

DISTRICT DEPARTMENT OF TRANSPORTATION



DC Freight Plan Update

MWCOG Freight Subcommittee Virtual Meeting

Thursday, July 6th, 2023 | 1pm EST

Team Introduction

- Laura MacNeil, DDOT
- Florence Dwyer, DDOT
- Adrienne Ameel, Kimley-Horn
- Clay Barnes, Cambridge Systematics
- Jack Glodek, Cambridge Systematics



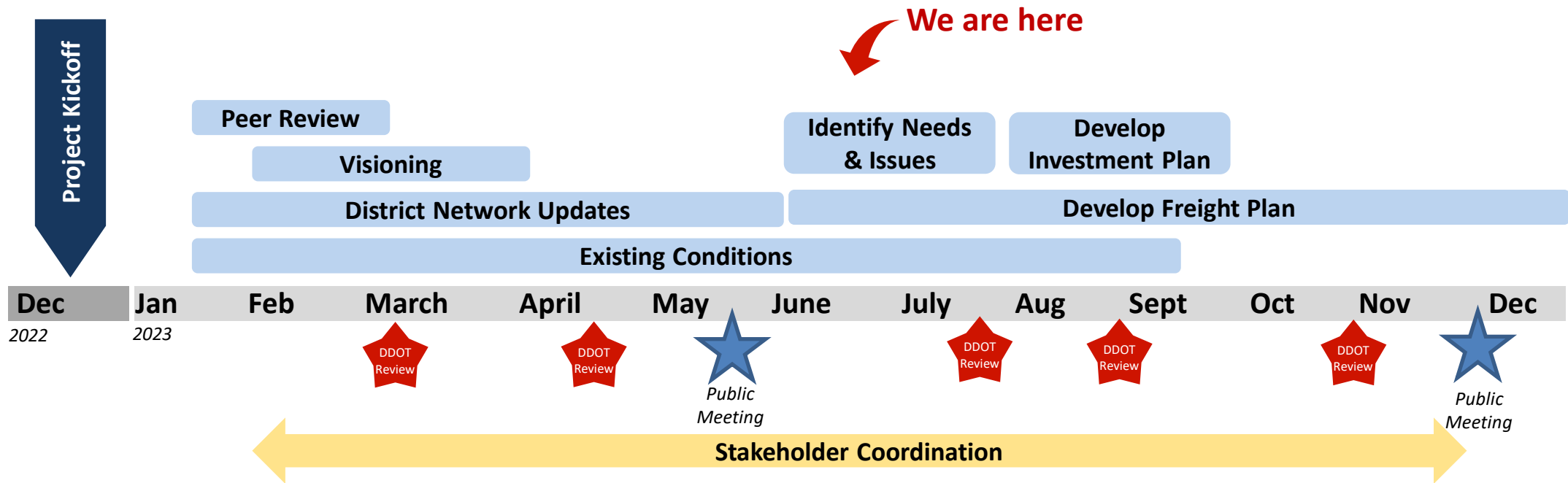
Agenda

1. Project Overview
2. Existing Conditions
3. Updates to the Plan Vision, Goals, and Performance Measures
4. Updates to the CUFC Network
5. Providing Input
6. Next Steps



Project Overview

DC Freight Plan Schedule

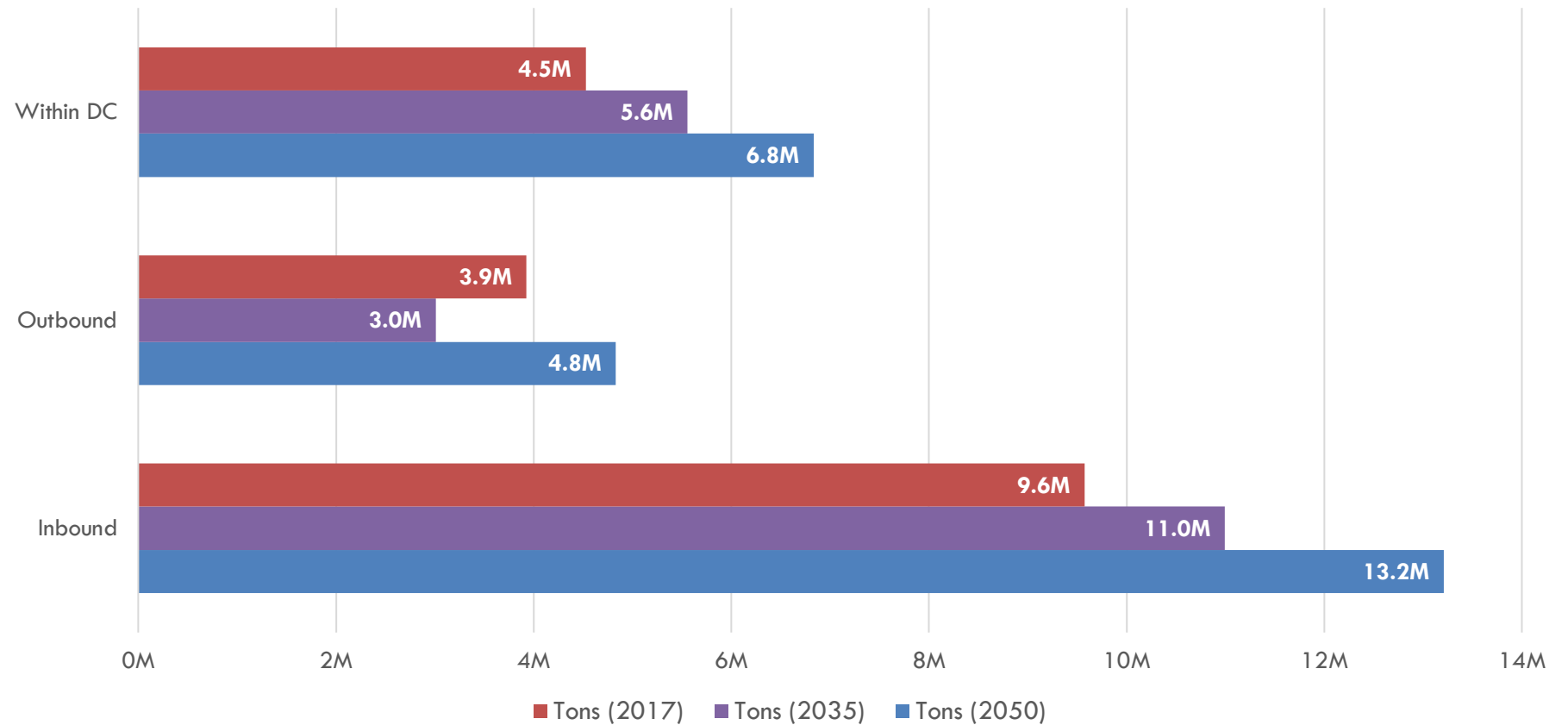


Interim update approved by FHWA can be found here: <https://ddot.dc.gov/publication/draft-district-freight-plan-update>

Freight Existing Conditions

What is Freight?

