



# Duke Street Transitway

**City Council**  
**June 27, 2023**



# Tonight's Agenda

01

**Background  
& Project  
Goals**

02

**Process &  
Engagement  
Overview**

03

**Advisory  
Group  
Preferred  
Concept**

04

**What We're  
Hearing**

05

**Next Steps &  
Future  
Council  
Action**

# Background & Project Goals

# Why Duke Street?

Over 3,000 average weekday riders (March 2023)...

~120% of pre-pandemic ridership



...stuck in traffic that is anticipated to increase as the region grows

Volumes projected to increase by 10% by 2030

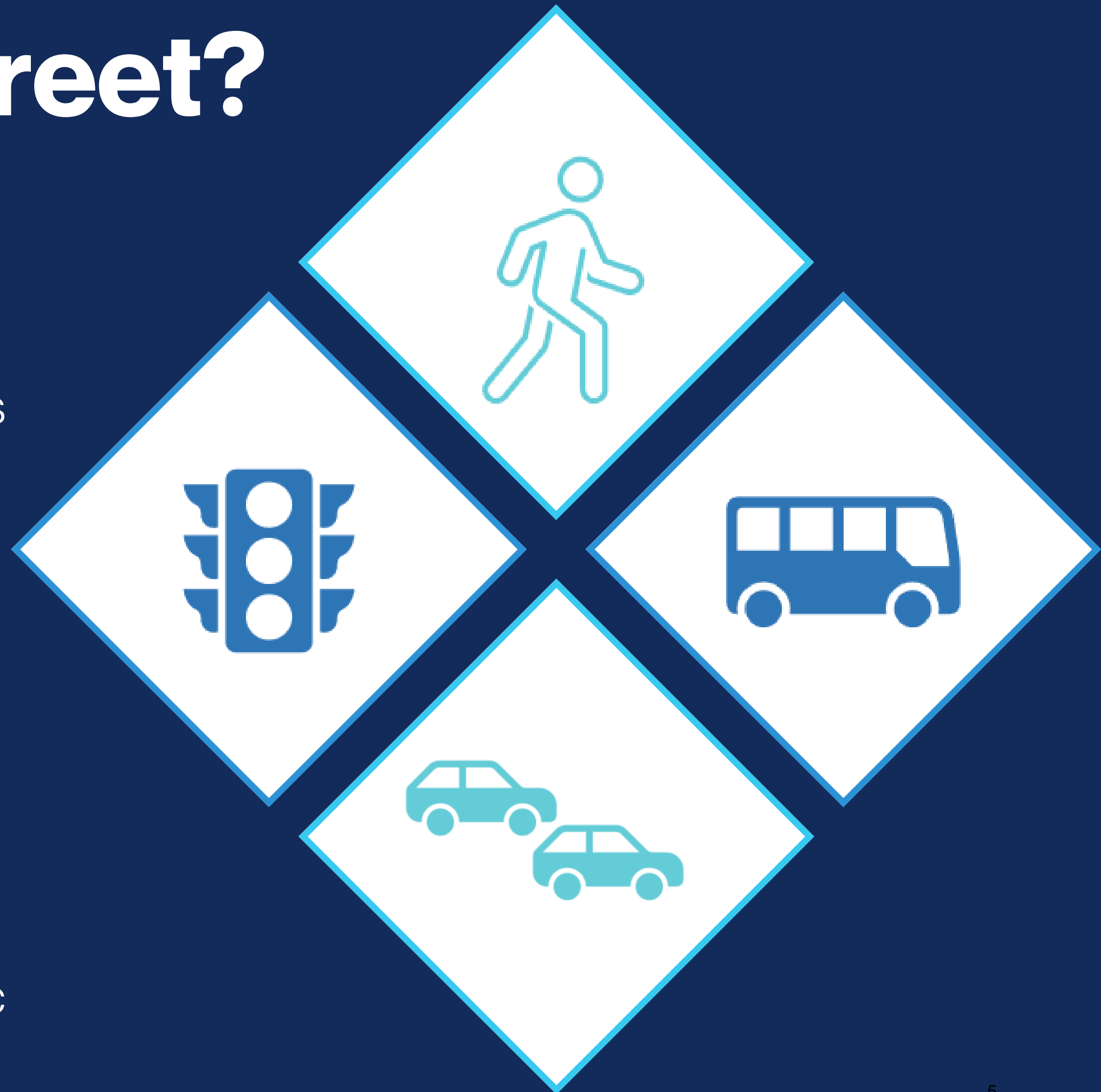
# Why Duke Street?

## CHALLENGES

- Traffic congestion
- Cut-through traffic on residential streets
- Safety
- Bus experience

## OPPORTUNITIES

- Improve options for people to use other modes
- Redesign intersections for safety
- Use technology to better manage traffic
- Build on strong transit ridership



