

MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations
Effective Date: January 1, 2022

Authority and Background

This *MEPA Interim Protocol for Analysis of Impacts on Environmental Justice Populations* (hereinafter, “*MEPA Interim Protocol for Analysis of EJ Impacts*”) addresses new requirements for MEPA project filings as set forth in: (i) **Section 58** of Chapter 8 of the Acts of 2021: *An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy* (the “Climate Roadmap Act” or “the Act”); and the 2021 update to the Executive Office of Energy and Environmental Affairs (EEA) Environmental Justice Policy (the “2021 EJ Policy”). This protocol accompanies the *MEPA Public Involvement for Environmental Justice Populations* (hereinafter, the “*MEPA EJ Public Involvement Protocol*”), which implements public involvement requirements set forth in Section 60 of the Act.

On March 26, 2021, Governor Baker signed into law the Climate Roadmap Act, which enacted a new definition of “Environmental Justice [EJ] Population” for purposes of enhancing MEPA review procedures. The new statutory definition of “EJ population” includes four categories of neighborhoods (defined as census block groups) with certain demographic characteristics based on median income level, percentage of residents who are people of color (*i.e.*, minority), and percentage of residents who have limited English proficiency (LEP). In turn, Section 58 of the Act provides that an “environmental impact report [EIR] shall be required for any project that is likely to cause damage to the environment and is located within a distance of 1 mile of an environmental justice population; provided, that for a project that impacts air quality, such environmental impact report shall be required if the project is likely to cause damage to the environment and is located within a distance of 5 miles of an environmental justice population.” Section 58 further defines the analysis that must be contained in the EIR to assess the level of existing “unfair or inequitable environmental burden” impacting the EJ population, and whether the project’s impacts will likely result in a “disproportionate adverse effect,” or increase or reduce the effects of climate change, on such population.¹

Starting in 2020, the MEPA Office embarked on an effort to update its EJ related review protocols, in consultation with the EEA EJ Director and other EEA agencies. This effort coincided with parallel efforts to update MEPA regulations at 301 CMR 11.00 et seq. The MEPA Office is issuing this *MEPA Interim Protocol for Analysis of EJ Impacts* as one component of its overall MEPA Office EJ Strategy to be implemented in 2021-22. This protocol addresses only the content of EIRs as set forth in Section 58 of the Act; other requirements of the Act relative to public involvement will be addressed through a separate *MEPA EJ Public Involvement Protocol*, which is being issued together with this protocol.

On June 24, 2021, EEA updated the 2017 EJ Policy that was previously in effect. The 2021 update (the “2021 EJ Policy”)², consistent with the 2017 EJ Policy, requires that projects triggering certain MEPA ENF review

¹ Under Section 102A of the Act, the Secretary of EEA is required to promulgate regulations to implement Sections 57 and 58 of the Act within 180 days of the effective date of the Act. In accordance with this statutory mandate, the Secretary issued draft regulations for public comment under M.G.L. c. 30A on September 17, 2021, and filed final regulations on December 10, 2021 for publication in the December 24, 2021 Massachusetts Register.

² <https://www.mass.gov/doc/environmental-justice-policy6242021-update/download>

thresholds provide opportunities for “enhanced public participation” by surrounding EJ populations,³ and that projects triggering certain mandatory EIR thresholds conduct an “enhanced analysis of impacts and mitigation,” in addition to enhanced public participation.⁴ The MEPA thresholds to which these EJ requirements apply are those related to wastewater (301 CMR 11.03(5)), air emissions (11.03(8)), and solid and hazardous waste (11.03(9)). This *MEPA Interim Protocol for Analysis of EJ Impacts* expands on, but remains consistent with, the requirements of the 2021 EJ Policy. Accordingly, this protocol shall define the requirements for analyzing EJ impacts for all MEPA projects filed after the January 1, 2022 effective date.

