ACKNOWLEDGING THE TRANSPORTATION OPPORTUNITY

The United States transportation sector is on the verge of a major transformation. If the public and private sectors work together to guide the sector to prioritize energy efficiency, the opportunities for positive societal impacts – lower household transportation costs, reduced vehicle air pollution and greenhouse gas emissions, decreased traffic congestion, improved public transit systems, equality in mobility access, job growth, and American leadership in innovation – will be tremendous.

To capitalize on these unprecedented opportunities and create a shared vision for the path forward, the Alliance to Save Energy (the Alliance) convened the **50x50 Commission on U.S. Transportation Sector Efficiency** (50x50 Commission), a partnership of public and private stakeholders including automakers, utilities, public interest groups, product manufacturers, and technology providers. The 50x50 Commission articulated the goal to meet evolving transportation needs while reducing energy use 50 percent by 2050 – or, to put it simply, “50x50.” This goal not only reduces energy use, but also drives co-benefits ranging from transportation affordability and environmental stewardship to convenience and equity. The 50x50 Commission worked for a little over two years (November 2017–December 2019) to share perspectives, align around a clear vision, and identify the most impactful bipartisan policy solutions to move America toward this goal.

PHASE I: BUILDING THE COALITION & DEVELOPING CONSENSUS

The 50x50 Commission sought a path to the 50x50 goal that would guide the private sector without compromising innovation. To better understand the challenges of this space, the Commission and over 100 experts collaboratively wrote five “sector baseline” reports that explored and evaluated the technologies and trends of a range of subsectors.

Over the course of a year, the Commission met for three in-person meetings to identify the most impactful policy solutions to move America toward achieving this goal, including a sustained focus on electrification and the enhanced use of transit, increased RDD&D, greater support for port and freight efficiency, and better integration of new data and analytics tools to optimize energy use.

The first and second meetings took place in Washington, D.C., while the third meeting was hosted in Pittsburgh by Mayor and 50x50 Commissioner Bill Peduto. In addition to finalizing the recommendations for the first year of the initiative, 50x50 Commissioners attended a site visit to Argo, an automated vehicle software developer, the Carnegie Mellon Robotics Engineering Center, and took a tour of the LEED Platinum PNC Tower facilities.

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1 The 50x50 goal was established on a pump-to-wheel basis, and primarily focuses on highway transportation (excluding aviation and marine transportation, and direct energy use by rail).
The first phase of the initiative concluded with the publication of “Reinventing U.S. Mobility: Reducing Energy Use 50 Percent By 2050 in a New Transportation Paradigm,” the 50x50 Commission’s wide-ranging set of over 50 consensus policy recommendations to leverage innovation and proven policies to advance the sector’s efficiency. The report was unveiled in a breakfast launch on September 26, 2018 on Capitol Hill.

Shortly after unveiling “Reimagining U.S. Mobility” in September of 2018, the Alliance team, together with 50x50 co-chair leads Terry Sobolewski and Brad Stertz, met with Senators Schatz, Whitehouse, Markey, and Merkley to present the 50x50 recommendations. Alliance staff subsequently met with staff members of these offices, as well as staff from Senators Shaheen, Cardin, and Carpers’ offices.

PHASE II: PUTTING RUBBER TO ROAD

Phase II of the 50x50 Commission (October 2018-December 2019) was dedicated to moving policy recommendations to action.

**Policy Advocacy**

**Consensus Infrastructure Recommendations:** 2017-2019 was a period of extensive discussion on the importance of infrastructure, with both President Trump and both chambers of Congress affirming their commitment to passing a comprehensive infrastructure package during the 116th Congress. Over the course of 2019, this discussion largely transitioned to focus on the expiration of surface transportation reauthorization on September 30th, 2020 (frequently referred to by its previous authorization title, the Fixing America’s Surface Transportation Act, or the “FAST Act”).

