

DISTRICT DEPARTMENT OF TRANSPORTATION



Positive Truck Route Signage Study

TPB Freight Subcommittee

September 12, 2023

Agenda

Positive Truck Signage

Overview of the DDOT Positive Truck Signage Study

Existing Conditions

Benefit-Cost Analysis

Route Recommendations

Transition Plan

Next Steps

Positive and Negative Truck Signage

Positive truck route signage refers to signage that clearly identifies preferred truck routes.



In DC, only black and white restriction signage is enforceable.

Negative truck route signage refers to signage that clearly identifies prohibited truck routes.



A thru/through truck restriction means that the street is still open to trucks making local deliveries.

Existing Conditions in DC

- The District of Columbia currently utilizes an advisory designated truck and bus route network, which **encourages** but does **not require** heavy vehicles to travel along designated routes.
- The District also designates bus restrictions and through-truck restrictions along residential streets, which are enforced by the Metropolitan Police Department when there is associated signage in place.
- Currently, trucks carry more than 90% of goods by weight (and 72% of goods by value) into, through, and out of the District.



Study Overview

To analyze the **benefits** and **drawbacks** of potentially installing positive truck route signage in the District, with the goal of balancing quality of life for residents with the need to make deliveries.

Evaluate the existing truck and bus network

Study peer cities with positive truck route networks

Develop benefit-cost analysis (BCA) to evaluate a potential positive truck route system against current conditions. This analysis includes two options:

- A **signed advisory** positive truck route system and
- A **signed mandatory** positive truck route system

Understand the components needed for a potential transition plan, including any legal, administrative, enforcement, and public engagement actions

Create a concept plan with sign design materials and guidelines for cost estimates.

