

FFY 2024 UPWP Universe of Proposed Studies

Study Information

ID	Project Name	Project Purpose and Outcome	Estimated Budget	Source	Staff Comments
ACTIVE TRANSPORTATION					
A-1	Parking in Bike Lane: Strategies for Safety and Prevention	<p>Purpose: The purpose of this study is to address the issue of vehicles parked in bike lanes in the Boston region. This poses a safety hazard for cyclists and pedestrians and creates a need for them to switch lanes. The study aims to research successful strategies and practices employed in other cities and municipalities to address the problem and recommend strategies that can be implemented in the Boston region.</p> <p>Approach/Methodology: The study will begin with a comprehensive research phase that will analyze the approaches adopted by other cities (such as a New York proposal to pay people who report cars parked in bike lanes) in addressing the issue of vehicles parked in bike lanes. The research will include a review of existing policies and programs, as well as interviews with peers to better understand their approach and challenges. In addition, the study will engage with municipalities in the Boston region to understand existing policies, gather data on the problem in the region through data collection and surveys, and identify municipalities most interested in piloting the recommended approaches. The study will work with the selected municipalities to develop potential concepts and pilot the most promising one, ensuring the program is tailored to the needs of the region.</p> <p>Anticipated Outcome: The anticipated outcome of the study is a report that summarizes the research findings, including successful strategies employed by other cities to address the issue of parked vehicles in bike lanes, and recommendations for potential approaches that can be piloted in the Boston region. The report will also include details on the piloted program and its feasibility and effectiveness, along with recommendations for scaling the program beyond the pilot phase.</p>		Ilana Strauss, Staff Survey	
A-2		Separated bike/pedestrian paths are starting to come together on the north side of Boston, between the Minuteman Bikeway to the Northern Strand Trail. It would be great to see a comprehensive plan that identifies what is needed to provide safe non-motorized travel throughout as much of this region as possible, including connections with public transit stations and blue bikes.		Julie Wormser (Mystic River Watershed Association), Public Survey	

18 Total study concepts

L RTP Goal Area Acronyms:

S = Safety SP/M = System Preservation and Modernization CM/M = Capacity Management and Mobility TE = Transportation Equity CA/SC = Clean Air/Sustainable Communities EV = Economic Vitality

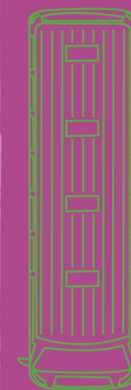
Abbreviations:

AADT = annual average daily traffic. BIL = Bipartisan Infrastructure Law. CBD = central business district. CMP = Congestion Management Process. CPT-HST = Coordinated Public Transit--Human Services Transportation. CTPS = Central Transportation Planning Staff. DMU = diesel multiple unit. EJ = Environmental Justice. EMU = electric multiple unit. ESG = Environmental, Social, and Governance. EV = Electric Vehicles. FHWA = Federal Highway Administration. FFY = federal fiscal year. TFA = Federal Transit Authority. GHG = Greenhouse Gas. GIS = Geographic Information System. HEV = high-emitting vehicles. ITI = Institute of Transportation Engineers. LRTP = Long-Range Transportation Plan. MAPC = Metropolitan Area Planning Council. MassDOT = Massachusetts Department of Transportation. MassGIS = Massachusetts Bureau of Geographic Information. MBTA = Massachusetts Bay Transportation Authority. MEPA = Massachusetts Environmental Policy Act. MPO = Metropolitan Planning Organization. NEPA = National Environmental Policy Act. NIMBY = Not In My Back Yard. NYC DOT = New York City Department of Transportation. PEV = Pedestrian Environmental Variable. PRCA = Pedestrian Report Card Assessment. ROW = right-of-way. RTA = regional transit authority. SOV = single occupancy vehicle. TAZ = transportation analysis zone. TDM = transportation demand management. TIP = Transportation Improvement Program. TMA = transportation management association. TOD = transit-oriented development. UPWP = Unified Planning Work Program.