- Commodity flows are dominated by inbound flows to the District
- Total flows will increase about **38% by tonnage** and **over 100% by value** from 2017 to 2050



Source: Freight Analysis Framework 5 from the Bureau of Transportation Statistics (2023)

How Freight Moves Through the District

- The District's compact geography is unique for a State Freight Plan
- Majority of freight movement is local versus regional

Local small truck/van delivery is one of our primary freight movements operating in the District

-District Industry Plan Stakeholders



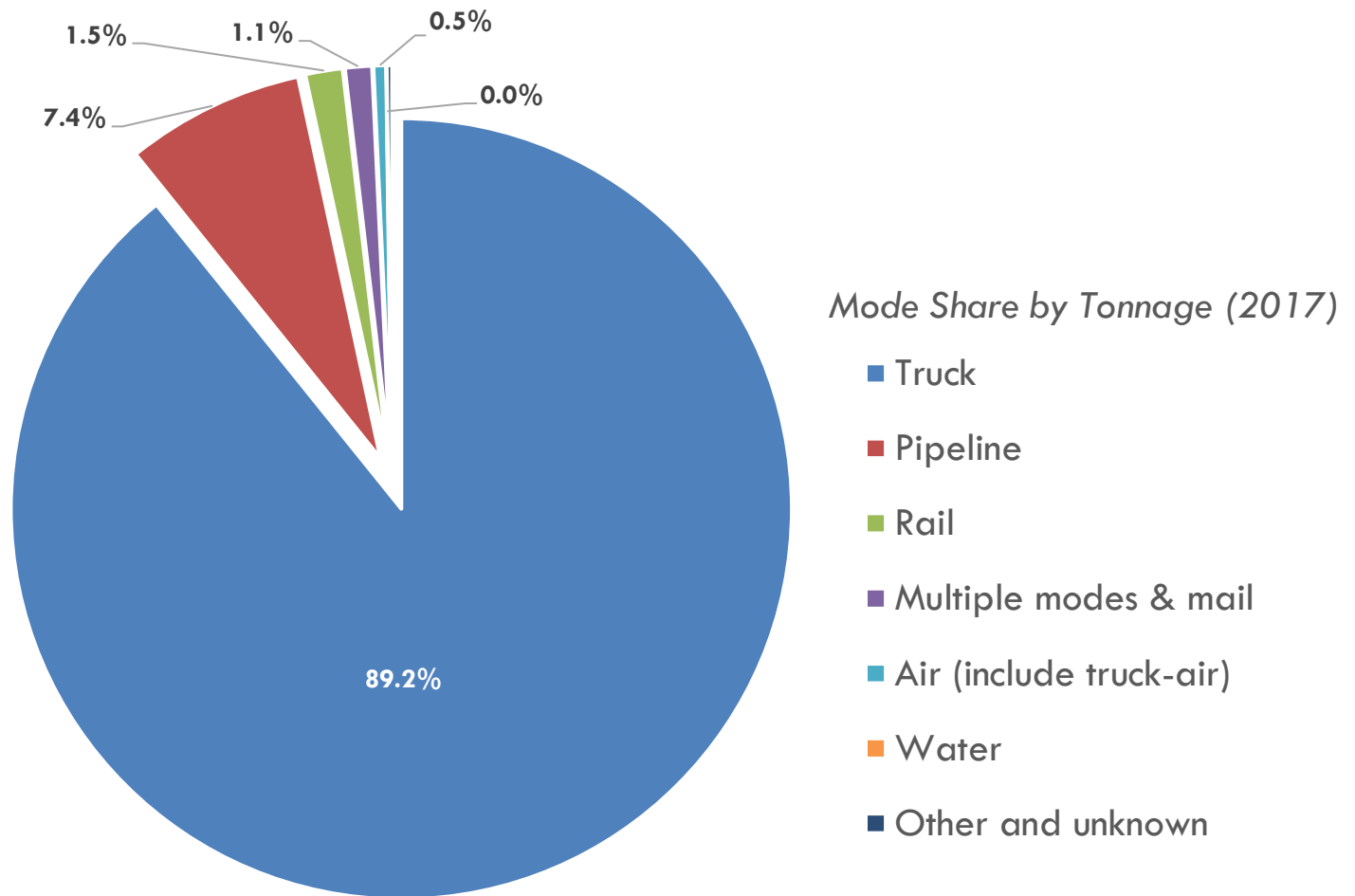
Commercial services (vans/trucks) is one of our primary freight movements operating in the District

-District Industry Plan Stakeholders

How Freight Moves Through the District

About 90% of commodity flows by tonnage are transported by truck.

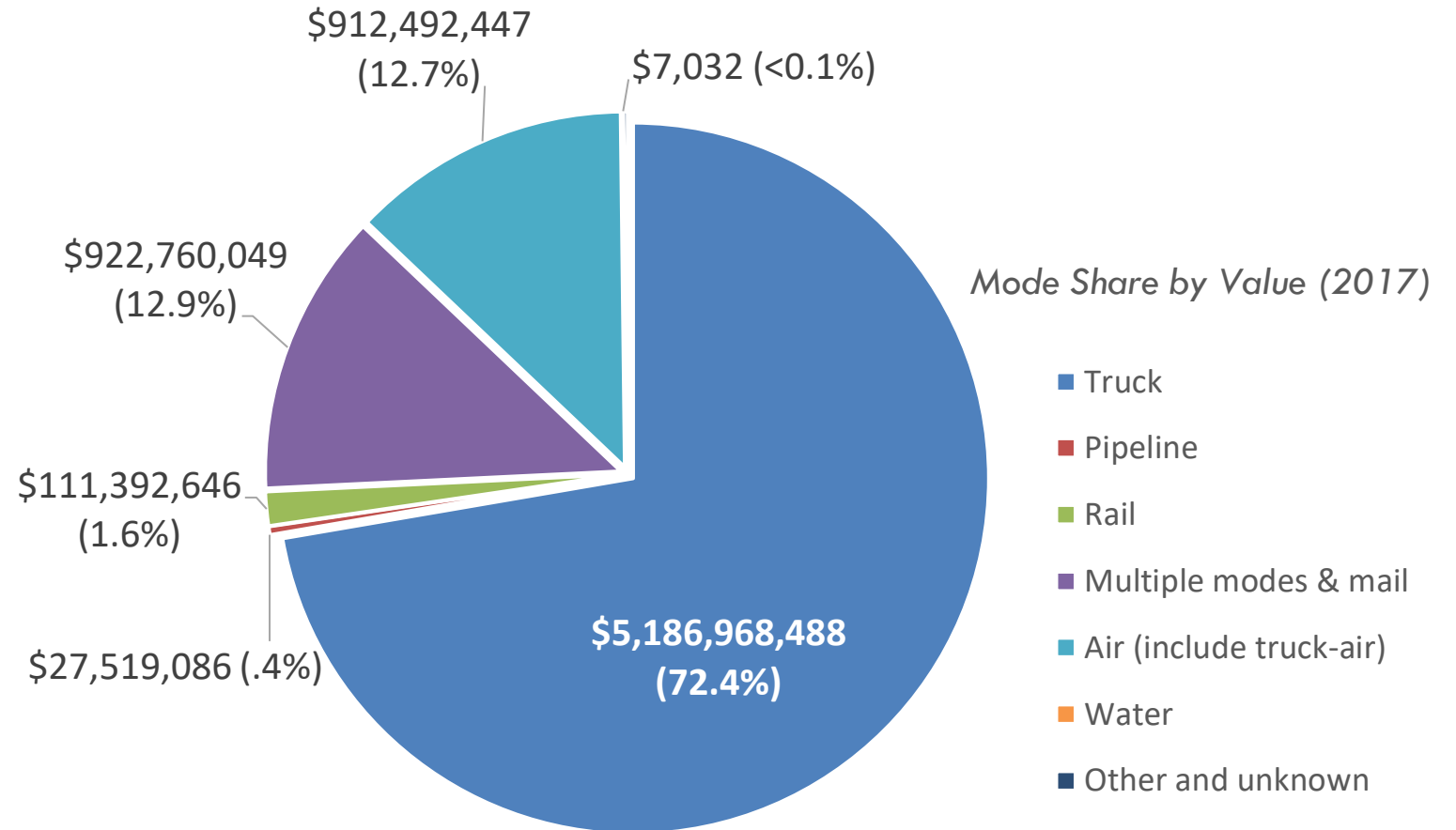
Top commodities (all directions) include non-metallic mineral products (building materials) and waste/scrap (from mostly building materials).



