



Tuesday, September 25, 2018

Charleston Harbor Resort & Marina, 20 Patriots Point Rd, Mount Pleasant, SC, [Atlantic Ballroom]

SUMMARY REPORT

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Background

Section 1413 of the Fixing America's Surface Transportation (FAST) Act requires the Secretary of Transportation to designate national electric vehicle (EV) charging, hydrogen, propane, and natural gas fueling corridors. The Federal Highway Administration (FHWA) is working with other federal, state, and local officials, as well as private industry, to help plan and promote an Interstate network of stations that will fuel vehicles powered by clean and domestically produced alternative fuels, so commercial and passenger vehicles can reliably travel between cities, regions, and across the entire nation. FHWA has completed two rounds of alternative fuel corridor designations, the first in 2016 and the second in 2017. One of two designations have been assigned to each nominated highway segment:

- "Corridor Ready" - A sufficient number of facilities exist on the corridor to allow for corridor travel using one or more alternative fuels; and
- "Corridor Pending" - An insufficient number of facilities currently exist on the corridor to allow for corridor travel using one or more alternative fuels.

Designation status for each fuel type were based on the following criteria:

- EV charging: EV charging¹ facilities at 50-mile intervals along designated EV corridors.
- Hydrogen: Hydrogen fueling facilities at 100-mile intervals along designated hydrogen corridors.
- Propane: Propane fueling facilities at 150-mile intervals along designated propane corridors.
- Natural gas: Compressed natural gas (CNG) and liquefied natural gas (LNG) facilities at 150-mile intervals and at 200-mile intervals respectively, along designated corridors.

In 2018, FHWA initiated a series of regional convenings to encourage multi-state and regional coordination for the development and implementation of alternative fueling infrastructure along corridors. The convenings foster an important opportunity for states to evaluate the potential of shared infrastructure investments and improved collaboration for education/outreach efforts among and between the public and private sectors. The Southeast Alternative Fuel Corridor Convening was the second convening in the series and was held in Charleston, SC on September 25, 2018. The convening facilitated meaningful engagement among stakeholders to identify key barriers and opportunities to expand the network of alternative fuel corridors in the Southeast. To support a regionally-tailored program on Southeast priorities, a planning committee was organized to help shape the goals and objectives of the convening's program and included stakeholders from state and federal government, metropolitan planning organizations, industry, alternative fuel providers, Clean Cities Coalitions and other non-profit organizations.

Convening Summary

The Southeast Alternative Fuel Corridor Convening was held in Charleston, SC on September 25, 2018. More than 40 stakeholders participated in the convening. The day began with introductions from FHWA leadership, followed by an overview of the goals and objectives for the convening. Next, stakeholders went around the room and introduced themselves and their prior involvement with alternative fuel corridors. To help set the stage and prepare participants for the day's discussion, representatives from the U.S. Department of Transportation (USDOT) Volpe

¹ FHWA's objective is to establish direct current (DC) Fast Charge (Level 3) infrastructure at 50-mile intervals for corridor designations made in 2017, and later.

Center provided analyses that can be used to support future corridor nominations for designation in the Southeast region.

A representative from the National Renewable Energy Laboratory (NREL) discussed Round 3 Designations, provided attendees with a preview of upcoming changes to the Alternative Fuels Data Center (AFDC) alternative fueling station locator, and introduced a corridor planning tool under development. After a panel discussion on existing alternative fuel corridor initiatives in the Southeast, sessions focused on key aspects related to improving the regional network of alternative fuel corridors. The “Filling the Gap” session featured alternative fuel infrastructure provider perspectives and breakout group discussions on the top challenges and corresponding best practices for the planning and implementation of alternative fuel corridors. The closing session focused on the action items that convening attendees and FHWA should prioritize moving forward.

Key Takeaways

The following are the key takeaways for enhancing and expanding alternative fuel corridors in the Southeast that emerged throughout the day’s presentations and discussions:

- FHWA’s national alternative fuel corridor initiative is strengthening collaboration and corridor planning among states, resulting in increased partnerships.
- Because corridors exist across multiple jurisdictions, they present a unique infrastructure challenge. Thus, more coordination is required between states to ensure corridor and infrastructure development success.
- Encouraging states to submit nominations for alternative fuel corridors where there is demonstrated eligibility for designation is critical for building out the regional network of corridors. Clean Cities coalitions are a valuable partner for states to have when compiling alternative fuel corridor designation applications.
- DOTs can make consumers aware of station availability through signage and begin to normalize the use of alternative fuels. However, signage must be strategically incorporated in such a way that drivers are not overwhelmed. South Carolina is an important example for states looking for guidance on how to successfully implement signage along corridors.
- Partnerships are critical for successful corridor implementation and community engagement and awareness. Finding partner figures, such as state-wide representatives, community associations, or EV Owners groups, to support local alternative fuel corridor initiatives may be an influential way to continue making progress.
- State leaders can influence the adoption of alternative fuel vehicles in several ways.
 - States can work with energy commissions on rate design to ameliorate existing regulatory environments.



Figure 1. Convening attendees participate in discussions about alternative fuel corridors.

- Permitting processes can be streamlined for alternative fuel infrastructure. Alternative fueling infrastructure can be incentivized through procurements that the state has the ability to control.
- States can provide more incentives to spur consumer adoption of AFVs. These can include rebates for Level 2 and DC Fast Charging infrastructure, grant programs, and funding for educational and awareness programs.

Convening Proceedings

Welcome

Diane Turchetta, Transportation Specialist, U.S. Federal Highway Administration

[See presentation for more information.](#)

- The day began with opening remarks by Diane Turchetta. Diane provided an overview of the national alternative fuel corridor initiative and the Federal Highway Administration’s role.
- The benefits of having a national system of designated alternative fuel corridors include:
 - Allowing for inter-city, regional, and national travel using clean-burning fuels;
 - Alleviating range anxiety;
 - Integrating corridor planning with existing transportation planning processes; and
 - Accelerating public interest and awareness of alternative fuel availability.
 - Consumer-level interest is boosted by signage.
- Today, 100,000 miles are designated when combining all fuel types.
- The criteria for corridor designation were determined in conjunction with the Department of Energy and NREL.
- FHWA led two rounds of designations, in 2016 and 2017. Between the first and second rounds, FHWA made two changes to the designation process: (1) only direct current fast chargers (DCFC) sites will be considered for EV corridors and (2) non-road hydrogen stations can be included.
- The third nomination period will take place in the Fall of 2018, with the third round of designations to be announced in the Spring of 2019.
- Developing signage to correspond with the corridor designations is a priority for FHWA, as reflected in the memorandum on the Manual on Uniform Traffic Control Devices (MUTCD) issued by the agency. The first corridor signs were installed along I-94 in Minnesota and I-26 in South Carolina.
- FHWA developed a frequently asked questions (FAQ) page to address signage questions: https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/resources/faq/#toc494791843.



Figure 2. Diane Turchetta provides an overview of FHWA’s alternative fuel corridor initiative.

- FHWA developed the regional alternative fuel corridor convenings to build collaboration and coordination among states and regional areas with common corridors.
- The first convening was held in June 2018 in St. Paul, Minnesota. There will be two or three additional convenings held around the country following the convening in Charleston, SC.

Setting the Stage: Partnership Goals and Objectives

Oana Leahu-Aluas, Associate, Sustainable Transportation Practice, Cadmus

[See presentation for more information.](#)

The breakdown of attendees at the convening is shown below (Figure 3).

