

Freight HIN Analysis Update

July 9, 2026

Data Overview

- Evaluated crash data between 2020 and 2024 (5-years)
- Freight crashes were defined based on two definitions (of at least one vehicle involved in the crash)
 - **Trends & Intersection Analysis (6,342 crashes)**
 - Truck
 - Large/Heavy
 - Trailer
 - Farm Equipment
 - Cargo Vans
 - Construction/Industrial
 - Construction Equipment
 - **Spatial Corridor Analysis (3,000 crashes)** – Includes subset of trends analysis crashes with goal of focusing on crashes involving largest freight vehicles.
 - Truck
 - Large/Heavy
 - Trailer
 - Farm Equipment

6.4% of all reported crashes

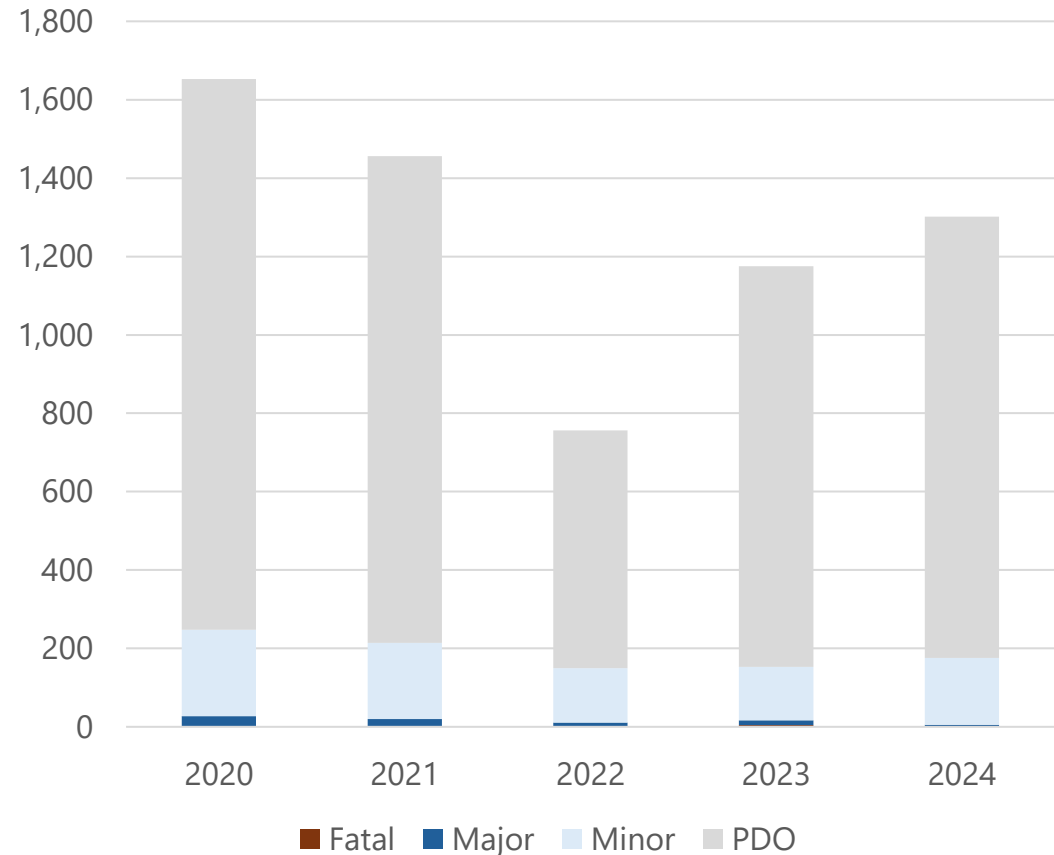
3.0% of all reported crashes

Crash Trends and Comparisons

Freight Crash Summary: Severity & Mode

Trends Analysis

- 6,342 reported crashes involving freight vehicles over 5-years
- Relative to other crashes, freight-involved crashes:
 - Have similar likelihoods of resulting in fatal and major injury crashes.
- Relative to other crashes, they are:
 - Less likely to result in minor injuries
 - More likely to result in PDO crashes.



