

October 29, 2020

Via Email

Michael O’Dowd, Acting Director of Bridge Project Management
Massachusetts Department of Transportation
10 Park Plaza, Suite 6340
Boston, MA 02116
I-90Allston@state.ma.us

Re: Comments on I-90 Allston Multimodal Project Alternatives

Dear Mr. O’Dowd:

Charles River Watershed Association (“CRWA”) submits the following comments on the I-90 Allston Multimodal Project. As one of the country’s oldest watershed organizations, CRWA’s mission is to protect, preserve, and enhance the Charles River and its watershed through science, advocacy, and the law. Our initiatives over the last five decades have dramatically improved the quality of water in the watershed, fundamentally changed approaches to water resource management, and protected the Charles River as a public resource for current and future generations.

CRWA has been an active member of the Task Force for this project since 2014. We are eager to see a final project that meets the region’s evolving transportation needs, is climate resilient, and protects and restores the Charles River. This past June, we were pleased to see MassDOT’s commitment to ensuring “the least overall harm and most overall benefit” to the river; “avoid[ing] and minimiz[ing] long term or permanent impact” to the river; and ensuring “the treatment of all runoff to the maximum extent practicable to safeguard” the river. We agree that any alternative selected should adhere to these principles, and of course, under the Final Total Maximum Daily Load (“TMDL”) for Nutrients in the Lower Charles River Basin,¹ MassDOT is required to meet applicable phosphorus reductions. We look forward to working with MassDOT and other stakeholders to advance approaches to river restoration that would also treat stormwater runoff and build climate resilience.

MassDOT is approaching an important decision point for this project: selection of a preferred alternative. Regardless of the preferred alternative selected though, MassDOT will continue to evaluate all three alternatives—I-90 on a new viaduct structure, I-90 at-grade with Soldiers Field Road (“SFR”) on an elevated structure, and both I-90 and SFR at-grade—in the remaining state and federal environmental review processes. MassDOT has released a summary “matrix” describing and comparing the anticipated impacts of each of the three alternatives to inform the selection of a preferred alternative, but the underlying data and information supporting that matrix has not been made available to the public. We join many other stakeholders and Task

¹ <https://www.mass.gov/doc/final-phosphorus-tmdl-report-for-the-lower-charles-river-basin/download>.

Force members in calling on MassDOT to make this an open and transparent public process by providing the data, figures, and other information relied upon in reaching the conclusions presented.

We support an at-grade design for the project as being the best way to accomplish all of the project's goals while also responding to the concerns of the local community and residents most affected by the project. ***However, we are strongly opposed to the at-grade alternative currently under consideration.*** It prioritizes cars over pedestrians and cyclists; causes significant harm to the Charles River; undermines the Commonwealth's greenhouse gas reduction commitments; will not be resilient to climate change; and would ultimately result in a final project that moves us backward, not forward. MassDOT's initial assessment of the current at-grade version's potential impacts to the Charles River include:

- addition of approximately 600 sq ft of solid fill in the river to support Soldiers Field Road;
- installation of 250 piles in the river to support a bike and pedestrian boardwalk;
- permanent narrowing of the water sheet by approximately 38 ft;
- permanent impact on navigation due to narrowing of the water sheet;
- approximately 29,000 sq ft of shading impacts from the boardwalk; and
- addition of approximately 20,000 sq ft of fill in the river for a living shoreline.

MassDOT also notes that depressing sections of I-90 below the water table would make those areas particularly vulnerable to storm surge and even more vulnerable to high intensity precipitation events (this area already floods with heavy precipitation)—and that these vulnerabilities would be further exacerbated by sea level rise. The most recent rendering of the at-grade alternative shows the current 100-year flood line—which we know is a conservative estimate given future climate predictions—as being very close to the roadway. And while flooding is a critical consideration, other aspects of climate resilience must also be considered, including heat island effect resulting from such a large expanse of impervious surface on the bank of the river. A project of this magnitude and cost must be designed to be climate resilient not just today, but well into the future. As discussed below, we request that the project be assessed using the proposed RMAT climate review process and that the results of this assessment be made public.

