



# Confronting Climate Change Through Transportation Initiatives

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Office of Climate Action and the Green Economy

October 27, 2021

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## !! IPCC **Code Red** Report !!

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The “Code Red” report details the irreversible, devastating, and swift-approaching impacts of climate change and signals for urgent worldwide action.



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## IPCC “**Code Red**” Report

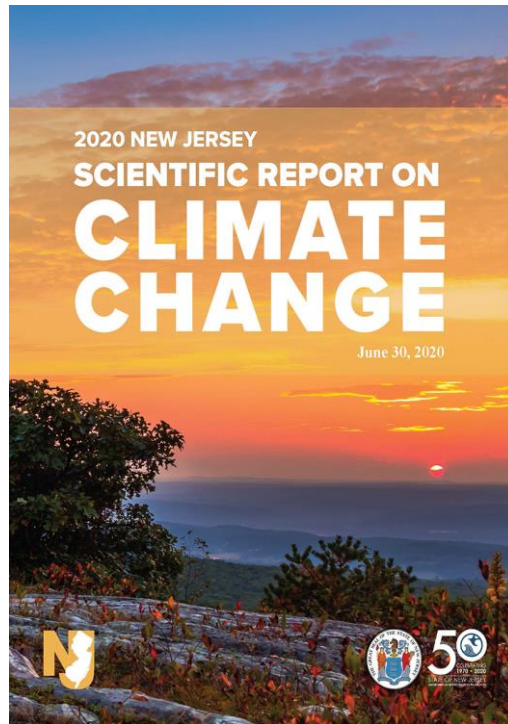
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- Increasing heat waves, longer warm seasons and shorter cold seasons.
- Heavy precipitation, droughts, and tropical cyclones have strengthened
- Reductions in Arctic sea ice, snow cover and permafrost.
- Many changes in the climate system become larger in direct relation to increasing global warming.



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## Climate Impacts in New Jersey

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- More intense rain events, increase in localized flooding
- Droughts will lead to lower water supply availability, reductions in agricultural capacity
- More acidic ocean, impact marine and estuarine life, and poses a significant threat to NJ's thriving fishing industry
- Impacts to NJ's ecosystems, potentially negatively affecting our habitats and species. For example, it may be too hot for our state bird, the American Goldfinch, to nest in NJ.



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## Climate Impacts in New Jersey

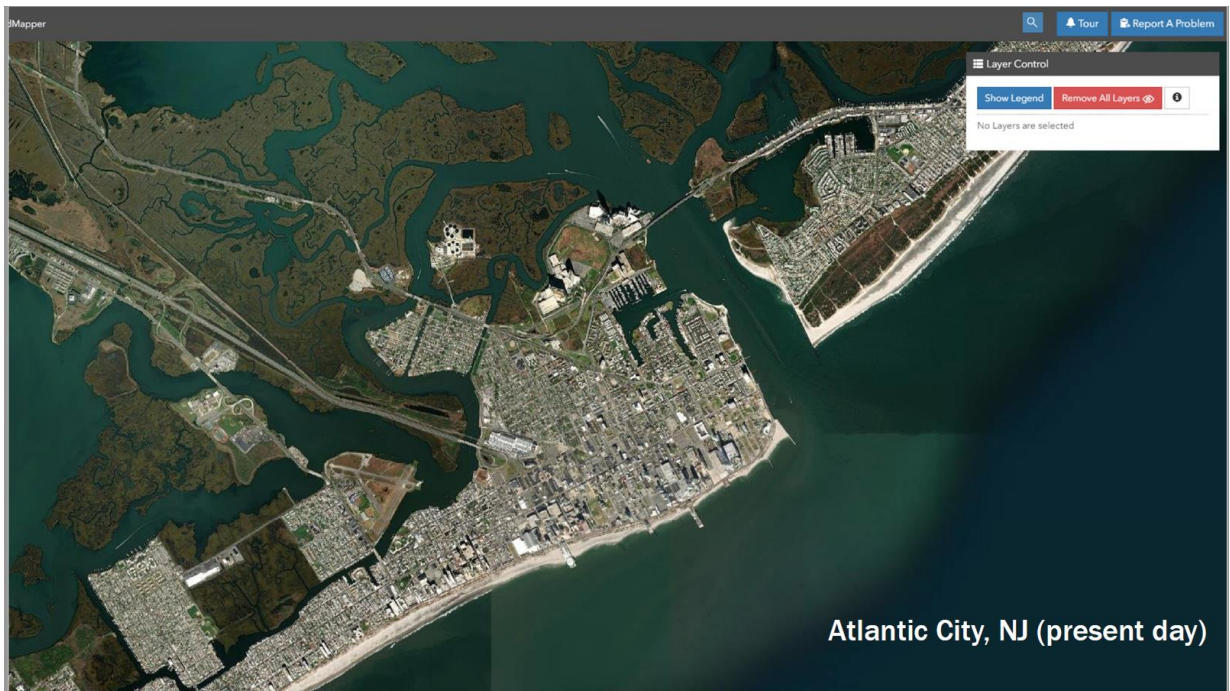
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- Wildfire seasons likely will lengthen or become more intense as a result of hot, dry periods
- Increased coastal flooding during sunny days and storm events, impacting critical infrastructure, residents and businesses
- Sea-Level in New Jersey is rising at more than 2x the global average
- 2 feet of SLR by 2050; 5 feet by 2100