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A-3		<p>Pedestrian Safety: Inventory, survey, and assess Inner Core and Suburban roadway and street Intersection and mid-block crosswalks for existing conditions and identify pedestrian safety deficiencies/ threats needing remedial actions and/or facilities.</p> <p>Locations of pedestrian crossings (i.e., formal and informal “desire lines”) are frequent sites of pedestrian-vehicle conflicts, crashes, and injuries/fatalities. Such problem areas persist, despite attention given to pavement markings, traffic control lights, and other measures. Sometimes the situation is an uneven implementation of Complete Street design guidance; sometimes it is due to lack of context-sensitive common sense; other times vehicle speed or curb enforcement is not applied. Other times, pedestrians themselves act irresponsibly, are distracted from awareness of surroundings.</p> <p>A too-frequent problem occurs in (often retail) areas with dense curbside parking available to mixed sizes and types of vehicles. The common situation is with a crosswalk (even a marked one) which permits vehicle parking too close to a pedestrian’s entry point to the crosswalk. In these cases, the view of the pedestrian to oncoming/“upstream” traffic is severely diminished or totally obstructed until the pedestrian is already walking perhaps 10’ into the crosswalk...often too late for a driver to adjust. This situation is a pedestrian threat with any vehicle parked too close to the crosswalk, but is especially dangerous when a vehicle is large, such as SUVs, ‘soccer mom vans’, delivery vans/vehicles, trucks. Consistent and enforced remedy is needed in all such (municipal) crosswalk locations. To avoid unsafe perpetuation from debate or confusion, a suggestion is there should be a universal ban on any vehicle parking within 15’ upstream from a crosswalk, mid-block, or intersection. To rely on each of the Commonwealth’s 351 municipalities to adhere to implementing such a policy almost falls into the realm of fantasy. Once the type and degree of the problem situations are identified by CTPS, ultimately, this pedestrian safety measure would best come in the form of a statewide law from the Statehouse.</p>		John McQueen, Email	
LAND USE, ENVIRONMENT, AND ECONOMY					
L-1	Opportunities for the MPO to Support TOD	<p>This study will analyze and identify ways for the MPO to support TOD in the Boston region, through policy and/or investment. The FFY 2022 TDM study surfaced the idea of the MPO helping the Commonwealth enforce the MBTA Communities TOD zoning through TIP criteria revisions or similar policy options. This study would engage MPO members, policy experts, and others about the feasibility of this and other ways for the MPO to support TOD throughout the region.</p> <p>This would be primarily a policy study, with intensive engagement work among the MPO board, planning professionals, and other policy specialists. There may be some public engagement work as well. The study would likely involve interviews and focus groups and culminate in a series of MPO Board discussions. A report and discussions at the MPO Board.</p>	\$40,000-\$60,000	Staff Survey	



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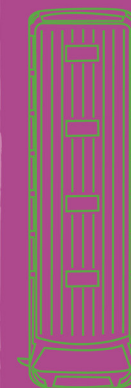
Study Information (cont.)

ID	Project Name	Project Purpose and Outcome	Estimated Budget	Source	Staff Comments
ROADWAY AND MULTIMODAL MOBILITY					
M-1	Lab and Municipal Parking Phase II	<p>This year's UPWP includes a discrete study that focuses on Lab and Municipal Parking. The objective of this work is to expand upon MAPC's Perfect Fit Parking study, which focused on residential parking, to develop a methodology to study supply of and demand for parking at lab and life science facilities. The methodology will be defined during Phase I of this study. On-site data collection for a number of sites will be required. Phase II of the study would employ this methodology to study parking supply and utilization at lab and life science facilities across the region.</p> <p>A data set of parking supply and utilization at lab and life science facilities; recommendations for municipal planners regarding provision of parking at these facilities.</p>	\$60,000-\$80,000	Staff Survey	
M-2	Exploring Roadway Pricing: Engagement with Local Stakeholders	<p>Context of the underlying problem</p> <p>While many roadway-pricing projects have been successful in reducing congestion, fund transportation projects, and address air quality, others have not been implemented for a variety of reasons. Concerns such as impacts on transportation equity populations, suburban and rural drivers, and business activities have been raised for some projects. Ongoing, substantive, and sincere public engagement and education efforts have meaningfully influenced roadway-pricing program design. Although roadway pricing has been implemented in many cities in the United States, studies have found that the public and many policymakers still have difficulty understanding the purpose and benefits of on the concept. However, once projects open there are few complaints and positive feedback.</p> <p>Potential solutions to explore</p> <ul style="list-style-type: none"> • MPO staff will identify key stakeholders in Massachusetts to communicate and build consensus on the benefits from roadway pricing. • The engagements efforts will include advocates or interest groups, business chambers of commerce, municipal officials, planners, and the public. • MPO staff will survey, host forums, and develop brochures on several topics such as pricing styles, benefits, transportation equity, business activities, air quality etc. <p>Anticipated outcomes</p> <p>Staff will prepare a memorandum documenting the communications and engagement efforts. The findings will provide the MPO valuable public feedback on how to implement a future roadway-pricing scheme.</p>		Seth Asante, Staff Survey	

