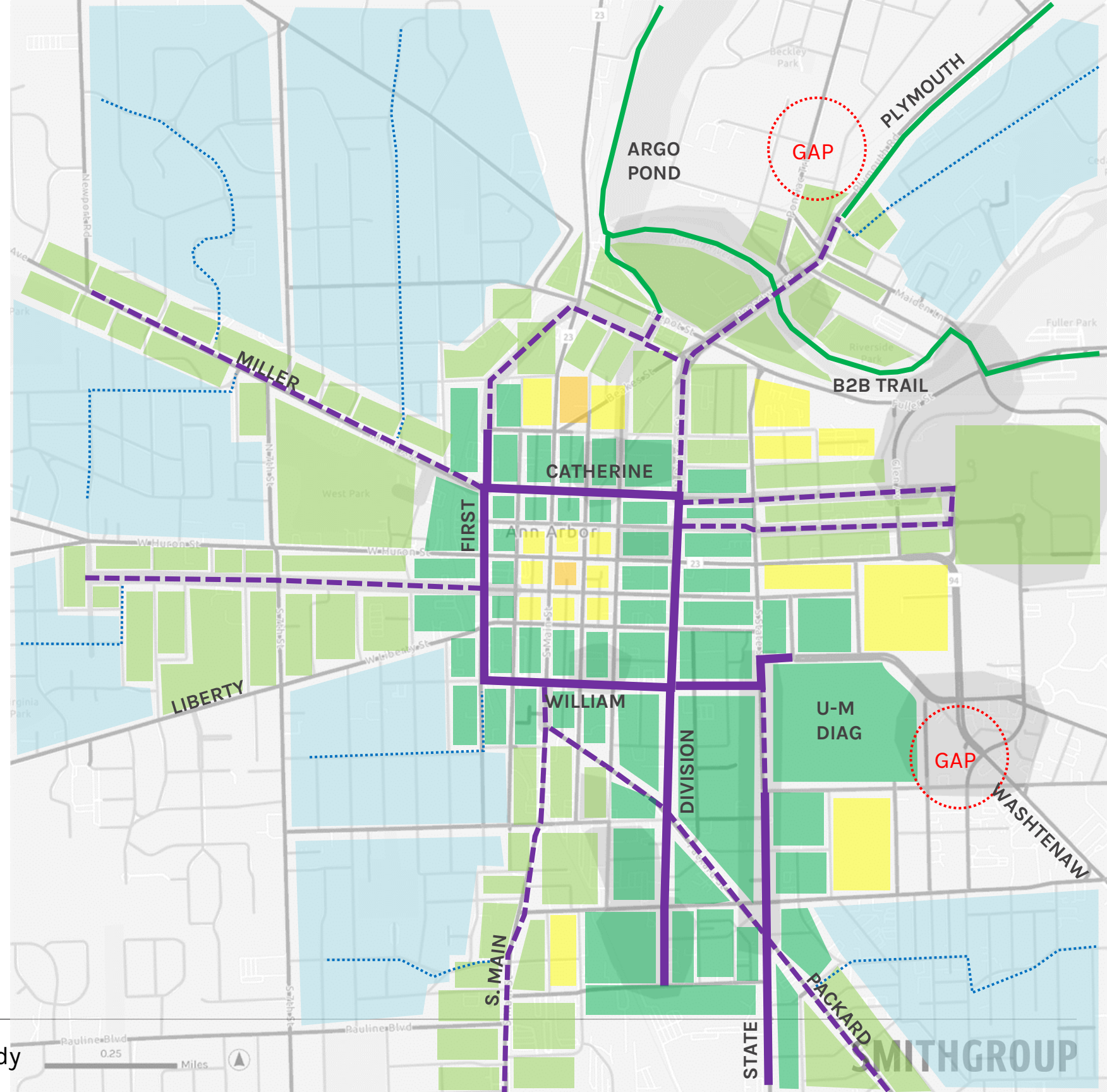
- Existing Low-Stress Route
- Potential Low-Stress Route
- Neighborhood Route



# POTENTIAL LOW-STRESS BICYCLE NETWORK

- Within 1-block
- Within 2-blocks
- Within 3-blocks
- Connected Neighborhood
- Expanded 1-block access

- Existing Low-Stress Route
- Potential Low-Stress Route
- Neighborhood Route



# TRANSIT STREETS

# WHY TRANSIT STREETS?

A public transit system with **frequent, reliable service** plays a critical role in providing access to services and employment and bolstering economic activity.

Transit streets include measures that **prioritize bus movement**, facilitating efficient, timely service.



