

September 16, 2024

Secretary Rebecca Tepper
Executive Office of Energy & Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

RE: MEPA Regulatory Updates

Dear Secretary Tepper:

The Metropolitan Area Planning Council (MAPC) regularly reviews development proposals deemed to have regional impacts and has proudly participated in the MEPA review process for over 40 years. The Council reviews proposed projects for consistency with *MetroCommon 2050*, MAPC's regional land use and policy plan, consistency with Complete Streets policies and design approaches, as well as impacts on the environment. Preparing for climate change, including mitigation and adaptation, is one of the key priorities established in MAPC's Strategic Plan.

MAPC has a long-term interest in alleviating regional traffic and environmental impacts, consistent with the recommendations of *MetroCommon 2050*, including *reducing vehicle miles traveled and the need for single-occupant vehicle travel through increased development in transit-oriented areas and walkable centers*¹, and *improving accessibility and regional connectivity*². Furthermore, the Commonwealth has a statutory obligation to reduce greenhouse gas (GHG) emissions by at least 50% from 1990 levels by 2030, 75% by 2040, and 85% by 2050 to achieve net zero emissions by 2050.

We are pleased that the Executive Office of Energy & Environmental Affairs has begun a process to update the 2010 MEPA Greenhouse Gas Emissions Policy and Protocol and the 2021 MEPA Interim Protocol on Climate Change Adaptation and Resiliency as means of improving the climate and environmental outcomes of land use and development projects throughout the Commonwealth. In 2021, we reviewed the draft MEPA Interim Protocol for Climate Adaptation and Resiliency (Interim Protocol) and offered comments and suggestions about how various aspects of the proposed protocol could be strengthened, including a recognition of the heat island effects of tree removal, methodology for determining a project site's flooding history, and impact assessments for Environmental Justice (EJ) populations. As the EOEPA embarks on a new process to update and improve both the 2010 and 2021 protocols, we respectfully offer the following recommendations:

¹ <https://metrocommon.mapc.org/announcements/recommendations/2>

² <https://metrocommon.mapc.org/announcements/recommendations/1>

Greenhouse Gas Emissions

MAPC is pleased to see that MEPA seeks to continue encouraging best practices in lowering emissions from new construction through the proposed Building Energy Efficiency MEPA Best Practices. While the new Stretch and Specialized Energy Codes move new construction in the Commonwealth further toward net-zero new buildings, the best practices proposed by MEPA will encourage developers to construct buildings that will last for decades as efficiently as possible while also providing consistent guidance and standards to all municipalities

In general, we support the proposed approach to look at best practices across discrete building components as proposed under Update #2. This approach is more suitable to newer building codes and better encourages efficient electrification without limiting peak demand and emissions benefits over the time. Specifically:

- **We support the use of all-electric pathways for most building types** and agree that flexibility for mixed-fuel/hybrid electrification HVAC applications are still warranted for high-ventilation building types. Given the operating cost premium for central heat pump water heaters compared to gas, we also suggest exploring the possibility of a mixed-fuel pathway for affordable housing where occupants might otherwise face higher energy burdens.
- **We support the encouragement of Passive House standards in new residential construction.** Affordable housing projects across the Commonwealth have led the way in demonstrating the feasibility and benefits of Passive House multifamily projects.
- **Flexibility on heat pump service water heating requirements for some commercial applications may be warranted** (as articulated under the proposed Update #3), given that most heat pumps on the market are not designed to heat water beyond 140°F. While newer models can meet the wider range of commercial service water temperature needs (e.g., through using refrigerants like R744), these models have more limited availability and are at a significant cost premium. We recommend further examination of the availability and cost premium for heat pumps that can meet higher output temperatures necessary for service water heating demands across commercial applications before applying a heat pump water heating requirement across all commercial segments.

We also generally support the approach as proposed under Update #3 to taking a more holistic look at lifecycle emissions by assuming declining grid emissions.

- **We recommend that EOEEA establish standardized projections across several scenarios for annual declining grid emissions rates through 2050** to avoid inconsistencies. While projections about future emissions today may reflect expected GHG emission reductions necessary to achieve goals established under state law, future projections must reflect actual GHG emission reductions realized even if the electric sector is lagging established targets. We note that DOER has proposed changes to the Stretch and Specialized Codes that would allow the use of low-embodied carbon building materials to increase the HERS

allowance. In conjunction with the proposed life-cycle approach to evaluating building emissions, **we encourage EOEAA to also examine the role low-embodied carbon building materials could play in updating MEPA best practices.**

Additionally, we note that MEPA proposes to formally incorporate the social cost of carbon into environmental reviews. We support this addition and the proposed alignment of the social cost of carbon value with the value established by the EOEAA Secretary for use in the Mass Save Three-Year Planning Process.

