U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

2021 Transportation Technology Deployment Report:

State of Delaware Clean Cities

Expanded Edition

March 2022

Clean Cities
U.S. Department of Energy

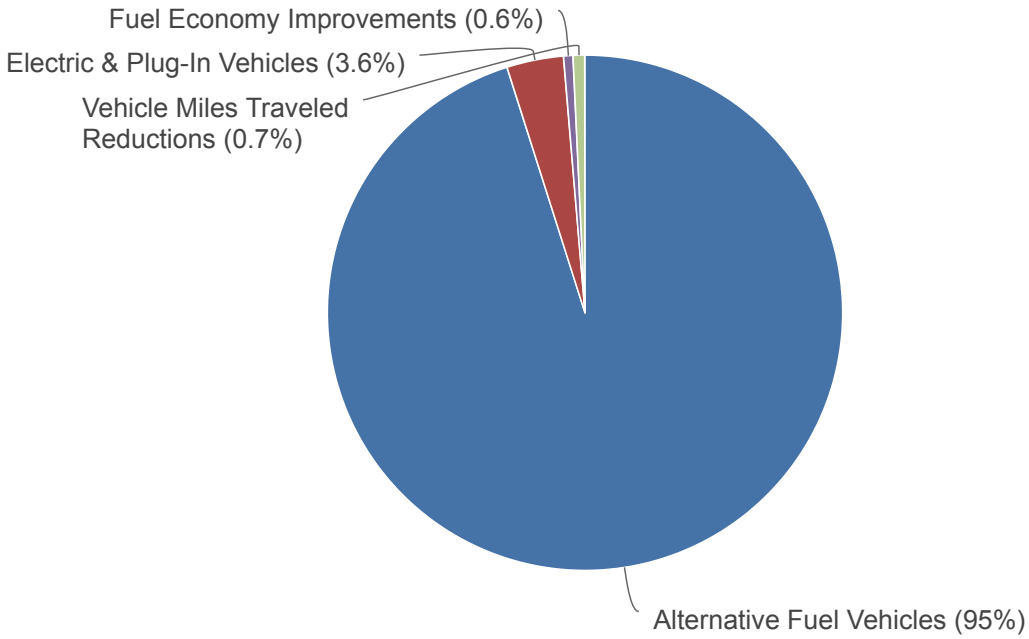
The U.S. Department of Energy's (DOE) Clean Cities Coalition Network fosters the nation's economic, environmental, and energy security by working locally to advance affordable, domestic transportation fuels, energy efficient mobility systems, and other fuel-saving technologies and practices. A national network of more than 75 active coalitions serve as the foundation of Clean Cities by working in communities across the country to implement alternative fuels, fuel-saving technologies and practices, and new mobility choices.

Every year, each Clean Cities coalition submits to DOE an annual report of its activities and accomplishments for the previous calendar year. Coalition directors, who lead the local coalitions, provide information and data via an online database managed by the National Renewable Energy Laboratory (NREL). The data characterize membership, funding, projects, and activities of the coalitions. The coalition directors also submit data on the sales of alternative fuels, deployment of alternative fuel vehicles, idle-reduction initiatives, fuel economy activities, and efforts to reduce vehicle miles traveled. NREL and DOE analyze the data and translate them into energy use impact, greenhouse gas reduction, and other metrics to show progress supporting the Clean Cities mission for individual coalitions and the network as a whole. This report summarizes those impacts for State of Delaware Clean Cities.

To view aggregated data for all local coalitions in the network, visit cleancities.energy.gov/accomplishments.