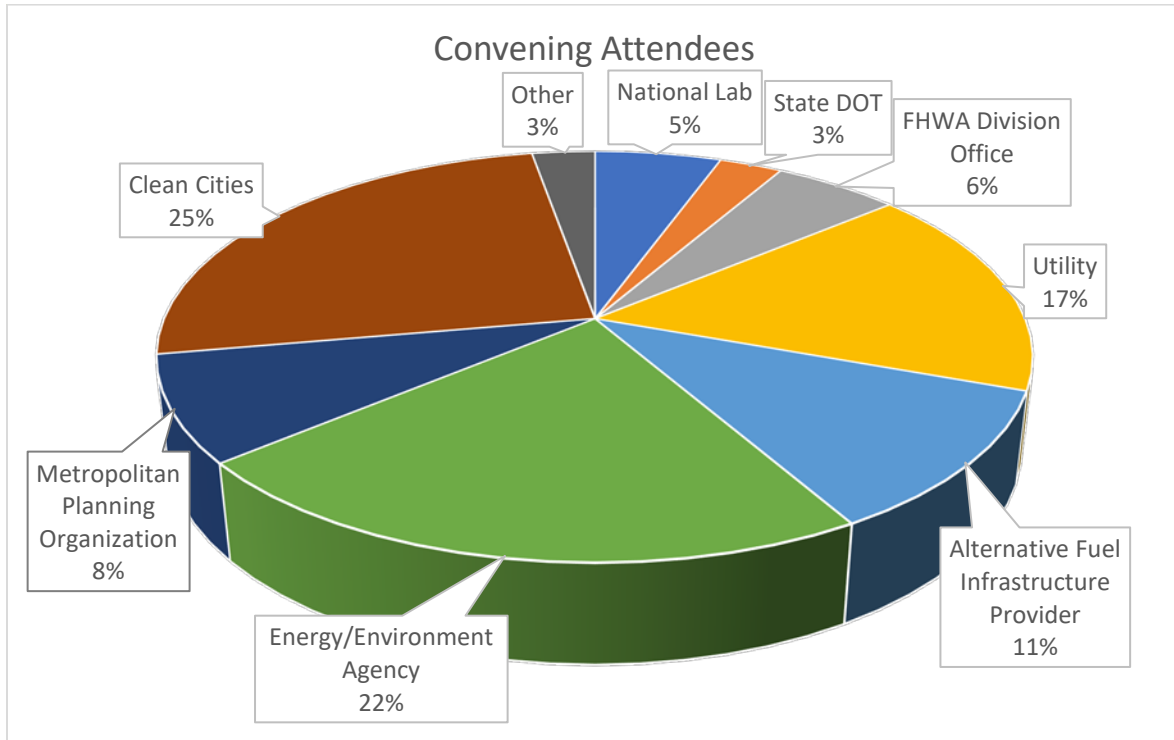


Figure 3. Breakdown of Southeast Convening attendees by representative organization.

The results of three questions posed to attendees before the convening in the Survey Monkey poll are shown below (Figure 4, Figure 5, Figure 6).

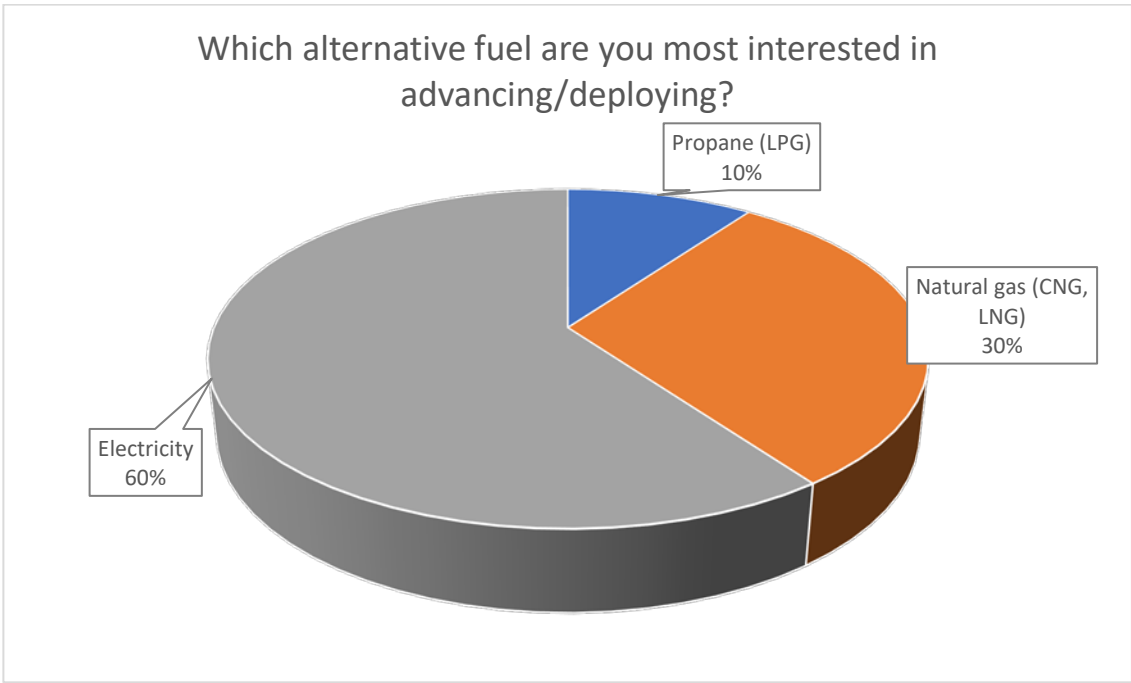


Figure 4. Pie chart showing which alternative fuels attendees were most interested in advancing or deploying.

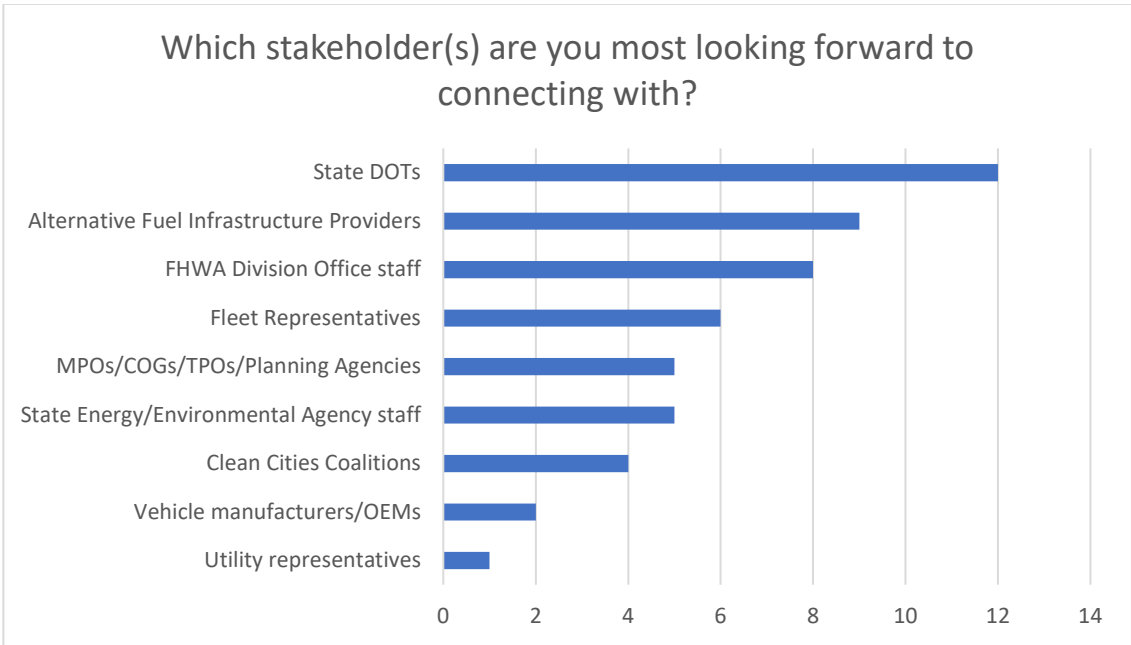


Figure 5. Bar graph showing the stakeholders whom convening attendees were most interested in connecting with.