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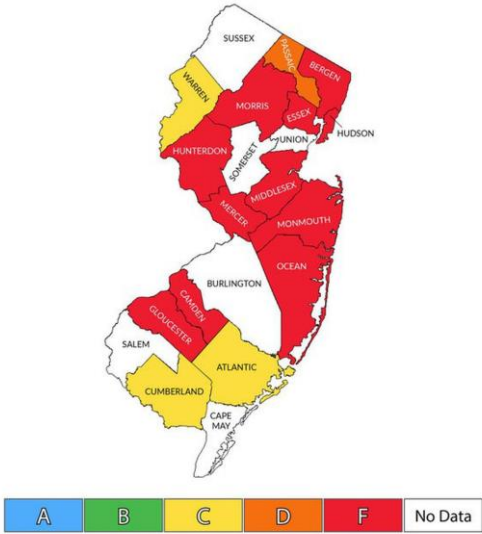
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# WHAT IS THE STATE OF YOUR AIR?

American Lung Association 2017 Report



New Jersey: Ozone Grades



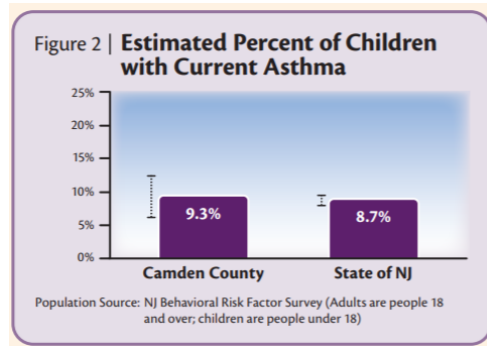
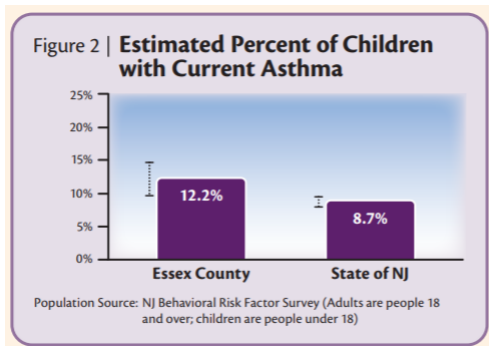
## Climate Impacts in New Jersey

Temperature increases will also intensify air pollution, as well as respiratory and cardiovascular health concerns, particularly in already overburdened communities.