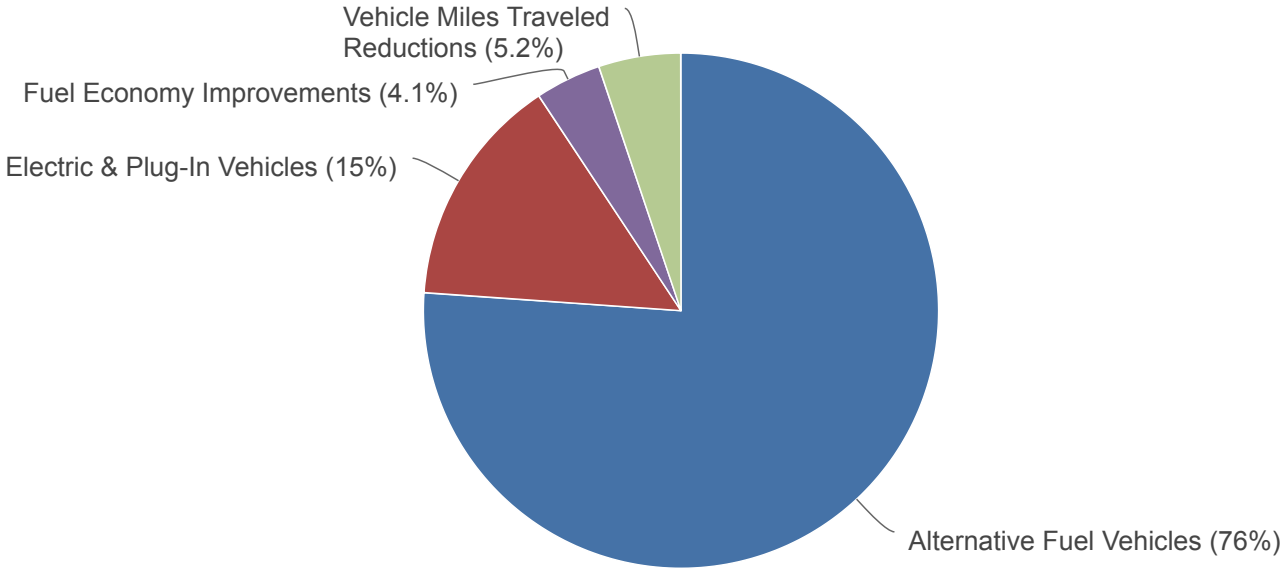
2021 Gallons of Gasoline Equivalent Reduced

