



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Richard A. Davey, MassDOT Secretary and CEO and MPO Chairman
Karl H. Quackenbush, Executive Director, MPO Staff

MEMORANDUM

DATE April 4, 2013
TO Boston Region Metropolitan Planning Organization
FROM Sean Pfalzer, Transportation Improvement Program Manager,
MPO Staff
RE Development of the Staff Recommendation – FFYs 2014-17
Transportation Improvement Program

The purpose of this memorandum is to introduce a staff recommendation for the federal fiscal years (FFYs) 2014-17 Transportation Improvement Program (TIP). The staff recommendation proposes transportation projects and programs to fund with the MPO's Regional Highway Target Funding over the next four federal fiscal years. In developing the staff recommendation, MPO staff worked with the target funding levels to:

- Address cost increases and schedule changes of existing projects
- Allocate funding to current and ongoing commitments
- Propose new projects to receive funding that advance the MPO's priorities

This memo first discusses the Regional Highway Target Funding amounts by year and funding program. Then the three components, listed above, of allocating the funds are described. The staff recommendation itself is presented and explained in the section on the third component, funding for new projects. That section also presents the First-Tier List of Projects that was produced in the process of developing the recommendation. The staff recommendation provides an initial baseline for MPO members as they discuss and develop a draft TIP.

REGIONAL HIGHWAY TARGET FUNDING

MassDOT released the draft Regional Highway Targets on March 11, 2013. The Regional Targets indicate that the MPO has approximately \$296.8 million to spend on projects and programs in the FFYs 2014-17 TIP. Table 1 compares the funding levels of the current TIP and the FFYs 2014-17 TIP. As shown in the table, there is a minor decrease in target funding in FFY 2014, a significant increase of \$8.6 million in FFY 2015, and a decrease of approximately \$1.1 million in FFY 2016. In FFY 2017, the Regional Target remains at the FFY 2016 level of roughly \$75 million.

Table 1
Comparison of Regional Target Funding
Current vs. FFYs 2014-17 TIP

Total Regional Target	FFY 2014	FFY 2015	FFY 2016	FFY 2017	Total
Current TIP Regional Target Funds	\$79,091,696	\$59,316,086	\$76,083,999		
FFYs 2014-17 TIP Regional Target Funds	\$78,961,899	\$67,921,442	\$74,950,144	\$74,950,144	\$296,783,629
Difference	(\$129,797)	\$8,605,356	(\$1,133,855)		

The Regional Highway Target Funds contain annual targets for two of the eligible funding programs: the Congestion Mitigation and Air Quality Improvement (CMAQ) Program and Highway Safety Improvement Program (HSIP). Under the new federal transportation bill, the Moving Ahead for Progress in the 21st Century Act (MAP-21), the CMAQ Program continues to provide a flexible funding source for transportation projects and programs that help meet the requirements of the Clean Air Act, and HSIP still aims to achieve a significant reduction in traffic fatalities and serious injuries. For the FFYs 2014-17 TIP, the funding targets more than double the amount of spending on CMAQ-eligible projects to about \$68.7 million and slightly increase HSIP spending to roughly \$20.2 million. Thus, in developing the staff recommendation, staff sought CMAQ-eligible projects or programs that reduce congestion and improve air quality and HSIP-eligible projects that implement infrastructure-related highway safety improvements.

Table 2
Comparison of Regional Targets by Funding Program
Current vs. FFYs 2014-17 TIP

Regional Target by Funding Program	FFY 2014	FFY 2015	FFY 2016	FFY 2017	Total
Current TIP CMAQ Target	\$8,593,421	\$8,593,421	\$8,593,421		
FFYs 2014-17 TIP CMAQ Target	\$20,409,374	\$16,112,664	\$16,112,664	\$16,112,664	\$68,747,366
Difference	\$11,815,953	\$7,519,243	\$7,519,243		
Current TIP HSIP Target	\$4,296,710	\$4,296,710	\$4,296,710		
FFYs 2014-17 TIP HSIP Target	\$5,907,977	\$4,774,123	\$4,774,123	\$4,774,123	\$20,230,346
Difference	\$1,611,267	\$477,413	\$477,413		

The remaining portion of funding is eligible to be programmed under the National Highway Performance Program (NHPP) and the Surface Transportation Program (STP). The funding level for these two programs combined is capped at approximately \$207.8 million over FFYs 2014-17.

