



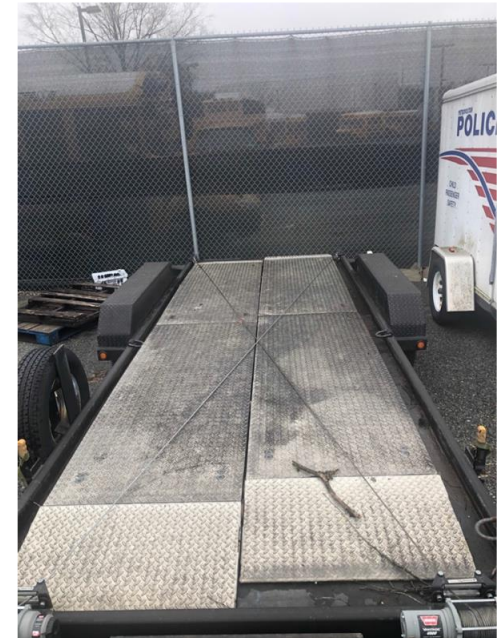
Weigh-in-Motion in the District  
of Columbia

d.

TPB Freight Subcommittee  
July 14, 2022

# Overview

- Weigh-in-motion (WIM) stations (3)
  - Type: Single hydraulic load cell with inductive loops
  - Locations:
    - New York Ave EB/WB
    - I-295 SB (upstream of weigh station)
    - I-295 NB
  - Ancillary equipment:
    - Overview camera
    - Infrared illuminator
    - System electronics
- Portable scales
  - Wheel static scales (56)
  - Axle static scales (1)



# Current Status – Use, Condition, and Contracts

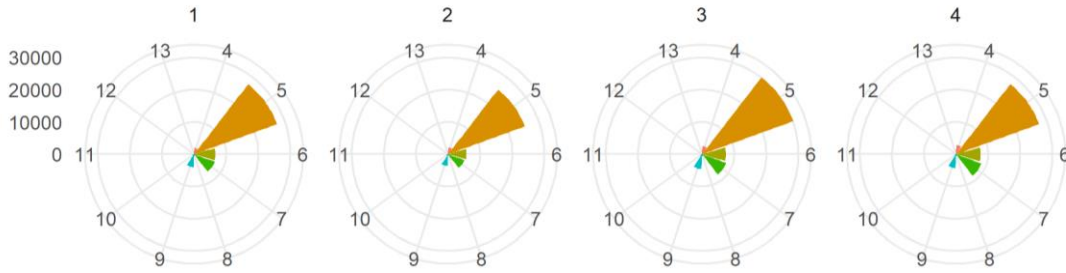
- Use
  - WIM stations
    - Critical input to yearly Highway Performance Monitoring System (HPMS) submission
    - Understanding freight behavior in the District
  - Portable scales
    - Enforce commercial vehicle weight regulations
- Condition
  - WIM stations
    - Many individual scales and inductive loops are damaged and collecting no or poor quality data
  - Portable scales
    - Staffing constraints and cumbersome nature of setup limit deployment to 2-3 times per month, often reactive
- Contracts
  - WIM maintenance (IRD) - system calibration, system validation and data collection, preventative maintenance services, maintenance data and service reporting, training, and emergency repairs

# Vision

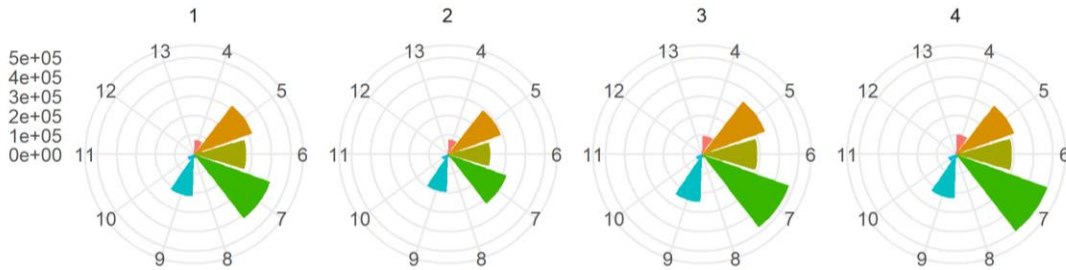
- Harness WIM and other related data to:
  - Identify trends in freight behavior
  - Better understand nexus between freight behavior and pavement condition
  - Optimize enforcement
- Upgrade WIM stations to enable enforcement activities
- Improve portable scale deployments for more efficient, effective enforcement