Freight Crash Summary: Crash Type

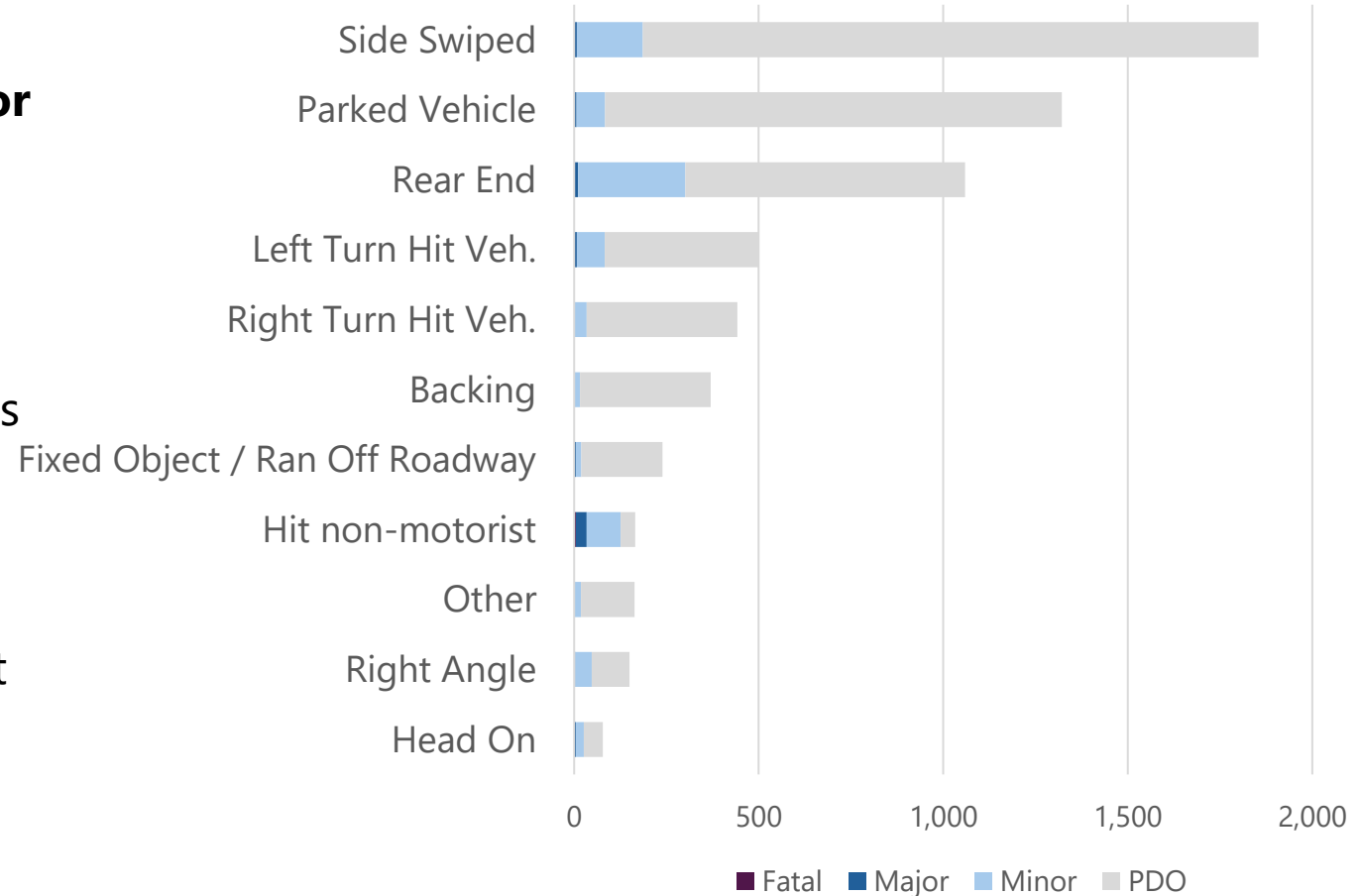
Trends Analysis

What types of crashes are most common for freight-involved crashes?

- Side-swipe, parked vehicle, and rear end crashes account for 67% of total reported crashes.
- Hit non-motorist (43%) and rear end crashes (14%) account for over half of fatal and major injury crashes.

Does type differ on and off freight routes?

- Rear end, sideswipe, and turning movement crashes are **more likely on** freight routes.
- Parked vehicle, backing, and fixed object crashes **more likely off freight** routes.

