Reducing the Carbon Footprint of Municipal and School Fleets Webinar

June 23rd, 2021
Agenda and Speakers

Brian McDermott
Fire Chief, City of Paterson
*City of Paterson Goes EV*

Jim DeVico
Information Technology Coordinator/Manager, Township of Edison
*Improve Fleet Operations Through the Use of GPS and Telematics*

Josh Rosenberg
Data Associate, Atlas Public Policy
*Fleet Analysis DRVE Tool*

Victoria Carey
Senior Project Officer, New Jersey Economic Development Authority
*Ecosystem Development and Incentives for Zero-Emission Medium- & Heavy-Duty Vehicles*

Andrea Friedman
Supervisor, Electric Vehicle Programs, NJDEP
*Fleet Electrification Resources from NJDEP*

Cathleen Lewis
E-Mobility Programs Manager, NJBPU
*Driving EV Adoption*
What is Sustainable Jersey?

Certification program for municipalities and schools

- **Tools, resources, and guidance** to help municipalities and schools become more sustainable
- **Grants and funding** for municipalities and schools
- **Regional Hubs**
# Sustainable Jersey Energy Actions

<table>
<thead>
<tr>
<th>Facilities Operations</th>
<th>Energy Efficiency</th>
<th>Renewable Energy</th>
<th>Alternative Fuel Vehicles (AFVs)</th>
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<td>• On-Site Solar Energy</td>
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<td>• On-Site Geothermal</td>
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<th>Community Energy Use</th>
<th>Energy Efficiency Outreach</th>
<th>Renewable Energy</th>
<th>Alternative Fuel Vehicles (AFVs)</th>
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<tbody>
<tr>
<td>• Residential Energy Efficiency Outreach</td>
<td>• Renewable Government Energy Aggregation</td>
<td>• Make Your Town EV Friendly</td>
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<tr>
<td>• Commercial Energy Efficiency Outreach</td>
<td>• Make Your Town Solar Friendly</td>
<td>• Public EV Charging Infrastructure</td>
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<td>• Community-Led Solar Initiatives</td>
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<td></td>
<td>• Municipally Supported Community Solar</td>
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</table>
Fleet Planning

Fleet Management Framework
From Federal Energy Management Program
**Know What You Have**

Fleet inventory – document listing age and usage of all vehicles in fleet

Telematics – vehicle monitors that generate fleet usage reports and can include route optimization

Sustainable Jersey’s Fleet Inventory Worksheet included in the Fleet Inventory Action
Green Fleet Strategies

• **Preventive Maintenance**
  Increases vehicle efficiency

• **Discourage Idling**
  Reduce harmful local air pollution and fuel waste

• **Rightsizing**
  Encouraging fleet users to use smallest/most efficient vehicle appropriate for job

• **Retiring Vehicles**
  Reduce size of fleet by retiring inefficient and underused vehicles

• **Reduce/Consolidate Trips**
  Plan to use as few vehicles as possible

• **Fleet Electrification**
  Use fleet analysis to select vehicles to replace with electric vehicles
EV Considerations – Total Cost

When comparing the cost of an EV with a traditional vehicle consider **Total Cost of Ownership**.

- **Purchase price of vehicle** (with incentives)
- **Fuel cost**
  - lightweight EV fuel cost in NJ is 51.4% less*
- **Maintenance**
  - average between 20 – 25% less**

= **Total Cost of Ownership**


Vehicle Miles Travelled
Select vehicles that:
• Are driven enough to allow lower fueling and maintenance costs to offset higher vehicle price
• Have enough downtime to be charged between duty cycles

Parking and Charging
• Where will vehicle be parked?
• Will charging infrastructure be available?

What do the fleet users think about adding EVs to the fleet?
Will fleet users embrace the new technologies?
• Arrange a test drive/demo
• Outreach to fleet users

Users may have information about vehicle usage that can inform vehicle purchases

Sustainable Jersey Webinar
Join the EVolution! - EV Charging information
Sustainable Jersey Alternative Fuel Vehicle Procurement Guide

Includes guidance for capturing tax credits and procurement options

- Fleet Leasing
- Purchasing Cooperatives/Government Contracts
- Direct Purchase Options
- Service Contracts/Shared Service

Sustainable Fleets for Schools

• Nation’s largest fleet
  o 480,000 school buses in operation

• Largest form of mass transit

• Alternative fuel vehicles cost more than diesel

• Save 40-50% on fuel costs

• Healthier Air

• Reduced CO2 emissions

• Quieter

• Less expensive O&M
City of Paterson Goes EV

Brian J. McDermott
Fire Chief
Personal Statement

• The Fire Chief manages EV? Why?
• Innovative Leadership; Let people think
• I owe it to my kids….and yours
• Build on frustration; I’ve had enough
• We are a distressed City. This should be the last thing you push for.

