

Moving  
Together

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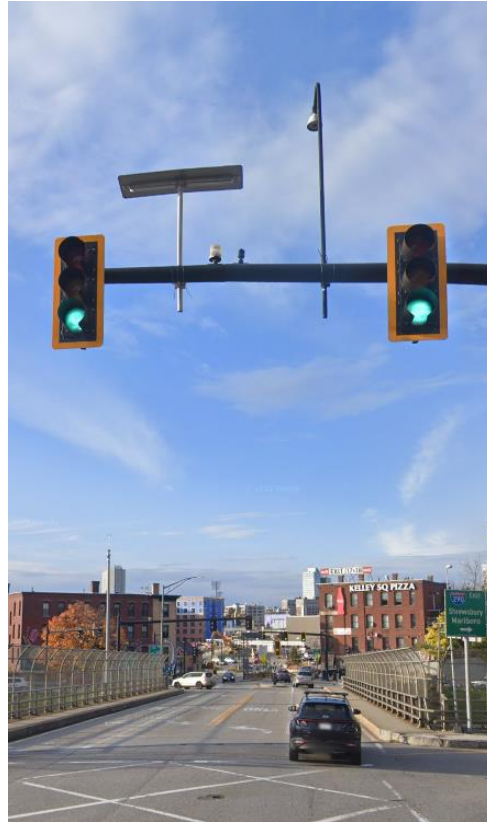
# Counting Pedestrians and Bicycles as a State DOT

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# Introduction



*Three count locations in the state network. From left to right: MA-28 SB in Medford, Vernon Street in Worcester, Ashwilticook rail trail in Lanesborough*

- Considering the distance between these locations, what do we get out of counting at a broad scale? How do we structure the program to get the most out of our counts?

# How Do Bicycle and Pedestrian Counts Differ From Motor Vehicle Counts?

## Motorized Roadway Users

### **Capacity**

- Facility capacity defined by number of lanes

### **Network of Facilities –**

- Cars are strictly held to roadways.
- System of highways are laid out to guide flow through the road network. The state owns most major roadways. Trip generation is a well-researched concept.

### **Federal Requirements**

- State funding is tied to our contribution to TMAS.

Concepts such as trip generation, capacity, and seasonality are less understood for bicycles and pedestrians. **Our program seeks to address data needs for specific locations around the state while also using the resources of the agency to create a body of data for future research.**

## Bicycles and Pedestrians

### **Capacity**

- Facility capacity defined by user comfort and width

### **Network of Facilities**

- Bicycles and Pedestrians are less constrained, network of facilities is varied
- Flow through network is determined by safety, elevation, weather, etc. Ownership of major facilities is mixed. Trip generation is not as fully understood.

### **Federal Requirements**

- No federal mandate for Bicycle and Pedestrian counts.

# The OSU Oval – An example of natural pedestrian flow patterns



## What Resources Does MassDOT Have to Enact This Program That Are Specific to a State DOT?

- Federal Funding
  - Statewide Planning and Research
  - Consistency for long-term counts and maintenance
- Existing Traffic Data Collection team
  - Counting expertise for similar technologies
  - Staff for short-term count installations
- Connections within the state and to other agencies
  - Access to information on agency data needs, upcoming projects and state bicycle network expansions, and more
  - Ability to collaborate with municipalities, regional groups, and other state agencies such as DCR and MBTA
- Existing Intersection Camera Network
  - Signal detection cameras can be used for data collection

# MassDOT's Count Program – Post Counters on Roadways

- Benefits
  - Provides roadway and sidewalk data
  - Demonstrates use of bicycle lanes, capable of counting two directions.
- Drawbacks
  - Difficulties Capturing Bicycles on Sidewalks
  - Placement Restrictions in needing to capture two pathways
  - Two Counters needed to capture one facility



# MassDOT's Count Program – Post Counters on Shared-Use Paths

- Benefits
  - Provides two-way bicycle and pedestrian data with only one installation
  - Monitor major recreational and commuter facilities for data trends
  - Easier to incorporate counters into expansion and maintenance projects
- Drawbacks
  - Oversaturation of this type of data