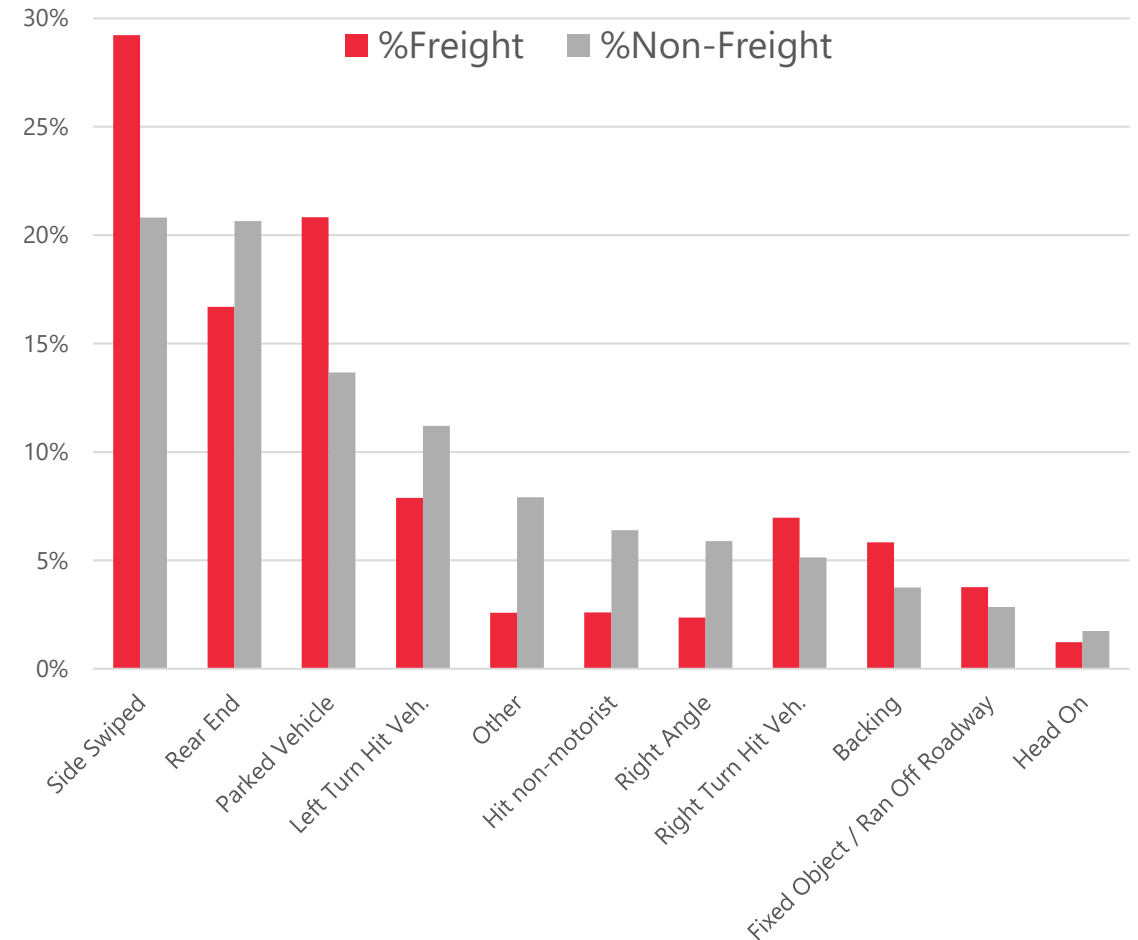


Freight Crash Summary: Crash Type

Trends Analysis

Do freight-involved crashes look similar or different from other reported crashes?

- Crashes involving people walking or biking are over-represented for **both** freight and non-freight involved crashes.
- For crashes of **any severity** these types were **more common for freight-involved crashes**:
 - Side swipe
 - Backing
 - Parked vehicles
 - Fixed object
 - Right-turn hit vehicle
- For **fatal and major** injury crashes these types were **more common for freight-involved crashes**.
 - Side swipe
 - Rear end
 - Parked vehicles
 - Fixed object, and Head



Freight Crash Summary: Non-Motorist

Trends Analysis

- Total of **3%** of all crashes involved people walking* or biking
- Yet **43%** of fatal and major injury crashes involved people walking* or biking

Reviewing narratives see patterns of:

- Crashes occurring adjacent to parking
- Signalized intersection w/permissive turn movements (not separated in time)
- Report of limited visibility from operators
- Unexpected behavior by people walking and biking

	Bicycle	Pedestrian	Moto-Only	Total
Fatal	(0%)	(50%) 5	(50%) 5	10
Major	(7%) 5	(34%) 24	(59%) 41	70
Minor	(5%) 41	(6%) 55	(89%) 765	861
PDO	(0%) 9	(1%) 31	(99%) 5,361	5,401
Total	(1%) 55	(2%) 115	(97%) 6,172	6,342