# TRANSIT INFRASTRUCTURE TYPES

## TRANSIT STREETS

## TRANSIT MALLS



## IN-LANE BOARDING + BUS BULBS

## TRANSIT SIGNAL PRIORITY

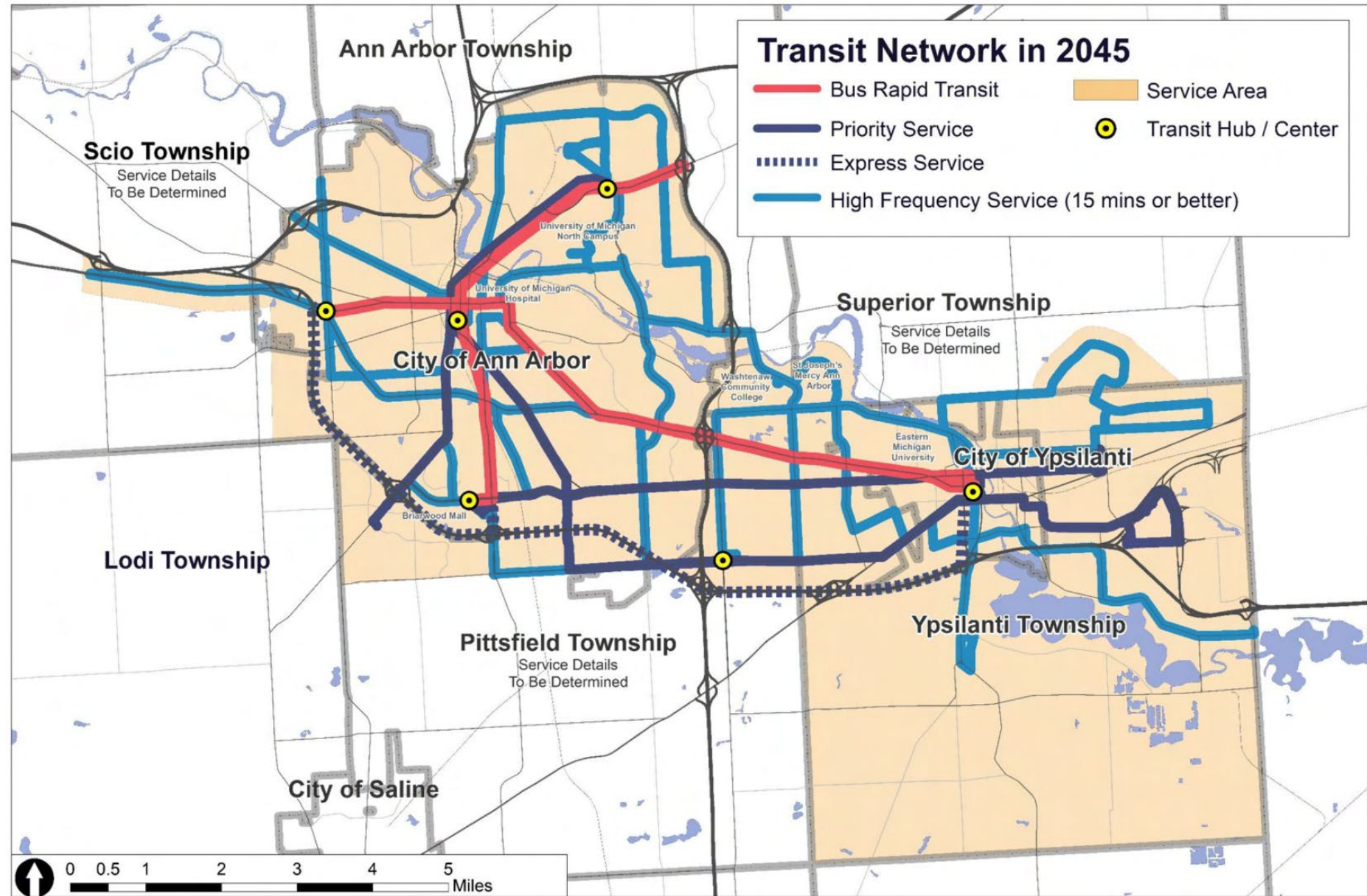
## TRANSIT LANES and/or QUEUE JUMPS

# TRANSIT NETWORK

## TRANSIT STREETS

### TRANSIT PLANNING FACTORS UNDER STUDY:

1. Clarify how downtown fits within the broader transit network and plans.
2. Transit performance & reliability in the downtown area.
3. Transit access, intermodal connectivity, and ridership.
4. Aligning transit improvements with street other uses.





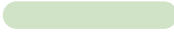


[TheRide 2045 Long-Range Plan](#)

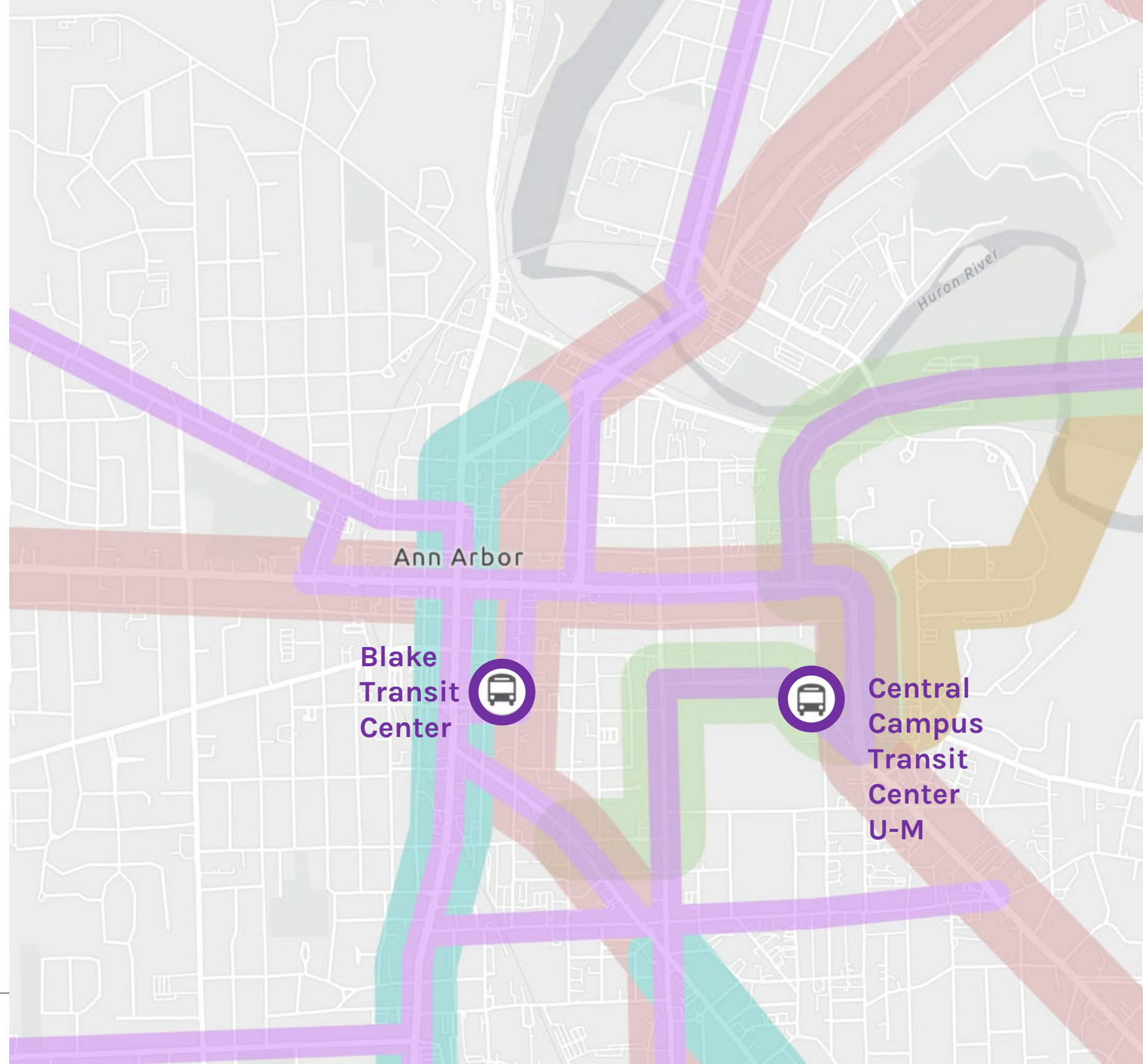
# POTENTIAL HIGH FREQUENCY TRANSIT

## TRANSIT STREET

### AAATA AND U-M LONG RANGE TRANSIT PLANS

-  TheRide BRT
-  TheRide Priority Routes
-  TheRide High Frequency Routes
-  U-M Fixed Guideway
-  U-M BRT Route

Project will make recommendations on which corridors to prioritize for transit service, and what transit infrastructure might be considered.