Protocol

I. Applicability of EIR Requirement

Section 58 of the Act requires that an EIR be submitted:

- for any project that is likely to cause damage to the environment and is located within a distance of 1 mile of an EJ population; or
- if a project impacts air quality, for any project that is likely to cause damage to the environment and is located within a distance of 5 miles of an EJ population

Consistent with MEPA regulations at 301 CMR 11.00, the term “likely to cause damage to the environment” in Section 58 of the Climate Roadmap Act is construed to mean project impacts that meet or exceed MEPA review thresholds set forth in 301 CMR 11.03. See 301 CMR 11.01(2)(b) & 11.03 (MEPA “review thresholds identify categories of Projects or aspects thereof of a nature, size or location that are likely, directly or indirectly, to cause Damage to the Environment”). Thus, Section 58 requires projects that meet or exceed one or more MEPA review thresholds and are otherwise subject to MEPA review under 301 CMR 11.01(2) to submit an EIR, if the project is located within 1 mile of an EJ population.

A project is also required to submit an EIR, if it meets the same criteria above, but is located within 5 miles of an EJ population and will impact air quality. A project will be determined to impact air quality if it meets or exceeds MEPA review thresholds under 301 CMR 11.03(8)(a)-(b) or generates 150 or more New adt of diesel vehicle traffic, excluding public transit trips, over a duration of 1 year or more.

Consistent with 301 CMR 11.02, the respective 1-mile and 5-mile areas around a project site shall be referenced in this *MEPA Interim Protocol for Analysis of EJ Impacts* as the “designated geographic area” for the project.

II. Assessment of Existing Unfair or Inequitable Environmental Burden

Under Section 58 of the Act, and consistent with *new* 301 CMR 11.07(6)(n), each project to which the new EIR requirement applies under Part I must submit an EIR that contains “statements about the results of an assessment of any existing unfair or inequitable environmental burden and related public health consequences”

³ The specific ENF thresholds are 301 CMR 11.03(5)(b)(1)-(2), (5); 301 CMR 11.03(8)(b); and 301 CMR 11.03(9)(b).

⁴ The specific EIR thresholds are 301 CMR 11.03(5)(a)(1), (6); 301 CMR 11.03(8)(a)(1); and 301 CMR 11.03(9)(a).

impacting the environmental justice population from any prior or current private, industrial, commercial, state, or municipal operation or project that has damaged the environment.”

This assessment shall address all identified EJ populations located in whole or in part within the designated geographic area for the project.⁵ The assessment should then survey past and current polluting activities that may have contributed to an “existing environmental burden” impacting the EJ population that may be “unfair and inequitable” as compared to the general population. While measuring the individual effects of a multitude of past and current activities is a complex endeavor, publicly available mapping tools exist as resources, as described below.

First, Proponents should consult the Massachusetts Department of Public Health (DPH) EJ Tool⁶ to identify whether any municipality or census tract that includes any of the identified EJ populations exhibits any of four “vulnerable health EJ criteria.” Such criteria are environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average.⁷ Any EJ population that exists within those municipalities or census tracts could then be viewed as exhibiting “vulnerable health EJ criteria,” and therefore potentially bearing an “unfair or inequitable” environmental burden and related public health consequences. The Proponent is encouraged to conduct its own research into localized sources of data that may show additional public health vulnerabilities of the identified EJ population.

Second, the Proponent should consult additional data layers in the DPH EJ Tool to survey other potential sources of pollution within the boundaries of the EJ population. While comparisons to statewide averages are not presently available in the DPH EJ Tool, the Proponent should provide a narrative description of the estimated number and type of mapped facilities/infrastructure in the area, and survey enforcement histories of any facilities permitted by Massachusetts Department of Environmental Protection (MassDEP).⁸

Available mapping layers in the DPH EJ Tool include the following:

- MassDEP major air and waste facilities
- M.G.L. c. 21E sites
- “Tier II” toxics use reporting facilities
- MassDEP sites with AULs
- MassDEP groundwater discharge permits
- Wastewater treatment plants
- MassDEP public water suppliers
- Underground storage tanks
- EPA facilities

⁵ The specific EJ populations and the 1-mile and 5-mile distances shall be calculated in the manner described in Part I of the *MEPA EJ Public Involvement Protocol*.

⁶ <https://matracking.ehs.state.ma.us/Environmental-Data/ej-vulnerable-health/environmental-justice.html>

⁷ Four vulnerable health EJ criteria are tracked in the DPH EJ Viewer, of which two (heart attack hospitalization and childhood asthma) are tracked on a municipal level, and two (childhood blood lead, and low birth weight) are tracked on a census tract level.

