C APPENDIX PROJECT EVALUATION

INTRODUCTION

The MPO applied its goals and objectives as criteria to qualitatively evaluate the major infrastructure and capacity-adding highway projects that are in the Universe of Projects and Programs list (which had been sufficiently well defined to allow for analysis). Assessing how well projects would address the MPO's goals and objectives helped the MPO identify priority projects for its major infrastructure program. Table C.1 shows the evaluated major infrastructure projects and Table C.2 provides a summary of the evaluated projects. A memorandum documenting the evaluation process also is included.

BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Stephanie Pollack, MassDOT Secretary and CEO and MPO Chairman
Karl H. Quackenbush, Executive Director, MPO Staff

TECHNICAL MEMORANDUM

DATE: **April 15, 2015**
TO: **Boston Region MPO**
FROM: **Sean Pfalzer and William Kuttner**
RE: **Long-Range Transportation Plan Evaluation Criteria**

1 OVERALL SCORING SYSTEM

For the 2040 LRTP, 38 projects classed as “major infrastructure” were evaluated by MPO staff. Based on these evaluations, MPO staff recommended inclusion of 13 of these projects in the LRTP, four of which were already programmed in the current TIP. Each of these 38 projects was given a numerical score, and this score to a large extent determined which projects were recommended for inclusion in the LRTP.

Each project was given a “high,” “medium,” or “low” rating in each of six rating categories. Expressing these ratings as numerical values of three, two, or one point respectively, the scores were summed resulting in a single numerical score for each project. While the scores could range from 18 points (six “high” scores) down to only 6 points, the 38 Major infrastructure projects ranged between 14 and 7 points.

Of the 13 projects recommended for inclusion in the LRTP, all had 11 or more points. Five projects had scores of at least 11 but were not recommended for inclusion because their costs were beyond the funding capabilities of the MPO regardless of their high scores.

1.1 Six Rating Categories

The rating categories were established based on the MPO’s adopted goals and focused on the primary goals addressed by Major Infrastructure projects:

- Safety
- System Preservation
- Capacity Management and Mobility (3 sub-categories include impacts to automobiles, buses, and pedestrian/bicyclists)
- Economic Vitality

The value of a project for each of these six areas was in turn characterized by a number of different factors. The evaluation criteria were grouped into the appropriate rating areas. MPO staff also identified or developed appropriate quantitative data and indices to help inform the scoring. As far as practicable, these criteria and indices had to be applied to all projects so that comparisons could be made between fundamentally dissimilar projects. More information on the evaluation criteria is presented below.

1.2 Role of Judgment in Determining a Score

Even with a reasonably complete set of planning-level evaluation data, the use of judgment is unavoidable in deciding which of the three scores to give projects for each of the six rating categories. There is, however, a structure within which judgment is applied. This process can be seen as a balancing of three factors:

- The needs in the proposed project area
- The criteria the proposed project addresses
- The impact a project can have in addressing the identified needs and advancing MPO goals

Of these three factors, the needs are perhaps best understood because they are derived from existing conditions. The configurations of proposed improvements are at this point conceptual and the extent and intensity of anticipated improvements can only be surmised.

Costs are not mentioned explicitly in these three factors. As a general rule, however, more costly projects will often have a larger impact. For instance, the safety and capacity of an obsolete intersection can be improved by rebuilding it to modern standards. In some instances constructing some kind of grade separation might be warranted. The costs will inevitably be greater but the benefits should also be greater. MPO staff accounted for cost to inform the safety rating for projects in order to compare projects across purpose and scale.

2 DEVELOPING SCORES IN EACH CATEGORY

One of the difficulties of scoring projects is choosing a scoring convention that will allow a valid comparison of dissimilar projects. Furthermore, fair and usable scoring conventions need to be developed separately for each of the six rating categories.

In developing a score it is important to consider the amount of improvement a project might be expected to achieve. This kind of project impact has been represented in this analysis by characterizing candidate projects by a very general “project concept.” The six project concepts used here are:

- Adding new grade separation
- Reconstructing of a major interchange
- Reconstructing of a minor interchange
- Significant widening of a road
- Minor widening of a road
- Reducing roadway capacity

The amount of improvement to safety and capacity in and near the project area will to some degree depend on the project concept.

