



# Napier Corridor

Pedestrian and Bicycle Feasibility  
and Conceptual Engineering Plan

---

Southwest Michigan Planning Commission  
July 20, 2017

**AECOM**



# 01

## Intro and Project Team

# Today's Presenters



**Jeromie**  
**Winsor, AICP**  
Project  
Manager  
**AECOM**



**Josh**  
**Bocks, MBA**  
Deputy  
Project  
Manager  
**AECOM**



**Lynee**  
**Wells, AICP**  
Public  
Engagement  
**Williams&Works**



**Hank**  
**Kelley, AICP**  
Planning &  
Analysis  
**AECOM**



**Jen**  
**Byle, PE**  
Conceptual  
Design  
**AECOM**



**Phil**  
**Vogelsang, PE**  
Design  
Engineering  
**AECOM**

# About AECOM

## Dedicated, Local Staff



- Key Capabilities
  - Corridor Planning
  - Public and Stakeholder Outreach
  - Roadway and Traffic Analysis
  - Non-Motorized Planning and Analysis
  - Transit Planning and Analysis
  - GIS and Mapping

**2017 ENR**  
Ranking

- #1 Design Firm**
- #1 Transportation**
- #1 Highways**
- #2 Bridges**
- #1 Mass Transit + Rail**
- #1 Airports**
- #1 Marine + Port Facilities**

2016 Revenue \$ MIL (global)



# Supporting Team Members



- Frequent collaborator with AECOM
- Local planning and outreach experience
- Dynamic engagement approaches



- Nationwide aerial photography and digital mapping products
- Long-standing relationship, successful delivery on other projects
- Investment in new technology

# Our Experience

Successfully delivering similar planning projects

**KATS Pedestrian  
Greenway & Transit Plan**  
Kalamazoo



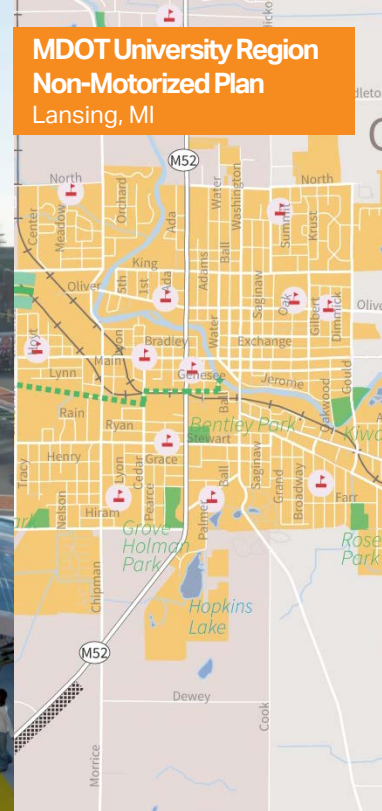
**I-94 Huron St.  
Crossing**  
Ypsilanti, MI



**RTA Michigan Ave.  
Transit Corridor Study**  
Detroit, MI



**MDOT University Region  
Non-Motorized Plan**  
Lansing, MI

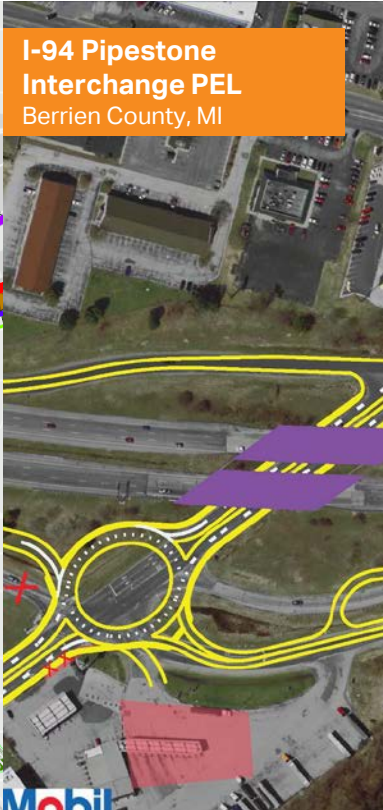
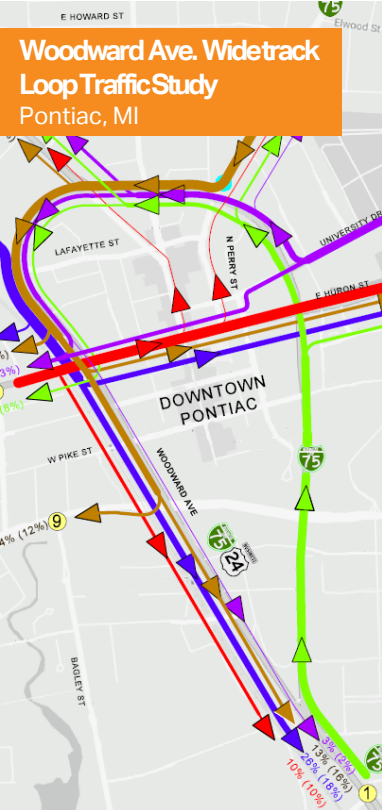


