Duke Street Transitway

RTPS

July 25, 2023

Agenda

01

Transportation/Land Use Connections & Project Background

02

Preferred Concept

03

Next Steps

Transportation/Land Use Connections & Project Background

Transportation and Land Use

Alexandria plans for growth in transit-rich locations

ALEXANDRIA MOBILITY PLAN

A Growing Region

Alexandria plans for growth in transit-rich locations

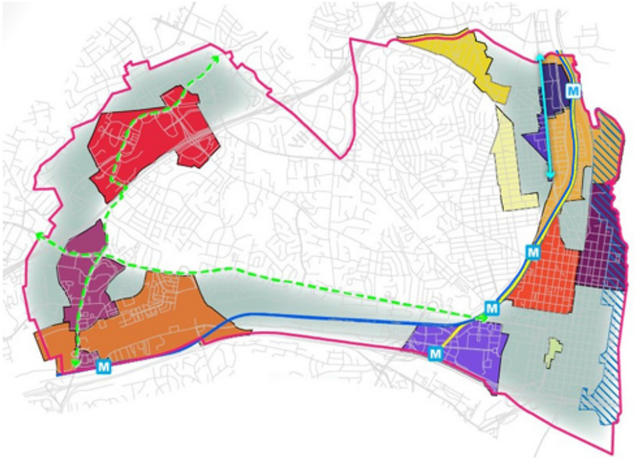
In Alexandria and the region, residential population growth has been about 1.5% per year since 2010. This growth rate is expected to continue through 2030.

Employment in Alexandria is forecasted to increase 1% per year through 2030.

The City routinely updates its Small Area Plans for specific neighborhoods that are anticipating growth and redevelopment. These community-driven plans outline neighborhood visions and provide guidance on levels and types of development. These planning efforts result in a concentration of diverse land uses and development density that will have access to existing and planned high-capacity transit hubs and corridors such as Metrorail stations and bus rapid transit (BRT) lines. This will minimize the impact of new development on the street network, create opportunities for people to move using different travel choices, and improve connections for both drivers and non-drivers.

Major employers are choosing Alexandria for their growth and expansion, most notably in Potomac Yard and Oakville Triangle, near both the Route 1 Metroway corridor and the Potomac Yard Metrorail station, and at the former Landmark Mall site near both the Van Dorn Metrorail station and the planned West End Transitway corridor.

Small Area Plans and Planned Development



Existing Metroway
Proposed BRT Lines
Metrorail Line
M Existing Metrorail Station
M Future Metrorail Station
Color-Shaded Areas Indicate Locations of Small Area Plans or Planned Development