# Data

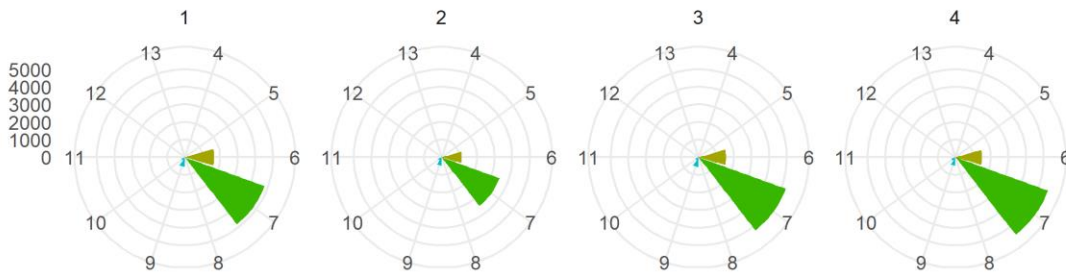
Truck count: I-295 SB 2021



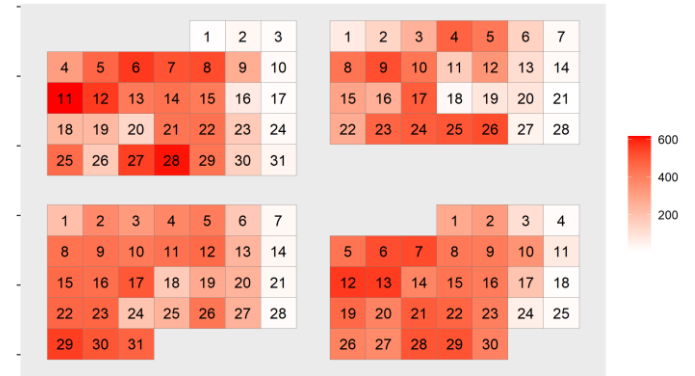
Gross weight: I-295 SB 2021



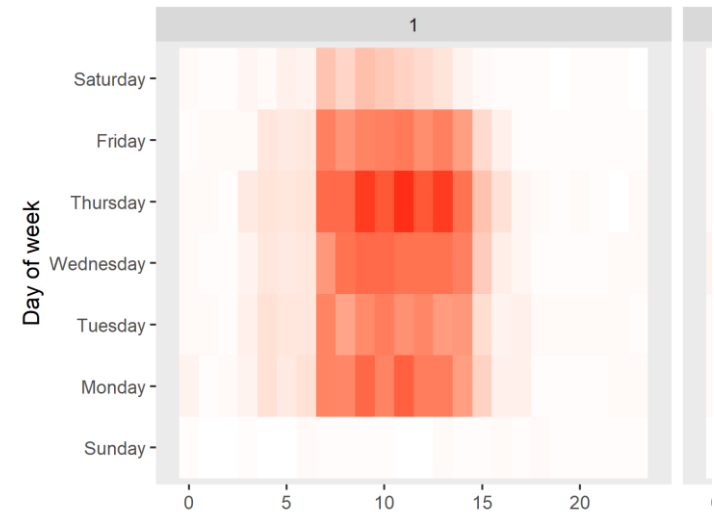
Number of violations: I-295 SB 2021



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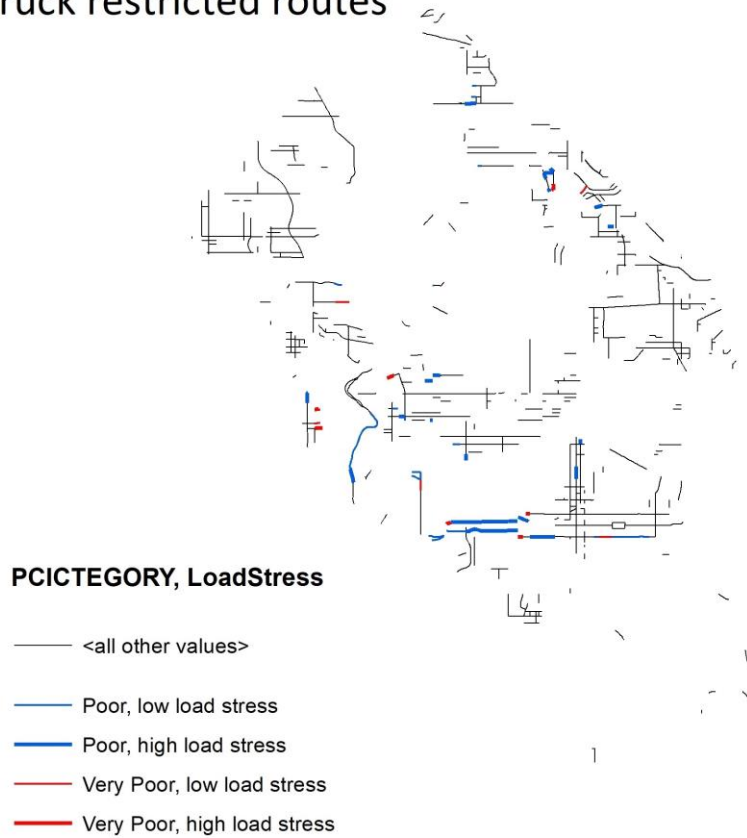