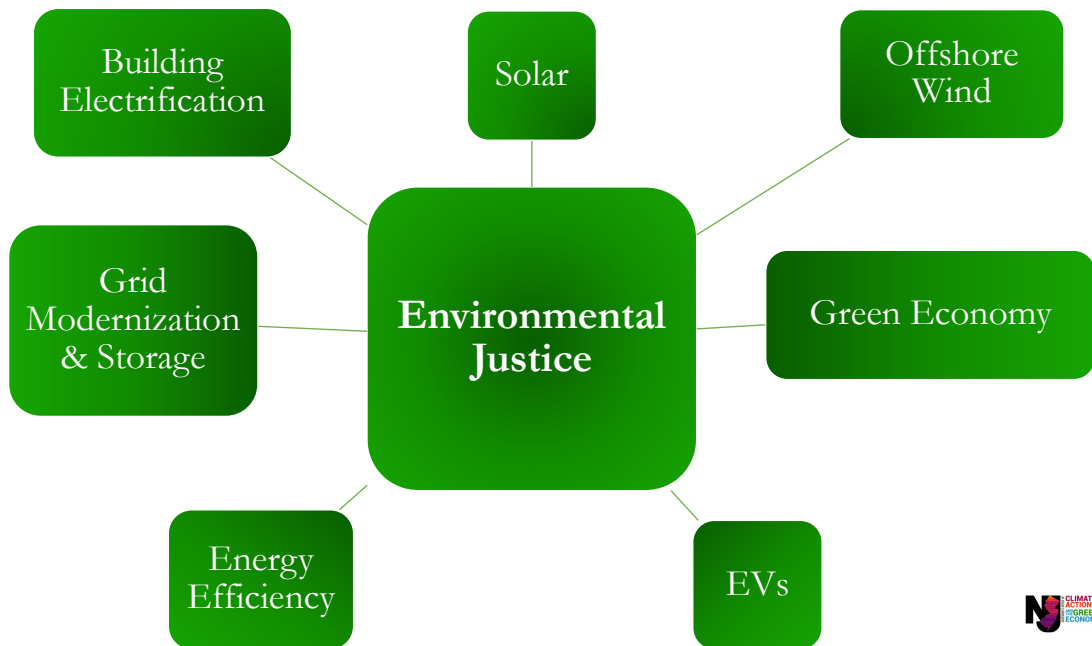


## Climate Impacts in New Jersey

According to the DEP, one in three children in Camden County is diagnosed with asthma and in New Jersey the asthma mortality rate is three times higher for Black and Latino residents







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## Commitment to Equity and Environmental Justice



### S232 – Cumulative Impacts Law (Environmental Justice Law)

- Environmental standards are based on the effect pollution has upon general populations spread over wide geographic areas.
- Existing environmental laws fail to fully consider localized impacts.
- Because of pockets of high pollution and concentration of pollution-generating facilities, predominantly minority and low-income communities are subject to disproportionate impacts to their health and environment.



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## Commitment to Equity and Environmental Justice

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S232 requires the DEP to evaluate the environmental and public health impacts of certain facilities on overburdened communities when reviewing certain permit applications.

NJ is the first state in the nation to require mandatory permit denials if an environmental justice analysis determines a new facility will have a disproportionately negative impact on overburdened communities.



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## Spotlight On: Environmental Justice Bus Tour

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## The Problem at Hand

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There is an urgent need to decrease our greenhouse gas emissions across many sectors.



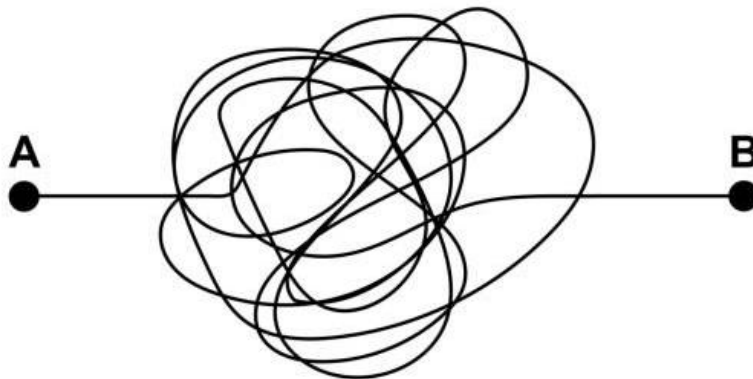
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## Coordination is KEY

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These problems are complex – how are we solving them?



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## Executive Order 221

### Governor's Office of Climate Action and the Green Economy

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“The Climate Office **coordinates the policymaking processes of Executive Branch departments and agencies with respect to all climate change and green economy issues...**ensure that climate and green economy policy decisions and programs are consistent with the Governor’s stated goals and that those goals are being effectively pursued, and monitor implementation of the Governor’s climate policy and green economic agenda.”



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## NJ's Climate Response

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New Jersey’s climate future depends on every agency’s responsiveness to the reality of climate change.