Figure 6. Word cloud showing what attendees hoped to achieve during the convening, using one word.

Alycia Gilde, Director, CALSTART

[See presentation for more information.](#)

- Alycia established the goals and objectives for the day, including identifying key barriers, evaluating needs, increasing awareness, developing a regional strategy, and building sustainable partnerships.
- She emphasized the importance of attendee engagement and participation throughout the day.

Designated Corridors and Infrastructure Gap Analysis

Mike Scarpino, Transportation Project Engineer, U.S. Department of Transportation Volpe Center

Stephen Costa, Technical Analyst, U.S. Department of Transportation Volpe Center

[See presentation for more information.](#)

- Mike and Stephen presented alternative fuel infrastructure gap analysis examples for the Southeast.
- For the gap analysis, Stephen and Mike highlighted available data on traffic and on-road freight volumes (current and projected), and location of existing alternative fuel infrastructure, and showed how these data can be used to prioritize corridor development efforts. The gap analysis focused on propane (LPG) for AL, GA, NC, and SC. Infrastructure gaps and areas with highest potential infrastructure demand were shown for both GA and AL.
- A key corridor for EV infrastructure development is the I-95 Interstate Highway that runs North-South along the East Coast. There are portions of the highway that have great potential to become designated as corridor-ready, including in southern FL along I-95 between the cities of Jacksonville and Orlando, and then again near Miami.
- GA and AL both have opportunities to designate portions of highways in the states as both corridor-ready and corridor pending for LPG. In GA, all of I-20 can be designated as corridor-ready and segments

of I-75 can be designated as corridor-ready and corridor-pending. In AL, portions of I-20 and I-59 as can also be designated as corridor-ready and corridor-pending.

- High traffic volume growth is projected in AL (relative to adjacent states), providing opportunity to serve additional alternative fuel vehicle customers.
- In SC, almost all I-26 is corridor-ready and almost half of I-20 is corridor-pending for LPG. Opportunities for LPG corridors in NC include along I-40 and I-85, which both contain corridor-ready and corridor-pending segments.
- For designation nominations, FHWA recommends using existing infrastructure data provided by NREL through the Alternative Fueling Station Locator. Data from other sources are incorporated into the Alternative Fueling Station Locator. Tesla charging stations are not considered public charging stations because they use proprietary technology.
- Conducting an infrastructure gap analysis helps identify property hosts with whom to initiate conversations for potential alternative fuel station locations.
- Coordination with state and planning agencies can help identify potential funding sources. Collaboration with neighboring states can help identify priority corridors and ensure effective infrastructure placement.
- Clean Cities coalitions are a valuable partner to have when compiling alternative fuel corridor designation applications.

[NREL Tools for Corridor Planning](#)

NREL shared upcoming changes to the AFDC alternative fueling station locator and introduced a corridor tool under development, allowing attendees to provide their input and feedback.

[Johanna Levene](#), Manager, Transportation Data and Tools, National Renewable Energy Laboratory

[See presentation for more information.](#)

- The Alternative Fuels Data Center (AFDC) was created in 1991. It is an online resource on alternative fuel vehicles and provides calculators and other tools, including the Station Locator. The AFDC is primarily focused on alternative fuels and is “fuel agnostic.”
- AFDC’s Station Locator is funded by the U.S. Department of Energy and uses data collected by industries to display federal and state laws and incentives, replicable case studies, and more. It allows users to filter by location and fuel type. This tool also enables users to map driving routes. A new feature of the Station Locator includes stations in Canada, and AFDC is looking at including stations in Mexico so that users can look up routes from Canada to Mexico.
- Fueling stations have long been depicted as dots on a map. It’s exciting to establish lines on these maps that connect the dots to create corridors.
- A new page on AFDC (www.afdc.gov/corridors) provides better access to data that is required for corridor nominations and indicates the requirements of stations for nomination. Stations are sub-selected by fuel type and state, so users can see exactly what requirements are needed.
- EV data is updated to the AFDC nightly.

- Shapefiles for each state and fuel type are also available. These are a standard way to represent data visually, with 25-mile boundaries around each state to include more data.
- Basic interactive maps show existing corridors and station locations that meet FHWA Corridor Nomination process requirements for Corridor-Ready or Corridor-Pending status. These maps allow users to look at where there are enough stations within five miles to consider designating a new corridor. They will also show users where adding one more station will increase eligibility. There are five map options, one for each fuel type. These maps are very user-friendly, even to those unfamiliar with geographic information systems (GIS).
- NREL will be rolling out Phase 1 of the interactive mapping tool in the Spring of 2019. Features will include a state map that will allow users to zoom into states and adjust settings beyond the previously set distance of five miles. This will allow users to analyze corridor resilience and retrieve other summary information on each corridor. Phase 1 will include drop pins to experiment with proposed stations to see if the additional station would complete a corridor. This would enable users to visualize potential siting options.

Southeast Alternative Fuel Corridor Initiatives

Partners throughout the region present on innovative programs currently advancing alternative fuel corridors for electric, hydrogen, propane, and compressed natural gas vehicles. Hear first-hand about the partners, technologies, and funding that are making it possible.

Moderator: **Oana Leahu-Aluas**, Associate, Cadmus

Landon Masters, Clean Transportation and Communications Specialist, South Carolina Energy Office/Coordinator, Palmetto Clean Fuels

[See presentation for more information.](#)

- South Carolina Energy Office partnered with South Carolina DOT during the first round of designations to get the following corridors designated: portions of I-85 for EV and CNG, I-77 for EV, portions of I-26 for EV and LPG, and I-20 for LPG.
- After getting these corridors designated, the next step was to move forward on signage along these corridors. They submitted a request to SC DOT and the Traffic Engineering Office to establish Signage-Ready Corridors. This request consisted of a letter describing the corridors and an FHWA memorandum to show sign requests. They received approval and a detailed cost estimate. It costed a little over \$2000 to get the signs fabricated.
- Next steps for the agency developing an EV Infrastructure plan through a Clean Cities Coalition grant, working with VW on distributing settlement funds, and working with SC DOT on signage options along highway exits.
- A best practice for a highway signage plan can be found on the Palmetto Clean Fuels website at: <http://palmettocleanfuels.org/afvcorridors>.



Figure 7. The Southeast Alternative Fuel Corridor Initiatives Panel.

Alan Jones, Senior Research Analyst, Long Range Planning Division, Tennessee Department of Transportation

[See presentation for more information.](#)

- Part of or all I-40, I-24, I-75, and I-65 are EV Corridor-Ready, and part of or all I-24, I-74, and I-65 are CNG Corridor-Ready.
- In the past, TDOT has used CMAQ funds for ethanol and biodiesel infrastructure. TDOT has used DOE funding to support the construction of Ecotality Blink stations.
- They have also previously worked with Tennessee Electric Vehicle Advisory Committee (TEVAC) on getting recommendations for corridors. TDOT is hoping to develop that program further.
- Ongoing projects include Drive Electric Tennessee, working with the VW Court Settlement, prioritize CMAQ funds for alternative fuel infrastructure, and installing signage along interstate highways.
- TDOT has learned that the maintenance of refueling infrastructure and equipment is essential, that recruiting EV charging station hosts can be challenging, that DC fast charging stations are more of a priority than Level 2 stations, and believes the Randolph Sheppard Act must be amended to allow EVSE in interstate rest areas.