The balance of this memo considers the rating categories individually. The indices, factors, and judgments that could result in a high, medium, or low score being assigned to a particular project are described and discussed for each of the six rating categories.

2.1 Safety

MPO staff maintains extensive databases of regional crash history, and these were used to assess the safety improvement needs for interchanges, express highways, and regional arterials. Crash history is measured using the "equivalent property damage only" index, abbreviated as EPDO. Crashes resulting in a fatality are given ten points, crashes resulting in injury five points, and property-damage-only crashes are given only one point. Given the relative infrequency of accidents, using the most recent three years of EPDO data in the candidate project areas gives a reasonable idea of the safety needs at that location.

Using the project-area EPDO values, staff developed indices that relate the crash history to project costs and projected users. Regional safety "hot spots" are identified by EPDO and may be addressed by candidate projects. EPDO related to specific modes and vehicle classes are also calculated and reviewed. These EPDO-based metrics include:

- Cost per EPDO ("cost effectiveness"): Estimated project cost divided by the EPDO value

- Average annual EPDO per 100,000,000 vehicles ("crash rate" or "risk"): Average annual EPDO value divided by average annual traffic volumes per 100,000,000 vehicles: ((EPDO/3)/(AADT*330))*100,000,000

- EPDO concentrations
    - Top 200 Crash Cluster Locations (Total EPDO)

  - Highway Safety Improvement Program (HSIP) Cluster (Total EPDO)
  - MPO-identified Truck Cluster (Truck-involved EPDO)
  - HSIP Bicycle Cluster (bicycle-involved EPDO)
  - HSIP Pedestrian Cluster (pedestrian-involved EPDO)

Choosing a score in the safety category requires comparing the severity of the safety problem with the improvement impact of the candidate project. As a general rule, the lower score of the two factors was the final score:

Low: Either the need or the project benefit is low. Other factor may be higher

Medium: Either the need or the project benefit is medium. Other factor may be higher

High: Both the safety need and project benefit is high

In assessing the project impact the project concept offers some general guidance:

• Adding new grade separation	Low to medium
• Reconstructing of a major interchange	Medium to high
• Reconstructing of a minor interchange	Low to high
• Significant widening of a road	Low to high
• Minor widening of a road	Low to high
• Reducing roadway capacity	Medium

An example of an improvement with a high safety benefit would be one that eliminates peak-period use of breakdown lanes on express highways or eliminates dangerous weaving movements at major interchanges.

2.2 System Preservation

MPO staff was able to use the state Road Inventory File and other sources to develop quantitative data for most candidate projects. The measured criteria include:

- **Improves substandard pavement**
  - Pavement Condition (“fair” or “poor” pavement merit improvement)
  - Number of lane-miles improved

- **Improves substandard bridge**

  - Bridge Condition (structurally deficient or functionally obsolete merit improvement)
  - Number of substandard bridges addressed

- **Improves sidewalk infrastructure**
  - Number of sidewalk miles improved

- **Improves bicycle facilities**
  - Number of bicycle lane-miles improved

- **Improves emergency response or ability to respond to extreme conditions**
  - Improves access to an emergency support location
  - Implements climate change adaptation strategies

The system preservation score was a judgment based on reviewing all the measured factors. An index that collapsed all the above factors into a single number was not used.

2.3 Capacity Management/Mobility: Autos

As part of the LRTP Needs Assessment, MPO staff analyzed several congestion measurements for both current and future conditions based on travel time, travel speed, and volume/capacity ratios to identify the worst bottleneck locations in the region. These MPO-identified bottleneck locations from the Needs Assessment were used to assess mobility-related needs of both express highways and regional arterials. Staff then assessed the impact of the project on managing capacity and improving mobility. The category scoring generally followed this pattern:

Low: Project is not at an MPO-identified bottleneck location
MPO-identified bottleneck would receive limited or no benefit

Medium: MPO-identified bottleneck will be addressed to a medium degree
Non-bottleneck location is substantially improved

High: MPO-identified bottleneck location is substantially improved
New connection will improve mobility to a high degree

As in the safety category, levels of need and project benefit will vary across candidate projects, and judgment must be used to arrive at a score. A few examples can help illustrate this process.