# EVENT STREETS



# WHY EVENT STREETS?

The pandemic led to changes in how we use streets, prompting calls for more **flexible street designs** for events, commerce, and recreation.

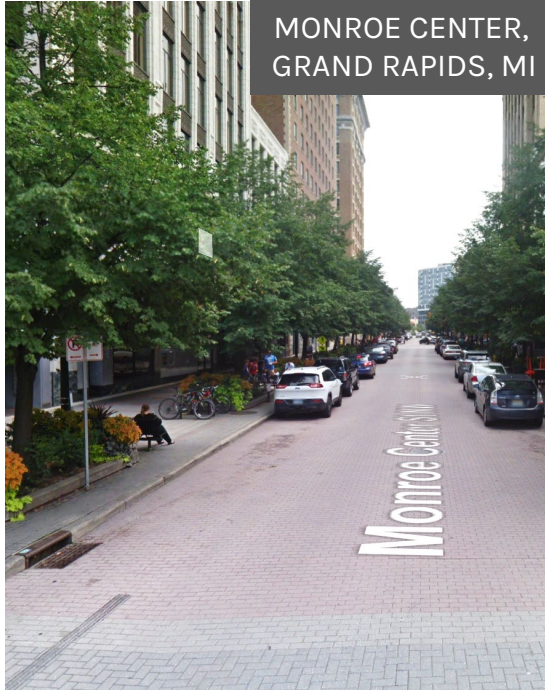
Street design and activation can support **economic activity and vibrancy** for business corridors.



West Washington Street  
Social District ([source](#))

# CONTINUUM OF EVENT STREET TYPES

MONROE CENTER,  
GRAND RAPIDS, MI



## Traditional-Flexible Street

- Vehicle space separate from pedestrian space, but easy to transform for events
- Encourages low speeds and pedestrian activity

STATE STREET,  
ANN ARBOR, MI



## Curbless Street

- Vehicle space separate from pedestrian space, but fewer physical barriers.
- Encourages low speeds, pedestrian activity /events, accessibility

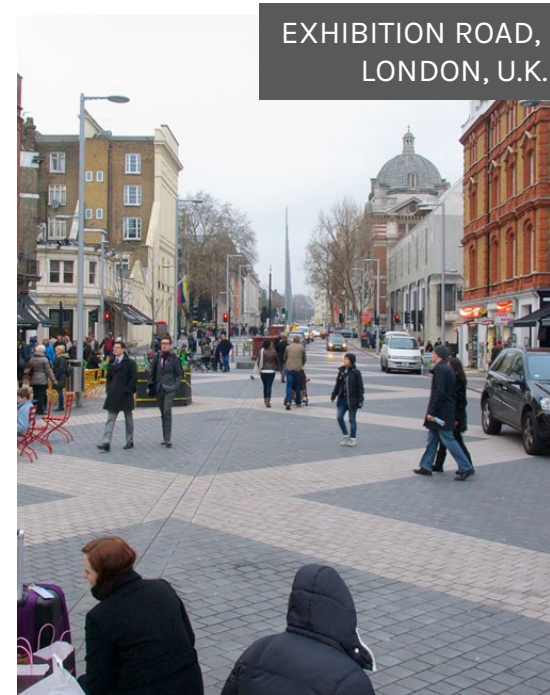
DOYERS STREET,  
MANHATTAN, NY



## Seasonal Streets

- E.g. Washington St.
- Pedestrian mall during certain periods of the year
- Allows for the street to change based on demand for pedestrian activity/events

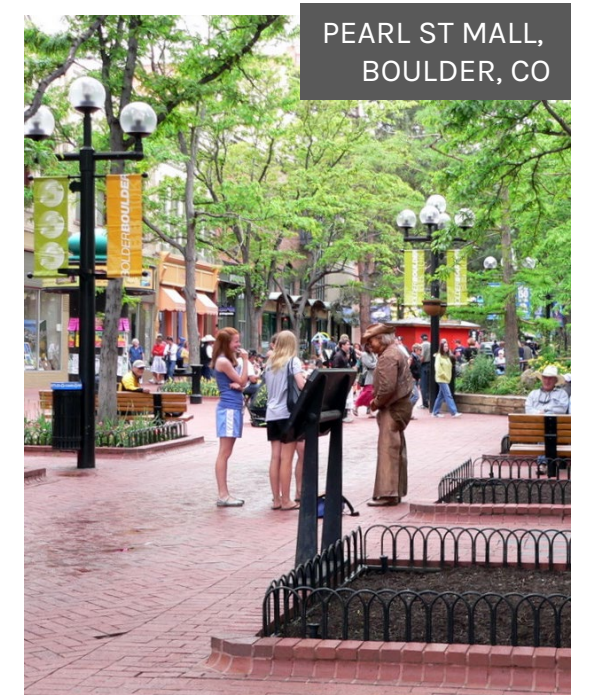
EXHIBITION ROAD,  
LONDON, U.K.



## Shared Street

- Allows for activation and vibrancy and limited vehicle movement
- Lack of traffic control encourages caution and slow speeds

PEARL ST MALL,  
BOULDER, CO



## Pedestrian Mall

- Permanently closed to vehicle traffic
- Opportunities for activation and placemaking
- Prioritizes pedestrian movement and safety