Existing Truck & Bus Signage



Todd Place and Summit Place NE



7th Street and T Street NW



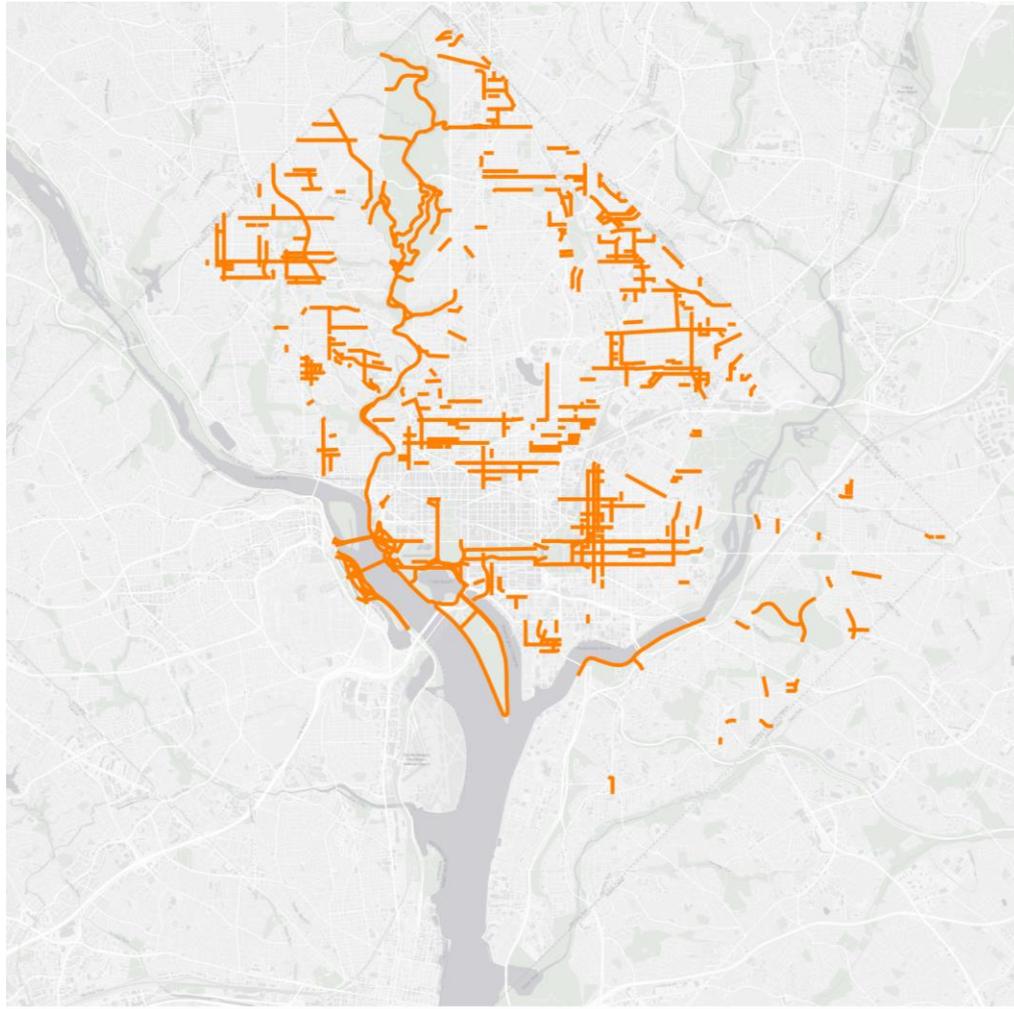
10th Street and Taylor Street NE



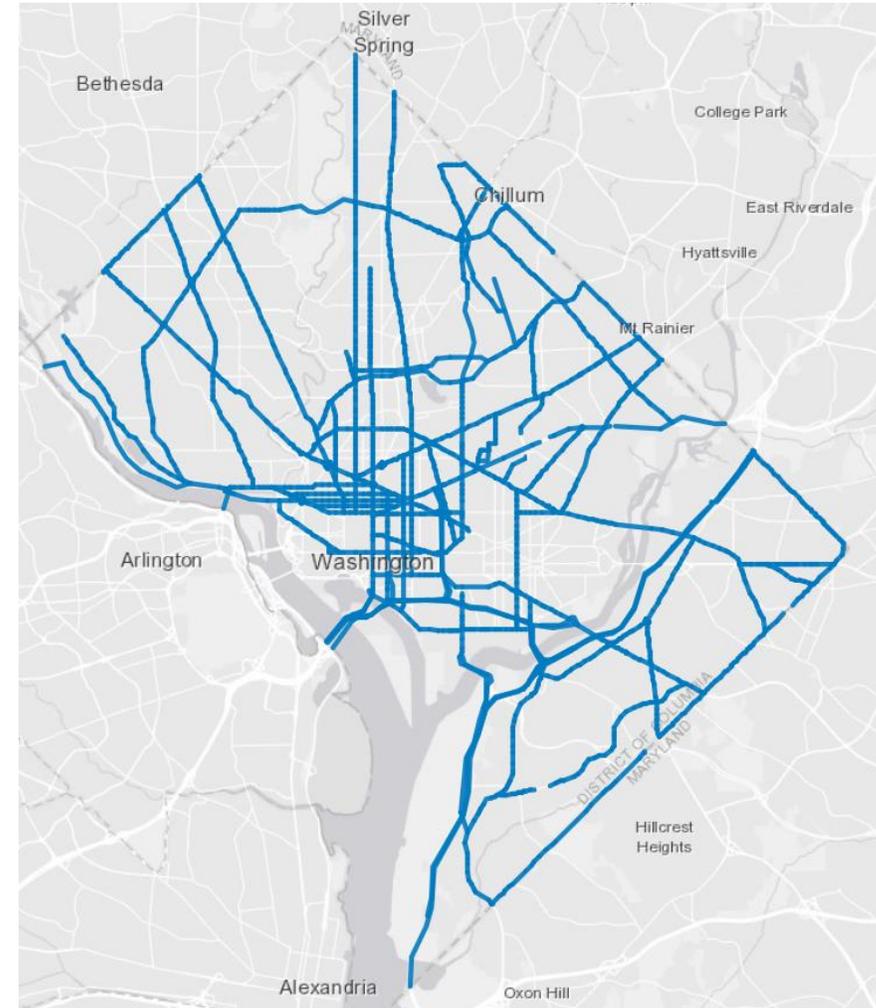
12th Street and M Street NW

A range of signs and styles are used, many of which convey the same message.