Bernadette Dupont, Transportation Specialist, Kentucky FHWA Division Office

[See presentation for more information.](#)

- The Kentucky Transportation Cabinet has identified alternative fuel corridors for the second call for corridor applications. So far, seven alternative fuel corridors have been designated, and five are pending.
- The Kentucky Clean Fuels Coalition is fuel-neutral and is a non-profit organization funded by DOE Clean Cities. Programs include an Idle-Free Kentucky Fleet Program as well as an EV/PHEV summer study program.
- Drive Clean Louisville (DCL) is another alternative fuel initiative focused on EVs. They applied for DOE funding but were unsuccessful. They will use the application as a starting point and the coalition formed to build off for future work. DCL has participated in Kentucky Drive Electric Week, partnered with a local EV owners group called EVOLVE, and distributed an EV survey to the Louisville community.
- An exciting initiative in Kentucky is a solar-powered plant located on a site that used to be a flat top coal mining site. This site has a coal history museum that is also powered by solar.
- In Somerset, KY, there is a gas-to-liquid plant. This is the first in the United States, with only three of these plants in existence in the world.

Marci Larson, Public Affairs Manager, North Florida Clean Cities

- Larson works for North Florida Clean Cities and is a Metropolitan Planning Organization that does regional transportation planning. They are also newly the host organization of a Clean Fuels Coalition. This has allowed them to brand themselves successfully in the region.
- In considering effective partnerships, they've worked with the Florida East Coast Railroad, which is a breakthrough in terms of engaging railroads in alternative fuels.
- North Florida Clean Cities has worked with the utility of the largest county in Florida to install 25 EV chargers.

- They have also enhanced their relationship with the City of Jacksonville, FL. This was accomplished by providing LNG to businesses in Puerto Rico. The Maritimes industry has been extraordinarily helpful with this project.

Wanda Forrest, Transportation Planning Manager, North Florida Transportation Planning Organization

- The first round of nominations was completed in 2016, and as a transportation planning organization (TPO), the North Florida TPO could submit their own application for corridors. North Florida TPO worked with the Clean Fuels Coalition to get several other corridor applications submitted for designations.
- North Florida TPO had thought about using DOE funding for signage, although the central district office did not support the initiative because they argued that the existence of several phone applications locating alternative fuel charging stations makes the installation of road signs unimportant. The district office also argued that signs could impact driver safety in easement areas.

During the discussion that followed, the following emerged as key takeaways:

- Considering recent extreme weather events such as Hurricane Florence, important next steps in planning for resilience have emerged.
 - South Carolina Energy Office has observed that getting state-level employees on board with resilience planning must be the first step. The SC Energy Office has an initiative to focus on state fleets and the state DOT. State involvement supports local efforts and enables more targeted action at a local level.
 - TN DOT found that having fleets with propane vehicles has been extremely important during power outages. Deploying propane vehicles during storms has allowed vehicles to travel twice the distance as gasoline-fueled vehicles, when gasoline stations are closed. Having diversity of fuel types allowed the state to continue to respond.
- One way to respond to offices that argue signage is unnecessary and that there are already applications in existence to help drivers find alternative fueling stations is to say that there are applications to find anything, and signs help the public know that alternative fuel infrastructure exists.
- Finding partner figures who have leverage or political clout, such as state-wide representatives, to support alternative fuel initiatives can be influential for moving forward initiatives.
 - One way to increase attendance at alternative fuel planning conferences or meetings is to invite as many higher-profile guests as possible. Because perception has a large impact, and no one wants to be left out, having greater attendance by these actors will drive event registration. For Kentucky, pointing out to political leaders that they were behind the trend in alternative fuel technology and deployment compared to other states encouraged faster movement and progress.
 - A persuasive argument to use to convince those who are skeptical of alternative fuels is to draw the connection to autonomous vehicles. Electric vehicles are a channel to autonomous vehicles, which are increasingly interesting to many.
- Some education and outreach strategies include:
 - Sharing and disseminating information through newsletters.
 - Webinars have proven difficult for SC Energy Office in the past, but they have also been fun.

- Working with OEMS and dealerships are extremely important. When it comes down to alternative fuel vehicle adoption, car dealerships have a major influence on consumer purchases. Work with dealerships by engaging them in test drives. Discussing flashy perks of EVs, such as the acceleration capacity of a Tesla, can get people in the seat and driving an AFV.
- EV Owners Groups are a great asset. For drivers to hear personal experiences from the EV Owners Groups makes a huge difference. This can apply to any fuel type as well.
- Partnering with stations can be successful or unsuccessful. An I-75 project focused on ethanol diesel. The fuel provider worked with stations across neighboring states, and it took a while to figure out who the right point person was and to work with each of the stations.
 - Convenience store associations and County associations are a good link to several people at once.
- Signage displaying station logos can be paid for by industries. However, it gets more complicated when DC Fast Chargers are located at shopping centers or gas stations. SC had looked into this option and were instructed to steer away from it. US DOT is also concerned about general service signs because it sets a precedent for other special interests.
 - An exit sign could say “fuel” instead of indicating a specific type of fuel.

Filling the Gap: Strategy, Technology, and Partnership for Infrastructure Development

Public and private partners discuss the challenges and best practices for the planning and implementation of alternative fuel corridors. Technology and fuel suppliers, utilities, government and fleets share perspectives on how to “fill the infrastructure gap.” During this session, FHWA seeks feedback on how the Agency can help states meet their corridor goals.

David Schatz, Director, Public Policy, ChargePoint

[See presentation for more information.](#)

- ChargePoint is the largest network of EV chargers in the s, with over one billion electric miles charged using their infrastructure and over forty million charging sessions tracked. ChargePoint is researching utilization, including where drivers stop, to distribute infrastructure where drivers are likely to use it.
- Charging infrastructure is sold directly to site hosts, who are usually very engaged and want to see the infrastructure be successful. They will often be willing to match public investments.
- VW Settlement funds are the type of market injection that have the potential to spur major EV deployment, with a very low administrative burden on public agencies. It will be an important way to get industry involved.



Figure 8. Discussion leaders reporting out during the “Filling the Gap” session.

Lang Reynolds, Manager, Electric Transportation, Duke Energy

[See presentation for more information.](#)

- Duke Energy is focused on the economic development and advancement of electric transportation in all six of their transportation territories.
- Electricity prices are a lot more stable than gas prices.
- The challenges to electric transportation that exist include market development and economics, a complicated regulatory environment, existing state policies, and statutory hurdles.
- There are defined regional differences across the country, so state-level policies really are key to pushing the market forward.

Monte McLeod, Autogas Program Director, Palmetto Propane

[See presentation for more information.](#)

- Palmetto Propane is a member of Alliance Autogas. Palmetto Propane provides vehicle conversion technology, support products, and refueling infrastructure.
- In the propane industry, it is difficult to get actors to work together or share information.
- Auto gas infrastructure is scalable, and providers can add more capacity as needed. Propane takes a small footprint and is low cost compared to other fuels. Filling times are comparable to gasoline.

Ian Skelton, Director, Southern Company Gas

[See presentation for more information.](#)

- Southern Gas Company owns Pivotal LNG and has been primarily engaged with the fleet market since the early 1990s. Skelton used his presentation to speak to LNG and more so to CNG.
- The biggest challenge Southern Company Gas has faced is the upfront cost of infrastructure. The fuel is cheap when on the market, but it is expensive for companies to get stations online.

After the panelist presentations, attendees broke up into three groups to discuss barriers to filling in the alternative fuel infrastructure gap in the Southeast and the corresponding actions private sector organizations and local, state, or federal government can take to overcome them. Key takeaways that emerged from those discussions included:

- Finding appropriate and sustainable funding to support alternative fuel vehicles is a key challenge. Possible ways to address this challenge include allocating funding for the alternative fuel corridor program, charging consumers per vehicle miles traveled, leveraging public-private partnerships, and combining as many funding sources as possible.
- Educating consumers to increase awareness on alternative fuels requires a dedicated budget for public programming. Ride and Drives, public workshops, and regular convenings around diesel and alternative fuel collaboratives are effective educational practices as well. A focus on multiunit dwellings can also accelerate consumer adoption.