Reported Crashes by Parties Present (% of crashes by severity) and count

Spatial Analysis and HIN

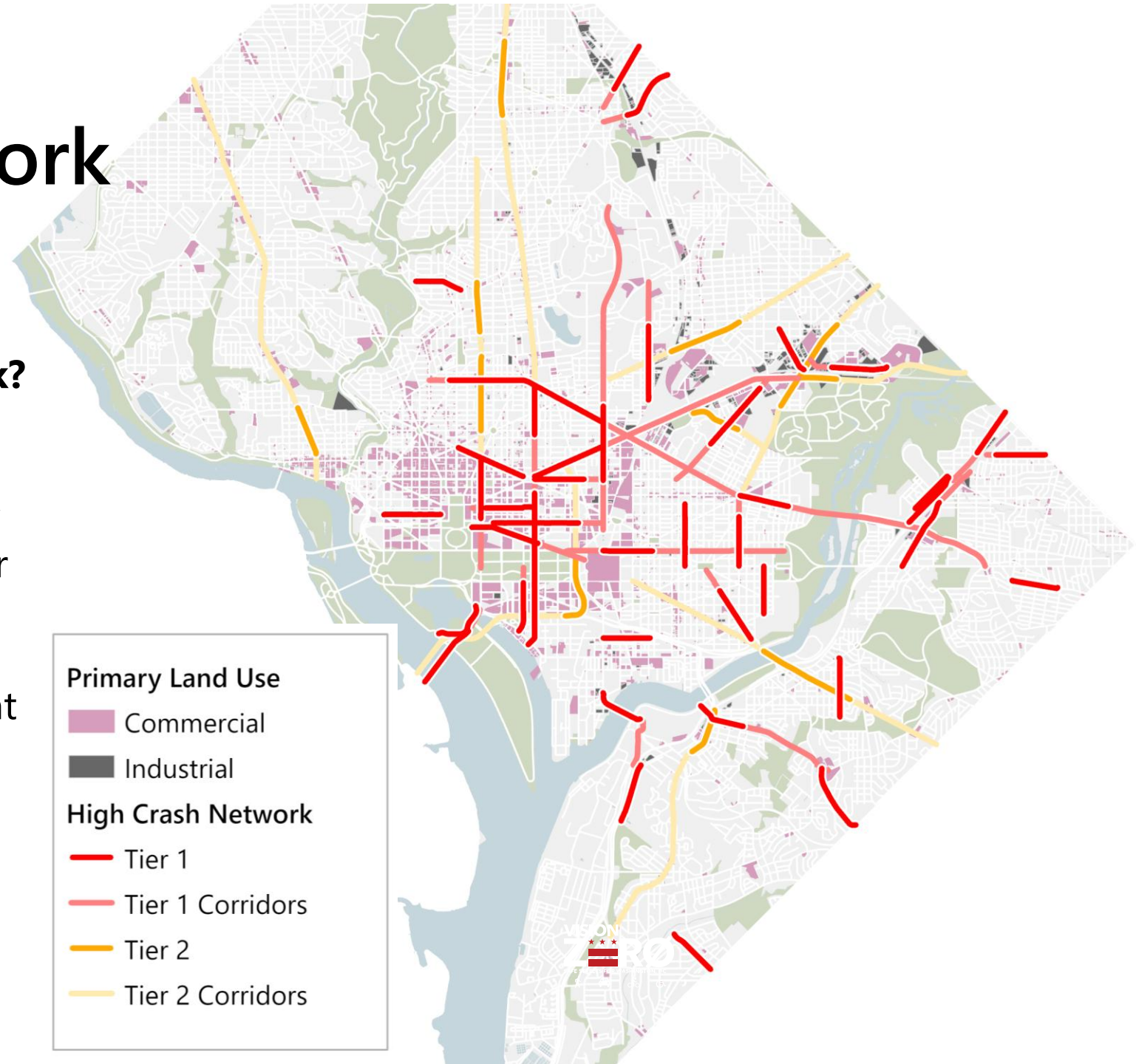
High Crash Network

Spatial Analysis

What is the High Crash Network?

Tier 1 – Highest concentration of crashes and fatal and major injury crashes (50% of all fatal and major injuries)

Tier 2 - Segments with 10+ freight crashes over five-year period (any severity)