# Project Alignment with City Goals



 **Equity**

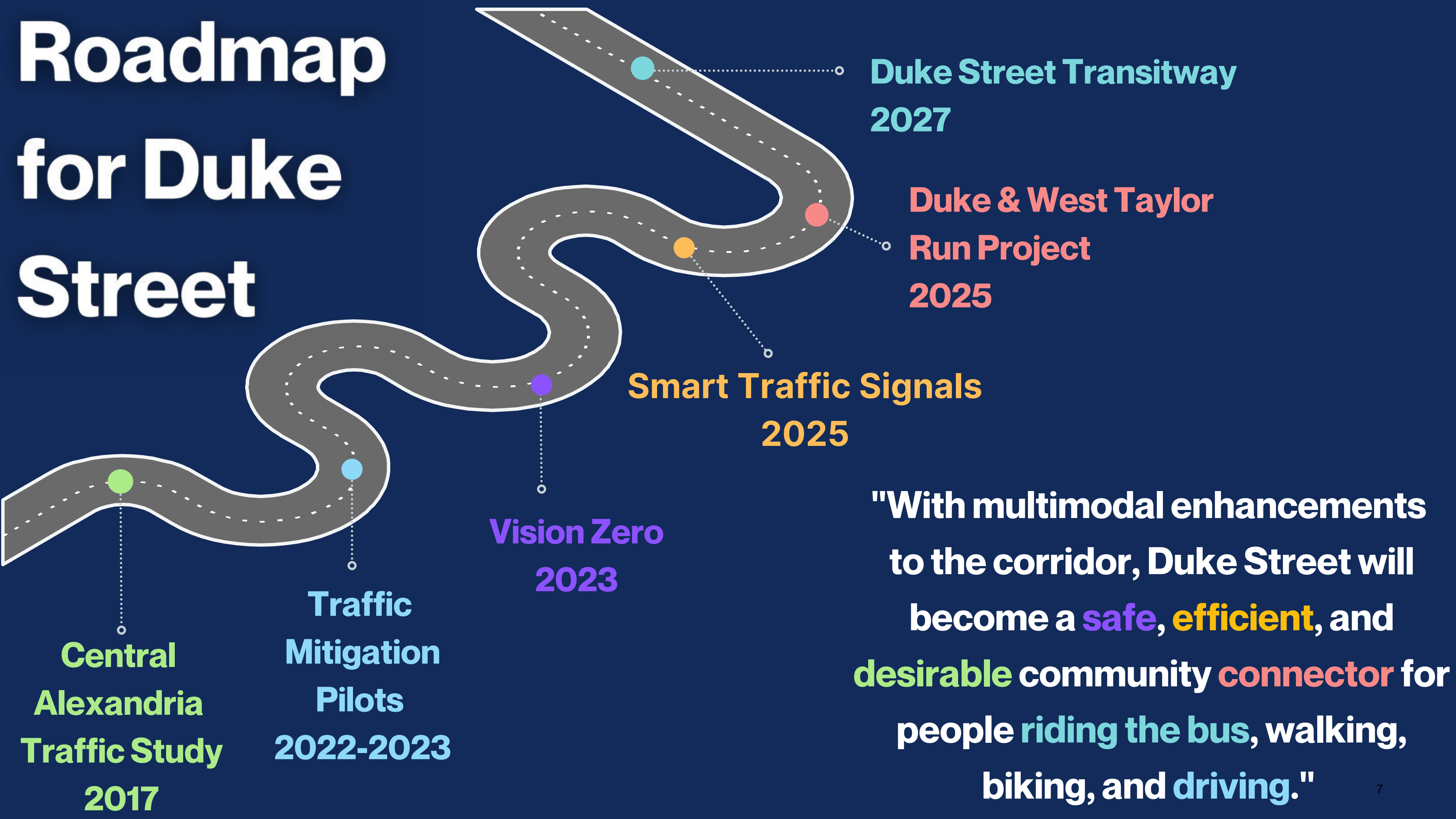
 **Mobility Options**

 **Sustainability**

 **Congestion Management**

 **Safety**

# Roadmap for Duke Street



**Duke Street Transitway  
2027**

**Duke & West Taylor  
Run Project  
2025**

**Smart Traffic Signals  
2025**

**Vision Zero  
2023**

**Traffic  
Mitigation  
Pilots  
2022-2023**

**Central  
Alexandria  
Traffic Study  
2017**

**"With multimodal enhancements to the corridor, Duke Street will become a **safe**, **efficient**, and **desirable** community **connector** for people **riding the bus**, walking, biking, and **driving**."**

# On Duke Street, the Transitway could achieve...



UP TO **9.5 MINUTES** IN  
TRAVEL TIME SAVINGS  
FOR BUS RIDERS



UP TO **5 MINUTES**  
TRAVEL TIME SAVINGS  
FOR VEHICLES



**70% REDUCTION** IN  
LEFT TURN CRASHES  
CORRIDOR-WIDE



**50% REDUCTION** IN  
PEDESTRIAN CRASHES  
AT 29 INTERSECTIONS



# DUKE STREET TRANSITWAY TIMELINE

2008

Duke Street  
Identified as  
future transit  
corridor

2012

Transitway  
Concept Plans  
Approved

2018 &  
2020

- \$12M  
Planning  
funding  
awarded
- \$75M  
Construc-  
tion funding  
awarded

2021

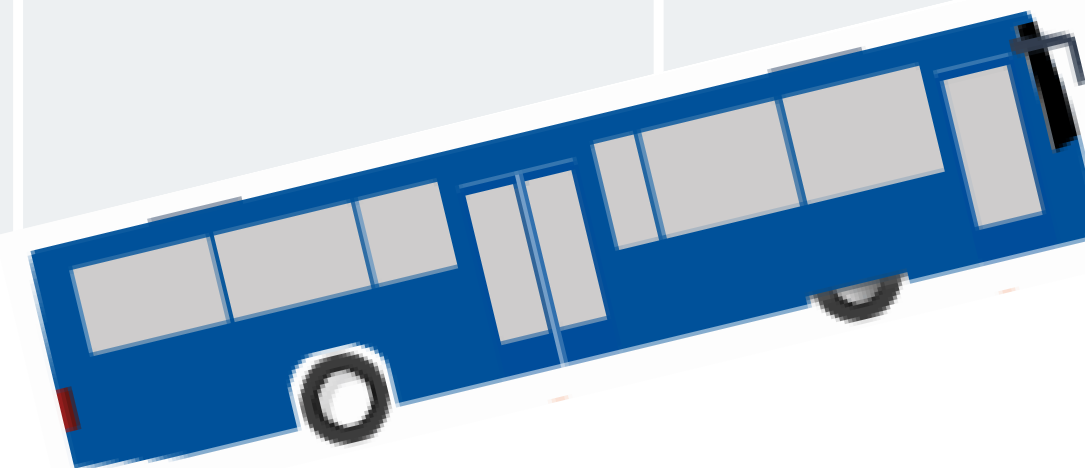
Phase I -  
Community  
Visioning

2022

Phase II -  
Concept  
Planning -  
Community  
Priorities &  
Tradeoffs

2023

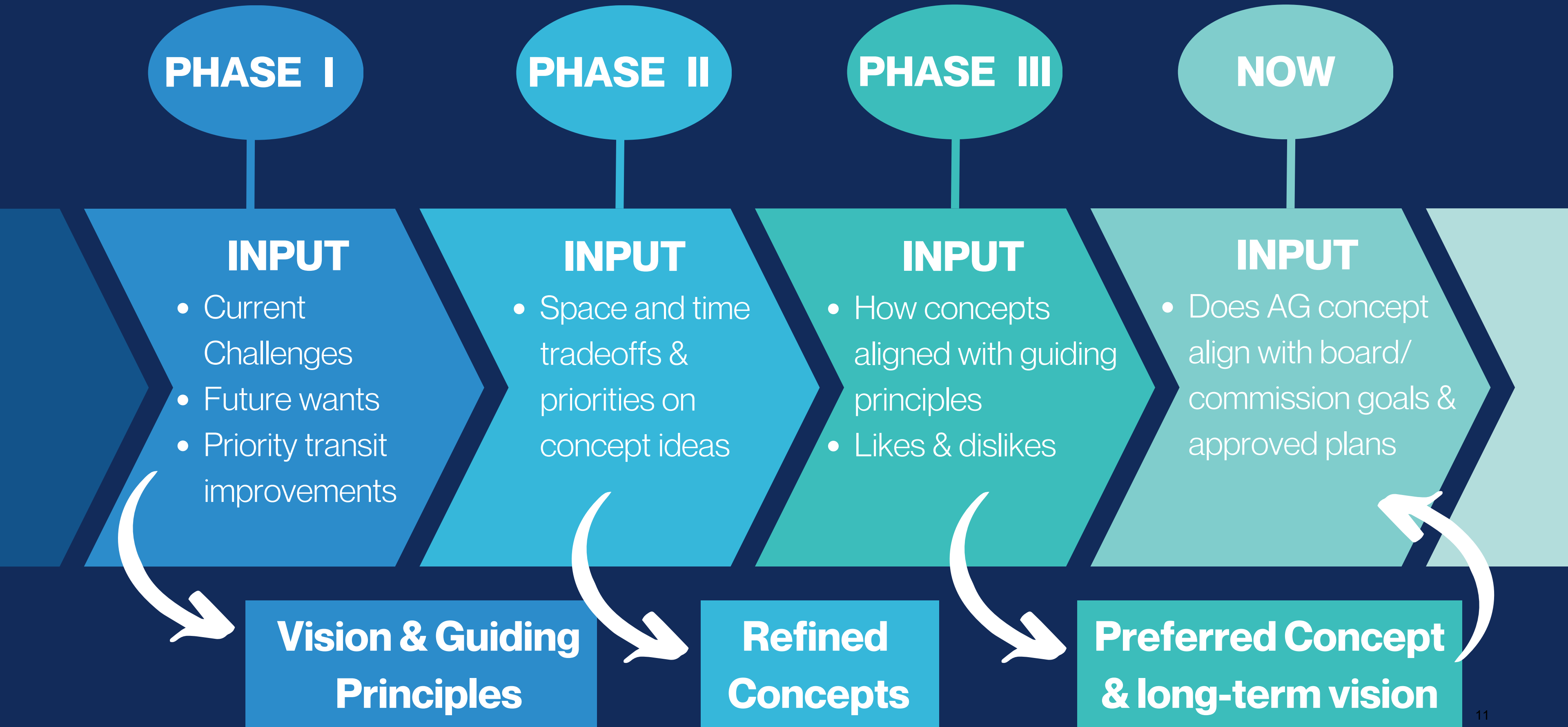
- Phase III -
- Concept  
Refinement  
& Curb  
Features
  - Council  
Action