Figure 9. Discussion leaders report out from the breakout group discussions.

Engaging maps and other effective visuals should continue to be included in education campaigns about alternative fuels.

- Regional coordination needs to be increased. More convenings and opportunities to engage stakeholders will spur this work. Regions can establish working groups or task forces by corridor or by bordering states.
- Further research on existing technologies, including energy storage, is needed to model costs to make station economics work. Providing more information to site hosts and working with them on future proofing is essential. Demand charges will also help economic feasibility of stations.
- Direct engagement with dealerships and original equipment manufacturers (OEMs) is critical for effective education on alternative fuel vehicles. Dealers must be educated not only on available alternative fuel vehicles, but also the options for fueling the vehicles.
- Parameters in building codes help streamline alternative fuel readiness.
- Regulatory certainty is essential for companies to make a business case. This is especially true for utilities. There also need to be more incentives for site hosts of infrastructure.
- State leaders can influence the adoption of alternative fuel vehicles in several ways.
 - DOTs can make consumers aware of station availability through signage and begin to normalize the use of alternative fuels. However, signage must be strategically incorporated in such a way that drivers are not overwhelmed.
 - States can work with energy commissions on rate design to ameliorate existing regulatory environments.
 - Permitting processes can be streamlined for alternative fuel infrastructure. Alternative fueling infrastructure can be incentivized through procurements that the state has the ability to control.
 - States can work with their neighbors to present a shared commitment to alternative fuel vehicles.
 - States can provide more incentives to spur consumer adoption of AFVs. These can include rebates for Level 2 and DC Fast Charging infrastructure, grant programs, and funding for educational and awareness programs.
- Finding customers with fleets that are willing to convert to alternative fuel vehicles invites infrastructure development and helps make the case for earning a return on investment.
- Forming partnerships is critical for successfully building out alternative fuel corridors, including partnerships among utilities along a corridor and partnerships among public and private sector parties to leverage funding and share success stories.

Our Path Forward: Sustaining Partnerships for Corridor Growth

Partners summarize convening outcomes, evaluate opportunities to improve regional coordination, commit to partnership, and put forth actions to expand alternative fuel corridors and the marketplace for advanced vehicle technologies in the Southeast.

During this session, participants were asked several questions about advancing alternative fuel corridors in the Southeast into the future. In response to a question on next steps for FHWA, the following actions items were raised:

- FHWA can help ensure that, at a local level, alternative fuel corridors remain a priority for DOTs and FHWA Division offices.
- Help facilitate webinars on technological developments. This could be in coordination with Argonne National Lab and NREL and geared towards educating and informing the greater public about research and development issues.
- FHWA can continue bringing stakeholders together in events like the convenings.
- FHWA can project urgency to make progress on alternative fuel corridors with state agencies. Currently, there isn't a sense of urgency for alternative fuels and so things take a longer time than necessary.
- Update the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).
- Work with NREL on the AFDC site to add freight corridors, ports, and distribution facilities data, to identify potential sites for corridors. A calculator for total cost of vehicle ownership should also be added.



Figure 10. Convening attendees indicate their next steps for advancing alternative fuel corridors in the Southeast.

Lastly, participants were asked to share their immediate next steps to continue progress on alternative fuel corridors in the Southeast. The responses included the following:

- Build infrastructure plans using data on traffic volume, freight logistics, and publicly available resources such as the AFDC. Be sure that alternative fuels are incorporated into regional transportation plans.
- Coordinate efforts within and across state lines and with a variety of stakeholders, on issues such as signage. Hold more frequent and consistent calls, each with a purpose and clear action list to ensure progress.
- Work more on developing the propane sector and propose more corridors.
- Engage in more extensive public outreach, including media campaigns using industry and public resources.
- Develop further partnerships between utilities, fuel providers, Clean Cities coalitions, MPOs, DOTs, and national entities such as Argonne National Lab.
- Push for progress not just at local levels but also at county- and state-levels.
- Focus on fleets as a good starting point for alternative fuel vehicle adoption.
- Educate consumers so that they know all fuel types are options. Not all fuel types for everyone; and if one doesn't work, another will.

- Use personal power to enact change: get more friends and family members test driving AFVs and ask them to pledge to buy an AFV.
- Make utility resources available to people outside of service territories, continue to build out infrastructure, and work with Clean Cities groups to jointly submit applications and continue to educate the public.

Summary of Convening Evaluations

An online survey was distributed to attendees on October 1, 2018. The survey was intended to assess the effectiveness of the convening, as well as inform the development of future convenings. A total of 10 attendees responded to the survey. Their answers are summarized below.

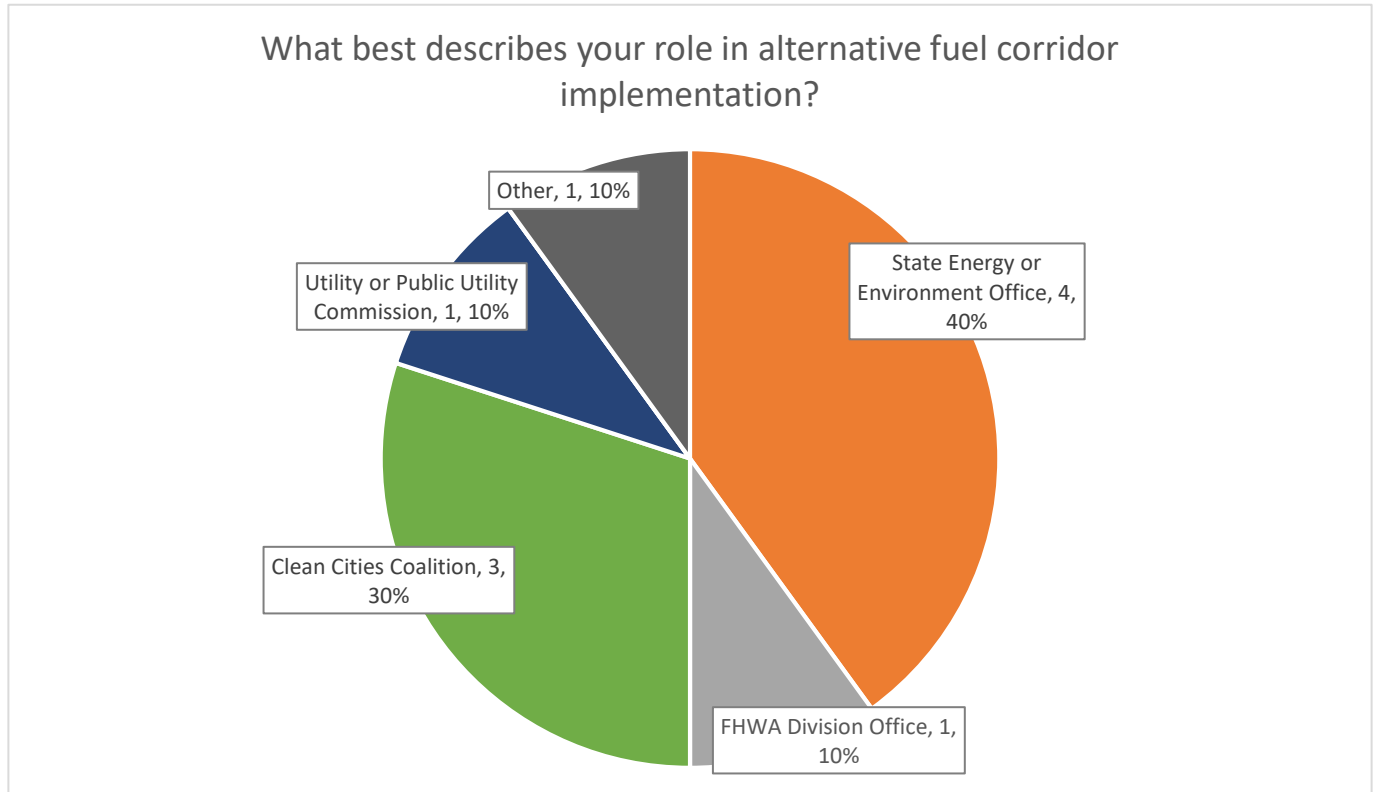


Figure 11. Breakdown of survey respondents by role in alternative fuel corridor implementation.