Average number of violations: I-295 SB 2021

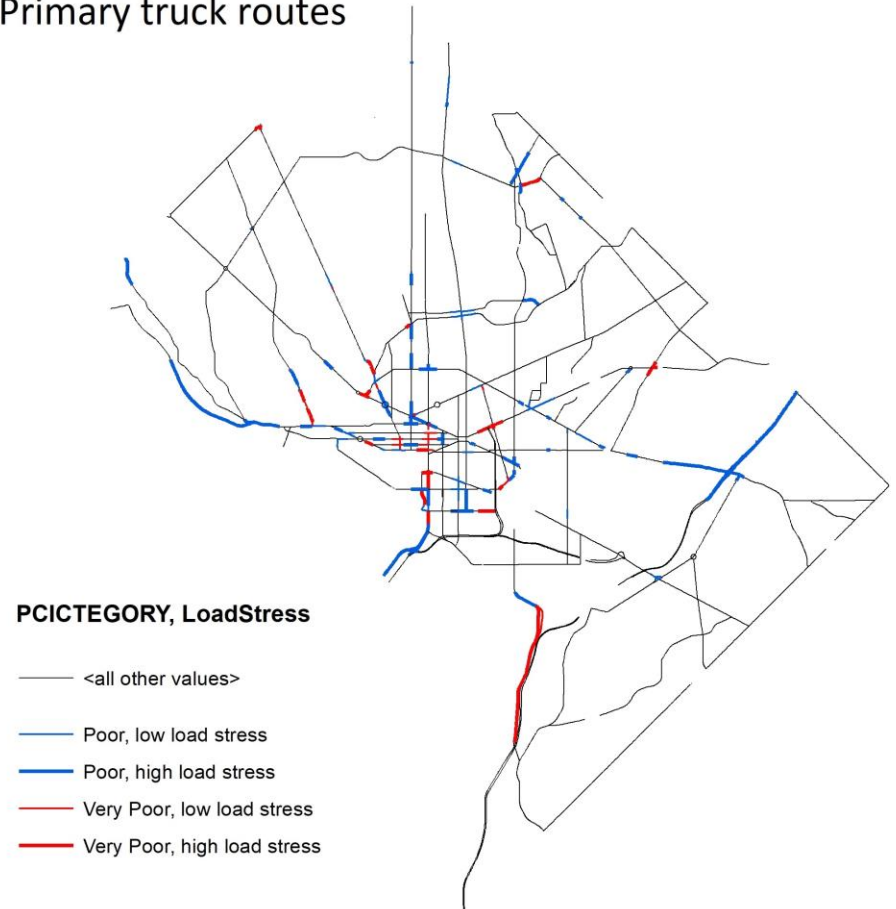


# Data

## Truck restricted routes

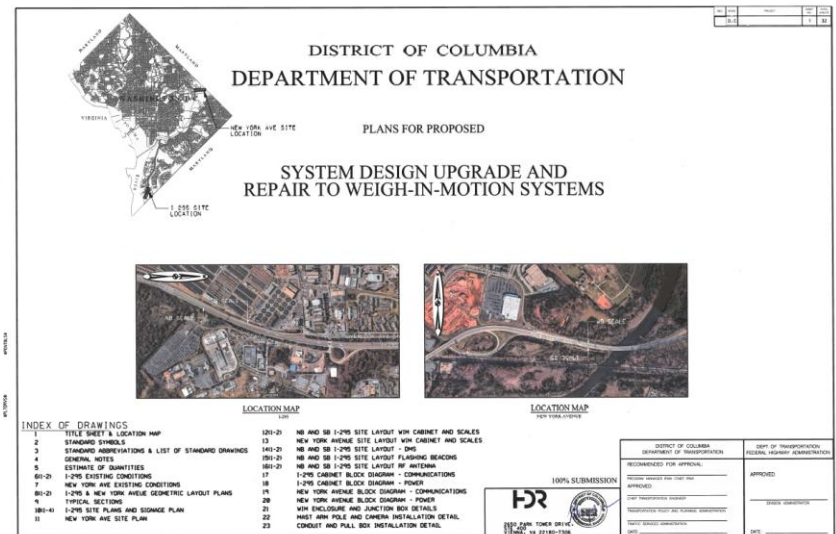


## Primary truck routes



# Upgrade - Design

- Design completed in early 2020
- Scope:
  - On-site inspection and evaluation of operational condition
  - System functional requirements
  - Investigation of vehicle identification and enforcement options
  - Market research on latest WIM technology
  - Geometric field survey, utility study, right-of-way investigation
  - PS&E package