**Laker Line BRT A/E  
Services**  
Grand Rapids, MI



# Our Experience

Successfully delivering similar design projects







02

## Project Understanding



# Project Elements



**Documenting  
the  
Need**



**Multi-Modal  
Thinking**



**Feasibility  
&  
Constructability**



**Engaging  
Stakeholders**

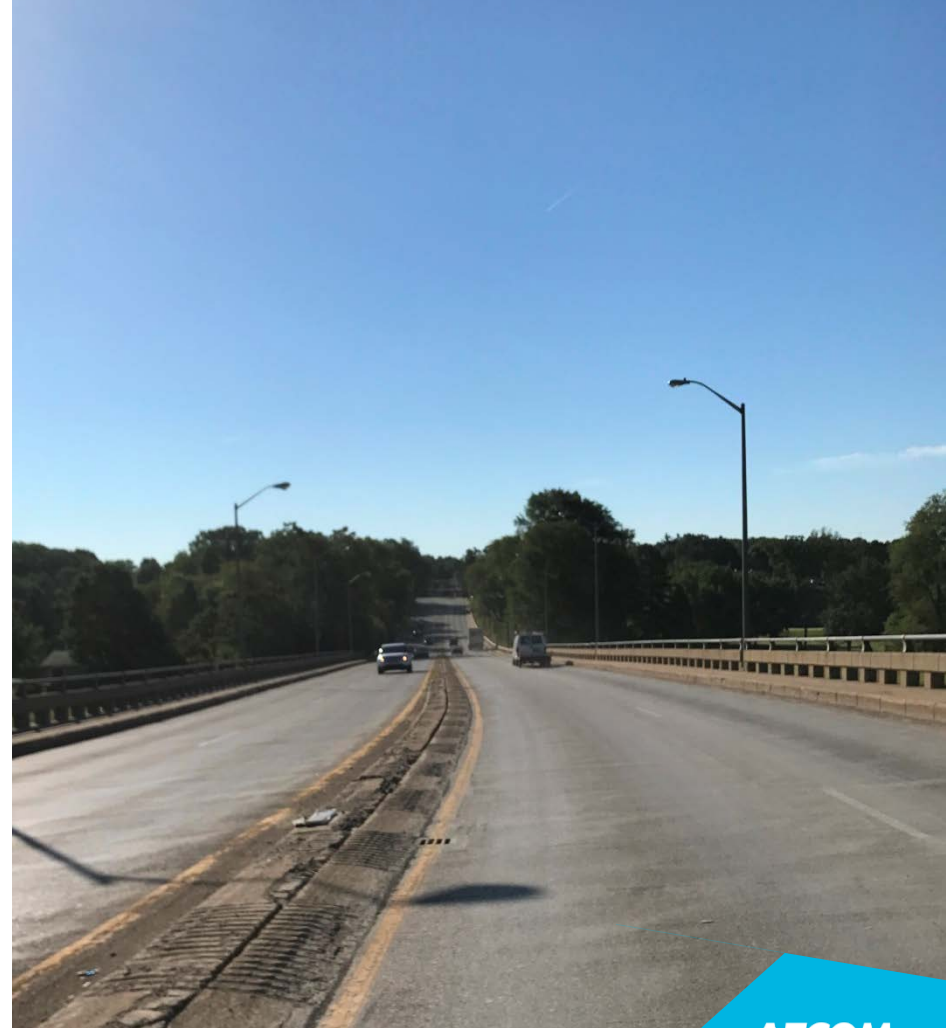


**Project  
Schedule**

# Documenting the Need



- Understand vehicular travel patterns
- Review non-motorized travel needs on Napier and adjacent areas
- Link to larger community needs for economic sustainability and equity
- Identify major safety concerns
- Understand access barriers for transit dependent residents