⁸ Enforcement information is available at <https://eeaonline.eea.state.ma.us/Portal/#!/search/enforcements>

- Road infrastructure
- MBTA bus and rapid transit
- Other transportation infrastructure
- Regional transit agencies
- Energy generation and supply

Third, Proponents should consult the standard output report generated from the RMAT Climate Resilience Design Standards Tool (the “RMAT Tool”),⁹ which is required as an attachment to the ENF/EENF.¹⁰ Proponents should identify in the EIR whether the RMAT Tool indicates a “High” risk rating for sea level rise/storm surge or extreme precipitation (urban or riverine flooding) as applied to the project location. A “High” risk rating for these parameters could be an indicator of elevated climate risks for EJ populations that immediately surround the project site (meaning all EJ populations located in whole or in part within the project boundaries). The risk rating for the “extreme heat” parameter should not be used as a definitive indicator of elevated climate risks.

Fourth, Proponents, at their option, may consult U.S. EPA’s “EJ Screen,”¹¹ which provides a percentile ranking by census block group, compared against statewide averages, for 11 environmental indicators. When using the tool, Proponents should select the “compare to state” function and turn off the “EJ index” data layer—while the EJ index is calculated from the 11 environmental indicators after considering demographic information and population density, this calculation may be inconsistent with the definition of “EJ population” codified in Massachusetts law. The environmental indicators/percentiles could be relevant for assessing potential environmental exposures in the relevant census block as compared to statewide averages, and, therefore, could serve as a potential (though not definitive) indicator of “unfair or inequitable” environmental burden impacting the EJ population.

The environmental indicators available through the EPA EJ Screen are as follows:

Indicator	Exposure v. Risk	Key Medium
NATA Air Toxics Cancer Risk (lifetime exposure)	Risk/Hazard	Air
NATA Respiratory Hazard Index Ratio	Risk/Hazard	Air
NATA Diesel PM (DPM)	Potential Exposure	Air
Particulate Matter (PM2.5) (annual average)	Potential Exposure	Air
Ozone (summer seasonal average, daily 8-hr max)	Potential Exposure	Air
Lead Paint (% of housing built before 1960)	Potential Exposure	Dust/lead paint

⁹ https://resilientma.org/rmat_home/designstandards/

¹⁰ See <https://www.mass.gov/doc/mepa-interim-protocol-on-climate-change-adaptation-and-resiliency-effective-oct-1-2021/download>.

¹¹ <https://www.epa.gov/ejscreen>. Note that online user guides and training videos are available at <https://www.epa.gov/ejscreen/learn-use-ejscreen>.

Traffic Proximity and Volume Count of vehicles (average annual)	Proximity/Quantity	Air
Proximity to RMP (Risk Management Plan / hazardous waste cleanup) Sites	Proximity/Quantity	Waste/Water/Air
Proximity to TSDFs (Hazardous waste Treatment, Storage, and Disposal Facilities)	Proximity/Quantity	Waste/Water/Air
Proximity to NPLs (National Priority List / Superfund sites)	Proximity/Quantity	Waste/Water/Air
Wastewater Discharge Toxicity (based on NPDES permitted discharge locations)	Proximity/Quantity	Water

Finally, any specific concerns raised or feedback received during pre-filing consultations conducted by the Proponent with community-based organizations (CBOs), tribes, or other individuals pursuant to the *MEPA EJ Public Involvement Protocol* should be reviewed to determine whether such feedback should be viewed as indicating existing environmental burdens or related public health consequences impacting the EJ population. The Proponent’s efforts to provide meaningful opportunities for public involvement by EJ populations, including any changes made to the project to address concerns raised by or on behalf of such population, will be considered when determining whether to approve a request for expedited review procedures under 301 CMR 11.06(8) and (13).

Based on the information gathered as described in this Part II, and any other data or information obtained through the Proponent’s own research, the Proponent should provide a qualitative assessment of whether the factors reviewed appear to show that the identified EJ populations are impacted by an existing “unfair or inequitable” environmental burden and related public health consequences as compared to the general population. As a general matter, the Proponent should conclude that any identified EJ population that is located in a municipality or census tract demonstrating “vulnerable health EJ criteria,” or an EJ population immediately surrounding a project location that has a “High” risk rating in the RMAT tool for sea level rise/storm surge or extreme precipitation (urban or riverine flooding), is highly likely to be impacted by an unfair or inequitable environmental burden, such that the Proponent should move to Part III.