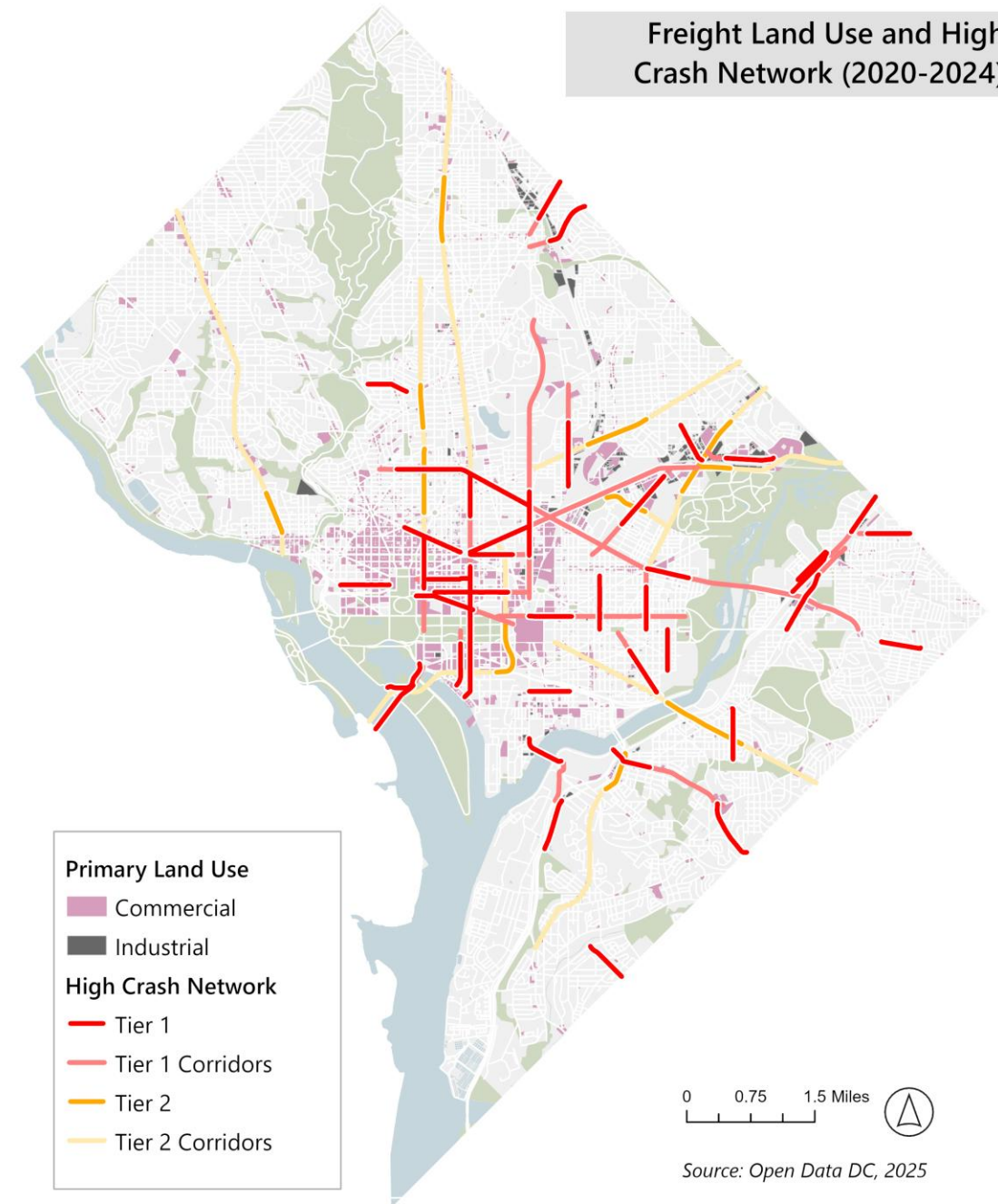


Land Use & High Crash Network

Spatial Analysis

Where are crashes concentrated?

- Freight crashes are concentrated near commercial and industrial uses, particularly in downtown and NE
- Higher AADT roads that were also identified in HIN analyses for motor-vehicle crashes
- Several high-crash segments in SE that do not have adjacent commercial and industrial uses