An additional funding program that will be available to the MPO is the Transportation Alternatives Program (TAP). TAP is a new program that combines three former SAFETEA-LU programs (Transportation Enhancements, Recreational Trails, and Safe Routes to School). Eligible funding uses include on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving bicycle and pedestrian access to public transportation, recreational trail projects, and safe-routes-to-school projects. TAP funding will be awarded through a competitive grant process currently under development. Staff have identified projects in the staff recommendation that may be eligible to apply for TAP funding.

PROJECT COST INCREASES AND SCHEDULE CHANGES

MPO staff first addressed project cost increases and schedule changes for existing projects in the development of the staff recommendation. There were seven projects programmed to be advertised in FFYs 2013 or 2014 that have had cost increases. Table 3 lists the projects with cost increases and the difference between the TIP amount needed and the TIP amount programmed. These project cost increases total approximately \$21.5 million.

Table 3
Summary of Project Cost Increases

Projects	TIP Amount Needed	TIP Amount Programmed	TIP Funding Balance
Minuteman Bikeway Connection (Arlington)	\$1,618,984	\$570,000	\$1,048,984
Route 128 Add-a-lane (Needham & Wellesley)	\$132,000,000	\$117,000,000	\$15,000,000
Beacon Street (Somerville)	\$7,059,491	\$4,158,466	\$2,901,025
Route 129/Broadway (Lynn)	\$5,531,280	\$5,273,913	\$257,367
Liberty Street (Danvers)	\$8,614,247	\$7,128,052	\$1,486,195
Hancock & East/West Squantum Streets (Quincy)	\$4,064,942	\$3,371,722	\$693,220
South Bay Harbor Trail (Boston)	\$4,272,981	\$4,146,746	\$126,235
Total	\$163,161,925	\$141,648,899	\$21,513,026

In addition to needing to address project cost increases, the staff recommendation needed to address changes in project design schedules. Projects that are programmed for FFY 2013 that are unlikely to be made ready for advertisement by September 30,

2013, are Reconstruction & Widening on Route 18 (Main Street) in Weymouth and Abington and Minuteman Bikeway Connection in Arlington. There is also concern that Reconstruction of Beacon Street in Somerville may not be ready in FFY 2013, but this issue is not yet resolved.

CURRENT AND ONGOING COMMITMENTS

In developing the staff recommendation, staff also took into account current and ongoing commitments. The projects and programs that the MPO has supported in the Long-Range Transportation Plan (LRTP) and programmed in the TIP are listed in Table 4.

Table 4
Summary of Current and Ongoing Commitments

Projects	FFY 2016	FFY 2017	Remaining Balance
Clean Air and Mobility Program	\$3,000,000	\$3,000,000	\$3,000,000/year
Route 128 Add-a-lane (Needham & Wellesley)	\$24,500,000	\$19,500,000	\$0
Green Line Extension, Phase 2 (Somerville & Medford)	\$8,100,000	\$29,900,000	\$152,100,000
Total	\$35,600,000	\$52,400,000	

Once staff addressed project cost increases, schedule delays, and current and ongoing commitments, approximately \$23 million remained for new projects. To help determine which new projects to propose for TIP funding in the staff recommendation, staff created a First-Tier List of Projects.

FIRST-TIER LIST OF PROJECTS

Staff used the project evaluation results and information on readiness to create a First-Tier List of Projects. The First-Tier List comprises projects that evaluate well based on the scoring criteria and could be made ready for advertisement within FFYs 2014-17. The First-Tier List and staff recommendation work within the framework set by the LRTP. LRTP projects in the 2016-20 time band are included in the First-Tier List of Projects; however, projects in later LRTP time bands (not within the scope of this TIP) are not included. The First-Tier List and staff recommendation are also guided by policies and guidelines for programming set by the MPO. Table 5 presents the First-Tier List of Projects.

