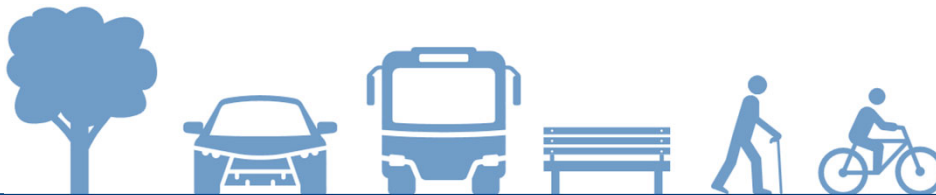


DUKE STREET *IN MOTION*

Community Outreach Presentation

October 2022



alexandriava.gov/DukeInMotion

This project is funded with Northern Virginia Transportation Authority (NVTA) regional revenues.



Hello, my name is Jen Monaco, the project manager for Duke Street in Motion.

Welcome!



Duke Street *in Motion* overview



Why Bus Rapid Transit (BRT)



Busway Design Concepts



Curb Features



Get Involved!

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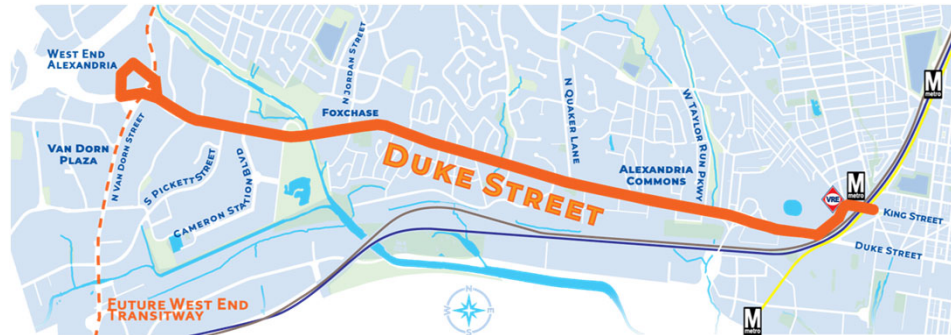
This presentation will help give you the overview you need so you can understand the basics of this project, where to learn more and how to share your input during this current phase of engagement.



Let's begin.

What is “Duke Street *In Motion*”?

Duke Street *IN MOTION* is a project focused on ensuring that transit improvements in the Duke Street corridor, from Landmark Mall to the King Street Metro Station, provide efficient transportation options that align with all users’ needs, wants, and expectations.



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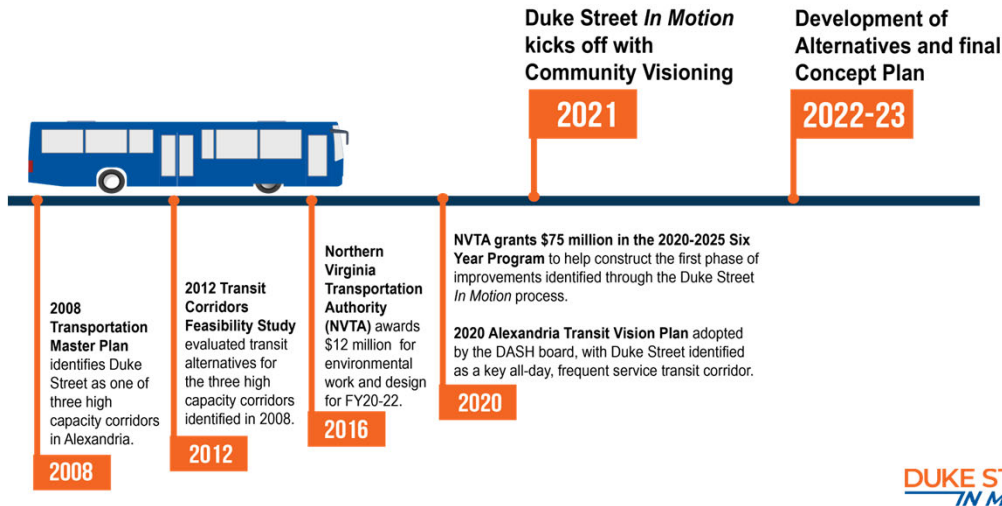
So what is Duke Street in Motion? This is ultimately a Bus Rapid Transit project – focused on improving the bus – between West End Alexandria to the King Street metro.

