



REQUEST FOR PROPOSALS

FOR

NORTHERN MIDDLESEX METROPOLITAN PLANNING ORGANIZATION 2024 TRAFFIC COUNTING PROGRAM - DATA COLLECTION SERVICES

PROPOSAL DUE DATE: MARCH 1, 2024 AT 4:00 PM

NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS
672 SUFFOLK STREET, STE. 100
LOWELL, MA 01854

CONTACT INFORMATION:
AUSTEN TORRES DAVIS, TRANSPORTATION PLANNER II
NORTHERN MIDDLESEX COUNCIL OF GOVERNMENTS
978-454-8021 EXT. 112

ATORRESDAVIS@nmcog.org

1. Background on the Northern Middlesex 2024 Traffic Count Program

The Northern Middlesex Council of Governments (NMCOG) works with communities in the Greater Lowell region to support and enhance a wide range of community and regional planning objectives. We plan for and advance actions related to climate resiliency and adaptation, energy, economic development, environmental protection, housing, land use, municipal service delivery, public health, public safety, regional collaboration, and transportation. NMCOG is governed by a policy board of local elected officials from its member municipalities of Billerica, Chelmsford, Dracut, Dunstable, Lowell, Pepperell, Tewksbury, Tyngsborough, and Westford. NMCOG also serves as technical staff to the Northern Middlesex Metropolitan Planning Organization providing comprehensive transportation planning services for the region under contract with MassDOT and the Lowell Regional Transit Authority.

NMCOG is seeking to hire a consultant to assist with traffic count data collection for the 2024 season. Traffic count data is to be collected at a minimum of 100 locations and a maximum of 120 locations within the Northern Middlesex region of Massachusetts. 80 count locations have been provided at the end of this document. Further information on the count locations is forthcoming, and will be provided prior to the beginning of the Traffic Count Season on May 1, 2024. A Scope-of-Work will be developed between the consultant and NMCOG prior to the beginning of the Traffic Count Season. NMCOG will work with the consultant to apply and gain approval for any permits required for counts conducted on State roadways in District 3 and 4. All traffic counts must be conducted no earlier than **May 1, 2024** and conclude by **October 31, 2024**, with makeup counts occurring up to **November 30, 2024**.

2. Bid Submittal Information

All bids must be original and delivered by hand or mailed to the offices of the:

Northern Middlesex Council of Governments
672 Suffolk Street, Suite 100
Lowell, MA 01854
Attention: Austen Torres Davis
Or by email to: atorresdavis@nmcog.org

Bids must be received by **4:00pm, Friday, March 1, 2024**. Bid submittals should be clearly labeled on the outside **“2024 Traffic Count Program Data Collection Services Bid.”** Bids received after the time set for the bid opening will be rejected. Bids will be opened and read on Monday, March 26, 2024 at 1:00 pm at NMCOG Offices.

NMCOG reserves the right to waive irregularities in bids, to reject any or all bids with or without cause, and to award the bid that it determines to be in the best interest of NMCOG. NMCOG

does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability status in employment or provision of service.

NMCOG is not responsible for Proposals that are delinquent, lost, stolen, mismarked, sent to an address other than that given, sent by mail or courier service, and proposal postmark dates and times will not be considered as meeting the deadline.

3. Questions and Inquiries

Austen Torres Davis, NMCOG Transportation Planner II, is the point of contact for this Request for Proposals (RFP). Questions concerning this request should be directed to: (978) 454-8021 x 112 or to atorresdavis@nmcog.org.

4. Scope of Services

The Consultant shall be responsible for providing NMCOG with traffic count data for locations identified by NMCOG. Collection of the traffic data will be performed using an automated collection method to be agreed upon by the Consultant and NMCOG. Prior to conducting counts, counting equipment shall be tested in accordance with FHWA requirements and test data shall be submitted to MassDOT and NMCOG for certification and acceptance prior to count data collection activities. All counts shall be taken in accordance with the RPA Traffic Counting Procedures prepared by MassDOT (provided at the end of this document).

Schedule

The anticipated date for contract award is March 15, 2024. All counts and work performed under this contract must be completed and invoiced prior to November 30, 2024. Required deliverables include count data (raw and adjusted), calculations and formatting of data submitted in hard copy and electronic media. Additional detailed information on deliverables is included in the RPA Traffic Count Procedures.

