

Alternative Fuel Vehicles for Municipalities & Schools

Sustainable Jersey Webinar
January 11, 2018



Webinar Speakers



- Nancy Quirk, Energy Program Manager
[Sustainable Jersey](#)



- Peg Hanna, Assistant Director
Air Monitoring and Mobile Sources
[NJDEP, Division of Air Quality](#)



- Michelle McCutcheon-Schour,
Senior Transportation Analyst
[Vermont Energy Investment Corporation \(VEIC\)](#)
- Brian Platt, Director
[Jersey City Office of Innovation](#)



Sustainable Jersey Sponsors



Program Underwriters



Grants Program Underwriters



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Platinum



Gold



Silver



Bronze



Sustainable Jersey for Schools Sponsors

Sustainable Jersey for Schools Underwriters



Small Grants Underwriters



Corporate Sponsors

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Bronze



Operations and Management: Fleet Actions

- Fleet Inventory Action
 - Evaluate current vehicle use
 - Fleet planning exercise
- Meet Target for Green Fleets
 - Average fleet fuel efficiency of 35 mpg OR
 - Achieve 20% reduction in fuel use within 4 years
- Purchase Alternative Fuel Vehicles Action
 - Hybrid
 - CNG
 - Propane (LPG)
 - Electric
 - Ethanol



<http://www.hyattsville.org/733/Electric-Police-Vehicles>

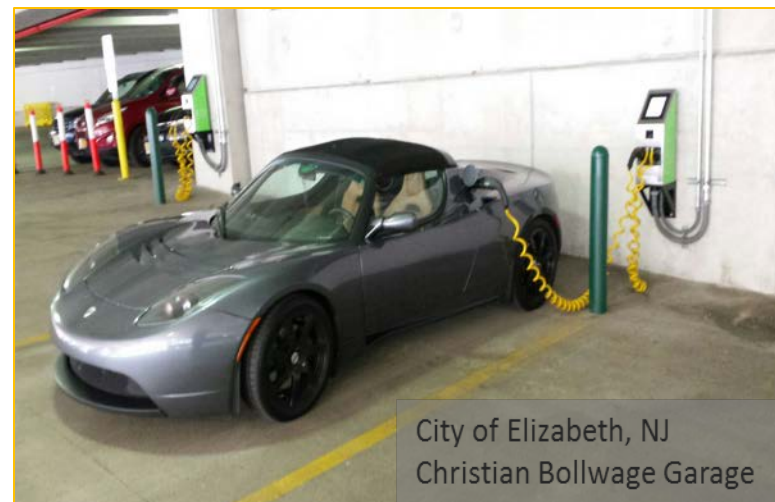
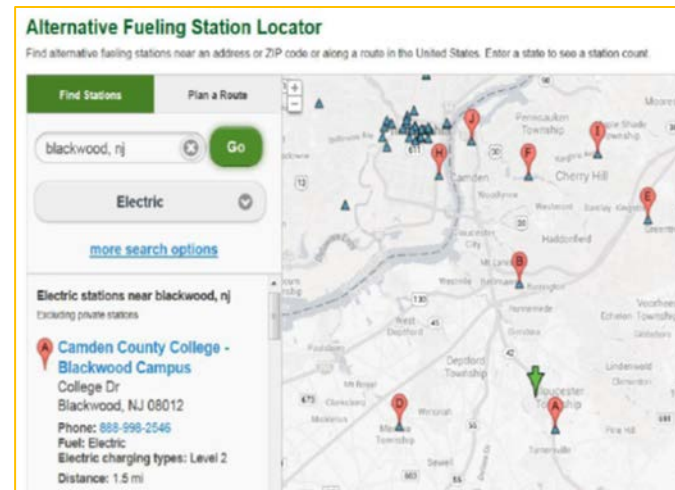
Make Your Town Electric Vehicle Friendly Action

- Required activities
 - Zoning ordinance -- EV charging stations as accessory use
 - Ordinance -- design standards for EVSE parking spaces
 - Training for local officials
- Outreach activities (must do ONE)
 - Incentive for pre-wiring for EV charging station
 - Awareness event
 - Commitment from 3 local partners for workplace chargers
 - Commitment from 3 local partners for multi-family chargers



Public EV Charging Infrastructure Action

- Required elements
 - Municipality instrumental in the project
 - Publicly available
 - Listed on “public directory”
 - Signage/Promotion of Charging Stations
- Charging station may be:
 - Located on private property
 - Owned and operated by a local nonprofit



Workplace EV Charging: *It Pays to Plug In*

- NJ DEP and NJ BPU grant program
- Workplace charging stations (public, private, educational, government)
 - Up to \$250 per Level 1 Charger
 - Up to \$5,000 per Level 2 Charger
- First come, first served



drivegreen.nj.gov/programs.html

Electric Vehicle Infrastructure Stakeholder Process



- NJBPU is conducting an EV infrastructure stakeholder process and welcomes public input.
- Next EV Infrastructure Stakeholder Meeting
 - January 22, 2018
 - 10 AM-12 Noon
 - NJBPU Office: 44 South Clinton Avenue, Trenton
- All public comments for the stakeholder process have been posted here:
<http://www.bpu.state.nj.us/bpu/agenda/stakeholdercomments.html>
- To submit comments or to be placed on the distribution list, please email: evstakeholder.group@bpu.nj.gov