Duke Street Corridor

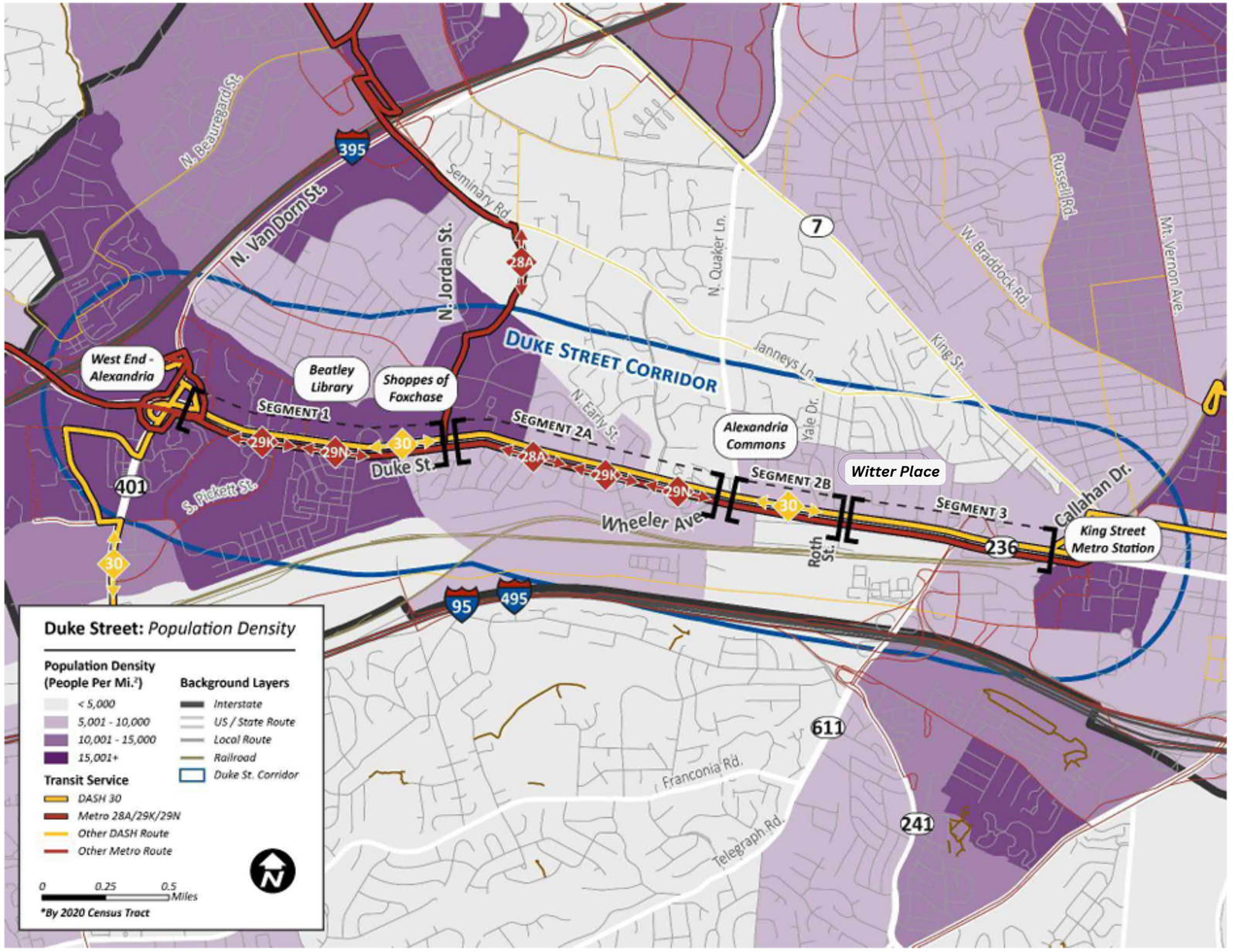


Figure 5: 2020 Population Density (Data Source: US Census Bureau, Decennial Census)