Climate Resilience

The straw proposal for climate resilience is primarily focused on more robust and systematic implementation of the Interim Protocol in effect since 2021. This is an appropriate and practical next step for this policy. The previous three years of the Interim Protocol have served well as a “pilot” for this new policy, and the straw presentation on the actual experience over the last three years is informative and provides a good basis for advancing the proposal beyond the interim stage.

Reviewing the Current Use of the RMA Tool

Considering the trends revealed by three years of applying the ResilientMass (RMA) tool to 362 MEPA projects, our initial comment is directed at the RMA tool itself rather than its application in MEPA. It is striking that most of the projects are classified by RMA as High exposure, while only 9 of 362 are Low. While it is unfortunately probably true that many of the state’s new developments are facing significant flooding and heat risks, having so many projects grouped together in the same high category may suggest it would be worthwhile to reconsider the RMA category thresholds.

As planners we are often reminded that “if everything is high priority, nothing is a priority.” Having so many projects (at least 80% of them) listed in one category does not allow for distinguishing the differences among a broad range of projects. Within the category RMA defines as High exposure, we expect some projects are more critical than others, which the current categorization does not expose.

MAPC recommends that EEA considers separating the “High” projects into two categories, High and a new category for Very High. This would be a practical way to display a greater sensitivity to the actual range of conditions and support a more nuanced determination of priorities at the critical end of the scale.

Applying RMA to MEPA Reviews

That issue aside, the proposed application of RMA data to all Environmental Impact Reports (EIRs) as well as Notices of Project Change (NPC’s) and Special Review Procedures is a crucial step to take full advantage of the tool and improve the function of EIR’s to address climate impacts and their mitigation. This proposal would provide much more site-specific information for an EIR to inform both the characterization of a project’s climate-related impacts, and the mitigation of those impacts

put forth by the proponent. Just adding readily available information like the Base Flood Elevation is a step forward.

At the ENF level, the requirements are necessarily less stringent, leaving much to the discretion of a qualitative narrative. Our experience reviewing many MEPA filings suggests that such narratives can easily be spun to suggest certain conclusions without providing much in the way of data or other justification.

MAPC recommends that the ENF process be made more rigorous by providing some “guard rails” in the form of more specific questions to answer or parameters to address, both qualitatively and quantitatively. This is particularly important regarding Environmental Justice requirements, which are still relatively new to MEPA, so best practices have not yet been well established for all proponents and their consultants. The MEPA office might support more focused responses in ENFs by providing a checklist or menu of options to guide proponents. While it would not be practical to apply the more specific quantitative requirements expected of EIR’s, it would be good to leave less “wiggle room” for generic narrative responses that are not responsive to the issues.

Relationship of Resilience Mitigation to Existing State Regulations

Building Elevation: For review of EIRs/NPCs/SRCs, the more specific requirements related to structure elevation are a good step forward. Incorporating the quantitative RMA data on this will provide a much more site-specific assessment of the degree of risk and can inform the formulation of mitigation measures. However, it is not clear how that will relate to the existing requirements of the Massachusetts State Building Code. If the RMA data suggest that a higher elevation would be beneficial with respect to future projected flood levels, some proponents may choose voluntarily to incorporate that into their site plans, but it is not clear if or how any additional elevation could be required beyond the State Building Code. However, in some cases the difference between established regulatory requirements and new resilience measures that go beyond those requirements could create some confusion for proponents, so the context for this should be clearly explained.

Stormwater sizing: Having conducted significant research and local planning around stormwater and inland or stormwater flooding, we are encouraged to see the provisions for stormwater sizing in the straw proposal. A question that arises is how this might relate to the revised and modernized stormwater standards that DEP is (hopefully) poised to release with new regulations under the Wetlands Protection Act. While this state requirement, unlike the state Building Code, can be legally exceeded by other regulations such as local codes, it will become a universal practice and “default option” for most developers, as the current Stormwater Handbook has been for decades. However, the revised DEP stormwater standards are likely to be based on NOAA Atlas 14, which will update precipitation data to the present day, but not extend it to future projections under climate change scenarios.

Resilience Mitigation Beyond Existing Regulatory Requirements

To achieve significant climate resilience, more robust mitigation measures will need to be a universal outcome across the board for MEPA reviews. That will be needed to ensure that resilience is implemented at scale across the Commonwealth. However, we remain concerned that the treatment of building elevation and stormwater in EIR's under the MEPA protocol might not be able to address future climate conditions because the necessary mitigation steps might exceed the minimum requirements of the state Building Code and the Stormwater Handbook.