NJBPU CNG Vehicle Grant Program



- The program will help fund CNG powered vehicles Class 5 through Class 8
- Application window closes at noon on April 2, 2018
- For further detail:
<http://www.nj.gov/bpu/commercial/cng.html>
- Submit applications or inquiries to:
BPU.CNGVehicleGrant@BPU.NJ.Gov



Funding clean air solutions in your community

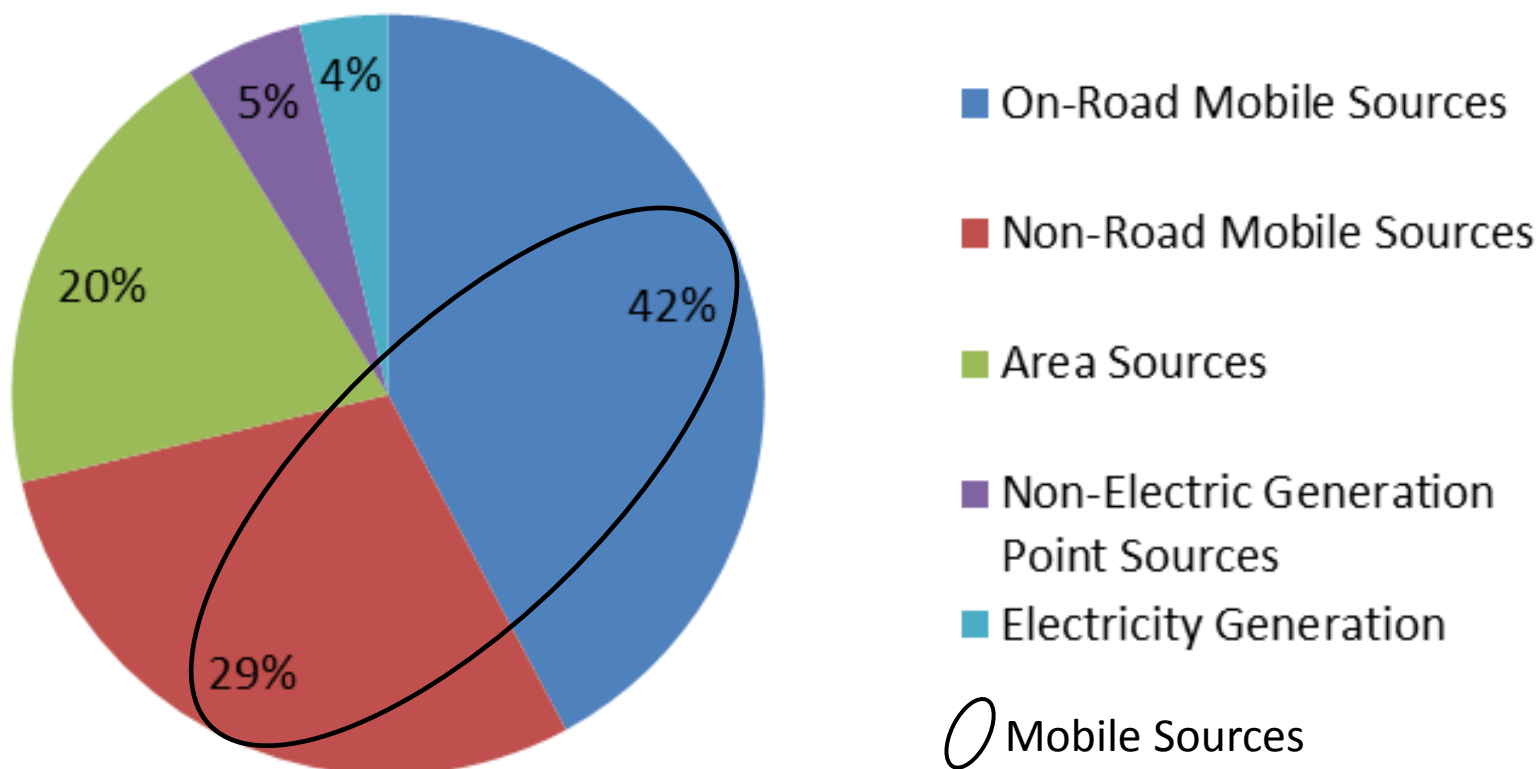


New Jersey Department of Environmental
Protection