# Process & Engagement Overview

# Process



# Community Visioning

## PHASE I

### INPUT

- Current Challenges
- Future wants
- Priority transit improvements

**Vision & Guiding Principles**



**Improve the bus**



**Prioritize Safety**



**Congestion is a major concern**



# Concept Options

PHASE II

## INPUT

- Space and time tradeoffs & priorities on concept ideas

Refined Concepts



Maintaining service road access to homes and buffer space

Support for changes that improve bus travel times



# Refined Concepts

## PHASE III

### INPUT

- How concepts aligned with guiding principles
- Likes & dislikes

Preferred Concept  
& long-term vision



**Bus stop spacing & consolidation**



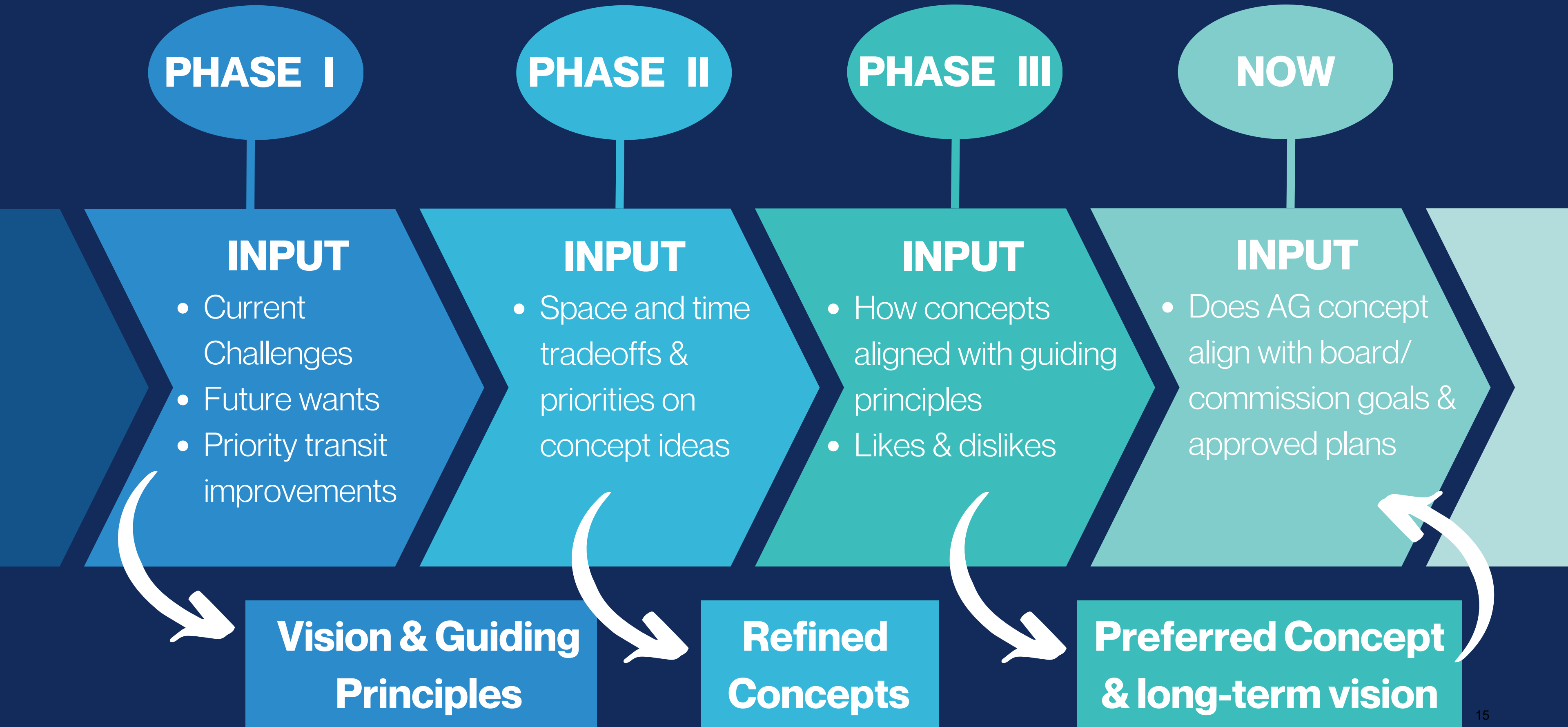
**Separate bike & pedestrian space**



**Changes to service roads**



# Process



# Outreach Summary



## Written Feedback



## Duke Street Meetings



## Meetings Attended



## Pop-up Events



## Mailings



## Businesses Contacted

Feedback form + emails

Open houses and public forums with Q/A components

Presentations and Q/A as part of other meetings

Shared multilingual information throughout the corridor

Postcards with project information and links

Drop ins, follow up calls, and emails

- **3,445** feedback form responses
- **165** email comments

- **12** hosted live meetings
  - **270+** attendees
- **3** webinars
  - **850+** views

- **16+** community groups
- **7+** boards and commissions

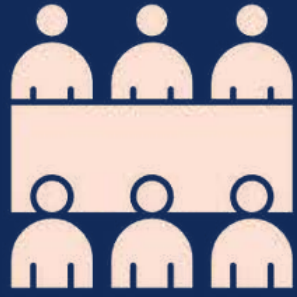
- **37** events
- **3,950+** interactions
- **638** polls completed

- **17,623** direct mailings

- **115+**



# Targeted Outreach



## Advisory Group

- May 25, 2023
- April 13, 2023
- March 16, 2023
- February 16, 2023
- December 15, 2022
- November 17, 2022
- September 15, 2022
- August 18, 2022
- June 30, 2022
- June 1, 2022
- April 28, 2022



## Civic Groups

- AFCA
- Seminary Ridge
- Seminary Hill
- Wakefield Tarleton
- Cameron Station CA
- Cameron Station Dems
- Colonial Village
- Quaker Ridge
- Quaker Village
- Clover College Park
- Longview rep.
- BPAC
- Carlyle Towers
- Agenda Alexandria



## Boards and Commissions

- Commission on Aging
- Commission on Persons with Disabilities
- Transportation Commission
- Traffic & Parking Board
- DASH
- Environmental Policy Commission



## Business Outreach

- WEBA
- Chamber of Commerce
- Business Development Roundtable
- Door-to-door Outreach
- Phone calls