Three projects that rated low, the I-290/I-495 interchange in Hudson, the Routes 126/135 junction in Framingham, and Middlesex Turnpike in Bedford were not MPO-identified bottleneck locations simply because other locations were significantly worse. Highland Avenue in Newton and Montvale Avenue in Woburn were also not MPO-designated bottlenecks. However, in these instances the improvements were considered great enough that the projects were given the score of "medium." Complete reconstructions of old interchanges can also earn the medium ranking in the same way.

The heavily used I-93/I-95 interchange in Woburn is near the top of the list of regional bottlenecks. The improvements to the interchange and nearby roadways proposed as part of project reconstruction will result in a major improvement to regional traffic flow. At the other extreme is rebuilding the Boston Street overpass over the Lowell commuter rail line near the Wilmington-Woburn city line creates a completely new access corridor to an industrial area thereby earning a "high" rating.

2.4 Capacity Management/Mobility: Buses

To determine the bus mobility rating for congestion management, MPO staff considered the level of bus service (MBTA and other local bus services) within the project area based on the number of routes and number of scheduled weekday bus trips. Then, using the auto mobility rating as the baseline, MPO staff assessed whether the bus service within area derived the same level of improvement as automobiles. The general scoring pattern for this category was:

Low: No bus service within the project area or bus service will not be improved
Limited bus service and small to medium improvement for bus service
Some bus service within the project area but little bus service improvement

Medium: Some bus service within the project area; and moderate service improvement
Significant bus service within the project area and smaller service improvement

High: Significant project area bus service and significant service improvement

Judgment was required where projects seemed to fall between scoring levels. An example is the proposed Boardman Street grade separation. This is a severe

arterial bottleneck causing delay to a large number of buses on some of the MBTA's longest bus routes. However, because speeding traffic on this part of Route 1A would only shorten the bus travel times by a small percentage, a "medium" score for bus mobility has been assigned to the project.

The Route 3 widening would be a major improvement in a corridor that is considered to only have moderate congestion, as compared with its connecting highway, the Southeast Expressway. Few MBTA buses would benefit from the Route 3 widening, so the bus mobility score is "low." Closer to downtown Boston, the Southampton Street interchange improvements would make a moderate impact at a location with severe congestion. Because more bus services would benefit, both auto and bus mobility improvements are rated "medium."

2.5 Capacity Management/Mobility: Pedestrians and Bicycles

For the two non-motorized modes, the mobility issues relate primarily to the completeness and ease-of-use of the system of paths, sidewalks, and roads available for non-motorized travel. In evaluating candidate projects, MPO staff evaluates to what degree, if any, a project:

- **Expands bicycle network, especially closing gaps in the system:**
  - Number of bicycle lane-miles added to the network
  - Bay State Greenway Priority 100 project element
  - High Priority Gap (flagged in the MPO's Network Evaluation Study)

- **Expands sidewalk network**
  - Number of sidewalks miles added to the network

- **Improves transit access and intermodal connections**
  - Access to transit stations are improved for bicyclists and/or pedestrians

The project scores for this category reflect these benefit judgments:

Low: Bicycle and pedestrian facilities are not applicable to the project
Bike/pedestrian facilities will be expanded to a low degree

Medium: Bike/pedestrian facilities will be expanded to a moderate degree
Project meets healthy transportation policy directive standards

High: Bike/pedestrian facilities will be expanded to a high degree
Project exceeds healthy transportation policy directive standards

2.6 Economic Vitality

While any major transportation improvement can be expected to contribute to economic vitality, the ratings in this category reflect to what degree the improvements support the land use objectives embraced by the MPO. A candidate project can support these objectives if it:

- **Provides access to target development area**
  - Vehicle, transit, bicycle, or pedestrian access improvements
- **Serves existing area of concentrated development**
  - High population and employment density for type of community
- **Facilitates new development**
  - Transportation project is tied to new development proposals

The project scores for this category reflect these benefit judgments:

Low: Project does not provide access to a targeted development area or area of concentrated development.