III. Analysis of Project Impacts to Determine Disproportionate Adverse Effect

Unless the assessment in Part II shows the absence of any “unfair or inequitable” environmental burden or related public health consequence impacting the identified EJ population as compared to the general population, the Proponent must further analyze whether the environmental and public health impacts from the project will likely result in a disproportionate adverse effect on such population. If the only applicable screening criterion relates to climate change risks identified through the RMAT tool, refer to Part IV below.

The Proponent should conclude that the project will create a disproportionate adverse effect if it will have adverse impacts on the EJ population that will materially exacerbate any existing unfair or inequitable environmental or public health burden impacting the EJ population. In addition, the Proponent should consider

project benefits that improve environmental conditions or the public health of the EJ population, or otherwise reduce the potential for unfair or inequitable effects on the EJ population. In particular, Environmental Benefits as defined in 301 CMR 11.02 should be considered to assess whether the project will result in a more equitable distribution of energy and environmental benefits and environmental burdens.

In analyzing adverse impacts, the Proponent should consider:

- The nature and severity of the project's environmental and public health impacts; and
- The comparative impact on EJ populations versus non-EJ populations within the project site or other comparable area

The Proponent should also consider:

- Any project benefits, including Environmental Benefits, that improve environmental conditions or the public health of the EJ population, or otherwise reduce the potential for unfair or inequitable effects on the EJ population

A. Nature and Severity of Project Impact

The Proponent should analyze whether the nature and severity of project impacts will materially exacerbate any existing unfair or inequitable environmental or public health burden impacting the EJ population. In assessing severity of an impact, the Proponent should consider both magnitude and duration.

For example, a project that would have permanent traffic impacts affecting EJ populations with elevated public health conditions could be viewed as having a disproportionate adverse effect on such population. This is especially so, if any identified environmental or public health indicators related to air quality (such as PM 2.5/ozone exposure or asthma rates) are elevated in the EJ population, and the magnitude of the increase is at least 2,000 unadjusted adt (the ENF-level MEPA review threshold at 301 CMR 11.03(6)(b)13.) and is in close proximity to the EJ population. The Proponent should conduct analysis or modeling sufficient to demonstrate the magnitude of any relevant project impacts, for instance, by conducting air quality analysis of permanent increases in traffic consistent with the *MassDEP Guidelines for Performing Mesoscale Analysis of Indirect Sources (1991)*. Mitigation measures that would specifically reduce the magnitude of the identified impact can be considered. It is important to note that, where the level of existing burden is high, even a small addition of project impacts may create disproportionate adverse effects. For instance, if any of the DPH vulnerable health EJ criteria or other public health or environmental indicators are well above statewide rates (e.g., an environmental indicator above the 80th percentile of statewide average in EPA's EJ Screen), even a small addition of impacts (e.g., below 2,000 unadjusted adt of permanent new traffic) could be viewed as creating a disproportionate adverse effect.

In addition, while MEPA review thresholds at 301 CMR 11.03 provide a guide for a discussion of impacts, the Proponent shall not limit the discussion to impacts that meet or exceed MEPA review thresholds, and, instead, shall address all short-term and long-term impacts associated with the project, including construction period

activities. For instance, an estimate of construction vehicle traffic and routes of travel may be warranted if construction activities will be occurring in close proximity to already-burdened EJ populations.