To amplify the Commission’s 2018 vision with a set of policy recommendations that recommended not only outcomes, but adjustments to specific legislative opportunities included in infrastructure discussions and the FAST Act Reauthorization, the Commission developed a new package of surface transportation recommendations for lawmakers. The report, “Building the Foundation for 50x50: A policy proposal for infrastructure and surface transportation reauthorization,” was launched at the 2019 EE Global Forum, on June 19, 2019. The recommendations focused on opportunities to advance energy-efficient technologies and practices, including electric vehicles and charging infrastructure, transit, efficiencies at ports/airports/seaports, and adjusting program design to ensure system-level planning is facilitated. The recommendations also balanced the maintenance of existing infrastructure with new builds, and emphasized the importance of program flexibility to ensure local and regional viability.
Capitol Hill Advocacy: Hill Advocacy was a major component of the second phase of the initiative, and Alliance staff, often accompanied by 50x50 Commissioners and other stakeholders, conducted extensive visits with members of Congress, committee staff, and relevant congressional offices to advocate for Commission recommendations. This began a sustained campaign to meet with staff members responsible for transportation and energy policy over the course of the following year, which included meetings with the following offices, often accompanied by 50x50 Commissioners and delegates:

- Senate Committee on Environment and Public Works
  - Sen. Mike Braun (R-IN)
  - Sen. Jim Inhofe (R-OK)
  - Sen. Amy Klobuchar (D-MN)
  - Sen. Shelley Moore Capito (R-WV)
- Select Committee on the Climate Crisis
  - Sen. Gary Peters (D-MI)
- Rep. Julia Brownley (D-CA)
- Rep. Steve Cohen (D-TN)
- Rep. Adriano Espaillat (D-NY)
- Rep. John Garamendi (D-CA)
- Rep. Jesus Garcia (D-IL)
- Rep. Jared Huffman (D-CA)
- Rep. Hank Johnson (D-GA)
- Rep. Dan Kildee (D-MI)
- Rep. Dan Lipinski (D-IL)
- Rep. Paul Mitchell (R-MI)
- Rep. Donald Payne (D-NJ)
- Rep. Albio Sires (D-NJ)
- Rep. Peter Welch (D-VT)
- Rep. Rob Woodall (R-GA)*
- House T&I Committee
- House Subcommittee on Highways and Transit (Minority)
*Denotes retiring member; Italic denotes meeting with member.

Advocacy Letters: At the request of the Commission, the Alliance also prepared three advocacy letters with sign-on opportunities for Commissioners: two advocating for extension of the electric vehicle tax credit, and one in support of the GREEN Act.
Tackling Hard Questions: Automation and Efficiency

**Tampa Roundtable Discussion:** The 50x50 Commission noted in its recommendations that while some challenges ahead have clear policy and regulatory implications, others are far more complex. This was especially clear in considering the energy impacts of connected and automated vehicles (CAVs), which could lead to massive energy use increases or a much more efficient transportation system depending on how they were deployed. Policymakers to date have been largely pre-occupied with the implications of CAVs on public safety and cybersecurity, making consideration of the energy and emissions impacts a valuable complement.

On April 22, 2019, members of the 50x50 Commission convened in sunny Tampa at the Holland and Knight offices for a closed-door focused discussion with experts on policy and regulatory frameworks needed to ensure the energy efficient deployment of AVs, chaired by Mark Del Rosso (former CEO of Audi of America) and Terry Sobolewski (National Grid). The discussion highlighted the absence of a vision for the deployment of connected and automated vehicles, and the challenge that key stakeholders lack connections with one another and operate with different timelines and primary objectives. The following day, Commissioners visited the Tampa Hillsborough Expressway Authority’s [connected vehicle pilot](#) and learned from city officials about Tampa’s experience testing new vehicle technologies and developing transformational transportation policy.

