

Triennial Strategic Plan: 2018-2020

Special Task Force on Climate and Energy (A0020T)

BACKGROUND

The Special Task Force on Climate and Energy (A0020T) was originally formed at a time when consensus in the scientific community fully recognized that anthropogenic global warming was occurring and impacts would be severe. As transportation comprises a significant portion of the global carbon footprint, understanding this dynamic and developing innovative ideas for reducing this effect rose to prominence. At the time of TRB's formation of the Special Task Force, it represented an attempt to place explicit attention on this consideration, with the Special Task Force expected to serve as a focal point as well as a facilitator to help inform and coordinate among TRB committees whose activities intersected climate and energy.

The initial focus of the Special Task Force was on greenhouse gas (GHG) reduction (*mitigation*), emphasizing opportunities to reduce travel demand, encourage alternatives to using single-occupant vehicles, make transportation infrastructure energy conservation upgrades, use more environmentally-friendly materials, and promote development of alternative fuel sources. As climate knowledge and experience has evolved, however, it is clear that while focusing on greenhouse gas reduction remains important, even under the best of circumstances, we can expect several decades of climate change effects (i.e., more frequent and severe extreme weather) before the situation can be potentially stabilized or reversed. Hence the concept of *adaptation* has emerged as an equally important transportation research and practitioner priority. In response, the Special Task Force has expanded its scope to address the relationship between transportation and climate change through the lens of both mitigation and adaptation. For this reason and to better serve TRB and the transportation community, we recommend changing the official name of the Special Task Force to the *TRB Special Task Force on Climate Change*.

SCOPE

Consistent with the aforementioned desire to change the official name of the Special Task Force, we recommend that the Special Task Force scope be modified to read as follows: *The Special Task Force supports and coordinates transportation mitigation/adaptation activities in response to climate change across TRB standing committees. The Special Task Force charge is to outline and facilitate a roadmap for addressing critical climate change mitigation and adaptation issues that affect all modes of transportation through policy and technology innovation, and rethinking of our current transportation infrastructure and use. This includes: 1) soliciting and vetting research needs, 2) disseminating information to the transportation community, 3) seeking research funding, and 4) helping to incorporate research findings into practice.*

The Special Task Force scope is embodied in the formation and roles of its sub-committees, as follows:

- GHG Reduction Subcommittee: Supports coordination and research for GHG mitigation, including alternative fuel sources, vehicle fuel economy, vehicle electrification, land use

planning, travel demand management, traffic management, modal shifts/accessibility, information technology, and sustainable practices. It also includes multi-sector innovation and change management necessary to support cultural and institutional policies and processes.

- Climate Change Response Subcommittee: Supports coordination and research around transportation vulnerability/resilience, adaptation strategies, and comprehensive emergency management to climate-induced events. This includes both chronic and episodic events involving all aspects of planning, response, recovery and adaptation in an integrated, continuous and systematic manner.
- Paper Review Subcommittee: Organizes and implements the review process for papers submitted for consideration for presentation at the TRB Annual Meeting and/or publication in *Transportation Research Record*.

Within this context, focal areas include:

- Data and analysis requirements for evaluating mitigation and adaptation strategies
- Mitigation policy development, planning or implementation; behavioral or technology focused
- Vulnerability and resilience assessments
- Application of sustainable and resilient practices
- Non-traditional perspectives and review of early retrieve strategies
- Interactions between transportation and other industry sectors
- Mainstreaming agency policy and planning for climate change and extreme weather mitigation and adaptation
- Public-private partnerships and other business models to improve transportation sustainability or resilience
- Education, knowledge and/or technology transfer
- Rapid transitions (EV, AV transit, shared vehicles/walking, biking and street livability improvements) to mitigate and overcome climate change
- Cross or co-benefits between mitigation and adaptation strategies with wide reaching direct and indirect impacts
- Innovative financial systems to promote mitigation and adaptation initiatives.

GOALS

The Special Task Force intends to pursue the following goals:

- Sponsor and stimulate meaningful research – Prepare white papers establishing the state-of-the practice and identifying critical and timely research needs. Develop research needs statements and work through appropriate channels to secure funding to carry out these needs.
- Disseminate state-of-the-art knowledge – Serve as a conduit for promoting lessons learned, methods and practices to help guide the implementation of promising mitigation and adaptation strategies. Utilize various forums for reaching target audiences (e.g., TRB paper/poster sessions, workshops, conferences, webinars, web site, circulars, TR News, Transportation Research Record).

- Foster and enhance relationships with internal and external TRB stakeholders connected with Special Task Force interests – Establish and maintain channels of communication and collaboration with other TRB committees and with external transportation stakeholders (e.g., local, state, regional, national, international governments; shippers; carriers; public interest groups) with an expressed interest in climate change mitigation and/or adaptation. Encourage Special Task Force members to take on leadership roles in developing these relationships, as well as participating on research project selection and expert panels.
- Achieve a high level of committee participation and effectiveness – Engage Special Task Force members to become actively involved in ongoing initiatives and the development of new initiatives. Keep Special Task Force friends apprised of ongoing activities and encourage them to participate in Annual Meeting sessions and workshops, webinars and paper reviews, as well as to contribute research ideas and accomplishments.

FUTURE OUTLOOK

Arguably, there is no more important time for the Special Task Force to be constituted than now. With each new report on the rate of climate change and potential future adverse scenarios becoming more alarming, it becomes more compelling to take actionable steps to implement transportation mitigation and adaptation strategies. To that end, the Special Task Force has embarked upon, and will continue to advance over the next three years, initiatives to achieve its stated goals.

White papers are in the process of being drafted that establish critical research needs associated with GHG reduction and climate change adaptation, respectively. These white papers are expected to establish the research agenda that the Special Task Force will pursue to secure funding to enable this important work to be performed.

The Special Task Force was intimately involved in sponsoring or co-sponsoring nine sessions and workshops that will be part of the 2018 TRB Annual Meeting program, and will be engaged in planning for upcoming TRB resilience and extreme weather conferences, to be held in Fall 2018 and Spring 2019, respectively. Additional discussion is underway for utilizing other media outlets to disseminate pertinent information.

Special Task Force members are also well-represented on other TRB committees and sub-committees, in addition to external organizations, which has spawned active dialogue for sharing information, building partnerships, and collaborating in areas of mutual interest. This has also carried over to Special Task Force friends, who are maintaining a high level of involvement in submitting and reviewing papers, as well as in attending Special Task Force meetings and sessions sponsored by TRB. A testament to this latter consideration is the number of registered Special Task Force friends, and the inquiries received from friends who have expressed interest in being considered for Special Task Force membership.