This is Why
My Process....Nothing New, Just for us it is

- Recognize the need and get angry that nothing is moving

- Fully assess your fleet, with photos, to show the deplorable condition and focus on safety, cost savings and liability reduction.

- Prepare a cost analysis and schmooze your leaders to gain buy-in so they allow you to take charge and affect change

- Find great people like sustainable Jersey who motivate you. Listen to their thoughts and receive guidance.

- Pay attention and speak up at meetings

- Seek expert help. I’m a Fire Chief remember?

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<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>BUSIEST AMBULANCE</th>
<th>RUNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chicago, IL</td>
<td>A10</td>
<td>7,772</td>
</tr>
<tr>
<td>2. St. Louis, MO</td>
<td>M10</td>
<td>7,569</td>
</tr>
<tr>
<td>3. Baltimore City, MD</td>
<td>M16</td>
<td>7,263</td>
</tr>
<tr>
<td>4. San Diego, CA</td>
<td>M1</td>
<td>7,216</td>
</tr>
<tr>
<td>5. Paterson, NJ</td>
<td>AM901</td>
<td>6,838</td>
</tr>
</tbody>
</table>

Can you imagine the Carbon Footprint of this vehicle?
More Process

• Review cooperatives for availability and what fits price and functionality

• Review grant opportunities

• Assess property for infrastructure upgrades.

• Where to start to keep people happy and centralize infrastructure. My focus is DOH, because where else could you send a better message. They will be the launch pad. Then Community Improvement, because the name speaks for itself.

• Figure where to start with your first ask. In my case a $200k bond turned into $700k due to recognition, trust and buy-in from a supportive BA

• Begin the purchase and look for grants everywhere.
Paterson Fire Department Future?

City Vehicles

O.R.T.

Infrastructure
Thank you for your time
I’d love partners in this, just sayin’
Township of Edison
New Jersey

Improve Fleet Operations Through the Use of GPS and Telematics

Presented by Jim DeVico, CGCIO
Information Technology Manager
Phone: 732.404.8662
jdevico@edisonnj.org
About the Township

• 32 Square Miles
• 110,000+ residence
• 5\textsuperscript{th} most populated town in NJ
• 1250 miles of roadway
• Fleet of 400 vehicles including public safety
• 1 Mil visitors and commercial employees during the week
Our Challenges

• Numerous Complaints
  • Snow plowing and property damage
  • Salting
  • Speeding and idling
  • Garbage/recycling pick up

• Tracking Our Fleet Operations
  • Idling
  • Fuel consumption
  • Wear and tear relative to usage
  • Lack of use
GPS and Telematics

- Track and log vehicle movement
- Track and log driver actions
- Monitor vehicle “health”
- Monitoring fuel consumption
Information Technology’s Role

• To evaluate the best user friendly system and manage the implementation of it.
• Train key leaders and users of the systems use including benefits and shortcomings.
• Maintain the system ensuring vehicle telematics devices are kept up to date and properly installed.
• Play a key role facilitating communications and information sharing between departments
• Assist with custom reporting and data evaluation
• Take the lead to insure all vehicles and departments are in compliance with system deployment
Winter Weather

• 30-50 complaints per storm regarding property damage
  • Average of 50% were false claims or not township vehicles
  • Significant reduction of insurance claims and payouts
  • Complaints regarding streets not getting plowed or inadequately plowed
  • Confirmed complaints triggering a re-evaluation of routes
  • 70% were not true; often people expectations were unrealistic.
Winter Weather

- Re-evaluated routes
  - Routes became more efficient reducing man hours and reducing overtime costs
  - Reduced demand and stress on staff during long storms
  - Reduced wear and tear on vehicles
  - Extended life of plow blades
  - Reduced salt and brine usage by 35%
    - Reduced overlapping routes
    - Used appropriate vehicles on certain roads
    - Timed routes vs storm
Examples of Plowing Telematics

G-10

- Tranman Drive, Edison, NJ
- License Plate: 122B1MG
- VIN: 1GYCL56B8TO48599
- Engine check light: Off
- Odometer: 983 mi
- Engine: Running
- Barometer: 14.72 Psi
- Battery Voltage: 12.60 V
- Coolant Temp: 181.4°F
- Engine Load: 9%
- Engine speed: 751 RPM
- Manifold Temp: 118.4°F
- Oil Pressure: 25.53 Psi
- Plow: Off
- Gatesway

