

# GREENHOUSE GAS (GHG) EMISSIONS PERFORMANCE – FINAL RULE

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## Performance Based Planning and Programming (PBPP)

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National Capital Region  
**Transportation Planning Board**

# Presentation Outline

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# GHG Final Rule

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- On November 22, 2023, the Federal Highway Administration (FHWA) announced a notice of final rulemaking to establish a performance measure for greenhouse gas (GHG) emissions
- The final rule was published in the Federal Register on December 7, 2023.
- Requires State DOTs and MPOs to set declining targets for carbon dioxide (CO<sub>2</sub>) emissions on the National Highway System (NHS) as part of the PBPP process.
  - Based on reference year CY 2022.



# State DOT Requirements

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- The new rule requires State DOTs to establish initial targets by February 1, 2024. The targets must be reported to FHWA in an Initial State DOT GHG Report.
- The rule requires 4-year and 2-year targets, aligned with the quadrennial PBPP timeline.
  - Only 4-year targets are required for the current quadrennial period, 2022 – 2025.
  - Performance against targets will first be reported in October 2026 in the Final Period Performance Report due to FHWA.



# GHG Formulas for State DOTs

- State DOTs must use a prescribed formula for calculating emissions (in million metric tons, MMT)

$$(\text{Tailpipe CO}_2\text{Emissions on NHS})_{\text{CY}} = \left( \sum_{t=1}^T (\text{Fuel Consumed})_t \times (\text{CO}_2\text{Factor})_t \right) \times \left( \frac{\text{NHS VMT}}{\text{Total VMT}} \right)$$

- Uses three data elements:
  - CO2 factors for each on-road fuel type (t), posted by FHWA
  - Motor fuel consumption data collected by State DOTs and reported to FHWA in the Fuels and Financial Analysis System-Highways (Fuels & FASH) system
  - VMT data collected by State DOTs and reported to the FHWA in the Highway Performance Monitoring System (HPMS)



# GHG Formulas for State DOTs, cont.

- GHG emissions performance (to tenth of a percent) is then calculated compared to the reference year, CY 2022.

$$\frac{(\text{Tailpipe CO}_2\text{Emissions on NHS})_{\text{CY}} - (\text{Tailpipe CO}_2\text{Emissions on NHS})_{\text{reference year}}}{(\text{Tailpipe CO}_2\text{Emissions on NHS})_{\text{reference year}}} \times 100$$

- There are no guidelines for developing or setting targets (for future years).  
*“State DOTs and MPOs have the flexibility to set targets that work for their respective climate change policies and other policy priorities, so long as they are declining.”*
- There are no penalties (or incentives) associated with actual performance vs. targets.



# MPO Requirements

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- MPOs have up to 180 days following State DOT establishment of targets to establish 4-year targets.
  - MPOs establish targets for their metropolitan planning area (MPA) as well as each urban area > 200K population.
  - MPOs may support State DOT targets or establish their own quantitative targets.
  - Urban areas with portions of the NHS that fall within more than one MPA must have joint quantitative targets established by the appropriate MPOs.



# MPO Options

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- MPOs have flexibility in measuring or determining performance for CO2 emissions.

*“MPOs may use the MPO share of the State’s VMT as a proxy for the MPO share of CO2 emissions in the State, VMT estimates along with MOVES emissions factors, FHWA’s Energy and Emissions Reduction Policy Analysis Tool (EERPAT) model, or other method the MPO can demonstrate has valid and useful results for CO2 measurement.”*

- Note that the fuel data factor used in the State DOT calculation is not available on a MPA or urban area basis.





# What this means for the TPB

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- TPB will need to adopt 4-year targets for the period 2022-2025 no later than July 2024.
- Will need to adopt three targets:
  - TPB metropolitan planning area.
  - Washington DC-MD-VA urban area, jointly with BRTB and FAMPO.
  - Baltimore MD urban area, jointly with BRTB.
- From the perspective of the GHG reduction goals established by the TPB, the federally-required GHG performance measure is calculated using a different method, only applies to the NHS, and is established for a different time period.



# Next Steps / Schedule

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- Will brief the TPB at its January meeting on the new PBPP GHG rule.
- Over the next several months. TPB will coordinate with State DOTs and adjoining MPOs on evaluation and implementation of this new federal requirement, including:
  - State DOTs' data, GHG emissions performance for reference year, targets, and methodology used for target development.
  - Research options available for determining GHG emissions performance and developing targets as required of the TPB.
- Anticipate briefing the TPB and Tech Committee on recommended methodology and targets in May, followed by TPB adoption of the required targets in June.



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