# Multi-Modal Thinking



- Lack of continuous sidewalks, bike lanes and trails
- Limited fixed route transit along Napier
- Many serious non-motorized injuries and fatalities
- Improvements to walking / biking safety prepares for future transit
- Embrace "Complete Street" approach





# Feasibility & Constructability



- Understanding of design standards
- Understanding of funding options
- Preferred alternative developed from the ground up as a feasible, constructible plan



# Engaging Stakeholders



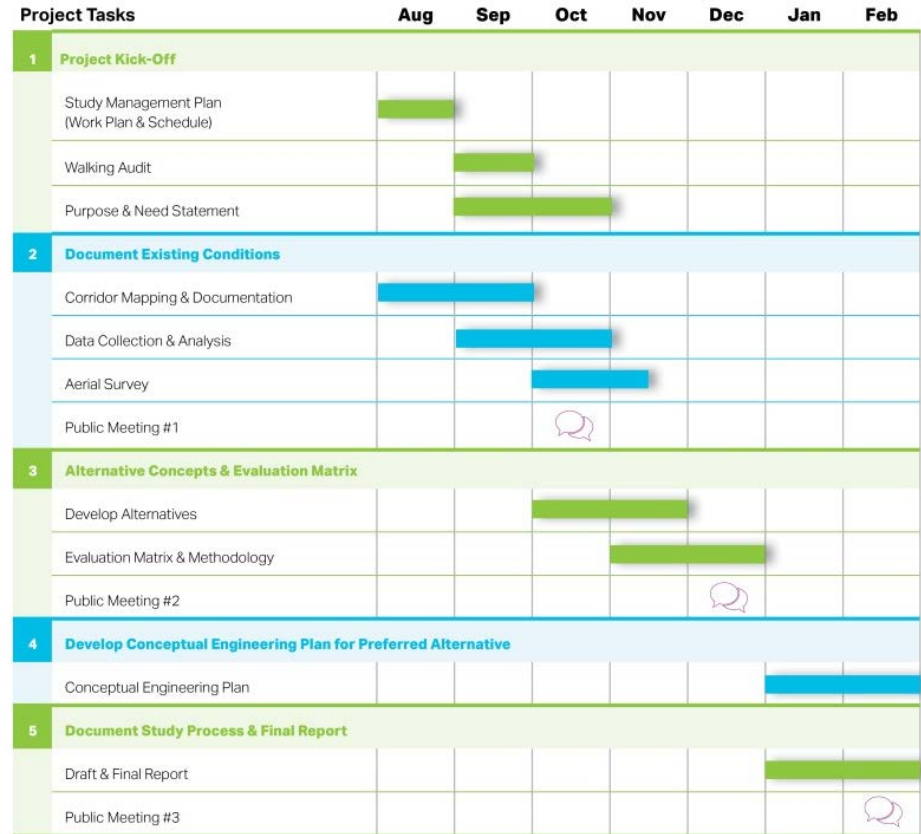
- Regular public and community input
- The AECOM Team will work with SWMPC and the project steering committee
- Sequence of outreach that informs and engages
- Focus on education and gaining public input
- Identify a range of alternatives and evaluation criteria



# Project Schedule



- Public Engagement Throughout
- On Budget, On time
- Seven Month Timeframe







03

Approach Overview | Public Engagement

AECOM





# WALK THE TALK

# Community Engagement



Respect the past



# Community Engagement

Low-tech/High touch



# Community Engagement

Many hands, many voices



# Online / Other Engagement

## Visual Preference >> gauging user perspectives of non-motorized facilities

● Very Comfortable ● Comfortable ● Not Comfortable ● Very Uncomfortable

NO BICYCLE FACILITY



» Bicyclists are forced to ride in travel lanes with automobiles

4%  
2%

85%

8%

BUFFERED BIKE LANE



» Bicycle lane accompanied by a designated buffer space, separating the bicycle lane from the adjacent travel lane.

2%

43%

55%

PROTECTED BIKE LANE



» On-street bike lane with some kind of protection from moving vehicles.

4%

90%

6%

SHARROW



» Pavement marking symbol that assists bicyclists with lateral positioning in lanes too narrow for a motor vehicle and a bicycle to travel side-by-side within the same traffic lane.

41%

2%

53%

4%

TRADITIONAL BIKE LANE



» Portion of roadway that has been designated for preferential/exclusive use by bicyclists with pavement markings and signs.

23%

10%

62%

6%

SHARED USE PATH



» Physically separated bikeway from motor vehicle traffic by an open space or barrier, either within the right of way or an independent right of way.