Medium: Project provides access to a targeted development area or area of concentrated development to a moderate degree or facilitates economic development

High: Project provides access to a targeted development area or area of concentrated development to at least a moderate degree, and it facilitates new development.

SP/WK/wk

TABLE C.1
Evaluated Major Infrastructure Projects for the LRTP

Abbreviated Project Name	Project Cost	AADT	Safety	Cost per EPDO	EPDO per 100,000,000 vehicles	EPDO	Top 200 Crash Location (Total EPDO)	HSIP Cluster (Total EPDO)	Truck Polygon (Truck-involved EPDO)	HSIP Bicycle Cluster (Bike-involved EPDO)	HSIP Pedestrian Cluster (Ped-involved EPDO)	System Preservation	Improves substandard pavement	Improves substandard bridge	Improves sidewalk infrastructure	Improves bicycle facilities	Improves emergency response/Improves response to extreme conditions	Capacity Management/Mobility (Autos)	MPO-identified express highway bottleneck location	MPO-identified arterial bottleneck location	Capacity Management/Mobility (Buses)	Number of Bus Routes Served	Total Bus Trips Served Daily	Capacity Management/Mobility (Peds/Bikes)	Expands bicycle network	Bay State Greenway Priority 100	High Priority Gap (Network Evaluation Study)	Expands sidewalk network	Improves transit access	Economic Vitality	Provides vehicle access to target development area	Provides transit access to target development area	Provides bicycle access to target development area	Provides pedestrian access to target development area	Mostly serves existing area of concentrated development	Partly serves existing area of concentrated development	Facilitates new development
Allston Viaduct Realignment (Boston)	$460,000,000	174,000	medium	$1,133,005	236	406		3				high		7			•	medium			medium	9	421	high	•			•	•	high	•	•	•	•	•		•
Route 18 Widening (Weymouth)	$58,822,115	29,600	high	$43,252	4641	1360	6	10	4			high	8	1	8		•	medium		moderate	low	1	127	medium	8					high	•		•	•		•	•	•
Highland Ave (Newton)	$14,297,606	35,000	high	$24,233	1703	590		3	1			high	9	1	6		•	medium			low	2	86	medium	6				•	high	•		•	•	•		•
Route 4/225 (Lexington)	$23,221,000	40,200	high	$44,400	1314	523		2				medium	8				•	medium		moderate	medium	3	104	high	8			8	•	medium					•	•
Rutherford Ave (Boston)	$109,967,000	48,200	medium	$561,056	411	196		1	1			high	9	3	6		•	low			low	8	897	high	6				•	high	•	•	•	•	•		•
McGrath (Somerville)	$56,563,000	38,000	medium	$425,286	354	133		2		1	1	high	3	2	1.5			low			low	7	558	high	1.5				•	high	•	•	•	•	•		•
Extend I-93 HOV Lane (Somerville to Woburn)	$550,000,000	202,000	low	$239,234	1150	2299		17	7			high		6			•	high	severe		high	8	492	low						medium	•					•	•
I-93/I-95 (Woburn)	$294,000,000	373,000	high	$207,774	383	1415		7	5			medium		1			•	high	severe		medium	3	92	low						medium	•					•	•
Route 27/9 (Natick)	$25,793,370	80,000	high	$55,709	585	463	1	2				high	1	1	1		•	medium			medium	4		medium	1				•	low					•		
New Boston St (Woburn)	$9,706,549	14,000	low	$9,706,549	7	1						low						high			low	0		high	0.5			0.5	•	high	•		•	•	•		
Route 1 Widening (Malden, Revere, Saugus)	$236,078,161	115,000	medium	$666,887	311	354		5	2			low		1			•	high	severe		high	6	250	low						medium	•				•		•
Braintree Split	$53,288,794	282,000	high	$32,612.48	585	1634		4	1			medium		3			•	high	severe		medium	5	283	low						low						•	
Montvale Ave (Woburn)	$4,225,256	31,000	high	$15,534	886	272	1	1				high	1		0.5		•	medium			low	1	38	medium	0.5				•	low						•	
Southampton Interchange (Boston)	$143,750,000	225,000	medium	$123,709	522	1162		1				medium		1			•	medium	severe		medium	8	705	medium						medium					•		
I-93/I-95 (Canton)	$186,700,000	240,000	medium	$470,277	167	397		4	2			medium		2			•	medium			low	0		medium	•			•	•	high	•					•	•
Route 128 Add-a-Lane (Needham, Wellesley)	$150,000,000	188,000	medium	$208,333	387	720		4	1			high		4				high	severe		low	1	50	low						low						•	
Concord Rotary	$104,000,000	48,000	medium	$594,286	368	175		2	1			high	6	1			•	high		severe	low	0		low						low						•	
Dedham St Ramp (Canton, Norwood, Westwood)	$50,961,567	5,000	low	$1,456,045	707	35						low		1			•	high			low	0		medium	1			1	•	high	•				•	•
Route 3 Widening	$800,000,000	159,000	high	$365,297	1391	2190		15	3			high		9				medium	moderate		low	5	361	low						low						•	
I-90/I-495 (Hopkinton)	$220,000,000	209,000	medium	$660,661	161	333		3	4			high		4				medium			low	0		low						medium	•					•	
Middlesex, Phase III (Bedford, Burlington)	$26,935,171	14,300	medium	$402,017	473	67						high	3	1				low			low	3	8	medium	3			3	•	medium	•					•	•
Route 126/135 (Framingham)	$115,000,000	35,400	medium	$542,453	605	212	1	1		1	1	low	0.5		0.5		•	low			medium	7		medium	0.5	•			•	high	•	•	•	•	•		•
I-95 Add-a-Lane (Woburn)	$32,900,000	164,000	medium	$109,667	185	300		2	1			medium		2			•	medium	severe		low	2	75	low						medium	•					•	
Cypher St Extension (Boston)	$9,700,000	1,000	low	N/A	N/A	N/A						low	1				•	medium			low			low						medium					•		•
Mahoney Circle (Revere)	$60,000,000	56,000	low	$588,235	184	102		2	1			low	1				•	medium		moderate	high	10	451	low						medium	•	•			•		
Route 9/I-495 (Southborough)	$25,000,000	135,000	low	$342,466	55	73		1				high		2				medium			low	0		low						medium	•				•		
Route 128, Phase II (Danvers, Peabody)	$23,776,000	102,000	medium	$65,319	360	364		3	1			high	7	2			•	medium			low	3	57	low						low					•		

