

People-Friendly Streets Ann Arbor's First & Ashley One-Way Conversion & Bikeway

May 5, 2023



Tips for Safe Bicycling

Even if you are an experienced cyclist, it's a good idea to review these fundamentals periodically:

- Wear your helmet
- Look ahead
- Allow one person per bike
- Ride in single file
- Ride on right side of road
- Avoid busy roads
- Be visible at night
- Maintain your bike



Agenda

People-Friendly Streets

Pilot Projects & Findings

First & Ashley Overview

Design

Construction

Final Product

Challenges

Before & After Review

Awards

Questions

Purpose and Learning Objectives

After this session, attendees will know:

1. What are People-Friendly Streets and the importance of Pilot Projects.
2. Better understand considerations of converting from one-way to two-way street operations.
3. Bikeway and stormwater design elements, constructability, and their impact on users.
4. Better understand the before-after benefits of bikeways.

Today's Presenters



Lori Pawlik, PE, PTOE



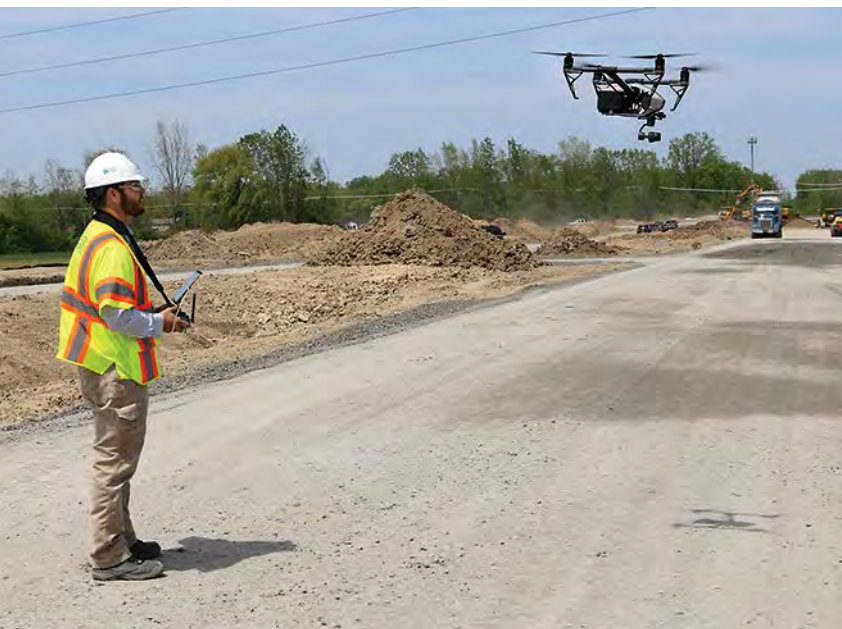
Carmelle Tremblay, PE



Chris Wall, PE, PTOE

About Wade Trim

Our Mission



Trusted partners that deliver innovative solutions built on a foundation of excellence.

About Wade Trim

Firm Resources



- In-house subject matter experts
- National reach, local expertise and understanding



+ 600
EMPLOYEES

19
OFFICES

9
STATES



People-Friendly Streets

The image features a minimalist design with a light blue gradient background. A dark grey horizontal band is positioned in the lower third of the frame. Two parallel diagonal lines, one light grey and one slightly darker, intersect the horizontal band and extend upwards towards the top right corner. The text 'People-Friendly Streets' is written in a white, sans-serif font on the left side of the blue area.

Ann Arbor's People-Friendly Streets



- Improve **safety**, accessibility, and ease of navigation for all users
- **Prioritize for pedestrians & bikers**
- Install two-way grade separate **bikeway**
- Enhance street **lighting**
- Support **special events** and street closures
- Reflect Streets distinct **character and context**
- Improve drainage and better manage **stormwater**
- Consolidate and upsize **watermain**
- Create more space for **business** activities (café dining, outdoor retailing)
- Provide **more flexible curbside zones**
- Repair critical **infrastructure** and utilities
- **Vibrant spaces & Connected community**



Pilot Projects & Findings

Pilot Projects

Downtown Healthy Streets

- In response to COVID
- Vehicle travel lanes closed for bike lanes and increased walking space
- Deployed July through November 2020
- Used drums, Type III barricades, and signing



Source: secondwavemedia.com

Pilot Projects

Downtown Healthy Streets

- Wade Trim collected traffic data
- Conducted a before and after deployment study
- Observations and field adjustments were made during pilot study

Two-Way Temporary Bike Facility on Broadway Ave



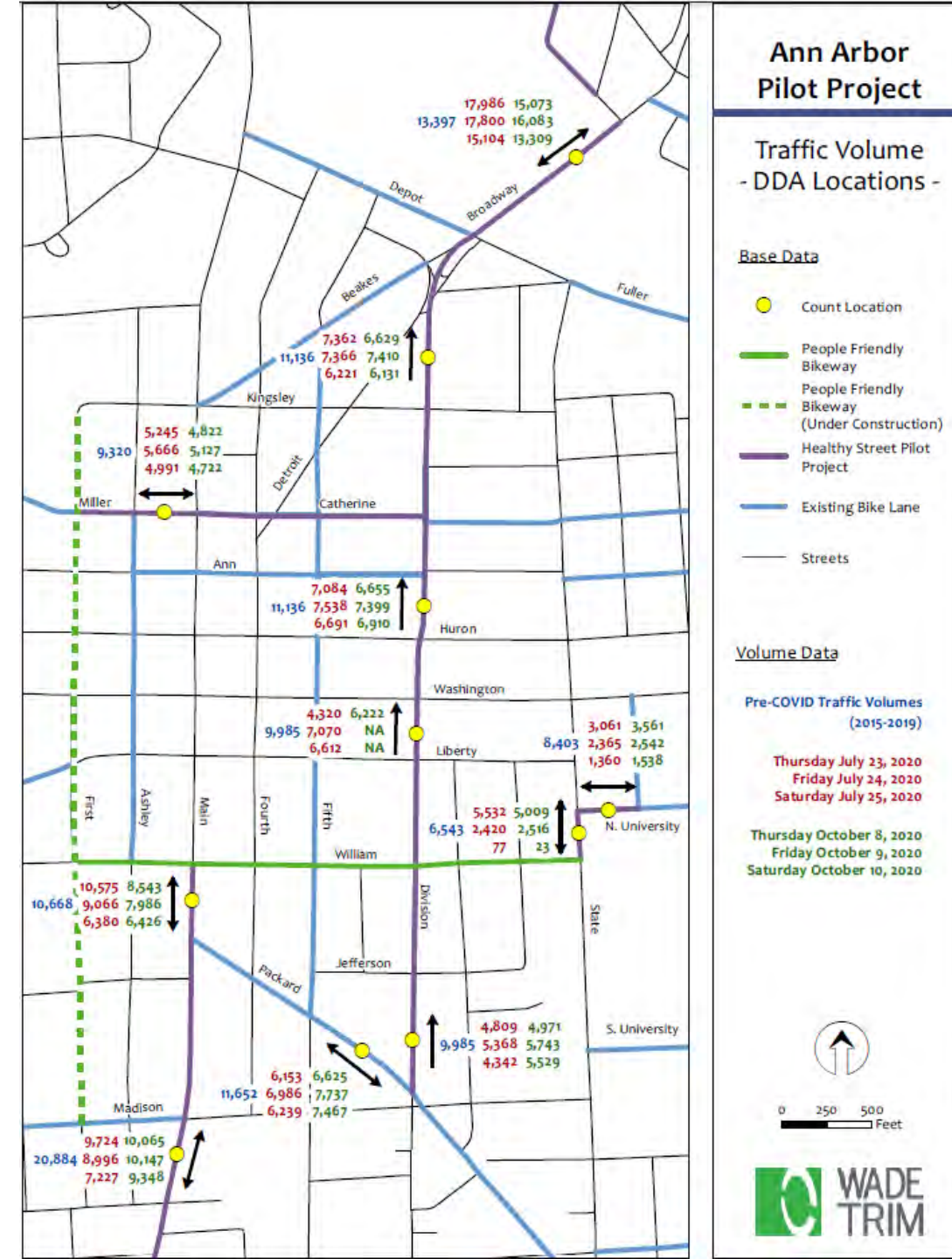
Source: secondwavemedia.com

Pilot Projects

Findings – Traffic Volumes

Data collected during COVID 2020

- “Before” deployment = July 2020
- “After” or during deployment = October 2020
- Traffic volumes were generally lower than pre-COVID conditions
- Varied significantly between sites, ranging from -1% to -64%
- Average of all site traffic showed a decrease of approximately -40%
- No major significant impacts to traffic operations were observed