How Freight Moves Through the District

About 72% of commodity flows by value are transported by truck.

Top commodities include mixed freight (electronics and pharmaceuticals) followed by miscellaneous manufacturing (consumer goods).



Ongoing outreach with Industry Stakeholders

Industry stakeholders' decision-making priorities:

Safety

Travel Time

Reliability

Cost

Other

**Bars indicate ranking, not the number or distribution of responses*

Industry stakeholders' most challenging roadway segments:

Site Access/Curbside

Local Roads

Interstates

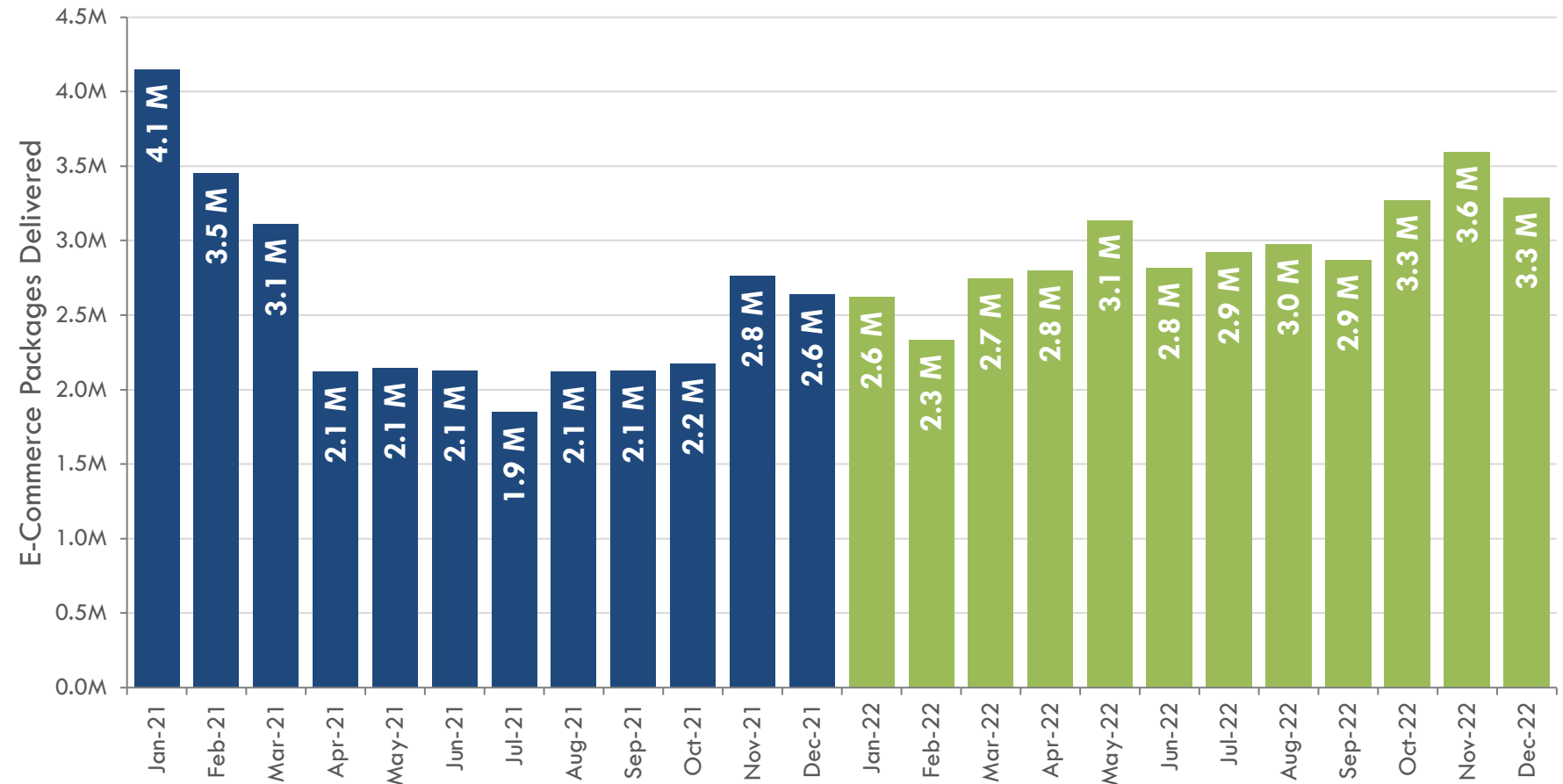
Arterials

**Bars indicate ranking, not the number or distribution of responses*

E-Commerce Delivery Data

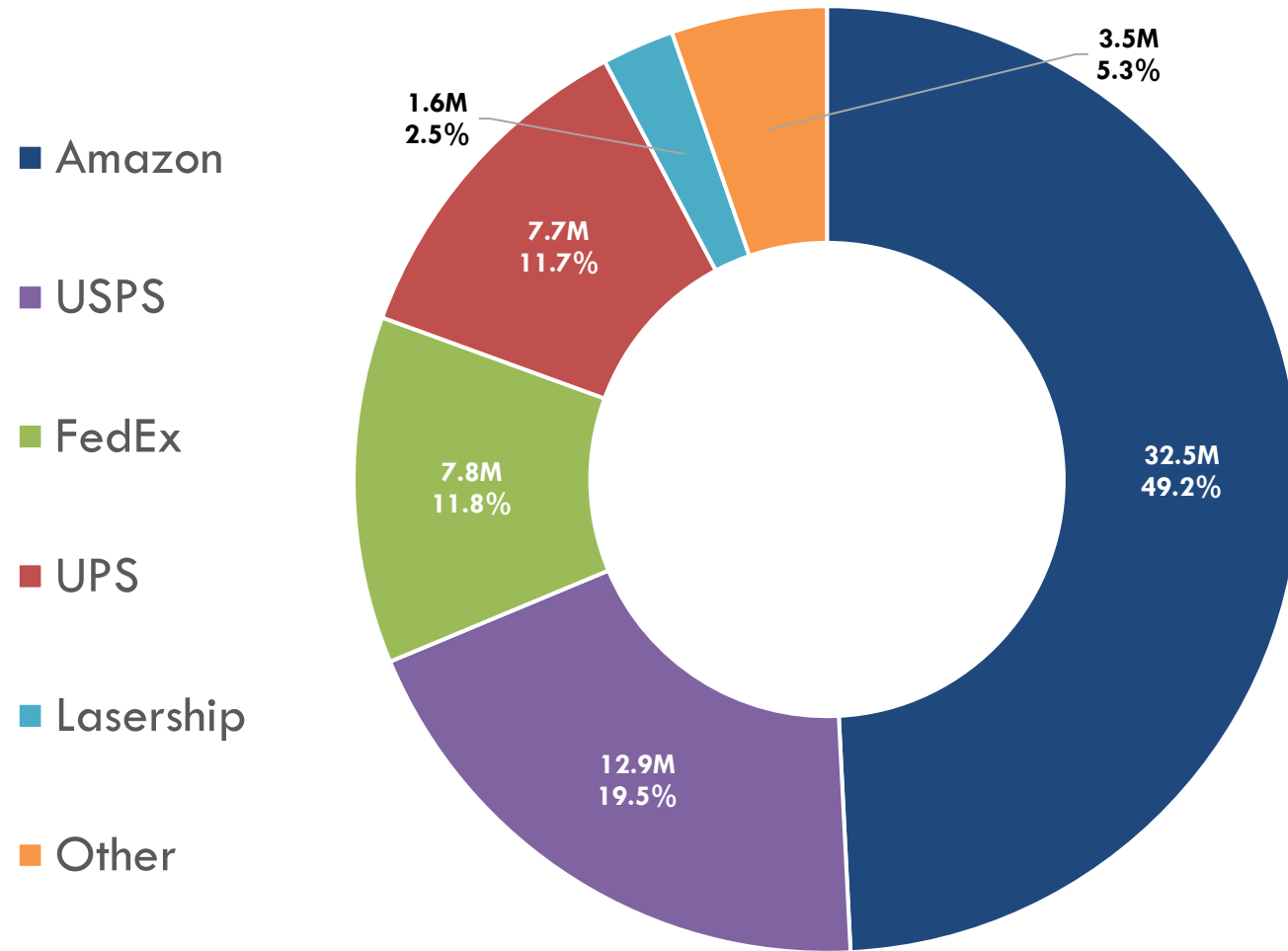
Over the past two years, e-commerce volumes were very high until widespread vaccination efforts (Spring 2021).