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TRANSIT					
T-1	Effective ways to reduce school-related vehicle trips	<p>Over the last several decades, there has been a noticeable shift from parents allowing children to commute to school independently. Modes such as walking, biking, and taking the bus to school have been used less frequently, compared to dropping their children off at school. The effects of this shift have resulted in an increase of SOV travel; an increase in vehicle emissions; an increase of stress on commuting parents; potentially a decline in personal health (both parents and children spend more time sitting in a vehicle instead of walking and biking).</p> <p>The purpose of this project is to analyze ways to reverse the trend of parents driving their children to school. This a travel demand management study that has solutions, which will be analyzed in this study. These solutions could include:</p> <p>Bringing back robust school bus systems (Large school bus systems were common in many communities in the 1970s and 1980s and have since been decimated due to budget cuts and negative stigmas); the encouragement of biking and walking to school by conducting outreach, and improving infrastructure such as bike trails, sidewalks, and bike racks located near schools; the implementation of congestion pricing strategies, such as charging a curb access fee for dropping off children at or near school, in order to encourage parents to consider alternative means of transportation to commute their kids to school.</p> <p>This study would look at several funding mechanisms such as taxes, sponsorships or congestion pricing to provide funding for the solutions listed above. This study will analyze different strategies that will look at ways to alleviate congestion near schools. First, a literature review will be written to show studies that have previously been completed on this topic. Then, a brief analysis would be conducted to see what strategies best fit the Boston region. A memorandum will be written that would summarize each of the final strategies. The memorandum can then be presented to specific communities that have congested roadway locations near schools.</p>	\$60,000-\$80,000	Staff Survey	
T-2	Review and Analysis of Community Connections Shuttles	<p>This study would consist of a review of shuttle services funded through the MPO Community Connections program to gain a better understanding of the various successes and challenges of the MPO's shuttle programs. Further, the study could pull data from all available shuttles to break down cost per rider, usage rates, GHG reductions, and other interesting/useful data points. The study is intended for MPO members and municipalities to enable decision-making regarding the long-term viability of the Community Connections shuttle program.</p> <p>Literature review and data analysis of current and past funded shuttle programs by the MPO; types of services offered; technology used by service; mapping of current shuttle service areas; data analysis of ridership, air quality, and equity impacts of the services; financial analysis of shuttle services; implementation, startup, and funding of shuttle services; long-term funding and successes; current needs and issues; interviews with current shuttle operators.</p> <p>This study would be used to evaluate the current success of funding shuttle services through the Community Connections program and could enable further discussion on the future viability of the program and whether the program is good in terms of cost/benefit.</p>	\$40,000-\$60,000	Staff Survey	