Out of those that responded to the survey, most were state Energy or Environmental office representatives. The respondent who selected “Other” specified that he/she is an alternative fuel provider of LNG and CNG.

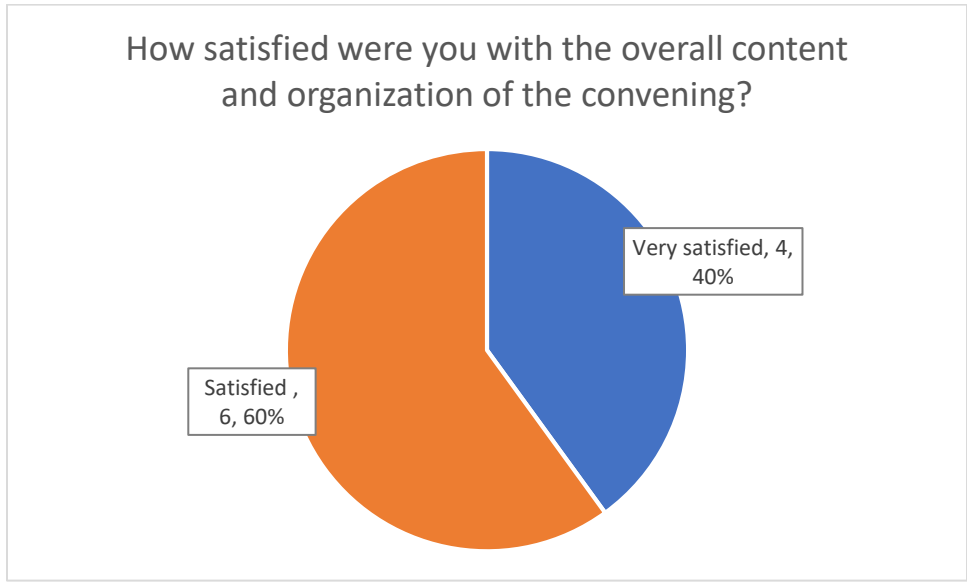


Figure 12. Pie chart showing respondents' satisfaction with the overall content and organization of the convening.

All respondents (100%) were either satisfied or very satisfied with the overall content and organization of the convening. No respondents indicated that they were “somewhat satisfied” or “not satisfied,” which would have required further explanation.

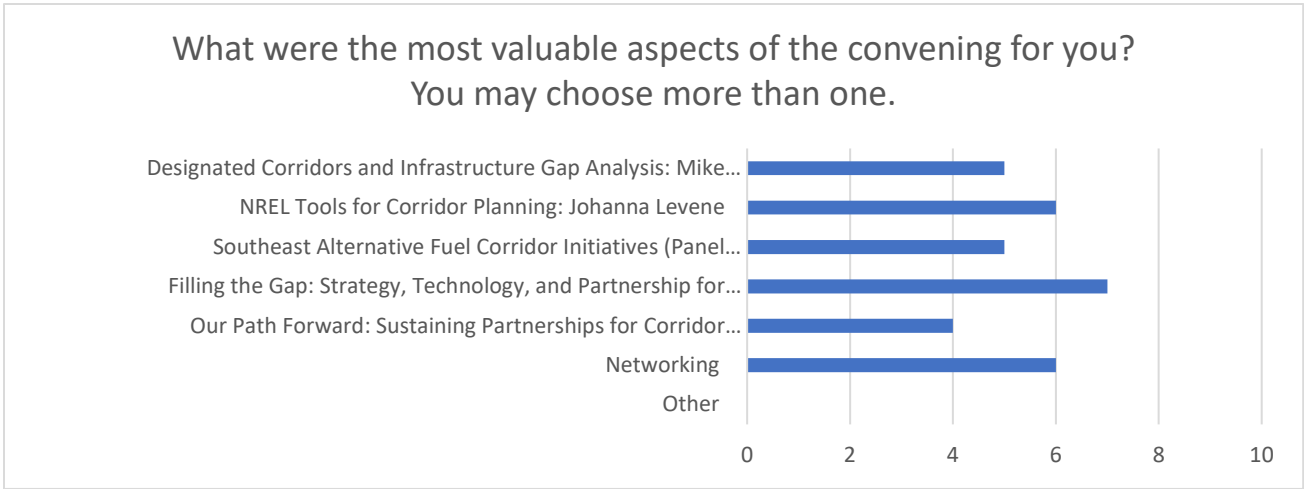


Figure 13. Bar graph showing the most valuable aspects of the convening, according to attendees (each attendee received multiple votes).

Survey respondents found that the “Filling the Gap” panel and discussion was the most valuable portion of the convening. No respondents selected “Other.” Respondents could select more than one answer to this question.