**Table 5
First-Tier List of Projects**

Proponent(s)	Project Name	Current Cost Estimate	Project Evaluation Rank	Design Status
Boston	Reconstruction of Causeway Street (Pedestrian & Bicycle Improvements)	\$12,075,000	92	25% Submitted
Natick	Reconstruction of Route 27 (North Main Street), from North Avenue to the Wayland Town Line	\$12,987,353	86	25% Submitted
Natick	Bridge Replacement, Route 27 (North Main St.) over Route 9 (Worcester St.) and Interchange Improvements	\$18,501,571	84	25% Submitted
Boston	Improvements at Audubon Circle	\$4,920,000	78	25% Submitted
Walpole (MassDOT)	Reconstruction on Route 1A (Main Street), from the Norwood Town Line to Route 27	\$11,500,000	76	25% Submitted
Woburn	Reconstruction of Montvale Avenue, from I-93 Interchange to Central Street	\$3,617,248	71	25% Submitted
Newton	Reconstruction & Signal Improvements on Walnut Street, from Homer Street to Route 9	\$6,000,000	70	25% Submitted
Saugus (MassDOT)	Interchange Reconstruction at Walnut Street & Route 1 (Phase II)	\$18,612,130	69	75% Approved
Lynn	Reconstruction on Route 129 (Lynnfield Street), from Great Woods Road to Wyoma Square	\$3,457,578	69	25% Approved
Southborough	Reconstruction of Main Street (Route 30), from Sears Road to Park Street	\$4,467,438	69	25% Submitted
Acton & Maynard	Assabet River Rail Trail	\$4,501,362	68	25% Submitted
Danvers	Reconstruction on Collins Street, from Sylvan Street to Centre & Holten Streets	\$6,229,213	68	75% Approved

STAFF RECOMMENDATION

The staff recommendation is presented in Table 7, which may be found at the end of this memorandum. In proposing new projects to receive TIP funding, MPO staff strongly considered the First-Tier List of Projects. MPO staff also factored in LRTP commitments to ensure their implementation, considered geographic equity to help ensure that the list

of projects addresses needs throughout the region, and accounted for cost to comply with fiscal constraint.

- **First-Tier List of Projects:** The First-Tier List is the primary source of projects for the recommendation. Projects that rate highly should be given priority in programming. Implementing them will do more to advance the MPO's visions and policies.
- **LRTP:** The First-Tier List and staff recommendation should work within the framework set by the Long-Range Transportation Plan. If a project rates well and is programmed in the 2016-20 time band of the LRTP, it has been included in the First-Tier List or staff recommendation. The Clean Air and Mobility Program funding also follows the LRTP parameters.
- **Readiness:** For the early elements of the TIP, greater consideration is given to projects in the First-Tier List that are at the 100% or 75% design stage. For the later years of the TIP, readiness is less important as a factor.
- **Geographic Equity:** The TIP should show geographic diversity across its total scope.
- **Cost:** The TIP must demonstrate fiscal constraint and can only program projects for which funds are available.

The staff recommendation proposes the following four new projects, all of which are from the First-Tier List. They are proposed for FFY 2017 of the TIP for a total amount of slightly under \$19.7 million.

- Boston – Improvements at Audubon Circle

The proposed project is consistent with the City of Boston's Complete Streets policy of promoting multimodal usage through the provision of pedestrian, bicycle, and transit accommodations. The project will substantially shorten crossing distances, adjust lane widths, and eliminate right-hand slip lanes. These and other design features will address safety problems and accommodate the mobility of the various travel modes that traverse the project area, including the 1,400 bicyclists and pedestrians that utilize the intersection during the AM and PM peak hours.

- Woburn – Reconstruction of Montvale Avenue

This project will widen Montvale Avenue to four lanes between the I-93 interchange and Central Street and provide turning lanes at Washington Street. Minor widening will enhance access to I-93 and I-95, improve bus operations for MBTA bus Routes 354 and 355, and allow for wider sidewalks and four-foot-wide shoulders for bicyclists. New traffic signals will be installed to address safety concerns at the Montvale Avenue and Albany Street intersection, #21 on MassDOT's Statewide Top 200 Intersection Crash List.