Existing Truck Restrictions

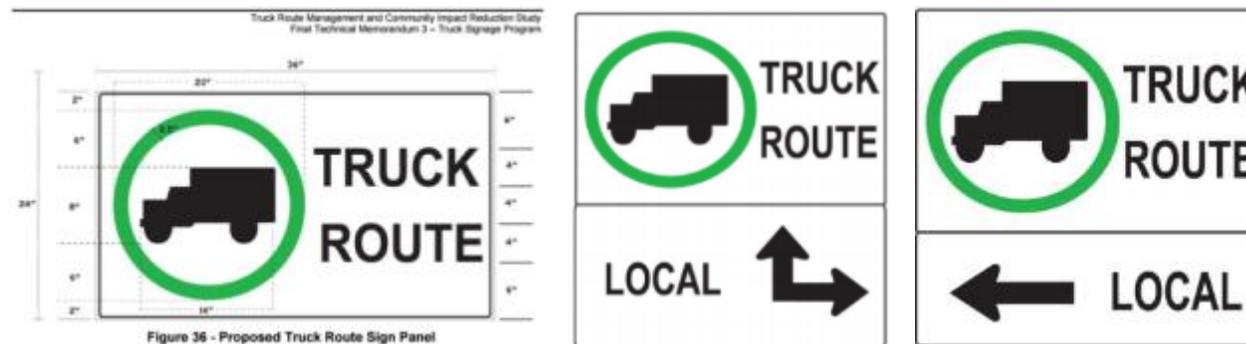


Existing Truck & Bus Through Routes



Previous Studies

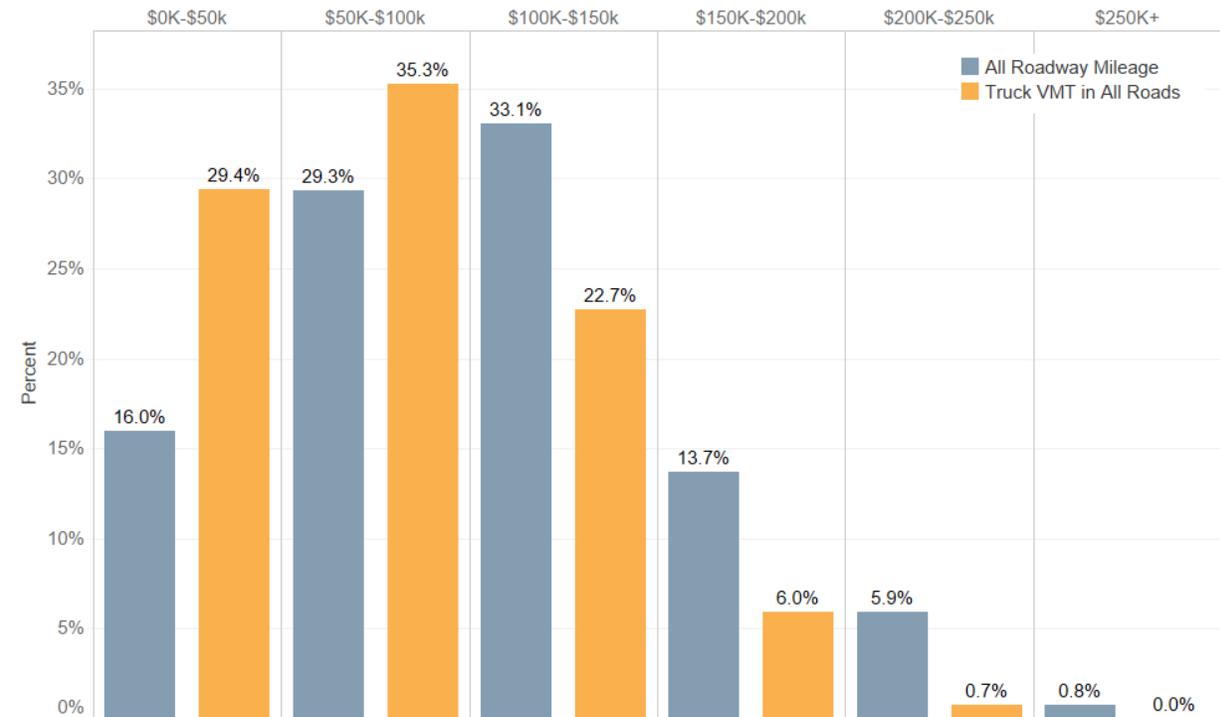
- **2010:** Established Advisory Truck Route System of designated, though unsigned routes
- **2016:** DDOT updated truck restriction guidelines and review process
- **2020:** DDOT completed Freight Plan Addendum
 - Challenges included land uses and transportation changing faster than supporting freight infrastructure, and vertical clearance restrictions
 - Recommended a comprehensive signage program that easily identifies designated routes and minimizes illegal truck traffic



Proposed Positive Truck Signage from 2016 Study

Existing Conditions

- Most truck traffic is on Interstates and expressways.
- The current Truck and Bus Through Network carries **85%** of single unit truck VMT and **78%** of combination truck VMT.
- **30%** of truck VMT is on roads in neighborhoods with median household income of **\$50,000 or less**.
 - Truck traffic in low-income neighborhoods largely occurs on expressways.
- Most truck signage is on local streets