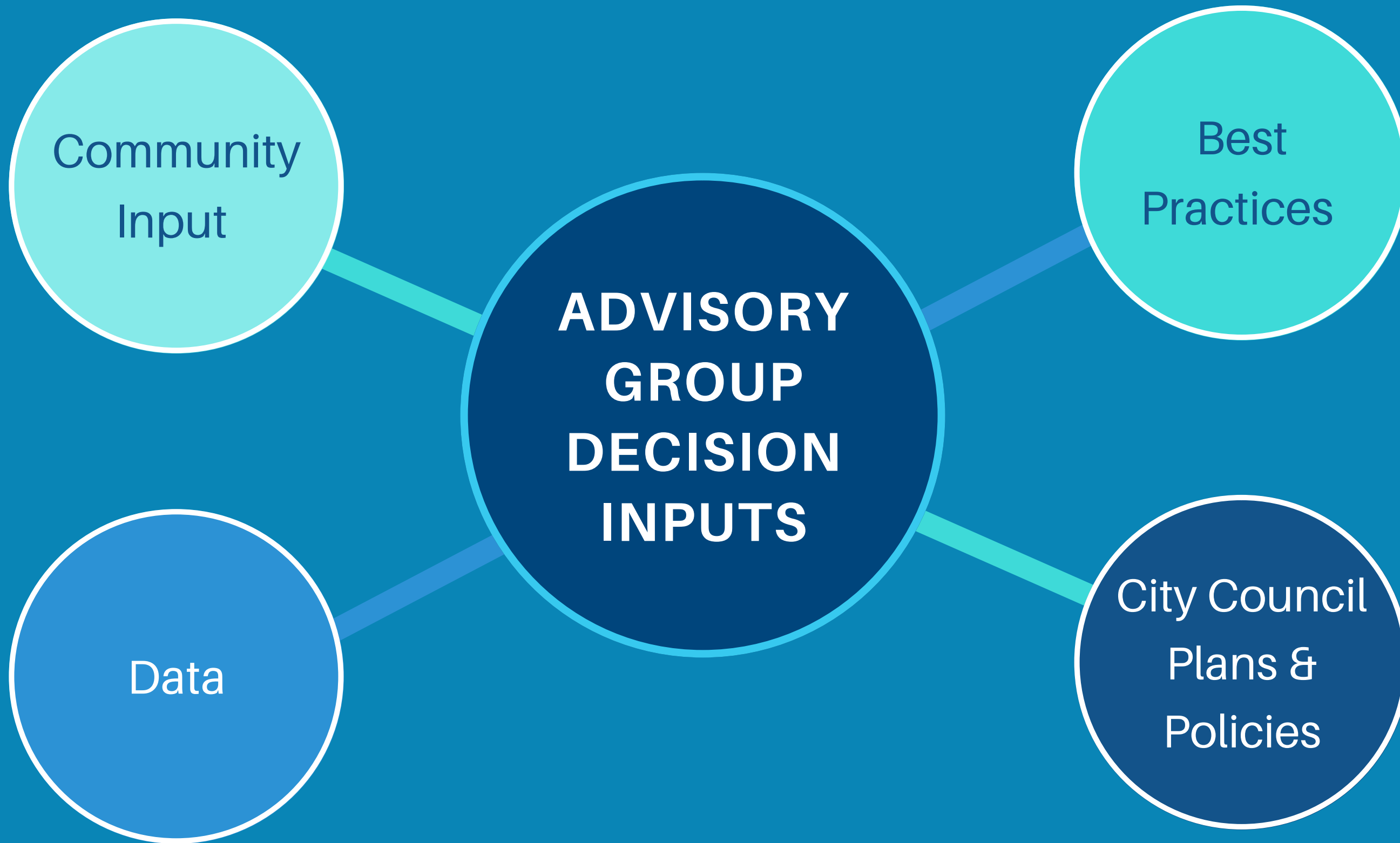
## Other Stakeholders

- Alexandria City High School Students
- ACPS staff
- Police
- Fire



## Pop Ups

- Speedy Laundromat
- Beatley Library
- Fun Run @ Patrick Henry
- King Street Metro
- Van Dorn
- Jordan St.
- Fox Chase Apts.
- The Mark Apts.
- Ben Brennan Park
- The Mark Apts
- Angel Park
- And more.



# Advisory Group Preferred Concept

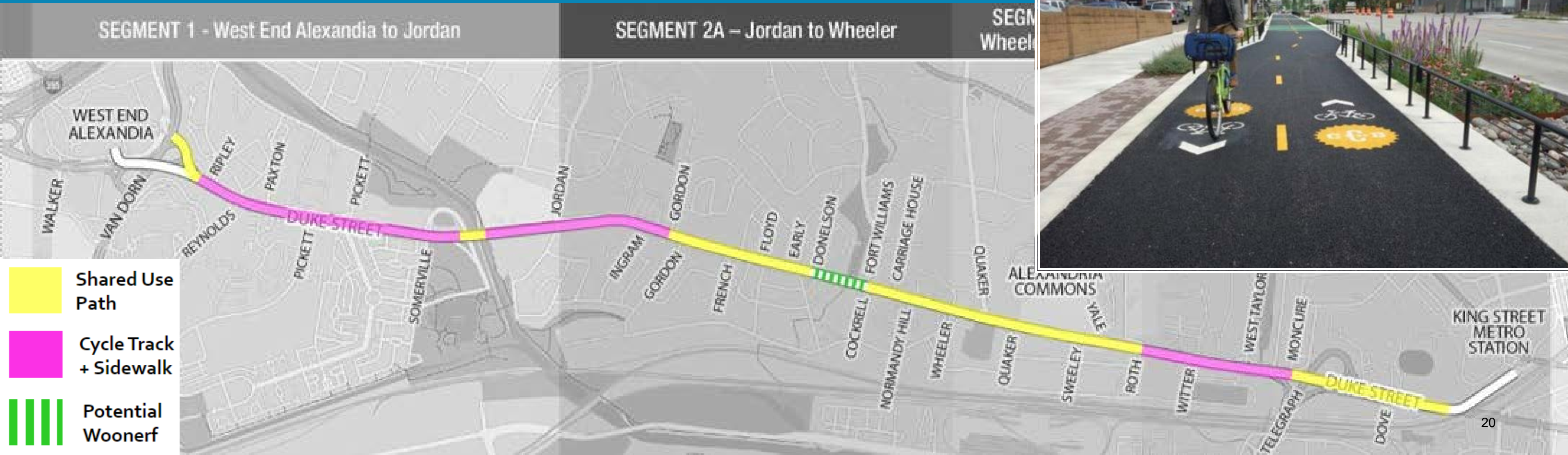
# AG Busway Recommendation - Concept A

- Signal technology + stop consolidation + dedicated lanes to optimize bus service
- If cost becomes an issue near term, Roth-Quaker could become mixed traffic



# AG Curb Feature Recommendation Concept Y

- Map is showing **north side** improvements
- Preference for **separated ped/bike facilities**
- Options in constrained right of way
- Recognize need to work with **service road** communities to refine options