# EVENT STREET SUCCESS FACTORS

## EVENT STREETS

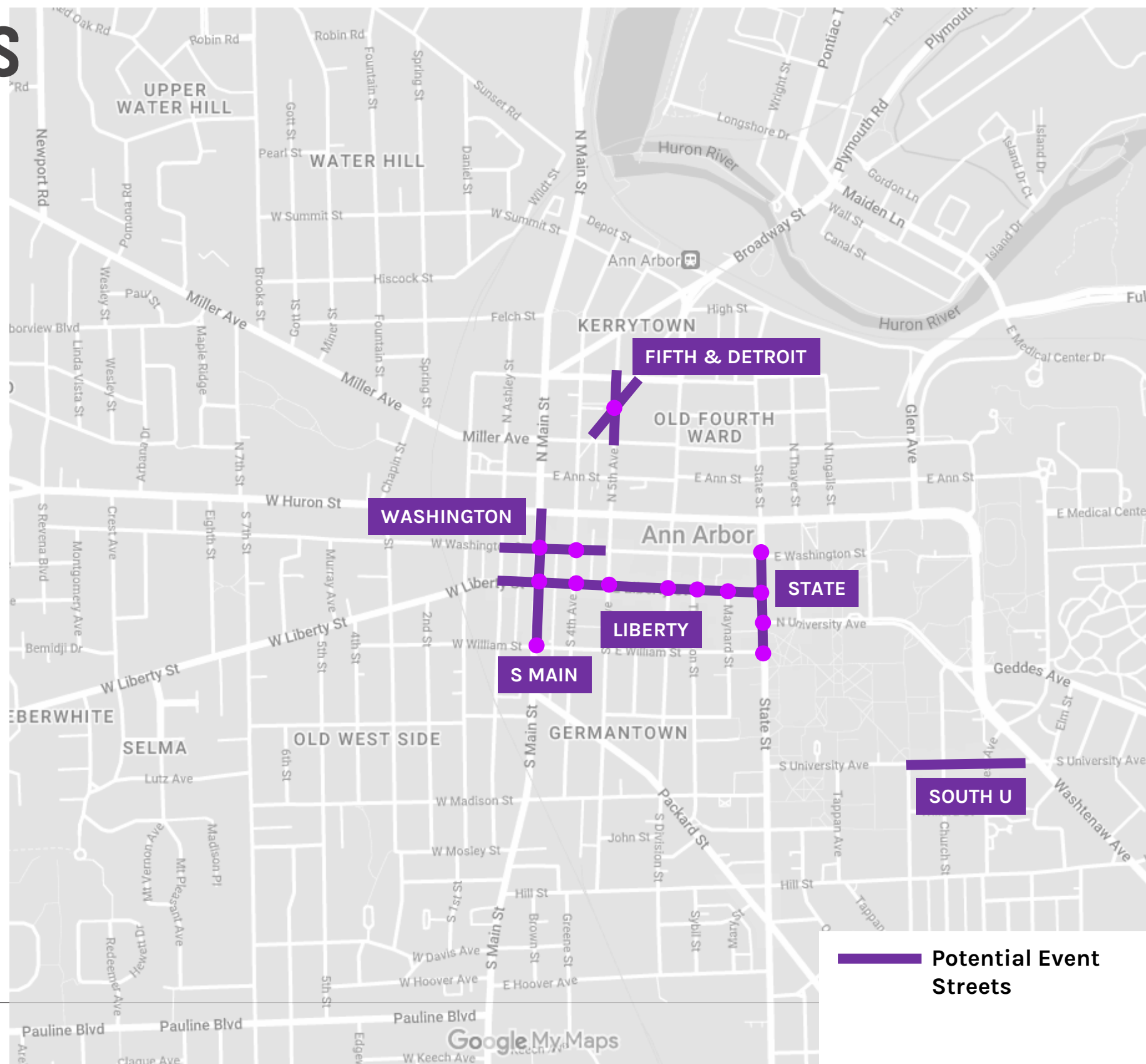
- **Connected to Surrounding Attractions:** Event streets require destinations and assets to attract visitors. Locate them near city centers, universities, or tourist areas.
- **Density is Important:** Higher proximity to density contributes to the success of event streets.
- **Bigger Isn't Always Better:** Street length can negatively impact its lifespan. Design short blocks, wide sidewalks, and mixed-use zoning for a better pedestrian experience.
- **Activation of Space:** Ongoing program, maintenance, and management are vital for attractiveness and functionality.
- **Seasonality:** Adapt to different seasons and changing demand.
- **Supporting Diverse Tenants:** Facilitate access to non-dining and entertainment businesses.
- **Transportation Network Effects:** Consider cross-street traffic and its effects.
- **Focus on Non-Car Owners:** Target areas with lower car reliance, like universities and low-income areas.
- **Design:** Pleasant, inclusive and accessible surroundings.

# CANDIDATE EVENT STREETS

## EVENT STREETS

1. Engage stakeholders to understand opportunities & issues
2. Explore what event street types may be feasible and desired
3. Consider opportunities on a block-by-block basis
4. Understand benefits and align with transportation network needs

Candidate streets based on (A) Destination Commercial designation from design manual, (B) Frequent closure streets, (C) Healthy Street / Social District Streets)



# FIFTH & DIVISION TWO-WAY RESTORATION FEASIBILITY

# WHY RESTORE 2-WAY STREETS?

Creates a calmer, safer street for ALL people, whether walking, biking, or driving. Reduces the “double-threat” risk to pedestrians and vehicle-to-vehicle crashes.

Improves wayfinding, navigability, and access to businesses and downtown destinations.

Encourages pedestrian activity and vibrancy.



# FIFTH + DIVISION TWO-WAY RESTORATION FEASIBILITY

- Evaluate feasibility, benefits, and costs associated with return to two-way traffic pattern for Division, Fifth Ave, and Beakes.
- Broadway bridge area of focus for improved multi-modal access.
- Transit access considerations along the corridors.