Pilot Projects

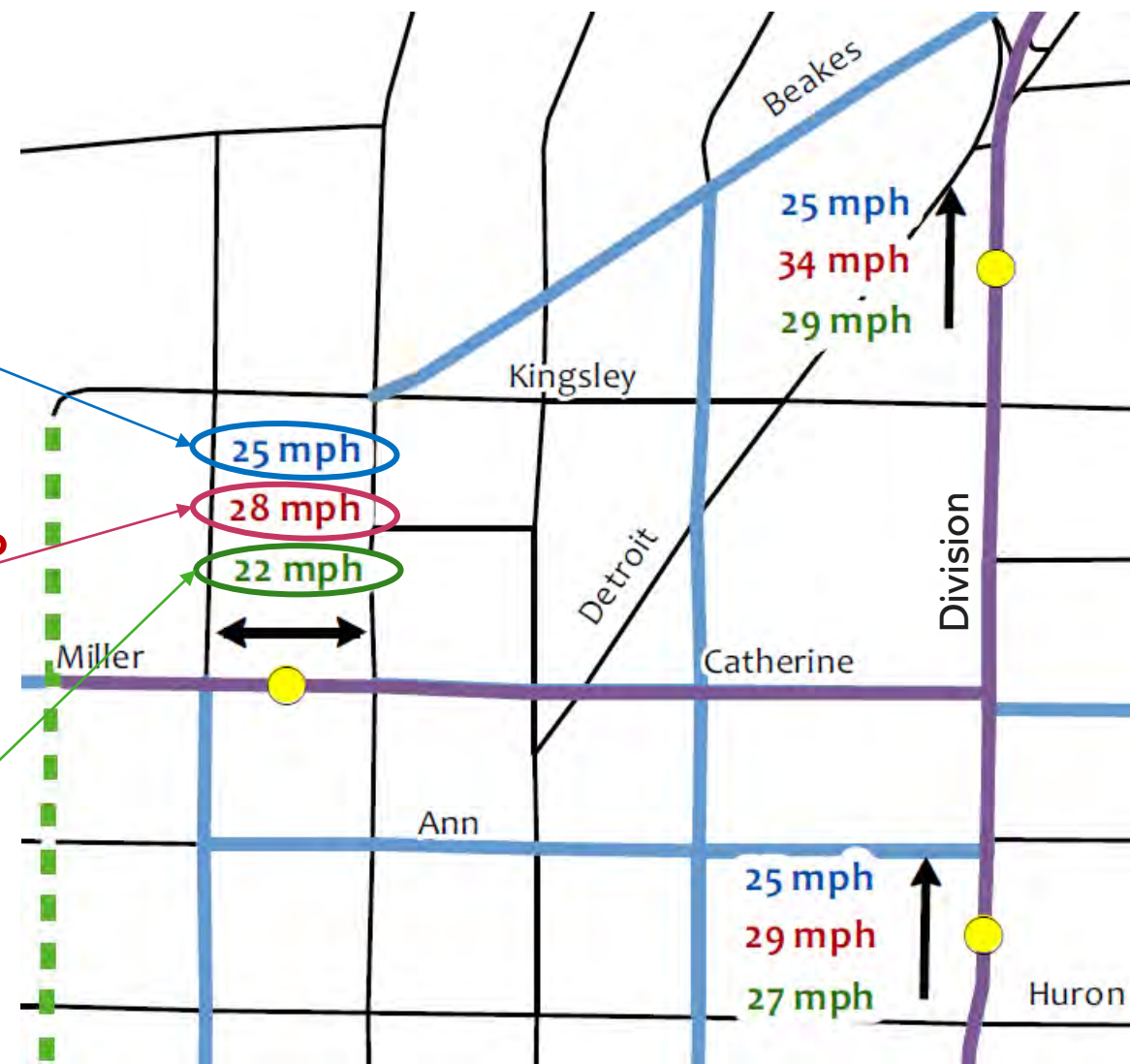
Findings – Speeds

- Overall speed reduced by **1-6 mph** at various sites, or by **7%**
- Speed reductions are expected to reduce the likelihood of a severe/fatal crash by **5%**
- Range of speeds reduced, with top speeds reduced from **39 mph** to **35 mph**

Posted
Speed
Limit

Before
Speeds
Per Day

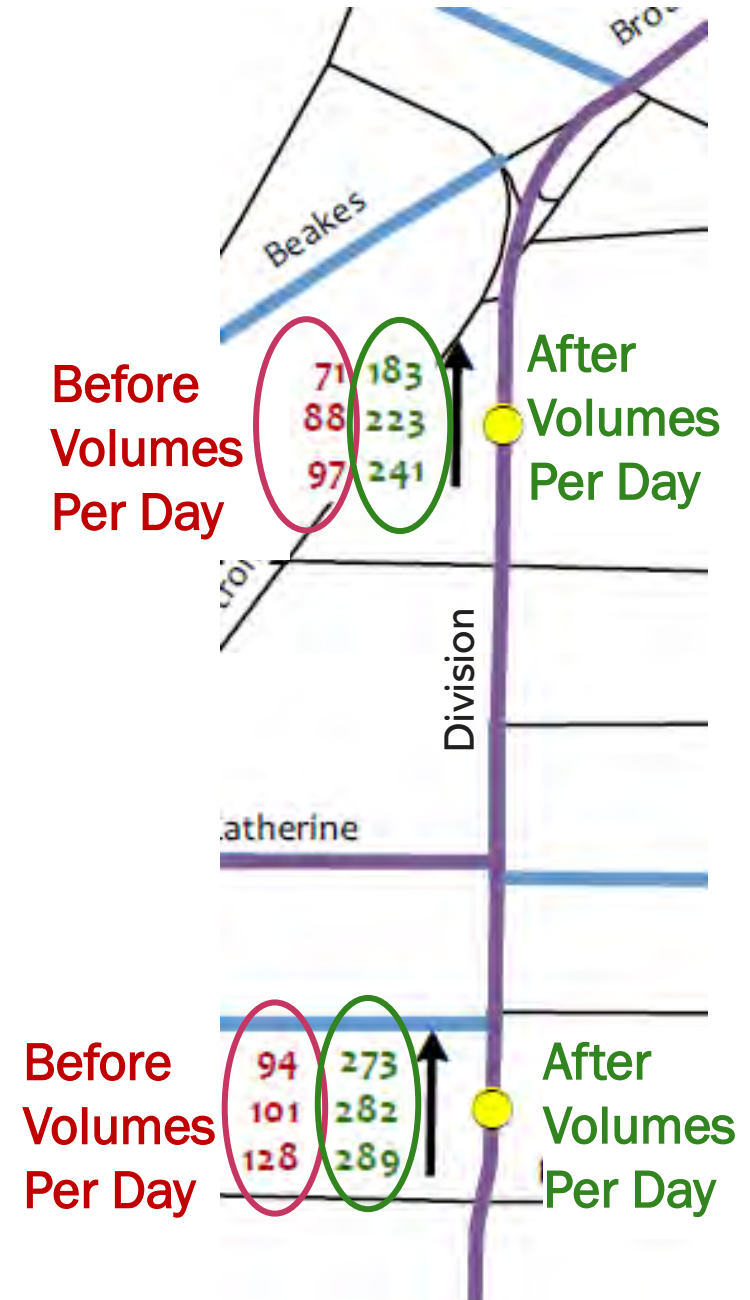
After
Speeds
Per Day



Pilot Projects

Findings – Bike Volumes

- During the 3-day collection period, over **4,649** bike trips were taken at **13 sites**
- Bicycle traffic increased dramatically upon installation of the temporary bike lanes on average among all sites after deployment
- **Thursday** trips increased **+54%**
- **Friday** trips increased **+60%**
- **Saturday** trips nearly doubled at **+93%**



Pilot Projects

Summary of Findings

- 695 respondents to survey
- 67% - used the pilot projects for walking and biking
- 73-81% - improved their experience biking downtown
- 76% - increased biking comfort, security, and safety
- Demonstrated possibilities for a low-stress bike network
- Pilot helps to inform decisions on future projects