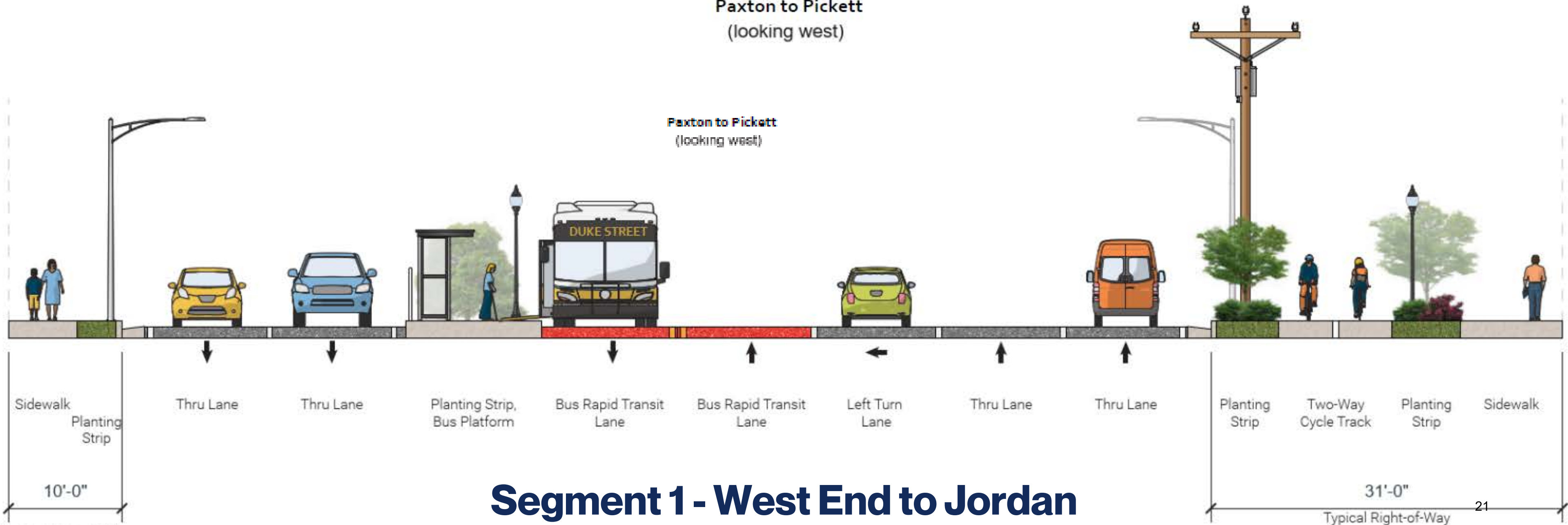




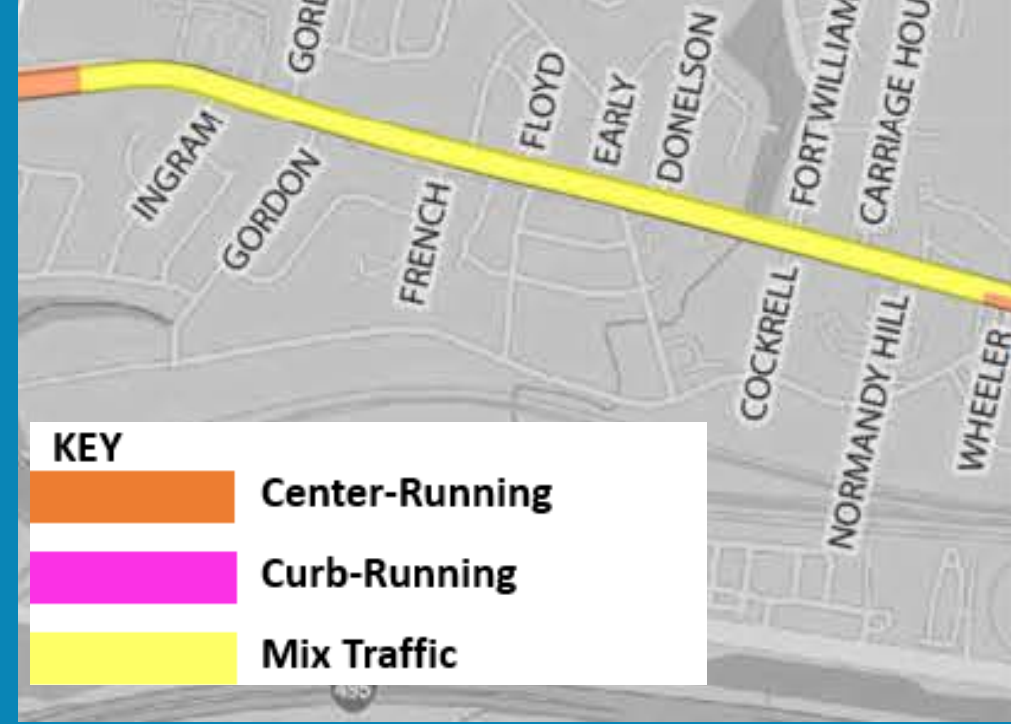
- KEY**
- Center-Running
  - Curb-Running
  - Mix Traffic