# DECISION-MAKING & NEXT STEPS

DOWNTOWN AREA CIRCULATION STUDY

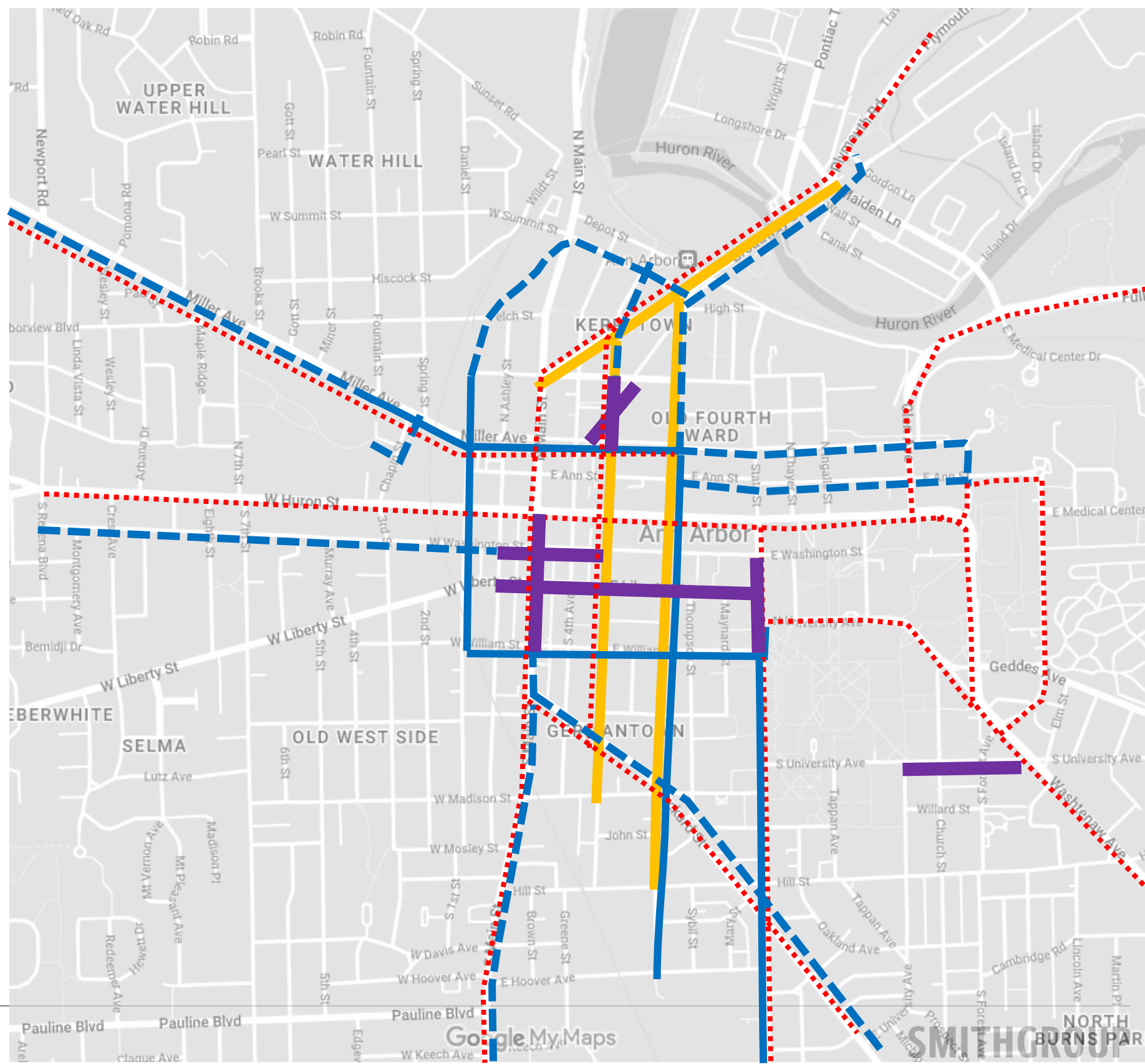


# CANDIDATE PROJECTS

## CONCEPT EXPLORATION

- Overlapping demand for limited street space.
- Assess how we meet these demands and adopted values.

-  Existing Bikeways
-  Potential Bikeways
-  Potential Priority Transit Corridors
-  Potential Event Streets
-  Two-way restoration study extents



# TIMELINE & NEXT STEPS

## DOWNTOWN AREA CIRCULATION STUDY

- **September & October**
  - Collected baseline data (bikes, pedestrians, vehicles at 60 intersections)
  - Started partner meetings (AAATA, U-M) and best practice research
  
- **November & December 2023**
  - Continued analysis and best practices
  - Develop concept ideas for evaluation relative to values and available street space
  - Stakeholder outreach
  
- **January – March 2024**
  - Design refinement
  - Project alignment and prioritization
  - Multi-modal transportation assessment  
*(Using data to inform how projects can be implemented)*
  - Continued stakeholder outreach



# ADDITIONAL SLIDES

## DOWNTOWN AREA CIRCULATION STUDY

# SAFETY DATA

## VALUES AND OUTCOMES

1. Safety is improving for all users of the street per crash study findings.
2. Bicyclist & pedestrian crashes have decreased on all streets, even while bicycle traffic has increased significantly.
3. On-streets with new bikeways, no serious injuries or fatal crashes have occurred to street users of any mode (bikes, peds, cars)

### Catherine/Miller

Before period: 2016-2020

After period: November-July 2023  
(9 months, preliminary)

**AVERAGE MONTHLY CRASHES  
RESULTING IN INJURY:**

**Decreased by 26%**

**MONTHLY AVERAGE  
PEDESTRIAN CRASHES:**

**Decreased from  
0.07 to 0**

**MONTHLY AVERAGE  
SERIOUS INJURY CRASHES:**

**Decreased from  
0.03 to 0**

### First, William, & Division

Before period: 2017-2019

After period: 2022-July 2023

**AVERAGE YEARLY CRASHES  
RESULTING IN INJURY:**

**Decreased by 44%**

**PEDESTRIAN CRASHES PER YEAR:**

**Decreased by 44%**

**BIKE CRASHES PER YEAR:**

**Decreased by 42%**

**SERIOUS INJURY BIKE & PED  
CRASHES PER YEAR:**

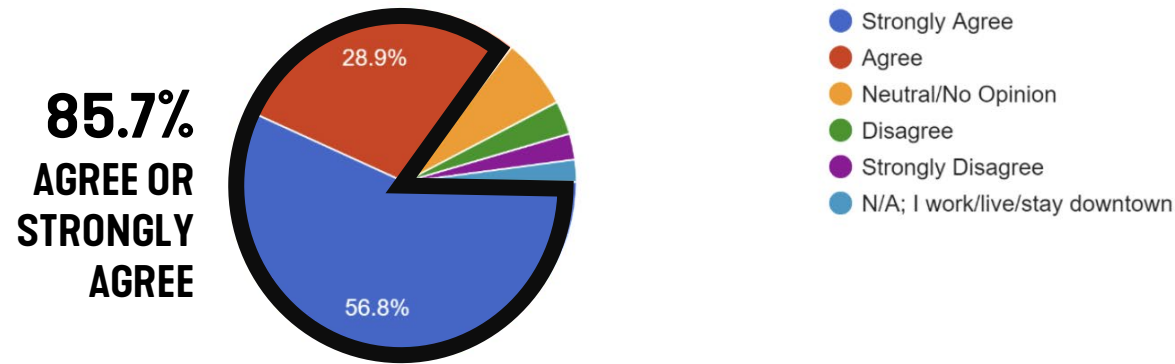
**Decreased from  
1 to 0**

# VIBRANT ECONOMY

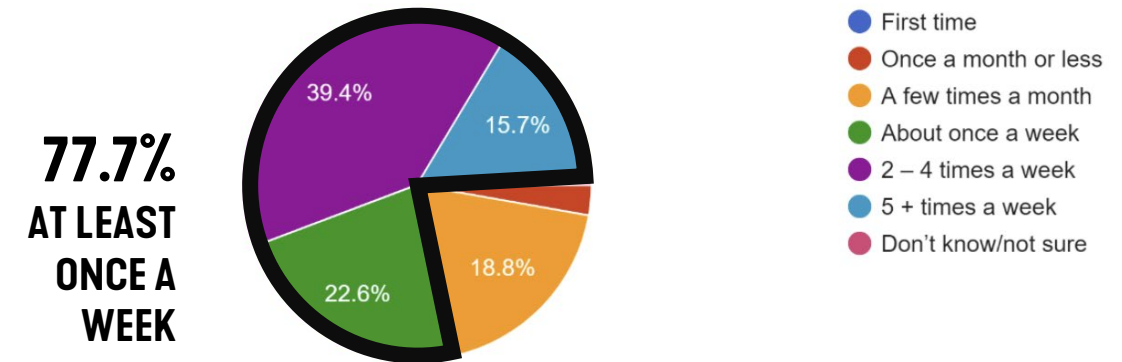
## VALUES AND OUTCOMES

The bikeways help a wider range of people get downtown & support businesses without driving.