Two-way Temporary Bike Facility on Division St



First & Ashley - Overview

Project Scope

First & Ashley One-Way Pair

- Restore Two-way Operations
- Remove Two Signals; Upgrade Seven Signals

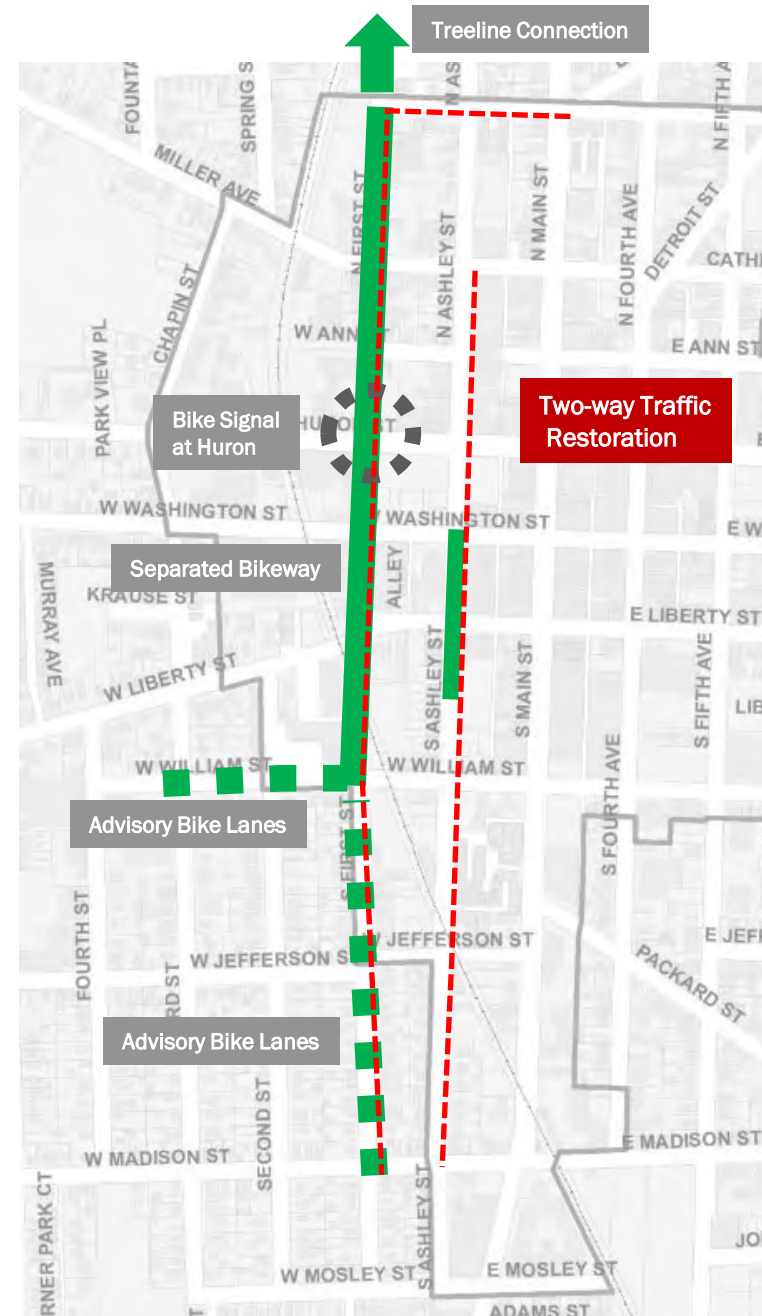
First Street Bikeway

- Half-Mile Two-way Separated Bikeway
- Half-Mile Advisory Bike Lanes through residential areas
- Connect Key Bikeways

Utility Improvements

- Watermain Upsizing & Consolidation
- Stormwater Infiltration Systems

Streetscape & Lighting Enhancements



Why Convert?

Benefits to two-way conversions:

Improves safety!

- Improves safety and comfort of residents, workers, and visitors of all abilities
- Calms traffic and contributes to slower vehicle speeds
- Improves access and circulation with more direct and convenient routes
- Promotes pedestrian and bicycle use

Supports and strengthens business development

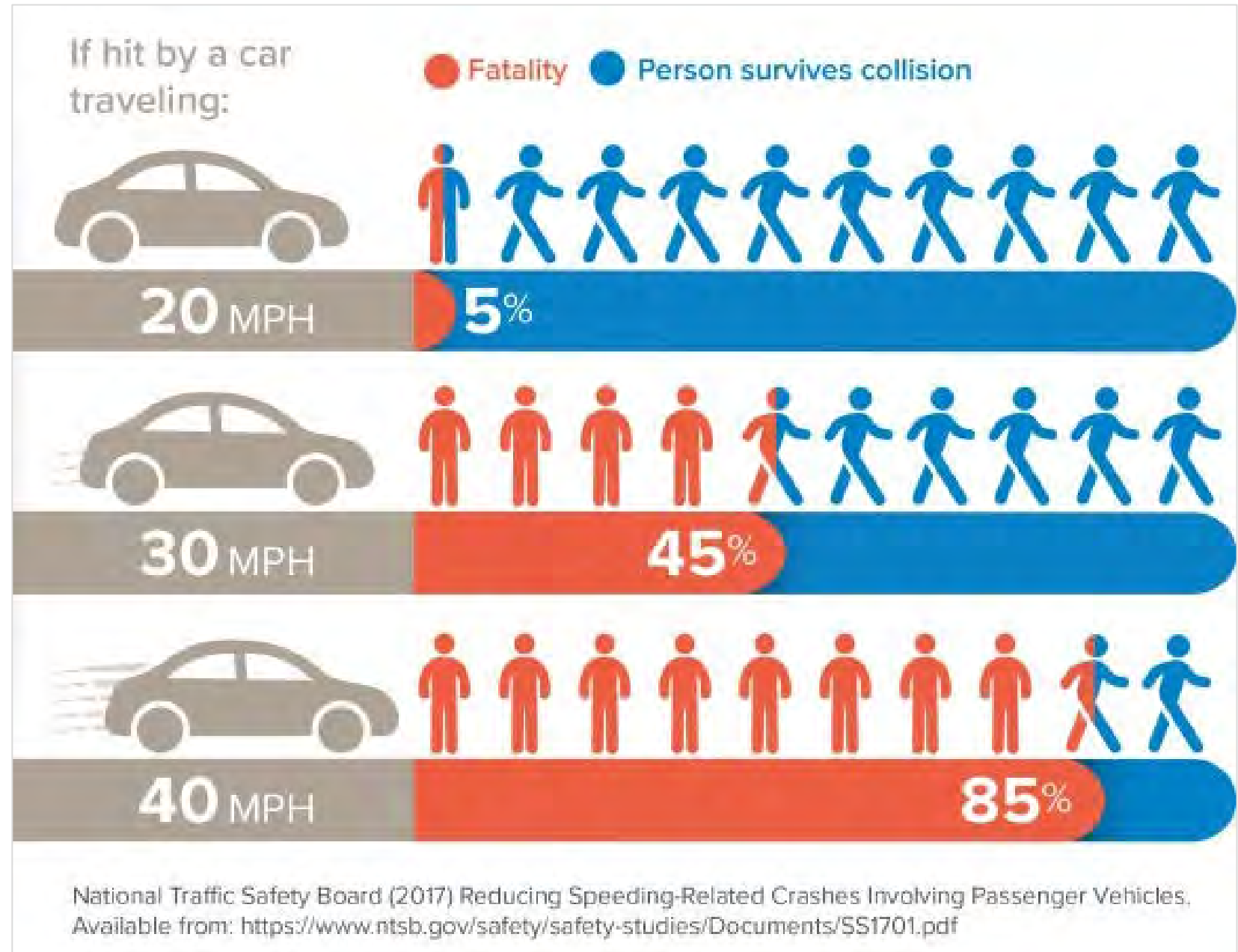
- Increases storefront exposure
- Contributes to compact urban setting
- Increased connections

Provides better access for residents

Promotes green design



Safety



Project Steps

Study Phase

- Traffic Crash and Modeling Studies
- Public Engagement
- Utility Feasibility

Design Phase

- Watermain
- Stormwater & Infiltration Systems
- Road & Grading
- Signal
- TCOs

Construction Phase

- Project Management
- Engineering
- Inspection
- Staking & Drone
- Public Coordination