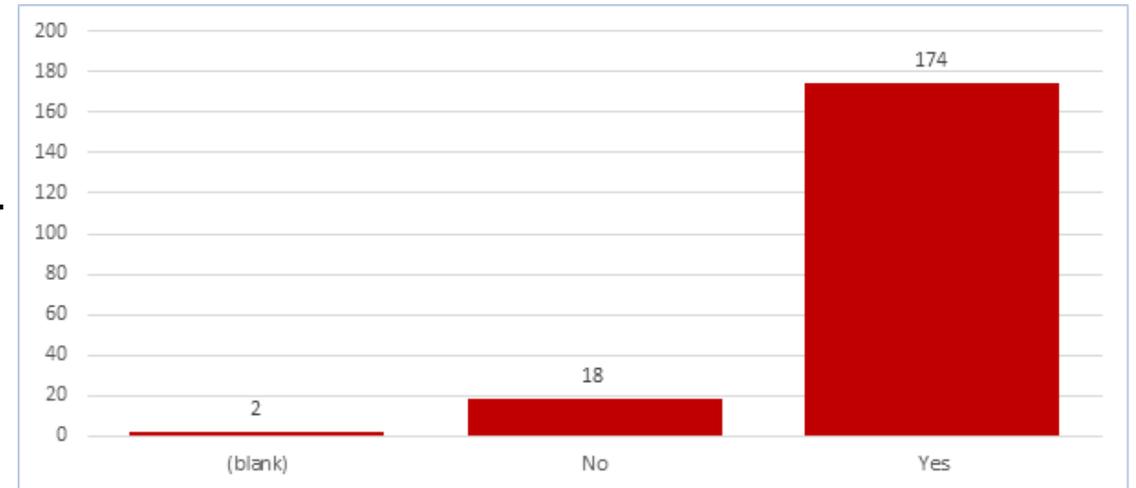


Distribution of Roadway Mileage and Truck Vehicle Miles Traveled (VMT) by Adjacent Median Household Income

Stakeholder Input

- Two interview sessions were held with truck and charter bus industry stakeholders in December 2022 (5 organizations represented)
- A survey was sent to Advisory Neighborhood Commissions in January 2023 (194 responses)
- Feedback from MPD Motor Carrier Safety Unit
- Feedback from National Park Service

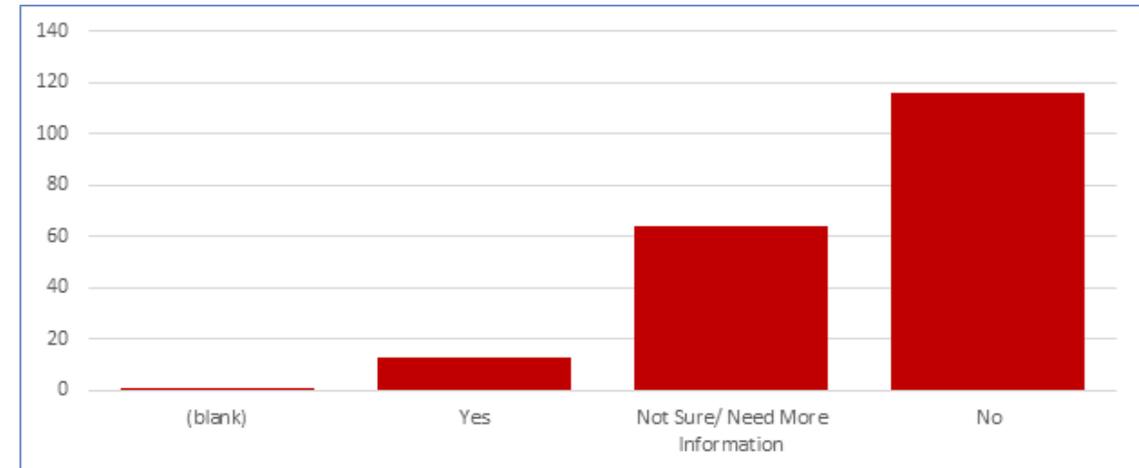
Survey Question: Would You Support a Mandatory Bus and Truck Route Framework? (ANC Survey)



ANC Survey Responses

- Of 194 responses received, roughly half think existing truck routes and restrictions do not work well
- Many were not aware that the District has truck routes and restrictions
 - *“I’ve lived here since 1998, and I didn’t know that we had any truck restrictions.”*
 - *“It is not clear what the routes are.”*
- Responses showed concerns about:
 - Inadequate enforcement
 - Oversized trucks blocking or causing damage along narrow residential streets
 - Effects of large trucks on safety for pedestrians and cyclists

Survey Question: Do the District’s Truck Routes and Restrictions Work Well?