E-commerce declined throughout 2021 until holiday season, increasing steadily since then.



Source: NielsenIQ (2021-2022), analysis by Cambridge Systematics

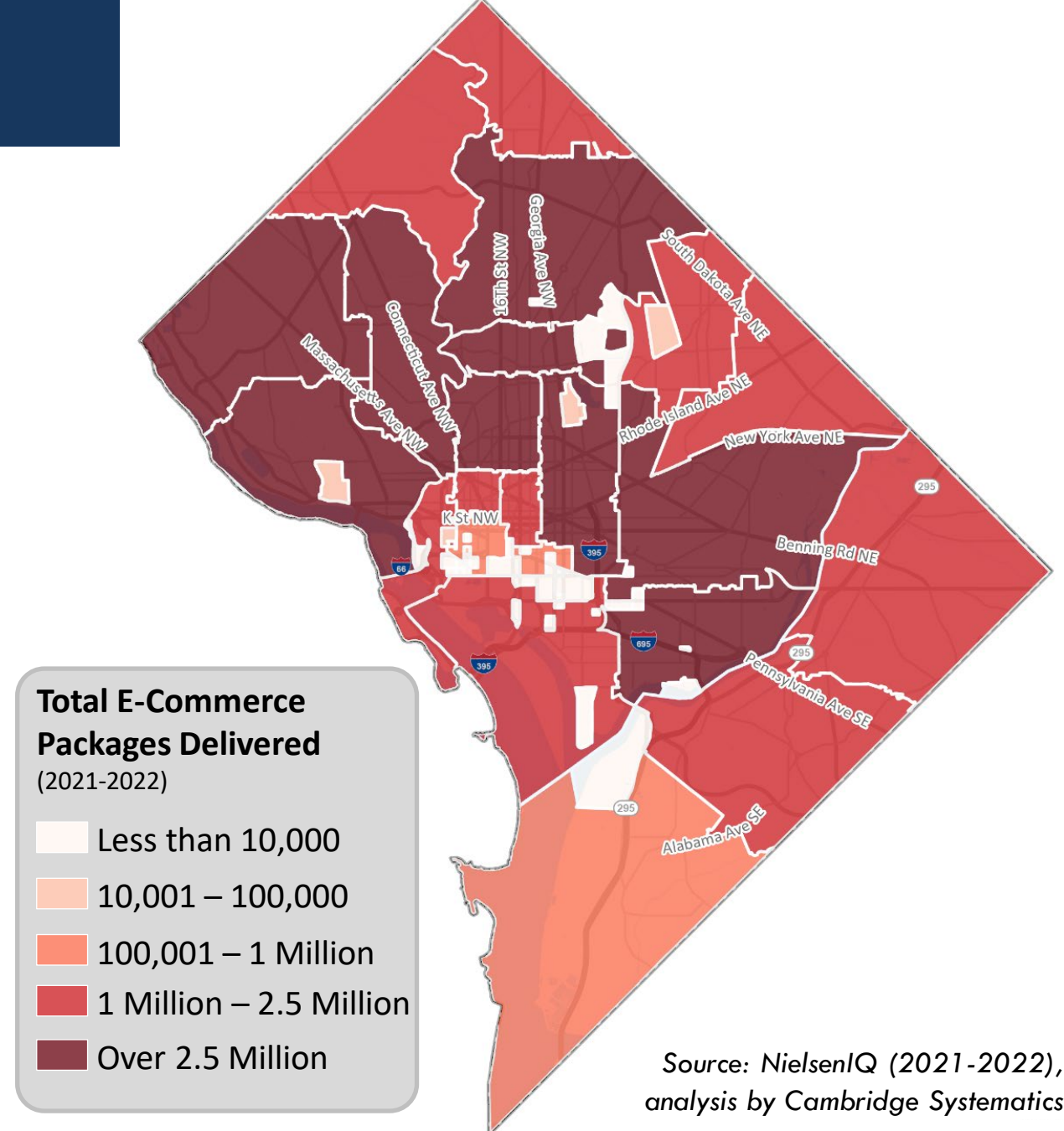
E-Commerce Delivery Data



Most popular carriers are Amazon (almost 50% of packages delivered), followed by USPS (almost 20%)

E-Commerce Delivery Data

- E-Commerce is more popular in residential areas
- Some zip codes saw over 8 million packages delivered over the past two years
- Amazon and USPS dominate deliveries in the more residential areas
- FedEx and UPS are more popular carriers closer to the Capitol and the rest of the central business district



DC Freight Vision

Proposed District Freight Plan Strategic Vision

- Efficient goods movement system that is sustainable, safe, and secure.
- Eliminate or minimize negative impacts on historically burdened communities
- Support the District economy and help residents and public and private sectors to thrive
- Upgrade freight-related technology, equipment & infrastructure in support of the above vision elements

Plan Goal Areas:

Mobility

Management & Operations

Security

Sustainability

Safety

Equity

2022 District Freight Plan Goals and Objectives

New in the 2023 iteration

Federal Goals	Goal Area	Metric	
9,10	Sustainability	Reduce congestion caused by freight bottlenecks	<ul style="list-style-type: none"> • Interstate congestion as measured by the Truck Time Reliability Index (TTRI) • GHG emissions from the transportation sector • Percentage of Alternative Fuel Corridors (AFCs) with DCFCs (direct current fast charging)
		Reduce greenhouse gas (GHG) emissions from the transportation sector	
		Reduce vehicle miles traveled (VMT)	
		Add DCFCs (direct current fast charging) to the AFCs (alternative fuel corridors)	
2, 4, 5, 6 9, 10	Mobility	Improve system reliability, create infrastructure and policies that enhance the movement of goods and improve efficiency	<ul style="list-style-type: none"> • Number of functioning static weigh station and weigh in motion (WIM) systems • Percent of primary freight route pavement in good condition • Number of tickets issued for unauthorized vehicles in loading zones • Number of tickets issued to vehicles in violation of through-truck restrictions • Number of tickets issued to commercial vehicles for double-parking • Number of street redesign and reconstruction projects utilizing freight considerations checklist
		Accommodate the movement and management of freight and goods	
		Explore new freight strategies including delivery micro-hubs and delivery demand management techniques	
		Integrate the District's transportation system with the region's transportation network	
		Maintain Optimize freight access within planning of dedicated transit and bike facilities	
		Balance residential character of local streets with truck access for home deliveries	