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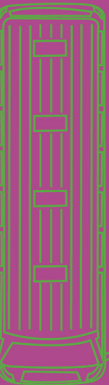
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T-3	Toward Regional Transit Fare and Service Integration	<p>This study would be an extension of the current MBTA Mobility Integrations study. Other regions have found success unifying multiple transit operators under a single fare schedule and enhancing interagency coordination on service, scheduling, and infrastructure. Such integrations make transit more user-friendly by simplifying payment and provide a more cohesive transit network that encourages connections across a greater geographic area. These integrations may also make the transit system more equitable by enhancing service options for workers in transit-critical communities, who often have longer commutes that cross geographic, agency, and modal boundaries. This study would seek to determine best practices for initiating and implementing these integrations, and potentially identify specific considerations, concerns, and opportunities relevant to Greater Boston.</p> <p>This study would primarily involve identifying and researching regions where these kinds of intermodal and interagency integrations have been successful. This would include researching policy documentation, studying which integrations were implemented and how, and identifying challenges or missteps to avoid if such integrations are to take place in Greater Boston. If time and budget allow, this could also involve interviewing individuals from these regions/agencies (similar to the Mobility Integrations interviews). Current fare policies and service integrations among Greater Boston RTAs would also be examined. Interviews might also be applicable to this portion of the project to identify potential venues for this collaboration to take place and any specific concerns that agencies may have.</p>	\$40,000-\$60,000	Staff Survey	
T-4		<p>In our Boston Metro region (and our state), we do not have an overarching comprehensive transportation plan that notes where we believe there should be fixed route service, where there should be demand services, where there should be point-to-point services, and who should run these. The result is an array of disparate services that are urged to regionalize themselves and collaborate themselves, though often times so many separate town borders and agency differences makes this challenging. In addition, this plethora of diverse transportation options, actually still leaves us with many gaps and inefficiencies. We should map out the MOST IDEAL transportation network, including its frequencies and also map out the MOST IDEAL plan for how we deal with the inevitable gaps in the network. This work should also lead to a better CPT-HST plan and enhance so many other planning efforts. Even MBTA Bus Network Redesign does not really indicate the most ideal network, rather it just seems to be based on what can they most easily achieve within limited resources. In addition to better planning processes, we can then best identify the FUNDING mechanisms to carry out this plan and identify when we may be able to pool resources, blend and braid funds, and consider any legislative changes, if necessary.</p> <p>This is for the entire Boston MPO region, which includes many transit authorities and also an array of services in between. Such planning would also help us identify how we would deal with overlap in these areas and also gaps in services.</p> <p>I would also recommend that in this process, we look at the integration of paratransit with other demand response services.</p>		Susan Barrett, Public Survey	

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T-5		<p>Context:</p> <p>For a variety of reasons with which we are all familiar, increasing the use of transit is a goal of the BRMPO; but which parameters have larger impact on transit use? The new Travel Demand Model (TDM) contains many parameters, with some being new and some being different versions of parameters that were used in the previous TDM.</p> <p>Proposed Study:</p> <p>This would be a basic research study to explore which parameters and combinations of parameters have larger effects on transit usage (with a focus on EJ communities and/or communities with large populations of minorities and/or those with low incomes). The study would explore parameters that easily come to mind but it would also explore combinations of parameters that would not ordinarily come to mind.</p> <p>Anticipated Outcomes:</p> <p>Discovery/confirmation of the parameters and combination of parameters that have larger impacts on transit use could help in the design and selection of projects that increase the use of transit. It could also provide insight as to how to design projects that minimize the negative effects on the use of transit.</p>		Len Diggins, Email	
T-6	Demographic Change and Transit Propensity in Eastern MA	<p>Planners often use demographic data, among other tools, to project how people will travel around our area of responsibility. Typically, we expect that people in wealthier areas will use transit less, and that there is a significant difference in both demographics and land use between cities and suburbs. And while it is true that the Boston area is highly segregated, it is also true that American suburbs are changing and diversifying rapidly.</p> <p>In addition, the COVID-19 pandemic forced transit agencies to reconsider who their core markets are and who best to serve them. This study would seek to contextualize the pandemic-era shifts within a broader story of demographic change, and push planners to question (or reconfirm!) longstanding assumptions about who lives where and what they need.</p> <p>This study partially follows up on the work done in the FFY 2022 UPWP study "An Exploration of Destination Access and Transportation Cost Analyses." Among other things, that study examined demographic change from the 2010 Census to the 2020 Census, and used 2020 Census data to examine destination access for protected populations. We propose expanding the analysis to include the 2000 Census, giving a longer-term view of demographic change over time, and exploring the ability to use destination access tools and past transit schedule data to examine change in destination access over time. In turn, this analysis would be used to analyze the impact those changes might have on demand for transit. More details can be requested from MBTA staff.</p>		Sandy Johnston, MBTA	