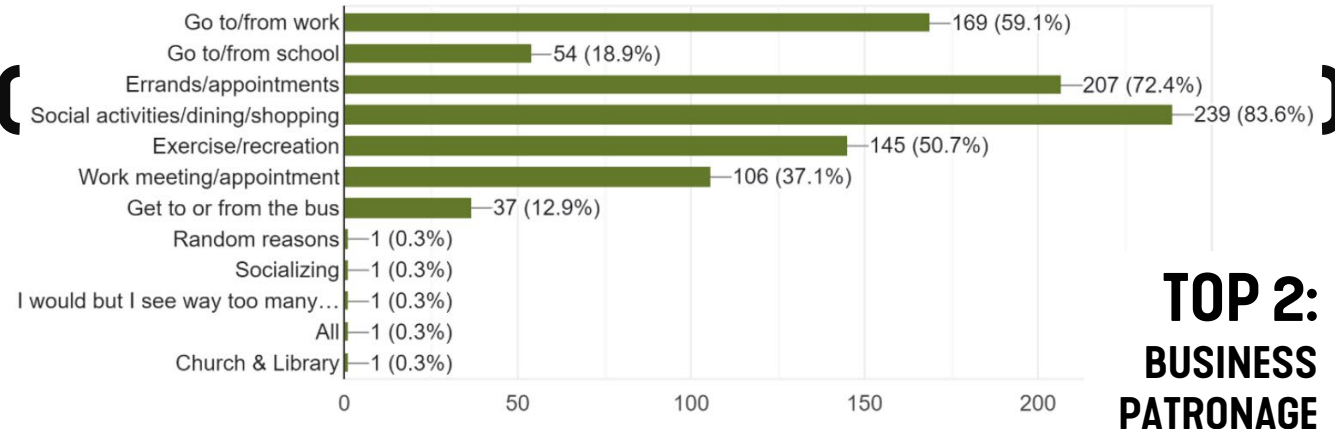
How strongly do you agree with the following:  
*I am more likely to come downtown because I can use the bikeway.*



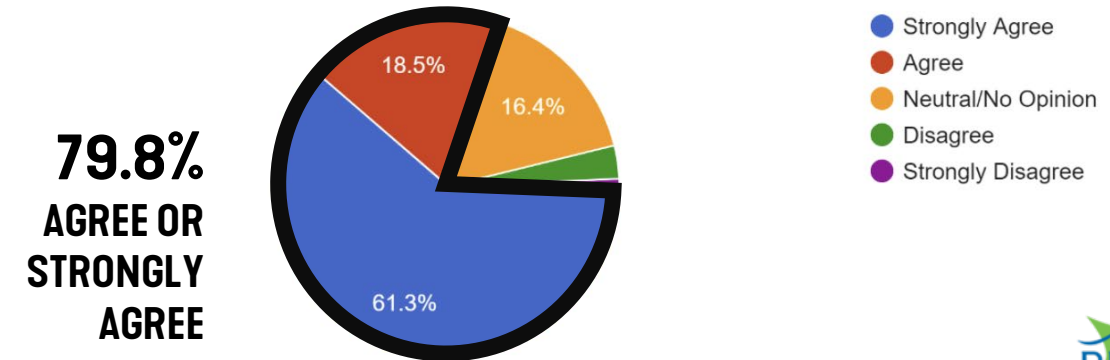
How often do you shop, dine, or visit other businesses downtown?



What have you or do you plan to use the bikeway for?



How strongly do you agree with the following:  
*I would consider using the bikeway more often if there more connections from my home to the bikeway.*



# SURVEY RESULTS

## VALUES AND OUTCOMES

- Respondents overwhelmingly express **appreciation for bike lanes** and **desire for more**
- Many respondents say it **increased their willingness to bike**
- Desire for **more connections**, especially to outlying neighborhoods and B2B trail
- Around 18 of 287 respondents mentioned concerns about turning/intersection conflicts (*but safety data has shown improved outcomes and reduction in crash severity*)

Love the bikeways, please extend them into neighborhoods and connect to neighborhood retail areas (packard, stadium/maple, Washtenaw, plymouth)

using the bikeway has greatly increased the amount i bike. i feel safer being separated from cars.

These lanes are amazing enable both us and our young children to bike downtown (we call the one on 1st the "Blank Slate Bike lane")

Having the bike lanes and getting an e-bike has been life changing. It's catching on. My office went from 0 to 3 bike commuters this year

Thank you, thank you, thank you!!! And more, please!

The bikeways are great, especially when they have separation from auto traffic. Please install more of them! I'm definitely biking more downtown and onto campus than I used to because of the ease and safety they provide.

I moved to A2 because of the [work of the] DDA

# WHAT'S NEXT

## PLANNING INITIATIVES AND COMMUNITY DIALOGUE

### U-M CAMPUS PLAN

**Mobility M CAMPUS PLAN 2050**  
UNIVERSITY OF MICHIGAN

WORK IN PROGRESS - FOR COMMENT

#### Introduction

Campus Plan 2050 prioritizes emerging mobility and parking strategies that shift toward perimeter parking connected to transit and non-motorized systems. The strategies maintain patient and limited visitor parking in core campus areas and promote sustainability by reducing the overall carbon footprint of transportation across campus.

#### Objectives

- Strengthen the programmatic, functional and physical connectivity across campus and with the community at large.
- Integrate accessible pathways, bicycle, transit, and vehicular networks

#### Proposed Approaches

- Develop a **frequent, reliable, and comfortable transit experience** with robust amenities and multi-modal connections
- **Address accessibility and equity concerns** for faculty, staff and students traveling the greatest distances
- Maintain current parking ratios for faculty and staff

#### Transit Infrastructure Overview

ATIS - Advanced Transit System (ATIS) is a high-capacity, fully automated fixed guideway system, operating in a grade-separated dedicated right-of-way.

BRT - Bus-Rapid Transit (BRT) offers dedicated transit service with dedicated lanes, signal priority, and boarding platforms for faster boarding times.

BRT Stop - A high-visibility stop that requires more frequent and higher capacity service, is accessible to all passengers, includes sheltered amenities, and is supported by dedicated bus infrastructure and express routing with limited stop requests to manage waiting time and ensure reliability.