Additional Information

For the bidder's reference, a copy of MassDOT's 2023 Counting Procedures are included at the end of this document. Unless otherwise noted in the Clarifications to the MassDOT Counting Procedures listed below, the bidder shall assume all responsibilities assigned to the RPA (NMCOG) in the Counting Procedures document.

Clarifications to the MassDOT Counting Procedures:

Section 2 – Counter Accuracy- In the first paragraph, 'recorder accuracy certification' refers to a traffic simulation test offered by some counter manufacturers. If the traffic counters do not have this testing ability, the manual certification procedures in the paragraphs that follow need to be met. NMCOG may accept an alternative testing method to determine counter accuracy subject to review and approval of MassDOT.

Section 6 – Count Intervals and Duration

In all instances, a valid count will require a minimum of 48 hours of consecutive data. For bidding purposes, assume all counters will be placed for 72 hours. Each location will have vehicle classification data unless otherwise noted.

Section 7 – Roadway Functional Class

NMCOG will provide this information along with the count locations to the Consultant prior to the beginning of the Traffic Count Season.

Section 11 – Data Review

NMCOG will provide information on prior count data, if available. In the proposal, please specify the total cost for conducting all vehicle counts, along with the average cost per vehicle count. In total, NMCOG is seeking counts at a minimum of 100 locations and a maximum of 120 locations. Count locations will be a combination of MassDOT identified locations and NMCOG identified locations and NMCOG will indicate which locations are MassDOT and which are NMCOG. MassDOT identified locations should be invoiced separately from NMCOG identified locations.

Sections 4 and 14 – Data Transmittal

The Consultant must provide count data in digital format to be agreed upon by Consultant and NMCOG (STARnext or PRN preferred) so that NMCOG can directly upload to Midwestern Software’s (MS2) website. Consultant will transmit files to NMCOG on a monthly basis with latitude and longitude coordinates for each location. NMCOG will provide access to the agency’s traffic counting web map to view prior count locations and other information. Consultant will transmit data with MS2 location IDs as specified by NMCOG at the beginning of the count season.

Unless otherwise specified, data should be formatted according to section 14 of the MassDOT guidelines below. Section 14 calls for files to use the following naming convention:

“A file naming convention was developed for non-MassDOT program counts to facilitate system searches and custom queries. The MS2 location ID should be your Username (RPAxx), a dash, the city/town number, a dash, and then your own designation. The city/town designation numbers are in the attached excel listing. As an example, a count done by Old Colony (RPA09) in Abington (City # 001) for RPA count name/number xxxxxxxxxxxx would have the location ID in MS2 as RPA09-001-xxxxxxxxxxx. Note that the file name can be up to a maximum of 25 characters.”

Please note that direction of traffic should be included following this format as an underscore followed by two-letter abbreviated direction. For example, eastbound and westbound counts should be formatted as RPA09-001-xxxxxxxxxxx_EB, and RPA09-001-xxxxxxxxxxx_WB, respectively.

The MassDOT 2023 RPA Traffic Counting Procedures are attached at the end of this document. Though NMCOG does not anticipate significant changes to these guidelines,

the updated 2024 procedures will be provided to the Consultant upon receipt from MassDOT.

Permitting Process:

Once NMCOG and the Consultant have finalized the proposed count schedule, NMCOG will transmit this schedule to the appropriate Police and Highway Departments along with the Consultant's contact information. The Consultant shall inform NMCOG of any count rescheduling, and is responsible for coordinating with local officials to schedule police details as necessary. Consultant will prepare forms and materials necessary to secure permits from MassDOT Districts 3 & 4 for counts to be conducted on state highways. NMCOG will then submit these materials to each District to secure the necessary permits.