2,072,566 gallons

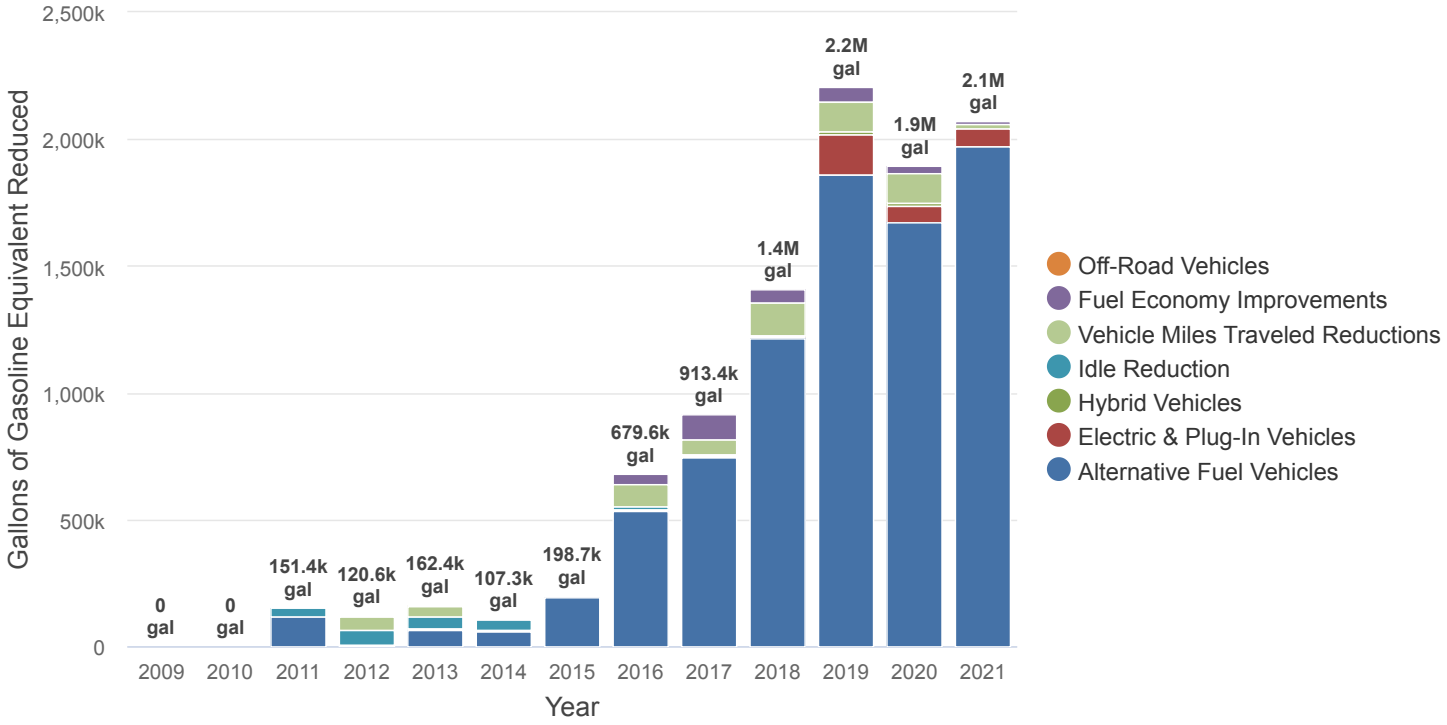


2021 Greenhouse Gas Emissions Reduced

3,463 tons



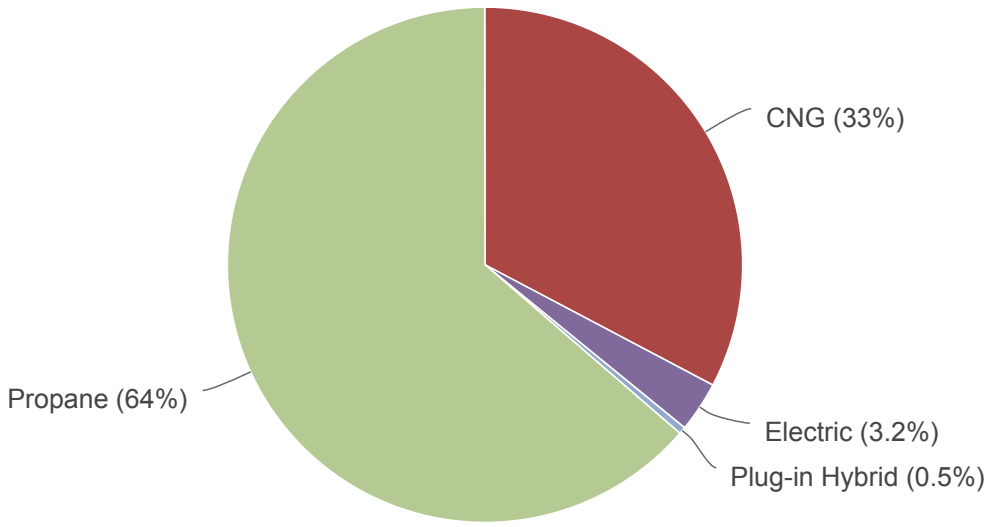
Historical Gallons of Gasoline Equivalent Reduced