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

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

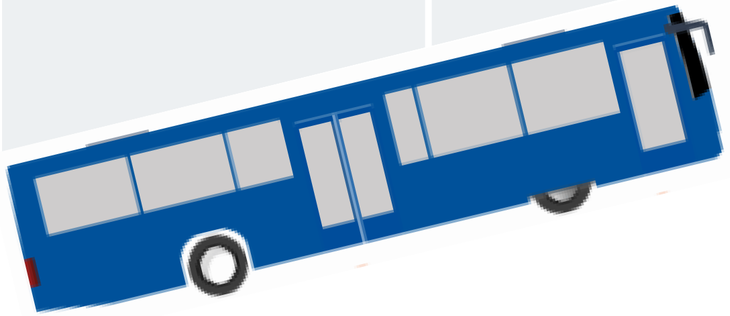
2022

Phase II - Concept Planning - Community Priorities & Tradeoffs

2023

Phase III -

- Concept Refinement & Curb Features
- Council Action



Project Alignment with City Goals

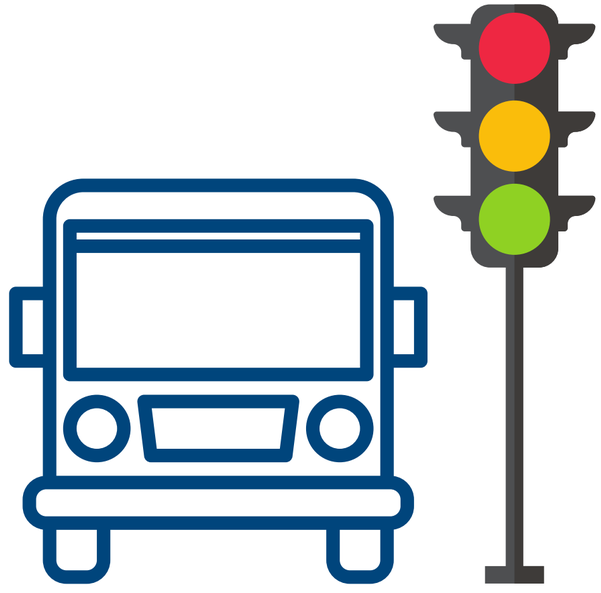
- Equity
- Mobility Options
- Sustainability
- Congestion Management
- Safety

Project Vision

*Advisory Group adopted

This project will provide an efficient and desirable bus rapid transit (BRT) option along Duke Street by improving the transit experience for current and potential riders.

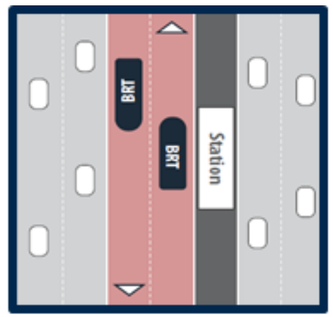
With multimodal enhancements to the corridor, Duke Street will become a safe, efficient, and desirable community connector for people riding the bus, walking, biking, and driving.