- Shared Use Path
- Cycle Track + Sidewalk

**Paxton to Pickett**  
(looking west)

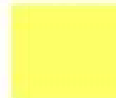

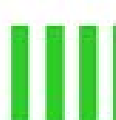


# Segment 1 - West End to Jordan



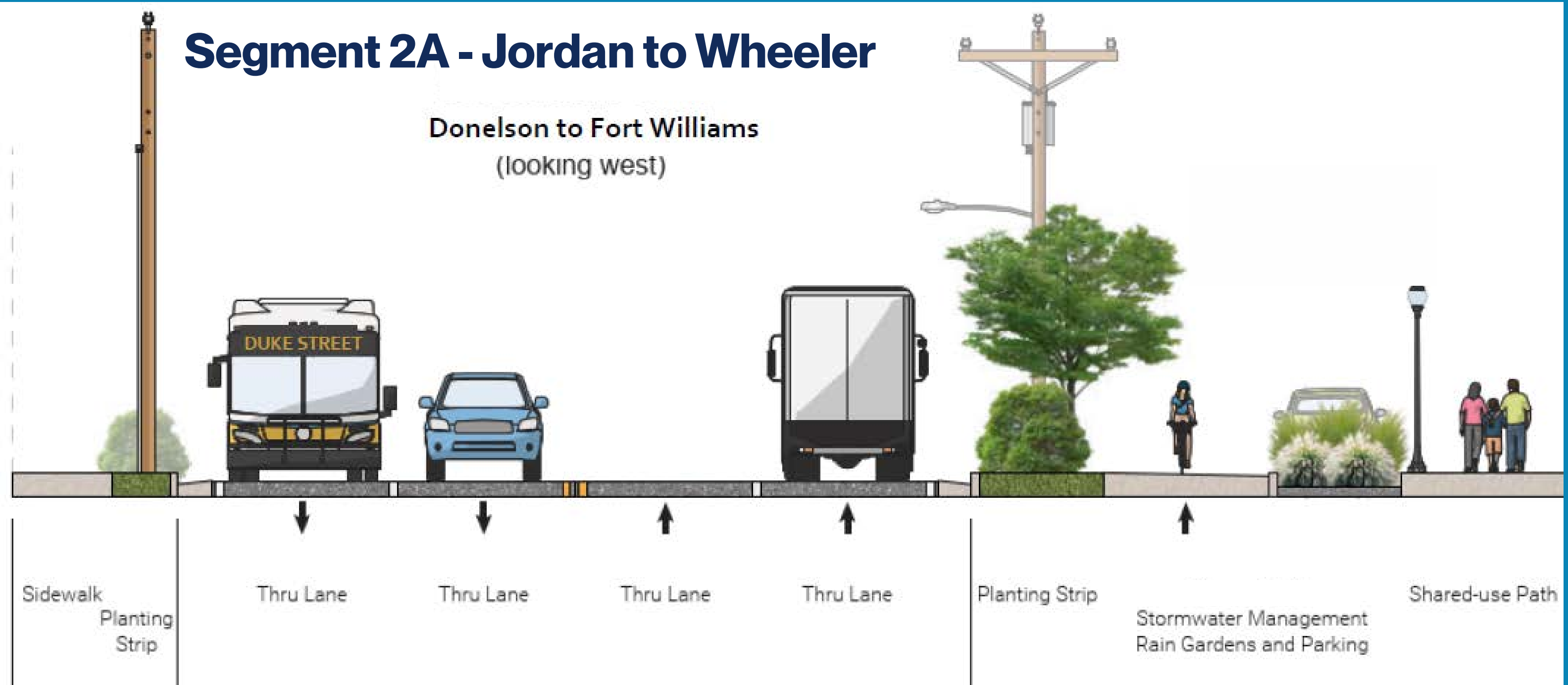
**KEY**

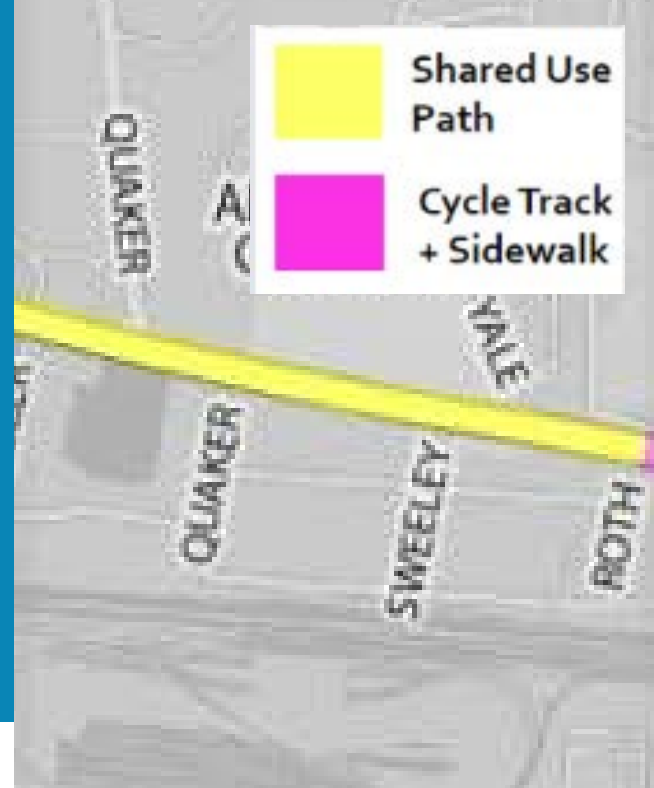
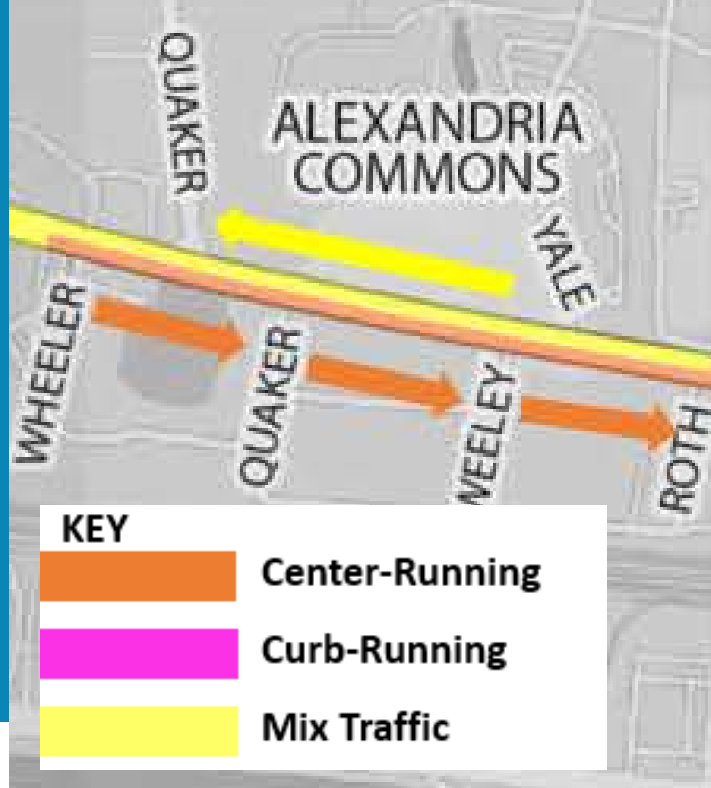
-  Center-Running
-  Curb-Running
-  Mix Traffic

-  Shared Use Path
-  Cycle Track + Sidewalk
-  Potential Woonerf

# Segment 2A - Jordan to Wheeler

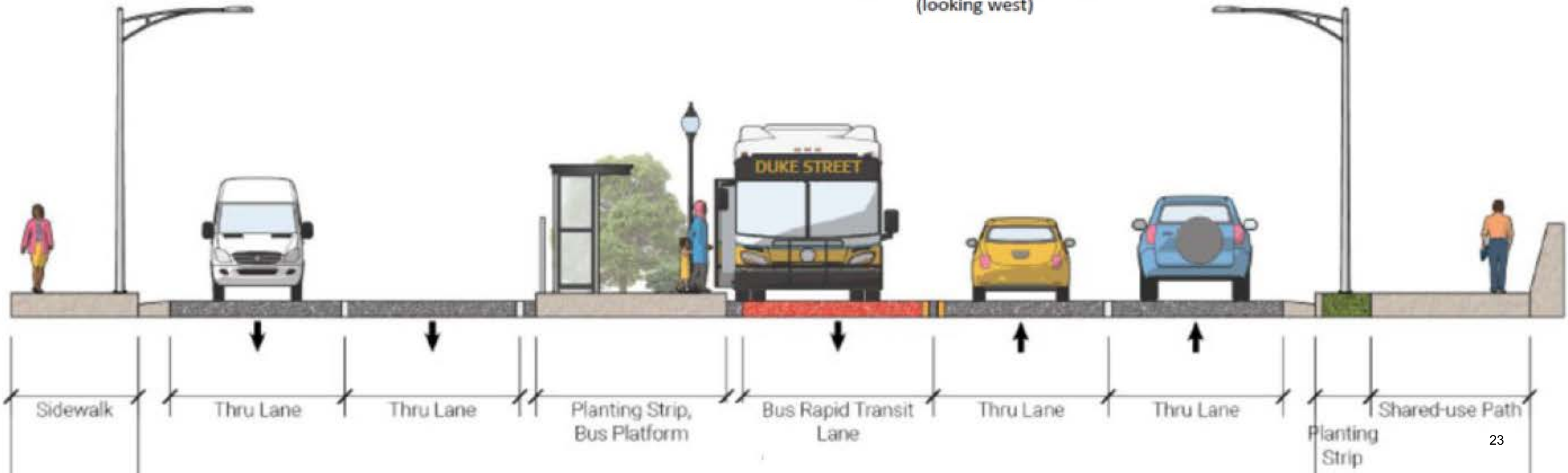
Donelson to Fort Williams  
(looking west)





## Segment 2B - Wheeler to Roth

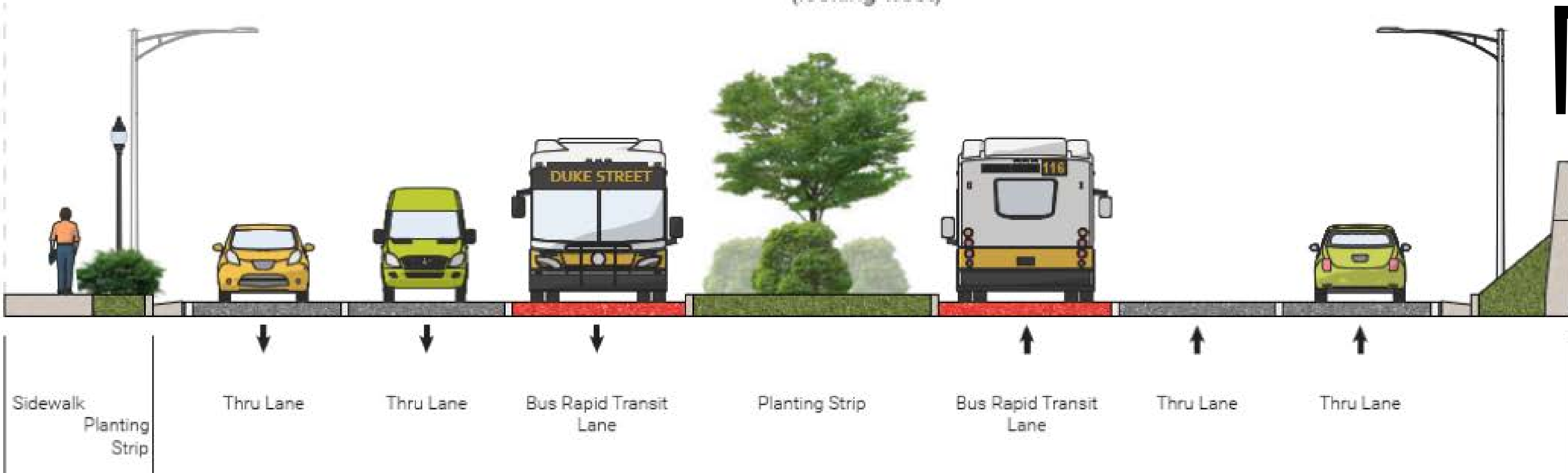
Yale Drive to Sweeley Street  
(looking west)