Historical Greenhouse Gas Emissions Reduced

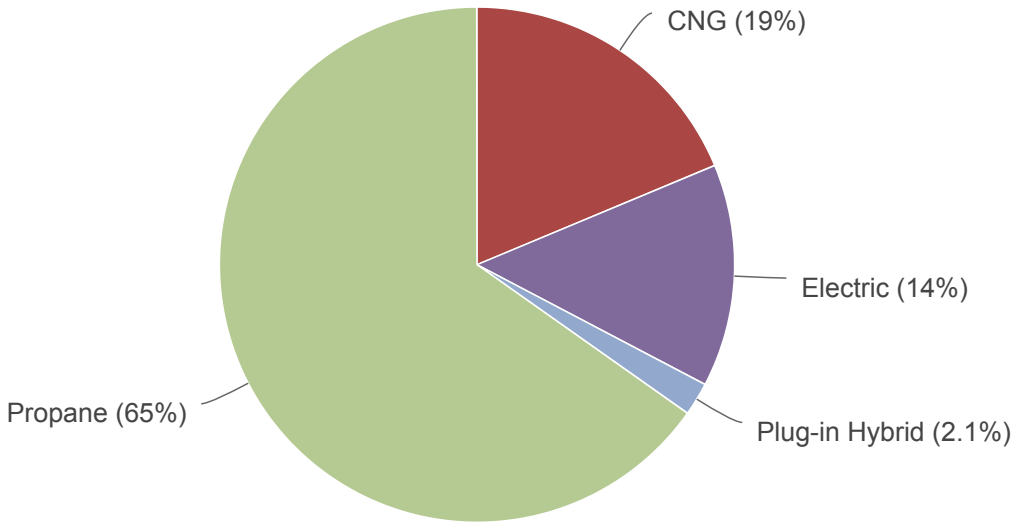
2021 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects

2,045,183 gallons



2021 Greenhouse Gas Emissions Reduced by Fuel Type for Alternative Fuel Projects

3,141 tons



Criteria Pollutant Emissions Reduced

Criteria pollutants are chemicals that have been linked to human health effects and therefore regulated in the Clean Air Act of 1970. Criteria pollutants include nitrogen oxides (NOx) and volatile organic compounds (VOC), both precursors to ozone pollution or smog. They also include particulate matter (PM) grouped into 10 and 2.5 micron sizes. The Clean Cities annual report calculates them using the same assumptions and default values as AFLEET 2016, with some adjustments to fit specific data inputs. They are quantified at vehicle tailpipes, as those are the emissions contributing to the regulated "ambient" air quality of a given city. Upstream emissions from electric power plants, refineries, and biofuel feedstock farms are not included in this summary since those operations typically do not take place in or near population centers where the vehicles are operated and health effects can be documented. When a specific pollutant surpasses a given threshold for a given area, the area is considered to be in “nonattainment” for that pollutant. Nonattainment areas for given pollutants can be viewed at www.epa.gov/green-book. To learn more about what your emissions numbers mean, please take the Understanding Emissions or Emissions Compliance courses at Clean Cities University.

Reductions by Technology	CO	NOx	VOC*	PM10	PM2.5
Alternative Fuel Vehicles - CNG	13,235 lb	901 lb	482 lb	80 lb	44 lb
Alternative Fuel Vehicles - Propane	0 lb	0 lb	8,812 lb	0 lb	0 lb
Electric, Hybrid & Plug-in Vehicles - Electric	12,053 lb	560 lb	616 lb	26 lb	22 lb
Electric, Hybrid & Plug-in Vehicles - PHEV	1,447 lb	64 lb	128 lb	2 lb	2 lb
Fuel Economy Improvements	1,895 lb	84 lb	167 lb	16 lb	7 lb
Vehicle Miles Traveled Reductions	2,361 lb	105 lb	209 lb	20 lb	8 lb
Total:	**30,992 lb**	**1,714 lb**	**10,414 lb**	**145 lb**	**84 lb**

* VOC is interchangeable with NMOG (non-methane organic gases) and NMHC (non-methane hydrocarbons) for all purposes relevant to the Clean Cities suite of technologies.

COALITION

State of Delaware Clean Cities - DE

https://dnrec.alpha.delaware.gov/climate-coastal-energy/clean-transportation/delaware-clean-cities-coalition/

Designated: 10/12/1993
Boundaries: Entire state of Delaware

DIRECTORS

	Address	Telephone	Fax
Breanne Preisen	Delaware Department of Natural Resources & Environmental Control 100 W Water St, Ste 10B Dover, DE 19904	302-735-3366	

Number of coalition directors	1
Coalition director(s) hours per week on Clean Cities	20 hours
Other staff hours per week on Clean Cities	10 hours
How long have you been the coalition director?	3 years

OPERATING INFORMATION

Coalition organizational structure	Hosted in a state government agency
Does the coalition have a non-profit governing board?	-
Does the coalition have a non-governing advisory committee?	-

Stakeholders

Number of stakeholders	56
Number of private stakeholders	40
Stakeholder counting notes	
Does the State Energy Office provide any financial support to the coalition or stakeholders?	Yes
Explain State Energy Office's support	

The SEO provides office space, administrative support, and financial support to the coordinator.