Peer Cities Lessons Learned

1. There are **benefits to implementing consistent positive truck signage** – drivers confidently choose routes
2. Advance signage can **help increase compliance** – allows for alternate routes
3. Simple, **symbol-based design is commonly used in peer cities** – allows drivers to quickly identify routes
4. Cameras can be used to **complement police enforcement**
5. If moving to positive truck route signage, **DDOT should be prepared to install signage ASAP** – this prevents confusion
6. **Outreach materials should be graphical and succinct** – easier to understand

Benefit-Cost Analysis: Build & No-Build Scenario Descriptions

Scenario	No Build	Build-Advisory	Build Mandatory
Description	As-Is Operations	Implement positive truck signage and maintain truck restriction signage	Implement positive truck signage and remove 75% of truck restriction signage Some restrictions signs will need to be maintained

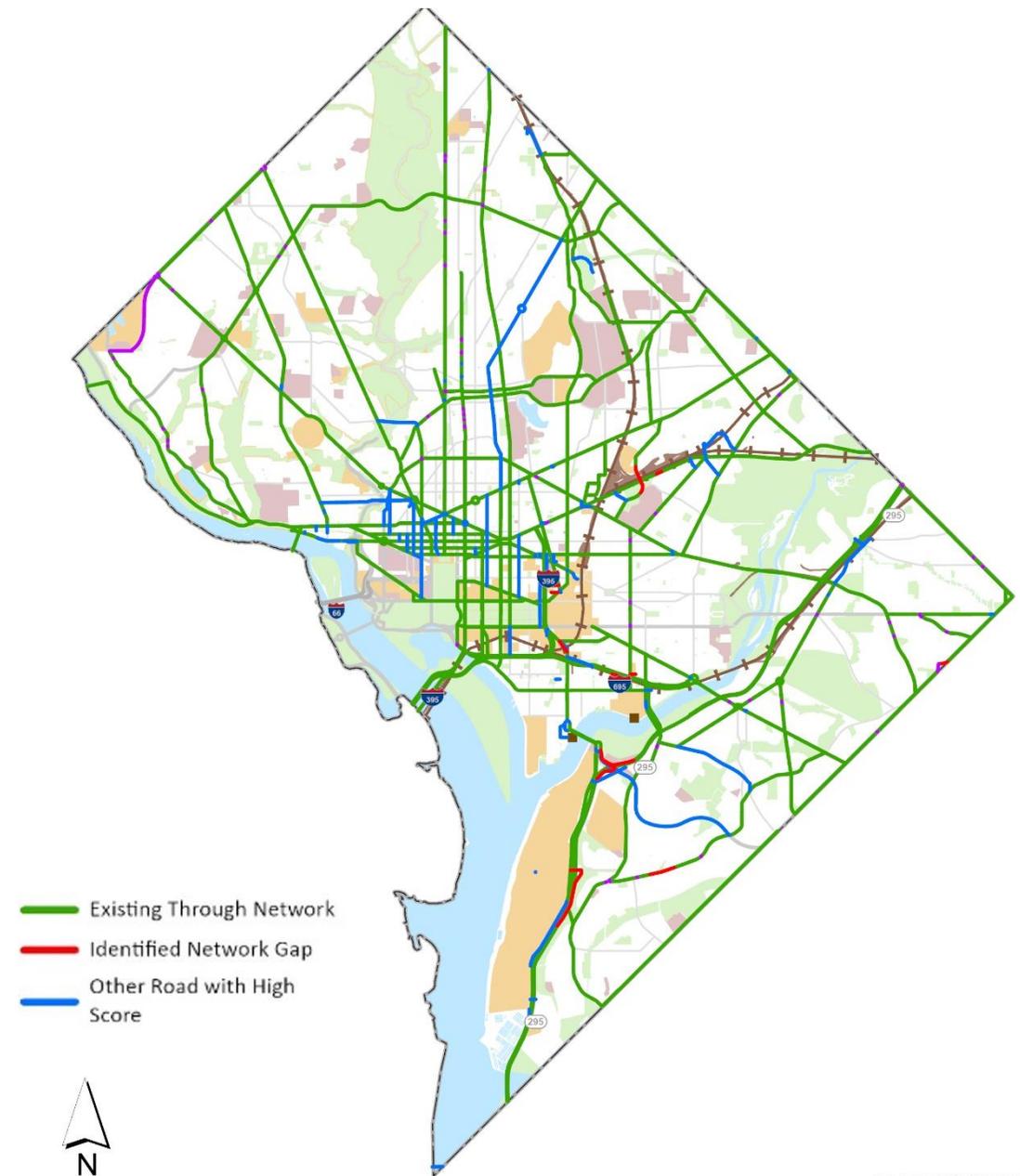
Benefit-Cost Analysis