Division of Air Quality



Vehicles Contribute to Ozone Pollution

Draft 2017 NOx Emissions in New Jersey



Total 131,847 tons per year

Source: Draft MARAMA 2017 BETA2 Regional Modeling Inventory

Ozone (Smog) Health Effects

**Healthy
airway**



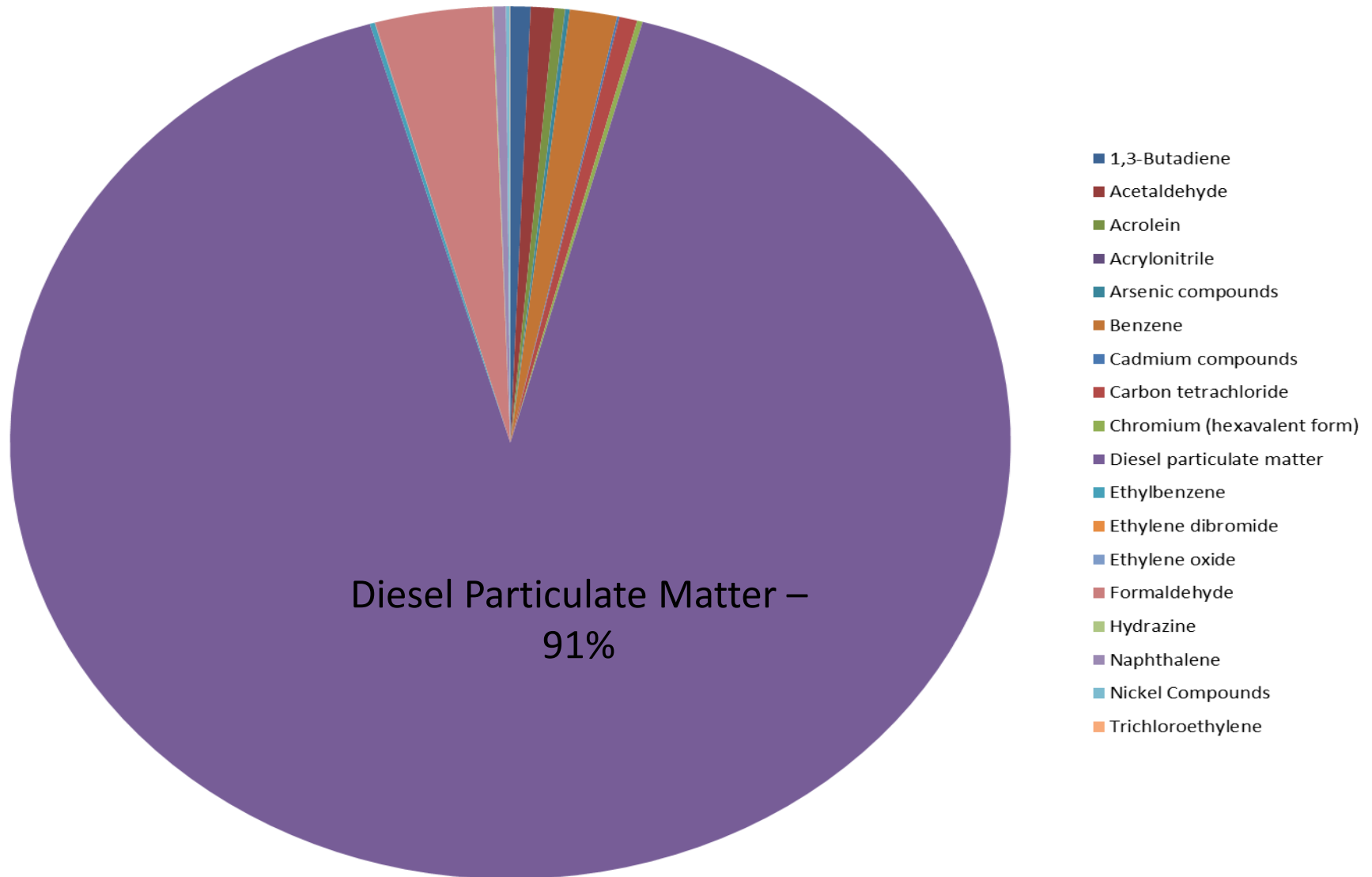
**Inflamed
airway due
to ozone
inhalation**



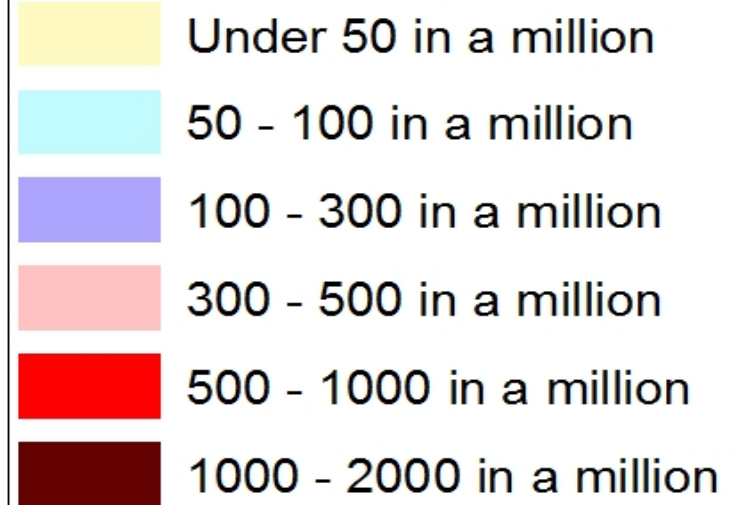
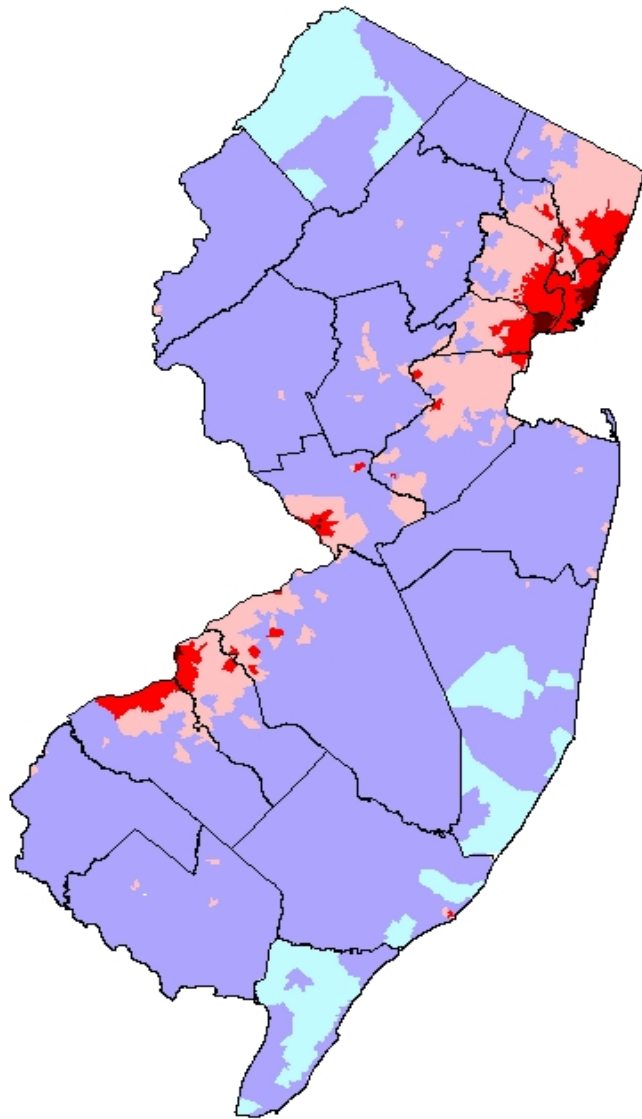
Ozone Health Effects