- Southborough – Reconstruction of Main Street (Route 30)

The purpose of this project is to reconstruct Main Street from Sears Road to Park Street in Southborough. The project will reduce congestion and improve safety

through realignment of the Main Street (Route 30) at Marlborough Street/Cordaville Road (Route 85) intersection, a new traffic signal system, and left-turn-only lanes. The project will also enhance pedestrian and bicyclist safety by constructing a continuous and fully accessible sidewalk along the southern side of the project and four-foot-wide shoulders throughout the corridor.

- Acton and Maynard – Assabet River Rail Trail

This new segment of the Assabet River Rail Trail will extend from the Stow/Maynard town line to the South Acton commuter rail station, a distance of 3.4 miles. The work will also include replacement of the existing bridges at Tobin Park in Maynard and Mill Pond in Acton and construction of a new boardwalk (approximately 200 feet long) in Acton. This project provides an alternative transportation option that links the Assabet River National Wildlife refuge with the downtown Maynard business district and the South Acton commuter rail station.

Project cost played a significant factor in selecting these new projects to propose for funding. Given the limited funding available for new projects, staff prioritized a greater number of lower-cost projects (less than \$5 million) than higher-cost projects. This approach addresses multiple objectives and also provides greater flexibility in responding to future cost increases or schedule changes.

The staff recommendation implements two LRTP commitments and addresses some concerns of geographic equity. Table 6, on the following page, shows the 11 projects and one program in the 2016-20 time band of the LRTP. As indicated in the table, these commitments will utilize nearly all of the available funding in the respective years of the TIP. The staff recommendation prioritizes the implementation of two more of these commitments by programming Montvale Avenue in Woburn and the Acton and Maynard portion of the Assabet River Rail Trail in FFY 2017.

In regard to geographic equity, the staff recommendation proposes projects in multiple subregions and community types. The newly proposed projects provide investments in four MAPC subregions: the Inner Core Committee, North Suburban Planning Council, MetroWest Regional Collaborative, and Minuteman Advisory Group on Interlocal Coordination. The recommendation also funds projects in Inner Core, Regional Urban Center, and Maturing Suburb community types. Figure 1 (on page 9) is a map of currently programmed and newly proposed TIP projects.

Table 6
Implementation of Long-Range Transportation Plan Commitments
by the Staff Recommendation

Projects	FFY 2016	FFY 2017	FFY 2018-20 Commitments
Middlesex Turnpike Improvements (Bedford, Billerica & Burlington)	\$20,147,443		
Reconstruction on Route 109 (Medway)	\$11,234,839		
Reconstruction & Widening on Route 18 (Weymouth)	\$7,906,151		
Route 128 Add-a-lane (Needham & Wellesley)	\$24,500,000	\$19,500,000	
Green Line Extension, Phase 2 (Somerville & Medford)	\$8,100,000	\$29,900,000	\$148,900,000
Assabet River Rail Trail (Hudson to Acton)		\$5,061,888	\$18,758,112
Reconstruction of Montvale Avenue (Woburn)		\$4,068,912	
Clean Air and Mobility	\$3,000,000	\$3,000,000	\$9,000,000
Reconstruction of Rutherford Avenue (Boston)			\$103,562,290
New Boston Street Bridge (Woburn)			\$9,992,000
Reconstruction of Bridge Street (Salem)			\$14,769,000
Total	\$74,888,433	\$61,530,800	\$304,981,402

The new projects recommended also help maintain the MPO's commitment to balancing investment across modes. Figure 2 (on page 10) compares FFYs 2008-13 to FFYs 2014-17 in terms of average annual TIP programming by project type. As shown in the figure, there continue to be high levels of investment in intersection, arterial, and highway projects, and there is increased funding for transit projects and bicycle and pedestrian projects.