How do you obtain most of your data for the survey?	Paper, e-mail, or spreadsheet questionnaire to stakeholders, Phone calls to stakeholders
Has your coalition registered with www.grants.gov?	No

2021 Outside Funding

Stakeholder dues collected	$0
How much funding is obtained from other sources to cover coalition operating expenses?	$0
Non-DOE or ARRA grant and matching funds spent in 2021	$0
Total non-DOE or ARRA funding in 2021	**$0**

Alternative Fuel & Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	Fuel Used	GGE Reduced	GHG Reduced
Chesapeake Utilities	Light-Duty	CNG	26	5,709 GGE	4,068 gal	7.8 tons
Market: Utility **Vehicle type:** Pickup/SUV/Van **Percentage from coalition:** 75% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No						
Delaware Transit Corporation	Light-Duty	Propane	262	1,422,031 gal	1,076,725 gal	1,694.5 tons
Market: Commuters **Vehicle type:** Unknown/Other **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No						
Kent Sussex Industries	Light-Duty	Propane	12	22,850 gal	17,302 gal	27.2 tons
Market: Corporate Fleet **Vehicle type:** Pickup/SUV/Van **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No						
School Buses	Heavy-Duty	Propane	77	100% of time	99,947 gal	157.3 tons
Miles traveled per vehicle: 12,000 mi **Average vehicle fuel economy:** 7 MPGde **Market:** Commuters **Vehicle type:** Bus: School **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No *School buses are owned by multiple contractors and bus companies. I did not contact each one for their fuel usage. These buses were funded through DERA/VW so I am accurate on the number of buses, but the fuel usage is an estimate.*						
Schwan's - Medium-duty Propane	Light-Duty	Propane	11	42,310 gal	32,036 gal	50.4 tons
Market: Corporate Fleet **Vehicle type:** Pickup/SUV/Van **Percentage from coalition:** 100% **National Clean Fleets Partnership:** Yes **Energy Efficient Mobility Systems Partnership:** No						
Sharp Energy	Light-Duty	Propane	36	100,000 gal	75,717 gal	119.2 tons
Market: Corporate Fleet **Vehicle type:** Pickup/SUV/Van **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No *Information verified with Sharp but only gave an annual estimate of the gallons of LPG used.*						
Waste Management - Heavy-duty CNG	Heavy-Duty	CNG	128	1,204,140 GGE	665,287 gal	580.1 tons
Market: Corporate Fleet **Vehicle type:** Truck: Refuse **Percentage from coalition:** 65% **National Clean Fleets Partnership:** Yes **Energy Efficient Mobility Systems Partnership:** No						
Total:			**552**		**1,971,082 gal**	**2,636 tons**