5. APPLICANT PROPOSAL CONTENT

NMCOG requires the Applicant to submit a concise Proposal that clearly addresses all the requirements outlined in this Request for Proposals. One (1) copy of the Applicant's Proposal shall be submitted and shall be organized in an easy to follow format. The Proposal must include the minimum sections below:

Background of Applicant:

- Shall provide a cover letter stating that the Applicant has read and will comply with all the terms and conditions of this Request for Proposals. The cover letter shall be signed by an authorized individual.
- Shall provide a brief description of the Applicant's firm including the size of the organization, location of offices, years in business, years of work in the Commonwealth of Massachusetts, organizational chart, name of owner and principal parties, and staff titles.
- Shall provide the qualifications of the staff who will perform the work described in the Scope of Services.
- Shall provide the contact information of the staff person who will be NMCOG's main contact, as well as a backup contact in the event the main contact is unreachable.

Applicant Statement of Understanding and Approach:

- Shall describe the methodology to be used to complete the Scope of Services as detailed in this Request for Proposals.
- Shall discuss and describe their experience with traffic data collection, including experience working in Massachusetts.
- Shall provide a statement of the services the firm believes differentiates their firm from other firms.
- Shall identify the responsibilities of NMCOG and the Applicant.

Scope of Work:

- Shall provide details with specific task descriptions to demonstrate that the Applicant has considered all sections of this Request for Proposals and that the Applicant will cover them thoroughly.

References:

- Shall provide the following information for Communities and/or Clients for whom the Consultant has performed traffic collection related work:
 - Community and/or Client name, address, telephone number, email address.
 - Person to contact for references.
 - Time period that data collection was done.
 - Brief description of the scope of services provided.

Applicant's Cost Estimate:

- Proposal shall include a cost estimate for providing services to complete the traffic counts requested.
- Cost estimate will include an average cost per count location figure as well as an overall cost for all locations.
- For informational purposes, bids should contain unit costs for counts as they vary based on count type and roadway type. As an example, unit costs should be shown for:
 - Classification counts for 4 lane facilities.
 - Classification counts for 2 lane facilities.

REVIEW OF PROPOSAL and CONSULTANT SELECTION

- Proposal should provide a straightforward and concise presentation adequate to satisfy the requirements of this Request for Proposals.
- Emphasis should be on completeness and clarity of contents.
- After evaluating all Proposals and discussing them further with the Applicant finalists, NMCOG reserves the right to further negotiate the Scope of Services and cost estimate.

ADDITIONAL INFORMATION

- NMCOG will not reimburse Applicants for any costs associated with the preparation and submission of their proposal or interview.
- This Request for Proposals does not obligate NMCOG to award or accept a contract for any expressed or implied services.
- NMCOG reserves the right to reject or accept any and all Proposals and to waive minor irregularities in any Proposal reviewed.
- NMCOG reserves the right to request any Applicant submitting a Proposal to clarify its Proposal or supply additional material deemed necessary to assist in the selection of a Consultant, and to modify or alter any of the requirements herein.
- NMCOG reserves the right to make useful and well-informed amendments to this Request for Proposals prior to the Proposal due date.
- An Applicant may withdraw their Proposal at any time prior to the awarding of a contract.

COMPARATIVE EVALUATION CRITERIA:

NMCOG recommends that an Applicant review and fully comprehend the CRITERIA FOR EVALUATING PROPOSALS section below and use as a guide when completing their Proposal. All Proposals received by NMCOG shall be compared to each other utilizing these criteria, which are based on:

- Qualifications of Applicant organization and key personnel.
- Experience and demonstrated knowledge of completing traffic data collection.
- Experience in NMCOG region and/or in Massachusetts.
- Applicant availability to be assigned work and respond expeditiously.

CRITERIA FOR EVALUATING PROPOSALS

The Proposals shall be rated by NMCOG staff within the following “categories” and according to the following “Minimum Criteria” and “Additional Review Criteria”. In summary, the “Minimum Evaluation Criteria” and “Additional Review Criteria” include:

- Minimum Criteria
 - Submission of a complete Proposal.
 - Minimum two (2) year experience completing traffic counts.
 - Minimum of two (2) year experience working in Massachusetts and with MassDOT.
- Additional Review Criteria
 - Quality of Proposal, Approach and Past Work.
 - Staff Qualifications and Experience.
 - Applicant Staffing and Other Resources.
 - Years in Business, and Years Working in Massachusetts.
 - Quality of Materials Presented by the Applicant.