	Benefit-Cost Ratio Impact
Change in Operations & Maintenance Costs	Negative (Advisory) Positive (Mandatory)
Driver Travel Time	Neutral
Safety Benefits	Negative (could be positive with different assumptions)
Emissions (system-wide)	Negative
Vehicle Operating costs	Negative
Pavement Damage	Negative

Comparison of capital, operations, and maintenance costs with expected improvements in safety, emissions reductions, and travel time improvements.

Analysis Takeaways

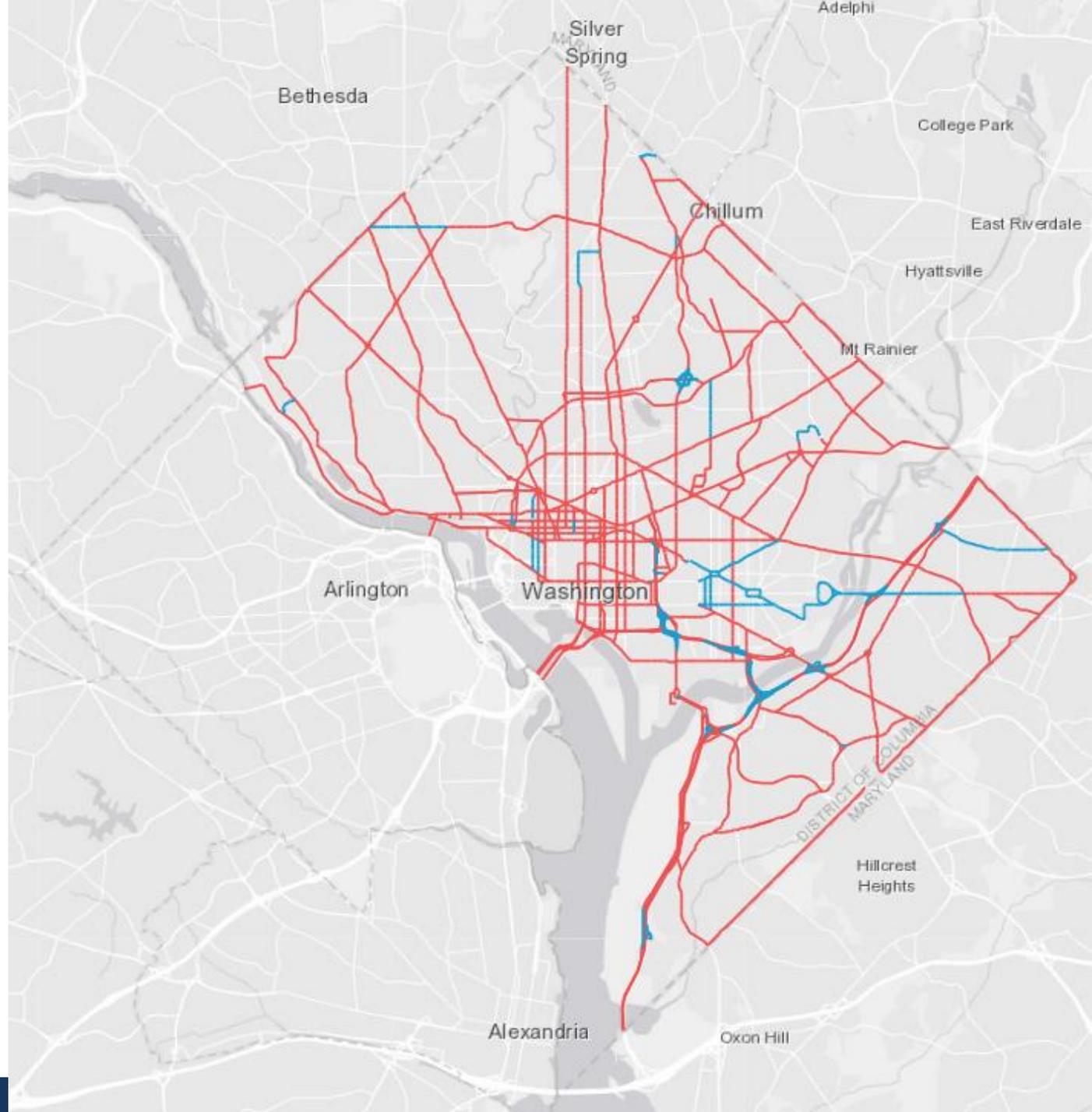
- The truck and bus through route network can serve as an **adequate base** for the Positive Truck Route System but requires **some changes**.
- The Positive Truck Route system should be **extensive** to reduce circuitous trips.
- Positive truck route signing with a mandatory enforcement framework would significantly **reduce truck VMT** within sensitive areas.
- A positively signed network with a mandatory enforcement framework can reduce the burden on residents to request neighborhood truck restrictions.



