



Caltrans Division of Research,  
Innovation and System Information

# Research



# Results



Transportation  
Safety and  
Mobility

## ITS America-Facilitated Charrette on Environmental Performance

The charrette explored the idea of redefining ITS evaluation methods to help make the case that ITS projects provide environmental benefits, and that they should therefore be eligible for funding that is earmarked for environmental improvements

### WHAT WAS THE NEED?

This project will focus on how to measure the performance of ITS strategies and what methodologies, analytic tools, and models to use to demonstrate their impacts on reducing greenhouse gas emissions and other performance measures. Currently, minimal linkages between performance measurement techniques, greenhouse gas emissions measures, and Intelligent Transportation Systems (ITS) technologies exist in the industry that is comprehensive across the topics. Individual performance measures in each of these categories have been developed. Insights gained from a discussion on this issue area will augment a broader discussion on the synergies between ITS, performance measurement, and climate change/environmental-focused funding mediums.

Establishing well understood connections between ITS technology deployments and emissions or other environmentally-focused measures may alter the approach that local and state agencies employ when considering investment and funding sources for said ITS technologies. The performance measurements needed to understand these connections are the focus of this project.

### WHAT WAS OUR GOAL?

Provide Metropolitan Transportation Commission (MTC) and Caltrans with a performance measurement strategy that jointly takes into account: greenhouse gas emissions, ITS technology and climate change/environmental-focused activities. The charrette will achieve this by bringing together experts in the field for an exhaustive discussion, which will be recorded and detailed in a report to be delivered after the meeting.

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**Project Title:**

Climate Change: Assembly Bill  
32: Global Warming Solutions Act

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knowledge that improves  
California's transportation system



## WHAT DID WE DO?

The charrette explored the idea of redefining ITS evaluation methods to help make the case that ITS projects provide environmental benefits, and that they should therefore be eligible for funding that is earmarked for environmental improvements. The charrette took place on May 11, 2015 at the MTC Auditorium in Oakland, CA. The charrette brought together Caltrans, MTC, and other experts from the region to redefine how ITS projects advance state and regional environmental sustainability goals. In doing so, a secondary goal of this charrette was to enhance the eligibility of these projects for federal and state funding opportunities. ITS America assisted Caltrans and MTC by bringing together experts in the transportation, policy, and environmental sustainability fields to help redefine ITS evaluation. This final report provides a summary of that charrette, and is divided into sections based on the sessions that occurred during the charrette. The sections of the report are 1) Environmental Funding Sources, 2) Performance Measures, 3) Analytical Tools and Methods, 4) Data Needs and Data Management, and 5) Overall Recommendations and Next Steps.

The discussion, recommendations, and feedback received from the charrette participants were diverse in applicability to ITS projects and the transportation industry, but specific enough to provide the following near-term suggestions that can be utilized by regional and state agencies to advance their environmental sustainability goals.

One recommendation made by charrette participants addressed the geographical extent of typical ITS evaluations. Environmental benefits need to be recognized across jurisdictional boundaries because the environmental impacts from various ITS projects affect the region and span across jurisdictional boundaries. Performance measures, evaluation methods, and data need to be consistent within and across multiple jurisdictions to demonstrate a regional benefit from the implementation and maintenance of ITS

solutions.

## WHAT WAS THE OUTCOME?

The charrette sought to synthesize the feedback and information received from the charrette participants who include representatives from the transportation and environmental industries seeking to redefine ITS evaluation for environmental sustainability. The outcome presents the process, proceedings, findings, and recommendations from the charrette. Through joint outreach, expert participants from leading private, academic, and public agencies were invited to share their experiences on environmental sustainability pertaining to ITS projects. With the goals of the charrette focused on redefining how ITS projects positively contribute to advancing the state and regional environmental sustainability goals and increasing their potential eligibility of ITS projects for federal, state and local environmental funding programs, this report captured the suggestions and recommendations received from the charrette participants.

Caltrans, MTC, and other agencies are continuing to lead the discussion in defining ITS projects as a positive environmental impact, but will need to collaborate with the environmental industry, academia, and the rest of the transportation industry to achieve the common goal of reducing the environmental impacts of transportation within our regions, state, and nation.

## WHAT IS THE BENEFIT?

The benefit of this project will help local, regional and state agencies incorporate a performance measurement strategy into their long range transportation plans, planning documents and decision making process. In addition to the strategy or possibly actual performance measurement techniques, the insight gained for the agencies will better align multiple objectives and goals the agencies have.