History

<table>
<thead>
<tr>
<th>Trips</th>
<th>Routes</th>
</tr>
</thead>
</table>

Map of plowing routes in Edison, New Jersey.
Fleet Maintenance

• More effectively monitor vehicles for preventative maintenance
• Drivers don’t always report faults or check engine lights
• Real time watch vehicle faults and immediate notifications to fleet dept. when faults occur
• Reduced repair costs and improve vehicle uptime
Examples of Vehicle Faults

<table>
<thead>
<tr>
<th>VEHICLE</th>
<th>CURRENT DRIVER</th>
<th>MAKE/MODEL</th>
<th>BATTERY VOLTAGE</th>
<th>ENGINE HOURS</th>
<th>ODOMETER (MI)</th>
<th>CHECK ENGINE LIGHT</th>
<th>FAULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-17-21</td>
<td>-</td>
<td>FORD/Explorer</td>
<td>14.8</td>
<td>-</td>
<td>14,927</td>
<td>Off</td>
<td>P0030 - HO2S Heater Control Circuit Bank 1 Sensor 1</td>
</tr>
<tr>
<td>ER-10</td>
<td>3820 - Robert Farnick</td>
<td>FREIGHTLINER/114SD</td>
<td>15.8</td>
<td>3,365</td>
<td>27,029</td>
<td>Off</td>
<td>TxId: 3 SPN: 190 FMI: 2 (Erratic, Intermittent, or Incorrect) Count: 127</td>
</tr>
<tr>
<td>ER-7</td>
<td>-</td>
<td>FREIGHTLINER/114SD</td>
<td>14.8</td>
<td>5,028</td>
<td>36,325</td>
<td>Warning, Protect, and Emissions</td>
<td>TxId: 61 SPN: 5018 FMI: 18 (Low—Moderate Severity) Count: 7</td>
</tr>
<tr>
<td>Engine 1</td>
<td>-</td>
<td>FREIGHTLINER/M2</td>
<td>13.8</td>
<td>3,369</td>
<td>36,176</td>
<td>Protect</td>
<td>TxId: 61 SPN: 3719 FMI: 31 Count: 3</td>
</tr>
<tr>
<td>Engine 6</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>1,668</td>
<td>17,299</td>
<td>Protect</td>
<td>TxId: 0 SPN: 3720 FMI: 15 (High—Least Severe) Count: 1</td>
</tr>
<tr>
<td>Engine 9</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>1,407</td>
<td>16,011</td>
<td>Protect</td>
<td>TxId: 0 SPN: 3720 FMI: 15 (High—Least Severe) Count: 1</td>
</tr>
<tr>
<td>G-11</td>
<td>3827 - Ryan Naiduk</td>
<td>FREIGHTLINER/114SD</td>
<td>12.7</td>
<td>8,551</td>
<td>73,807</td>
<td>Off</td>
<td>TxId: 33 SPN: 0918 FMI: 7 (Not Responding Properly) Count: 1</td>
</tr>
<tr>
<td>G-10</td>
<td>-</td>
<td>FREIGHTLINER/M2</td>
<td>0.6</td>
<td>3,722</td>
<td>32,887</td>
<td>Protect and Emissions</td>
<td>TxId: 0 SPN: 3216 FMI: 20 (Data Drifted High) Count: 1</td>
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<tr>
<td>S-3</td>
<td>-</td>
<td>FORD/F-450</td>
<td>-</td>
<td>-</td>
<td>63,327</td>
<td>Off</td>
<td>P0471 - Exhaust Pressure Sensor “A” Circuit Range/Performance</td>
</tr>
<tr>
<td>SC-4</td>
<td>-</td>
<td>FORD/E-450</td>
<td>-</td>
<td>-</td>
<td>113,121</td>
<td>On</td>
<td>P0181 - Fuel Rail Pressure Sensor Circuit Range/Performance Bank 1</td>
</tr>
<tr>
<td>TC-2</td>
<td>3320 - Nikolas Mpletsakis</td>
<td>FORD/F-450</td>
<td>-</td>
<td>-</td>
<td>95,459</td>
<td>Off</td>
<td>P0088 - Fuel Rail/System Pressure - Too Hi</td>
</tr>
</tbody>
</table>
Fleet Usage

• Study on vehicle usage relative to age and repair costs
  • Identified low use, high maintenance cost vehicles and retired them
  • Found brand new vehicles with very low usage.