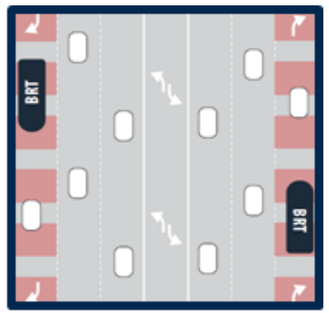


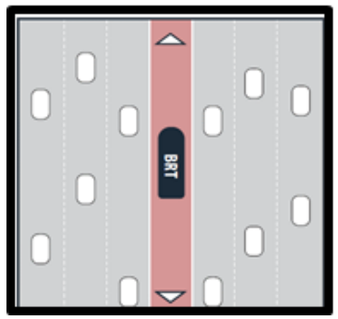
Street Design Concepts

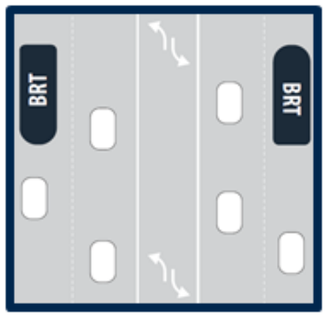
Busway *and* Curb features

Step 1: Busway

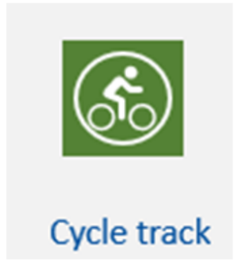


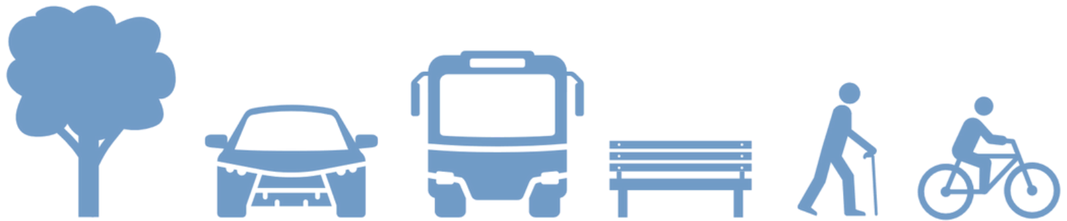






Step 2: Curb features





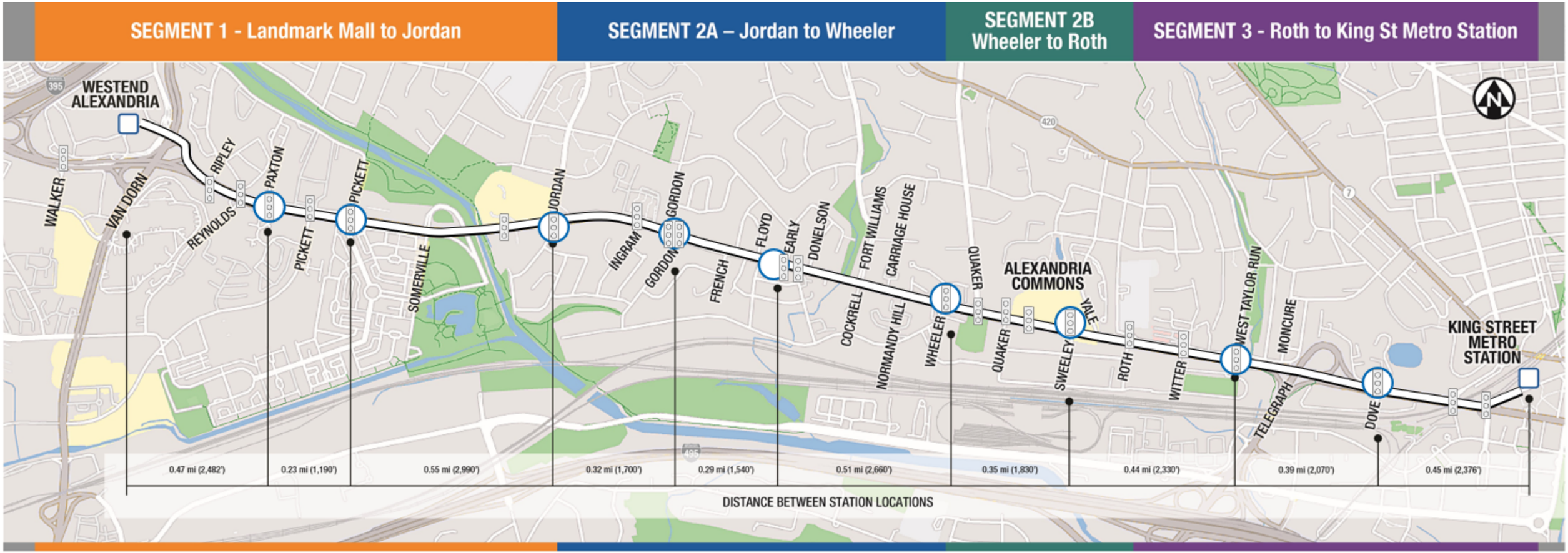
AG Busway Recommendation - Concept A

- 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

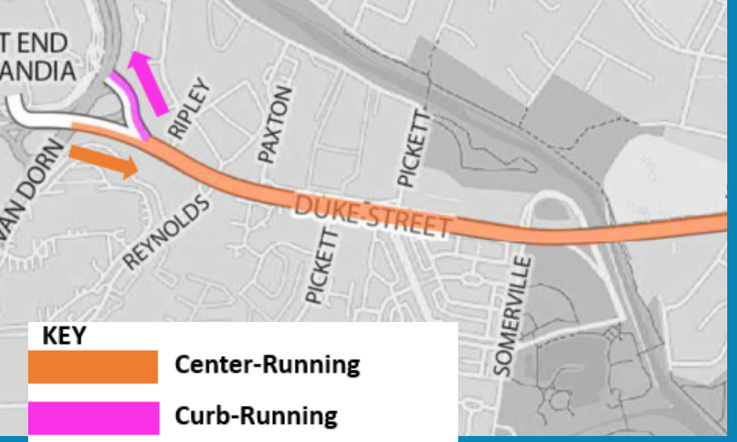
- Map is showing **north side** improvements
- Preference for **separated ped/bike facilities**
- Options in constrained right of way
- Recognize need to work with **service road** communities to refine options