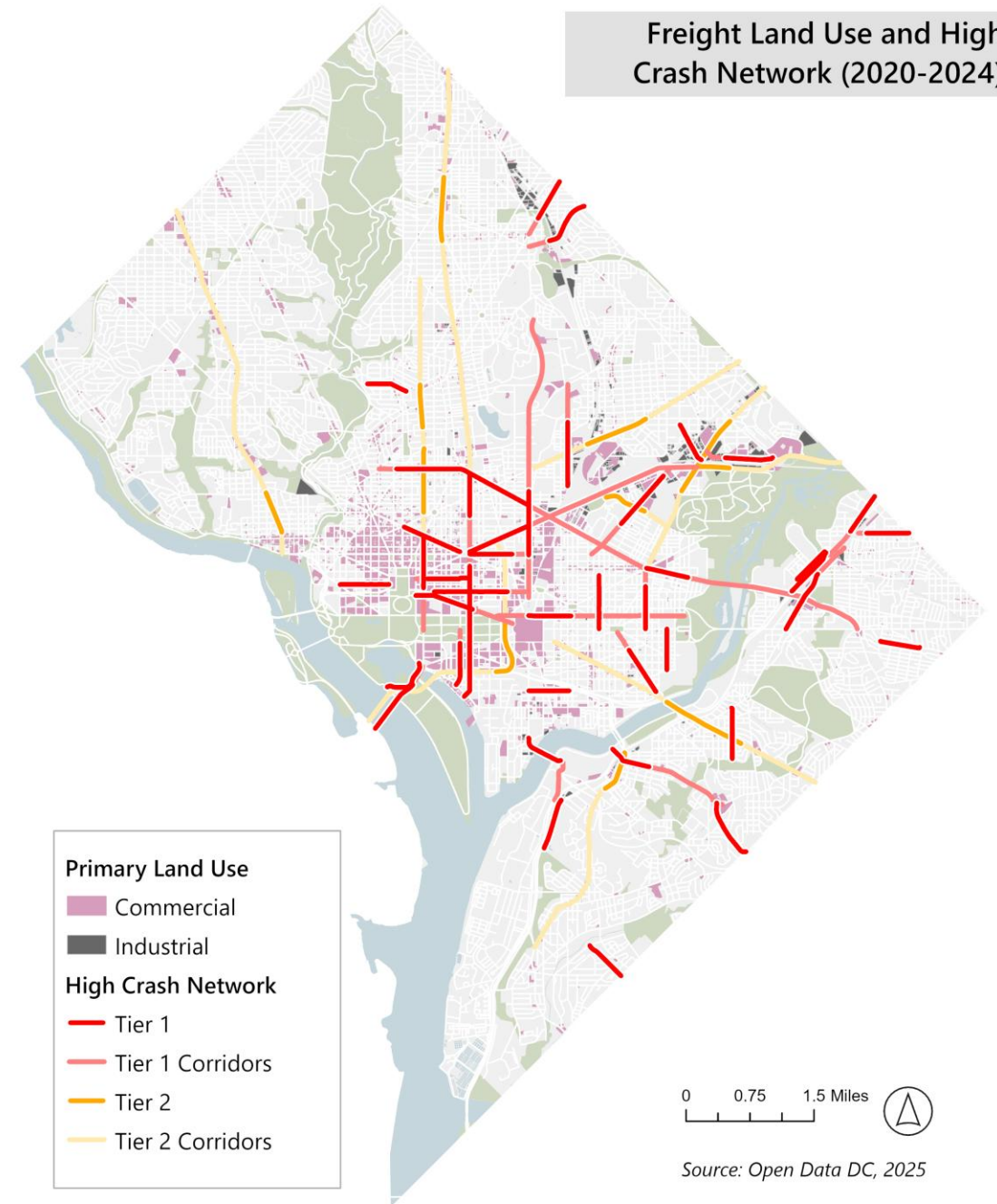


Land Use & High Crash Network

Spatial Analysis

Where are crashes concentrated?

- Overlap with transit corridors:
 - 14th St NW
 - U St NW / Florida Ave NW/NE
 - Minnesota Ave SE
- Overlap with bike corridors
 - 7th St NE
 - West Virginia Ave NE
 - I St SE
 - Kentucky Ave SE



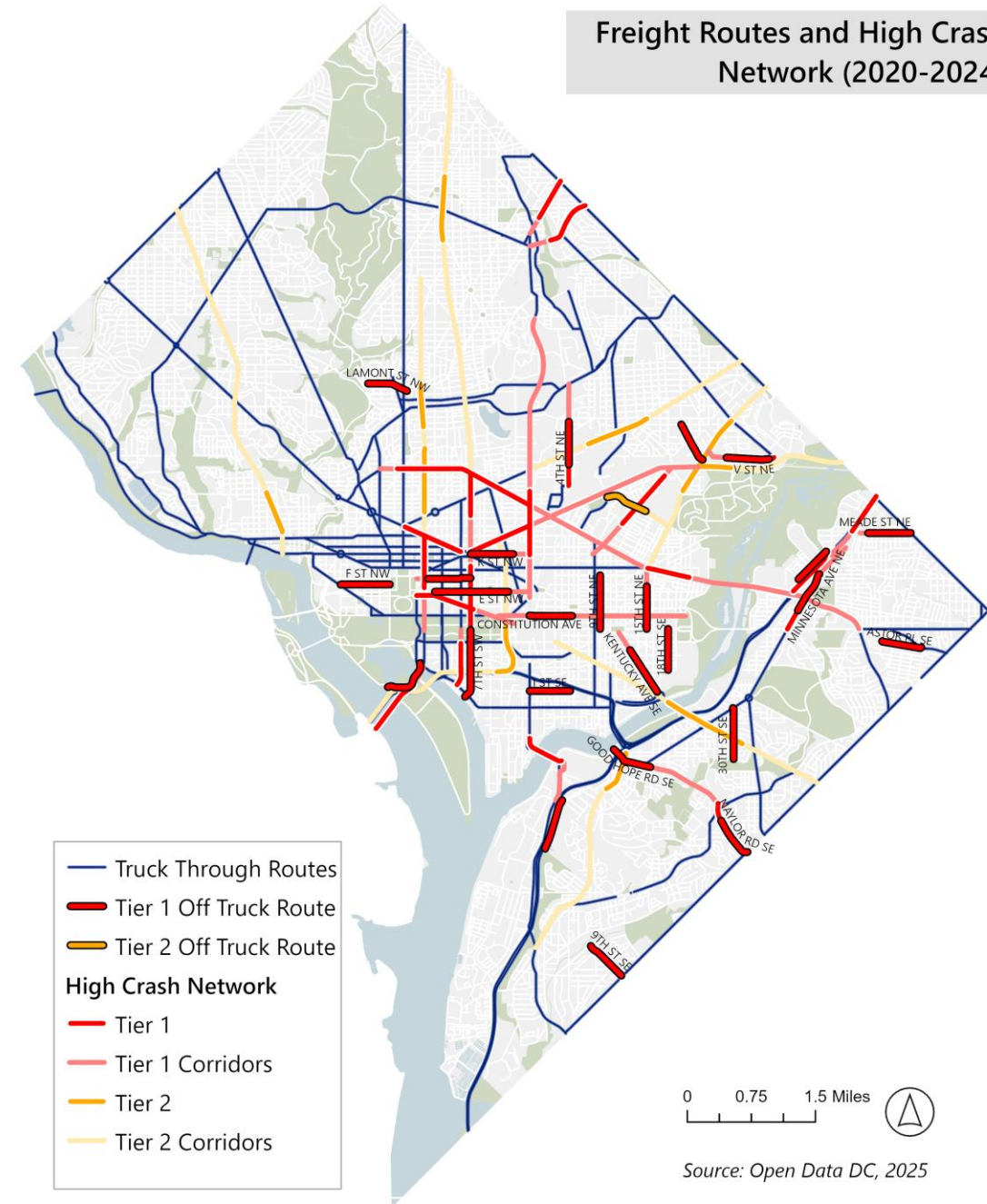
Freight Routes & High Crash Network

Freight Routes and High Crash Network (2020-2024)

Spatial Analysis

Where are crashes occurring off the freight network?