QUOTE FORM

Price proposed for the work outlined above:

Provide work described in the above Scope of Services:

TOTAL COST		(price in numbers)

Average Cost Per Count		(price in numbers)
		(price in words)

Informational Cost
Figures

Classification counts for 4 lane facilities		(price in numbers)
Classification counts for 2 lane facilities		(price in numbers)

2023 RPA TRAFFIC COUNTING PROCEDURES

The following Traffic Counting procedures are to be followed by each Regional Planning Agency:

- 1) Each RPA shall contact the MassDOT District office in their region to obtain any required permits prior to installing traffic counting equipment on state owned roadways. Installed traffic recorders on all roadways shall be clearly labeled with the name of the equipment agency/owner (RPA/consultant) and a phone contact number.
- 2) The Federal Highway Administration (FHWA) requires that all equipment used to gather traffic data for the Traffic Monitoring System for Highways (TMS/H) shall be tested prior to commencing the yearly program. Data collected with equipment that does not meet the following test requirements will not be accepted. Submitted recorder accuracy certification with an approved traffic counter tester is an acceptable alternative to the below testing requirements.
 - Traffic recorder axle (not vehicle) volumes shall be tested against manual axle volumes for a minimum of two consecutive intervals per recorder. It is not necessary to set the recorder for a classification count.
 - Submit a spreadsheet to MassDOT at the start of the season showing the counter ID #, manual volume, recorder volume, and % error for each interval. % Error = (manual volume minus recorder volume)/Manual volume x 100.
 - Recorders showing a difference in axle volumes < 10% compared to the manual axle volumes for each interval are acceptable. Recorders that fail the test shall be repaired and tested again. MassDOT must accept the test and retest results prior to that recorder being used to collect MassDOT traffic counts.
- 3) Exact field locations and the count install/removal dates are to be uploaded to the GIS Traffic Data map via a phone application “ArcGIS Collector”. <http://massdot.maps.arcgis.com/home/index.html>
- 4) The data file for each collected traffic count should include the tested & accepted recorder ID number. A separate listing (kept on file in your agency) is acceptable if your traffic recorders & software does not have that option. Electronic data shall be in a format that can be submitted and uploaded to the Midwestern software website database (mhd.ms2soft.com).
- 5) Ensure that the MassDOT Station Number is used for the count data file name and is programmed into the recorder if possible. Stay as close to the MassDOT location description as possible. An explanation shall be submitted in writing (via email) if any MassDOT program location cannot be counted in the current season for some reason (construction, etc.) at the specified location. Any current season incomplete MassDOT program counts shall be counted in the following year after the issue (construction, etc.) has been resolved. Maps or sketches of count locations may be emailed to Statewide Traffic Data Collection for clarification.
- 6) 60-minute or shorter data collection intervals (15 min, etc.) can be used for a minimum of 48 hours (consecutive preferred) of weekday (Tuesday thru Thursday preferred) directional data. Each direction should be counted during the same time period. All uploaded counts shall have only full 60-minute intervals and full 24-hour periods. Any first or last interval partial hour data should not be included in the uploaded data.