- Decreases lung function
- Coughing and chest pain
- Increases susceptibility to respiratory infections
- Permanent damage to lungs
- Promotes allergic reactions
- Death

Diesel emissions pose greatest risk of all air toxics in NJ



2011 Predicted Health Risk from Diesel Particulate in New Jersey*



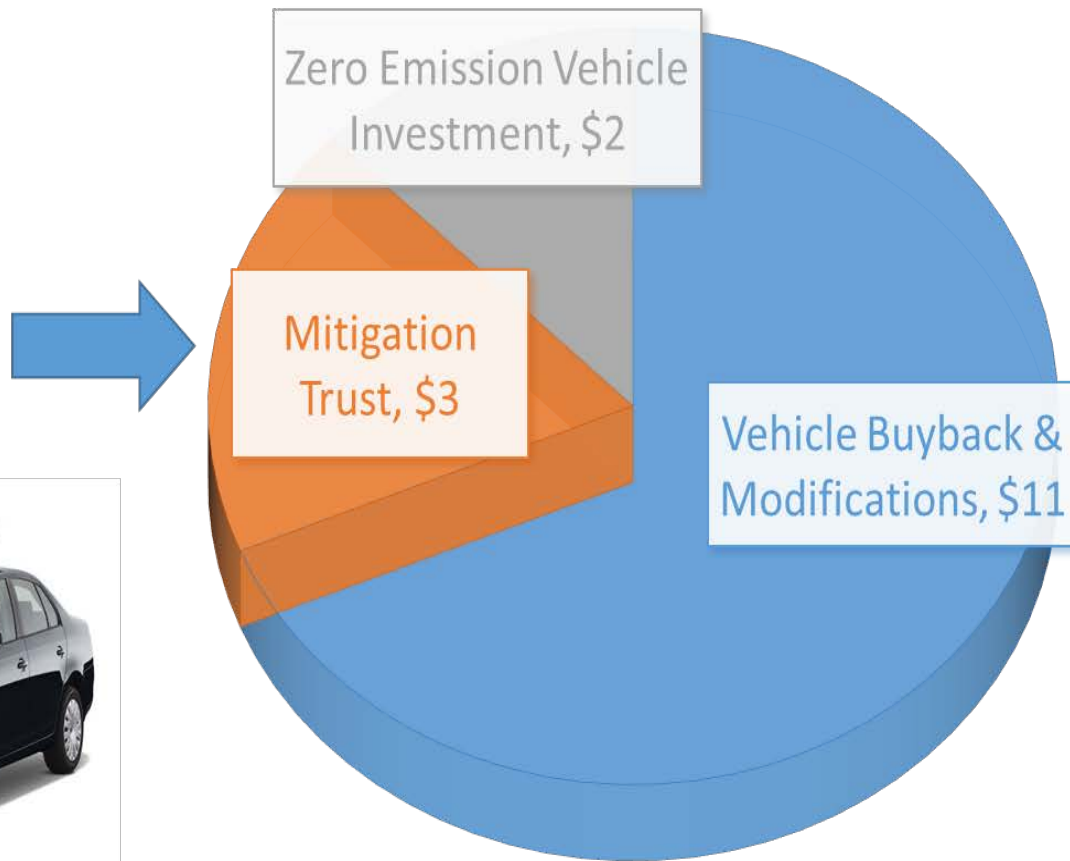
**Maximum predicted risk
is 1,981 in a million**

Source Contribution

**On-Road - 37%
Nonroad - 63%**

***Based on the 2011 National-scale
Air Toxics Assessment (NATA)**

Volkswagen Settlement (in billions)



Eligible Vehicle Classes/Equipment



1. *Class 4-8 Local Freight Trucks, Port Drayage Trucks* MY 2009 and older
2. *Class 4-8 School, Shuttle or Transit Bus* MY 2009 and older
3. Switcher Locomotives
4. Ferries/Tugboats
5. Airport Ground Support Equipment, forklifts & port cargo handling equipment
6. Ocean Going Vessels Shorepower

EV charging also eligible

- Electric vehicle charging stations or hydrogen filling stations
- Also remember: **It Pay\$ to Plug In**
www.drivegreen.nj.gov/programs.html



Funding amounts



- Up to 100% if repower/replace a government owned vehicle with diesel, CNG, propane, hybrid or all electric
 - Associated charging infrastructure is eligible expense
 - Vehicle being replaced must be scrapped.
- Up to 100% to purchase, install and maintain light duty EV charging stations that are publicly accessible at government owned property
- 25-33% to purchase, install and maintain hydrogen fueling stations available to public

VW Mitigation Actions and Electric Vehicle Technology

Michelle McCutcheon-Schour, VEIC
Transportation Efficiency

January 11, 2018

Agenda

1. About VEIC
2. Why Electric
3. Electric Vehicle Opportunities
with Volkswagen Funding
4. Resources



VEIC

A mission driven non-profit.