While the project aims to make the bus a better option, a lot can go along with that – including making Duke Street safer, greener, and more pedestrian friendly.

Thousands of people use this corridor daily, and with this project we are trying to balance the needs of all people, while creating a place that helps keep Alexandria moving forward as a sustainable community and gives people who live and work here people options for how they move around.

Project Purpose & Background

- Pursue high-capacity transit to achieve City sustainability and equity goals
- Reconsider concept plans in context of 2021 community visioning



- This project began with the 2008 TMP, which led to a feasibility study in 2012 which produced actual design concepts that were approved by Council for this corridor. By the time we were able to secure funding for the project and begin the design phase, it had been about 10 years since those conceptual plans were developed.
- So we looked to reengage with the community to determine if we could make Duke Street even better, while maintaining the ultimate priority of enhancing bus service.
- In 2021, we sought input to understand the community's vision for Duke Street and how we might make it a better place
- This past spring, we took that input and the Duke Street advisory group adopted Vision and Guiding principles for the corridor that are now being used to evaluate various concept designs



Phase 1 Community Engagement (June 21-July 31, 2021)



1,785 feedback form responses



3,587 project handouts



6,393 received eNews blast



95,889 reached on social media



22 community pop-up events
(2,552 people reached)



92 webinar attendees

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The first round of re-engagement included several ways to participate including the feedback form, pop-up events, bus stop chats, and virtual public meeting. Outreach focused on gathering input about the “big picture” – what people want to see in Duke Street’s future.

We hosted outreach events along Duke Street in Summer 2021. Our feedback form received over 1,700 responses. We distributed over 3,500 handouts about the project. We reached over 6,000 people via our newsletter, and over 95,000 via our social media. Our community pop-up events allowed us to reach over 2,550 residents, and our webinar gave nearly 100 people an opportunity to learn more about our project.

Community Input in Phase 1



88%

Want to see reduced traffic



47%

Would ride or would consider riding the bus more often with improvements



55%

Want to see improved safety

A full summary is available at alexandriava.gov/DukeInMotion

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We received a lot of great feedback –while we heard a range of opinions, we heard a lot that the status quo on Duke Street is not good enough and that there is a lot of room for improvement in a variety of areas.

There was broad consensus that congestion is a problem for all users of the corridor. A significant portion of respondents indicated that better transit could get them to ride the bus more – which means that a bus project would benefit not only current users but many people who don't want to take the bus today – but would if it better met their needs.

Safety was also cited as a major concern as Duke Street is one of the City's highest crash corridors.







Project Vision

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.**

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IN MOTION

The input informed the ultimate vision that will guide the redesign of Duke Street. The Vision Statement and Guiding principles align with the overall project purpose of improving bus service to increase bus ridership and reduce single occupancy vehicle trips that are contributing to the travel times and congestion within the Duke Street corridor. And while this is a transit focused project – this vision emphasizes the importance of additional enhancements that will make Duke Street better for everyone.