- 7) The RPA shall input the below listed **Federal** “Functional Class” code, the “SF Group” (seasonal factor group), the “AF Group” (axle factor group), and the “Rural/Urban” designation for any RPA city/town (non-MassDOT program) counts uploaded to MS2.
- 1 = Interstate
 - 2 = Principal Arterial – Other Freeways & Expressways
 - 3 = Principal Arterial - Other
 - 4 = Minor Arterial
 - 5 = Major Collector
 - 6 = Minor Collector
 - 7 = Local
- 8) Route numbers and/or street names should be used in descriptions, whenever possible, for counts other than MassDOT coverage counts. One-way counts should be labeled as such and include the direction on the MS2 website.
- 9) Traffic counts should be evenly spaced throughout the counting season. Schedule the counts so they are not taken during an event that would affect the normal traffic flow (Legal holidays, local fairs, concerts, traffic detours, natural disasters, pandemics, etc.). Recreational area counts should be taken during the same time frame as previous years for better historical comparisons and growth trends.
- 10) Classification counts shall be done at all MassDOT requested locations if possible. Class counts shall be done with a separate recorder & hose setup for each lane of traffic unless the recorder is specifically designed to accurately class multiple lanes. Class counts with less than 10 % “unidentified” vehicles are acceptable and the percentages for the FHWA 13 class typology categories shall be reviewed (each lane, each direction, and totals) for count location appropriateness. The recorder classification column headings shall be set up to agree with the attached 13 FHWA classification categories. Volume data shall be created from the classification data in the MS2 website – volume data from a classification count does not need to be uploaded separately.
- 11) Review the collected data (including MS2 upload QC checks) and conduct recounts of bad data as necessary. Compare the count data with prior year data at that location on the MS2 website (mhd.ms2soft.com). If the count varies significantly from previous years or has one direction significantly higher than the other, an explanation for the change should be furnished.
- 12) Contact MassDOT Traffic Data Collection (Misrak Sultan) if you believe a MassDOT program count needs to be edited (incorrect map location plot, description, FC, etc.) on MS2. MassDOT will review the location and make any appropriate edits since the RPA’s do not have administration privileges to modify the MassDOT location parameters.
- 13) Unfactored traffic counts shall be uploaded to MS2 on a regular basis during the counting season. All counts shall be uploaded to MS2 by the end of the year. This applies to both the MassDOT traffic program counts and other RPA city/town counts. Turning movement counts are to be uploaded via the “TMC” button located at the top of the “TCDS” home page.
- 14) A file naming convention was developed for non-MassDOT program counts to facilitate system searches and custom queries. The MS2 location ID should be your Username (RPAxx), a dash, the city/town number, a dash, and then your own designation. The city/town designation numbers are in the attached excel listing. As an example, a count done by Old Colony (RPA09) in Abington (City # 001) for RPA count name/number xxxxxxxxxxxx would have the location ID in MS2 as RPA09-001-xxxxxxxxxxx. Note that the file name can be up to a maximum of 25 characters.

15) Uploaded counts are QC checked with the results put in the “Count Group Assign List” on the MS2 Admin page. Data without errors can be “Auto Assigned” by the RPA to push them into the database. The RPA shall review and resolve any data with errors codes generated by MS2. This involves assigning data deemed good, deleting data deemed bad, renaming/re-uploading files to agree with the correct “location ID” (error code 1), etc.

16) At the completion of the yearly program, all MassDOT Traffic Count Program counts, and other RPA City or Town counts should be archived electronically by the RPA (separately from the MS2 website www.ms2soft.com).

Below is the contact information (email preferred) for questions regarding the RPA traffic Counting program or procedures:

Misrak Sultan
Statewide Traffic Data Collection
936 Elm Street Concord, MA
Concord, MA 01742
Email: Misrak.Sultan@dot.state.ma.us
Concord phone: (978) 287-6117
Cell phone: (617) 620- 7314