TABLE C.1 (Cont.)
Evaluated Major Infrastructure Projects for the LRTP

Abbreviated Project Name	Project Cost	AADT	Safety	Cost per EPDO	EPDO per 100,000,000 vehicles	EPDO	Top 200 Crash Location (Total EPDO)	HSIP Cluster (Total EPDO)	Truck Polygon (Truck-involved EPDO)	HSIP Bicycle Cluster (Bike-involved EPDO)	HSIP Pedestrian Cluster (Ped-involved EPDO)	System Preservation	Improves substandard pavement	Improves substandard bridge	Improves sidewalk infrastructure	Improves bicycle facilities	Improves emergency response/Improves response to extreme conditions	Capacity Management/Mobility (Autos)	MPO-identified express highway bottleneck location	MPO-identified arterial bottleneck location	Capacity Management/Mobility (Buses)	Number of Bus Routes Served	Total Bus Trips Served Daily	Capacity Management/Mobility (Peds/Bikes)	Expands bicycle network	Bay State Greenway Priority 100	High Priority Gap (Network Evaluation Study)	Expands sidewalk network	Improves transit access	Economic Vitality	Provides vehicle access to target development area	Provides transit access to target development area	Provides bicycle access to target development area	Provides pedestrian access to target development area	Mostly serves existing area of concentrated development	Partly serves existing area of concentrated development	Facilitates new development
Boardman St (Boston)	$13,686,000	59,500	low	N/A	N/A	N/A						low	0.5				•	high		severe	medium	5	205	low					•	medium	•					•	
Walnut Street Interchange (Saugus)	$19,500,000	136,000	medium	$103,723	140	188		1				low			0.5		•	medium			low	1	51	medium	1			0.5	•	low						•	
Bridge St (Salem)	$16,613,152	17,800	medium	$117,824	800	141		1				medium	1		0.5			low			low	5	133	low					•	medium	•			•	•		
Route 1/16 (Chelsea, Revere)	N/A	40,200	low	N/A	193	77	1	2	1			high	5.25	1			•	low		moderate	low	2	75	low						medium	•	•			•		
I-95 Capacity Improvements (Lynnfield, Reading)	$198,443,000	157,000	low	$187,742	680	1057		6	1			low					•	high	severe		low	0		low						medium	•					•	•
I-290/495 (Hudson, Marlborough)	$100,000,000	162,500	medium	$334,448	186	299		2	1			high	2	1				low			low	0		low						low							
Route 1A/16 (Revere)	N/A	36,700	low	N/A	39	14	1	3	1			medium	1.5				•	low		severe	low	9	416	low						medium	•			•			
Brimbal Ave, Phase II (Beverly)	$23,000,000	73,500	low	$383,333	82	60		1				medium		1			•	low			low	1		low						medium	•				•	•	
I-90/Interchange 17 (Newton)	$4,000,000	141,000	medium	$8,677	330	461		4	1	1		low		3	0.5		•	medium	severe		low	12	528	low						low					•		
128 Capacity Improvements (Peabody)	$24,634,000	110,000	low	$98,536	230	250		2				low		1			•	high	severe		low	1	36	low						low					•		
Riverside Ramp (Newton)	N/A	23,500	low	N/A	4	1		2				low						low	moderate		low	1	20	low					•	medium	•				•	•	
Washington Street Bridge (Woburn)	$12,200,000	38,800	low	$98,387	323	124		1				low			0.1		•	low			low	0		medium	0.1				•	low					•	