• Reduced our overall fleet by 35%
  • Reduced insurance costs
  • Reduced parts and labor expense
  • Reduced fuel consumption (new vehicles had better fuel economy)
Fuel Consumption and Staff behavior

• Fuel Usage Study
  • Found vehicles idling for hours during inappropriate times
  • Reduced overall fuel consumption by 30%

• Staff Behavior
  • Took long routes to job sites
  • Found various parks and buildings crews crisscrossing town going from job site to job site
### Examples of Fuel Usage

<table>
<thead>
<tr>
<th>VEHICLE</th>
<th>CURRENT FUEL LEVEL</th>
<th>FUEL USED (gal)</th>
<th>FUEL EFFICIENCY (mpg)</th>
<th>EST. COST</th>
<th>ENGINE RUN TIME</th>
<th>IDLE TIME</th>
<th>PERCENT TIME IDLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-25</td>
<td>77%</td>
<td>34.0</td>
<td>2.1</td>
<td>$104.81</td>
<td>7h 49m</td>
<td>21m 7s</td>
<td>4.3%</td>
</tr>
<tr>
<td>G-48</td>
<td>70%</td>
<td>32.4</td>
<td>2.0</td>
<td>$97.08</td>
<td>8h 32m</td>
<td>9m 17s</td>
<td>1.8%</td>
</tr>
<tr>
<td>G-3</td>
<td>43%</td>
<td>30.6</td>
<td>2.5</td>
<td>$91.93</td>
<td>5h 34m</td>
<td>33m 7s</td>
<td>8.6%</td>
</tr>
<tr>
<td>G-28</td>
<td>70%</td>
<td>30.2</td>
<td>2.1</td>
<td>$88.74</td>
<td>6h 43m</td>
<td>17m 44s</td>
<td>4.2%</td>
</tr>
<tr>
<td>G-24</td>
<td>64%</td>
<td>29.9</td>
<td>1.6</td>
<td>$89.55</td>
<td>6h 31m</td>
<td>13m 17s</td>
<td>3.3%</td>
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<tr>
<td>G-47</td>
<td></td>
<td>26.2</td>
<td>1.7</td>
<td>$78.46</td>
<td>5h 48m</td>
<td>20m 32s</td>
<td>5.6%</td>
</tr>
<tr>
<td>G-29</td>
<td>80%</td>
<td>26.1</td>
<td>1.6</td>
<td>$78.20</td>
<td>5h 43m</td>
<td>30m 51s</td>
<td>8.3%</td>
</tr>
<tr>
<td>G-27</td>
<td>90%</td>
<td>25.0</td>
<td>1.9</td>
<td>$74.89</td>
<td>6h 7m</td>
<td>13m 56s</td>
<td>3.7%</td>
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<tr>
<td>SC-2</td>
<td>73%</td>
<td>21.8</td>
<td>2.1</td>
<td>$85.38</td>
<td>4h 4m</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ER-10</td>
<td>85%</td>
<td>17.4</td>
<td>2.9</td>
<td>$62.31</td>
<td>4h 57m</td>
<td>43m 37s</td>
<td>12.8%</td>
</tr>
<tr>
<td>G-49</td>
<td>60%</td>
<td>14.3</td>
<td>1.8</td>
<td>$42.80</td>
<td>3h 34m</td>
<td>8m 20s</td>
<td>3.7%</td>
</tr>
<tr>
<td>G-28</td>
<td>82%</td>
<td>13.0</td>
<td>2.4</td>
<td>$41.01</td>
<td>3h 6m</td>
<td>14m 21s</td>
<td>7.2%</td>
</tr>
<tr>
<td>S-13</td>
<td>100%</td>
<td>13.4</td>
<td>1.3</td>
<td>$40.19</td>
<td>2h 56m</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Engine 9</td>
<td></td>
<td>99%</td>
<td>1.0</td>
<td>$40.02</td>
<td>8h 36m</td>
<td>1h 38m</td>
<td>16.1%</td>
</tr>
<tr>
<td>G-3</td>
<td>52%</td>
<td>12.0</td>
<td>2.8</td>
<td>$36.00</td>
<td>3h 41m</td>
<td>20m 34s</td>
<td>8.5%</td>
</tr>
<tr>
<td>ER-6</td>
<td>55%</td>
<td>11.4</td>
<td>2.6</td>
<td>$34.15</td>
<td>4h 43m</td>
<td>3m 12s</td>
<td>1.1%</td>
</tr>
</tbody>
</table>
Summary

• Initially reduced fleet from 320 vehicles to 248 after the first year of deployment
• Reduced annual insurance expense by 20%
• Realized a savings of $300,000 in repairs over 3 years
• GPS and vehicle telematics can be an excellent window into fleet usage and health as well as employee behavior
• Did not use the collected data as a means of discipline.
Summary

• Having a connected fleet allowed department directors and Supervisor to monitor their team’s activities in real time.