# Segment 3 - Roth to Callahan

Roth to W. Taylor Run  
(looking west)



Curb features to be refined with community



Service road could be one way with cycle track and wider sidewalk or two-way with sharrows





**RENDERING - Duke Street at North Pickett Street - Facing West**

# RENDERING - Duke Street at West Taylor Run - Facing East



# Key Takeaways - AG Recommended Concept



**UP TO 9.5 MINUTES IN  
TRAVEL TIME SAVINGS  
FOR BUS RIDERS**



**UP TO 5 MINUTES  
TRAVEL TIME SAVINGS  
FOR VEHICLES**



**70% REDUCTION IN  
LEFT TURN CRASHES  
CORRIDOR-WIDE**



**50% REDUCTION IN  
PEDESTRIAN CRASHES  
AT 29 INTERSECTIONS**

# AG Recommendation - Long Term

- The **long-term plan** for the corridor should include **center running bus lanes** for the entirety of Duke Street with **separate spaces for pedestrians and cyclists**.
- This long-term plan would be partially **dependent on redevelopment** and **available funding** and should be assessed further during the **Duke Street Small Area Plan process**.



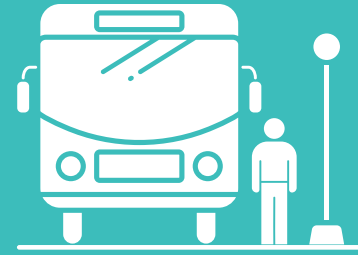
**Cost &  
Funding**



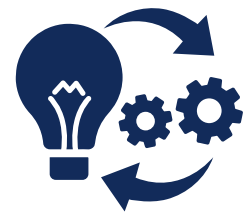
**Service  
Roads**



**Current & Future  
bus riders**

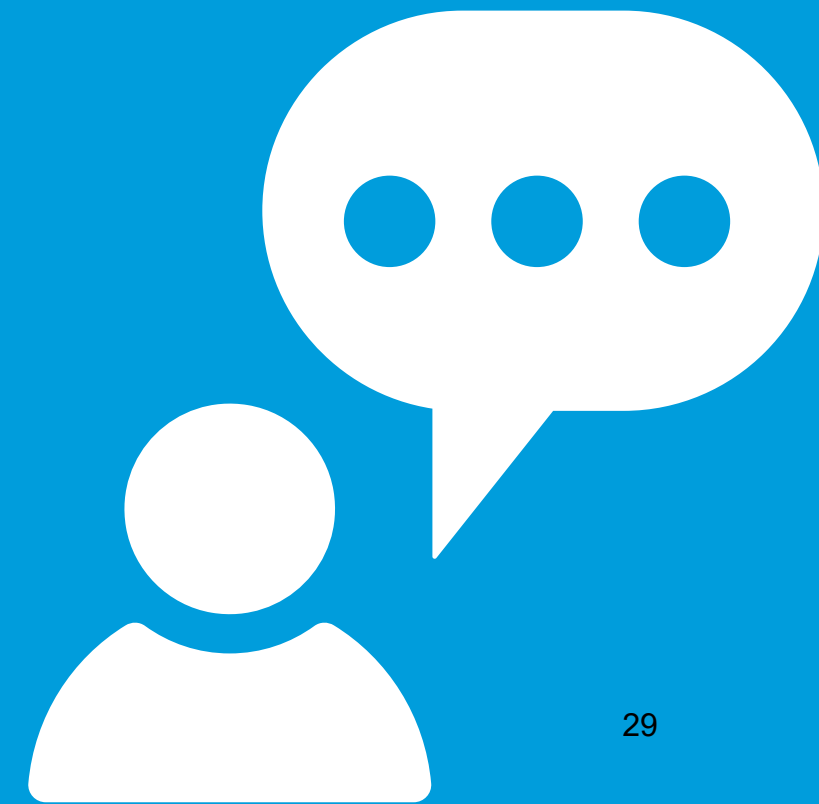


**Stop  
spacing**



**Process &  
Timeline**

# What we're hearing

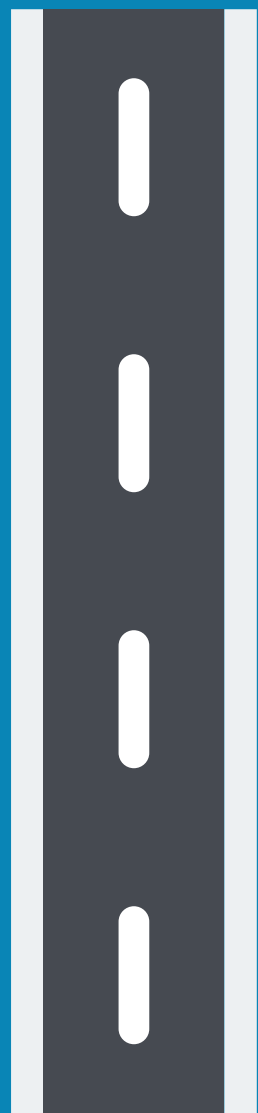




# Cost & Funding (Phase I)

- **Project Funding = \$87m**
- **10% Design Cost Estimate = \$97m**
  - **\$60m = design + construction in today's dollars**
  - **\$27m = contingency**
  - **\$10m = escalation**

**\*AG Recommendation provides prioritization if project needs to scale back**



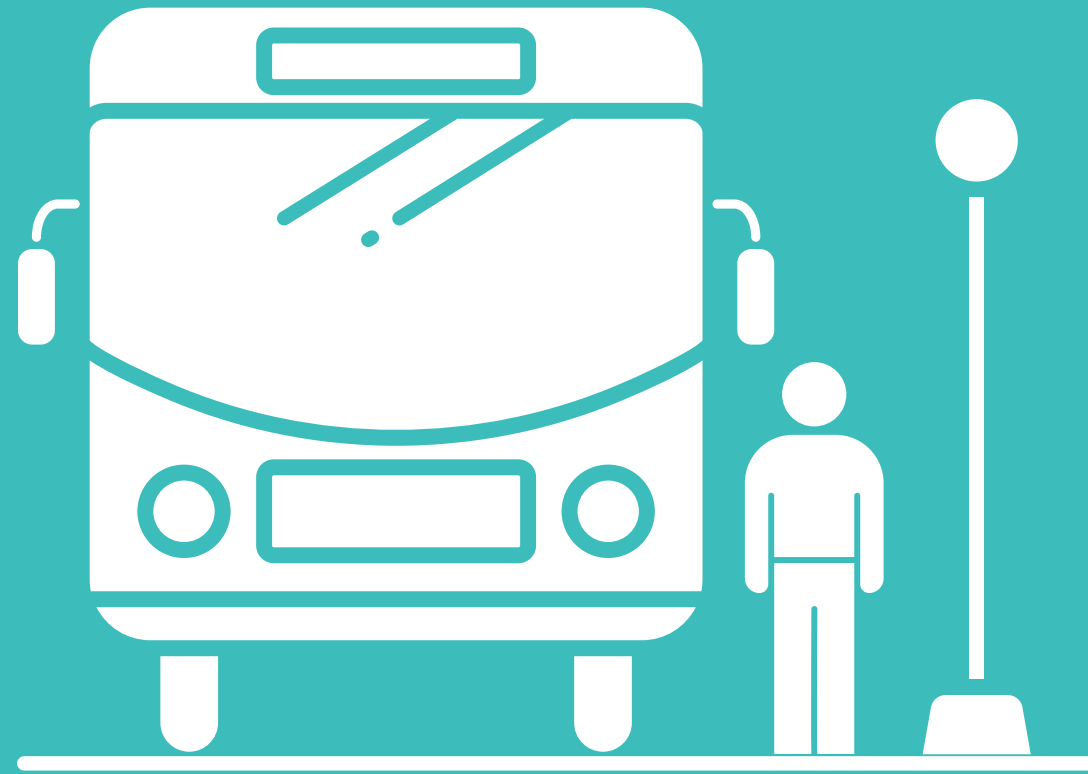
- **East end service road conversion concerns about access and travel times**