We believe that reducing the overall number of traffic lanes in the throat area presents the best solution to all of these issues. This approach would allow for an at-grade version of the project without intruding into the Charles River, creating enough space along the river for cyclists and pedestrians as well as river bank restoration. Building less roadway would also create additional opportunities for stormwater management and climate resilience measures, reduce harmful emissions and heat island effect, and improve connectivity options between the neighborhood and the Charles River.

Instead of investing resources in rebuilding the same amount of roadway, we could use those funds to improve transit and buses, giving commuters more alternatives and improving service levels. We agree with the Metropolitan Area Planning Council (“MAPC”), who wrote in August 2020 that “[t]he significant capital costs involved in this project should give us pause to evaluate whether spending potentially over a billion dollars reconstructing an eight-lane Turnpike and a four-lane parkway along the Charles River and through an urban neighborhood is the best

investment for the region” and that “the best solution to the ‘throat’ is to permanently reduce space for cars and make up that transportation capacity by investing in more commuter rail and associated public transit service.”

We offer the following specific comments and recommendations for MassDOT’s consideration as this project advances.

Charles River bank restoration is an essential component of the project.

We are encouraged that MassDOT has rightly included Charles River bank restoration, including a living shoreline, in each of the three alternatives. A living shoreline is a stabilized shoreline made of natural materials (like sand and rock) and planted with native vegetation. By restoring natural ecological functions to the river’s edge, living shorelines enhance biodiversity, reduce flooding, and improve water quality. The many benefits of living shorelines include:

- Restoration of natural processes that support aquatic habitats and protect and enhance nursery and critical feeding habitats for coastal and estuarine creatures like herring, shad, pickerel, clams, worms, and fly larvae;
- Improvement of local water quality, including by reducing nitrogen and phosphorus loading, filtering stormwater run-off from upland areas, and trapping nutrient rich soils in the shoreline system;
- Creation of flood storage capacity;
- Mitigation of erosion and sediment loading; and
- Carbon sequestration that mitigates the effects of climate change by removing carbon from the atmosphere.

Depending on existing site conditions, fill may *sometimes* be appropriate or necessary to construct a living shoreline—but it is not always required and to the extent possible, fill for such purposes should be avoided or minimized. The determination as to whether fill is appropriate or necessary should be made by scientific and technical experts based on site specific conditions.

As MassDOT has acknowledged, a less steep slope and planting of native vegetation to create a living shoreline could be accomplished by starting at the existing rip rap bank and working inland, which would not require the addition of any fill in the river. However, we acknowledge the already-constrained nature of the throat area and the fact that many other uses also need to be located there. In this constrained setting, it *may* be appropriate to consider adding *limited* fill to the river for restoration purposes, as long as it would result in a beneficial—not detrimental—impact on the river. We are deeply concerned about the prospect of adding approximately 20,000 sq ft of fill in order to create a living shoreline in the at-grade alternative, which is necessitated by the vast expanse of roadway utilizing all available space on land and encroaching into the river. It would be far better from both an ecological and permitting standpoint to transform the existing river’s edge into a living shoreline using current conditions and minimal or no fill.

Fill should not be added to the Charles River for anything other than ecological restoration.

The Charles River is not vacant space to be filled in to support uses that should be located on land. We strongly oppose any addition of fill in the river for purposes other than ecological

restoration, including the 600 sq ft of fill to support Soldiers Field Road contemplated in the at-grade alternative. As Executive Office of Energy and Environmental Affairs Secretary Theoharides noted in a June 2020 letter, “the Charles River and surrounding basin is a historic environmental asset to Boston and the surrounding communities, and any impacts [to the river] should be weighed heavily.” Accordingly, any fill added for shoreline restoration must be limited to the minimum amount of fill necessary to accomplish the purposes of restoration. Any fill beyond the minimum amount necessary to accomplish beneficial bank restoration is disfavored, and in some cases prohibited, under local, state, and federal law.

The introduction of fill disturbs and displaces existing aquatic habitat along the riverbank and reduces the amount of available habitat for aquatic life, causing competition that harms the ecosystem. Fill also slows water velocities in some areas, resulting in increased siltation and growth of invasive aquatic plants like milfoil and fanwort that already grow densely in the river, further threatening native species, decreasing biodiversity, and restricting boating activity. Fill also reduces the flood storage capacity of the river. More flooding will occur as rainfall becomes more frequent and intense with climate change, and with less room for water in the river, flooding in neighboring lands could be exacerbated.