Electric, Hybrid & Plug-in Vehicles

Fleet/Station Name	Vehicle Class	Fuel	Number of Vehicles	GGE Reduced	GHG Reduced
Delaware Department of Transportation	Light-Duty	Electric	4	449 gal	3.8 tons
Average electric fuel economy: 31 kWh/100mi **Miles traveled per vehicle per year:** 2,346 mi **Market:** Government - State **Vehicle type:** Car **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Workplace Charging Challenge:** - **Energy Efficient Mobility Systems Partnership:** No					
Delaware Sustainable Energy Utility	Light-Duty	Electric	1	760 gal	5.5 tons
Electricity used: 6,962 kWh **Market:** General/Unknown **Vehicle type:** Car **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Workplace Charging Challenge:** - **Energy Efficient Mobility Systems Partnership:** No					
Delaware Transit Corporation	Heavy-Duty	Electric	20	51,912 gal	331.4 tons
Electricity used: 577,051 kWh **Market:** Commuters **Vehicle type:** Bus: Transit **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Workplace Charging Challenge:** - **Energy Efficient Mobility Systems Partnership:** No					
State of Delaware Fleet Services	Light-Duty	Electric	70	11,668 gal	98.4 tons
Average electric fuel economy: 28 kWh/100mi **Miles traveled per vehicle per year:** 5,480 mi **Market:** Government - State **Vehicle type:** Car **Percentage from coalition:** 73% **National Clean Fleets Partnership:** No **Workplace Charging Challenge:** - **Energy Efficient Mobility Systems Partnership:** No					
State of Delaware Fleet Services	Light-Duty	PHEV	70	9,312 gal	65.5 tons
Average electric fuel economy: 41 kWh/100mi **Average vehicle fuel economy:** 90 MPG **Miles traveled per vehicle per year:** 5,480 mi **Market:** National Parks **Vehicle type:** Car **Percentage from coalition:** 75% **National Clean Fleets Partnership:** No **Workplace Charging Challenge:** - **Energy Efficient Mobility Systems Partnership:** No					
Total:			**165**	**74,101 gal**	**505 tons**

FUEL ECONOMY

Fuel Economy Improvements

Fleet Name	Previous Fuel	Current Fuel	Number of Vehicles	Miles Traveled per Vehicle	GGE Reduced	GHG Reduced
State of Delaware Fleet Services	23 MPG	27 MPG	249	9,441 mi	11,357 gal	133.6 tons

Fleet Name	Previous Fuel	Current Fuel	Number of Vehicles	Miles Traveled per Vehicle	GGE Reduced	GHG Reduced
Method: Telematics **Vehicle class:** Light-Duty **Market:** Government - State **Vehicle type:** Car **Percentage from coalition:** 75% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No						
State of Delaware Fleet Services	23 MPG	25 MPG	55	5,820 mi	835 gal	9.8 tons
Method: Telematics **Vehicle class:** Light-Duty **Market:** Government - State **Vehicle type:** Pickup/SUV/Van **Percentage from coalition:** 75% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No *This is the last section I am trying to confirm with our state fleet services - I will have a better number but I wanted to submit the report as I am one day past the deadline.*						
Total:			**304**	**15,261 mi**	**12,192 gal**	**143 tons**

Vehicle Miles Traveled Reductions

Project Name	Method	Vehicle Class	GGE Reduced	GHG Reduced
Delaware Sustainable Energy Utility	Telecommute	Light-Duty	1,248 gal	14.7 tons
Fuel saved: 1,248 gallons **Percentage from coalition:** 100% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No				
State of Delaware Employees Van Pool	Vanpooling	Light-Duty	13,943 gal	164.0 tons
Fuel type of vehicles driven less: Gasoline **Fuel economy of vehicles driven less:** 23 MPG **Number of vehicles driven less:** 63 **VMT project per vehicle being driven less:** 15,000 mi **Fuel type of additional vehicles:** Gasoline **Fuel economy of additional vehicles:** 20 MPG **Number of additional vehicles:** 12 **VMT per additional vehicle:** 22,000 mi **Percentage from coalition:** 50% **National Clean Fleets Partnership:** No **Energy Efficient Mobility Systems Partnership:** No				
Total:			**15,191 gal**	**179 tons**

FUEL STATIONS

New Stations

Fuel	Public Stations	Private Stations
Biodiesel	-	-
CNG - Compressed Natural Gas	-	-
E85 - 85% Ethanol	-	-
EVSE Ports (Chargers): Level 1 & Level 2	136	6
EVSE Ports (Chargers): DC Fast Chargers	22	-
Hydrogen	-	-
LNG - Liquefied Natural Gas	-	-
Propane	-	-