# Upgrade - Construction

- Construction contract and associated support contracts awaiting award
- Scope:
  - Primarily restoration of pavement and existing equipment
  - Upgrades to enable:
    - More efficient e-screening and support for weigh station operations
    - “Notice of Observation” letters
    - Streamlined access to data
- Challenges:
  - Packaging of solicitation complicated given proprietary nature of existing system
    - Eventually issued as a sole-source contract to vendor
  - Initial funding request did not adequately account for rapid escalation of material and labor costs over past two years
  - Coordination with related contracts
    - Weigh station repair
    - WIM maintenance



# Upgrade - Construction



Motor Carrier Division  
7491 Connelley Drive  
Hanover, Maryland 21076



## FIELD OBSERVATION NOTICE Virtual Weigh Site Compliance & Education Program



Vehicle ID: 20140625061157-3-23142  
Date: 06/25/2014 6:11:57 AM  
Weight: 87700 lbs  
Speed: 33.8 mph  
Length: 50 ft  
Class: 9  
Flags: Over weight gross, over weight bridge, over weight tandems, over weight axle **VIOLATION**

Spacing: 4 25.4 4.3 16.3  
Axles:   
Wt: 20.9 19.7 17.6 17.5 12.0

Company Name: WILLIAM N MASON INC 3510 WILKENS AVE  
BALTIMORE, MD 21217

DOT Number: 227340

Location: I-95 at CATON AVENUE BALTIMORE MD

### **THIS IS NOT A TRAFFIC CITATION!**

This notice is provided from Maryland State Highway Administration, Motor Carrier Division to improve safety awareness.

**The vehicle shown may be in violation of state or federal requirements**

The Motor Carrier Division is available to discuss information in detail and provide no cost training & education to assist in the prevention of safety violations.

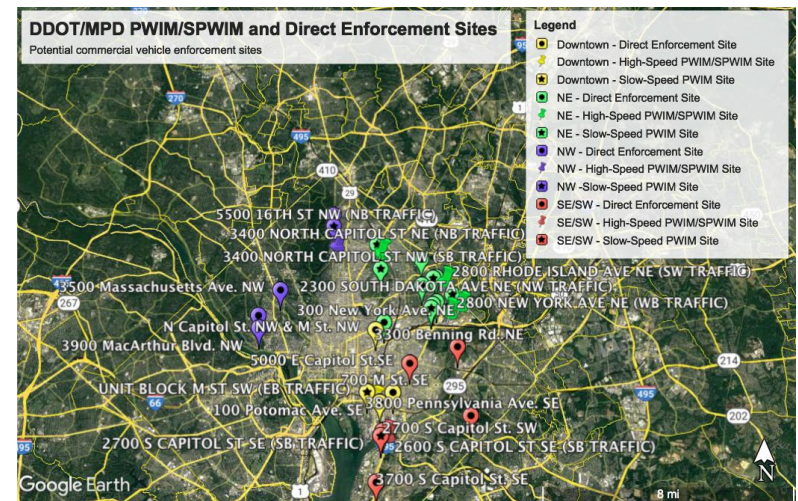
For information or inquiries please contact:

Duane W. Pearce  
CVISN Data Manager – Safety, Training/Education & Compliance  
Motor Carrier Division, Office of Traffic & Safety  
dpearce@sha.state.md.us  
410-582-5719

cc: Maryland State Police, Commercial Vehicle Enforcement Division (MSP-CVED)  
cc: Maryland Transportation Authority Police, Commercial Vehicle Safety Unit (MDTA-CVSU)

# Deployment Improvements

- Investigation of new portable WIM systems for near-term, practical application
- Consultant support via A&E schedule task order, completed mid 2022
- Scope:
  - Investigation and documentation of hardware, software, operations, and use cases
  - System functional requirements
  - Market research on existing technology
  - Technical memorandum with analysis of alternatives and recommendation for next steps
    - Recurring and non-recurring costs
    - Candidate placement sites



d.

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District Department of Transportation

