

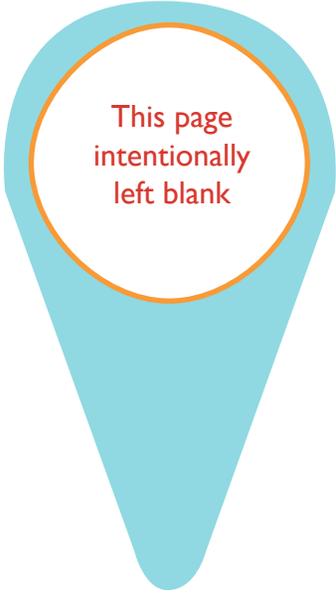
appendix

B

Relevant MPO Studies and Reports

The Metropolitan Planning Organization (MPO) staff, also known as the Central Transportation Planning Staff, undertakes several studies each year that explore regionwide transportation issues. These issues are described in full in the MPO's Unified Planning Work Program. The studies described in this appendix relate to one or more MPO goal areas: Safety, Capacity Management/Mobility, System Preservation, Clean Air/Sustainable Communities, Economic Vitality, and Transportation Equity. The studies help the MPO improve its approach to transportation issues that are of regional import, achieve the objectives of the MPO's goal areas, and help the MPO to better comply with federal guidance. Some of the studies are undertaken by the MPO's member agency, the Metropolitan Area Planning Council. Relevant reports that have been completed as part of the MPO's ongoing programs are also described in this appendix.

Table B-1 lists relevant studies and reports including the year it was completed, the source, and the related goal areas.



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Table B-1

MPO Studies, Reports, and Technical Assistance Programs Related to MPO Goal Areas

Study Title	Publication Year	Source	Description	Safety	System Preservation	Capacity Management and Mobility	Clean Air/Clean Communities	Transportation Equity	Economic Vitality
Equitable Transit-Oriented Development	Ongoing	MAPC	Provides assistance to municipalities to use financing tools, zoning, and TOD plans to construct affordable residential and commercial developments in places accessible by public transit.					X	X
Corridor/Sub-Area Multimodal Transportation Planning	Ongoing	MAPC	Provides assistance to selected subregions or on roadway corridors to coordinate multimodal transportation planning and transit service operations to be implemented by MassDOT, MBTA, RTAs, TMAs, DCR, and/or municipalities with local land use planning to achieve livability and smart growth goals.			X			X
Local Parking Management Plans in Selected Communities	Ongoing	MAPC	Provides assistance to selected municipalities to develop local parking management plans, with the goals of improving parking availability, stimulating local economic prosperity, reducing congestion caused by circling vehicles, helping municipalities plan for greater density by decreasing parking requirements, and encouraging mode shift away from SOV trips.			X			X
MPO GHG calculations (performed for all projects evaluated for funding consideration)	Ongoing	CTPS	Evaluates all projects that are submitted for potential funding in the LRTP and TIP for air quality emissions (VOC, CO, NO _x , PM, and GHG).				X		
Addressing Safety, Mobility, and Access on Subregional Priority Roadway studies	Multiple years	CTPS	Analyzes and recommends safety and mobility improvements for arterial corridors throughout the MPO region each year. Staff selects locations based in part on crash incidence within the corridor.	X	X	X			
Priority Corridors for LRTP Needs Assessment studies	Multiple years	CTPS	Analyzes and recommends safety and mobility improvements each year for corridors identified as top priorities in LRTP Needs Assessments. Staff selects locations based in part on crash incidence within the corridor.	X	X	X			
Low-Cost Improvements at Select Highway Bottleneck Locations studies	Multiple years	CTPS	Identifies low-cost improvements each year that will help reduce congestion at freeway bottleneck locations in the Boston region. These studies also include safety-oriented recommendations.	X		X			
Community Transportation Technical Assistance studies	Multiple years	MAPC and CTPS	Provides municipalities with technical advice on local transportation concerns, including safety, traffic operations, and other issues.	X	X	X			
Road Safety Audits	Multiple years	CTPS	Provides formal safety reviews, performed by MassDOT, for existing and planned roadways and intersections each year in order to identify issues and opportunities for improvements. MPO staff regularly participates in these reviews for locations in the Boston region.						
Safety and Operations Analyses at Selected Intersections studies	Multiple years	CTPS	Analyzes locations within the Boston region each year that have a history of numerous crashes and extensive congestion during peak travel periods. It includes conceptual designs and recommendations for safety improvements and congestion management strategies.	X	X	X			
Bicycle Level-of-Service Metric	2018 (current)	CTPS	Will formulate a plan for developing and applying bicycle LOS metrics. These metrics may consist of information collected from various sources, including intersection surveys and bicyclist counts. These data could help transportation planners and government officials make decisions about bicycle infrastructure, including prioritization of projects and allocation of funding.			X			
Boston MPO's current LRTP, <i>Charting Progress to 2040</i> and conformity determinations	2015 (amendment in 2018)	CTPS	Describes GHG emissions, other air quality emissions associated with the LRTP.				X		