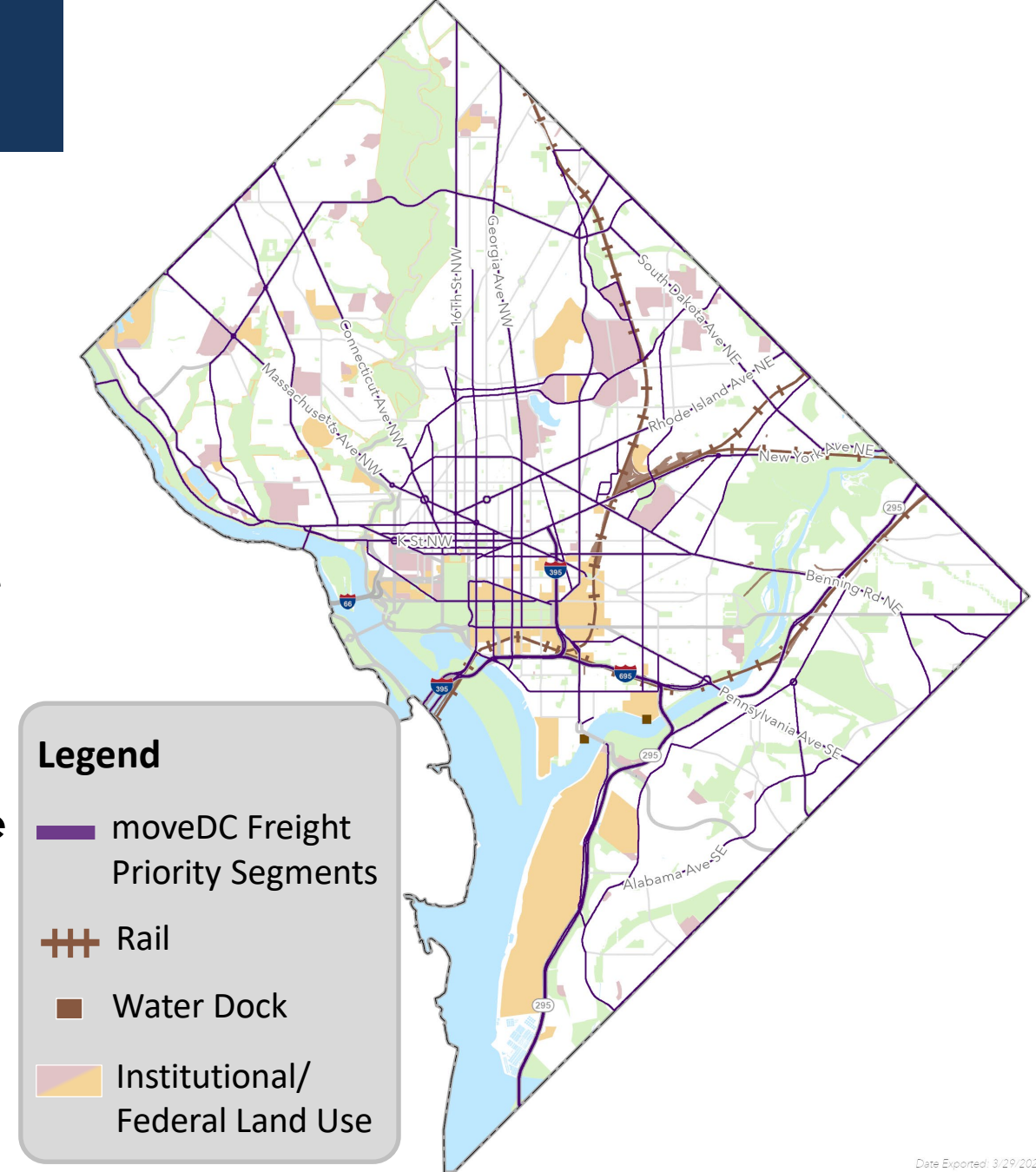
2022 District Freight Plan Goals and Objectives

Federal Goals	Goal Area	Metric	New in the 2023 iteration
4,10	Safety	Improve safety for all users	<ul style="list-style-type: none"> Number of crashes involving trucks Number of fatalities in crashes involving trucks Number of serious injuries in crashes involving trucks
2, 10	Security	Secure movement of goods.	<ul style="list-style-type: none"> Number of hazardous material incidents involving truck, water, or rail
		Consistent data sharing with public security agencies.	
3, 5,10	Management & Operations	Maximize reliability for all District transportation infrastructure by investing in maintenance and asset management	<ul style="list-style-type: none"> Percent of bridges on primary freight routes in fair or better condition Percent of primary freight route pavement in good condition Number of emerging technology pilots implemented Number of operational loading zone spaces Timeframe to install or relocate loading zones by request Number of Regional or Local Freight Advisory and/or other official internal DDOT advisory engagements (e.g., meeting, surveys) Number of data dashboards (public and internal)
		Provide reliable available curb space for deliveries by good management of the loading zone program	
		Coordinate within DDOT, other District agencies, and private industry partners to improve freight related operations and solutions	
		Leverage data for continuous evaluation and decision-making	
9, 10	Equity	Reduce negative freight impacts in communities of greatest need	<ul style="list-style-type: none"> Number of projects assessed for equity Community-based organizations (CBOs) invited to Freight Advisory Committees (e.g., environmental organizations)
		Seek to listen, learn, and address historical inequities arising from freight movement	

Freight Networks and Critical Urban Freight Corridors (CUFCs)

moveDC Freight Priority Corridors

- In total, there are three moveDC networks (bus, bike, freight)
- The networks were developed based on iterative feedback from stakeholders and the public
- moveDC Freight Priority Network identifies segments in which truck accessibility should be considered in future projects
- moveDC Freight Priority Network is identical to the Truck and Bus Through Routes