• Information Technology Division in a central component to ensuring the data is accurate, fleet telematics is working and up to date, and assisting departments with retrieving and manipulating data for analysis.
Jim DeVico, CGCIO
Information Technology Manager
100 Municipal Blvd
Edison NJ 08817
Phone: 732.404.8662
jdevico@edisonnj.org
DRVE

A sophisticated tool to analyze all vehicles in a fleet.

Built by Atlas Public Policy in Washington DC. Supported by the Electrification Coalition
About Atlas

Public Policy

DC-based policy-tech firm started in 2015

We equip businesses and policymakers to make strategic, informed decisions through the greater use of technology that aggregates publicly available data.

Our Key Focus Areas

• **Access**: Collect and disseminate publicly available information.
• **Interpret**: Create technology to spur insights and conduct data driven analysis.
• **Empower**: Strengthen policymakers, businesses, and non-profits’ ability to meet emerging challenges and identify and seize opportunities.
Overview

Assess electrification potential of a fleet

Empower community to run their own analysis

Present results in a clear and understandable format
DRVE at a High Level

**Near-term Procurement Opportunities**
- Savings assessment for specific vehicles at the VIN level
- Count of vehicles by use case where electrification offers savings

**Average Lifetime and Per-Mile Cost by Model**
- Comparison of average per-mile cost by model and use case, including charging infrastructure
- Average lifetime cost/savings by EV model

**Emissions Comparisons by Use Case**
- Per mile GHG and criteria pollutant emissions of EVs and conventional vehicles
- Comparisons of emissions for specific models or averages for vehicle classes

**Impacts on Savings Potential with Different Settings/Models**
- Results presented with data filters to compare impact of adding or removing different inputs
- Shifts in savings potential when comparing different vehicle mappings
Key Data Inputs Required for the Analysis

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Information Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleet Inventory and Usage Data</td>
<td>VINs, odometer readings, and years in use</td>
</tr>
<tr>
<td>Fuel Cost Data</td>
<td>Average gasoline, diesel, and electricity prices</td>
</tr>
<tr>
<td>Operational Cost Data</td>
<td>Per vehicle or average maintenance costs</td>
</tr>
<tr>
<td>Availability of Tax Credits and</td>
<td>Tax credit or rebate eligibility and amounts/percentages</td>
</tr>
<tr>
<td>Rebates</td>
<td></td>
</tr>
</tbody>
</table>
DRVE Fleet Assessment Process

**Load Data**
- Table for each vehicle in fleet with VIN, VMT, and Years of Use
- Use NHTSA online VIN decoder to identify vehicles

**Map Vehicles**
- Pick conventional vehicles that are available in tool
- Map conventional vehicle to EV alternative

**Set Options**
- Set market factors and charging and procurement strategies
- Determines number of scenarios for analysis

**Run Analysis**
- Timing depends on number of scenarios

**View Results**
- Results in Excel Dashboard and Pivot Tables
DRVE in Action

Dashboard for Rapid Vehicle Electrification

DRVE is a powerful tool that allows cities and their fleet managers to explore electrification scenarios and see how changes in gasoline prices, charging infrastructure, and vehicle selection will affect the financial outcome of fleet electrification. The tool is based on the Fleet Performance Analysis tool, which compares scenarios side-by-side to see potential savings and provides an analysis of cash flows and location specific lifecycle emissions. This tool builds upon that functionality by analyzing thousands of scenarios and allowing the user to model the electrification of their entire fleet at a time, rather than 1 vehicle.
Staying Up to Date

• DRVE is constantly updated with new features, improvements, and vehicle options
• Join our mailing list to stay up to date on new releases.
• Contribute to the tool! Email us feedback, suggestions, or vehicle additions: drve@atlaspolicy.com
ABOUT THE ATLAS EV HUB

• The EV Hub gives stakeholders from across the EV industry quick access to key data and information on the market, policies and regulations, and activities by the EV community

• A one-stop shop for businesses, policy professionals, and the advocacy community to learn more about what’s going on in the EV market

• A comprehensive platform for the EV community: www.atlasevhub.com

Free access for public agencies and Clean Cities Coordinators!
EV Hub Features

Public Policy
- VW Settlement
- Laws, regulations, & legislation
- Electric utility filings on transportation
- Public requests & funding awards