Since 1986
reducing the
economic and
environmental
costs of energy use



veic.org

About VEIC

- Comprehensive approaches, high-impact results
- Team focused on transportation.
- National and international clients
- Program design and evaluation
- Transformative policy, advocacy, and research
- Clients: government agencies, regulators, utilities, foundations, and advocates

Efficiency
Vermont

 EFFICIENCY **\$MART**



DC
SUSTAINABLE ENERGY
UTILITY

Drive---
Electric
Vermont



Vermont
Energy Investment
Corporation

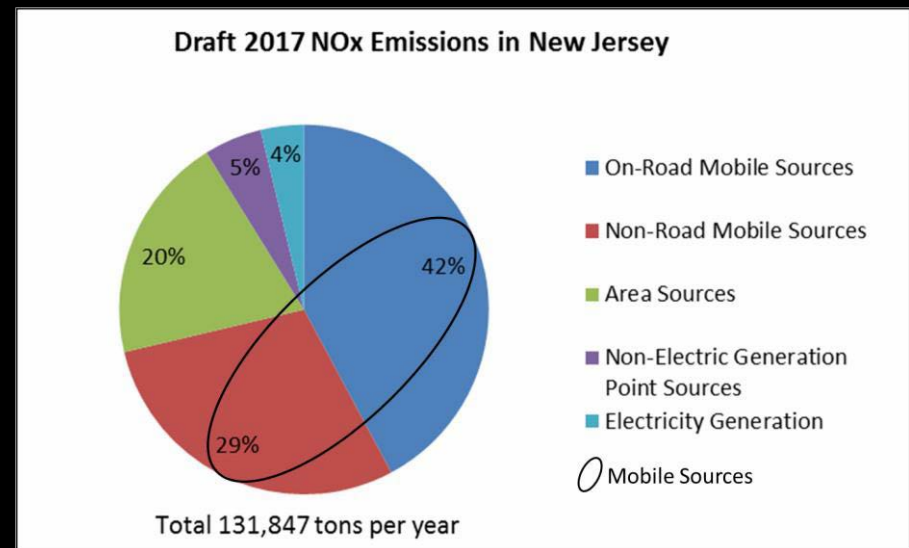
Why Electric?

Electrification is critical strategy for reducing transportation emissions

- Zero tailpipe emission
- Electric grid continues to get cleaner
- Improves health
- Improves equity

Other Benefits

- Keeps money local
- Fuel security benefits
- Lower operating costs



Source: Draft MARAMA 2017 BETA2 Regional Modeling Inventory

VW Settlement: An Opportunity to Electrify Transportation



Photo courtesy EPA Wikimedia Commons

- Heavy Duty Diesel Vehicles can last 30 years or more
- 30 years of purchasing diesel fuel
- 30 years of diesel emissions

Electric Vehicle Opportunities with Volkswagen Funding



Technology Highlight: Electric School Buses

- School buses eligible for 100% funding through the trust (including infrastructure)
- Developing and maturing market
 - Current models available include Type A and Type C.
 - Type D models will be available in late 2018/early 2019
- VEIC Case Studies –
 - Massachusetts Electric School Bus pilot project
 - Vermont Electric School Bus feasibility study



Technology Highlight: Electric Transit Vehicles

- Relatively mature market
 - Successfully deployed across the country
 - Multiple models available from Build Your Dream Motors (BYD), Proterra, Gillig, New Flyer, Nova Bus, and Complete Coach Works
- Charging can be done on route or at depots.
- Lower fueling and maintenance costs.
- VEIC Case Studies
 - Martha Vineyard's Transit Authority
 - Green Mountain Transit
 - UVM
 - Advance Transit

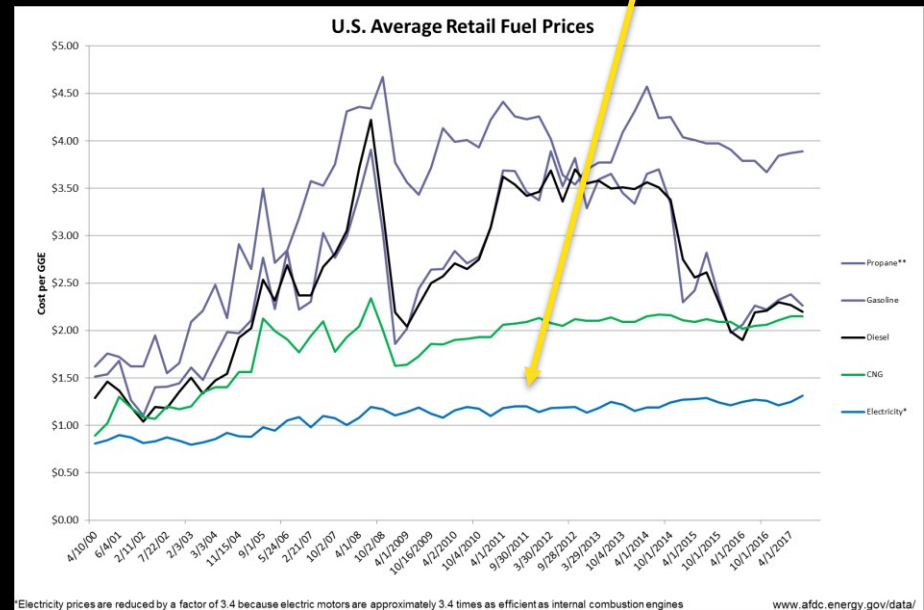


Electric Vehicle Technology

Operational Benefits & Challenges

- Compared to diesel, electric vehicles have a higher purchase price but lower operational costs.
 - Fuel cost stability & savings
 - Reliability & lower maintenance costs
- New fueling practices and infrastructure
- Mechanical training

Average electric price over the last 18 years.