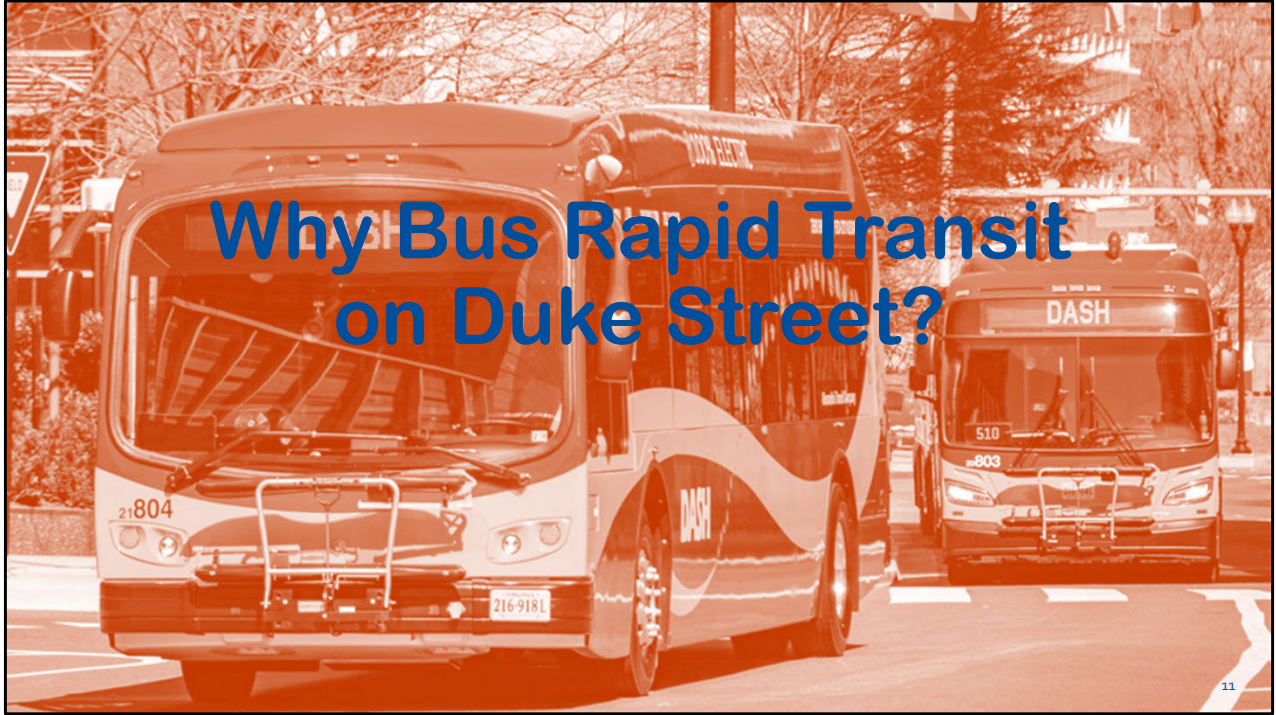
Project Guiding Principles		
	Convenient	Make bus travel more predictable, frequent, and comfortable
	Efficient	Improve mobility for all Duke Street travelers
	Equitable	Use enhanced bus transit to support equitable access for a diversity of people and places
	Safe	Ensure safety and accessibility for those connecting to and riding the bus, as well as other travelers
	Vibrant	Create and enhance thriving and future corridor destinations that improve resident quality of life and boost the local economy
	Sustainable	Contribute positively to the environment, now and in the future

In addition to the project vision, the community input was also used to help develop the project guiding principles for a convenient, efficient, equitable, safe, vibrant, and sustainable Duke Street. The principles will be used as criteria for evaluating various design elements and help inform ultimate plan for Duke Street.

Engagement Phases



We are currently in the concept development phase and seeking your input on high level design elements to help achieve the vision for the corridor. I want to highlight that this will not be the last opportunity for engagement. We'll take your input, do some work, and come back to you in the spring to share more details and get your input on a preferred alternative



Before we talk about Duke Street itself and how we can make it better, let's talk about what bus rapid transit is and why we're pursuing it on Duke Street.

What is Bus Rapid Transit (BRT)?

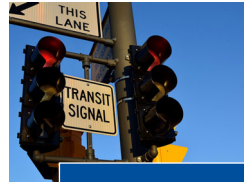
Buses that run more like trains



Boarding improvements



Upgraded bus stops



More green lights



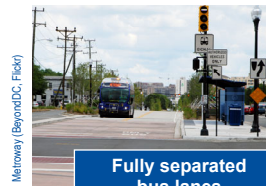
Queue jump lanes



Station amenities



Bus lanes



Fully separated bus lanes

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I've dropped the term Bus Rapid Transit a bit already – but BRT isn't a single thing. BRT is about having bus service act more like rail service. Rail service is generally faster, more reliable, and more comfortable than bus service because trains are separated from vehicle traffic and stations protect riders from the elements. For BRT, there are often some form of dedicated lanes for buses, but there can also be transit signal priority or mechanisms called queue jumps to prevent buses from being delayed at intersections. There are also ways to make it easier to board the bus and provide enhanced waiting environments at bus stops. A BRT can include some or all of these features – but the key is about having faster, more reliable, and a more comfortable experience.

Why BRT on Duke Street?