Study Title	Publication Year	Source	Description	Safety	System Preservation	Capacity Management and Mobility	Clean Air/Clean Communities	Transportation Equity	Economic Vitality
Livable Community Workshops	(multiple years; in 2015 these were folded into Community Transportation Technical Assistance)	MAPC and CTPS	Facilitated municipal-level workshops to discuss opportunities to incorporate livability considerations into planning and design activities. Bicycle and pedestrian travel, including related safety issues, have been discussed at these workshops.	X		X	X		
Fare Choices: A Survey of Ride-hailing Passengers in Greater Boston	2018	MAPC	Analyzes the results of in-vehicle surveys taken by ride-hailing passengers in the Boston region.			X			
Share of Choices: Further Evidence of the Ride-hailing effect in Metro Boston and Massachusetts	2018	MAPC	Analyzes the extent of mode shift, congestion, and fiscal impact caused by the presence of ride-hailing operators in the Boston region, building on the work of the study <i>Fare Choices</i> .			X			
Connected and Autonomous Vehicles and the Boston MPO—A First Look	2018	CTPS	Examines the phenomenon of CVs and AVs, reviews current developments in CV and AV technology, and discusses the range of benefits and impacts that could result once implemented. It recommends actions that the MPO can take in order to incorporate and understand CV and AV technology.	X		X			
Review of and Guide to Implementing Transit Signal Priority in the MPO Region	2018	CTPS	Develops a guidebook for use in planning and evaluating potential transit signal priority treatments in the Boston region. This guidebook is an analysis tool that the MPO staff can use to assist municipalities and transit operators that are considering implementing such treatments.			X			
Bicycle Network Gaps: Feasibility Evaluation	2018	CTPS	Builds from the work of the 2014 <i>Bicycle Network Evaluation</i> study, which identified gaps in bicycle facility networks and gaps in connectivity between bicycle facilities and regional transit stations in the Boston region. The 2018 study is presented in three memoranda, each memoranda providing recommendations for closing three of the highest priority gaps identified in the 2014 study.		X	X			
Development of a Scoring System for Bicycle Travel in the Boston Region	2018	CTPS	Develops a performance monitoring tool for bicycle routes, which includes measures for identifying safety deficiencies.	X					
Promising Greenhouse Gas Reduction Strategies for the Boston Region	2018	CTPS	Follows up on the recommendations of <i>GHG Reduction Strategy Alternatives: Cost-Effectiveness Analysis</i> and identifies cost-effective strategies employed by other agencies and MPOs, and suggests steps to reduce GHG emissions in the region.				X		
Trucks in the South Boston Waterfront	2017	CTPS	Focuses on truck and heavy vehicles in the South Boston Waterfront regarding congestion, growth trends, and truck volumes.			X	X		X
Weight and Height Restrictions that Impact Truck Travel	2017	CTPS	Reviews regulations that govern road use by large vehicles and maps locations with restrictions.		X				X
Identifying Opportunities to Alleviate Bus Delay	2017	CTPS	Investigates factors that lead to increased dwell time at bus stops by estimating the amount of time contributed by each fare payment type and by the boardings and on-board presence of baby carriages, wheeled mobility devices, and portable shopping carts. It also assesses the potential of various operational and scheduling improvements.						
Exploring the 2011 Massachusetts Travel Survey: Barriers and Opportunities Influencing Mode Shift	2017	CTPS	Quantifies characteristics of transit-competitive travel submarkets, which serve as a basis for specific strategies to increase transit mode share.			X			