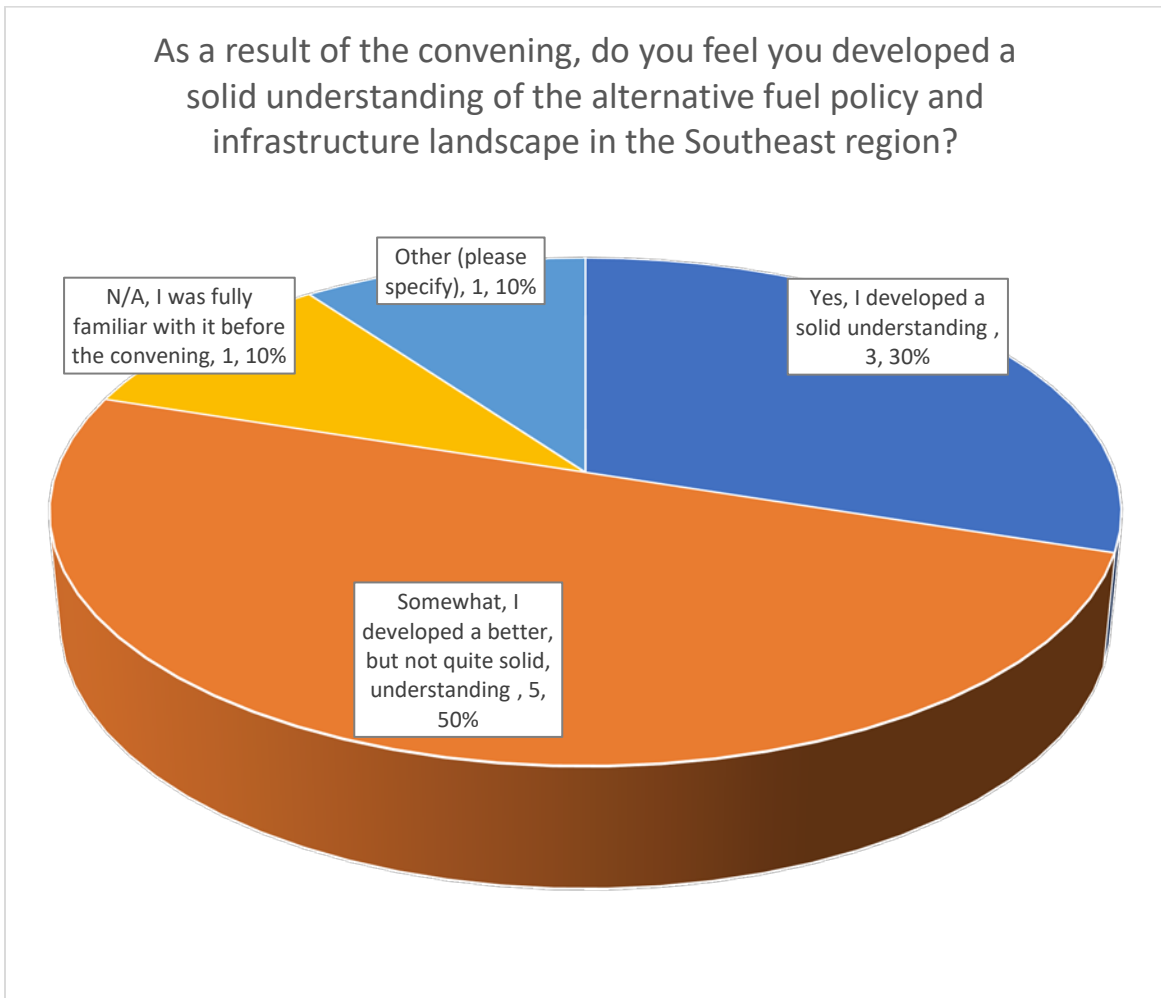


Figure 14. Pie chart of respondents' understanding of the alternative fuel policy and infrastructure landscape in the Southeast region, as a result of the convening.

Half of the respondents (50%) felt they developed a better, but not quite solid, understanding of the alternative fuel policy and infrastructure landscape in the Southeast region, as a result of the convening. No respondents selected “No, I do not feel familiar with the policy and infrastructure landscape,” and one person responded “N/A, I was fully familiar with it before the convening.” Some of the respondents (30%) said they developed a solid understanding. One respondent selected “Other” and specified that they were “familiar but this added to [their] knowledge.”

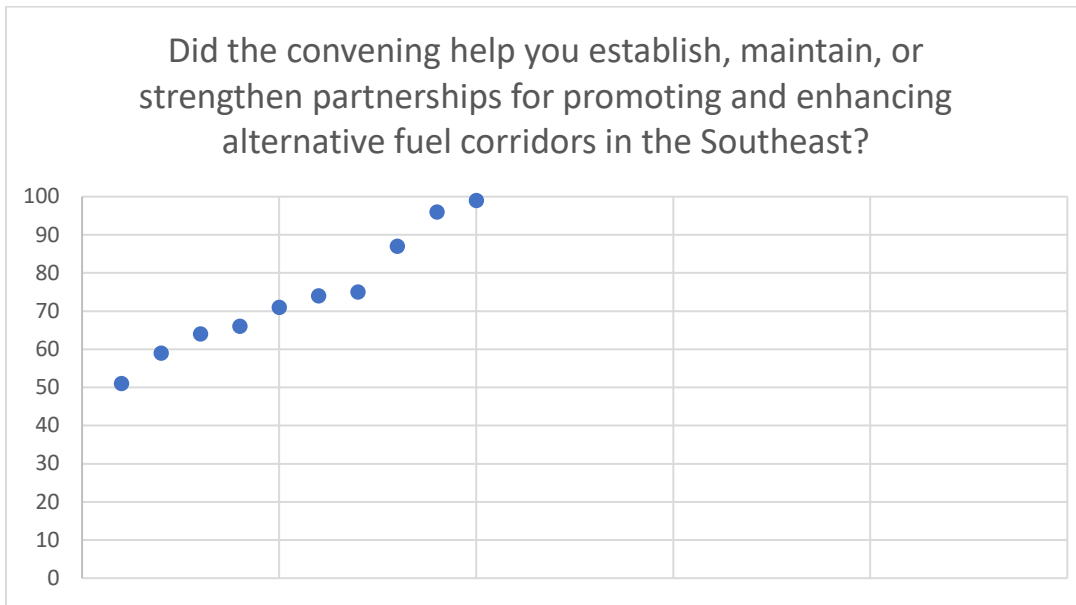


Figure 15. Scatter plot showing the degree to which the convening helped establish, maintain, or strengthen partnerships, rated from 0 to 100.

This question presented respondents with a slider that they could shift along a numbered spectrum, with 100 indicating a response of “very much so,” 50 indicating a response of “somewhat,” and zero indicating a response of “not so much.” All respondents indicated a 50 or higher for the degree to which the convening helped establish, maintain, or strengthen partnerships for promoting and enhancing alternative fuel corridors in the Southeast. The average rating among all 10 respondents was 74.

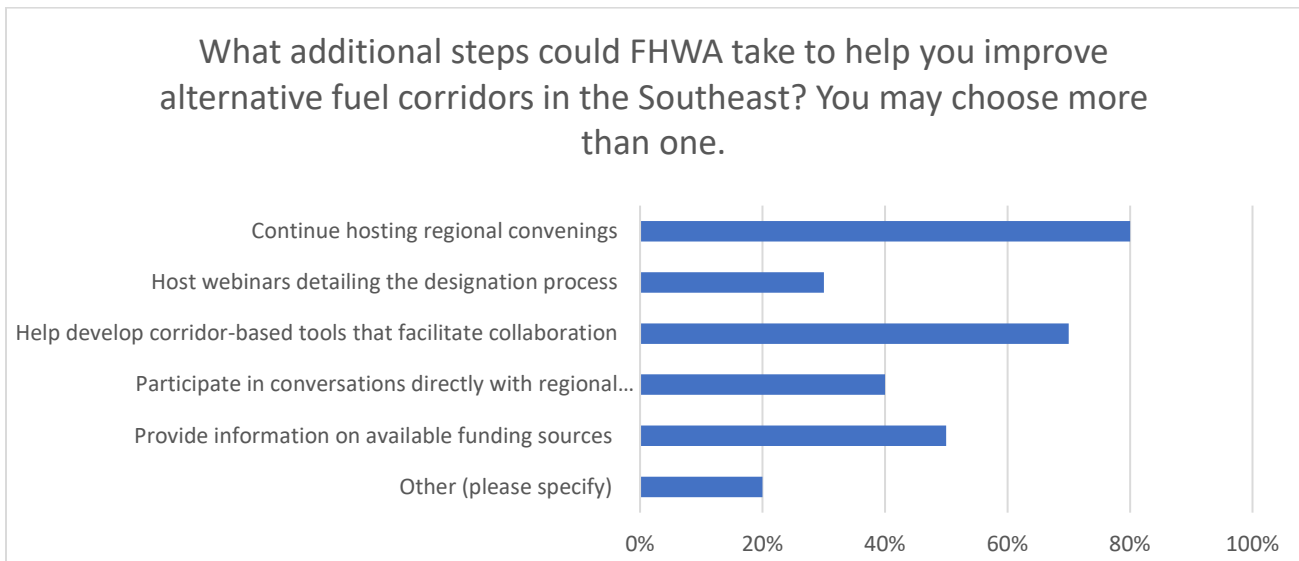


Figure 16. Bar graph showing FHWA steps to improve alternative fuel corridors in the Southeast (each respondent received multiple votes).

Survey respondents most commonly selected “continue hosting regional convenings” as an additional step that the FHWA could take to help improve alternative fuel corridors in the Southeast. Two respondents selected “Other,” with responses including “work toward developing national signage” and “participate in discussions directly with regional stakeholders as requested.” Respondents could select more than one answer to this question.

The last four questions in the survey were open-ended. The first of these asked “What was your key takeaway or action item from the discussion at the end of the day on Sustaining Partnerships for Corridor Growth?” Several responses (5) referenced communication and collaboration among stakeholders as their biggest takeaway. Some responses are captured below:

- There needs to be regional discussions on types of infrastructure being developed on a regional basis.
- That southeastern states need to communicate more directly with one another.
- No key takeaway – all good info.
- I went back to the Division Office and immediately put together another meeting with all interested parties to develop a comprehensive plan.
- Tools are available to help determine the best locations for fueling fleets.
- There was a sense of what's next and I think each state or region needs to figure out their next steps.
- Need a political champion in the areas of concern.
- Need to make connections and take an interest in securing alternative fuel corridors for my state.