Any plan to add fill in the river would also have to overcome significant legal challenges. Secretary Theoharides was correct that “any alternative that contains impacts on the Charles River, even temporary, is not only difficult to permit, but should be discounted in favor of alternatives with no temporary or permanent impact.” The addition of fill in waterbodies is regulated under the federal Clean Water Act, the Massachusetts Wetlands Protection Act, the Massachusetts Public Waterfront Act (Chapter 91), and the Boston Ordinance Protecting Local Wetlands and Promoting Climate Change Adaptation. Across the board, these laws either prohibit fill outright, except in exceptional circumstances, or require projects to avoid fill where possible and minimize the amount of fill if it cannot be avoided. While mitigation is also contemplated for situations where fill is unavoidable, projects are required to first avoid and minimize *before* mitigating. If viable alternatives exist that do not require fill—as is the case here—any alternatives that require fill are generally precluded. Beneficial projects that protect, restore, or enhance the shoreline are generally viewed more favorably and are not subject to the same prohibitions.

Harmful impacts from structures in the Charles River must also be avoided and minimized.

Though currently not envisioned on fill, the boardwalk structure included in the at-grade alternative, which requires the addition of 250 piles and creation of nearly 30,000 sq ft of shading impacts, would also cause excessive harm to the river. Installation of piles would disturb sediment, suspending silt into the water column, which blocks light from the river, interfering with plant growth and fish navigation. Sediments in historically industrial areas like Boston are frequently contaminated with heavy metals and toxic chemicals (we know that this part of the river is likely contaminated with PCBs), which can be released into the river when disrupted, further affecting aquatic habitat and human health. Heavy metals that are released into the water column can be incorporated into invertebrate and fish food sources, building up over time and moving up the food chain to other aquatic species and humans who consume them. Shade from the boardwalk would prevent light from reaching the water below, further disrupting the riverine ecosystem. For these reasons, any potential boardwalk would need to be designed to avoid and minimize adverse

impacts to the river in order to be permitted, and we urge MassDOT to continue looking for alternative locations on or over land for the Paul Dudley White path.

Similarly, the “temporary” trestle structure envisioned in the SFR hybrid alternative would cause significant harm to the river that must be avoided. CRWA submitted detailed comments on the hybrid alternative in response to the November 2019 NEPA Scoping Report, which we incorporate herein by reference. As we made clear then, relocation of SFR into the Charles River, especially for the duration currently estimated, would cause disruption of the river’s ecology and hydrology that would result in lasting and permanent environmental damage.

Stormwater management and climate resilience must be incorporated into any selected alternative.

In what is now the I-90 project area, salt marshes and freshwater meadows historically buffered the Charles River estuary, providing natural flood control by storing excess water volume and filtering out nutrients and pollutants. Today, the I-90 project area is covered mostly by impervious surfaces. Stormwater drains to a series of outfalls where it discharges into the Charles River, carrying pollution from the land into the river. This project presents a unique opportunity to restore the hydrology and ecology of the river and watershed to build climate resilience, improve water quality and wildlife habitat, and ensure that the river continues to thrive for future generations. Understanding the historic conditions of the project site should help guide the design of green infrastructure to successfully restore the function of natural hydrology on the site. By employing green infrastructure strategies like constructed wetlands and bioretention systems, MassDOT can ensure proper treatment of stormwater, reduce flooding, reduce heat island effect, and improve the project’s overall climate resilience.

We urge MassDOT to employ the strategies set forth in the Department of Conservation and Recreation’s Charles River Riverbank Vegetation Management Plan (“RVMP”), which include: restoring a healthy riverbank ecology that provides for stable shorelines, beautiful vistas, climate resilience, and a safe, stable tree canopy; providing public access to outstanding opportunities for passive and active recreation along and adjacent to the riverbank; stewarding parklands that reflect the cultural value and 100-year history of the Charles River Reservation; engaging a cooperative network of parkland stakeholders who both enjoy the many recreational opportunities and provide volunteer assistance in managing the RVMP area; and providing a framework to guide future capital restoration projects.