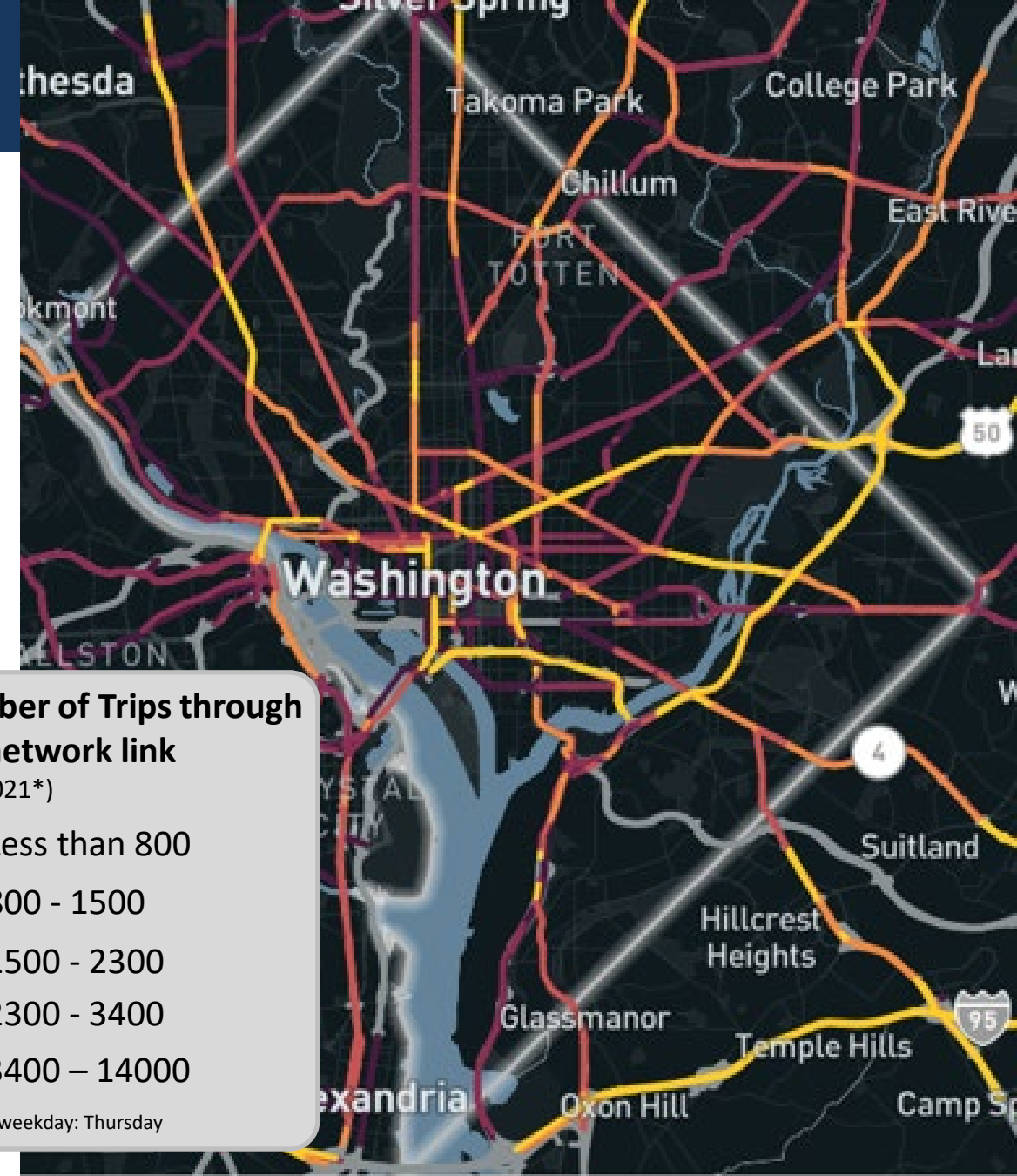


Date Exported: 3/29/2023

Truck Volumes

Replica 2021

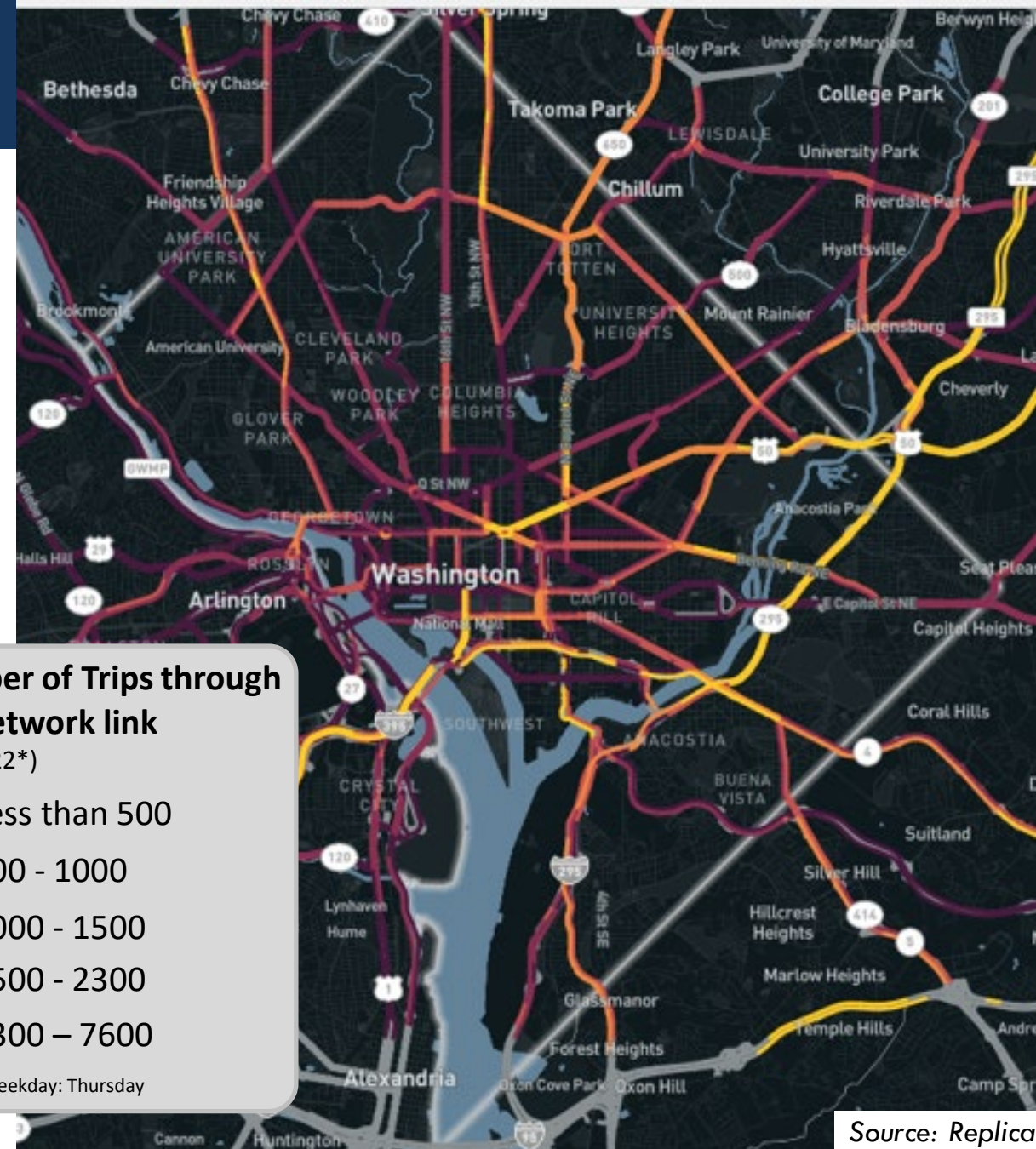
- Replica uses a synthetic population to model trips by type
- High volume corridors include:
 - Interstates/Highways
 - New York Ave NE
 - Benning Rd NE
 - 14th St NW
 - M St NW
 - Wisconsin Ave NW



Truck Volumes

Replica 2022

- Replica uses a synthetic population to model trips by type
- High volume corridors include:
 - Interstates/Highways
 - New York Ave NE
 - N Capitol NW/NE and S Capitol SW
- Volumes are less dense on principal arterials, slight increases in volume on minor arterials
- Approximately ~1m less trips*



*Note: not exact volumes, trips generated based on modeling

Source: Replica

Truck Volumes

DC Open Data

- High volume corridors include:
 - Interstates/Highways
 - H Street NE/Benning Rd NE
 - State diagonals (e.g., New York Ave NE, Rhode Island Ave NE)
 - N Capitol NE/E Capitol SE
 - Suitland Parkway