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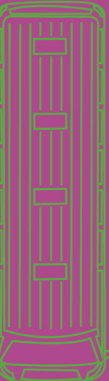
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T-7	Review of and Lessons From Transit Capital Construction Costs Research	In recent years there has been significant examination in the transit world of the problem of rising capital construction costs. This is particularly significant in light of investments being made as part of the Bipartisan Infrastructure Law (BIL), as well as the need to rehab significant parts of the MBTA's legacy infrastructure; invest in resiliency; and prepare for fleet electrification. We propose a study focused on examining recent research and findings on this topic and making high-level recommendations to the MBTA and other relevant stakeholders for how to streamline construction and lower costs. Sources could include the NYU Transit Costs Project and Eno Center report on the same topic. The study could also include interviews with experts in the field and people working on capital construction at the MBTA and other agencies.		Sandy Johnston, MBTA	
RESILIENCE					
R-1	Modeling Evacuation Routes	Use flood risk data to determine what infrastructure might fail at a given risk level; model transportation flows when that infrastructure is unavailable. The MA Coastal Flood Risk Model would be used to identify infrastructure at risk of flooding. The Travel Demand Model networks would be updated to reflect the infrastructure unavailable during floods to examine how travel patterns would change in response. Anticipated outcomes include a report of findings, and potential identification of key evacuation routes.	\$80,000-\$100,000	Staff Survey	
R-2	Strategies for Environmental Outreach and Engagement	<p>The MPO is well-positioned to connect different types of stakeholders around shared interests and facilitate collaboration throughout the region on transportation planning topics, including the key goal areas of climate resiliency and equity. To bring more representation of environmental, EJ, and resiliency topics and perspectives into our work, it is important to understand the various efforts and interests currently operating in this space, and to build relationships with practitioners and other interested parties. A first step to building these connections and expanding collaboration on environmental and resiliency themes is to determine the most effective engagement strategies for the MPO to pursue. Doing so would support the current UPWP's themes of resiliency, equity, and uncertainty by bringing environmental practitioners to the table who have not historically been engaged in MPO work. This study would support and advance both the resiliency and engagement programs, which currently lack capacity to build in this work at the program level. Surveys and interviews to connect with local environmental advocacy and environmental justice groups as well as municipal-level environmental departments to understand how resiliency practitioners would like to be engaged in MPO work.</p> <ul style="list-style-type: none"> • Literature review and interview methodology to evaluate environmental engagement strategies employed by other MPOs in Massachusetts and elsewhere. • Invite environmental stakeholders to existing MPO events such as RTAC or Transit Working Group meetings to assess different engagement platforms. • Equitable engagement approaches such as compensation in order to reach a more diverse range of stakeholders. <p>Report outlining the benefits and obstacles associated with different approaches to environmental engagement, a list of Boston Region groups and departments interested in engaging with the MPO, and recommendations on environmental engagement best practices, strategies, and platforms to be utilized by MPO staff in future work.</p>	\$20,000-\$40,000	Judy Taylor and Stella Jordan, Staff Survey	