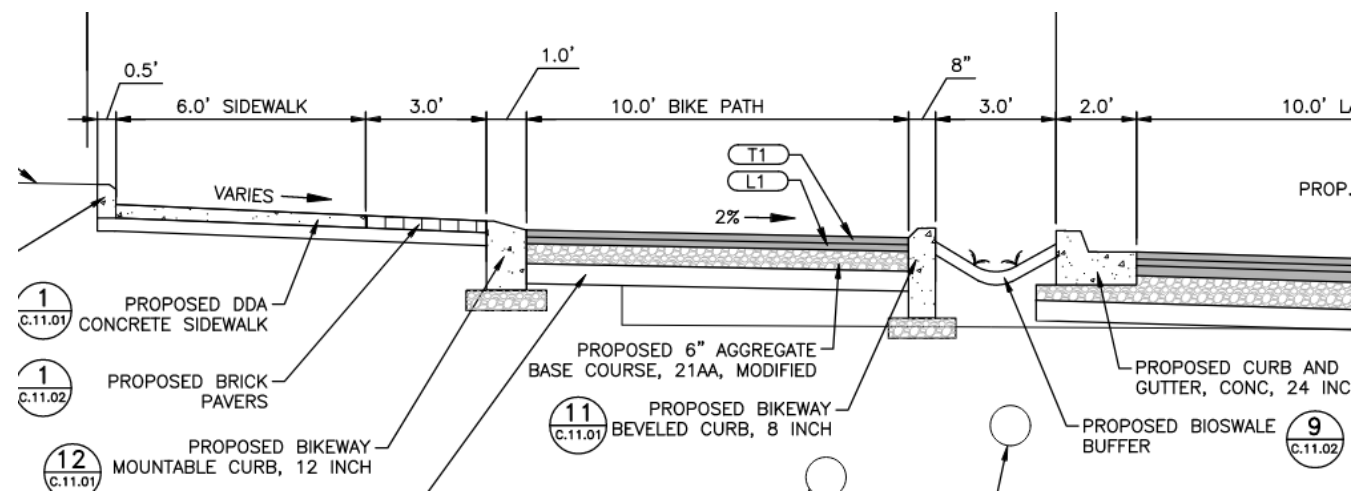
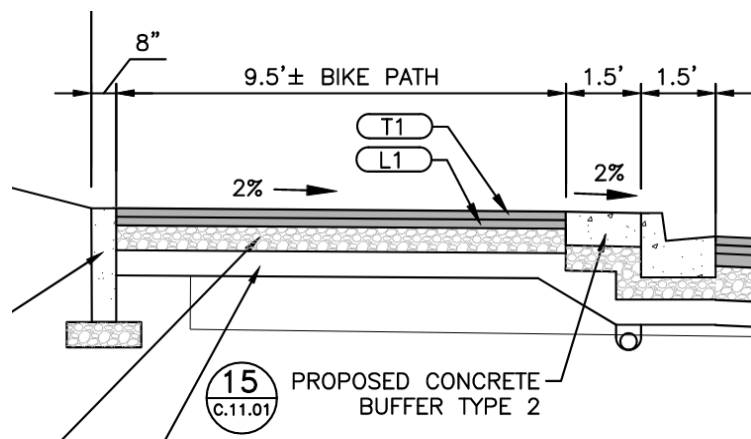
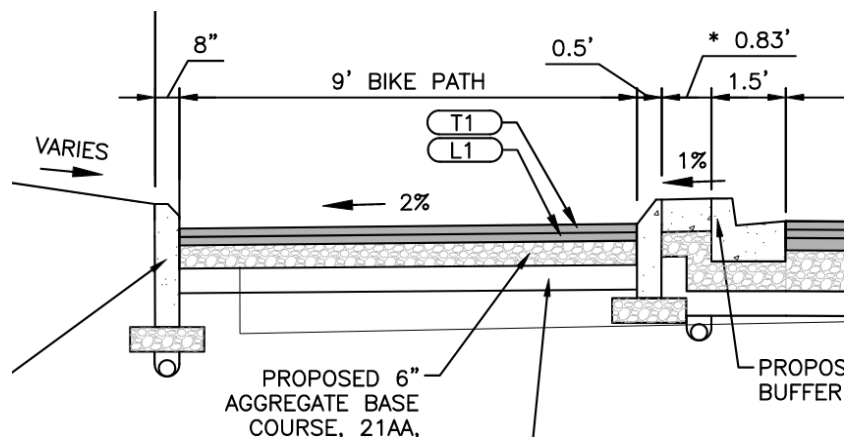
Follow-Up Studies

- Counts & Speeds
- Sign/Marking Upgrades
- Warrants

First & Ashley - Design

The background features a large, abstract geometric shape composed of a light blue trapezoid on the left and a darker blue triangle on the right. Below these is a dark grey horizontal band. Two thin, light grey diagonal lines cross the composition from the bottom left towards the top right.

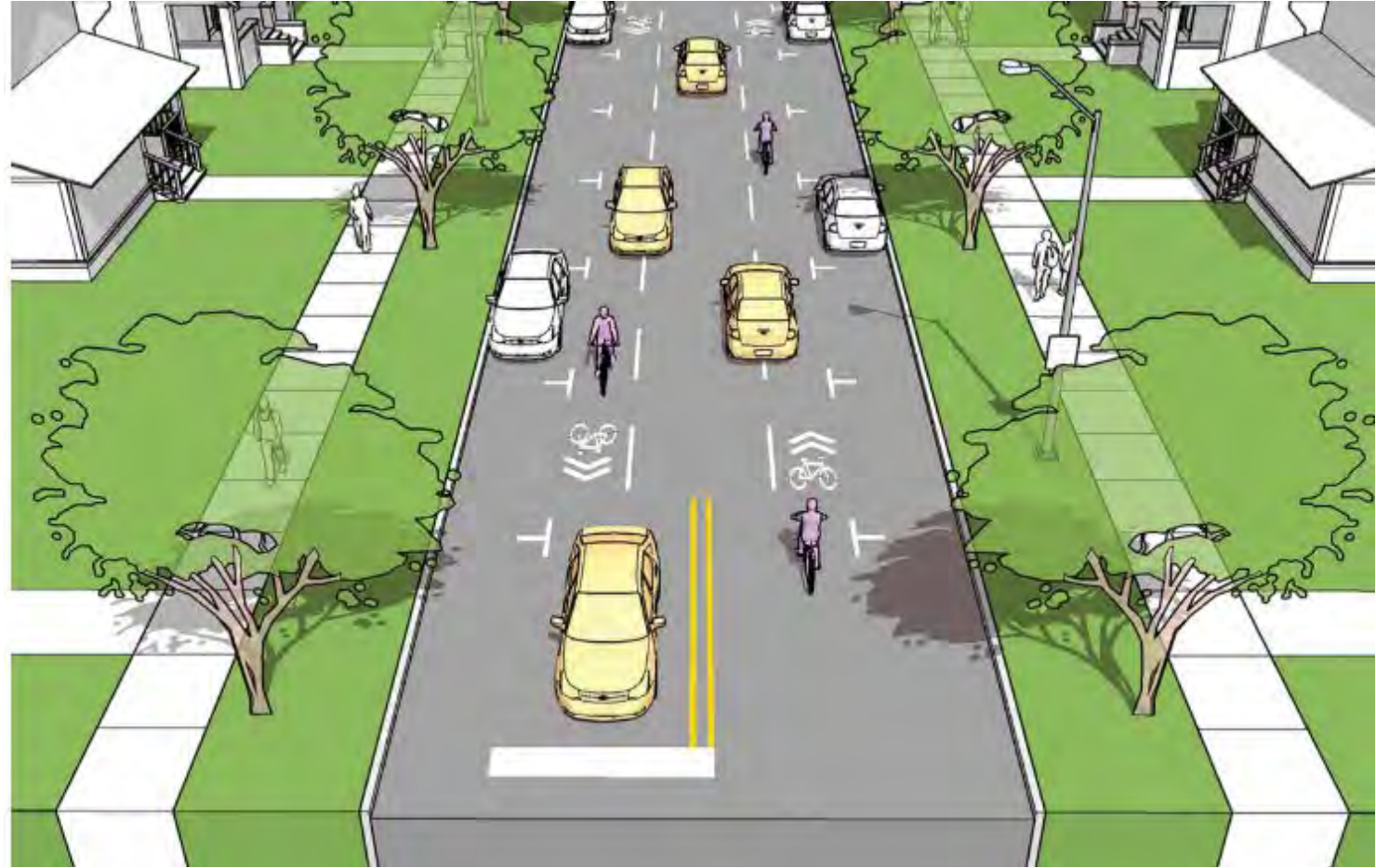
Separated Bikeway Variations



Advisory Bike Lanes

Vehicle traffic uses the center lane, with bike lanes on either side. When two drivers traveling in opposite directions meet, their vehicles move into the bike lanes to pass each other safely.

What happens if there is a bike in the cycle lane? Whoever is in front has the right of way. Vehicles traveling behind bikes can use the center lane to pass when it is safe to do so, making sure there is five feet of room, mandated by local ordinance.



Operations

- Bike signal locations evaluated and installed at First Street and Huron St
- No Turn on Red added at bikeways for improved non-motorized safety
- Other signalized intersections include “Bike Use Pedestrian Signal” signs indications for bicyclists
- Bumpouts to shorten crosswalks and improve pedestrian safety