B. Comparable Impacts on EJ and Non-EJ Populations

In reviewing adverse impacts on the EJ population, the Proponent should also analyze whether the impacts on the EJ population are greater or less than those on non-EJ populations. The purpose of this analysis is to assess whether the project is adding impacts to an already burdened area in a “targeted” way that is disproportionate when compared to non-EJ populations. While the Proponent should generally compare EJ and non-EJ populations within the project site, a comparable area outside the project site could be chosen—for instance, if the EJ population itself is located outside the boundaries of the project site (but within the project’s designated geographic area) or if the project is located entirely within an EJ population such that a comparison with non-EJ populations within the project site is not possible. In some cases, it may be appropriate to compare similar prior projects undertaken by the Proponent in non-EJ populations to explain why the area containing the EJ population was chosen for the project at hand and whether alternative locations outside the EJ population were considered. If a comparable area is selected outside the project site, the Proponent should provide a clear justification for why the area is viewed to be “comparable” or “similarly situated” such that a comparison with the applicable EJ population is reasonable. The Proponent should conclude that the project will have a disproportionate adverse effect on the EJ population, if the adverse impacts of the project are materially greater on EJ populations than on non-EJ populations in the comparison area. If so, the Proponent must provide an explanation of whether the project has considered practical alternatives to reduce or mitigate the impacts on EJ populations, and if so, what, if any, of such alternatives or mitigation were incorporated into the project.

C. Project Benefits

In addition to analyzing adverse impacts, Proponent should analyze any project benefits that improve environmental conditions or the public health of the EJ population, or otherwise reduce the potential for unfair or inequitable effects on the EJ population. Emphasis should be given to project benefits that are intended to reduce any existing environmental burdens or public health consequences identified under Part II, or intended to mitigate project impacts that specifically affect the identified EJ populations. The Proponent should also analyze whether the project will provide “Environmental Benefits” for the identified EJ population, so as to result in a more equitable distribution of energy and environmental benefits and environmental burdens in accordance with “Environmental Justice Principles” as defined in 301 CMR 11.02.

IV. Analysis of Project Impacts to Determine Climate Change Effects

Unless the assessment in Part II shows the absence of any “unfair or inequitable” environmental burden or related public health consequence borne by the identified EJ population as compared to the general population, the Proponent must further analyze, in addition to the analysis in Part III if applicable, whether the proposed project will increase or reduce the effects of climate change on the EJ population. In conducting this assessment, the Proponent should consider the following:

- Whether the project is likely to exacerbate the climate risks shown in the RMA tool in a manner that affects the identified EJ population.; and
- Whether the greenhouse gas (GHG) emissions associated with the project are likely to affect EJ populations that use or occupy the project

A. Climate Adaptation

The Proponent should review the output report generated from the RMA Tool to assess whether the climate parameters for sea level rise/storm surge and extreme precipitation (urban or riverine flooding) are ranked “High” and would affect the applicable EJ population(s). For instance, a residential dwelling that may not be sufficiently elevated to accommodate future sea level rise conditions may affect EJ populations, if it is located within an EJ population or specifically intended for use by EJ populations. Also, if a project proposes to cut a substantial number of trees in a manner that potentially adds to heat conditions in the area, or proposes to add impervious cover in a manner that worsens flooding conditions in the surrounding neighborhood, such impacts could have effects on EJ populations located in and around the project site. Any aspects of the project that could reduce climate risks, such as improvements to stormwater management systems and the use of pervious pavement and surfaces should also be reviewed. The Proponent should conduct analysis or modeling to quantify any anticipated climate change effects as appropriate, and should apply best available data on future climate conditions where available. The recommended design standards in the RMA tool may provide a resource in performing such quantitative analyses.

B. GHG Emissions

The Proponent should conduct a GHG emissions analysis if a project is expected to generate 2,000 or more tpy of GHG (CO₂) emissions from conditioned spaces that are likely to be used or occupied by EJ populations. As a general matter, this analysis will be required only for residential dwellings or commercial buildings intended for human use or occupation and located in whole or in part within a census block designated as an EJ population. The estimate of GHG emissions can be generated by inserting building types and square footage into an [Emissions Footprint Estimation Tool, available here](#).¹² The analysis should generally follow the methodology set forth in the 2010 MEPA Greenhouse Gas Emissions Policy and Protocol (the “2010 GHG Policy”), and should provide energy efficiency modeling to support GHG estimates for the Base Case and Design Case. To the extent a project is already required to conduct a GHG analysis under the 2010 GHG Policy, that analysis will satisfy the requirements of this Part IV.B.

V. **Ecological Restoration Projects**

For any project seeking to qualify in its entirety as an “Ecological Restoration Project” under the Wetlands Protection Act and implementing regulations at 310 CMR 10.00, the analysis required in Part II-IV can be provided in a checklist format as follows:

¹² This spreadsheet was developed using the most recent International Energy Conservation Code (IECC). A more detailed explanation of data sources is included in a separate tab in the tool.