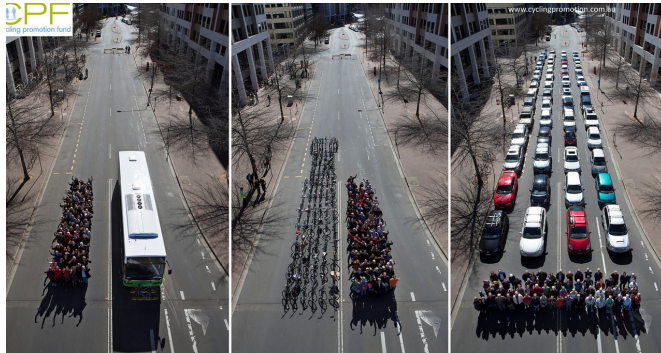
Greenhouse gas emissions

Air quality

Equity

Choices

Congestion management



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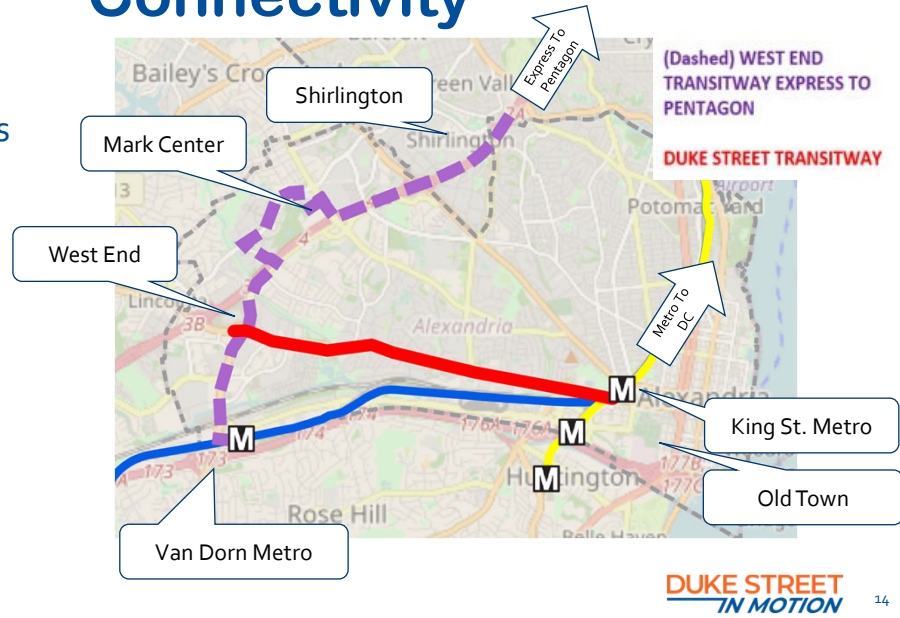
BRT and related improvements on Duke Street can have a big impact on helping to achieve a range of community priorities from reducing greenhouse gas emissions to improving air quality and making Alexandria a more equitable City. This project can provide better transportation choices for everyone, including several areas of low-income and traditionally disadvantaged populations along the Duke Street corridor who are generally more likely to take transit.

A more efficient and more reliable bus service will make the bus a better choice for those who depend on it and also those who don't want to have to drive – helping the City achieve eco-City goals.

Lastly, buses and even moreso BRT, can move more people in significantly less space helping to manage congestion as new development occurs within the City and the region.

Connectivity

High frequency transit connections to major activity centers



For bus to be a good choice and help achieve those goals, it has to be useful and take you where you want to go. Duke Street BRT will connect to Downtown via King Street Metro. Old Town, the new hospital and development at WestEnd Alexandria, Van Dorn Metro, and the Pentagon.

Bus Travel Time vs. Vehicle Travel Time West End Alexandria to King Street Metro Station



23-24 minutes in the peak



12-13 minutes in the peak

Half the time!

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To be a good choice, it also must be competitive with alternatives. Today, it takes twice the time to travel to Duke Street by bus than in a car – and that doesn't include walking to the bus or waiting for it.

Currently, there are about 3000 riders on the corridor every day and it has more riders per hour than any other DASH route. There is tremendous potential to make service better for existing riders and grow ridership if the service is more competitive.