Source: Alt Fuels Data Center

Deploying Electric Vehicles: Keys to Success

- Engage external and internal partners early including your utility and facility director.
- Understand your electric bill and plan for charging accordingly.
- During the planning process include key staff including mechanics and drivers.
- Create a charging and operation plan.
- Take a close look at the manufacture agreement including the battery warranty and training support.
- Understand your route needs and purchase battery size accordingly.

Other Resources

- VEIC's Electric School Bus Page –
www.veic.org/eschoolbus
- NASEO Volkswagen Settlement Toolkit -
<http://www.naseo.org/volkswagen-settlement>
- Sierra Club VW Settlement Handbook -
<https://content.sierraclub.org/evguide/volkswagen-settlement>





Questions?

Case Study: Electric Car Charging Stations in Jersey City



Brian Platt

Director, Jersey City Office of Innovation

BPlatt@jcnj.org



[@BrianDavidPlatt](https://twitter.com/BrianDavidPlatt)



[@briandavidplatt](https://www.instagram.com/briandavidplatt)

Jersey City is focusing on electric powered vehicles and will be installing public electric car charging stations throughout the city



Rationale for Electric Car Charging Stations

1

Growing demand

Citywide focus on energy efficiency
(government and citizens)

Residents already purchasing electric vehicles

Local developers and property owners installing infrastructure on private property

2

Expanded accessibility

Electric cars are becoming more accessible and available

More new funding sources
(e.g. VW Settlement Funds)

3

Infrastructure is missing link

Limited in-home charging options for those using on-street parking

No existing infrastructure for municipal vehicles

NOTE: Upstream energy delivery still depends on fossil fuels



Existing pilot project on 1st Street in Jersey City

Greenspot Project, 148-160 First Street Jersey City, NJ

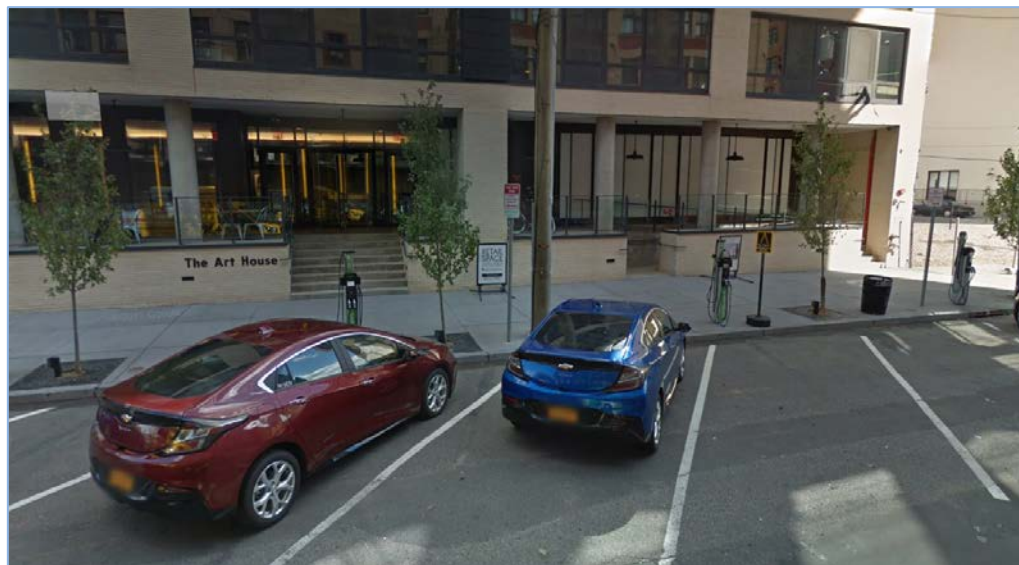
**Project managed locally by
Greenspot**

10 charging stations
(9 level 2, 1 DC fast)