<p>Describe any existing unfair or inequitable environmental burdens and public health consequences impacting the EJ population, with primary focus on whether the EJ population is located within a census tract or municipality meeting “vulnerable health EJ criteria” in the DPH tool, and whether the project site is located in an EJ population and subject to “High” climate risks in the RMA tool</p>	
<p>Describe all potential adverse environmental and public health impacts of the project on the EJ populations (e.g., construction period, elimination of tree cover or recreational opportunity) and include quantitative measures to the extent practicable</p>	
<p>Discuss how the project will benefit the EJ populations to reduce the potential for unfair or inequitable effects, including whether the project will confer “Environmental Benefits” so as to further “Environmental Justice Principles” as defined in 301 CMR 11.02</p>	
<p>Discuss whether the project is likely to exacerbate any climate risks identified in the RMA tool in a manner that affects the identified EJ population, including any potential for increased flooding risks</p>	
<p>Describe efforts to involve EJ populations in decision-making for the project and any project alternatives that were considered to reduce impacts to EJ populations or address specific concerns raised by or on behalf of EJ populations</p>	

The analysis provided by Ecological Restoration projects must be supported by an affirmative statement that the project will not materially exacerbate any existing unfair or inequitable environmental burden and related public health consequences impacting the identified EJ population(s), and will not result in a disproportionate adverse effect or increased climate change effects on such EJ population(s). The analysis must be accompanied by Proposed Section 61 findings as described in Part VI.

VI. Mitigation and Section 61 Findings

To the extent any disproportionate adverse effects or increased climate change risks are identified for the EJ population under Parts II-V, the Proponent must describe measures to address such effects on EJ populations. These measures should be considered in addition to those that the project proposes to take to avoid, minimize and mitigate its environmental impacts more generally. For instance, measures proposed to reduce traffic congestion in the area (such as roadway improvements or traffic signals) may be sufficient to address potential deterioration in traffic conditions, but may not sufficiently address the disproportionate adverse effects that may result from the addition of air pollutants to an already burdened EJ population. In this instance, additional mitigation to further reduce project impacts (such as a more robust traffic demand management (TDM) program or re-routing project related traffic away from EJ populations) or to ameliorate the existing burden borne by the EJ population (such as contributions to public health services or air quality monitoring) may be warranted. Measures to address climate change risks are particularly important, in light of the vulnerabilities faced by the EJ populations that hinder access to affordable energy resources and the ability to adapt to extreme climate events, such as extreme and more frequent storms and associated flooding. In accordance with 301 CMR 11.07(6)(n), any EIR prepared under Section 58 of the Act must include proposed Section 61 findings identifying any and all actions to be taken to address any identified disproportionate adverse effects, or any increase in the effects of climate change, on EJ populations. Any Agency required to issue Section 61 Findings must then specify, as applicable, “any and all actions to be taken to reduce the potential for unfair or inequitable effects upon Environmental Justice Populations.” 301 CMR 11.01(4)(c)2.

VII. Scoping

The Secretary may require specific analysis, or further define the methodologies for performing the assessments required in Parts II-V above, in the Secretary’s Scope for an EIR, including:

- The data sources that must be consulted;
- The types of environmental impacts and related public health consequences that must be evaluated for a particular project;
- Any supplemental analysis that may be required to determine whether there is an existing “unfair or inequitable” environmental burden or public health consequence impacting the identified EJ population(s), based on a survey of publicly available data;
- The types of impacts that must be analyzed in determining whether the project will “likely result in a disproportionate adverse effect” on the EJ population and any supplemental analysis that may be required in making that determination after considering project benefits and mitigation;

- The types of climate change impacts that must be analyzed in determining whether any effects on EJ populations will be increased or reduced; and
- Any supplemental analysis that may be required to describe appropriate mitigation to address impacts to EJ populations

Consistent with 301 CMR 11.06(8) and (13), any project seeking approval to file a Single EIR or rollover EIR must provide an expanded analysis of EJ impacts in the initial MEPA filing. Consistent with 301 CMR 11.01(1)(b), the Secretary's Scope shall serve to solicit disclosures to allow for a full consideration of Environmental Justice Principles in order to reduce the potential for unfair or inequitable effects upon EJ populations.