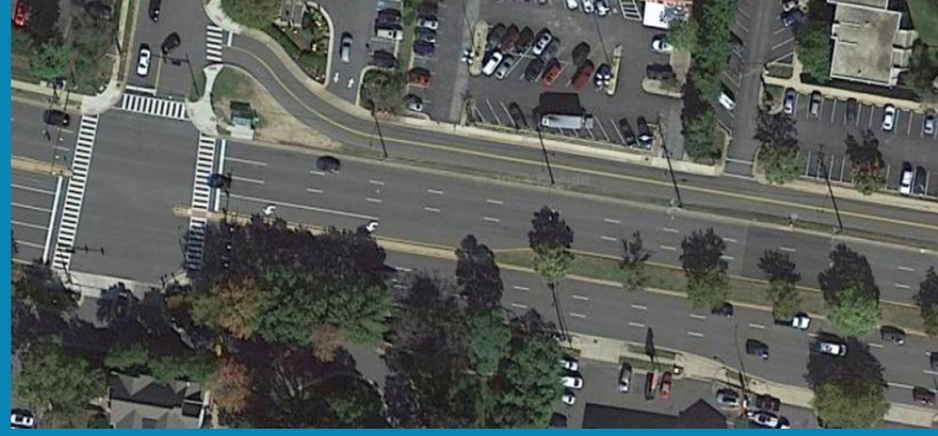
Distance between potential stations
along Duke Street corridor



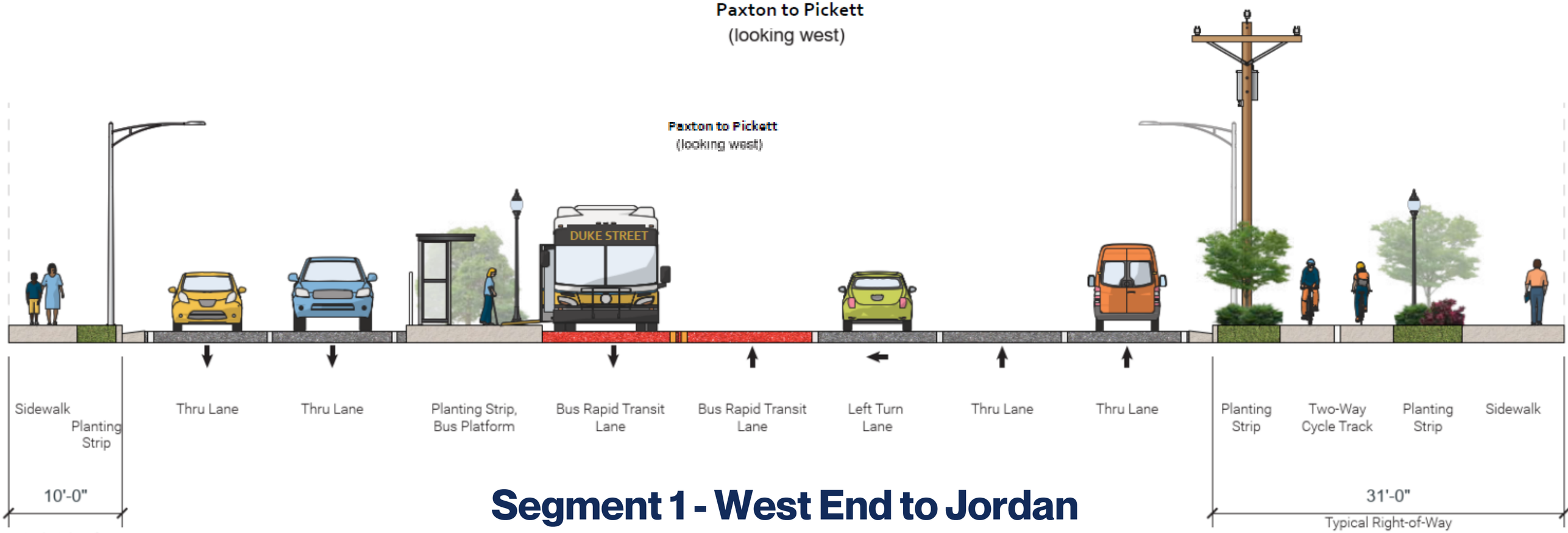
Existing Signal

Potential BRT Station Locations (Preference for Far Side at Intersections)