# MassDOT's Count Program – Camera Counts on Roadways

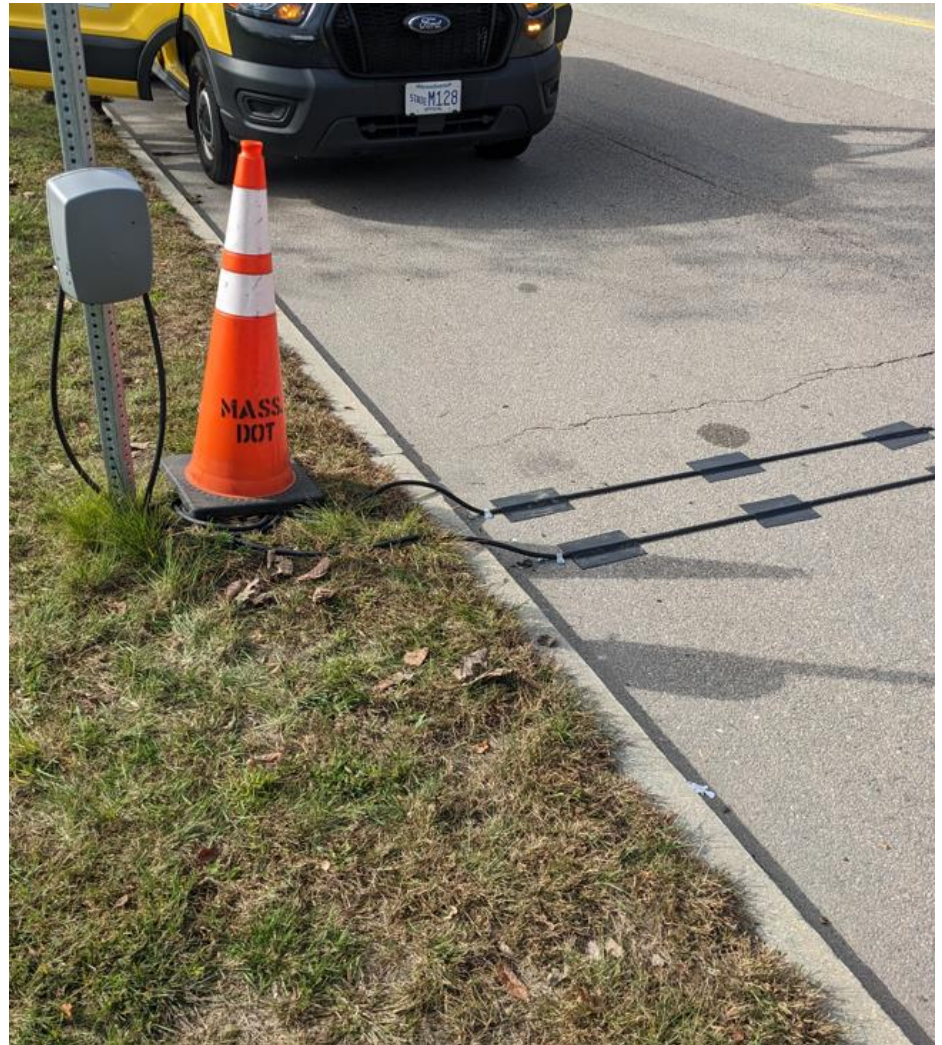
- Benefits
  - Most accurate form of counting
  - Differentiates by mode, direction, and intersection turning movement
  - Many locations have pre-existing cameras for detection
- Drawbacks
  - Expensive to install new locations
  - Difficult to troubleshoot issues due to the necessary height of camera locations
  - Limited to locations with hard-wired power





# MassDOT's Count Program – Portable Counters

- Benefits
  - On-demand bidirectional counts by mode
  - Quick response to project data needs
  - Units with longer battery life can be made into 'semi-permanent' installations
  - Data from short-term counts can be extrapolated using seasonal factor data
- Drawbacks
  - Require trained staff to properly install
  - Safety risks of installing in roadways
  - Road tube is more susceptible to damage than permanent installments



# MassDOT's Count Program – Database

- MS2 – Nonmotorized Database System
  - Statewide public platform for volume data
  - Locations are visible on a map and can be clicked on to view data
  - All are welcome to contribute