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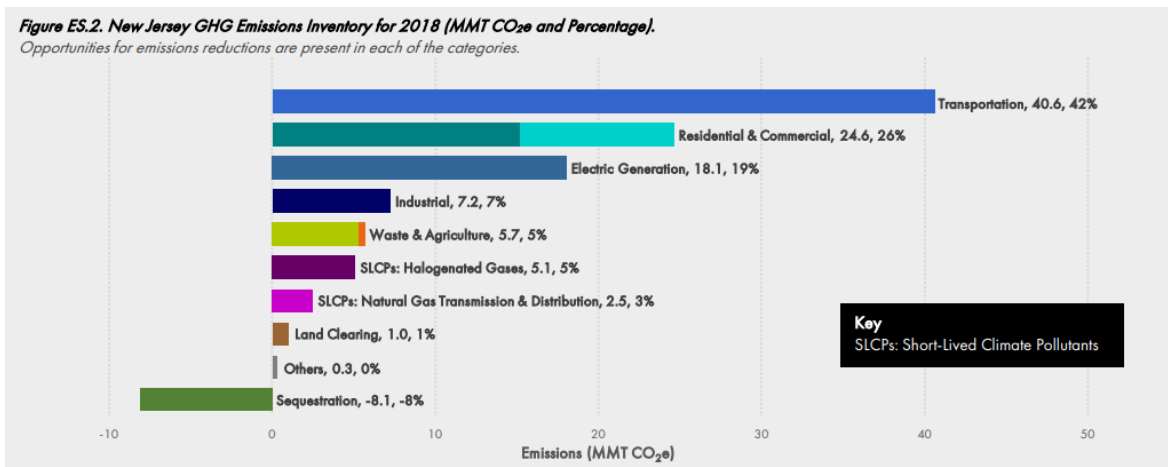
## NJ's Climate Response

Transportation is critical to NJ's climate goals

- Transportation makes up one-third of U.S. greenhouse gas emissions
- Transportation and infrastructure long-term reliability and operations may be interrupted by the effects of climate change

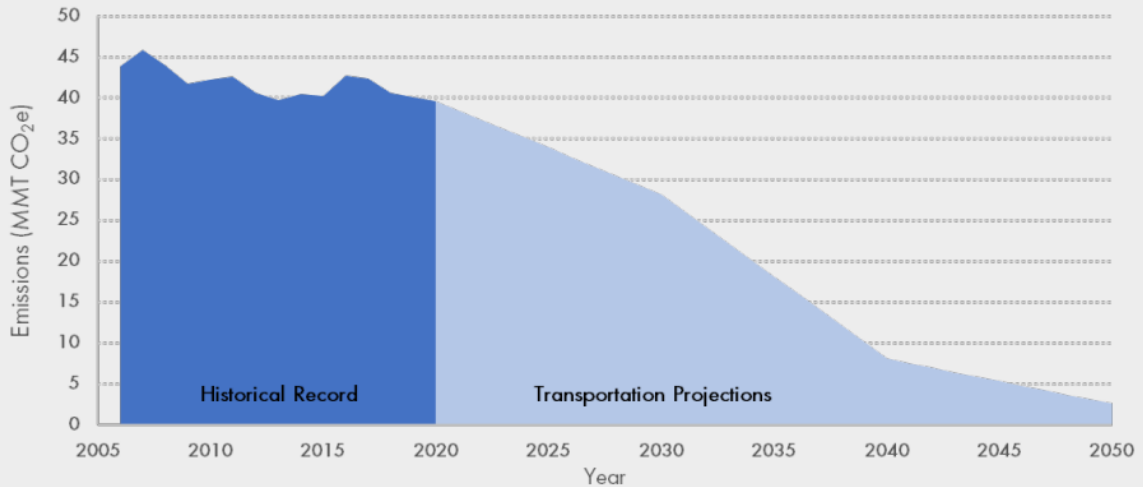


## NJ's Climate Response





**Figure ES.4. Transportation Sector Historical GHG Emissions & Projected Pathway to 2050 (MMT CO<sub>2</sub>e).**  
 Adopting electric vehicles can eliminate most emissions from the transportation sector.



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## How is the State Planning for the Clean Transportation Transition?