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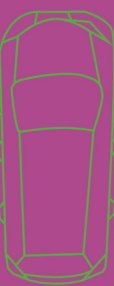
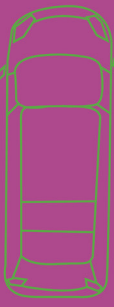
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R-3	MPO Support for Transportation Network Electrification	<p>This would be a research project to inform the MPO and its partners (municipalities, transportation agencies, and others) about the challenges and opportunities related to electrifying various aspects of the region’s transportation system (electric automobiles, trucks, bikes, and transit vehicles). The goal would be to guide the MPO as it makes investments to meet objectives in its Clean Air and Healthy Communities Goal area. This research could cover:</p> <ul style="list-style-type: none"> • Processes involved in investing in and maintaining charging stations or e-bike locks • Roles that municipalities, transit agencies, state or federal agencies, and the private sector play in electrifying the transportation system (particularly in Massachusetts) • Ways that MPOs around the United States have supported the electrification of the transportation systems (use of federal funds, projects and programs implemented, etc.) • Equity considerations related to electrifying the transportation system • Commonwealth plans for supporting electrification of the transportation system, and how the MPO could be involved in implementing these plans. • Explore existing charging facilities for distribution, availability, methods used to themselves (websites, Google search), types of plugs, charging speed, cost, and other rules of service. • Analysis to identify current gaps in access to charging infrastructure • Implications of electrification for utilities/impacts to the grid • Review of the air quality benefits of electrification <p>The output of this study could be a report similar to “Connected and Autonomous Vehicles and the Boston MPO—A First Look” (2017) and “Promising Greenhouse Gas Reduction Strategies for the Boston Region” (2018). This report would be geared towards helping MPO members understand key issues related to transportation system electrification. Depending on the results of this research, future studies could support the development of guidebooks.</p>	\$50,000	Michelle Scott, Judy Taylor	



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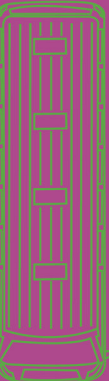
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TECHNICAL SUPPORT and OTHER					
TRANSIT EQUITY					
TE-1	Applying Conveyal to TIP Project Scoring	<p>This study would create a process and a baseline set of resources that could be used to score TIP projects using the Conveyal destination access analysis application. It would be geared towards helping the MPO select projects that will help it achieve objectives in its Access and Connectivity goal area.</p> <p>Staff would build on experiences using Conveyal for the Identifying Transportation Inequities in the Boston Region Baseline Inequities Study while exploring new ways to use this tool, particularly to represent projects and how they might affect the destinations people in the region can access within a given time frame. Staff could conduct a literature review to understand how other planning agencies have used Conveyal to assess project benefits and impacts. Staff would then use lessons and ideas from this review to set up a Conveyal deployment that reflects assumptions about the roadway and transit network for a specific timeframe (e.g. a five-year TIP development cycle). Next, staff would explore ways to reflect projects of various types (complete streets, intersection improvements, etc.) in Conveyal and run analyses to show how destination access outcomes metrics would change if a project or a group of projects were implemented. Staff would document approaches for representing projects in Conveyal and identify destination access metrics and parameters that could be helpful to incorporate into updates to the MPO's TIP criteria and scoring processes. Staff would also develop methodology adapted from the Identifying Transportation Inequities study to analyze access for different demographic groups. Throughout this project, staff could consult with MassDOT OTP staff, the Conveyal development team, and other RPAs in Massachusetts about how to use Conveyal to assess project benefits and impacts.</p> <p>Outcomes could include</p> <ul style="list-style-type: none"> A deployment of Conveyal that includes Open Street Map and GTFS inputs to represent the transportation network Test results from Conveyal analyses that reflect candidate TIP projects Documentation of a methodology to analyze proposed TIP projects in Conveyal Potentially a short memo describing lessons learned during the process and considerations of how to use these tools as part of project scoring. A presentation for the MPO describing the study process and the kinds of Conveyal outputs that can be used in project scoring. 	\$70,000	Michelle Scott, Betsy Harvey, Logan Casey, Ethan Lapointe	



