PLANNING TOPICS

ADDRESSING GREENHOUSE GASES (GHG) IN THE TRANSPORTATION PLANNING PROCESS

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Why should planners address GHG in the transportation planning process?

Transportation is the largest emitter of greenhouse gases (GHGs) in the United States—as well as one of the fastest-growing sources. National inventories (https://www.epa.gov/sites/default/files/2021-04/documents/us-ghg-inventory-2021-main-text.pdf) suggest the transportation sector generates approximately 29 percent of the Nation's GHG emissions, and roadway vehicles account for about 83 percent of that amount. Integrating the consideration of GHG emissions into transportation planning and decision-making is a critical step that agencies can take toward meeting national reduction goals and reducing their climate impact.

State departments of transportation (DOTs), metropolitan planning organizations (MPOs), and transit agencies play essential roles in implementing policies, programs, and projects that can reduce GHG emissions, not only directly from motor vehicles, but

also life-cycle emissions from construction and embodied carbon of materials. Integrating the consideration of GHG emissions into agency procedures and decision-making can lead to better transportation program and project decisions.

What is the EDC-7 Integrating GHG Assessment and Reduction Targets in Transportation Planning Initiative?

Every Day Counts (EDC) (https://www.fhwa.dot.gov/innovation/everydaycounts/) is a FHWA program that uses a State-based model to identify and rapidly deploy proven, yet underutilized innovations that make our transportation system adaptable, sustainable, equitable, and safer for all. Proven innovations promoted through EDC facilitate greater efficiency at the State, Local, and Tribal levels, saving time, money, and resources to ensure our infrastructure is built better, faster, and smarter.

FHWA works with State transportation departments, Metropolitan Planning Organizations, local governments, tribes, private industry, and other stakeholders to identify a new collection of innovations to champion every two years that merit accelerated deployment.

DOTs and MPOs can address GHGs in the planning process based on state-of-the-practice examples. These approaches include specific analytic tools, methods, and frameworks to support target setting and GHG estimation that can be integrated with existing planning products, including statewide and metropolitan transportation plans and transportation improvement programs. They can also support planning for programs such as the newly established National Electric Vehicle Infrastructure Program (https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm) and Carbon Reduction Program (https://www.fhwa.dot.gov/bipartisan-infrastructure-law/crp_fact_sheet.cfm).

Learn more about the Every Day Counts GHG initiative and sign up for the newsletter to hear about upcoming events here: Integrating GHG Assessment and Reduction Targets in Transportation Planning (https://www.fhwa.dot.gov/innovation/everydaycounts/edc_7/integrating_ghg.cfm)

Are there examples of State DOTs or MPOs addressing GHG in transportation planning?

DOTs and MPOs in several States are taking action to integrate best practices related to GHG policy and analysis into the transportation planning and project development process.

- The California DOT has a strategic management plan that calls for reducing GHG emissions to achieve a target 80-percent reduction below 1990 levels by 2050. The plan includes a performance measure for transportation-related GHG emissions.
- The Minnesota DOT (MnDOT) uses the Minnesota Infrastructure Carbon Estimator tool to evaluate GHG emissions from the agency's construction projects. MnDOT uses this information to monitor progress toward an agency goal for reducing construction GHG emissions.
- The Colorado DOT (CDOT) and MPOs in Colorado are planning to achieve GHG reduction levels for four time periods up to 2050 as established in State legislation and the Colorado GHG Pollution Reduction Roadmap. To determine compliance, CDOT and MPOs model existing transportation networks and all

future regionally significant capacity projects in their long-range transportation plans (LRTP).

- The Virginia DOT has used the Infrastructure Carbon Estimator to evaluate construction-related GHG emissions from projects as part of its LRTP. This information is included in a Statewide Greenhouse Gas Planning Level Analysis.

What resources are available to learn more about GHG in transportation planning?

Many of the resources here are being developed as part of the Every Day Counts initiative and will be frequently updated. Placeholders for many of these resources are shown below with specific products to be added as developed.

Webinars

Forthcoming

Case Studies

Forthcoming

Fact Sheets

Forthcoming

Handbooks

Forthcoming

Videos

- Innovation Spotlight: Integrating GHG Assessment and Reduction Targets in Transportation Planning (../exit_page.aspx?RedirectedURL=https://www.youtube.com/watch?v=S8tAr7_-xHg) (3:21) 10/23

Existing Resources

- USDOT Climate Change Center Greenhouse Gas Analysis Resources (https://www.transportation.gov/priorities/climate-and-sustainability/greenhouse-gas-analysis-resources-and-tools)
- NCHRP 25-56 Reducing Greenhouse Gas Emissions A Guide for State DOTs (../exit_page.aspx?RedirectedURL=https://crp.trb.org/nchrpwebresource1/self-assessments/) (2022)
- A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning (https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ghg_planning/index.cfm) (2013)
- SHRP2-C09: Incorporating Greenhouse Gas Emissions into the Collaborative Decision-Making Process (../exit_page.aspx?RedirectedURL=https://www.trb.org/Main/Blurbs/166936.aspx) (2013)
- Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process

(https://www.fhwa.dot.gov/environment/sustainability/energy/publications/ghg_handbook/index.cfm) (2013)