MAPC recommends that the MEPA office consider longer-term steps that could be taken beyond the current straw proposal to leverage better outcomes, particularly those that would benefit from mitigation beyond current state regulatory standards. Resilience mitigation beyond existing regulations, while not required, could be encouraged and negotiated with proponents during (or before) MEPA review of a project. MAPC suggests that EEA consider what incentives could be provided that would encourage a proponent to take steps beyond current requirements. Municipalities have long used incentives to similar affect, including the Town of Hull's freeboard incentives to encourage higher building elevations, and the widespread use of incentives in zoning codes to leverage voluntary improvements by developers.

Considering that MEPA itself is not a permit, the only way to ensure that more, if not most, projects achieve a higher resilience standard than required by existing state regulations is to include them in Section 61 findings. Only those mitigation measures that find their way into Section 61 findings will be enforceable, or at least accountable.

If a system of incentives could be developed, it could be implemented through an inter-agency Memorandum of Understanding signed by MEPA and several agencies whose permits are subject to MEPA review, such as MassDOT, DEP, DCR, MWRA, and others. MAPC would also support an Executive Order that created greater clarity and outlined the ways the state would incentivize more resilient project design and mitigation. Such a broader state strategy might also include aligning priorities for state grants as well as regulatory incentives.

The MEPA process should be leveraged as much as possible to seek better resilience outcomes from new developments. **The straw proposal is a good step in that direction, and we encourage MEPA and other state agencies to continue to evolve and strengthen this process.**

Vehicle Miles Traveled (VMT)

Vehicle Miles Traveled (VMT) is increasingly recognized as a metric for sustainability. Rather than solely emphasizing the number of trips generated by a project, or level of service (LOS), a VMT metric enables a more accurate analysis of the project's environmental impact by measuring the distance of the trips generated and the resulting greenhouse gas emissions. **MAPC strongly supports VMT tracking as a measure of MEPA compliance.**

Evidence of a change in basic assumptions from mobility-based to accessibility-based planning – otherwise referenced as “LOS to VMT”- is outlined in a recent study by the Institute of Traffic Engineers, Vehicle-Miles Traveled (VMT) as a Metric for Sustainability³. This study highlights a shift from capacity and vehicle-oriented planning, with a focus on accessibility and individual behavior. This study also recognizes that the goal of transportation is to provide individuals with efficient access to services.

Many factors can affect accessibility, including auto and non-auto modes, transportation network connectivity, development density, and land use mix. The table below illustrates key distinctions between mobility- and accessibility-based planning, each of which yield significantly different land use outcomes, and thus different environmental impacts, when applied as a metric for development review.

Mobility and Accessibility Compared

	Mobility	Accessibility
Goal	Maximize travel speed and distance.	Maximize access to services and activities.
Travel Modes	Mainly automobile	Automobile, active transportation, public transport, and telecommunication.
Performance indicators	Vehicle traffic speeds, roadway level-of-service, hours of congestion delay.	Number of services and jobs that can be reached within people's time and money budgets.
Factors considered	Vehicle travel speeds. Vehicle operating costs.	Vehicle travel speeds. Total transportation costs. Non-auto travel speed, convenience and affordability. Geographic proximity (development density and mix).
Favored improvements	Roadway and parking facility expansions.	Road and parking facility expansions. Non-auto mode improvements. More compact, multimodal development. Transportation demand management (TDM) incentives for more efficient travel.

Mobility-based planning evaluates transportation system performance-based vehicle travel conditions, which favors roadway expansions. Accessibility-based planning recognizes other factors that affect accessibility, which supports multimodal planning, compact development, and TDM incentives.

Source: *VMT as a Metric of Sustainability?: Why and How to Implement Vehicle Travel Reduction Targets*, July 2024, ITE Journal

Many states have established vehicle travel reduction targets to reduce per capita VMT and to support the shift to accessibility-based planning, including California, Colorado, Minnesota, Oregon, and Washington. Planners in these states must evaluate whether individual transportation and land use planning decisions support or contradict those targets, and those that reduce VMT are favored, while those that increase VMT are either rejected or mitigated. For example, California has set regulatory targets to reduce per capita-light duty VMT by 15% by 2030 and 30% by 2045, and the state requires government agencies to consider these targets in planning decisions.

³ <https://www.planetizen.com/news/2023/10/126093-vehicle-miles-traveled-metric-sustainability>

A summary of these established VMT reduction targets reveals that **Massachusetts's goal of a 1% household VMT reduction by 2025 (from a 2015 baseline) and a 3% by 2030 does not position the Commonwealth to meet its own climate goals and lags significantly behind those of other states**. It is important to recognize that, although states may use different methodologies to measure VMT, efforts at mitigation remain relatively consistent and emphasize promoting Transportation Demand Management (TDM) and compact land use.