Market Data
- Technology Deployment
  - Automakers
  - Local EV deployment
  - EV charging deployment
  - Medium- and heavy-duty vehicle electrification
  - Public transit
  - EV indicators
- Investment & Forecasts
  - Global Private Investment
  - EV Market Forecasts
- Key Factors
  - Emissions
  - Demographics

Tools & Resources
- Research & Tools
  - Resource library
  - Quarterly review of EV market
  - EV Charging Financial Analysis Tool
  - Fleet Procurement Analysis Tool
- News & Events
  - EV Hub Live
  - Media Pulse
  - Weekly Digest
  - Data Stories
  - News Alerts
  - Events Calendar
- People
  - EV Hub users
  - EV directory
Links and Sources

2. DRVE Tutorial Video: https://www.youtube.com/watch?v=kAYcTEevRdQ

Josh Rosenberg
Josh.rosenberg@atlaspolicy.com
Ecosystem development and incentives for zero-emission medium- & heavy-duty vehicles

June 23, 2021

Victoria Carey – Senior Project Officer
vcarey@njeda.com
Transitioning our MHDVs to zero-emission alternatives is critical to becoming a stronger and fairer New Jersey.

Transportation accounts for 42% of NJ’s emissions, with a quarter coming from medium- and heavy-duty vehicles (MHDV) that impact overburdened communities disproportionately.

In meeting our zero-emission MHDV and grid targets, we can reduce net emissions especially in environmental justice communities.

By pursuing the zero-emission MHDV transition, we can create jobs and reduce costs, increasing economic opportunity.

A cohesive financial, strategic, and regulatory tool set coordinated across government and industry – and driven by communities’ self-identified needs – is key to meaningfully achieving our goals.
Various tools and incentives are necessary to address the ZE MHDV transition at the intersection of environment, energy, and economy.

**Accelerated ZE MHDV adoption, with equitable access and impact**
- Tax incentives: credits, sales, & gas
- Grants, vouchers, and rebates
- Financing; second-hand programs
- Non-financial incentives
- Implement regulations and standards

**ZE MHDV-enabling grid modernization**
- Infrastructure financing
- Make ready support
- Design of market mechanisms
- Streamlining of processes
- Implement regulations and standards

**Support for people and businesses in the green economy**
- Direct incentives and grants
- Standards development and adoption
- Green Jobs Council work
- Technical assistance
- Expand existing programs
- Foster innovation by supporting research institutions
NJ ZIP: Zero-emission Incentive Program – At a glance

Voucher Pilot for Medium Duty Vehicles

What is NJ ZIP?
NJ ZIP is a first come, first served voucher pilot program, launched April 2021

What is the purpose of this program?
Reduce the upfront cost of buying a zero-emission medium-duty vehicle, leveraging RGGI funding

How much voucher funding is available?
$15M initially, with $5M set aside for small businesses and funding is still available!

Vouchers range from $25,000 - $100,000, with bonuses available for:
• small businesses
• women-, minority-, and veteran-owned businesses
• NJ manufacturers
• Vendors who provide technical training
NJ ZIP program overview: Common questions

What is ‘medium-duty’?

For this program, any vehicle between Class 2b – Class 6, by weight (GVWR)

<table>
<thead>
<tr>
<th>Class</th>
<th>GVWR</th>
<th>Voucher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2b</td>
<td>8,501 – 10,000 lbs</td>
<td>$25k</td>
</tr>
<tr>
<td>Class 3</td>
<td>10,001 – 14,000 lbs</td>
<td>$55k</td>
</tr>
<tr>
<td>Class 4</td>
<td>14,001 – 16,000 lbs</td>
<td>$75k</td>
</tr>
<tr>
<td>Class 5</td>
<td>16,001 – 19,500 lbs</td>
<td>$85k</td>
</tr>
<tr>
<td>Class 6</td>
<td>19,501 – 26,000 lbs</td>
<td>$100k</td>
</tr>
</tbody>
</table>

Trucks, buses, vans, specialty vehicles, etc. are all eligible in these ranges.

Examples from FHWA

Class Two: 6,001 to 10,000 lbs.
- Crew Size Pickup
- Full Size Pickup
- Mini Bus
- Minivan
- Step Van
- Utility Van

Class Three: 10,001 to 14,000 lbs.
- City Delivery
- Mini Bus
- Walk In

Class Four: 14,001 to 16,000 lbs.
- City Delivery
- Conventional Van
- Landscape Utility
- Large Walk In

Class Five: 16,001 to 19,500 lbs.
- Bucket
- City Delivery
- Large Walk In

Class Six: 19,501 to 26,000 lbs.
- Beverage
- Rack
- School Bus
- Single Axle Van
- Refuse
NJ ZIP program overview: Common questions

What is ‘greater Camden’ or ‘greater Newark’?