SP/sp

FIGURE 1
Currently Programmed and
Newly Proposed TIP Projects

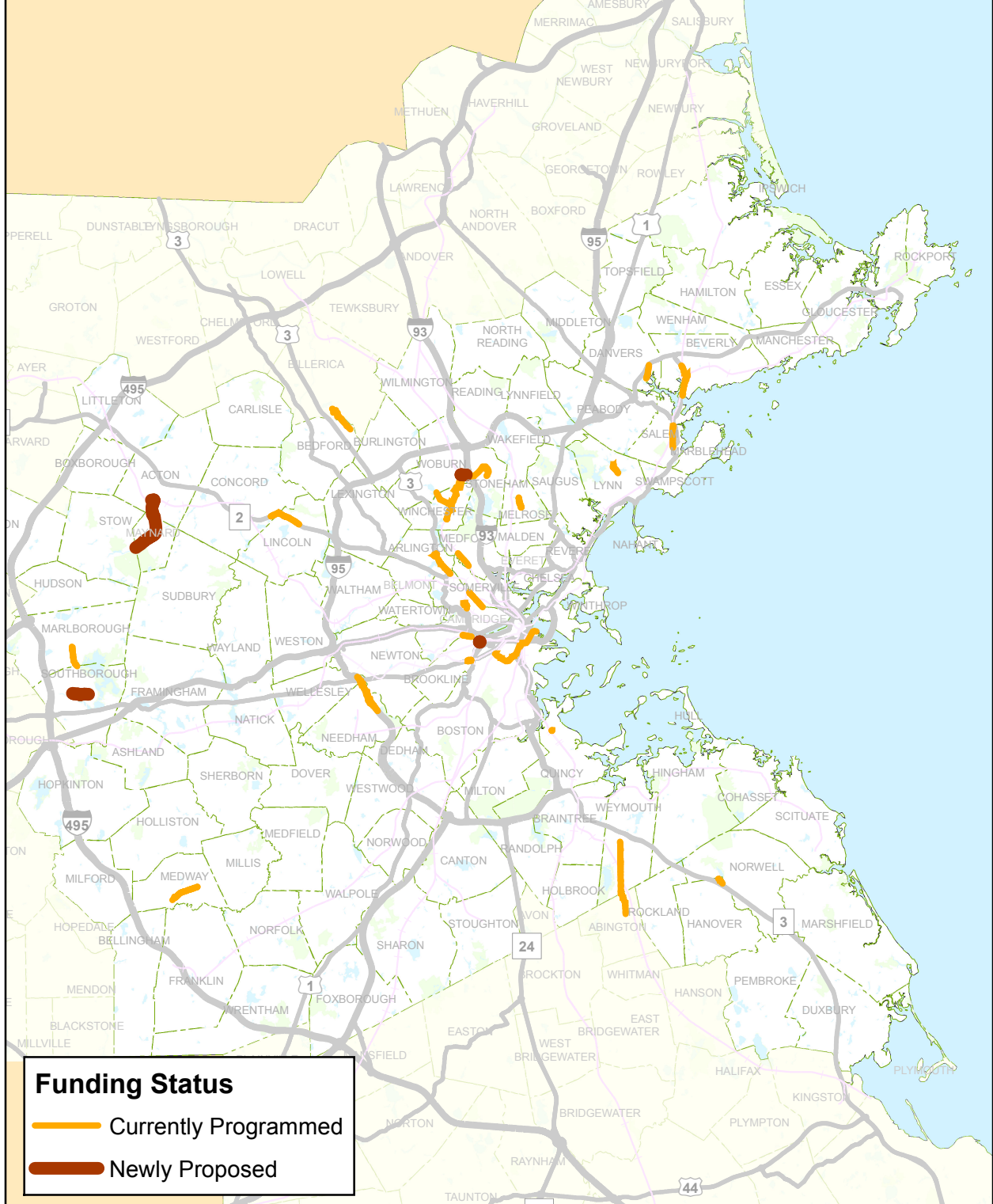


Figure 2
Average Annual TIP Programming by Project Type
FFYs 2008-13 vs. FFYs 2014-17

