Know Your Path: Collecting Long-Term Bicycle and Pedestrian Counts on Shared Use Paths

Appendix A

Updated: 7/27/21

Standard Specification

https://www.mass.gov/lists/construction-specifications

This link leads to the general page for MassDOT Construction Specifications. The specifications for non-motorized traffic counters is included on pages 10-15 of the document titled "Supplemental Specifications dated June 30, 2021."

Commbuys Links

This section will include links to the purchase site for pre-approved counter technology when they are available. MassDOT is currently working on creating master service agreements with all pre-approved vendors.

MS2 Links

MS2 is the data warehouse MassDOT currently uses for both vehicular data and bicycle/pedestrian data. Data collected around the state is integrated into MS2, quality controlled, and made publicly available. Periodic training will be available for those interested in uploading their bicycle and pedestrian count data to MS2 to contribute to the statewide database.

MassDOT is continually adding new sensors into MS2. All available data can be found here.

https://mhd.ms2soft.com/tdms.ui/nmds/dashboard?loc=mhd

Federal Highway Guidance

The Federal Highway Administration publishes a Traffic Monitoring Guide (TMG), which includes a section (Chapter 4) on Nonmotorized Traffic Monitoring. This chapter includes a short overview of nonmotorized counters, detailed information on current counting technology, and information on what patterns to expect from non-motorized count data. The webpage also includes links to a guide on reporting data in the TMG Format.

https://www.fhwa.dot.gov/policyinformation/tmguide/

MassDOT Pre-Approved Permanent/Continuous Counter Information (current as of July 2021)

Brand	Counter	Modes	Facilities	Power Source	Battery Life	Webpage Link
Eco-Counter	Urban ZELT	Bicycles	Trails	Battery	2 Years	Urban Zelt
Eco-Counter	Urban MULTI	Bicycles & Pedestrians	Trails	Battery	2 Years	Urban Multi
Q-Free	HI-TRAC CMU	Bicycles & Pedestrians	Trails	Battery + Solar	N/A	HI-TRAC CMU
Miovision	TrafficLink System	Bicycles & Pedestrians	Intersections	Terminal Block Wiring	N/A	TrafficLink
Iteris	NEXT Platform	Pedestrians	Intersections	Terminal Block Wiring	N/A	NEXT
Migma	MigmaCount	Pedestrians	Trails	Battery or AC	Not Listed	MigmaCount
Boulder AI	DNN Cam	Pedestrians	Intersections	PoE+ (IEEE 802.3at)	N/A	DNN Cam

- Permanent counters, also called continuous counters, are installed at a pre-selected location and remain there for their lifespan. They include a permanent fixture, such as inductive loops or piezoelectric tubes embedded in pavement and are usually more expensive but more durable than temporary counters.
- Certain permanent counters can receive power from existing signal infrastructure, while others may use solar power, direct power or a replaceable battery. It is important to consider the power source when choosing a counter for a location.
- Permanent counters should be used when an intersection or segment of trail is to be monitored over a long period of time.
- Permanent counters are useful for establishing long-term seasonal factors based on population, type of roadway/trail, time of year, etc. A comprehensive network of permanent counters at a variety of locations can help to establish how data from temporary counts are affected by the location and time of year for the count.

MassDOT Pre-Approved Temporary Counter Information (current as of July 2021)

Brand	Counter	Modes	Facilities	Power Source	Battery Life	Webpage Link
Eco-Counter	Mobile MULTI	Bicycles & Pedestrians	Trails	Battery	2 years	Mobile MULTI
Datacollect	SDR Radar traffic classifier	Bicycles	Trails	Battery + Solar	N/A	Datacollect SDR
Miovision	Scout	Bicycles & Pedestrians	intersections	Battery	3 Days (7 Days with power pack)	Scout
Migma	Migmacount Mobile	Pedestrians	Trails	Battery	7 Days	MigmaCount Mobile

- Temporary counters are placed at a location for a short period of time, from just a few hours up to two weeks, depending on the vendor. They are useful in different applications than permanent counters, such as before/after studies analyzing the impact of a new development.
- Temporary counters should be employed where data is desired for just a short period of time, and where longer-term data is not worth the expense.
- Generally, temporary counters are battery-powered, and less expensive than permanent counters.
- Data from temporary counts are easier to understand when seasonal factors have been established by permanent counters in similar locations to where the counts take place.