**EV-Ready Building Codes**

A key conclusion of the initiative was that **EV charging infrastructure is critical to advance EV markets.** A majority of EV owners charge at home or the office. For buildings with the basic wiring necessary for EV-charging, installing chargers is easy and affordable; in contrast, installing chargers in buildings that are not “EV-ready” can require thousands of dollars in investment. The Commission recognized that implementing EV-ready building codes, which require new buildings to have the basic wiring for EV chargers (usually costing a few hundred dollars or less at the time of construction) is a low-cost tool to prepare for the EV market.

Coincidentally, 2019 was the year to solicit updates to the International Energy Conservation Code (IIEC) for the 2021 code cycle, and the Alliance moved quickly into action. By joining with the leadership of the Alliance’s partner, the Energy-Efficient Codes Coalition, and working in close alignment with Commissioners and a number of organizations (including the Southwest Energy Efficiency Project, New Buildings Institute, and EEI), the team developed and advocated for new EV-ready building codes for both commercial and residential constructions. Through sustained outreach, partnership, and advocacy over the course of 2019, the team was handed a big win at the end of 2019: the International Codes Council announced the preliminary passage of both commercial and residential EV-Ready codes.

The new provisions set minimum requirements for builders to incorporate appropriate electrical infrastructure into garages and parking spaces to enable the future installation of EV charging stations. Under the codes, new commercial and multi-family residential buildings must have the infrastructure for EV charging at a minimum of 20 percent of parking spaces, while homes must have appropriate wiring to install at least one electric charging station.
Communications and Events

**Communications:** Throughout the initiative, the Alliance team – in collaboration with the 50x50 Commissioners – established a robust communications strategy to leverage the 50x50 initiative outputs, the Commissioner’s voices, and advances in transportation policy for greater public awareness and outreach. The following statistics highlight outreach performed through the initiative:

- The hashtag #50x50Transpo was used in 56 Twitter/Instagram posts, with 1,557 people engaging in those posts
- 14 blog posts
- Op-Ed: The Alliance worked with 50x50 Commission member Consumer Federation of America in developing an op-ed published in the Washington Post, supporting the EV tax credit extension bill
- 8 news releases on energy-efficient transportation topics
- The Commission’s 2018 report was covered by 14 media outlets, including Axios, Politico, and Bloomberg Environment
- The Commission’s work and the Alliance’s related advocacy was featured in 38 individual news stories

**Events:** The Alliance also incorporated 50x50 into its signature events, including a panel discussion at Greater Energy Efficiency Day (GEED) on March 7, 2018, announcement of key deliverables at the Evening with the Stars Gala on September 26, 2018, and at the EE Global Forum on June 19, 2019.

Other Progress in the News

The time period from November 2017-December 2019 was an exciting period for efficient transportation. A few examples of the advances over this period:

**EVs Took Off:** The size of the EV market tripled from 2015 to 2018, and in November 2018, the Edison Electric Institute (EEI) celebrated more than a million EVs on American roads.

**Progress toward FAST Act Reauthorization:** In the summer of 2019, the Senate Environment and Public Works Committee (EPW) advanced the America’s Transportation Infrastructure Act of 2019, the first attempt at reauthorizing the FAST Act with $287 billion over five fiscal years. The bipartisan bill represented a 27 percent increase of the highway funding previously authorized, and included several Commission-approved provisions, including creating EV charging stations along highways, funding programs for lower-emission transportation, and investing in port and multi-modal efficiency. On January 28th, 2020, the Democrats on the House Transportation and Infrastructure Committee unveiled “Moving America and the Environment Forward,” a framework for infrastructure for $760 billion over five years that includes references to electrification, multi-modal transportation, efficiency, and R&D for automated vehicles.

**Public Transportation and Alternative Modes:** During the 2018 midterm elections, voters in Maine, New Mexico, California, Florida, and Virginia chose to increase investments in public transit in ballot initiatives. The proliferation of electric scooters on urban streets were a demonstration of rapid commercial innovation in urban settings.