Paxton to Pickett
(looking west)



Segment 1 - West End to Jordan

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

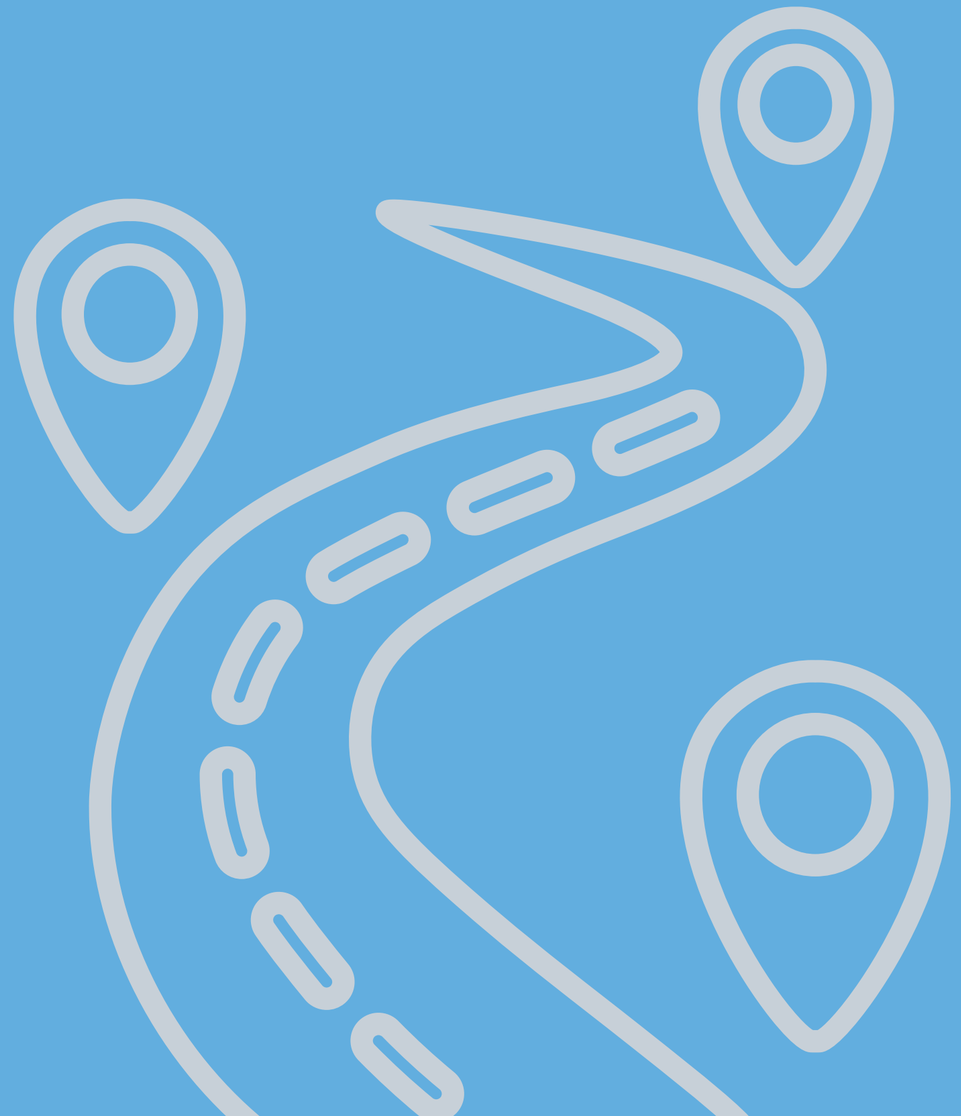
70% REDUCTION IN LEFT TURN CRASHES CORRIDOR-WIDE

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**.