The overburdened communities within or intersected by a 10 mile radius circle centered on Newark or Camden

**Greater Camden area:** Bellmawr, Camden, Cherry Hill, Cinnaminson, Collingswood, Delran, Deptford, Gloucester, Lawnside, Lindenwold, Magnolia, Maple Shade, Merchantville, Mount Ephraim, Mount Laurel, Palmyra, Paulsboro, Pennsauken, Riverside, Somerdale, Stratford, Voorhees, Washington, West Deptford, Westville, Woodbury, Woodlynne

**Greater Newark area:** Bayonne, Belleville, Bloomfield, Carlstadt, Carteret, Clark, Clifton, Cranford, East Newark, East Orange, East Rutherford, Elizabeth, Glenridge, Guttenberg, Harrison, Hillside, Hoboken, Irvington, Jersey City, Kearney, Kenilworth, Linden, Little Falls, Livingston, Lyndhurst, Maplewood, Millburn, Montclair, Moonachie, Newark, North Arlington, North Bergen, Nutley, Orange, Passaic, Rahway, Roselle, Roselle Park, Rutherford, Secaucus, South Orange, Springfield, Summit, Union City, Verona, Wallington, Weehawken, West New York, West Orange, Winfield, Woodridge
You don’t have to! The application auto-calculates. But for example…

You are a small, women- and veteran-owned NJ business. You need to buy (1) Class 3 vehicle to add to your fleet. You find an approved Vendor who sells a zero-emission version, and get a quote of $115,000 pre-voucher for the vehicle.

Voucher amount = (Base voucher amount \times \text{Small business bonus}) + \text{Woman-owned business bonus} + \text{Veteran-owned business bonus}

Voucher amount = ( $55,000 \times 1.25 ) + $4,000 + $4,000

Voucher amount = $76,750

Upfront cost to buyer = $115,000 - $76,750 = $38,250 final cost with voucher
NJ ZIP program overview: Common questions

Where can I learn more?

Fleet Electrification Resources from NJDEP

SUSTAINABILITY JERSEY 6/23/21

Andrea Friedman, Supervisor – Electric Vehicle Programs
NJDEP Division of Air Quality
FLYER:
EV resources for local government

Includes:
Incentives
Procurement Tools
Policy & Planning Support
Sustainable Jersey Resources
Resources for Residents

Download from
www.drivegreen.nj.gov/local resources.pdf
It Pay$ to Plug In
DEP’s Grant Program for EV Charging Stations

Up to $4,000 per port for Level 2 chargers at public places, multifamily homes, and workplaces (including fleets)

First-come first-served. We are accepting applications now.

Apply online:
www.drivegreen.nj.gov/plugin.html
It Pay$ to Plug In

Grants for public fast chargers

Competitive solicitation. Stay tuned for future funding rounds.
Electric Shared Mobility Program Grants

Funding for electric shared mobility projects like electric car sharing and ride hailing services.

Programs that benefit overburdened communities will be prioritized.

Competitive solicitation. Stay tuned for future funding rounds.
Diesel Electrification Grants

Grants for local governments to replace medium- and heavy-duty diesel vehicles with electric.

Examples: school buses, transit buses, garbage trucks, shuttle buses. Includes associated charging equipment.

Overburdened communities will be prioritized.

*Competitive solicitation. Stay tuned for future funding rounds.*
Follow us on social media

Instagram  drivecleannj
Facebook  NJDEPAQES
Twitter  @NewJerseyDEP

Join our listserv for updates and funding announcements

www.state.nj.us/dep/stopthesoot/sts-listserv.htm
Contact me at:

Andrea Friedman  
Supervisor, Electric Vehicle Programs  
New Jersey Department of Environmental Protection  
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NJ BPU: Driving EV Adoption
• At least **330,000** registered light duty EV by December 2025;
• At least **2 million** registered light duty EVs by December 2035;
• At least **85 percent** of all new light duty vehicles sold or leased in the State shall be plug-in electric vehicles by December 2040
• At least **25 percent** of State-owned non-emergency light duty vehicles shall be EVs by December 2025
• **100 percent** of State-owned non-emergency light duty vehicles shall be plug-in electric vehicles by December 2035
Year 1 Program Summary

The Charge Up New Jersey post-purchase incentive program is driving Electric Vehicle (EV) adoption in New Jersey.