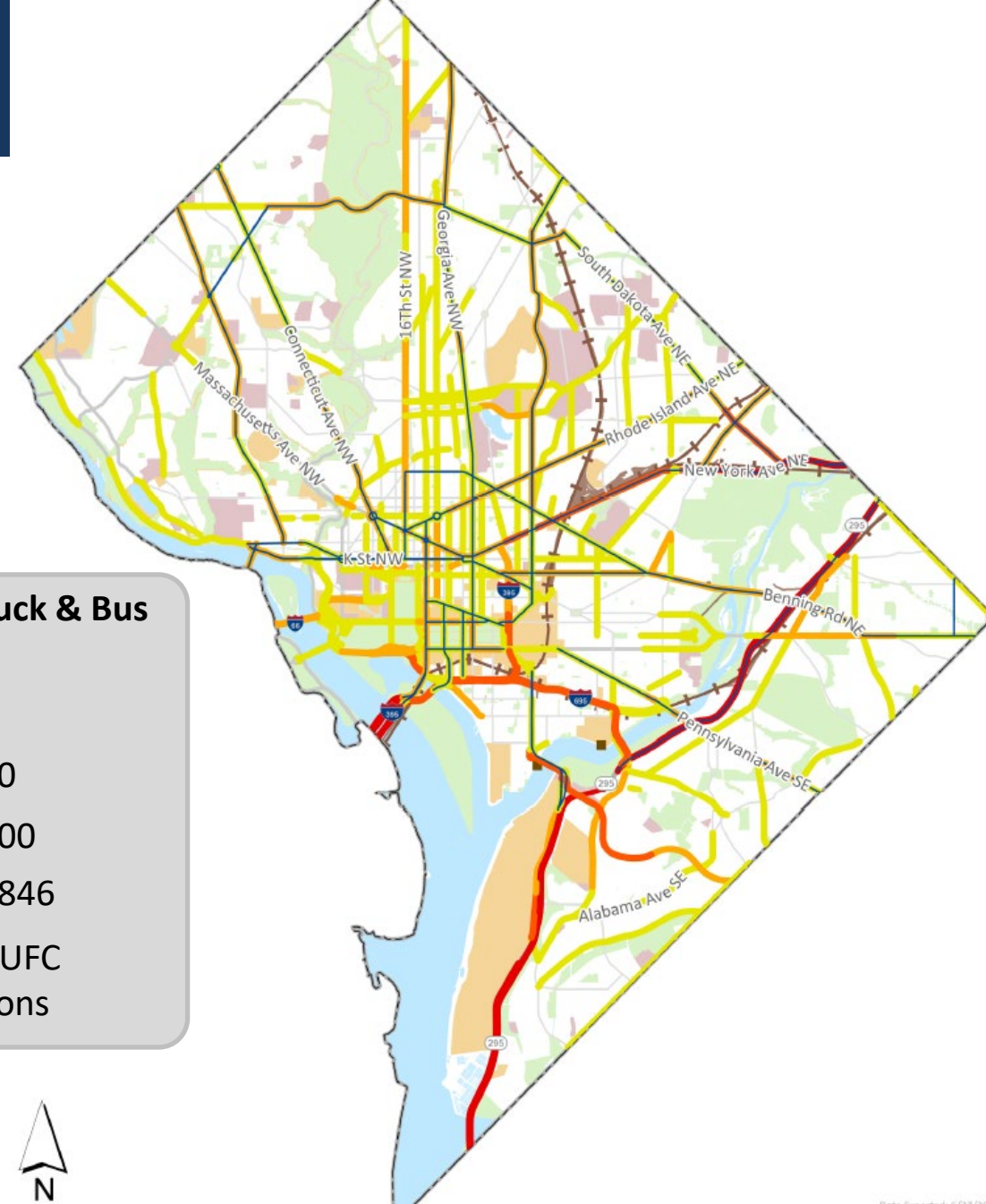
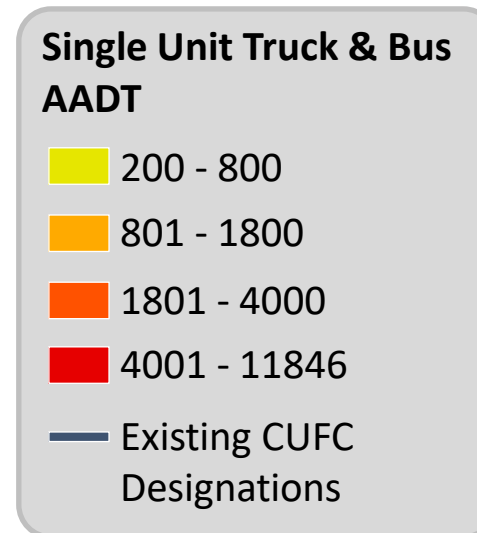
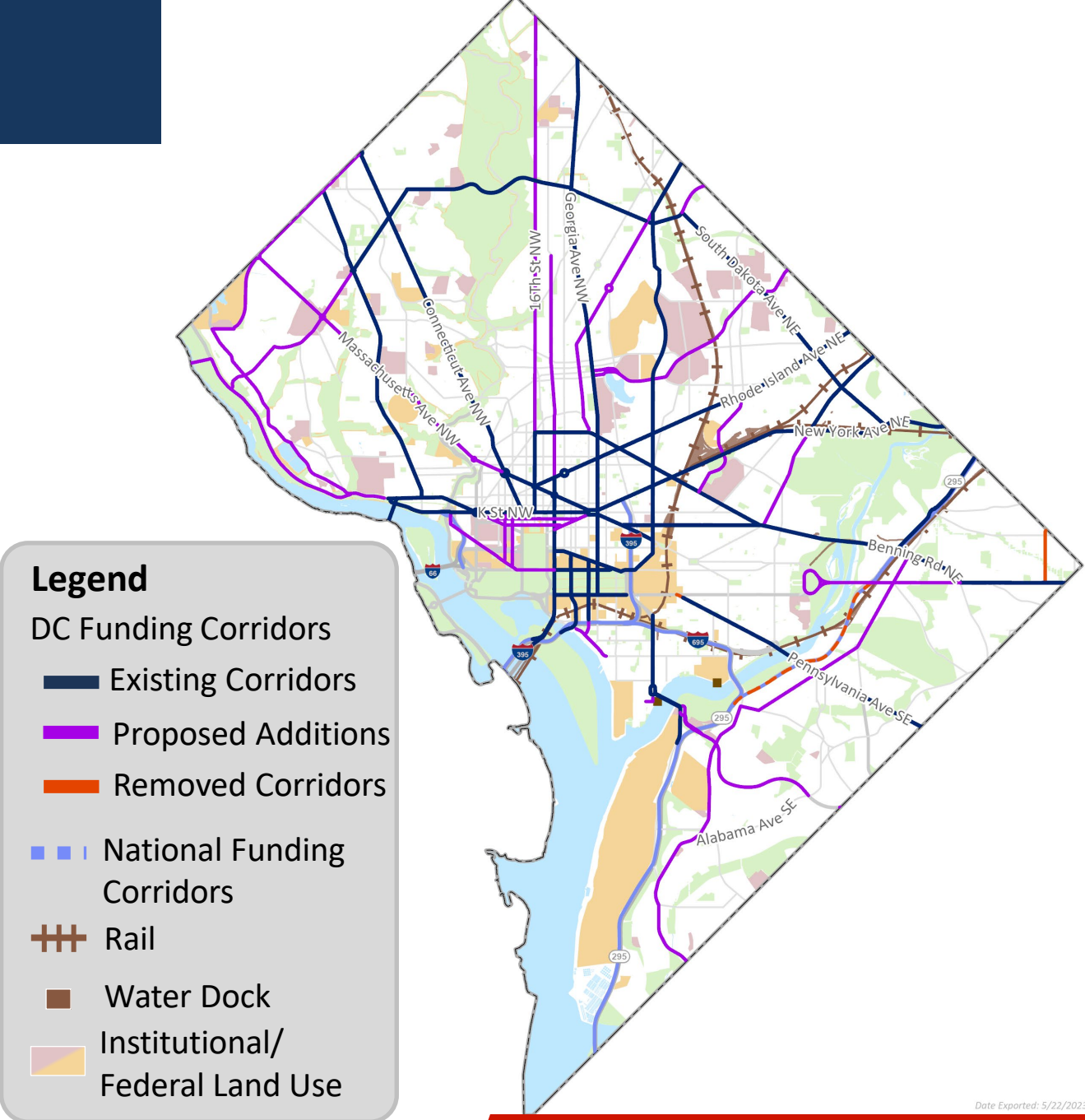


Photo: P. ...