Placemaking and Livability



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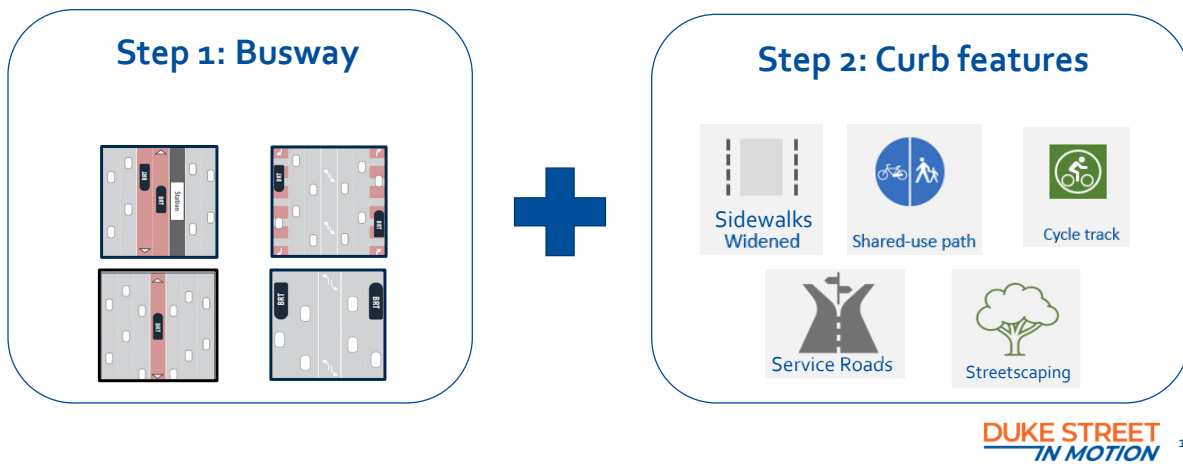
This project is not just about transit. BRT can help improve people experience along a street and livability of an area. With this project, we are looking to reimagine the Duke Street corridor and have it a much more pleasant place to walk, live, and conduct business.



Now that we've explained a bit about why we're pursuing BRT on this corridor, let's get into the various options that we'd like your feedback on.

Street Design Concepts

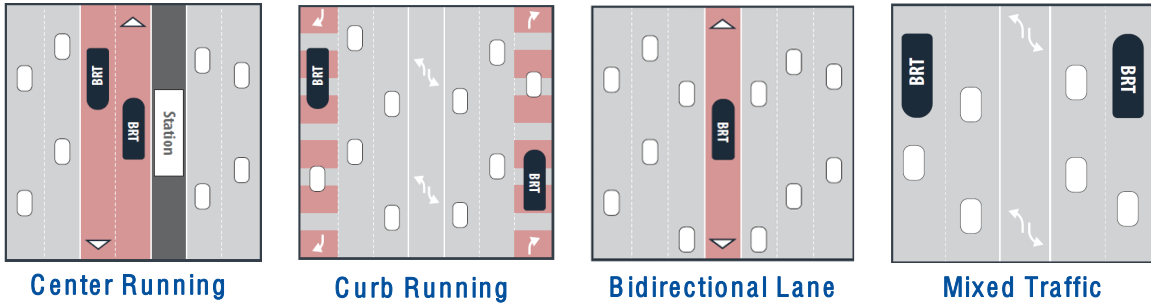
Busway and Curb Features



A full concept will include a design for a busway – or how a bus will be traveling on the street - and features outside of the curb.

- The goal is to target two sets of high level busway treatments for the entire corridor to advance for further analysis and refinement
- Each segment can have different busway and curb features – and any given busway can have any mix of curb features – though the amount of space they require may differ.
- After we go over the busway options, we'll talk about curb features. We won't be making decisions about curb features at this point, but are looking for input as we figure out how to incorporate them into our designs.

Bus Improvements Can Take Different Forms



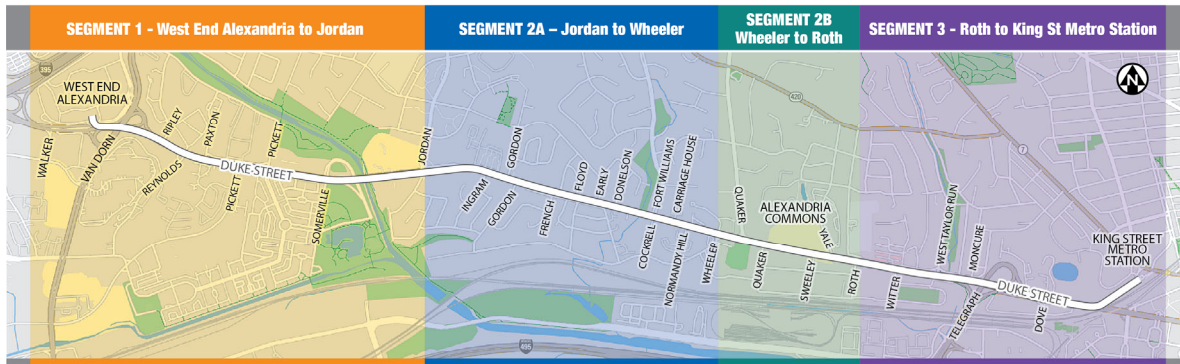
A BRT can mix different treatments to make bus service faster and more reliable