With respect to climate resilience, we are aware that MassDOT has been working with the Woods Hole Group to develop updated climate projections and assess infrastructure vulnerabilities, though we have not yet seen the results of that updated analysis. We request that the results be incorporated into the planning and design of the I-90 project—and made publicly available—during the Draft Environmental Impact Statement (“DEIS”) phase. This project should also be analyzed under the climate resilience design standards and guidelines being developed by the state’s Resilient Massachusetts Action Team (“RMAT”),² the team responsible for implementing the State Hazard Mitigation and Climate Adaptation Plan (“SHMCAP”).³ These

² <https://www.mass.gov/info-details/resilient-ma-action-team-rmat>.

³ <https://www.resilientma.org/shmcap-portal/index.html#/>.

climate resilience design standards and guidelines are intended to assist state agencies in incorporating climate resilience into state projects. In particular, the climate risk screening tool (the final version of which will be available in early 2021) will be useful in assessing the I-90 project's climate vulnerabilities so that they can be properly addressed as part of the project design.

This project presents a golden opportunity to further the Commonwealth's emissions reduction commitments.

This project will serve as an indication of how serious the City of Boston and the Commonwealth of Massachusetts are about several stated climate goals. The City of Boston's Go Boston 2030⁴ set a goal of reducing the number of car trips in the city by half, Governor Baker has set a goal of net zero emissions by 2050,⁵ and the State Senate voted in favor of net zero by 2050.⁶ At this time, over 40% of greenhouse gas emissions come from the transportation sector, meaning drastic reductions are necessary in order to meet these climate targets.

Accordingly, MassDOT's GreenDOT initiative commits the agency to "minimiz[ing] highway system expansion projects and balanc[ing] their impact with other projects that support smart growth development and promote public transit, walking, and bicycling."⁷ And Governor Baker's Commission on the Future of Transportation final report⁸ made the following recommendations:

- Prioritize investment in public transit;
- Transform roadways and travel corridors—MassDOT, municipalities, and other roadway owners should redesign roads to prioritize person-throughput rather than vehicle-throughput, so that limited corridor capacity is allocated to moving as many people as possible, while accommodating mobility alternatives;
- Better manage traffic congestion—the Commonwealth must consider a full set of options to address roadway congestion, including improvements to public transit, better systems operations, and the consideration of congestion pricing. The Commonwealth should prioritize and target investments in public transit and other high-capacity transportation modes to make these more efficient, attractive, and reliable to reduce single occupancy vehicle (SOV) use, particularly on our most congested roads in the urban core.

⁴ See <https://www.boston.gov/departments/transportation/go-boston-2030>.

⁵ See Commonwealth Magazine, *Baker: Net-zero emissions by 2050, Says he will give T \$135m more in operating funds* (Jan. 21, 2020), <https://commonwealthmagazine.org/environment/baker-net-zero-emissions-by-2050/>.

⁶ See WBUR, *Mass. Senate Agrees To Sharp Shift In State Climate Policies* (Jan. 31, 2020), <https://www.wbur.org/earthwhile/2020/01/31/senate-climate-bills-pass-zero-emissions-electric-vehicles-energy-efficiency>.

⁷ <https://www.mass.gov/files/documents/2016/11/pf/greendot.pdf>.

⁸ See *Choices for Stewardship: Recommendations to Meet the Transportation Future, Executive Summary*, <https://www.mass.gov/doc/choices-for-stewardship-recommendations-to-meet-the-transportation-future-executive-summary/download>.

If Massachusetts is serious about addressing climate change and reducing emissions from the transportation sector, the I-90 project must be consistent with the plans and commitments of MassDOT, the city, and the state.

The interests of river users and navigation must be considered.

Throughout the design of this project, MassDOT has been singularly focused on vehicle traffic on both I-90 and SFR. What has not been accounted for though, as evidenced by the eagerness with which many stakeholders are willing to advocate for project elements to be relocated *into* the Charles River, is the significant boating and rowing traffic on the river itself. On a typical day, there are estimated to be more than 5,000 rowers, 500 sailors, and 500 paddlers somewhere on the water sheet. The throat area is a critical turning basin for rowers, with the Boston side of the river being most important given shallower depths along the Cambridge shore. Any reduction in the water sheet will likely cause significant conflict between boaters, rowers, and other water users, and any new structures added to the river pose potential safety risks. The Charles River Alliance of Boaters (“CRAB”) will be providing in-depth comments on these considerations, which we support.

Reducing the number of traffic lanes could allow for an at-grade design while avoiding harm to the Charles River.