	NJ Energy Master Plan	RGGI Strategic Funding Plan	NJ Economic Development Strategy	NJ GWRA 80x50 Report	NJ Environmental Justice Guiding Document
Strategic Plans	 75% ZE MDV and 50% ZE HDV by 2050	 Catalyze clean and equitable transportation	 THE STATE OF INNOVATION: BUILDING A STRONGER AND FAIRER ECONOMY IN NEW JERSEY	 NEW JERSEY'S GLOBAL WARMING RESPONSE ACT 80x50 REPORT 80% emissions reduction by 2050	 50 Furthering the Promise
Supportive Programs and Laws	 NEW JERSEY PROTECTING AGAINST CLIMATE THREATS	 STATE OF NEW JERSEY 400 DCFC and 1,000 L2 chargers by 2035	 DEP Mitigation Plan for the VW Trust December 14, 2018	 NJ EV Infrastructure Ecosystem Proposal	 MULTI-STATE MEDIUM AND HEAVY-DUTY ZERO EMISSION VEHICLE 30% ZE MHDV sales by 2030 and 100% by 2050



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Light-duty



Medium- and Heavy-duty



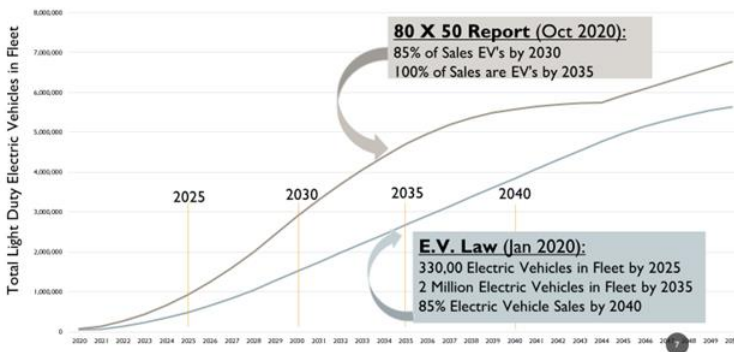
Transit



State Fleet

## Light Duty Electric Vehicles in New Jersey

### Light Duty Electrification Goals



#### Light-Duty

As of December 2020, there are **41,096 electric vehicles** registered in New Jersey. This number includes Battery Electric Vehicles and Plug-in Hybrid EVs.



## New Jersey Charge Up Incentive Program

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BPU Administered Charge Up Program provided up to \$5,000 to purchase or lease a new EV.

- During first two years, the program maxed out all committed funding to provide nearly 9,000 new EVs to New Jersey residents to date.



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## EV Charging Network

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Current publicly available chargers:

- 1101 level 2 ports at 533 locations
- 344 DCFC at 113 locations
  - 75 non-TESLA DCFC public locations
  - 39 TESLA DCFC public locations

By 2025:

- 400 DC Fast Chargers in at least 200 locations
- 1,000 Level 2 Chargers
- 15% of Multi-Family Residential Properties shall be equipped with EVSE
- 20% of Franchised Overnight Lodging Establishments shall be equipped with EVSE



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## Medium/Heavy Duty Electric Vehicles in New Jersey

### Medium and Heavy-Duty

Per the NESCAUM MOU, NJ will pursue

-30% of MHDV sales by 2030

-100% of MHDV sales by 2050

-NJ will also adopt the Advanced Clean Truck Rule via NJPACT



Add citation



New electric yard tractors are unveiled at Red Hook Container Terminal in Port Newark, New Jersey



## Electric Vehicles in New Jersey

### NJ TRANSIT Bus Electrification Plan



Governor Murphy signed S2252/A4819 that established requirements for NJ TRANSIT to move toward zero emission bus purchases by 2032.

- By 2024 10% of new bus procurements must be ZEV
- By 2026 50% of new bus procurements must be ZEV
- By 2032, 100% of new bus procurements must be ZEV

Garage modernization project are underway to completely renovate and transform existing bus garages to handle future zero-emissions buses.





## NJ TRANSIT Bus Electrification

### NJ TRANSIT UNVEILS FIRST SOLAR POWERED BUS SHELTER

Environmentally Friendly Shelter Uses Solar To Power Lights and USB Charging Ports

September 27, 2021

CHERRY HILL, NJ – NJ TRANSIT has unveiled a new state-of-the-art solar panel bus shelter in Cherry Hill, the first of its kind for the agency.