NORTHERN MIDDLESEX TRAFFIC COUNT DATA COLLECTION PROGRAM LOCATION FOR 2023

NMCOG ID	MS2 Location ID	Road Name and Location	Municipality	Functional Class	Latitude	Longitude
971	TBD	East St W of Whittemore St	Tewksbury	U4	42.649654	-71.317757
231	257247	Rte 113 (Pleasant St/Dunstable Rd) at Dunstable/Pepperell Town Line	Multiple	U1	42.607138	-71.334181
234	236617	Rte 113 (Kendall Rd/Main St) at Dunstable/Tyngsborough Town Line	Multiple	U1	42.609058	-71.314382
635	237171	Rte 110 (Littleton Rd) at Chelmsford/Westford Town Line	Multiple	U4	42.603607	-71.354002
77	251125	Rte 3A (Boston Rd) N of Community Rd	Billerica	U6	42.561128	-71.321705
157	VRPA06-056-157	Rte 40 (Groton Rd) E Rte 3 NB	Chelmsford	U3	42.651624	-71.318364
185	252315	Mammoth Rd at Lowell/Dracut Town Line	Multiple	U4	42.648098	-71.328605
199	250759	Rte 110 (VFW Highway/Merrimack Ave) at Lowell/Dracut Town Line	Multiple	U4	42.602485	-71.353844
435	VRPA06-160-435	Woburn St S of I-495	Lowell	U3	42.636837	-71.30892
804	VRPA06-330-804	Boston Rd S of Hildreth St	Westford	U4	42.67624	-71.417894
385	240628	Rte 3A (Gorham St) at Chelmsford/Lowell Town Line	Multiple	U4	42.618939	-71.327325
87	238006	Rte 4 (Nashua Rd/Boston Rd) at Billerica/Chelmsford Town Line	Multiple	U6	42.668765	-71.326211
42	258121	Orchard Rd N of Rte 3 Bridge	Billerica	U4	42.567925	-71.215075
773	258177	Alpine St E of Brick Kiln Rd	Billerica	U4	42.59327	-71.279566
763	VRPA06-031-763	Bridle Rd S of Bridge St	Billerica	U5	42.541899	-71.222319
31	254035	High St between Mt Pleasant & Alrose Dr	Billerica	U5	42.593452	-71.278212
32	4060	High St E of Pollard St	Billerica	U5	42.594184	-71.265988
22	240239	Cook St N of Bicknell Rd	Billerica	U4	42.590822	-71.29619
845	3372283	Baldwin Rd S of Rte 129 (Salem Rd)	Billerica	U5	42.573275	-71.211337
52	235770	Rangeway Rd over Rte 3	Billerica	U2	42.586221	-71.310732
89	255053	Rte 4 (Nashua Rd) N of Rangeway Rd	Billerica	U4	42.627012	-71.369419
35	250652	Middlesex Turnpike at Bedford Town Line	Billerica	U5	42.561121	-71.321344
958	3372332	Smith St W of Steadman St	Chelmsford	U3	42.647631	-71.305575
812	VRPA06-056-812	Old Westford Rd N of Davis Rd	Chelmsford	U4	42.657764	-71.341821
949	3372273	Mill Rd E of Turnpike Rd	Chelmsford	U7	42.686219	-71.274223
802	3372237	Locke Rd S of Davis Rd	Chelmsford	U4	42.620397	-71.350629

950	3372281	Rte 129 (Billerica Rd) W of Golden Cove Rd	Chelmsford	U3	42.697234	-71.313467
149	4840	Rte 3A (Gorham St) S of Carlisle St (Chelmsford)	Chelmsford	U7	42.702682	-71.538999
785	258017	Rte 129 (Billerica Rd) E of Riverneck Rd	Chelmsford	U5	42.670604	-71.297222
154	4115	Rte 4 (North Rd) over I-495	Chelmsford	U3	42.683918	-71.449662
809	3372280	Turnpike Rd N of Mill Rd	Chelmsford	U7	42.635733	-71.291142
783	3372336	Davis Rd W of Locke Rd	Chelmsford	U2	42.613817	-71.328938
205	3372329	Rte 113 (Broadway Rd) S of Jones Ave	Dracut	U3	42.634911	-71.311464
202	VRPA06-079-202	Rte 113 (Broadway Rd) at Methuen Town Line	Dracut	U3	42.649303	-71.304192
207	251138	Rte 113 (Arlington St) W of Broadway Rd	Dracut	U3	42.646189	-71.271552
203	3372251	Rte 113 (Broadway Rd) N of Arlington St	Dracut	U3	42.61439	-71.303244
946	3372249	Rte 113 (Broadway Rd) N of Methuen Rd	Dracut	U3	42.629029	-71.308189
221	250684	Groton St S of Rte 113 (Pleasant St)	Dunstable	U4	42.647277	-71.337585
841	VRPA06-081-841	Main St N of Oak St	Dunstable	U4	42.617266	-71.288475
230	VRPA06-081-230	Rte 113 (Pleasant St) W of Main St	Dunstable	U4	42.70045	-71.616686
906	VRPA06-081-906	Hardy St at NH State Line	Dunstable	U3	42.649205	-71.305211
222	TBD	High St at NH State Line	Dunstable	U3	42.652317	-71.325561
327	257403	Merrimack St E of Pawtucket St	Lowell	U4	42.571537	-71.427247
704	3372246	Carlisle St S of Rte 3A (Gorham St)	Lowell	U5	42.643776	-71.245888
338	4832	Middlesex St W of Pearl St	Lowell	U5	42.580721	-71.486769
296	CLC4081	Industrial Ave S of Rte 110 (Chelmsford St)	Lowell		42.604562	-71.25886
298	236046	Jackson St W of Central St	Lowell	U5	42.621127	-71.262172
304	CLC4086	Lakeview Ave W of Rte 38 (Bridge St)	Lowell	U5	42.651827	-71.423143
305	236811	Lawrence St at Concord River	Lowell	U4	42.68199	-71.394906
306	CLC4142	Lawrence St E of Billerica St	Lowell	U5	42.690791	-71.434108
331	255429	Middlesex St E of Pawtucket St	Lowell	U5	42.581541	-71.465334
429	257409	Westford St E of Wood St	Lowell	U4	42.611834	-71.231345
458	VRPA06-232-458	Rte 111 (Nashua Rd) at NH State Line	Pepperell	U7	42.570167	-71.384922
463	255445	Rte 113 (Main St) W of Pleasant St	Pepperell	U5	42.604023	-71.300163
460	251279	Rte 111 (River Rd) N of Rte 119 (South Rd)	Pepperell	U3	42.581991	-71.363813
894	VRPA06-232-894	Groton St N of Railroad St	Pepperell	U6	42.644357	-71.301727
892	VRPA06-232-892	Rte 113 (Main St) E of Mill St	Pepperell	U5	42.63255	-71.37549
545	VRPA06-295-545	Whipple Rd W of Patten Rd	Tewksbury	U5	42.689848	-71.319723
483	VRPA06-295-483	East St E of Maple St	Tewksbury	U5	42.610019	-71.285311