MassDOT’s position is that the best way to avoid impacts to the Charles River is to reconstruct I-90 on a viaduct. At the same time, members of the local community strongly prefer an at-grade design. This is a complex project with few simple answers, but the solution here seems obvious: build a smaller version of the at-grade design that minimizes negative impacts to the river while still meeting the needs of commuters to and from Boston. This approach has received support from MAPC and other stakeholders and earlier this month, the City of Cambridge passed a resolution asking MassDOT to “consider an I-90 lane reduction and at-grade design during the final decision-making process.”⁹

Reducing the number of traffic lanes is also supported by the data. Pre-pandemic traffic patterns only justified 4 lanes on the eastbound side of I-90 during the 1.5 hours of morning rush hour. And now the way we work has changed, and many of those changes will be permanent. A MassINC poll found that 41% of workers who are able to do so said they would prefer to continue to work from home,¹⁰ and as the *Boston Globe* has reported, many will never go back to an office.¹¹

⁹ Cambridge City Council, Policy Order POR 2020 #212, *That the Council go on record requesting the Secretary of Transportation Stephanie Pollack consider an I-90 lane reduction and at-grade design during the final decision-making process* (Adopted Oct. 5, 2020), https://cambridgema.iqm2.com/Citizens/Detail_LegiFile.aspx?Frame=&MeetingID=2688&MediaPosition=&ID=12696&CssClass=.

¹⁰ See WBUR, *Poll Of Mass. Residents Finds Sharp Shift In Commuting Attitudes Amid Pandemic* (May 27, 2020), <https://www.wbur.org/bostonmix/2020/05/27/massinc-polling-coronavirus-reopening-transportation-mbta-driving>.

¹¹ See Boston Globe, *Many workers will never go back to the office post-coronavirus, Employers are finding the work-from-home experiment more effective than expected* (June 17, 2020),

MassDOT itself has confirmed these trends. As explained at the October 20, 2020 joint meeting of the MassDOT and FMCB Boards, MassDOT's own analysis shows that due to increases in telecommuting, the number of commuters during the morning rush hour is expected to be significantly lower than pre-pandemic numbers *for at least four years*.¹² Just as MassDOT has analyzed various future ridership scenarios for the MBTA,¹³ it should analyze revised traffic scenarios for I-90 and use that information to inform the number of roadway lanes incorporated into the design of the project.

Finally, the number of lanes on I-90 will already be reduced for years during construction, necessitating alternatives to accommodate commuters sooner rather than later. It simply does not make sense that we would increase the number of highway lanes years down the road when we know we must create a future with fewer cars on the road, not more.

We urge MassDOT to take this opportunity to design and construct a project that moves people in and out of Boston without causing further harm to the local community or the Charles River. Thank you for considering these comments.

Sincerely,



Heather Miller, Esq.
General Counsel and Policy Director

<https://www.bostonglobe.com/2020/06/17/nation/many-workers-will-never-go-back-office-post-coronavirus/>; *see also* Boston Globe, *LogMeIn, too, will cut Boston office space, CEO expects 5% of workforce to be in the building five days a week* (Oct. 28, 2020), <https://www.bostonglobe.com/2020/10/28/business/logmein-too-will-cut-boston-office-space/>.

¹² *See* SouthCoast Today, *Good news, if you commute: Study finds old rush hour patterns not returning soon* (Oct. 20, 2020), <https://www.southcoasttoday.com/news/20201020/good-news-if-you-commute-study-finds-old-rush-hour-patterns-not-returning-soon> (“The morning rush hour on Massachusetts highways is unlikely to return to pre-COVID crowds until at least 2024, and even more drivers may not return to the fray if economic recovery drags or if working from home remains common, according to new Department of Transportation projections;” “This is not saying that VMT will never get back to where it was in terms of total, but we’re saying in all of these scenarios, we don’t have the same kind of morning congestion that we used to have because of the combination of economic changes and travel changes,” Transportation Secretary Stephanie Pollack said at a Monday board meeting.”).

¹³ *See* Commonwealth Magazine, *T revising ridership projections downward, Assuming telecommuting will become ‘standard practice’* (Oct. 19, 2020), <https://commonwealthmagazine.org/transportation/t-revising-downward-ridership-projections/>.