Route Recommendations

The Proposed Network:

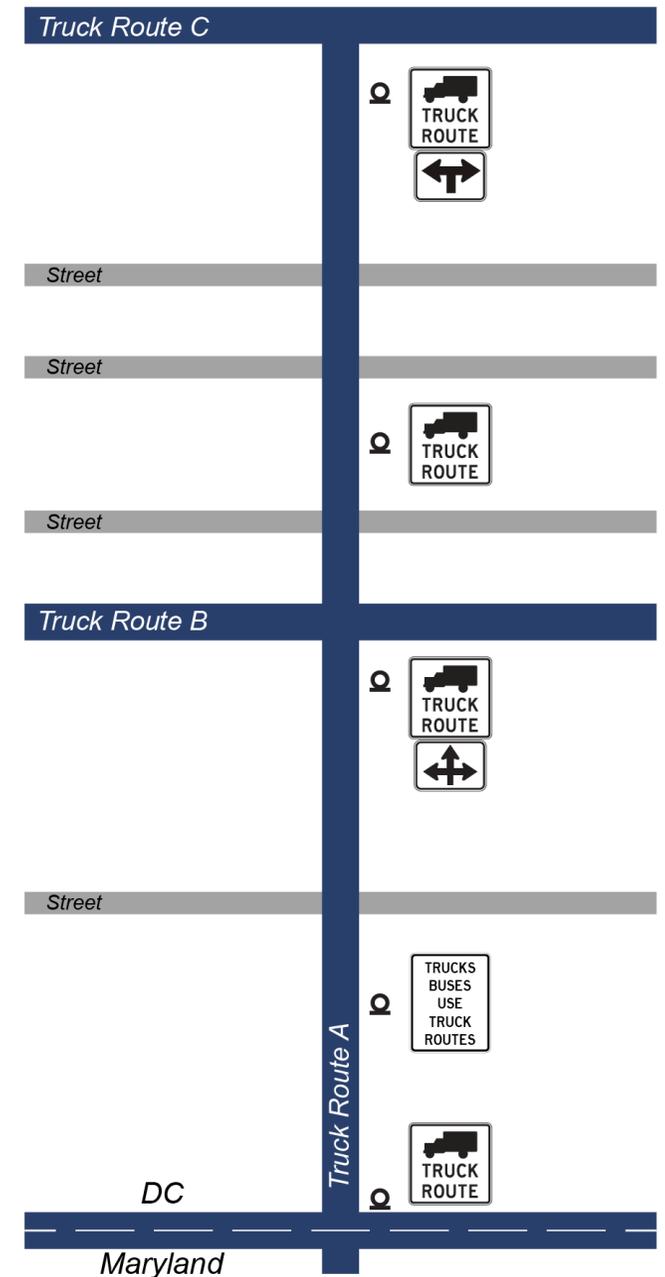
- Is based on Results of Gap Analysis
- Builds on current Truck and Bus Route Network
- Closes gaps in existing system
- Provides practical roadway connectivity for freight