537	VRPA06-295-537	Trull Rd N of I-495	Tewksbury	U0	42.579498	-71.439191
547	VRPA06-295-547	Astle St W of Rte 38 (Main St)	Tewksbury	U7	42.651746	-71.296171
492	VRPA06-295-492	Livingston St N of Main St	Tewksbury	U4	42.6074	-71.342636
711	VRPA06-295-711	North St N of East St	Tewksbury	U6	42.559813	-71.270739
536	VRPA06-295-536	South St S of Salem Rd	Tewksbury	U5	42.584004	-71.434595
542	VRPA06-295-542	Whipple Rd E of Pine St	Tewksbury	U4	42.679121	-71.361734
527	VRPA06-295-527	Rte 38 (Main St) S of South St	Tewksbury	U7	42.632514	-71.313554
510	VRPA06-295-510	Rte 133 (Andover St) at Andover Town Line	Tewksbury	U7	42.643118	-71.302312
981	3372623	Westford Rd E of Swan Rd	Tyngsborough	U3	42.649676	-71.303981
938	VRPA06-301-938	Frost Rd N of Rte 113	Tyngsborough	U7	42.695116	-71.415079
562	VRPA06-301-562	Middlesex Rd S of Bryant Ln	Tyngsborough	U3	42.593005	-71.355803
822	VRPA06-301-822	Chestnut Rd W of Westford Rd	Tyngsborough	U7	42.652074	-71.334529
764	VRPA06-301-764	Sherburne Ave E of Rte 3A (Frost Rd)	Tyngsborough	U3	42.638799	-71.314803
636	VRPA06-330-636	Rte 110 (Littleton Rd) at Littleton Town Line	Westford	U7	TBD	TBD
629	3372239	Patten Rd W of Forge Village Rd	Westford	U3	TBD	TBD
620	VRPA06-330-620	Forge Village Rd E of Cold Spring Rd	Westford	U3	42.599443	-71.341295
652	VRPA06-330-652	Rte 225 (Concord Rd) S of Robinson Rd	Westford	U6	TBD	TBD
669	VRPA06-330-669	Tadmuck Rd N of Rte 110 (Littleton Rd)	Westford	U3	TBD	TBD
670	VRPA06-330-670	Tadmuck Rd N of Rte I-495	Westford	U5	TBD	TBD
945	TBD	Depot St W of Plain St	Westford	U4	42.700259	-71.258824
656	VRPA06-330-656	Rte 27(Acton Rd) at Acton Town Line	Westford	U7	TBD	TBD
649	VRPA06-330-649	Rte 225 (Carlisle Rd) W of Rte 27 (Acton Rd)	Westford	U4	TBD	TBD
944	TBD	Rte 40 (Groton Rd) E of North St	Westford	U7	TBD	TBD