New Jersey residents received up to $5,000 for the purchase or lease of a new EV in the state.

OVER 7,699 NEW EVs ON THE ROAD
$36.8 MILLION IN INCENTIVES APPROVED

Approved Funding: $36,800,000 | Approved # of Incentives: 7,699

Charge Up New Jersey – Year One
Year One

- Plug-In Electric or Plug-In Hybrid Vehicle
- Must be purchased or leased in the State of New Jersey
- Must be registered in NJ to a NJ licensed driver
- MSRP must be less than $55,000
- $25/emile up to $5,000 Post-Purchase Incentive
- Purchased between January 17, 2020 – December 15, 2020

Proposed Year Two *

- Plug-In Electric or Plug-In Hybrid Vehicle
- Must be purchased or leased in the State of New Jersey
- Must be registered in NJ to a NJ licensed driver
- MSRP must be less than $55,000
- $25/emile up to $5,000 for vehicles with MSRP under $45,000
- $25/emile up to $2,000 for vehicles with MSRP between $45,000-$55,000
- Point-of-Sale Incentive
- Purchased after the FY22 launch until funding is exhausted

*On May 19th NJBPU released a Straw Proposal outlining the Year 2 Incentives. Final requirements and incentive levels will be included in the Board’s FY22 Budget.
EV Charging Goals

- At least 400 DC Fast Chargers shall be available for public use at no fewer than 200 charging locations in the State by December 2025.
- At least 1,000 Level Two chargers shall be available for public use across the State by December 2025.
- At least 15% of all multi-family residential properties in the State shall be equipped with EVSE for the routine charging of plug-in electric vehicles by December 2025.
- At least 30% of all multi-family properties shall be equipped for electric vehicle charging by December 2030.
- At least 20% of all franchised overnight lodging establishments shall be equipped with EVSE for routine electric vehicle charging by guests of the establishment by providing Level Two EVSE by December 2025.
Public Charging

- Utility Filings
  - Make Ready
  - Incentives

- Fast Charging
  - PSEG - 1200
  - ACE - 100

- Level 2
  - PSEG - 3500
  - ACE - 1500+
Clean Fleet Program

- Electric vehicles are now included on the State Purchasing Contract under Award T0099
- Clean Fleet Electric Vehicle Incentive Program
  - Designed to encourage local and state governments to add EVs to their fleet
    - $4,000 per battery electric vehicle (maximum of 2); and
    - $1,500 for one Level-Two EV charging station
- Grants awarded on rolling basis until June 2021, or until funding expended
- Questions? EV.programs@bpu.nj.gov
More Information

Cathleen Lewis
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Visit
NJ CleanEnergy.com
m Newsletter
NJ CleanEnergy.com/NEWSLETTER
Listservs
NJCleanEnergy.com/LISTSERVS

@NJCleanEnergy
Municipal and School Fleets

Fleet Inventory
- Evaluate current vehicle use
- Fleet planning exercise

Purchase Alternative Fuel Vehicles
- Code enforcement vehicles
- Police vehicle fleet
- Light and heavy-duty

Sustainable Fleets
(Sustainable Jersey for Schools)

Runnemeded’s new EV and EV Chargers!
Community Adoption of EVs

Public EV Charging Infrastructure

Make Your Town EV Friendly

- Zoning Ordinance
- Parking Ordinance
- First responder training
- EV Outreach
  - Local Employers
  - Multi-family Dwellings

Ribbon Cutting Ceremony: Secaucus unveils new EV charging station
Upcoming Opportunities - Municipal

2021 Sustainable Communities Grant Program
Application Deadline: 6/30/21

https://www.sustainablejersey.com/grants/sustainable-communities-cycle/

2021 Sustainable Jersey Grants Program Virtual Announcement Event
Jun 29, 2021, 12:00 PM to 1:00 PM https://www.facebook.com/SustainableJersey
Upcoming Opportunities - Schools

School Food Waste Pilot Program
This program consists of technical assistance in partnership with the Rutgers Cooperative Extension Food Waste Team and a $25,000 grant to purchase a composting system for the school building.
Deadline June 25

Become an EmPowered School!
Sustainable Jersey is partnering with New Jersey Natural Gas (NJNG), South Jersey Gas (SJG) and the Alliance to Save Energy (the Alliance) to bring the EmPowered Schools program to 67 schools within the NJNG and SJG service territories.


https://www.sustainablejerseyschools.com/grants/empowered-schools/
Questions?

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