4%

60%

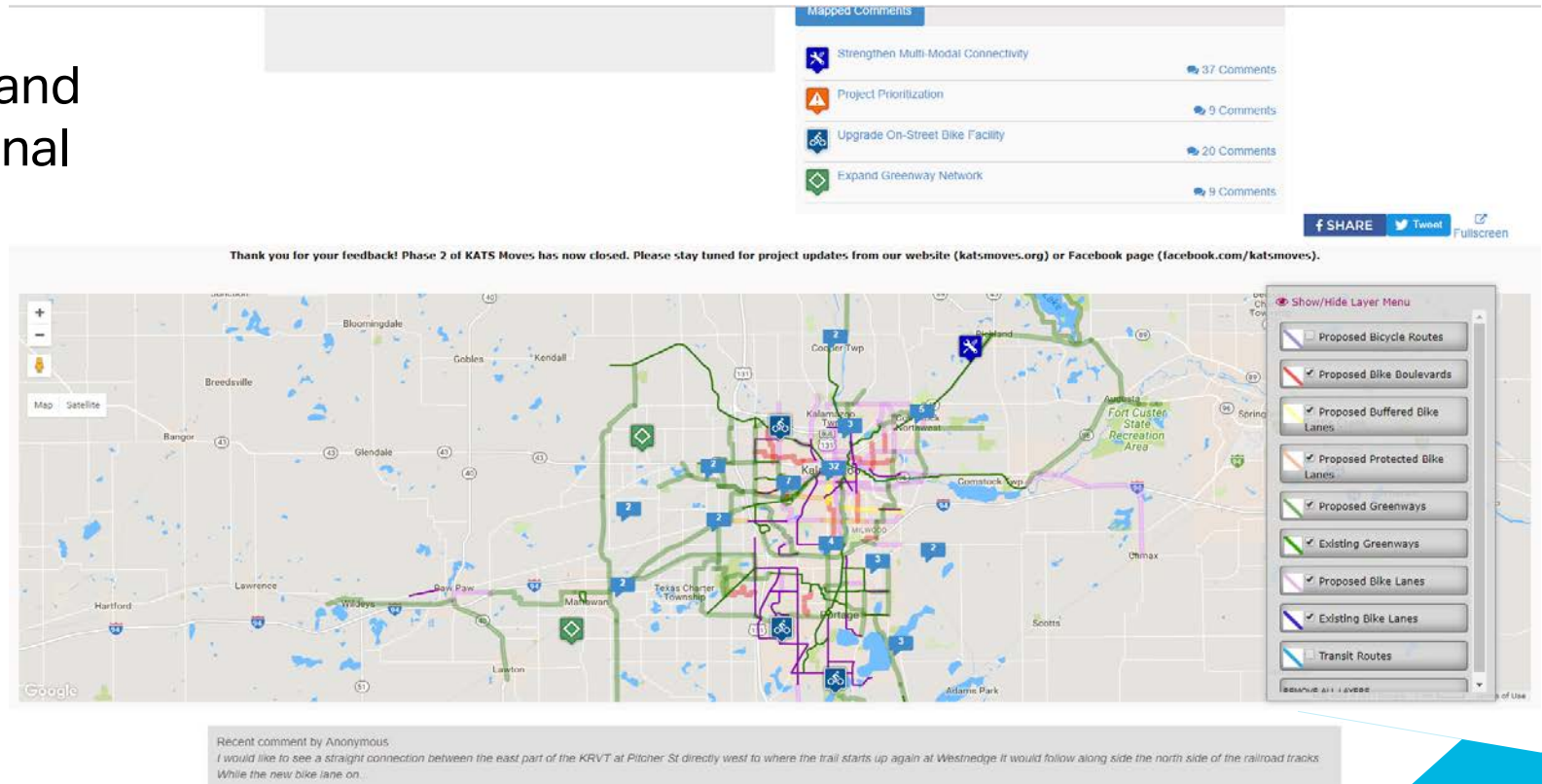
32%

Graphics-rich



# Online / Other Engagement

Digital and  
traditional



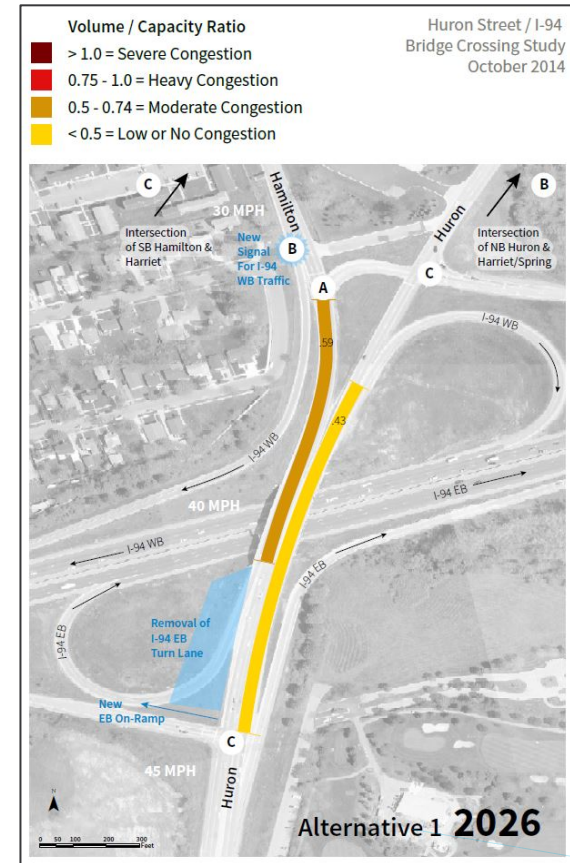


# 04

## Approach Overview | Planning & Analysis

# Corridor Mapping & Data Collection

- Detailed mapping supports analysis, decision-making, development of alternatives and public outreach
- Example maps:
  - ✓ Demographics
  - ✓ Transportation facilities
  - ✓ Crash locations
  - ✓ Land use
  - ✓ Walkability audit data





# Walkability Audit

- Core component of existing conditions analysis
- Assists in identifying pedestrian concerns for safety, access, comfort and convenience
- Customized audit is based on instrument from the Center for Disease Control

## Data collection points:


- ✓ Continuous pedestrian facilities
- ✓ Pedestrian conflicts
- ✓ Crosswalk availability
- ✓ Maintenance deficiencies
- ✓ Path width
- ✓ Buffer space
- ✓ ADA accessibility
- ✓ Aesthetics of area
- ✓ Shade availability

# Evaluation Matrix & Methodology


- Will work collaboratively to develop evaluation criteria to compare and inform selection of alternatives
- Possible criteria include:
  - ✓ Cost
  - ✓ Traffic Operations
  - ✓ Pedestrian Improvements
  - ✓ Bicyclist Improvements

December 2014

Evaluation of Alternatives		Alternative 1 Shared Use Path on West Side	Alternative 2 Pedestrian / SB Bike Lane on West Side & NB Bike Lane on East Side	Alternative 3 Median Pedestrian Path and Inside Bike Lanes	Alternative 4 Median Pedestrian Path and Two-Way Cycle Track	Alternative 5 Free-standing Bridge	No Change