Summary of State Vehicle Miles Traveled (VMT) Reduction Targets

State	VMT Reduction Targets	Legislation	Mitigation
California	25% by 2030, 30% by 2050	SB 743 CEQA: Transportation Impacts (SB 743) - Office of Planning and Research (ca.gov)	VMT modeling is a key element of establishing VMT targets, as it provides information about the relative benefits of different investments, the range of potential possible reductions, and the likelihood of meeting future reduction goals.
Colorado	10% by 2030	2021 State Transportation Funding Bill (SB260)	Transportation Demand Management planning and land use incentives: <ul style="list-style-type: none"> • State agencies must work with local governments and metropolitan planning organizations to develop strategies to promote more sustainable land use planning. • Integrate State GHG Pollution Standards and Analysis in regional, and statewide Plans. • Implement enhanced multimodal options.⁴
Minnesota	20% by 2050	H2887DE (mn.gov)	Mitigation can include transit expansion, transit service improvements, active transportation infrastructure, micromobility services and infrastructure, TDM, parking management, land use (e.g.,

⁴ [CO GHG Pollution Reduction Roadmap Final Report.pdf - Google Drive](#)

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			density increases, mixed-use development, and Transit-Oriented Development), and infrastructure improvements related to traffic operations.
Washington	30% by 2035, 50% by 2050	Wash. Rev. Code § 47.01.440	Washington State DOT's Vehicle Miles Traveled (VMT) Targets – Final Report identifies numerous mitigation strategies that include land use patterns and growth management, multimodal transportation systems, parking reform, and TDM. ⁶

There is compelling evidence that effective planning, development, and Transportation Demand Management (TDM) strategies can decrease VMT. The ITE report, *Vehicle-Miles Traveled (VMT) as a Metric for Sustainability*, presents several case studies from California, Minnesota, Oregon, and other places. The case study summaries highlight successful approaches and identify what worked well along with next steps.

MAPC recommends that the EOEEA provide guidance on a methodology for VMT modeling. This modeling is essential for using VMT as a metric for sustainability, as it provides information into the comparative benefits of various investments, range of potential reductions, and the probability of achieving future reduction targets. Examples of current tools for VMT tracking and modeling include:

- **The California Department of Transportation's (Caltrans) Vehicle Miles Traveled (VMT) - Focused Transportation Impact Study Guide (TISG)**⁷ provides guidelines and methodologies for evaluating and mitigating transportation impacts based on VMT. The study guide aligns with California's goals of reducing GHG emissions, promoting sustainable development, and alleviating congestion.
- **The California Emissions Estimator Model (CalEEMod)**⁸ is a tool designed to estimate and evaluate vehicle emissions in California. It helps evaluate the environmental impacts of transportation projects, policies, and land use planning.

⁶ Washington State Department of Transportation, Vehicle Miles Traveled (VMT) Targets –Final Report, June 2023. <https://wsdot.wa.gov/sites/default/files/2023-06/VMT-Targets-Final-Report-June2023.pdf>

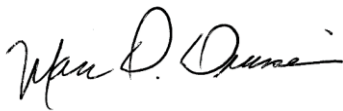
⁷ <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf>

⁸ <https://www.caleemod.com/>

- Washington State Department of Transportation utilizes **VisionEval**⁹ to model various transportation funding scenarios, aiding planners in understanding how various investment scenarios affect changes in VMT and GHG emissions.
- Developed by Fehr & Peers, **VMT+**¹⁰, provides recent estimates based on observed travel conditions in California with the capability of comparing VMT per capita across regions and the entire state, equipping planners with more robust and reliable data.
- Developed by RMI, the **SHIFT Calculator**¹¹ enables users to estimate induced VMT and emissions impacts over time from capacity expansions of large roadways in Metropolitan Statistical Areas (MSAs) or urbanized counties, based on existing lane mileage and vehicle miles traveled data from the Federal Highway Administration.

Thank you for considering our recommendations on Greenhouse Gas Emissions, Climate Resilience, and VMT as the EOEEA begins the process of updating and improving the 2010 and 2021 protocols.

Sincerely,



Marc Draisen
Executive Director



Elizabeth Weyant
Deputy Executive Director

cc:

David Mohler, MassDOT
Tori Kim, Assistant Secretary/MEPA Director

⁹ <https://visioneval.github.io/>

¹⁰ <https://www.fehrandpeers.com/project/find-my-vmt/>

¹¹ <https://shift.rmi.org/>