The second open-ended question asked, “Were there any stakeholders who were missing from the discussion?” Respondents replied with the following:

- Electrify America.
- Because of the port tour conflicts, NCDOT was not available for the convening.

The third open-ended question asked, “Were there any topic areas that were not covered or that should have received more focus?” Respondents replied with the following:

- Although there was a discussion on uniform signage and what the impediments were - more discussion and action needs to be developed.
- Alignment of corridors between states.
- Perhaps ways to collaborate between regions to create a more comprehensive corridor map that doesn't just stop at state lines.

The final question allowed respondents to provide additional open-ended feedback or suggestions for future convenings. Respondents replied with the following comments:

- States need to have a clear picture on types of various funding moving forward in their states to develop public infrastructure in order to supplement the activities.
- Good job team!
- Overall a very excellent meeting that stimulated me to do more.
- Definitely place an emphasis on collaboration and cooperation. Otherwise a very useful meeting!

Appendix I: Convening Agenda

7:00 AM

Registration and Networking

Sign in, introduce yourself to new partners, and participate in a short interactive survey.

8:00 AM

Welcome & Setting the Stage

Diane Turchetta, Transportation Specialist, U.S. Federal Highway Administration

Alycia Gilde, Director, CALSTART

Oana Leahu-Aluas, Associate, Cadmus

The Federal Highway Administration (FHWA) provides welcome and introductory remarks on the importance of regional coordination and partnerships to support the development of alternative fuel corridors and a sustainable transportation network. Cadmus and CALSTART will provide an overview of the day and share survey results.

8:20 AM

Around the Room Partner Introductions

Each attendee briefly introduces themselves with three facts: (1) name, (2) organization, and (3) role in alternative fuel corridor development.

8:35 AM

Designated Corridors and Infrastructure Gap Analysis

Mike Scarpino, Transportation Project Engineer, U.S. Department of Transportation Volpe Center

Stephen Costa, Technical Analyst, U.S. Department of Transportation Volpe Center

Before diving into a discussion on the barriers and opportunities to infrastructure development, FHWA provides an update on regional alternative fuel corridors analysis highlighting potential target areas for continued corridor development.

9:10 AM

NREL Tools for Corridor Planning

Johanna Levene, Manager, Transportation Data and Tools, National Renewable Energy Laboratory

The National Renewable Energy Laboratory (NREL) is working closely with FHWA to make it easier to plan for alternative fuel infrastructure along highway corridors. During this session, a representative from NREL will provide an overview of available tools to help agencies plan for round 3 nominations, including changes to the Alternative Fuels Data Center (AFDC) alternative fueling station locator and a corresponding corridor tool.

9:25 AM

Southeast Alternative Fuel Corridor Initiatives: Progress to Date, Outreach, and Funding

Landon Masters, Clean Transportation and Communications Specialist, South Carolina Energy Office/Coordinator, Palmetto Clean Fuels

Alan Jones, Senior Research Analyst, Long Range Planning Division, Tennessee Department of Transportation

Bernadette Dupont, Transportation Specialist, Kentucky FHWA Division Office

Marci Larson, Public Affairs Manager, North Florida Clean Cities

Wanda Forrest, Transportation Planning Manager, North Florida Transportation Planning Organization

Partners throughout the region present on innovative programs currently advancing alternative fuel corridors for electric, hydrogen, propane, and compressed natural gas vehicles. Hear first-hand about the partners, technologies, and funding that are making it possible.

10:25 AM **Networking Break**

10:55 AM **Filling the Gap: Strategy, Technology, and Partnership for Infrastructure Development**

David Schatz, Director, Public Policy, ChargePoint

Lang Reynolds, Manager, Electric Transportation, Duke Energy

Monte McLeod, Autogas Program Director, Palmetto Propane

Ian Skelton, Director, Southern Company Gas

Public and private partners discuss the challenges and best practices for the planning and implementation of alternative fuel corridors. Technology and fuel suppliers, utilities, government and fleets share perspectives on how to “fill the infrastructure gap.” During this session, FHWA seeks feedback on how the Agency can help states meet their corridor goals.

12:25 PM **Our Path Forward: Sustaining Partnerships for Corridor Growth**

Partners summarize convening outcomes, evaluate opportunities to improve regional coordination, commit to partnership, and put forth actions to expand alternative fuel corridors and the marketplace for advanced vehicle technologies in the Southeast.

1:00 PM **Adjourn**

Appendix II: Convening Participant List

State	Contact Name	Title	Organization	Contact Email
Attendees				
AL	Phillip Wiedmeyer	Chairman & President	Alabama Clean Fuels Coalition	phillip@alabamacleanfuels.org
CO	Johanna Levene	Manager, Transportation Data and Tools	National Renewable Energy Laboratory	Johanna.Levene@nrel.gov
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FL	Wanda Forrest	Transportation Planning Manager	North Florida TPO/North Florida Clean Fuels Coalition	wforrest@northfloridatpo.com
GA	Kristofor Anderson	Senior Program Manager, Energy Resources Division	Georgia Environmental Finance Authority	Kristofor@gefa.ga.gov
GA	David Jaskolski	Manager, Fuels	Pivotal LNG	djaskols@pivotallng.com
GA	Ian Skelton	Director, Natural Gas Vehicles	Southern Company Gas	iskelton@southernco.com
IL	Marcy Rood	Principal Environmental Analyst	Argonne National Lab	mrood@anl.gov
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KY	Bernadette Dupont	Transportation Specialist	Federal Highway Administration Kentucky Division Office	Bernadette.Dupont@dot.gov
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NC	Rick Sapienza	Clean Transportation Director	North Carolina Clean Energy Technology Center	resapienza@ncsu.edu
NC	Bill Eaker	Coordinator	Land of Sky Clean Vehicles Coalition	bill@landofsky.org
NC	Chris Dobbins	Fleet Services Consultant	Land of Sky Clean Vehicles Coalition	broadspeed@frontier.com
NC	Will Carnright	Environmental Engineer	Environmental Protection Agency Region 4	carnright.william@epa.gov

State	Contact Name	Title	Organization	Contact Email
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SC	Jessica Hekter	Planning & Program Delivery Team Leader	Federal Highway Administration South Carolina Division Office	Jessica.Hekter@dot.gov
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SC	Westy Westmoreland	General Manager of Utility Services Support and Electric Vehicles	South Carolina Electric & Gas	WVWESTMORELAND@scana.com
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SC	Lang Reynolds	Manager - Electric Transportation	Duke Energy	Lang.Reynolds@duke-energy.com
SC	David Dangerfield	Senior Account Manager	AmeriGas Propane	david.dangerfield@amerigas.com
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TN	Drew Frye	Power Utilization Engineer, Technology Innovation/Program Manager Grid Edge Tech and EV Strategy	Tennessee Valley Authority	agfrye@tva.gov
TN	Jonathan Overly	Executive Director	East Tennessee Clean Fuels Coalition	jonathan@etcleanfuels.org
TN	Shauna Basques	Communications Coordinator/Energy Analyst	Middle-West Tennessee Clean Fuels and Tennessee Department of	Shauna.Basques@tn.gov

State	Contact Name	Title	Organization	Contact Email
			Environment and Conservation, Office of Energy Programs	
Organizers				
MD	Elise Emil	Research Analyst	Cadmus	elise.emil@cadmusgroup.com
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MA	Mike Scarpino	Transportation Project Engineer	USDOT – Volpe Center	Michael.Scarpino@dot.gov
MA	Stephen Costa	Technical Analyst	USDOT – Volpe Center	Stephen.Costa@dot.gov
MA	Cynthia Manson	Principal	Industrial Economics, Incorporated	cjm@indecon.com