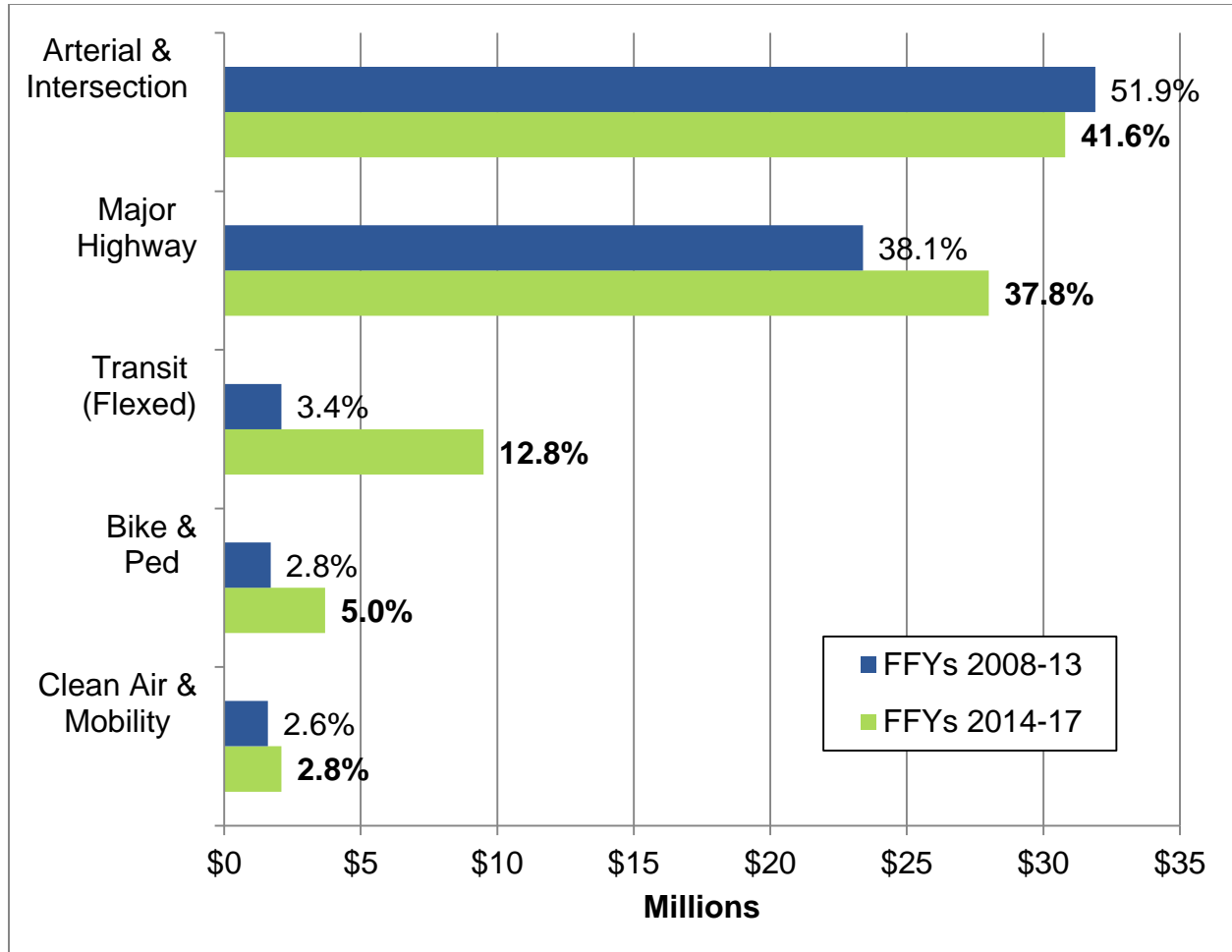


Table 7: Staff Recommendation for the Draft FFYs 2014-17 TIP

Proponent(s)	TIP ID	Project Name	Currently Programmed FFY 2013	Proposed FFY 2013	Currently Programmed FFY 2014	Proposed FFY 2014	Currently Programmed FFY 2015	Proposed FFY 2015	Currently Programmed FFY 2016	Proposed FFY 2016	Proposed FFY 2017	Prior Funding	Total Target Funds Proposed in FFYs 2014-17 TIP	Other Funds (Non-Target Funds)	Total TIP Funding	Potential Funding Program
Boston Region	456661	Clean Air and Mobility Program	\$823,010	\$253,010		\$1,618,984			\$3,000,000	\$3,000,000	\$3,000,000	\$253,010	\$7,618,984		\$7,871,994	CMAQ
Brookline		Brookline Bike Share, Year 2	\$95,732	\$95,732								\$95,732	\$0		\$95,732	CMAQ
Cambridge		Cambridge Bike Share, Year 3	\$157,278	\$157,278								\$157,278	\$0		\$157,278	CMAQ
Arlington	606885	Bikeway Connection at Intersection Route 3 & Route 60	\$570,000	\$0		\$1,618,984							\$1,618,984		\$1,618,984	CMAQ
Concord & Lincoln	602984	Limited Access Highway Improvements at Route 2 & 2A, Between Crosby's Corner & Bedford Road	\$17,071,840	\$17,071,840	\$5,399,747	\$5,399,747						\$17,071,840	\$5,399,747		\$22,471,587	HSIP
Needham & Wellesley	603711	Rehabilitation/Replacement of 6 Bridges on I-95/Route 128 (Add-a-Lane - Contract V)	\$26,000,000	\$28,167,058	\$30,000,000	\$30,000,000	\$30,000,000	\$30,000,000	\$23,500,000	\$24,500,000	\$19,500,000	\$30,167,058	\$104,000,000	\$17,000,000	\$151,167,058	
Arlington	604687	Reconstruction of Massachusetts Avenue, From Pond Lane to the Cambridge City Line	\$3,453,008	\$3,453,008								\$3,453,008	\$0	\$2,427,732	\$5,880,740	CMAQ, TE
Cambridge	605188	Common Improvements at Waterhouse Street, Mass Ave & Garden Street (Construction)	\$1,093,334	\$1,093,334								\$1,093,334	\$0	\$1,671,540	\$2,764,874	TE
Weymouth, Abington	601630	Reconstruction & Widening on Route 18 (Main Street) From Highland Place to Route 139*	\$3,340,620	\$0	\$8,821,534	\$5,582,701	\$11,406,086	\$10,079,388		\$7,906,151			\$23,568,240	\$14,771,760	\$38,340,000	HSIP
Somerville	607209	Reconstruction of Beacon Street, From Oxford Street to Cambridge City Line	\$1,571,252	\$1,571,252								\$1,571,252	\$0	\$2,587,214	\$4,158,466	CMAQ
Lynn	602094	Reconstruction of Route 129 (Broadway), From Lynnfield Street to Chestnut Street	\$5,273,913	\$5,531,280								\$5,531,280	\$0		\$5,531,280	CMAQ
Danvers	601825	Reconstruction of Liberty Street, From Route 128 to Water/High Street Intersection	\$7,128,052	\$8,614,247								\$8,614,247	\$0		\$8,614,247	
Regionwide		Intersection Improvement Program			\$350,000	\$350,000		\$400,000					\$750,000		\$750,000	CMAQ