Sign Location Model

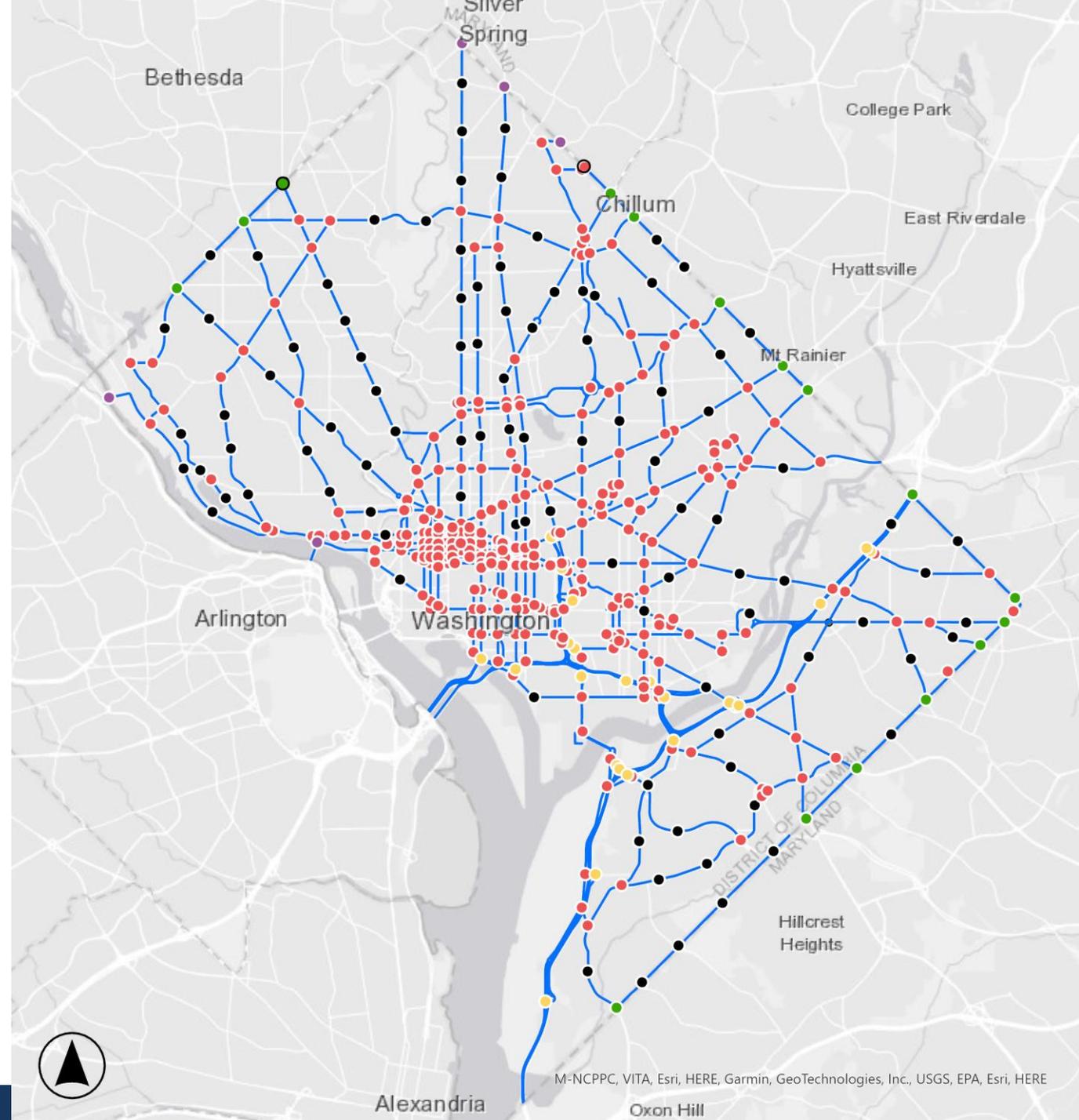
Positive Truck Route Signage will be installed:

- At the intersection of two truck routes;
- At District border access points to truck routes;
- and
- Every 0.5 miles along truck routes.



Sign Plans

Location Type	# of Locations	Total Signs
Intersecting Truck Routes	296	1,944
District Border Point, Non-Intersection	5	10
District Border Point, Intersection	16	57
Route Reinforcement	100	196
Limited Access Freeway Exits	23	113
Restriction	2	2
Total	442	2,322



Transition Plan

What would need to happen for positive truck route signage to be implemented?

Policy

Review existing code and schedule required actions to update regulations

Enforcement

Review existing enforcement activities; pilot new truck route framework and test compliance; evaluate and adjust roll out as needed

Communications

Identify target audiences for transition information, as well as individualized messaging and communications channels for each audience

Truck Route Recommendations

Discuss and finalize routes recommended for Positive Truck Route Signage

Installation Plan

Develop budget and installation method for new signs along routes

Maintenance Plan

Develop standard operating procedures for DDOT Maintenance to manage signs

Positive Truck Route Signage Study Next Steps

- Share Study Deliverables with Public, Industry, and Government Stakeholders
 - Route recommendations
 - Benefit-cost analysis for moving to a mandatory positive truck route framework
 - Proposed positive truck route map, sign design, and cost estimates
 - Policy, enforcement & communications proposals
- Incorporate Feedback from Public, Industry, and Government Stakeholders
- Refine implementation / transition plan



District Department of Transportation

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