Legend:  
Proposed Bus Routes  
Dedicated Bus Infrastructure  
ATIS Corridor  
Blue Stops  
BRT Stops  
ATIS Stops

Proposed BRT + Fixed Guideway Routes

### THE RIDE 2045 PLAN

**TheRide 2045**

Long-Range Plan  
July 2022

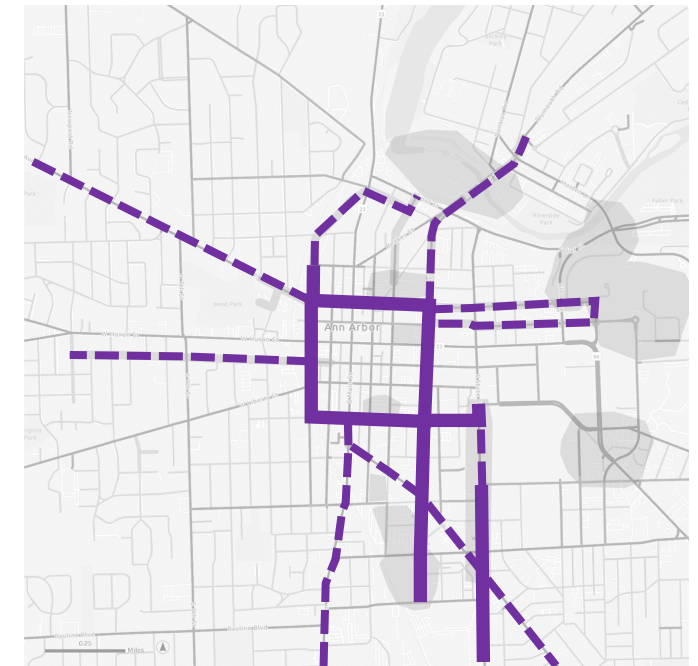
Legend:  
Proposed Bus Routes  
Dedicated Bus Infrastructure  
ATIS Corridor  
Blue Stops  
BRT Stops  
ATIS Stops

Proposed BRT + High Priority Transit

### EVENT STREETS



### LOW-STRESS BICYCLE CONNECTIONS



# CONNECTED, ACCESSIBLE, SUSTAINABLE

VALUES AND OUTCOMES

**SEPTEMBER 2023 – Over 40,000 bicycle trips!**

BIKEWAY	MONTHLY COUNT	WEEKLY AVERAGE	DAILY AVERAGE
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\*Not installed until Sept 5th





# LEVEL OF TRAFFIC STRESS

## ACTIVE TRANSPORTATION

### Contextual Guidance for Selecting All Ages & Abilities Bikeways

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Max. Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		Any	Any of the following: high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts†	Protected Bicycle Lane
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	Shared Street
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	Bicycle Boulevard
≤ 25 mph	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane
	≤ 3,000 – 6,000			Buffered or Protected Bicycle Lane
	Greater than 6,000			Protected Bicycle Lane
	Any	Multiple lanes per direction	Protected Bicycle Lane	
Greater than 26 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	Protected Bicycle Lane, or Reduce Speed
		Multiple lanes per direction		Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed
	Greater than 6,000	Any	Any	Protected Bicycle Lane, or Bicycle Path
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		Any	High pedestrian volume	Bike Path with Separate Walkway or Protected Bicycle Lane
			Low pedestrian volume	Shared-Use Path or Protected Bicycle Lane

**Most Downtown Streets**

[NACTO, Designing for All Ages & Abilities](#)

# BUILDING A LOW-STRESS NETWORK

## ACTIVE TRANSPORTATION

Figure 3: Seven Principles of Bicycle Network Design

[FHWA, Bikeway Selection Guide](#)



### Safety

The frequency and severity of crashes are minimized and conflicts with motor vehicles are limited



### Comfort

Conditions do not deter bicycling due to stress, anxiety, or concerns over safety



### Connectivity

All destinations can be accessed using the bicycling network and there are no gaps or missing links



### Directness

Bicycling distances and trip times are minimized



### Cohesion

Distances between parallel and intersecting bike routes are minimized



### Attractiveness

Routes direct bicyclists through lively areas and personal safety is prioritized



### Unbroken Flow

Stops, such as long waits at traffic lights, are limited and street lighting is consistent

## Guidelines for Low-Stress Network Design:

1. Provide direct bikeway access to important destinations
2. Provide a low-stress connection within 2-blocks of downtown locations
3. Provide low stress facilities on major / direct routes into downtown

### COMMUNITY DESTINATIONS

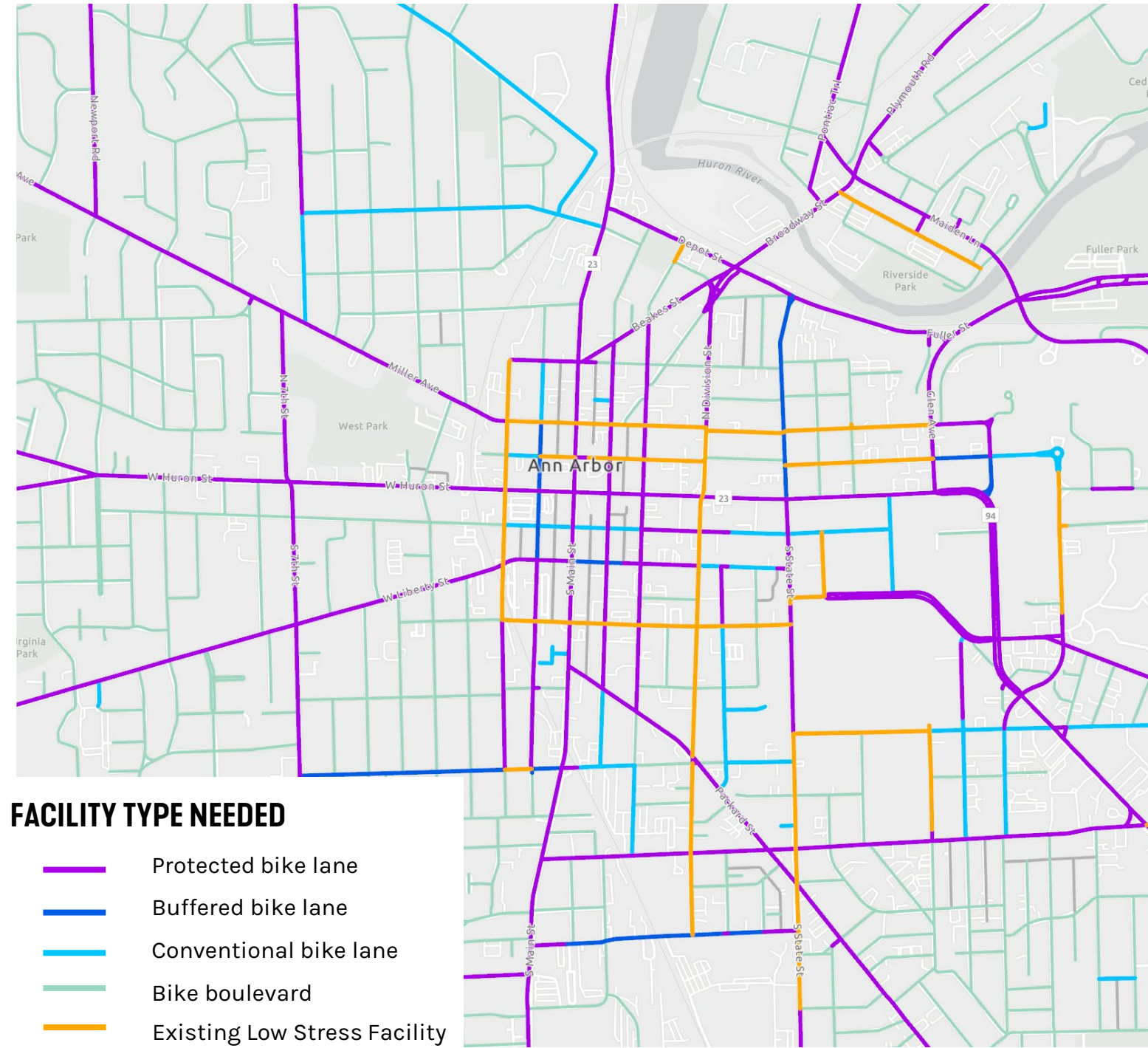
- Bike share stations
- Bus stops
- Community centers
- Community colleges
- Community service center
- High density residential
- Major retail and entertainment
- Parks
- Places of worship
- Public libraries
- Retirement homes
- Schools
- Government offices
- Universities or colleges
- Major tourist destinations
- Hospitals and other health care facilities
- Transit centers