Study Title	Publication Year	Source	Description	Safety	System Preservation	Capacity Management and Mobility	Clean Air/Clean Communities	Transportation Equity	Economic Vitality
Shared-Use Mobility Options: Literature Review	2017	CTPS	Provides an overview of shared-use mobility services, which involve sharing vehicles, bicycles, or other transportation modes that give users short-term access to transportation on an as-needed basis. It defines various types of shared-use mobility services and describes companies and service providers that operate in the Boston region.			X			
Fairmount Line Station Access Analysis	2017	CTPS	Reviews bicycle and pedestrian conditions in the vicinity of existing or planned Fairmount Line stations in Boston, and recommends improvements to enhance the safety and comfort of bicyclists and pedestrians seeking to connect to these stations.	X					
Spatial Distribution of Crashes in EJ and Non-EJ Communities in the Boston Region MPO	2017	CTPS	Explores the frequency and severity of crashes in EJ communities compared with non-EJ communities in the Boston region, using crash data from 2010–14. The analysis examines variations in crash incidence, severity, involved modes, and exposure metrics.	X				X	
Boston Region MPO 2017 Triennial Title VI Report	2017	CTPS	Documents the MPO's compliance with FTA and FHWA Title VI, EJ, and other federal nondiscrimination regulations.					X	
System-wide Title VI/Environmental Justice Assessment of TIP Projects	2017	CTPS	Develops an initial methodology for conducting an equity analysis of the distribution of target-funded projects in the TIP.					X	
Improving Truck Travel in the Everett-Chelsea Industrial Area	2016	CTPS	Analyzes volumes and truck routes in the area and makes recommendations to modify the road network to improve access to industrial areas and reduce impacts to non-industrial areas.						X
Rest Locations for Long Distance Drivers in Massachusetts	2016	CTPS	Presents existing conditions and suggests strategies and opportunities to expand and improve truck parking locations in Massachusetts.		X				X
Core Capacity Constraints	2016	CTPS	Examines the capacity of road and transit facilities in the MPO's core area. It relates these capacities to current and projected levels of traffic and ridership and determines the location and severity of congestion and crowding in the core area.			X			
Greenhouse Gas Reduction Strategy Alternatives: Cost Effectiveness Analysis	2016	CTPS	Provides information about various strategies that support reduction of GHG emissions to help the MPO identify investments that are most cost-effective for reducing GHGs.				X		
Comprehensive Economic Development Strategy	2015	MAPC	Outlines goals for the region, identifies barriers to economic development, calls out the needs for transportation systems that are adequately financed, and seeks to build on existing strengths in looking toward the future. It incorporates and elaborates on themes of MAPC's <i>MetroFuture</i> .						X
Pedestrian Signal Phasing Study	2015	CTPS	Provides information designed to help municipal engineers and planners to select an appropriate pedestrian signal phase type and enhancements for intersections, which can help increase pedestrian and motorist safety.	X					
Boston MPO's current LRTP, <i>Charting Progress to 2040 Needs Assessment</i>	2015	CTPS	Includes information on environmental, safety, system preservation, mobility, economic, and transportation equity needs in the region.	X	X	X	X	X	X
Central Artery/Tunnel Vulnerability and Adaptation Assessment	2015	MassDOT, University of Massachusetts-Boston, University of New Hampshire, Woods Hole Group Inc.	Assesses the Central Artery and Tunnel System's vulnerability to climate change. It was completed in 2015 and created the Boston Harbor Flood Risk Model. This model is being expanded to cover the full Massachusetts coast and will be renamed the Massachusetts Coastal Flood Risk model.		X				
Freight Planning Action Plan	2013	CTPS	Identifies freight study efforts in the Boston region.			X			X