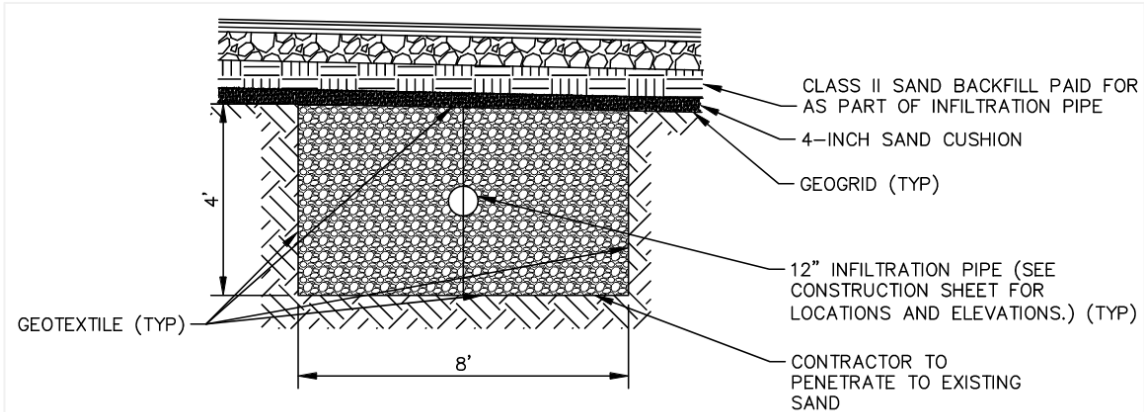


Green Markings

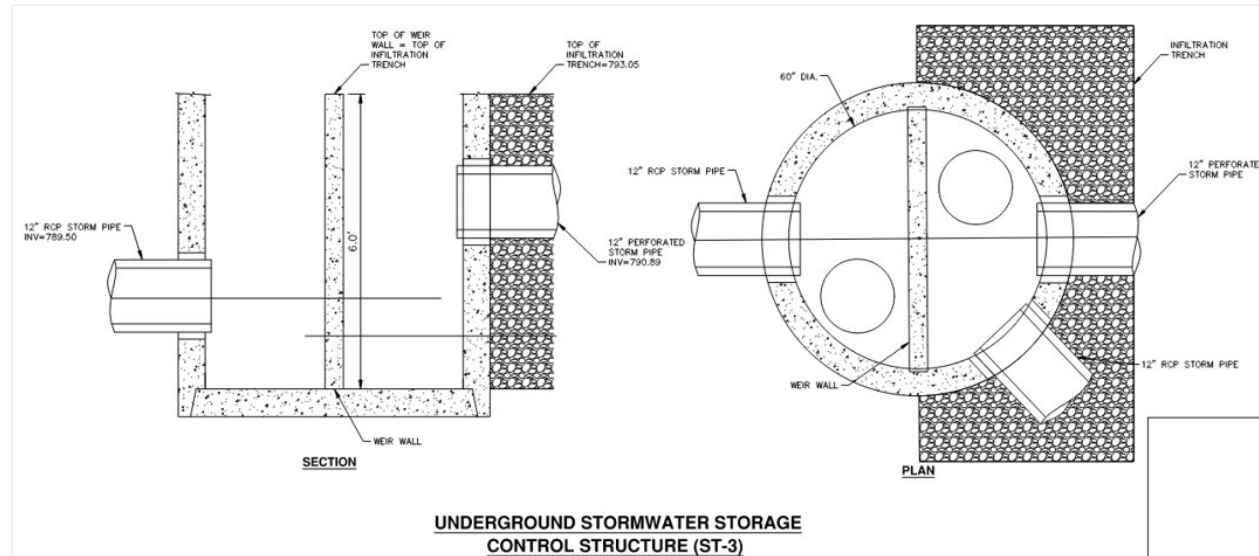
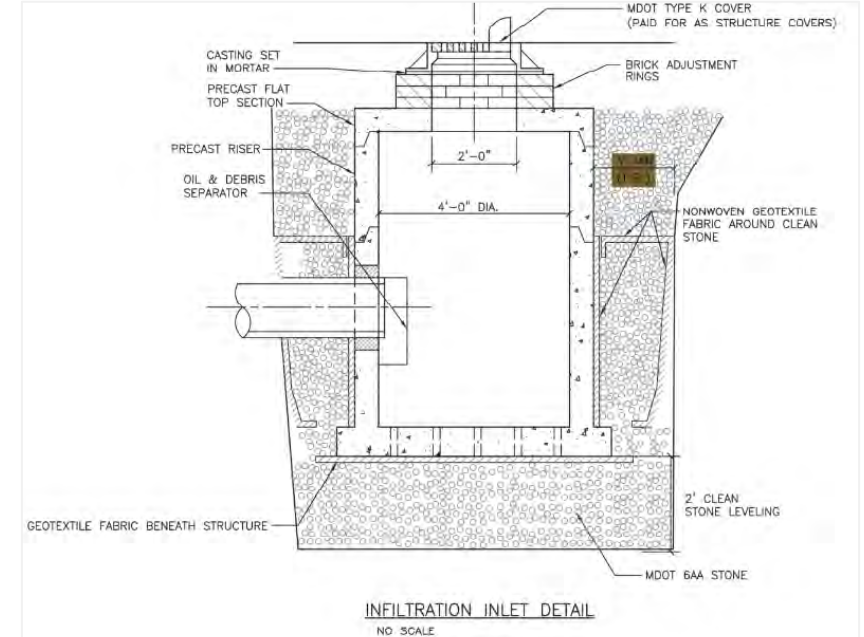
- Bike turn boxes installed for safe area for bikes to wait before turning and crossing the street
- Bikes enters the turn box and wait for the pedestrian signal to proceed
- Green dashes on the pavement through intersections alert people in cars and on bikes that there is a conflict area and to watch for vehicles, pedestrians and bicyclists



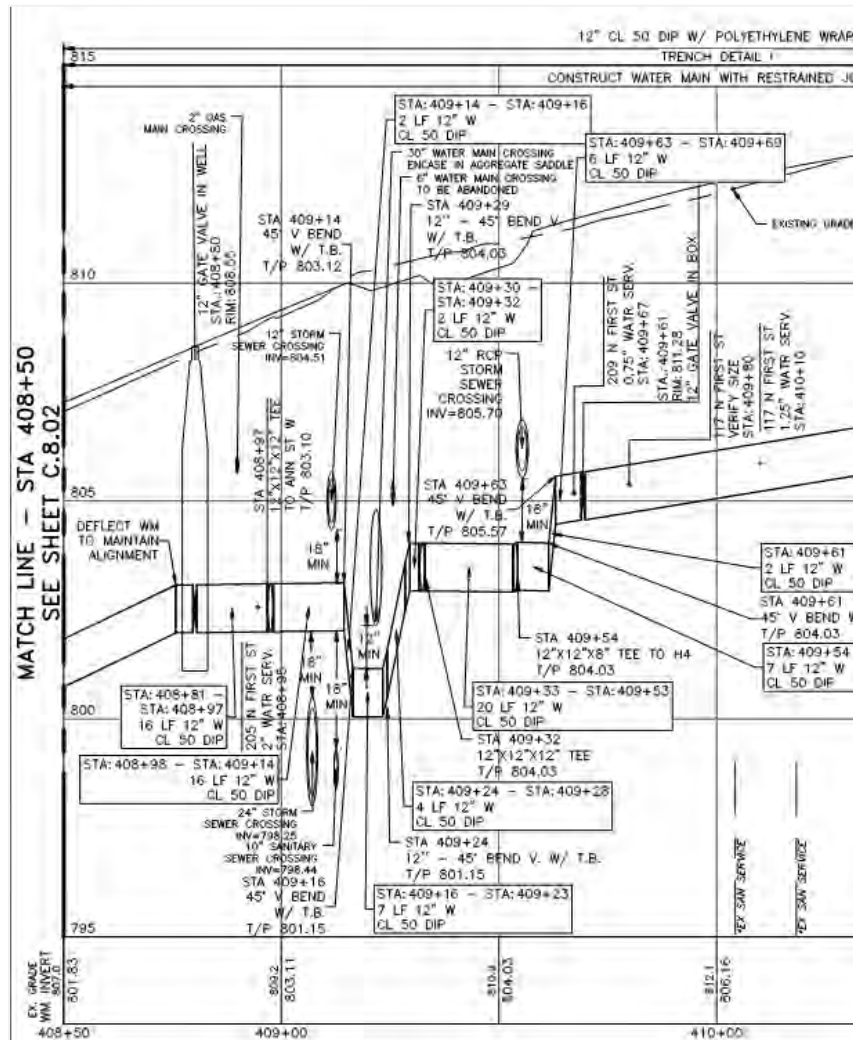
Stormwater Infiltration Systems



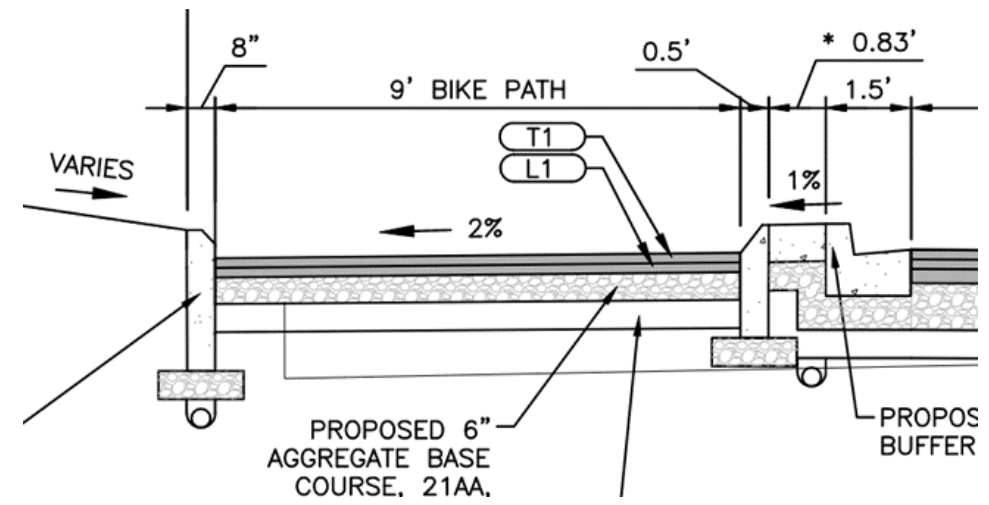
STONE RESERVOIR DETAIL (NTS)
OUTLET 1, 2, 4