**Challenges Ahead:** Challenging policy questions remain. Annual EV market growth remains high, but EVs still only represent a fraction of total cars on U.S. roads. The total number of vehicle miles traveled continues to increase, and Americans continue to steer toward larger, more energy-intensive vehicles. The past two years have also witnessed a protracted fight to roll back fuel economy standards. And as the Surface Transportation Reauthorization advances in 2020, the biggest remaining question – evidenced by the contentious debate over reforming the Highway Trust Fund – is how to fund a transition of this magnitude.
TAKING STOCK & LOOKING FORWARD

The 50x50 Commission achieved a tremendous amount in two years, and has been at the center of the action — but the work does not end here.

Maintaining momentum is imperative. In 2020, the 50x50 Commission will transform into the 50x50 Action Network, a more streamlined effort to focus on the primary areas for progress, with a focus on converting the 50x50 Commission’s policy recommendations into legislation.

For more information about the 50x50 Action Network, please contact Rebecca Price at rprice@ase.org.

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50x50 Co-Chairs and Delegates
- Audi of America
  - Scott Keogh, President of Audi of America (co-chair, 2018)
  - Mark Del Rosso, President of Audi of America (co-chair, 2019)
  - Brad Stertz, Director, Government Affairs
- National Grid U.S.
  - Dean Seavers, President of National Grid U.S. (co-chair 2018-2019)
  - Terence Sobolewski, President, National Grid Rhode Island; Chief Customer Office, National Grid U.S.

50x50 Commissioners and Participating Delegates
- Melissa Adams, Chief Corporate Social Responsibility Officer, Washington Gas/WGL
- Dan Turton, Vice President for Federal and Administration Affairs (2018); Britta Gross, Director of Advanced Vehicle Commercialization Policy (2018); Robert Babik, Executive Director, Global Regulatory Affairs, General Motors (2019)
- Robert Chapman, Vice President, Energy and Environment, Electric Power Research Institute (EPRI)
- John Di Stasio, President, Large Public Power Council
- Matt Enstice, President & CEO, Buffalo Niagara Medical Campus
- Jack Gillis, Executive Director, Consumer Federation of America
- Robert Horton, Vice President, Environmental Affairs, DFW International Airport
- Thomas R. Kuhn, President, Edison Electric Institute
- Eric J. McCarthy, Senior Vice President, Government Relations, Public Policy and Legal Affairs, Proterra
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- Giovanni Palazzo, CEO, Electrify America
- Thomas S. Passek, President, Copper Development Association
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- Paul Skoutelas, President & CEO, American Public Transportation Association
- Debra Smith, General Manager and CEO, Seattle City Light (2019)
- Lonnie Stephenson, International President, International Brotherhood of Electrical Workers
- Greg White, Executive Director, National Association of Regulatory Utility Commissioners
- Cathy Zoi, CEO, EVgo (2019)
50x50 Steering Committee Technical Committee Chairs

- Robert Chapman, EPRI (Light-Duty Vehicles Technical Committee)
- Philip Lavrich, Ingersoll Rand/ThermoKing (Medium/Heavy-Duty Technical Committee)
- Robert Horton, DFW Airport (Non-Road Technical Committee)
- Robert Graham (Outreach Technical Committee)
- Roy Kuga, PG&E (Enabling Infrastructure Technical Committee)

50x50 Steering Committee Participating Organizations (often included multiple staff members)

- APTA
- Audi of America
- Buffalo Niagara Medical Campus
- City of Pittsburgh
- Consumer Federation of America
- Copper Development Association
- Covestro
- Dallas/Fort Worth International Airport
- Duquesne Light Company
- Edison Electric Institute
- eIQ Mobility
- Electric Power Research Institute
- Electrify America
- EVgo
- General Motors
- Navigant/Guidehouse
- IBEW
- Microsoft
- NARUC
- National Grid
- Natural Gas Vehicles for America
- NRDC NYPA
- NYSERDA
- Proterra
- SMUD
- Schneider Electric
- Seattle City Light
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- Uber
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