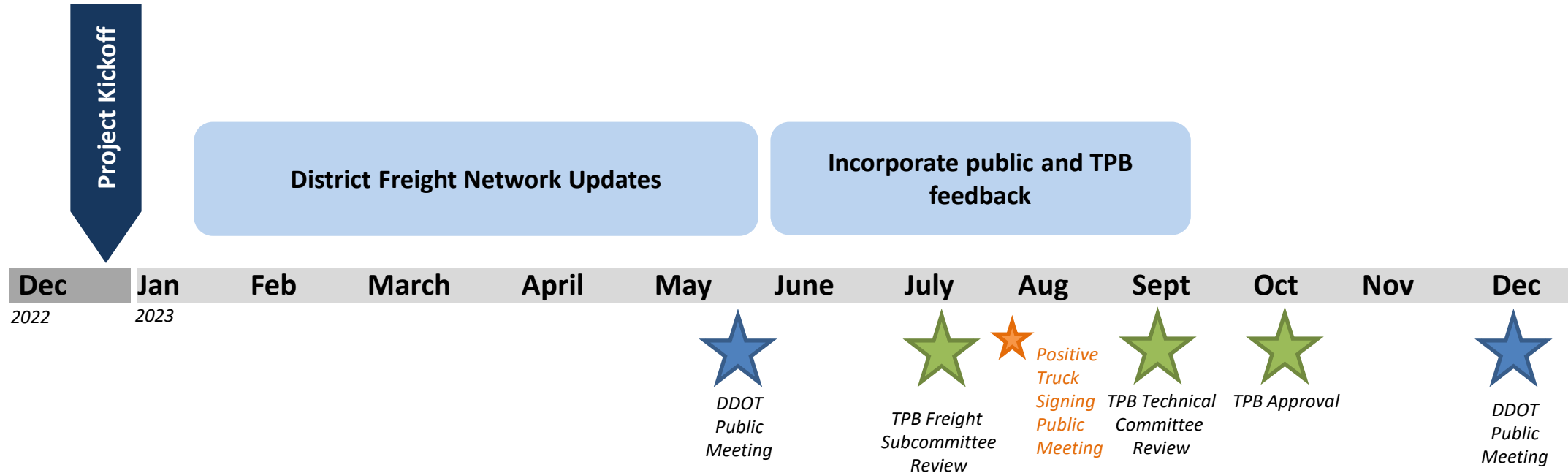
Proposed CUFCs

- Federal increase to 150 lane miles of CUFCs
- Proposed CUFCs are ~120 lane miles
- Additional corridors, *purple on the map to the right*, were added based on a variety of data sources

Criteria			
✓	High Volume Corridors	✓	Pavement Condition Index
✓	Freight Generators/ Commercial Districts	✓	Stakeholder Feedback
✓	Other Projects and Plans	✓	Existing Truck Restrictions
✓	Roadway Classification	✓	E-Commerce Data
✓	Access	✓	Neighborhood Characteristics



Critical Urban Freight Corridors Update



We are looking for feedback on;

- Proposed CUFCs before they are shared with the TPB technical committee in the fall
- Existing conditions analysis
- Vision, goals, and performance measures
- Needs & issues to add or comment on from the previous plan's list

By July 21st

Needs & Issues

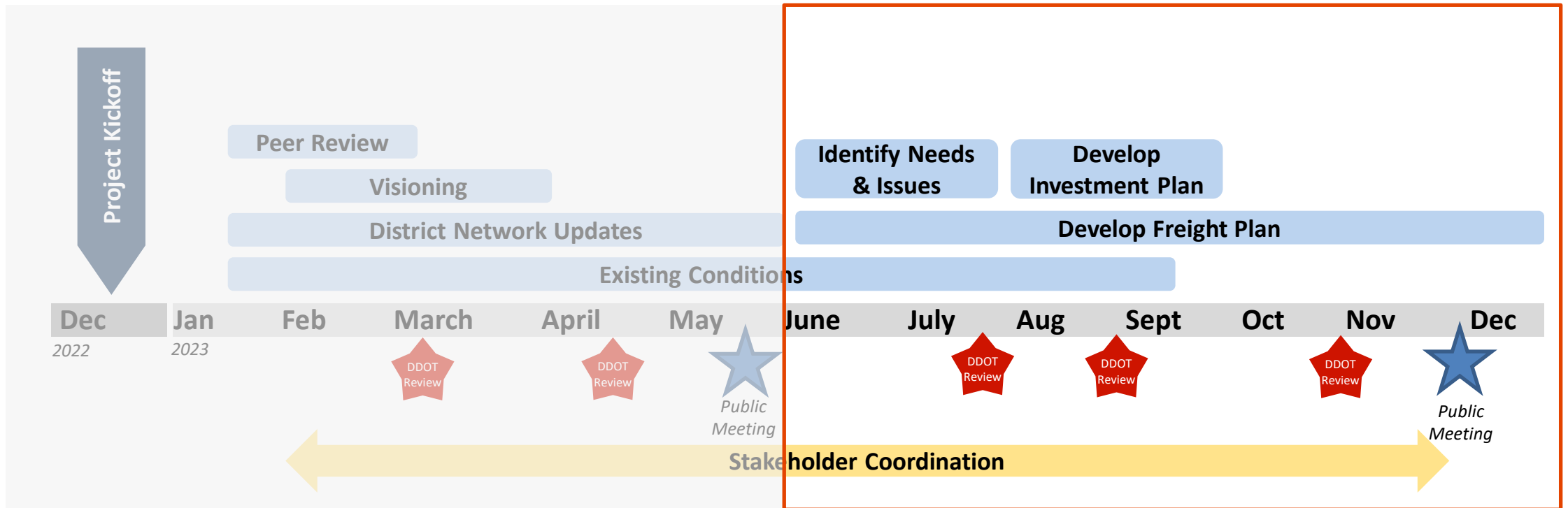
Previous Freight Plan Needs & Issues – Subcommittee Feedback Requested

- Competition for space
- Truck routes & enforcement
- Congestion & parking constraints
- Constrained or aging infrastructure (e.g., bridges, vertical clearance, pavement, roadway geometry)
- Growing market share of e-commerce deliveries and associated deliveries
- Climate change
- Heavy vehicle impacts
- ITS (intelligent transportation systems e.g., weigh-in-motion systems)



Next Steps

Next Steps for Overall Freight Plan



- Integrating feedback to finalize the Plan's vision, goals, and performance measures
- Continuing the existing conditions technical analysis
- Using feedback to help identify needs & issues, and how to address them through the DC Freight Plan update and investment plan
- Coordinating with the Positive Truck Route Signage Study, which is assessing DC's existing truck routes and restrictions and studying the potential for a mandatory truck route network. Save the date for that public meeting on July 20th.

DISTRICT DEPARTMENT OF TRANSPORTATION

DC Freight Plan Update

Thank you for attending!

Please feel free to reach out to the project team ddot.freight@dc.gov ;
Laura MacNeil Laura.MacNeil@dc.gov

For DDOT's interim update, click: <https://ddot.dc.gov/publication/draft-district-freight-plan-update>