Watermain & Curb Design



Watermain



Curb & Gutter

First & Ashely – Construction



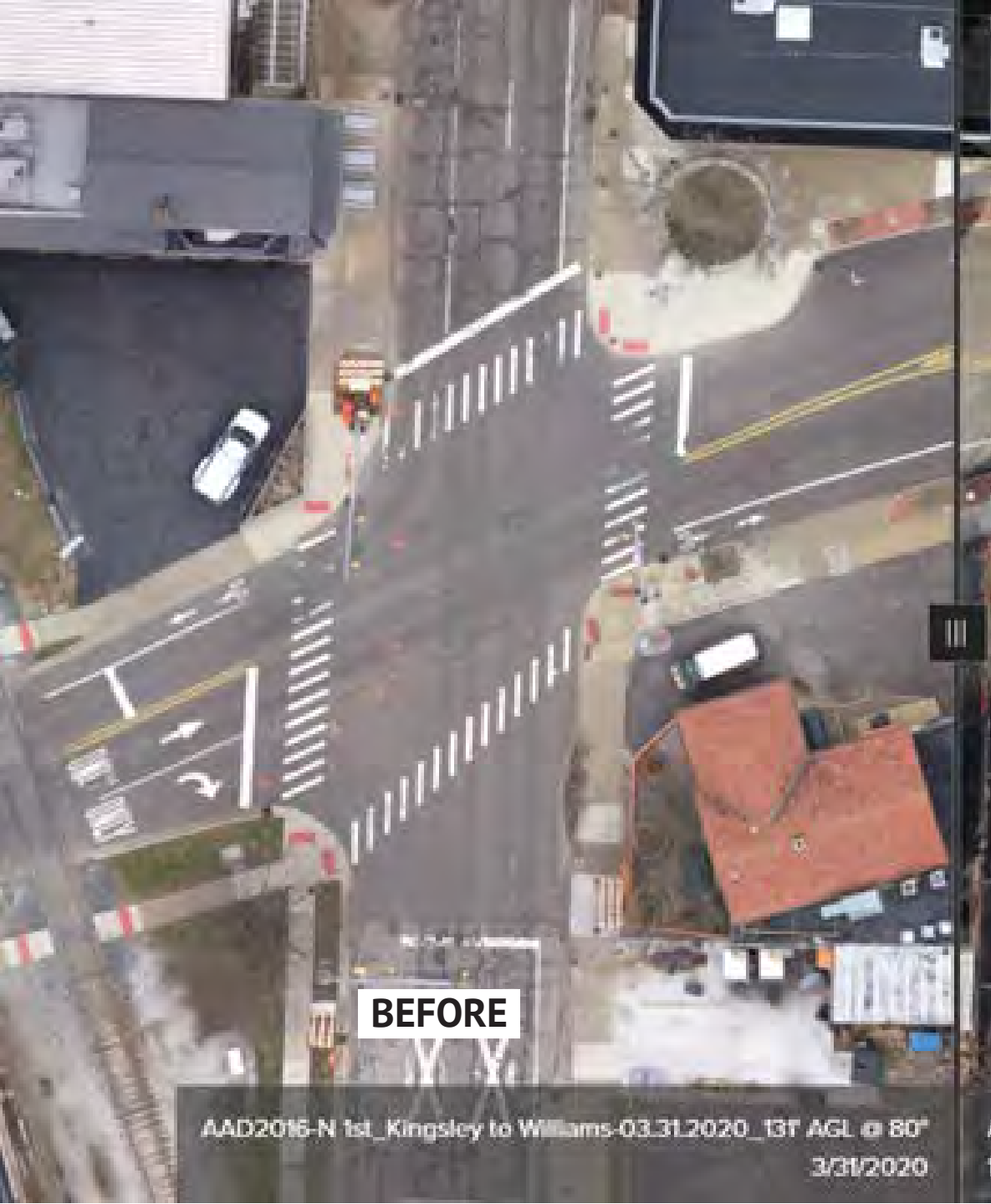








First & Ashely – Final Product

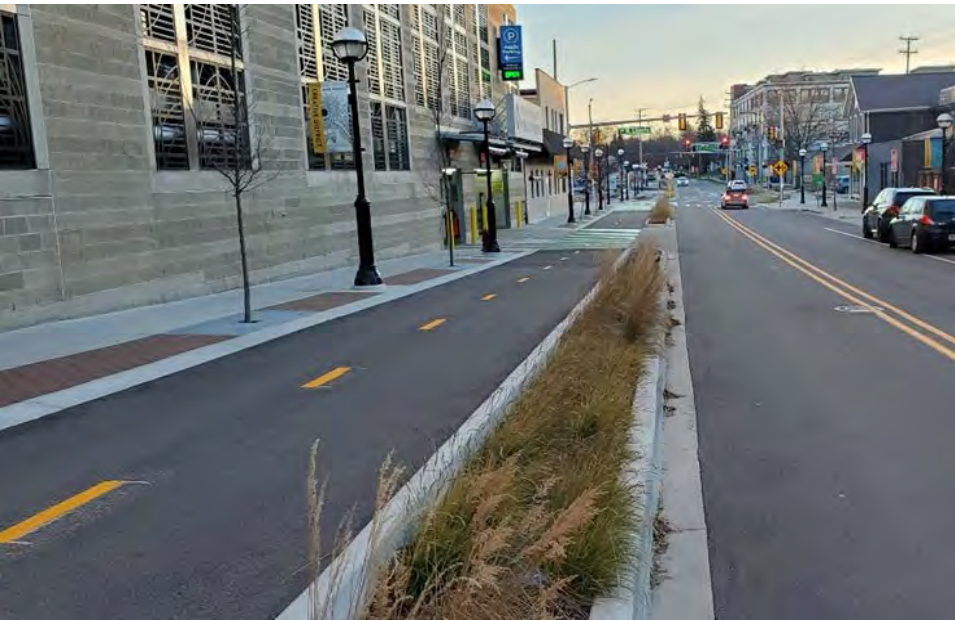


BEFORE

AAD2016-N 1st_Kingsley to Williams-03.31.2020_131' AGL @ 80°
3/31/2020

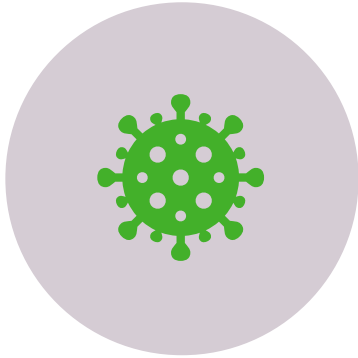


AFTER





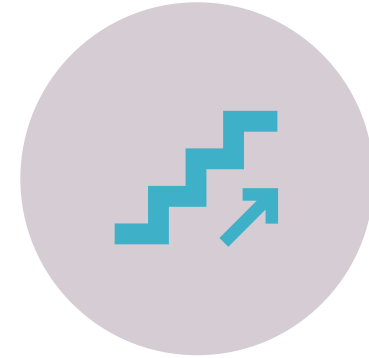
Challenges



COVID-19



COMMUNICATION



EDUCATION

COVID-19

- Delays ~ 1-month shutdown
- Working dynamic
- Street-use changes



Covid meets downtown construction

Communication

- Downtown Businesses & Access
- Maintenance of Traffic Changes
- 1-Way to 2-Way Transition



Education

Ann Arbor Considers Bike Lane Blocking 'Bounty'

The proposal would award people who report blocked bike lanes a percentage of resulting tickets. Critics say the city must address the underlying reasons for blocked bike lanes first.

1 Minute Read
November 21, 2022, 8:00 AM PST
By Diana Ionescu [@aworkoffiction](#)



Ajdin Kamber / Car blocking bike lane



Ann Arbor police step up bike lane enforcement, issue 28 tickets

Published: Mar. 03, 2023, 11:51 a.m.



Vehicles parked illegally in the new bike lane in front of The Standard apartment high-rise on Main Street south of William Street in downtown Ann Arbor on Feb. 5, 2023. Six or seven cars and trucks at a time have been parked in the new bike lane.