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In the next few slides, I'll go over these different bus options we are considering and explain their general benefits and tradeoffs. Our aim at this stage is to provide a wide range of options to get your feedback on.

Fact Sheets are available on the website for each segment with more information.

Duke Street Corridor Segments

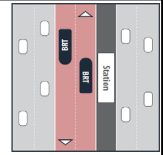


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As I mentioned, BRT does not have to be uniform throughout a corridor – it can change as the corridor changes. We’ve divided Duke Street into 4 segments based on their general characteristics

- Segment 1 goes from West End Alexandria to Jordan Street.
- Segment 2A goes from Jordan to Wheeler. Segment 2B goes from Wheeler to Roth.
- Segment 3 goes from Roth to King Street Metro Station.

Center Running Bus Only Lane



Alexandria, VA

Benefits

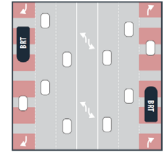
- Less bus/vehicle conflict
- Faster and more reliable
- Landscaping

Tradeoffs

- Largest space needs
- Left turns impacts

One option we are considering for all segments is center running. This is the best option from a transit perspective as by separating bus and vehicles you are greatly diminishing delay and bus service is much more predictable. It also makes it safer and easier for personal vehicles as it eliminates delay and conflict from buses. In segment 1 and 3, this treatment would require converting a travel lane to a bus only lane in each direction. It also requires that left turns are limited to signalized intersections, making them safer, but might require a U-turn to get to your ultimate destination. In segment 2, this treatment would require impacts to service roads or property lines. Again, more information about these high level concepts, their potential impacts, and how they help achieve our guiding principles is available on the website.

Curb Running Bus and Turn Lane



Washington, DC

Benefits

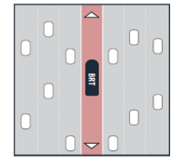
- Faster and more reliable
- Keeps left turns

Tradeoffs

- Bus delay due to right-turning vehicles
- Takes some space

Curb running BRT, sometimes known as bus and turn lanes are being considered for Segments 1 and 3 only. Curb running bus lanes provide some benefit to bus travel times and reliability, but because they share space with right turning vehicles, this is not the most efficient option for transit, particularly when there are a lot of right turns either at intersections or into homes and businesses. Curb running lanes may also make it a bit slower for vehicles because those who were in the right lane and not making right turns now have to travel in another lane. However, a benefit for vehicles is that unlike with Center Running, left turns are not restricted.

Bidirectional Bus Only Lane



Eugene, OR

Benefits

- Less bus/vehicle conflict
- Faster and more reliable
- Less space than center running

Tradeoffs

- Needs some space
- Not as fast as center running
- Operational challenges

In segment 2, instead of considering curb running BRT, a hybrid option is being explored of both center running, bidirectional, and some mixed traffic. A bidirectional bus lane involves a single center running bus lane that allows buses to operate in either direction and includes pullout spaces for a bus to yield to an oncoming bus. This option takes up some space, but not as much as center running or curb running and will have less of an impact to service roads. However, because buses need to yield to other buses, it is not as fast as center running and poses some challenges to operate.