Study Title	Publication Year	Source	Description	Safety	System Preservation	Capacity Management and Mobility	Clean Air/Clean Communities	Transportation Equity	Economic Vitality
Massachusetts Regional Bus Study	2013	CTPS	Analyzes changes that have taken place in regional bus services in Massachusetts since 1980; identifies the reasons for the changes; examines how regional services relate to local services; identifies issues that have prevented the retention or expansion of services; and suggests measures to better meet the needs of underserved markets, foster system growth, and promote improved mobility options in the state.			X			
Safe Access to Transit for Pedestrians and Bicyclists	2012	CTPS	Examines issues related to non-motorized accessibility to transit stations and identifies low-cost, quick-implementation measures to improve pedestrian and bicyclist access to the MBTA system.	X	X	X			
Screening Regional Express Highways for Possible Preferential Lane Implementation	2012	CTPS	Evaluates all express highways in eastern Massachusetts to identify additional locations where an HOV facility would relieve congestion for general traffic while offering a premium LOS to users of the HOV lane.			X			
Roundabout Screening Tool	2012	CTPS	Develops a screening tool for state and municipal agencies to use when evaluating the benefits and implications of roundabout proposals. Safety factors are included in the screening tool.	X		X			
Statewide Economic Impact Evaluation Study	2018	MassDOT	Reviews technical resources to establish economic scoring criteria for transportation projects, which included a rigorous stakeholder engagement process.						X
Health Impact Assessment: Speed Limit Bill	2012	MAPC and CTPS	Analyzes the potential impacts of a bill proposing to lower default local speed limits from 30 to 25 miles per hour. This analysis, which used information from the CTPS travel demand model, examines changes in collisions, injuries, and fatalities; fuel burned; time spent in traffic, and health effects from air pollution.	X					
Carbon Dioxide, Climate Change, and the Boston Region MPO: 2012 Update	2012	CTPS	Updates the 2008 MPO report, <i>Carbon Dioxide, Climate Change, and the Boston Region MPO</i> , with new observed changes in climate, new policies and legislation, and recent MPO activities to address climate change.				X		
Carbon Dioxide, Climate Change, and the Boston Region MPO: A Discussion Paper	2008	CTPS	Provides an overview of climate change and its local impacts; a summary of the MPO's plans and programs that help reduce GHG emissions; and next steps to further reduce climate change impacts through MPO initiatives.				X		

Note: Under the Publication Year column, "ongoing" refers to studies that are currently being undertaken as of this writing. "Multiple years" refers to studies that are funded on a recurring basis through the UPWP and often have a technical assistance focus
 AV= autonomous vehicles. CO = Carbon Monoxide. CO₂ = Carbon Dioxide. CTPS = Central Transportation Planning Staff. CV = connected vehicles. DCR = Department of Conservation and Recreation. EJ = environmental justice. FHWA = Federal Highway Administration. FTA = Federal Transit Administration. GHG = greenhouse gas. LOS = level of service. LRTP = Long-Range Transportation Plan. HOV = high-occupancy vehicle. MAPC = Metropolitan Area Planning Council. MassDOT = Massachusetts Department of Transportation. MBTA = Massachusetts Bay Transportation Authority. MPO = metropolitan planning organization. NOx = Nitrogen Oxides. PM = particulate matter. RTA = Regional Transit Authority. SOV = single-occupancy vehicle. TIP = Transportation Improvement Program. TMA = Transportation Management Association. TOD = transit oriented development. VOC = volatile organic compounds.
 Source: Boston Region MPO.