### NJ TRANSIT APPROVES PURCHASE OF EIGHT NEW ELECTRIC BUSES

Zero-Emissions Buses Mark First of their Kind for NJ TRANSIT; to be Deployed in Camden Region

October 20, 2021

NEWARK, NJ – NJ TRANSIT's Board of Directors marked a milestone in the agency's history today by giving approval for the purchase of NJ TRANSIT's first all-electric buses. The eight zero-emissions buses will be part of a limited deployment in the Camden region based out of the Newton Avenue bus garage and represent NJ TRANSIT's commitment to transitioning to a 100% zero-emissions bus fleet by 2040, aligned with Governor Murphy's Energy Master Plan.

### NJ TRANSIT ADVANCES DESIGN OF NEW NORTHERN BUS GARAGE

New Garage Will Increase Bus Storage, Maintenance Capacity, and Support 100% Zero-Emissions Bus Fleet

### NJ TRANSIT CONTINUES RESILIENCY UPGRADES IN HOBOKEN

Renovations Enhance NJ TRANSIT's Ability to Withstand Impacts of Extreme Weather Events at Hoboken Terminal and Rail Yard

October 20, 2021

HOBOKEN, NJ — The NJ TRANSIT Board of Directors today approved the continuation of efforts to protect and improve Hoboken rail service by awarding a contract to upgrade the signal power and yard power in Hoboken Rail Yard. The improvements include replacing and elevating equipment that was inundated with storm waters from Superstorm Sandy.



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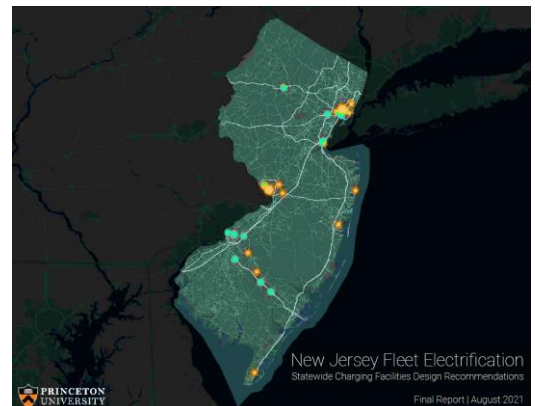
## State Fleet Electrification Plan

Goal to electrify:

- 25% of the light duty vehicle fleet by 2025 (~1,300 vehicles)
- 100% of the light duty vehicle fleet by 2035 (~5,200 total vehicles)

Report recommendations include:

- Providing make-ready infrastructure upgrades at 21 locations that supports a total of 676 Level 2 ports and 44 Level 3 ports to preemptively accommodate the 2035 electrification goal.
- Electrifying 50% of the fleet parked at the above facilities and 35% of all taken-home fleet by 2025 to achieve the 2025 EV mandate.



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## New Jersey's Partnership to Plug-in (PPI)

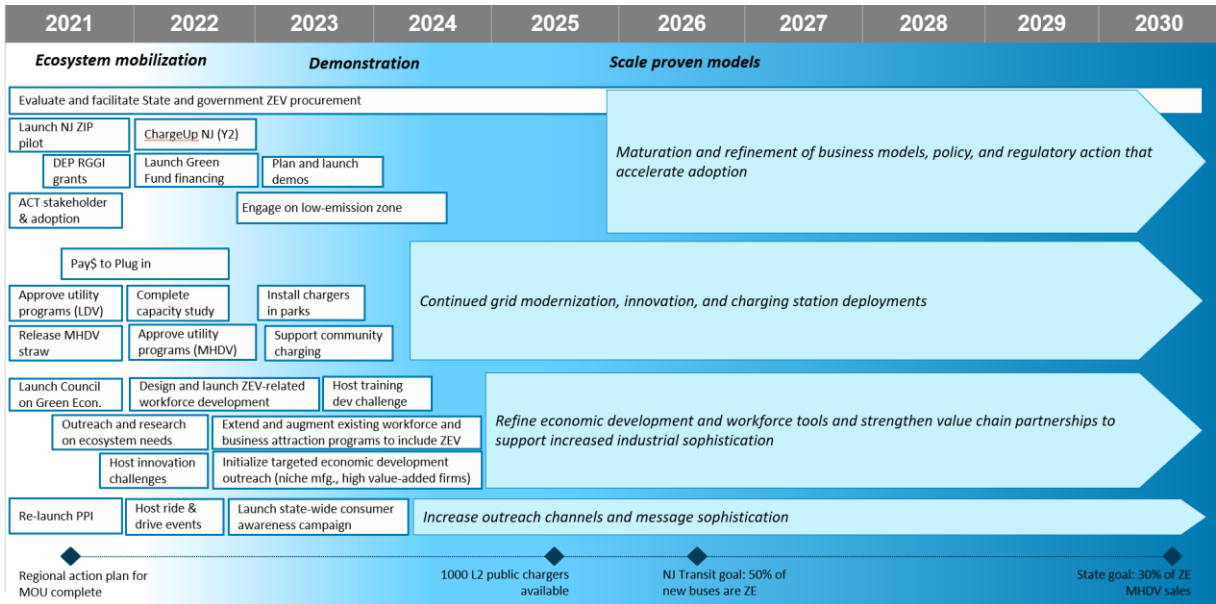
PPI is a statewide partnership to build out the necessary infrastructure to support electric vehicle ownership to improve air quality and reduce greenhouse gas emissions.