Mixed Traffic



Seattle, WA



Indianapolis, IN

Benefits

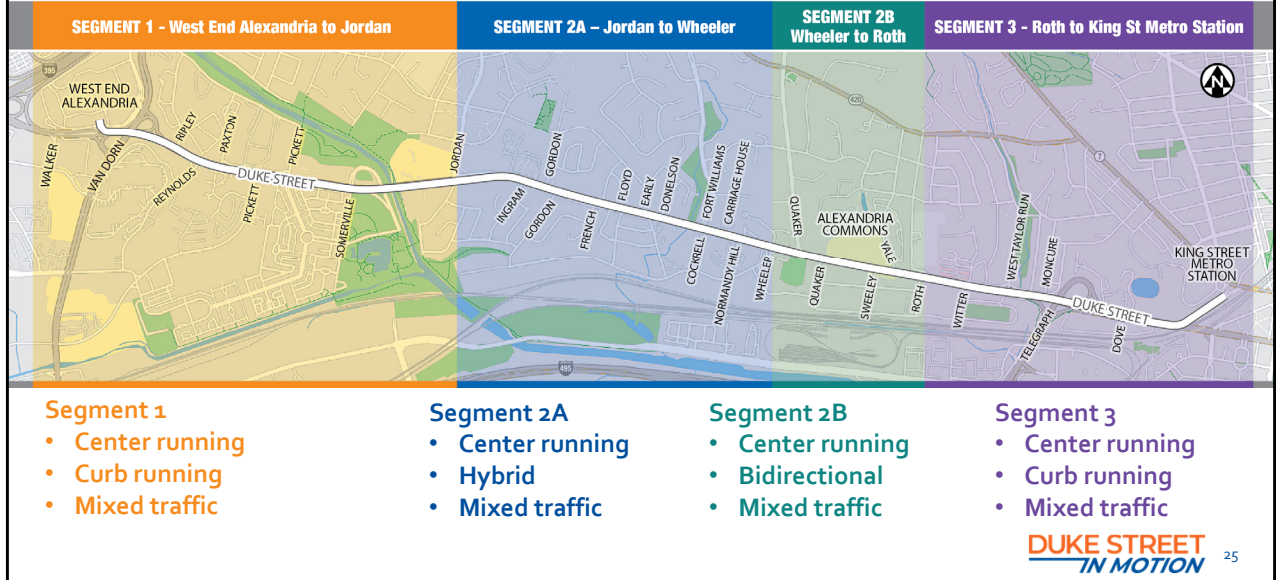
- Can include spot improvements
- No/minimal space needs

Tradeoffs

- Limited benefits

In many places, it can be challenging to fit a dedicated lane through an entire corridor. When this happens, the bus can operate in regular traffic as it does today – but there is still an opportunity to consider targeted improvements by providing transit signal priority and opportunities for buses to get into the front of the line at signals, called queue jumps. A mixed traffic option is presented for each of the three segments. There are many examples of BRT's across that country that have a dedicated lane for most of the corridor, but operate in mixed traffic for a portion.

Concept Summary



This slide summarizes the different treatments we are considering for each segment.

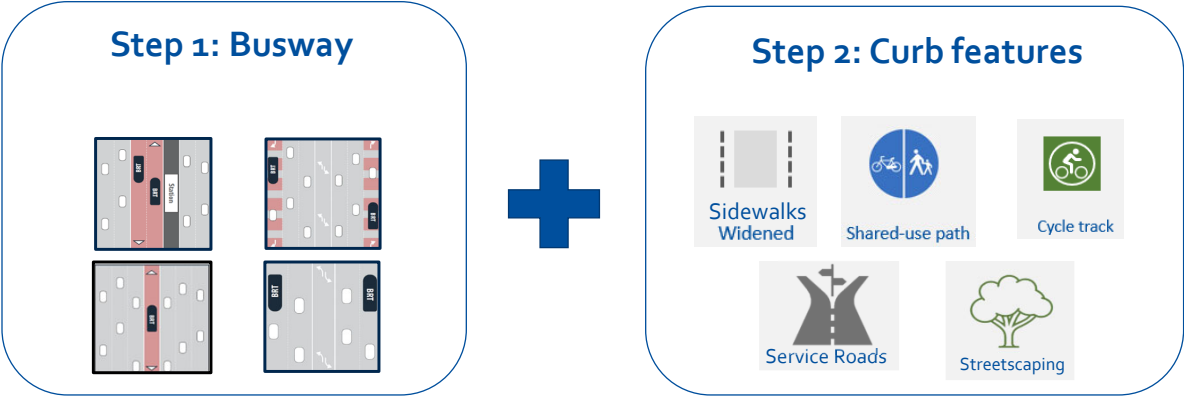
On the website, you can find fact sheets going into each of these options in detail, showing more specifically what these options would look like in each segment, the benefits and tradeoffs specific to the segment, as well as a comparison chart.