**Networked charging stations
provided by Chargepoint**

**Currently utilizing 4 Maven (Chevy
Volt) electric cars for car sharing**

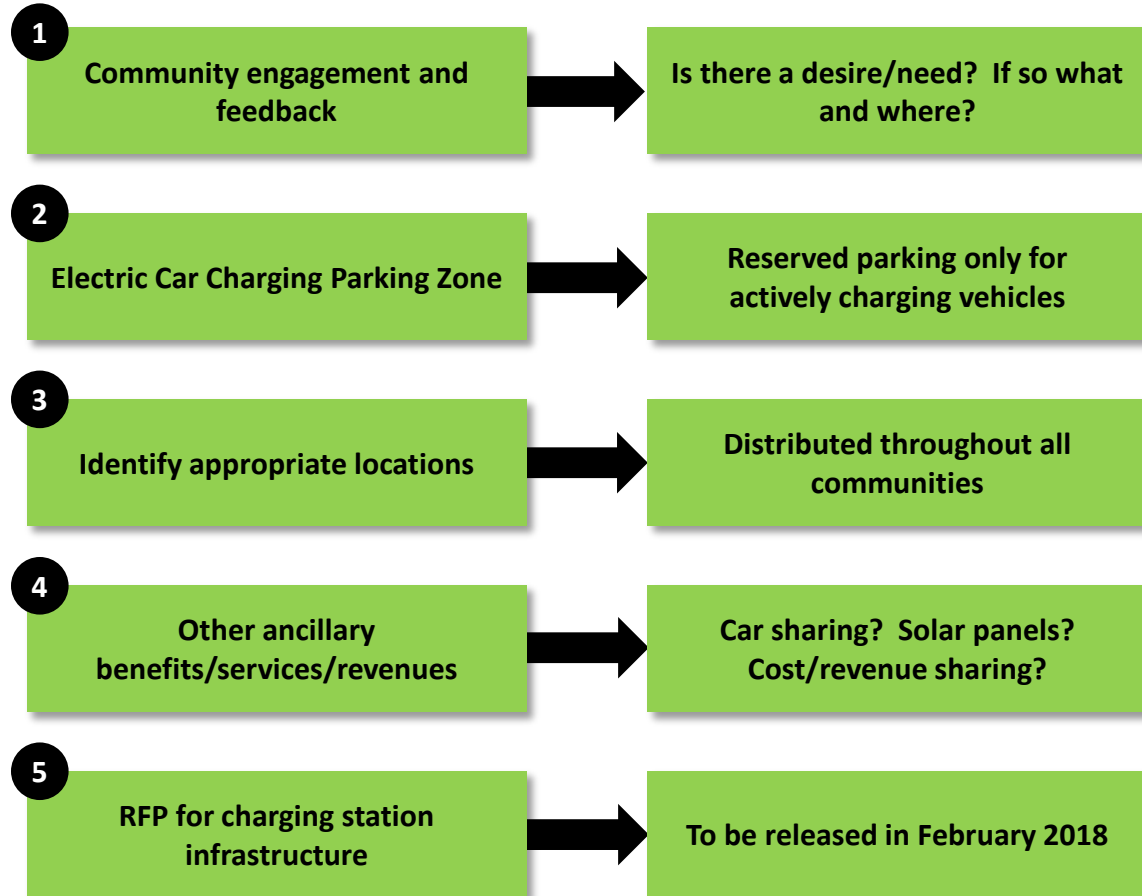
**Privately installed and maintained
by developer**



5 key steps of Jersey City's path towards public electric car charging infrastructure



Electric Car Charging Infrastructure Process Overview



www.state.nj.us/dep/vw



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION



[Home](#) | [Beneficiary Mitigation Plan](#) | [Frequently Asked Questions](#) | [Join our E-mail List](#) | [Project Benefits / Spending Information](#) | [Additional Resources](#)



In September and November 2015, the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) alleged that Volkswagen had secretly installed defeat devices – software designed to cheat emissions test and deceive federal and state regulators – in certain Volkswagen, Audi and Porsche-branded turbocharged direct injection diesel vehicles. The defeat device renders the subject vehicles' emissions controls inoperable unless the vehicles are undergoing emissions testing. It was only by installing the defeat device that Volkswagen was able to obtain Certificates of Conformity from USEPA and Executive Orders from CARB; in reality, these vehicles emit oxides of nitrogen ("NOx") up to 40 times the USEPA-permitted limit.

On October 25, 2016 and May 17, 2017, two Partial Consent Decrees were approved between the United States, California, and the defendants (Volkswagen Corporation and its subsidiaries). The purpose of the Decrees is to address installation and use of emissions control defeat device software. The use of the defeat devices has resulted in increased emissions of NOx in New Jersey and throughout the United States. NOx significantly contributes to the formation of ground level ozone which negatively impacts the respiratory system and cardiovascular health. One of the goals of the Partial Consent Decrees is to offset the excess NOx emissions.

The Partial Consent Decrees establish an Environmental Mitigation Trust ("Trust") which will provide funds to all fifty states, the District of Columbia, Puerto Rico and federally recognized tribes, to implement actions to counter the air quality impacts of the excess NOx emissions resulting from the use of the defeat devices. The initial allocation amount to the State of New Jersey is approximately \$72.2 million.

How Should NJ Use the VW Funds?



[Click here for more information and to submit project ideas](#)

Frequently Asked Questions

Do you have a question about New Jersey and the Volkswagen Settlement? It may have already been answered.

[View the Frequently Asked Questions](#)

Join our E-mail List

Sign up to stay up to date with notifications and information about the Volkswagen Settlement.

[Join our E-mail List](#)



Project Benefits and Spending Information

Air quality improvements, success stories, and spending reports.

[View the results of NJ's use of the VW funds](#)

Additional Resources

Related documents and websites for the Volkswagen Settlement.

[Learn more about the Volkswagen Settlement](#)

To enter information electronically use Adobe Reader

CONTACT INFORMATION

Organization Name	
Organization Address	
City, State Zip Code	
Contact Person	
Title/Position	
Phone	
E-mail	

Questions &
submittals:
vwcomments
@dep.nj.gov

PROJECT NAME	
--------------	--

PROJECT CATEGORY OR CATEGORIES (choose from 1-9 in "Eligible Projects" section above)									
1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input checked="" type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input checked="" type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input checked="" type="checkbox"/>	

PROJECT PRIORITY	Priority # <input type="text"/>	of <input type="text"/>	proposals
If submitting more than one proposal, what is the sponsor's priority of this proposal?			