TABLE C.2
Summary of Evaluated Major Infrastructure Projects for the LRTP

Proponent(s)	Project Name	Project Cost	AADT	Safety	System Preservation	Capacity Management/Mobility (Autos)	Capacity Management/Mobility (Buses)	Capacity Management/Mobility (Peds/Bikes)	Economic Vitality	Total Rating	5 or more low ratings	4 or more low ratings	3 or more low ratings	2 or more low ratings	2 or more high ratings
Boston	Replacement of Allston I-90 Elevated Viaduct	$460,000,000	174,000	2	3	2	2	3	3	15					•
Weymouth	Reconstruction & Widening on Route 18 (Main Street), from Highland Place to Route 139	$58,822,115	29,600	3	3	2	1	2	3	14					•
Newton & Needham	Reconstruction of Highland Avenue, Needham Street & Charles River Bridge	$14,297,606	35,000	3	3	2	1	2	3	14					•
Lexington	Route 4/225 (Bedford Street) and Hartwell Avenue	$23,221,000	40,200	3	2	2	2	3	2	14					•
Boston	Reconstruction of Rutherford Avenue, from City Square to Sullivan Square	$109,967,000	48,200	2	3	1	1	3	3	13				•	•
Somerville	McGrath Boulevard Project	$56,563,000	38,000	2	3	1	1	3	3	13				•	•
Somerville & Woburn	Extend I-93 HOV Lane into Somerville and/or Capacity Improvements to Route 128, Woburn	$550,000,000	202,000	1	3	3	3	1	2	13			•	•	•
Reading, Stoneham, Wakefield, Woburn	Interchange Improvements to I-93/I-95 (Bridge Replacement and Related Work)	$294,000,000	373,000	3	2	3	2	1	2	13				•	
Natick	Bridge Replacement, Route 27 (North Main St.) over Route 9 (Worcester St.)	$25,793,370	80,000	3	3	2	2	2	1	13					•
Woburn	Bridge Replacement, New Boston Street over MBTA	$9,706,549	14,000	1	1	3	1	3	3	12			•	•	•
Malden, Revere, Saugus	Reconstruction & Widening on Route 1, from Route 60 to Route 99	$236,078,161	115,000	2	1	3	3	1	2	12				•	•
Braintree	I-93/Route 3 Interchange (Braintree Split)	$53,288,794	282,000	3	2	3	2	1	1	12				•	•
Woburn	Reconstruction of Montvale Avenue, from I-93 Interchange to Central Street	$4,225,256	31,000	3	3	2	1	2	1	12				•	•
MassDOT	Southeast Expressway Modification (Southampton Interchange)	$143,750,000	225,000	2	2	2	2	2	2	12				•	
Canton, Dedham, Norwood	Interchange Improvements at I-95/I-93/University Avenue/I-95 Widening	$186,700,000	240,000	2	2	2	1	2	3	12					
Needham & Wellesley	Rehab/Replacement of 6 Bridges on I-95/Route 128 (Add-a-Lane Contract 5)	$150,000,000	188,000	2	3	3	1	1	1	11			•	•	•
Concord	Improvements & Upgrades to Concord Rotary (Routes 2/2A/119)	$104,000,000	48,000	2	3	3	1	1	1	11			•	•	•