Next Steps

Tentative Schedule

2023

- Finalize Concept
- Survey

2024

- Design
- **Duke Small Area Plan**
- Council Action on Final Design*

2025

- Finalize Design
- Right-of-way

2026

- Begin Construction

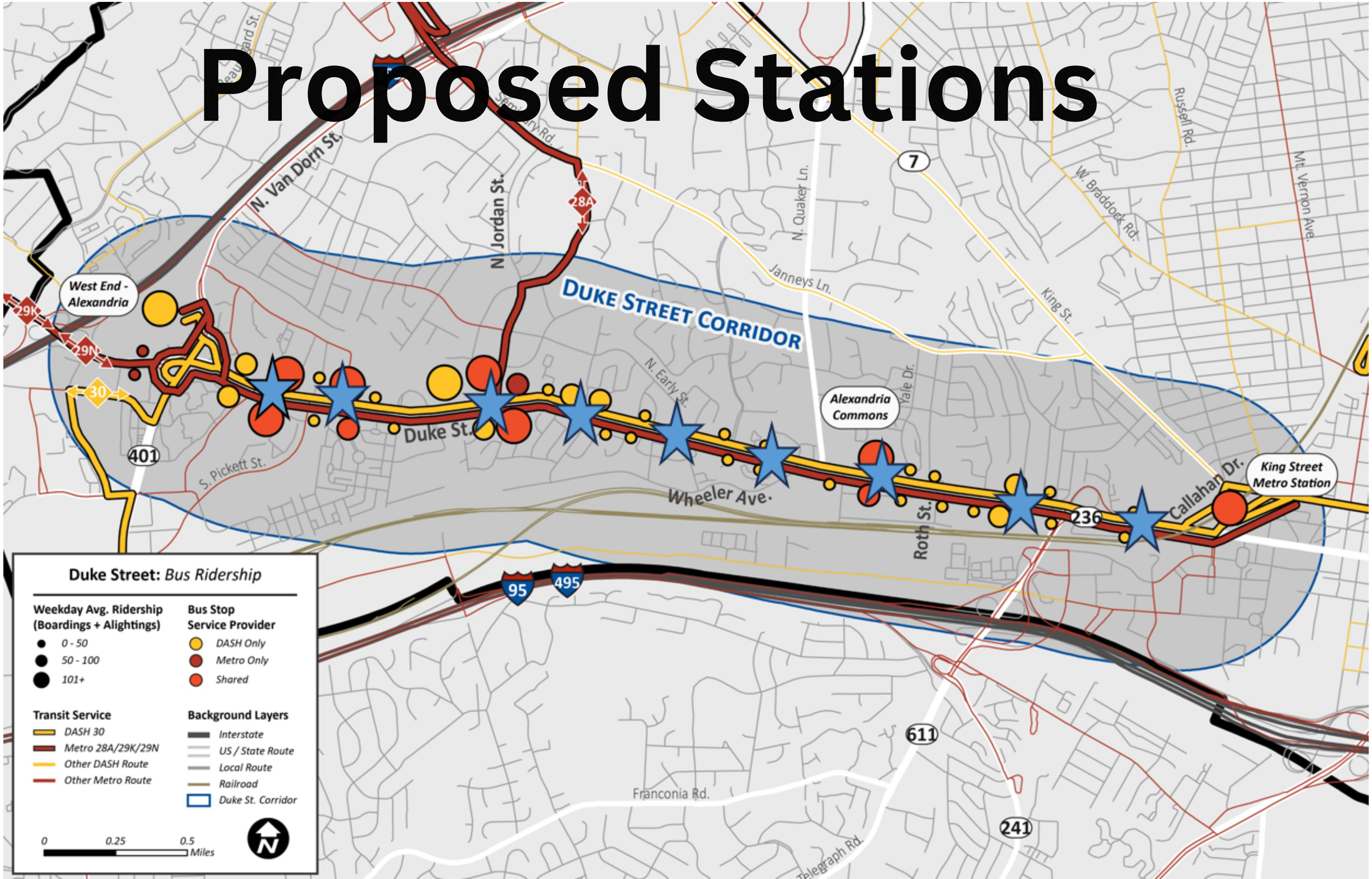
2027

- Finish Construction
- Fully operational BRT

Questions & Comments

BACKGROUND SLIDES

Proposed Stations



Walkshed to Transit

from planned BRT stations