PROJECT BUDGET	<input type="text"/>
Provide total estimated project budget, include source and amount of cost share if applicable.	
<input type="text"/>	

Due January 31

PROJECT DESCRIPTION (Briefly describe the project by completing the following questions)

Geographic area where emissions reductions will occur?

Estimated size of population benefitting from the emission reductions?

Estimated useful life of the project?

Number of engines/vehicles/vessels/equipment included in the project?

Estimated emission benefits should be expressed in tons per year (TPY) of emission reduced for NO_x and for PM 2.5 over the lifetime of the project. Identify methodology used.

Estimated NO_x benefits? TPY

Methodology Used?

Particulate matter (PM 2.5) benefits? TPY

Methodology Used?

Will the project benefit one or more communities that are disproportionately impacted by air pollution? If so, please describe.

Project partners, if any?

<p>Explain how the project will provide cost effective and technically feasible emission reductions. Cost effectiveness should be expressed in dollars per ton per year of emissions reduced for NOx and for PM 2.5.</p>	
<p>Estimated timeframe for implementation? Include a project timeline that identifies start and end dates, as well as the timeframe for key milestones.</p>	
<p>Demonstrated success in implementing similar projects?</p>	
<p>If your proposed project involves alternative fuels, provide a demonstration of current or future plans to provide adequate refueling infrastructure.</p>	
<p>Has your organization been approved to receive and expend any other grant funds related to this project? If so, please provide details.</p>	

Questions?

Peg Hanna, Asst Director
NJDEP Division of Air Quality

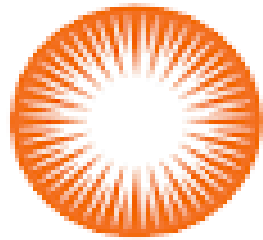
Peg.Hanna@dep.nj.gov

vwcomments@dep.nj.gov (preferred)

(609) 292-7953



PSEG Sponsored Grant Opportunities



PSEG

The PSEG Foundation is contributing \$300,000 to support the Sustainable Jersey Small Grants Program for municipalities and schools. Funding supports efforts to implement projects that help municipalities and schools gain points needed for Sustainable Jersey certification and make progress toward a sustainable future

[SCHOOL GRANTS:](#) Deadline February 9th

[MUNICIPAL GRANTS:](#) Deadline February 28th

Project based and capacity building grants available
from \$2,000- \$20,000



Sustainable Jersey Training & Upcoming Certification Deadlines

MUNICIPALITIES:

Upcoming Webinars:

[“Moving Up to Silver Certification”](#) January 31st 1-2pm

[“Stay in the Game! Strategize Your Recertification”](#) February 7th 1-2pm

[“Making a Game Plan for Getting Certified”](#) February 21st 1-2pm

SCHOOLS:

1st Certification Application Deadline: Friday, January 19th



New Jersey Mayors Climate Summit

February 3, 2018

**Rutgers Bloustein School of
Planning and Public Policy**

New Brunswick, NJ

- **Hosts:**

- Mayor Phil Kramer, Franklin Twp
- Mayor Bruce A. Harris, Chatham Borough
- Sustainable Jersey
- New Jersey League of Conservation Voters Education Fund
- Rutgers University Bloustein School of Planning & Public Policy

[REGISTER](#)

MAYOR PHIL KRAMER OF FRANKLIN TOWNSHIP &
MAYOR BRUCE A. HARRIS OF CHATHAM BOROUGH
CORDIALLY INVITE YOU TO



NEW JERSEY MAYORS' CLIMATE SUMMIT

WHEN

Saturday, February 3rd, 2018
Registration at 8:30AM • Program 9:00AM - 1:30PM

WHERE

**Rutgers University Bloustein School
of Planning & Public Policy**
33 Livingston Ave, New Brunswick, NJ



RUTGERS
Edward J. Bloustein School
of Planning and Public Policy

The day will consist of three panels of experts who will discuss a pathway forward to enable New Jersey to succeed in meeting the challenges presented by climate change.

PANELS

- 1 WHAT WE MUST ACHIEVE
- 2 FROM COMMITMENT TO ACTION
- 3 RESOURCES FOR CHANGE

SPEAKERS –

Jeanne Herb
Rutgers Climate Institute
Randy Solomon
Sustainable Jersey
Ed Potosnak
New Jersey League of Conservation Voters
Jenn Coffey
Association of NJ Environmental Commissions
Robert E. Kopp, Ph.D.
Rutgers Institute of Earth, Ocean, and
Atmospheric Sciences

Mayors and community leaders across New Jersey have taken up the challenge of addressing climate change by adopting sustainable practices.

It is vital for our mayors and communities to take a leading role in preserving our environment and protecting the public health of our citizens.

Lunch will be provided to attendees.

FEE

Early Bird \$10
Full (Starting Jan 27th) \$25
Students/Young Professionals \$10

RSVP

www.njlcvef.org/summit
or contact 609-331-9922

CO-SPONSORS



Open to elected officials and all members of the public

Atlantic/Cape May HUB Event

SHARING positive ENERGY

Wednesday, February 21, 2018

6 to 8 PM

NJM Insurance Group

840 12th Street

Hammonton, NJ

RSVP: bit.ly/ACMEnergy



Sustainable Jersey Support

- Technical Support
 - **Samantha McGraw:** 609-771-2938;
info@sustainablejersey.com
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