Melrose	601553	Intersection & Signal Improvement to Lebanon Street, From Lynde Street to Main Street			\$3,799,858	\$3,799,858						\$0	\$3,799,858	\$629,930	\$4,429,788	CMAQ
Quincy	605729	Intersection & Signal Improvements at Hancock Street & East/West Squantum Streets			\$3,371,722	\$4,064,942							\$4,064,942		\$4,064,942	CMAQ
Boston	604761	Multi-use Trail Construction (South Bay Harbor) From Ruggles Station to Fort Point Channel			\$4,146,746	\$4,272,981							\$4,272,981		\$4,272,981	CMAQ, TAP
Salem	605146	Reconstruction on Canal Street, From Washington Street & Mill Street to Loring Avenue & Jefferson Avenue			\$6,301,569	\$6,301,569							\$6,301,569		\$6,301,569	CMAQ (\$2,000,000)
Beverly	600220	Reconstruction & Signal Improvements on Rantoul Street (Route 1A) From Cabot Street (South) to Cabot Street (North)			\$15,748,818	\$15,748,818							\$15,748,818		\$15,748,818	CMAQ (\$12,000,000)
Hanover	602602	Reconstruction of Washington Street (Route 53) and Related Work From the Route 3 Northbound Ramp to Webster Street (Route 123)			\$1,144,000	\$1,144,000							\$1,144,000		\$1,144,000	
Boston	606284	Improvements to Commonwealth Avenue, From Amory Street to Alcorn Street					\$12,446,852	\$12,446,852					\$12,446,852	\$4,419,398	\$16,866,250	CMAQ (\$5,000,000)
Winchester, Stoneham, Woburn	604652	Tri-Community Bikeway					\$5,429,110	\$5,429,110					\$5,429,110		\$5,429,110	CMAQ, TAP
Brookline	605110	Intersection & Signal Improvements at Route 9 & Village Square (Gateway East)						\$4,375,971	\$4,591,009				\$4,375,971	\$1,000,000	\$5,375,971	CMAQ
Bedford, Billerica, Burlington	29492	Middlesex Turnpike Improvements, From Crosby Drive North to Manning Road, Phase III							\$20,147,443	\$20,147,443			\$20,147,443	\$1,000,000	\$21,147,443	
Medway	605657	Reconstruction on Route 109, From Holliston Street to 100 Feet West of Highland Street							\$11,234,839	\$11,234,839			\$11,234,839		\$11,234,839	CMAQ (\$5,000,000)
Marlborough	604810	Reconstruction of Route 85 (Maple Street)						\$5,190,122	\$5,397,727				\$5,190,122		\$5,190,122	CMAQ (\$2,000,000)
Somerville, Medford		Green Line Extension Project (Phase 2), College Avenue to Mystic Valley Parkway/Route 16							\$8,100,000	\$8,100,000	\$29,900,000		\$38,000,000		\$38,000,000	CMAQ
Southborough	604989	Reconstruction of Main Street (Route 30), from Sears Road to Park Street									\$5,025,260		\$5,025,260		\$5,025,260	CMAQ
Woburn	604935	Reconstruction of Montvale Avenue, from I-93 Interchange to Central Street									\$4,068,912		\$4,068,912		\$4,068,912	HSIP
Acton & Maynard	604531	Assabet River Rail Trail									\$5,063,420		\$5,063,420		\$5,063,420	CMAQ, TAP
Boston	606460	Improvements at Audubon Circle									\$5,534,331		\$5,534,331		\$5,534,331	CMAQ, HSIP