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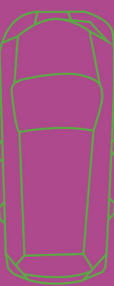
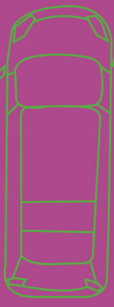
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TE-2	Identify transit options that match transportation-underserved workers with transportation-underserved employers, in transportation-underserved areas.	<p>Objective</p> <p>The goal of this proposed study is to ensure that Massachusetts offers transportation services that provide (1) environmental/energy/congestion benefits, (2) livability benefits (social and economic justice), (3) mobility equity, and (4) improved public and economic health. To achieve these, we are recommending that UPWP conduct a study of transit options designed to match transportation-underserved workers with transportation-underserved employers, in transportation-underserved areas. The desired outcome is a set of models: well-researched, evidence-based, practicable examples for municipalities to use according to their unique circumstances.</p> <p>Context</p> <p>Transportation-underserved areas include rural and suburban communities with weak links to commuter rail and public transit (MBTA and/or RTAs). Also, in these communities, Chapter 40B and 40R requirements have resulted in substantial affordable developments, where those who need to work may have to rely on their own cars. Adding to residents who are financially vulnerable (especially single parents) are those students who are working while seeking credentials for secure employment, and retirees, whose pensions/Social Security may not be sufficient (e.g., the housing-cost burdened). Such residents are actually or potentially transportation-underserved workers.</p> <p>Operating in transportation-underserved areas are transportation-underserved employers. Not only in-town retail businesses but also large corporations in rural/suburban areas have difficulty finding and keeping employees.(1) In Massachusetts, entry-level jobs in the healthcare sector are an example: personal care aides, homecare aides, nurses/aides. Other entry-level jobs that are hard to fill include support staff and workers in food preparation and service. The goal is not simply to provide transportation to low-level workers but to assure that growth can occur because transportation nodes include education/training sites, dependent care sites (child care and adult day), and other sites that help workers not only keep jobs but gain skills.</p> <p>Proposed Study Details</p> <p>The UPWP study would be guided by the fundamental transportation principle of coverage, i.e., the study would incorporate coverage goals to ensure equity in the target region(s) and, hence, in the Commonwealth.(2) The study would focus on the transportation-underserved, across residents, businesses, and geographic areas; that is, transportation-underserved workers, employers, and municipalities (see details below).</p>			



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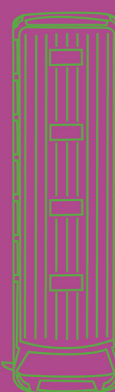
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TE-2 (cont.)	Identify transit options that match transportation-underserved workers with transportation-underserved employers, in transportation-underserved areas.	<p>Transportation-underserved workers are those</p> <ul style="list-style-type: none"> • already engaged in job-designed education/training/apprenticeships; • seeking a job (may include the prior group); • seeking transition from part- to full-time employment (e.g., students); • working second, third, and/or weekend shifts; and • returning/needing to work (e.g., single heads of household, retirees). <p>The goal of the proposed transit network is to help fill high demand jobs such as personal care aides, home health aides, nursing assistants, school support staff, and food prep and serving. Illustrations from BLS.gov data on MA employment include examples of certificate and/or entry-level jobs. NOTE: health services and education are the two biggest employers in the state (see details below).</p> <p>Transportation-underserved employers include</p> <ul style="list-style-type: none"> • healthcare and related institutions (support staff, nursing assistants, home health aides); • major education/community/social service institutions (support and para-staff [e.g., substance abuse, behavioral, mental health counselors]; social and human service assistants; teacher aides and administrative support); • major food preparation and serving related institutions (food prep and serving, including fast food; wait staff; support staff); • major building/grounds cleaning and maintenance businesses (janitors/cleaners; land-scaping/groundskeeping); and • major personal care and service businesses (personal care aides; hairdressing, cosmetologist). <p>Transportation-underserved geographic areas:</p> <p>In many municipalities—rural towns and certain areas of suburban communities outside dense cities—transportation planning and service operations face variable and generally sparse population density. Commuting for non-drivers and access to jobs in evenings and on weekends are difficult. A number of rural towns offer no public transportation; in other towns, parking for commuter rail is constrained; and in most municipalities there are few walking/biking routes from residences to likely employment destinations. The MAGIC region of the state, for example, has been defined as a transportation desert. That appellation applies to a number of other similar regions.</p>			



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Study Information (cont.)