Canton, Norwood & Westwood	Ramp Construction on I-95 (NB) & Improvements on Dedham Street	$50,961,567	5,000	1	1	3	1	2	3	11			•	•	•
MassDOT	Route 3 South Express Toll Lanes	$800,000,000	159,000	3	3	2	1	1	1	11		•	•	•	•
Hopkinton, Westborough	Reconstruction of I-90/I-495 Interchange	$220,000,000	209,000	2	3	2	1	1	2	11			•	•	
Bedford, Billerica, & Burlington	Middlesex Turnpike Improvements, from Crosby Drive North to Manning Road (Phase III)	$26,935,171	14,300	2	3	1	1	2	2	11			•	•	
Framingham	Intersection Improvements at Route 126/135/MBTA & CSX Railroad	$115,000,000	35,400	2	1	1	2	2	3	11					
Reading, Stoneham, Wakefield	Improvements along Route 128/95, from North of Interchange of Interchange 37 to 40	$32,900,000	164,000	2	2	2	1	1	2	10				•	
Boston	Cypher Street Extension	$9,700,000	1,000	1	3	2	1	1	2	10			•	•	
Revere	Mahoney Circle Grade Separation	$60,000,000	56,000	1	1	2	3	1	2	10			•	•	
Southborough, Westborough	Improvements on Route 9 at I-495 Interchange, from Computer Drive/Research Drive to Route 9	$25,000,000	135,000	1	3	2	1	1	2	10			•	•	
Danvers & Peabody	Mainline Improvements on Route 128 (Phase II)	$23,776,000	102,000	2	3	2	1	1	1	10			•	•	
Boston	Boardman Street at Route 1A	$13,686,000	59,500	1	1	3	2	1	2	10			•	•	
Saugus	Interchange Reconstruction at Walnut Street & Route 1 (Phase II)	$19,500,000	136,000	2	1	2	1	2	1	9			•	•	
Salem	Reconstruction of Bridge Street, from Flint Street to Washington Street	$16,613,152	17,800	2	2	1	1	1	2	9			•	•	
Chelsea & Revere	Route 1/Route 16 Connector	N/A	40,200	1	3	1	1	1	2	9		•	•	•	
Lynnfield & Reading	I-95 Capacity Improvements, Lynnfield to Reading (used old LRTP project Beverly to Peabody)	$198,443,000	157,000	1	1	3	1	1	2	9		•	•	•	
Hudson & Marlborough	Reconstruction on Routes I-290 & 495 and Bridge Replacement	$100,000,000	162,500	2	3	1	1	1	1	9		•	•	•	
Revere	Route 1A/Route 16 Connector	N/A	36,700	1	2	1	1	1	2	8		•	•	•	
Beverly	Interchange Reconstruction at Route 128/Exit 19 at Brimbal Avenue (Phase II)	$23,000,000	73,500	1	2	1	1	1	2	8		•	•	•	
Newton	I-90/Interchange 17	$4,000,000	141,000	2	1	2	1	1	1	8		•	•	•	
Peabody	Route 128 Capacity Improvements: Exit 26 to Exit 28	$24,634,000	110,000	1	1	3	1	1	1	8	•	•	•	•	
Newton	New Route 128 Ramp to Riverside Station	N/A	23,500	1	1	1	1	1	2	7	•	•	•	•	
Woburn	Bridge Replacement & Related Work, W-43-028, Washington Street over I-95	$12,200,000	38,800	1	1	1	1	2	1	7	•	•	•	•	