[FHWA, Bike Network Mapping Idea Book](#)

# LOW-STRESS BICYCLE NETWORK

## ACTIVE TRANSPORTATION

***Need to be strategic about what streets should be designed with a low-stress bicycle facility.***

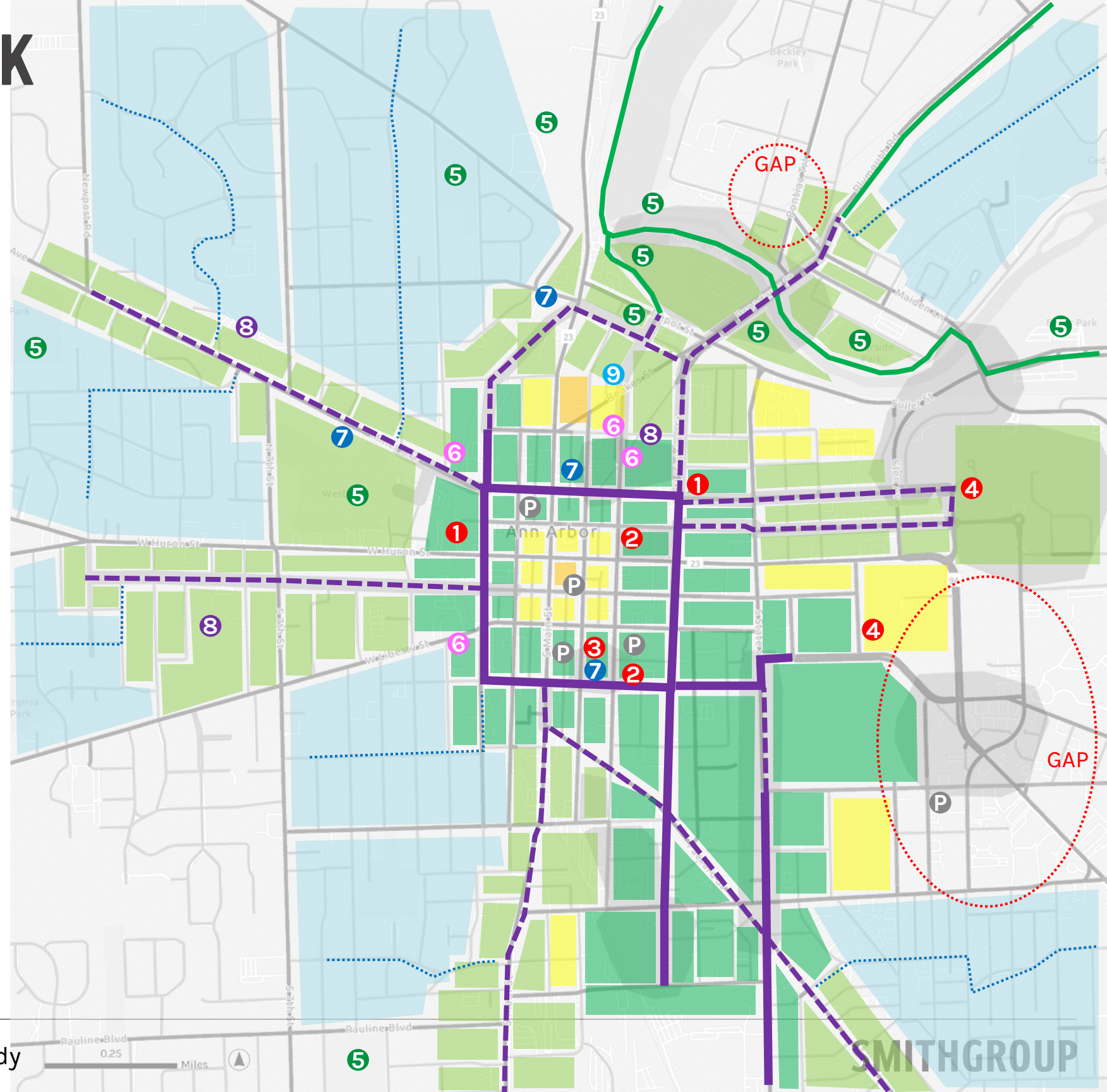


# POTENTIAL BICYCLE NETWORK

## KEY DESTINATIONS

- 1 Delonis Center, Support Services
- 2 City Hall, Library
- 3 Blake Transit Center
- 4 U-M Hospital, Clinics
- 5 Parks & Natural Areas
- 6 Grocery Stores
- 7 Affordable Housing Sites
- 8 Schools, Daycares
- P Parking Garages

- Within 1-block of Existing Bikeways
- Within 1-block of Bikeway with Proposed Improvement
- Within 2-blocks of Ex. Bikeways (Downtown district)
- Within 3-blocks of Bikeway (Downtown district)
- Connected Neighborhood with Local Route to Bikeway



# MULTI-MODAL TRANSPORTATION DATA COLLECTION

- Multi-modal data: Collecting pedestrian, bicycle, vehicle counts collected at approximately 60-intersections
- Using data to inform “how” we can implement projects

- Existing 2021-2023 counts
- Prior counts to re-collect
- Proposed new counts
- Proposed new counts (12-hour)