Huron Street / I-94 Bridge Crossing Study	Criteria	Description					
	Cost	How much does the alternative cost to build? Reconfiguring ramps, building bridges and other options can increase project cost and implementation timeline.	medium ●●○○○	high ●●●●●	low ●○○○○	low ●○○○○	high ●●●●●
	Traffic Impacts	Reducing width & number of travel lanes, reconfiguring on-ramps and changing signals can impact vehicular traffic.	medium ●●●○○	medium ●●○○○	medium ●●●○○	medium ●●●○○	low ○○○○○
	Personal Sense of Security	How safe would I feel in this environment? Would people be able to see me? Would I use this facility at night?	medium ●●●○○	medium ●●○○○	high ●●●●●	high ●●●●●	low ●○○○○
	Pedestrian Safety / Comfort	How safe do I feel as a pedestrian? Do I have enough space to move around? Am I too close to cars?	high ●●●●●	low ●○○○○	high ●●●●●	high ●●●●●	low ○○○○○
	Bicycle Safety / Comfort	How safe do I feel as a bicyclist? Do I have enough space to move around? Am I too close to cars?	high ●●●●●	low ●○○○○	medium ●●●○○	high ●●●●●	low ○○○○○



Washnetaw Area  
Transportation Study  
miwatts.org



OFFICE OF COMMUNITY &  
ECONOMIC DEVELOPMENT

Huron Street / I-94 Bridge Crossing Study



05

Approach Overview | Concept Design

AECOM



# Aerial Survey

- Capable of collecting wide swath of information in and around project area. Good technique when evaluating alternate pathways
- Provides aerial photograph as base. Excellent for use at public and internal meetings
- Provides very detailed horizontal and vertical information, sufficient for most non-motorized path design purposes
- Very cost efficient compared to conventional design survey