246 shares

By Ryan Stanton | ryanstanton@mlive.com

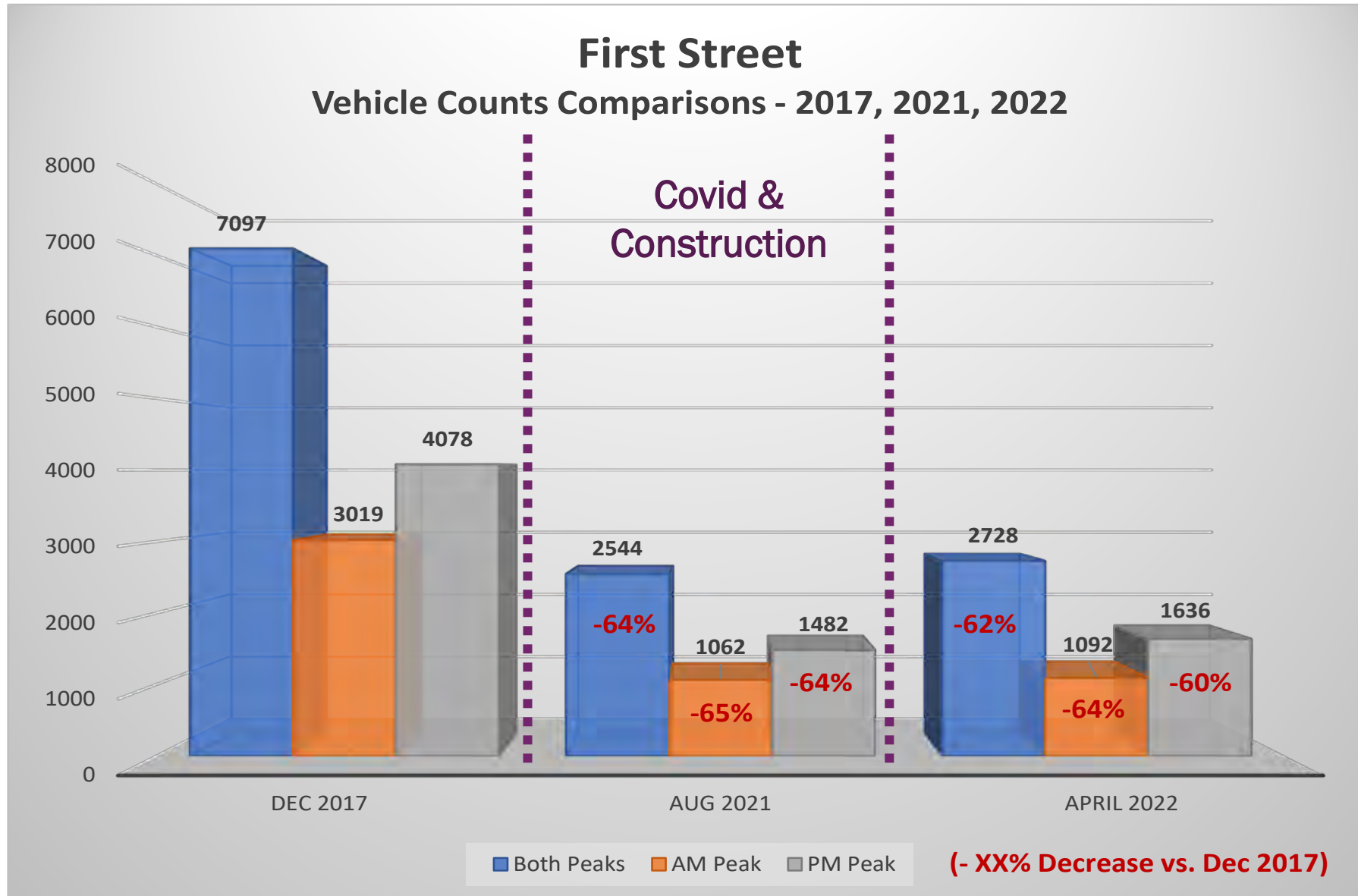
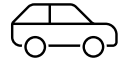
ANN ARBOR, MI — With cars and trucks continuing to park in bike lanes, Ann