Fuel	Public Stations	Private Stations
Total:	**158**	**6**

OUTREACH ACTIVITIES

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Stakeholder Meeting	11/08/2021	Meeting - Stakeholder	100%	21
Technology: Electric vehicles, Hybrid electric vehicles, Natural gas vehicles, Propane **Audience:** General Public, Government, Private Fleets, Transit, Utility				
Forth EV Roadmap 2022	06/14/2021, 06/15/2021, 06/16/2021	Conference Participation	100%	1
Technology: Electric vehicles, Hybrid electric vehicles **Audience:** Airport, Delivery, Energy and Environmental Justice (EEJ) communities or representative organizations, General Public, Government, Private Fleets, Transit, Utility, Waste, Other				
E-Mobility, Diversity, Equity & Inclusion Conference - EVNoire	11/17/2021, 11/18/2021	Conference Participation	100%	1
Technology: Electric vehicles, Hybrid electric vehicles, Idle reduction, Vehicle miles traveled reduction **Audience:** Airport, Delivery, Energy and Environmental Justice (EEJ) communities or representative organizations, General Public, Government, Private Fleets, Transit, Utility, Waste, Other *Conference was focused on best practices and strategies for engaging diverse communities overburdened by the transportation sector. All technologies could apply.*				
Fueling Your Fleet with Propane Autogas Webinar	03/16/2021	Workshop Held By Coalition	100%	15
Technology: Propane **Audience:** Airport, Delivery, Energy and Environmental Justice (EEJ) communities or representative organizations, General Public, Government, Private Fleets, Transit, Utility, Waste, Other *Focus of the webinar was to inform fleet owners in Delaware about the benefits of Propane Autogas. Speakers included the transportation director of a Delaware school district, Delaware's transit agency and Sharp Energy.*				
Charging Up Your Bus Fleet	05/18/2021	Workshop Held By Coalition	100%	15
Technology: Electric vehicles **Audience:** Energy and Environmental Justice (EEJ) communities or representative organizations, General Public, Government, Private Fleets, Other *Focus of the webinar was for school bus fleets in the state of Delaware. This included school districts, charter and private schools and private bus owners. Speakers included Nuvve and the Delaware Division of Air Quality.*				
Electrifying Your Medium and Heavy-Duty Fleet Webinar	07/20/2021	Workshop Held By Coalition	100%	10
Technology: Electric vehicles **Audience:** Airport, Delivery, Energy and Environmental Justice (EEJ) communities or representative organizations, General Public, Government, Private Fleets, Transit, Utility, Waste, Other *Focus of this webinar was to inform fleet owners of medium and heavy-duty vehicles of the benefits of electrifying their fleets and the various options they have to do so such as electric PTO's for hydraulic trucks and retrofitting.*				
Delaware Commute Solutions (Formerly RideShare Delaware)	01/01/2021, 12/31/2021	Meeting - Other	100%	504
Technology: Vehicle miles traveled reduction **Audience:** Other *Total Direct Commuter Outreach Events - full year 2021. Commuters and Employers - all modes of Clean Commuting (van/car pooling, bus, train, walking, biking, teleworking, compressed work weeks)*				
Delaware Commute Solutions (Formerly RideShare Delaware)	01/01/2021, 12/31/2021	Social Media	100%	907

Activity Name	Dates	Activity Type	Percentage from Coalition	Persons Reached
Technology: Vehicle miles traveled reduction **Audience:** Other				
Total Posts on Facebook, Instagram, LinkedIn, Twitter - full year 2021. Commuters and Employers - all modes of Clean Commuting (van/car pooling, bus, train, walking, bikking, teleworking, compressed work weeks)				
Delaware Commute Solutions (Formerly RideShare Delaware)	01/01/2021, 12/31/2021	Meeting - Other	100%	484
Technology: Vehicle miles traveled reduction **Audience:** Other				
Total Meetings with Program Partners, Community Partners, Resource Partners, and Prospects - full year 2021. Commuters and Employers - all modes of Clean Commuting (van/car pooling, bus, train, walking, bikking, teleworking, compressed work weeks)				
NASEO State EV Infrastructure Summit	09/22/2021	Conference Participation	100%	1
Technology: Electric vehicles, Hybrid electric vehicles **Audience:** Government, Transit, Utility, Other				
Total:				**1,959**