Total Currently Programmed Regional Highway Target Funds:	\$65,755,029		\$79,083,994		\$59,282,047		\$75,971,019									
DRAFT Total Available Regional Highway Target Funds:	\$65,755,029	\$65,755,029	\$79,091,696	\$78,961,899	\$59,316,086	\$67,921,442	\$76,083,999	\$74,950,144	\$74,950,144				\$296,783,629			
Total Staff Recommendation Programmed Regional Highway Target Funds:		\$65,755,029		\$78,283,600		\$67,921,442		\$74,888,433	\$72,091,923				\$293,185,399			
Regional Highway Target Funds Available:	\$0	\$0	\$7,702	\$678,299	\$34,039	\$0		\$61,711	\$2,858,221				\$3,598,230			
CMAQ Target:	\$8,593,421	\$8,593,421	\$8,593,421	\$20,409,374	\$8,593,421	\$16,112,664	\$8,593,421	\$16,112,664	\$16,112,664				\$68,747,366			
Estimated CMAQ Proposed:	\$9,075,263	\$8,762,630	\$25,668,326	\$24,306,907	\$10,429,110	\$17,205,080	\$22,691,009	\$16,100,000	\$26,112,664				\$83,724,651			
HSIP Target:	\$4,296,710	\$4,296,710	\$4,296,710	\$5,907,977	\$4,296,710	\$4,774,123	\$4,296,710	\$4,774,123	\$4,774,123				\$20,230,346			
Estimated HSIP Proposed:	\$5,296,710	\$5,296,710	\$4,296,710	\$5,907,977	\$0	\$4,774,123	\$0	\$4,774,123	\$4,068,912				\$19,525,135			

*Assumes project cash flows, including earmark amounts are \$12,340,000 in FFY 2014, \$13,000,000 in FFY 2015, and \$13,000,000 in FFY 2016.
 Figures in red indicate a project cost increase or schedule change. Figures in purple indicate current or ongoing commitments and newly proposed projects.