Those are our busway concepts, now let's get to curb features

Street Design Concepts

Busway and Curb Features



Again to get to a final design concept we will be combining busway and curb features.

Streetscape and Water Quality Elements

Landscaping



Tree canopy



Rain gardens/stormwater features



First is streetscaping, which is key to bringing sustainability and vibrancy to the corridor. Landscaping and rain gardens allow for stormwater collection and a more pleasant environment, while a tree canopy can also help provide shade.

Walking

Wide sidewalk
next to curbs



Sidewalk with buffer



In our visioning exercise we heard significant interest in pedestrian improvements. As part of the busway improvements, we will be working to make intersections safer, but as part of the curb features, we can make walking more pleasant with wider sidewalks, and/or adding buffers from traffic.

Biking



Two-way cycle track



Shared use path

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Another consideration for the corridor is adding separated bike facilities. A cycle track is a two-way path for bicyclists, scooters, or the next personal wheeling device, separate from a sidewalk. A shared use path accommodates both walkers and bikers (or wheelers), while taking up less space than separate facilities for both. Because of the nature of Duke Street, we are not currently exploring on-road bicycle facilities. However, because of limited space, particularly in segment 2, off-corridor alternatives are also being explored.

We hear a lot that there is not a lot of bike activity along Duke Street, but the decisions we make for this corridor will last for a long time – and people are using more and more devices that we might want to separate from cars, buses and people – such as scooters, electric skateboards and even one-wheels. We are seeing a number of new mobility options emerging, so we do want to keep in mind that we are not just designing Duke Street for now, but for the future and whatever it brings.

Service Roads

- Business & residential access
- Provide buffer area from Duke Street
- Greenspace
- Parking



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Lastly, we have service roads, which is a current feature of much of the corridor today. A service road is a road on the side of a large street that separates through traffic from those accessing their homes or a business. It can also provide parking. Some of our concepts we are asking for your input on may require space from service roads – but the final design will aim to provide these functions in a different way.



Now that you know all the possibilities awaiting Duke Street, let's discuss next steps on how you can get involved in the planning process.

Upcoming Events



Webinar

- Oct 1
- Project website



Pop-up Events

- Throughout October
- 7-10 events



Focus Groups

- 4+ events to target underrepresented groups
 - Renters
 - Transit riders
 - Youth
 - Spanish speakers
 - Businesses



In-Person Meetings

- Throughout October
- 4 in-person events
- Segment focused
- Open house for entire corridor
- Build your own Duke Street

In-Person Meeting Dates/Locations

October 12	Segment 3 Meeting @ Bishop Ireton School	6:30-8:30 PM
October 17	Segment 2 Meeting @ Bishop Ireton School	6:30-8:30 PM
October 20	Segment 1 Meeting @ Patrick Henry Rec Center	6:30-8:30 PM
October 26	Open House @ Patrick Henry Rec Center	5:30-8:30 PM

Here are more details on our upcoming events. While we are hosting 4 different meetings, you can attend any one you want and still engage with the project team to learn about concepts for each segment of the corridor. We are also working to reach folks who don't normally attend meetings through pop up events and focus groups of traditionally under-represented groups. If you don't want to attend an in person event – we hope that this webinar provided a good overview for you – and you can review additional materials on the website and complete our feedback form. We will also be updating our website FAQs throughout the month.

Preferred Alternative Inputs



There are many inputs into the ultimate decision on a preferred alternative for the Corridor. At the end of this engagement phase, we're going to take your input and present it to the Advisory Group to help inform which concepts to advance for more analysis and refinement. The advisory group will ultimately be making a recommendation on a preferred alternative to Council later next year, again, after one other phase of outreach.

Provide Input Through October 28



Feedback Form available at: alexandriava.gov/DukeInMotion



Attend in-person meetings and speak with staff



Email: Jen Monaco: jennifer.monaco@alexandriava.gov

Get Updates: Sign up for [Duke Street Projects eNews](#)

Please complete the feedback form available on our website – we want to hear from you! If you want to learn more, there are several resources available on our website including fact sheets, comparison summaries, and more. If you have any questions, please email me or come to one of our events.



Thank you for sharing your time to learn about our project today. Make sure to visit our website alexandriava.gov/DukeInMotion