- Residential streets in Hill East including 9th St, 15th St, and 18th St
- In SE on relatively wide, lower density roads including Marion Barry Avenue SE, Naylor Rd, and 9th St SE
- In NE on streets near commercial and industrial land uses including V St, Queens Chapel Rd, and Riggs Rd



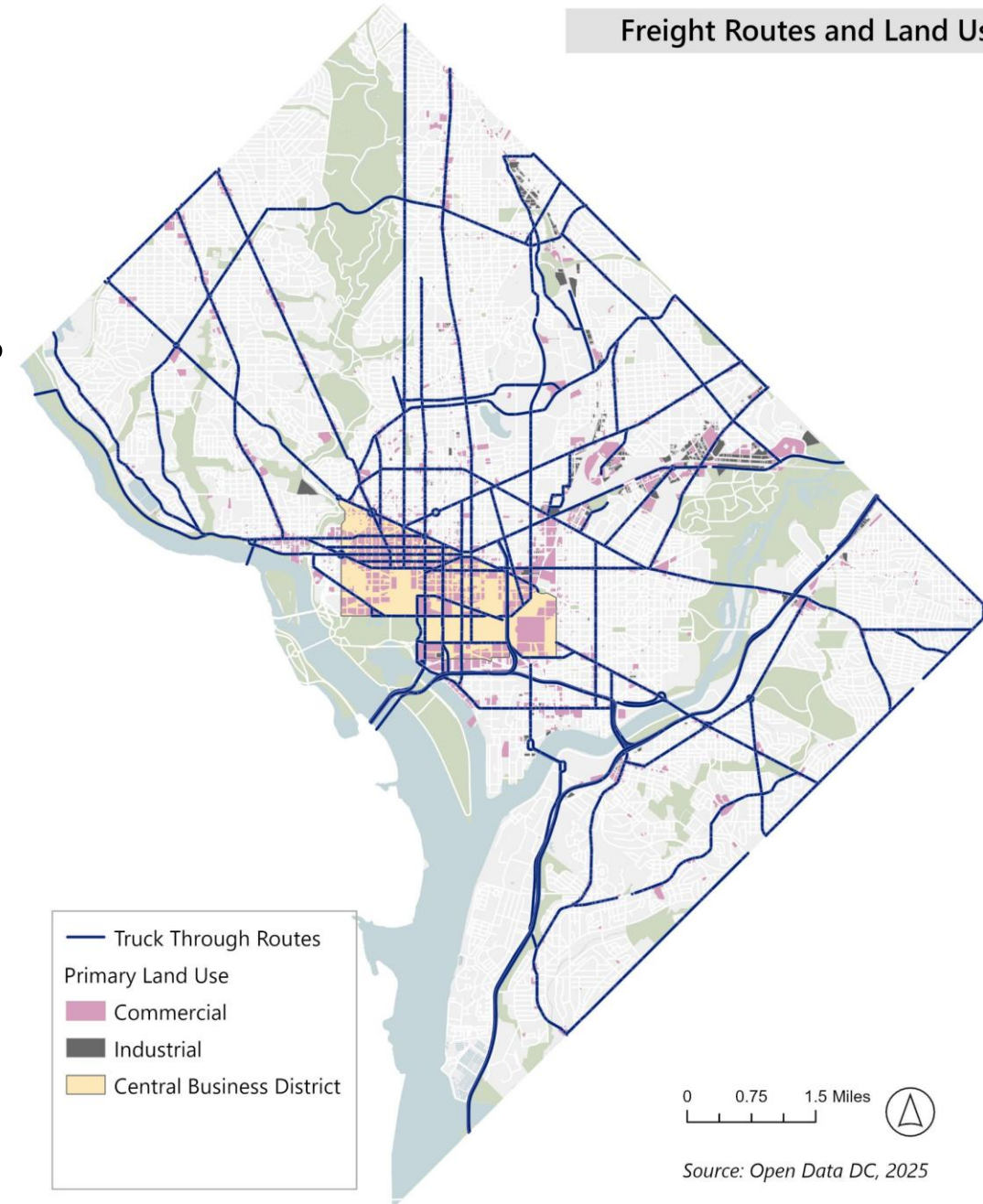
Freight Routes & Land Use

Spatial Analysis

How do Freight Crashes compare to other crashes?

