

Integrating GHG Assessment and Reduction Targets in Transportation Planning

By incorporating greenhouse gas (GHG) analysis into transportation planning, agencies can act now to help decrease future emissions.



Credit: Fotosearch.com

Transportation is the largest emitter of greenhouse gases (GHGs) in the United States—as well as one of the fastest-growing sources. [National inventories](#) 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.

TOOLS AND PRACTICES FOR EFFECTIVE DECISION-MAKING

State departments of transportation (DOTs) and metropolitan planning organizations (MPOs) 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.

DOTs and MPOs can address GHGs in the planning process based on vetted, 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](#) and [Carbon Reduction Program](#).

BENEFITS

Adaptable Strategies. Currently available tools and best practices related to GHG analysis and target setting will allow all agencies, regardless of technical capacity or size, to take steps toward integrating the consideration of GHG emissions into existing planning structures.

Practical Mitigation. Comprehensive methods of addressing GHG emissions, from both tailpipe and life-cycle emissions, can be integrated into current planning products and programs to provide decision-makers with reliable information that can be used to mitigate GHG emissions throughout a project’s life cycle.

Measurable Progress. By considering GHG emissions at every step in the transportation planning and decision-making process, agencies can align GHG reduction goals with strategies to meet targets and make progress.

STATE OF PRACTICE

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.



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- ▶ 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.

RESOURCES

NCHRP 25-56: [Reducing Greenhouse Gas Emissions: A Guide for State DOTs](#)

[A Performance-Based Approach to Addressing Greenhouse Gas Emissions through Transportation Planning](#)

SHRP2-C09: [Incorporating Greenhouse Gas Emissions into the Collaborative Decision-Making Process](#)

[Handbook for Estimating Transportation Greenhouse Gases for Integration into the Planning Process](#)



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