Duke Street service road east of ETR facing east

## **Service Roads**

- **Staff will continue to work with community to discuss service road design**
- **Future Council action IF conversion to one-way advances**



# Stop Spacing

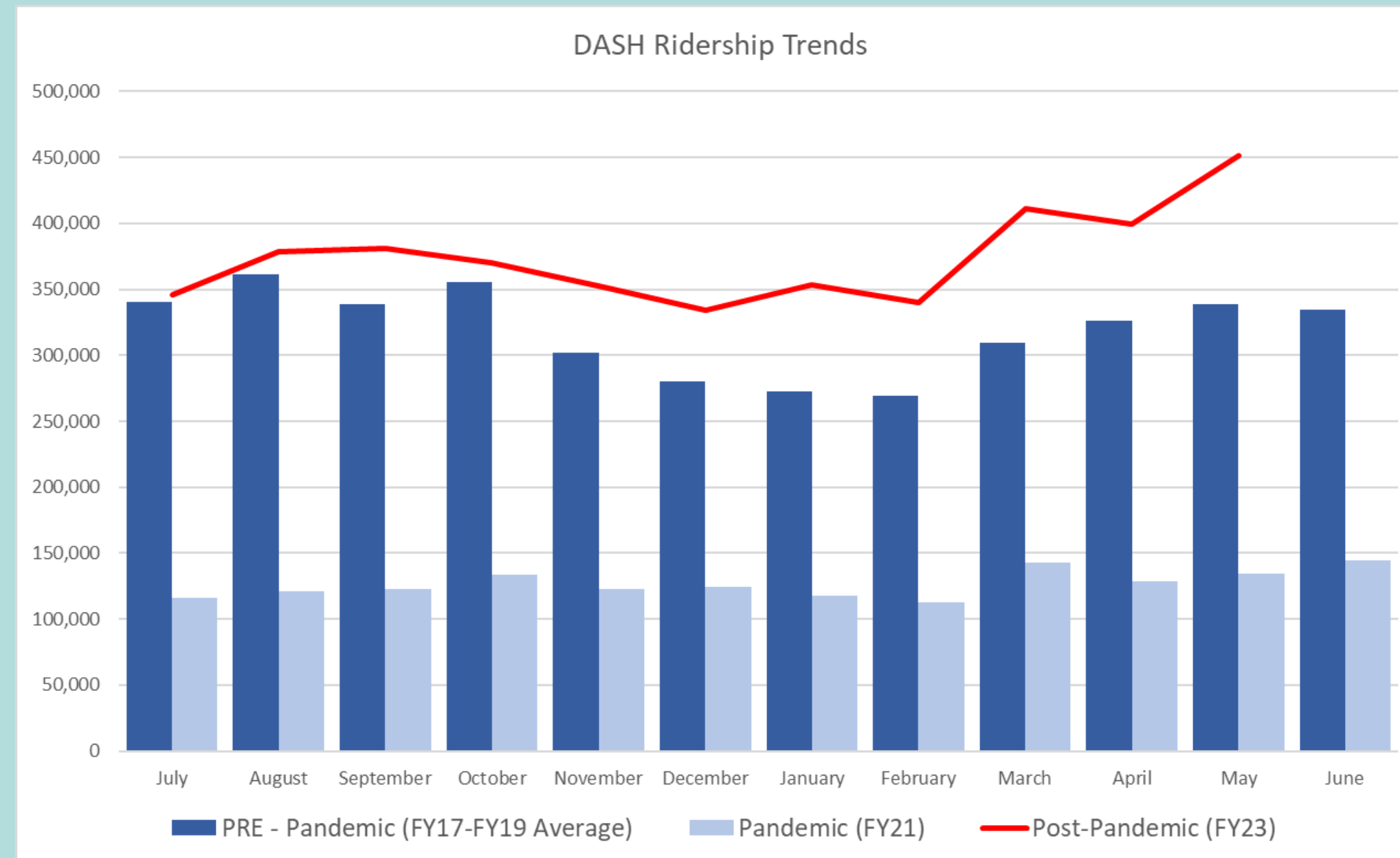
- **Stop consolidation saves at most 3.5 minutes of total 9.5 minute PM peak travel time savings per trip**
- **73% of people at pop-ups and 76% of feedback form respondents supported spacing proposals**

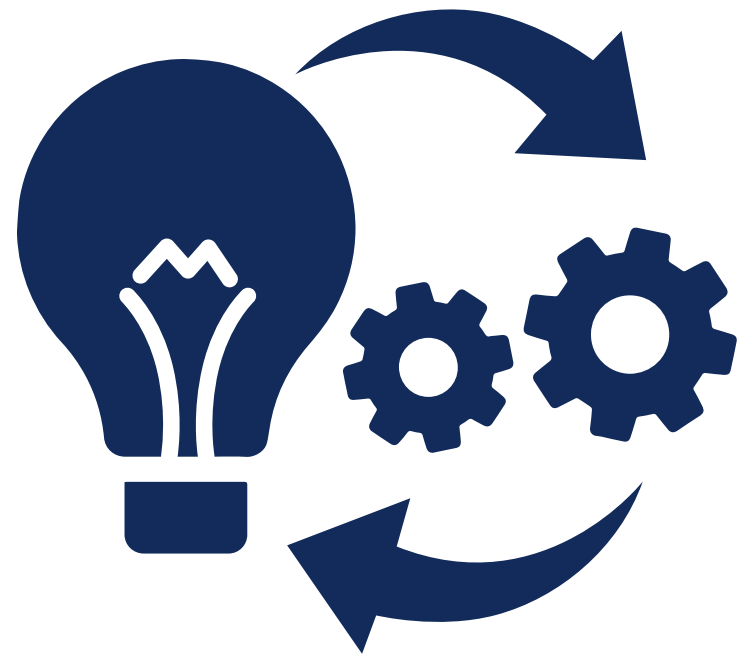


# Current & Future bus riders



- **Average weekday boardings along the corridor are 3,000+**
- **Projections for bus ridership increases show 2x riders, per FTA model**
- **Current PM bus travel time = 25 mins**
- **Projected PM bus travel time = 16 mins**





# Process and Timeline

- **2-year process to check-in with community and revision**
- **Project delivery is important to support already planned growth**
- **Delay will increase costs, which will decrease scope**



# Next Steps & Future Council Action

# Next Steps

2023

- Finalize Concept
- Survey
- Begin Design

2024

- Design
- Duke SAP
- Council Action on Final Design\*

2025

- Finalize Design
- Right-of-way

2026

- Begin Construction
- Council Action to designate dedicated transit lanes\*

2027

- Finish Construction
- Fully operational BRT



# Questions & Comments