# Guiding Design Considerations

- Safety and crash history
- Right of way constraints and options
- Utility constraints (e.g. high voltage power lines)
- Traffic patterns and volumes (e.g. intersections)
- Linkages of residential and commercial properties to reduce vehicular travel
- Future transit opportunities and locations

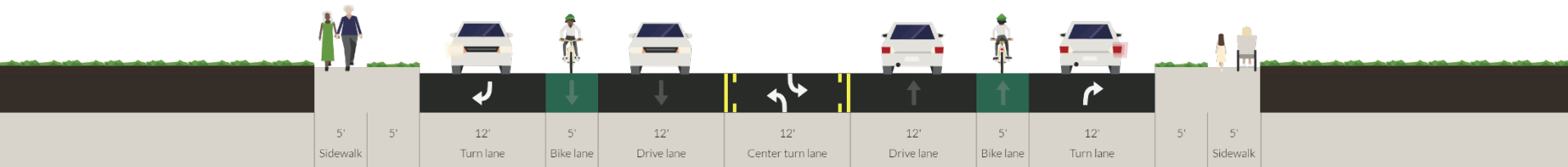


# Initial Concepts

## 4 Lane to 3 Lane Roadway Reallocation



Typical Cross Section

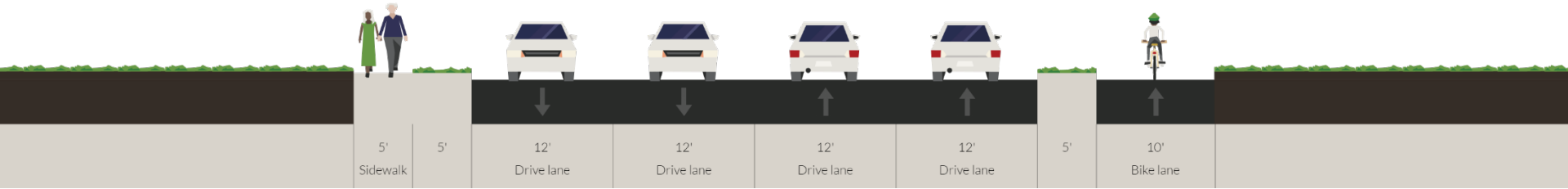


Cross Section at Intersections

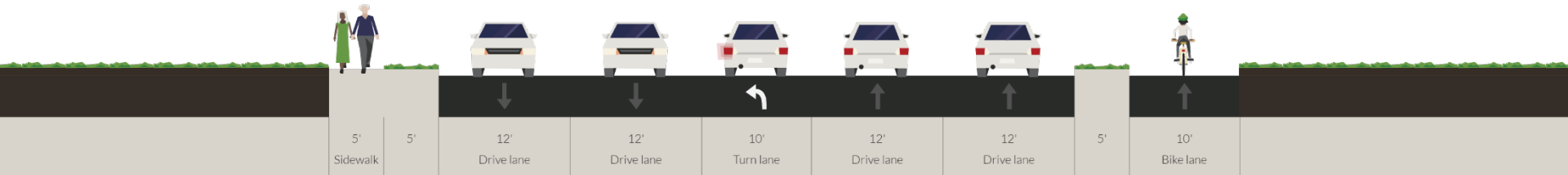


# Initial Concepts

## Sidewalk and Shared Use Path



4 Lane Typical Cross Section



5 Lane Typical Cross Section

# Final Concepts

- Several preliminary concepts will be developed
- Focus on pedestrian and non-motorized users
- Elements to enhance pedestrian and bicycle safety
- ADA compliance throughout all alternatives
- Look for opportunities to improve the streetscape and include green infrastructure





# Why AECOM?

---

What We Bring

**AECOM**



# What We Bring

**Alternative 1** West Side

## Experienced Project Leadership

- 10'-12" shared use path
- Hard barrier on outside of path
- Pedestrian signals
- Reconfigured southwest on-ramp
- Better sidewalk connections

Cross section at center of bridge

10'-12" shared use path

11' SB travel lane

11' SB travel lane

12.5' NB travel lane

1.5' hard barrier

2' shy distance

~5' median

side-running shared use path, separated from roadway

Washnetaw Area Transportation Study  
miwats.org

WATERLOO COUNTY  
OFFICE OF COM  
ECONOMIC DEV