Generally, freight involved crashes occur in similar locations as non-freight crashes

	All Crashes	Freight
On Truck Through Routes	48%	46%
At intersections	53%	50%
Industrial Land Use	4%	6%
Commercial Zones	49%	49%
In Central Business District	8%	9%

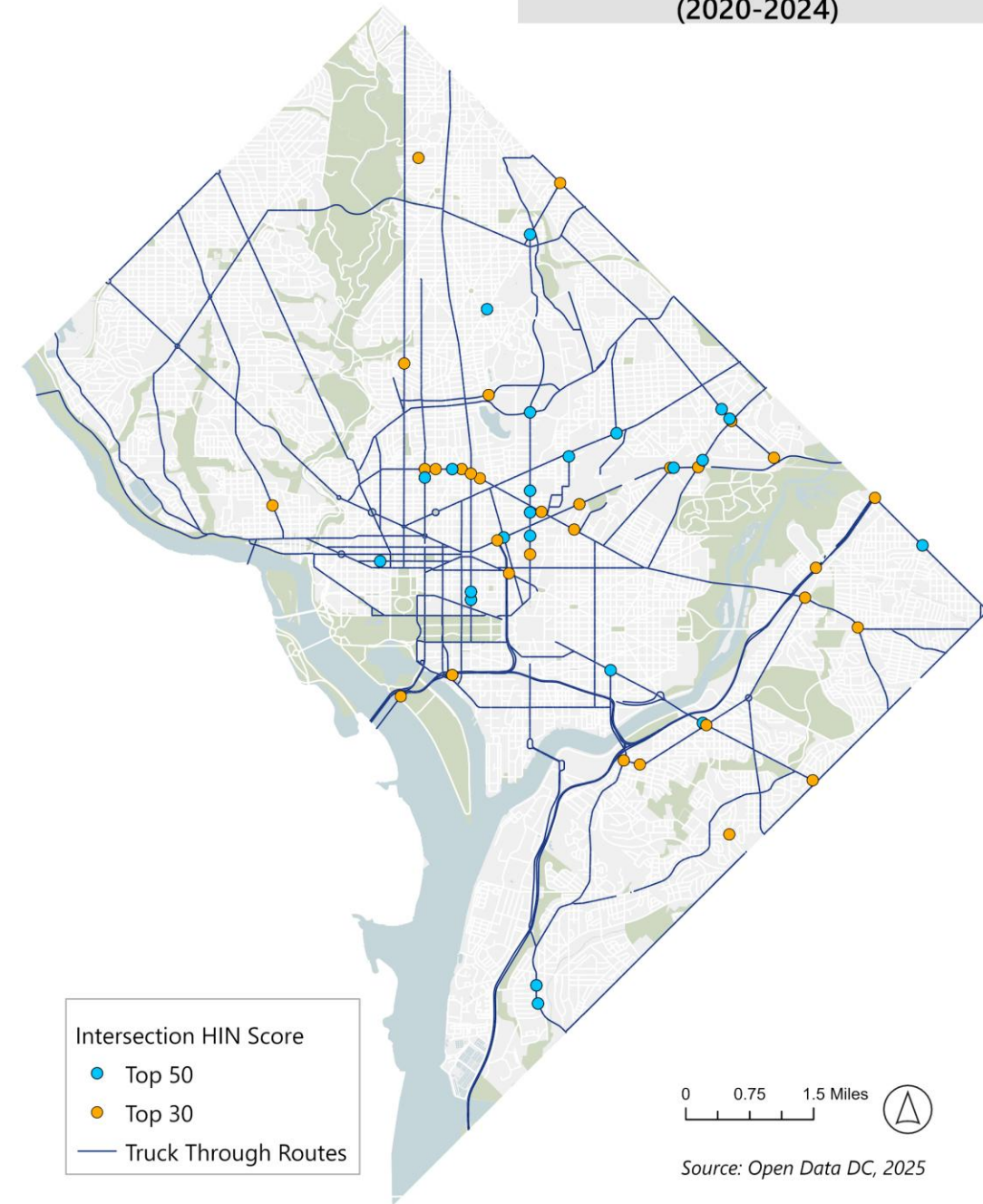


Intersection High Crash Network Screening

Spatial Analysis

Are there particular intersections where crashes are concentrated?

- Mostly along freight routes and Tier 1 & 2 HIN corridors
- Many are concentrated along Florida Ave (Tier 1)



Findings

Freight Crash Findings

- Defining freight vehicles is a complicated question that could be formalized for future analysis.
- Crash patterns have much in common with other crashes in the district
 - Freight crashes tend to occur in the same place as other crashes
 - People outside of vehicles are at increased risk
- Freight vehicles are at increases risk of crashes due to limited visibility and constrained environments (exacerbated by unexpected behavior)
- Treatments to improve safety for freight movements may look to address risks by:
 - Managing speeds
 - Increasing visibility at all intersections and separating movements in time at signalized intersections
 - Managing loading at the curb (making space available and reducing double parking conflicts)