Before & After Review



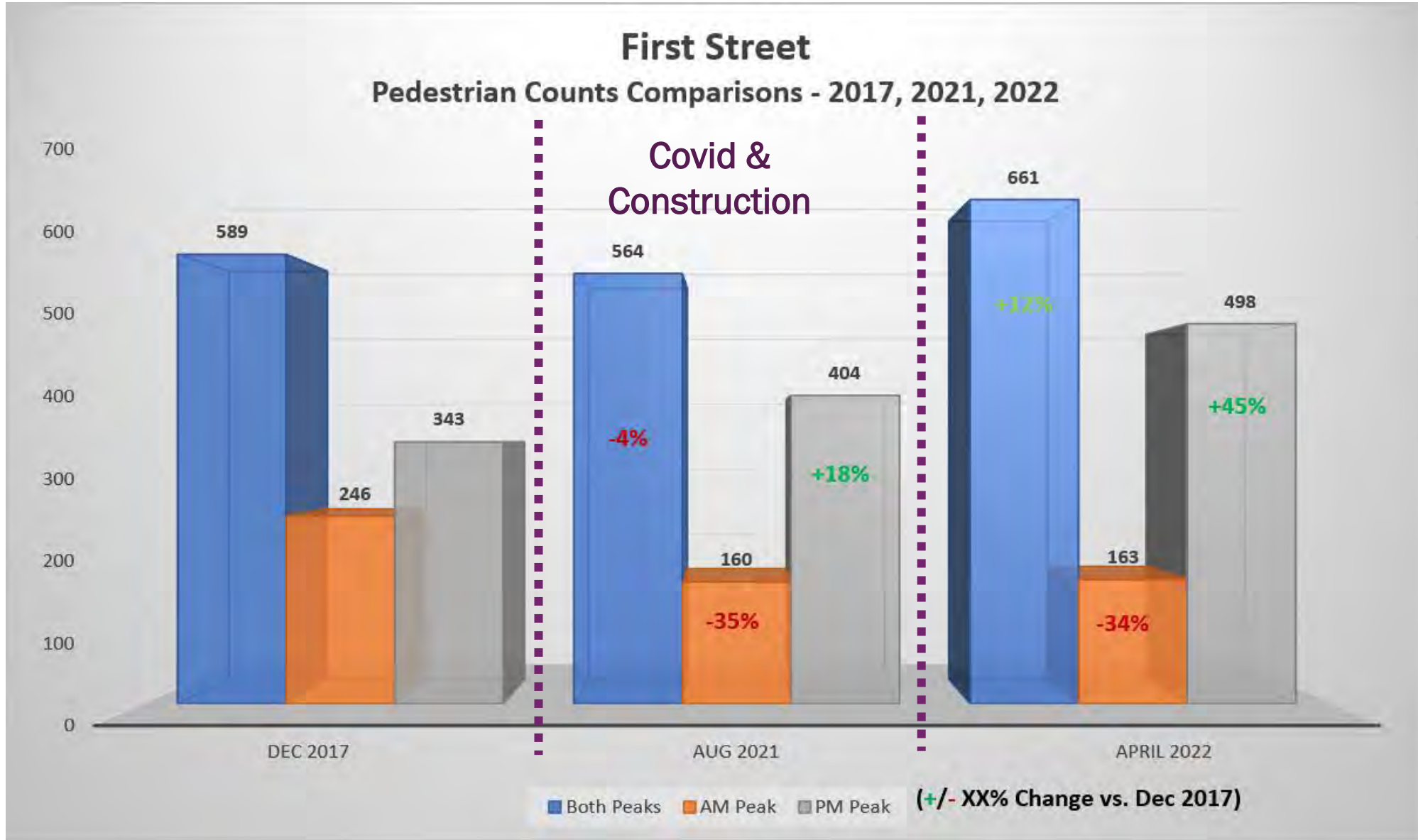
Before & After Vehicle Counts

First Street = Two-Way Conversion + New Bikeway



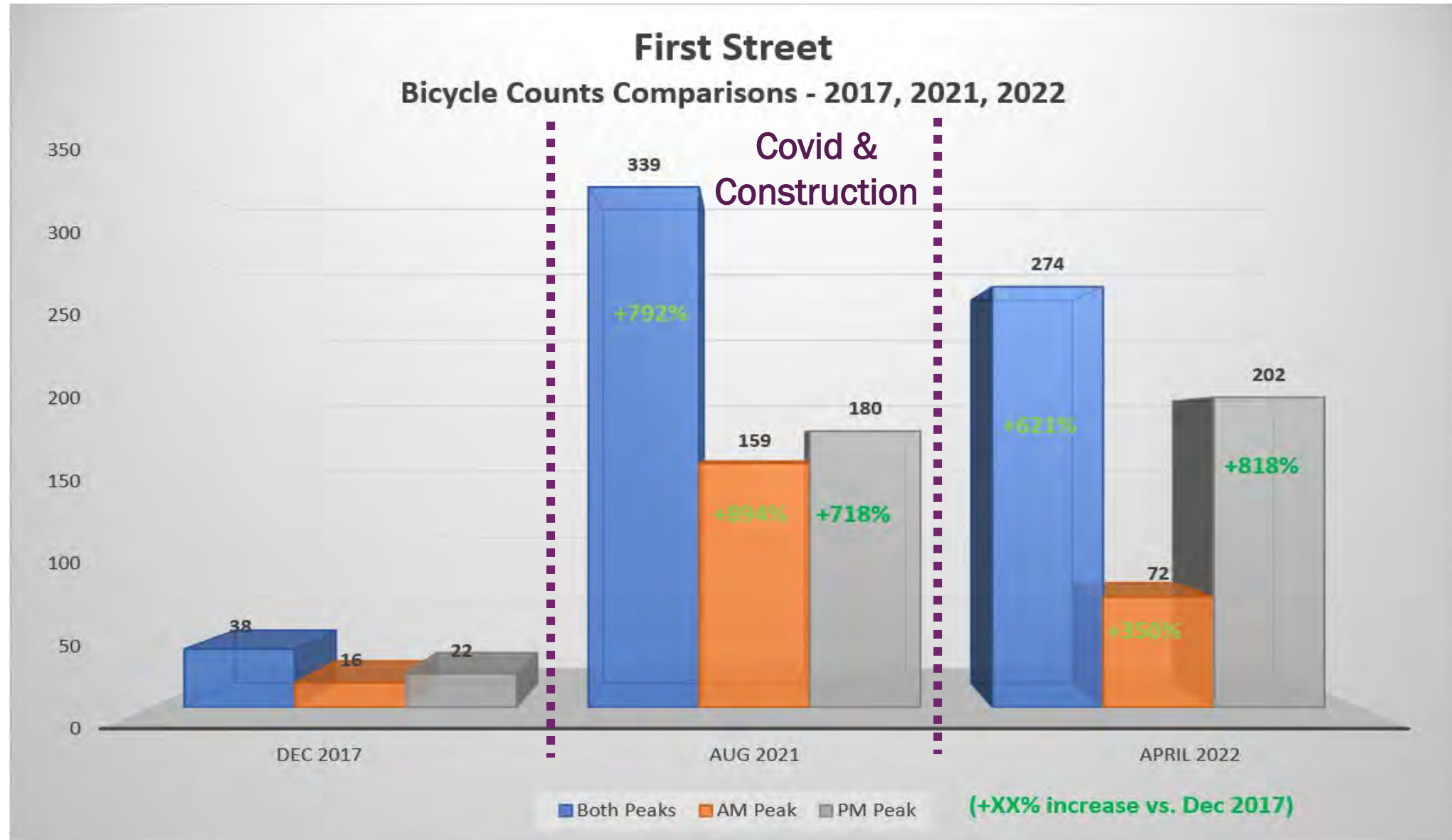
Before & After Pedestrian Counts

First Street = Two-Way Conversion + New Bikeway



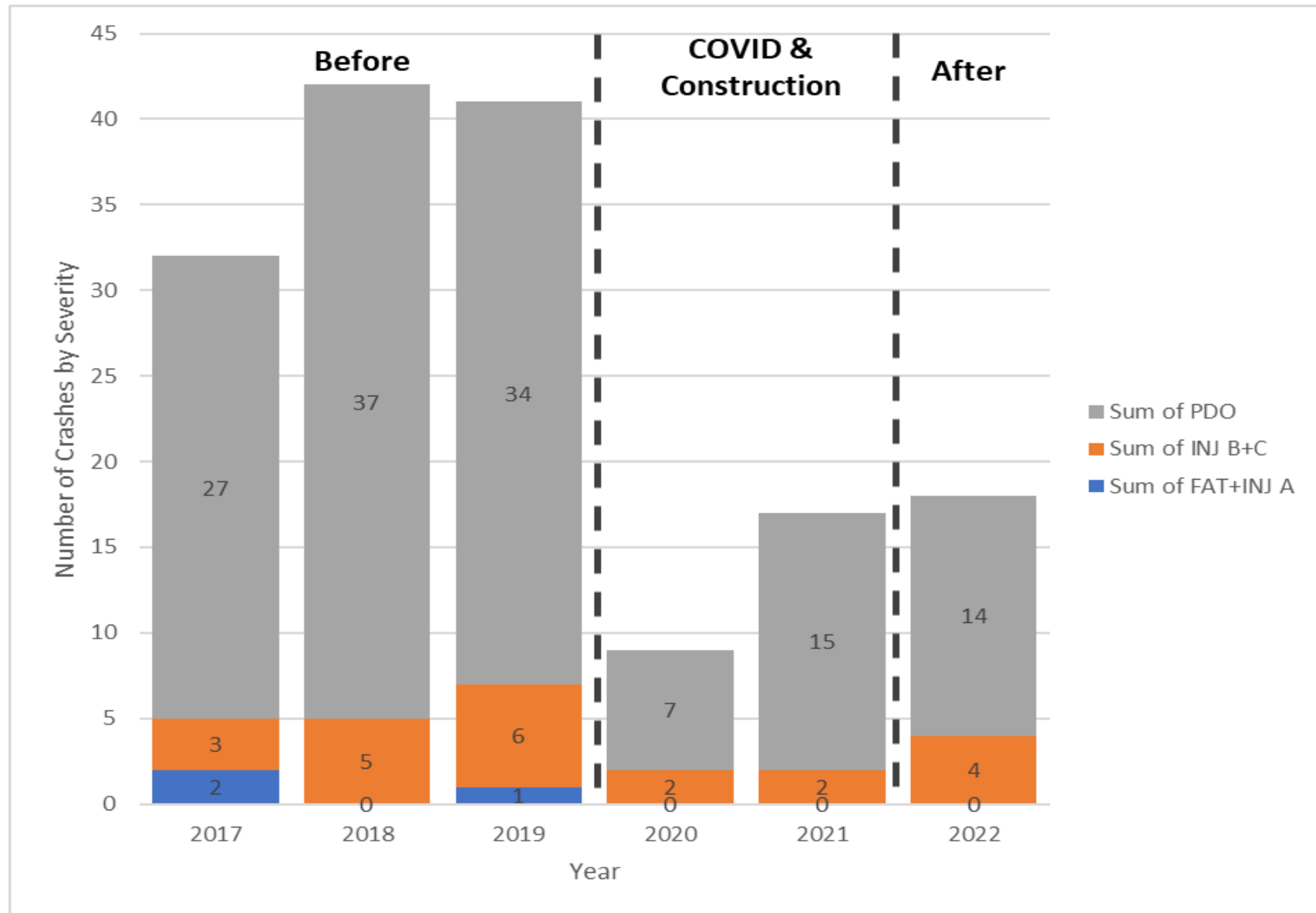
Before & After Bike Counts

First Street = Two-Way Conversion + New Bikeway



Before & After Crashes

First Street = Two-Way Conversion + New Bikeway



Before & After Vehicle Speeds

First Street = Two-Way Conversion + New Bikeway





Before & After Bicycle Level of Traffic Stress

Two-Way Conversion + New Bikeway

Bicycle Level of Traffic Stress

Quantifies the amount of discomfort that people feel when they bicycle close to traffic.

Before



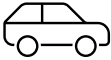












After



Before & After Data Summary

First Street = Two-way Conversion + Bikeway

Ashley Street = Two-Way Conversion Only

	Measurement	Before - 2017		After -2022		Change		
		First Street	Ashley Street	First Street	Ashley Street	First Street	Ashley Street	
	Counts - Average Daily Vehicle Traffic	6100	4200	2820	3260	↓ -54%	↓ -22%	
	Counts - Pedestrian Peak Periods Total	589	86	661	136	↑ 12%	↑ 58%	
	Counts - Bicycle Peak Periods Total	22	9	202	21	↑ 818%	↑ 133%	
	Crashes Per Year	38.3	27.7	18	23	↓ -53%	↓ -17%	
	Pedestrian & Bike Crashes	3.66	2.33	3	2	↓ -18%	↓ -14%	
	Speeds	Up to 57.4% of vehicles over the speed limit	Up to 36.6% of vehicles over the speed limit	Up to 14.6% of vehicles over the speed limit	Up to 31.6% of vehicles over the speed limit	Significantly Better	Slightly Better	
	Bicycle Level of Traffic Stress	Moderate-High Stress	Moderate-High Stress	Low Stress	Moderate-High Stress	Significantly Better	Slightly Better	

Bikeapalooza!





Awards

Awards

First Street Bikeway named one of America's 10 best new bikeways of 2020 by PeopleForBikes

League of American Bicyclists awarded City a Gold-level Bicycle Friendly Community (BFC) award

League of Michigan Bicyclists – Outstanding Infrastructure Award

ACEC-M 2023 Honorable Conceptor Award



Video

A vibrant night scene of a pedestrian plaza. The area is illuminated by warm white string lights strung across the space. In the foreground, a bicycle is parked on the left. Several people are walking and sitting on modern wooden benches. In the background, there are traffic lights, street signs (including 'ONE WAY' and 'P. LINDSEY'), and large digital billboards. The overall atmosphere is lively and urban.

Questions?