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TE-2 (cont.)	Identify transit options that match transportation-underserved workers with transportation-underserved employers, in transportation-underserved areas.	<p>Potential Solutions</p> <p>By incorporating the guiding principle of coverage in the study of transportation underserved (above), the UPWP study should provide the following innovative design solutions:</p> <ul style="list-style-type: none"> a. Primary design innovation: inclusion of employment-supporting nodes in an origin-employment-destination transit model b. Secondary design innovation: transit providers chosen to be predominantly hybrid or EVs (environmental/energy benefits); fares/subsidies encourage predominance of shared rides (reduction of congestion); integration with MBTA and RTAs (increase energy/congestion reduction benefits). c. Tertiary design innovation: Financial sustainability by multiple means of funding. <p>Each potential solution is described in more detail below.</p> <p>The primary innovation is design of an Origin-Support-(Employment) Destination transit net-work model. There is compelling evidence that the workers who are this study's focus cannot succeed only with transportation to and from their jobs.(3) For instance, single-parent heads of household, workers such as students at second/third/weekend shift jobs, individuals returning to work, and retirees may also need dependent-care (child care, adult day care) sites, in order to hold a job or move from part-time to full-time employment with benefits. Thus, UPWP's primary innovation is creation of a transit network that enlarges the origin-destination model to include support nodes. In addition to dependent care sites, such nodes might include "layover stops" on certain days at grocery stores, pharmacies, banks for brief errands on the way home. They could also include designated education/training sites, at specific times, so that workers could gain/improve skills and students would have reliable transportation from school to work.</p> <p>The secondary innovation is design of environmental/energy/congestion benefits model. Participation as transit providers would require vendors to use hybrid/EV fleets as much as possible. Rider fees and subsidies would be designed to ensure predominance of shared rides. And, reliable integration with MBTA, commuter rail, and RTA fixed route schedules would further increase these benefits.</p>			



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Study Information (cont.)

ID	Project Name	Project Purpose and Outcome	Estimated Budget	Source	Staff Comments
TE-2 (cont.)	Identify transit options that match transportation-underserved workers with transportation-underserved employers, in transportation-underserved areas.	<p>The tertiary innovation is design of financial sustainability via multiple means of funding. Innovative transit systems like the one proposed require innovative financial support. Coverage goals, because they seek to assure equity as well as efficiency, will require subsidies. The origin-support-destination transit network can become financially sustainable by a variety of means:</p> <ul style="list-style-type: none"> • Employer contributions (a stable, reliable workforce reduces the organizational costs of turnover, hiring, training) • Carbon offsets (by use of hybrid/EV) • Municipal contributions (town and cities with visible mobility for all are attractive to residents as well as businesses [4]) • Sliding scale rider fees • Transportation gift cards, coupons, etc. • Mass transit assessments • Grants <p>Anticipated Outcomes</p> <p>The proposed UPWP study will produce models—well-researched, evidence-based, practicable examples for numerous municipalities to use and modify according to their unique circumstances. Because the principle of coverage informs the models, operationalizing them should help cities and towns to close systemic gaps in service, improving social and economic justice and providing greater mobility equity. Because the models are well-researched and evidence-based, operationalizing them should begin to improve data on public and economic health of the cities and towns. And, because the models are practicable, operationalizing them should show immediate environmental energy/congestion benefits.</p> <p>NOTES</p> <p>(1) Transit Means Business, Metropolitan Planning Council, Chicago, 2019.</p> <p>(2) “Public transport faces an increasingly intense conflict between patronage goals and coverage goals. Broadly speaking, patronage goals seek to maximize patronage of all types, while coverage goals lead to the provision of service despite low patronage, for example, to achieve social inclusion objectives. The conflict between these goals follows inevitably from the underlying structure of the public transport product, including both its costs and geometry. The tradeoff between patronage and coverage is [a value judgment] and the decision about how to balance social versus patronage goals [must be] made consciously rather than inadvertently, with a clear understanding of the consequences of the choice.” By Jarrett Walker, McCormick Rankin Cag-ney, Level 13, 167 Macquarie Street, Sydney, NSW 2000, Australia © 2008 Elsevier Ltd.</p> <p>(3) See: http://fortune.com/2015/03/05/employees-loyalty-marriott/</p> <p>(4) World Health Organization, Global age-friendly cities: a guide. 2007.</p>			