- Map existing and planned charging infrastructure assets
- Coordinate plans to install EV charging infrastructure throughout the state
- Create new programs to increase EV adoption, awareness, and acceptance
- Enhance existing initiatives will be enhanced by the partnership's work.



## Coordinating Multi-Agency Efforts



## How Are We Approaching EV Adoption?

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## Regional Greenhouse Gas Initiative (RGGI)

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The State's RGGI Strategic Funding Plan (2020-2022) identifies the four initiatives to invest the RGGI auction proceeds in. The initiatives are:

1. Catalyzing Clean, Equitable Transportation;
2. Promoting Blue Carbon in Coastal Habitats;
3. Enhancing Forests and Urban Forests; and
4. Creating a New Jersey Green Bank.

NJ's total Regional Greenhouse Gas Initiative (RGGI) auction proceeds for 2020 = \$94M

- ~\$74M went to EDA, BPU and DEP under the "Catalyze Clean Transportation" category of the RGGI Strategic Funding Plan.



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## Volkswagen (VW) Mitigation Trust Fund

VW Mitigation Trust Fund, New Jersey was allotted \$72.2M; which is expected to be spent by 2027.



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## New Jersey Zero Emission Incentive Program

**NJZIP**, funded by RGGI \$, provides vouchers to support the purchase of zero-emission MHDVs including everything from pick-up trucks to school busses

- \$15 million funding pool
- \$5 million set aside for small and micro businesses
- Vouchers for \$25,000 to \$100,000 with bonuses for SMWVOBs
- During pilot phase, only businesses in the greater Newark and Camden areas will be eligible, including overburdened communities within a 10-mile radius

NJ ZIP has been expanded for a Phase 2 by \$9.25M and now includes the greater New Brunswick area



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## Spotlight On: Isles, Inc. Trenton E-Mobility Project

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The City of Trenton is burdened with a **27% poverty rate** and **~30% of households are car-free** according to the US Census. **21% of residents carpool** as their main mode of travel to work and the city experiences **~100 days per year of moderate or unhealthy air quality**, which is likely linked to increased respiratory disease among residents.

When fully operational, the project will offer three transportation services:

1. **EV carshare service** for residents looking to use a car for an extended period of time and flexible usage
2. **EV rideshare service** for residents looking for an affordable mode of travel within the city or nearby
3. **EV shuttle service** that will connect major points of interest and essential services (including areas with high concentrations of jobs) that will run on a consistent schedule with flexible routing, higher capacity vehicles.

All services will offer subsidized rates for low and/or no cost rides for low-to-moderate income (LMI) residents.

Expected date of operation: Early 2022



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## The Nexus of Infrastructure and Climate Planning

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We have to move beyond the status quo



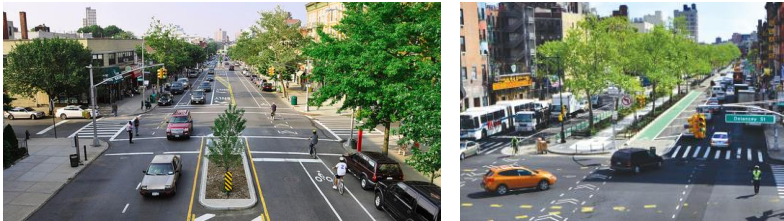
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## The Nexus of Infrastructure and Climate Planning

**NJDOT Complete Streets Policy** encourages public health, sustainability, equity, and access by requiring street improvements to accommodate all road users: bicyclists, pedestrians, transit riders, mobility-impaired, etc.

This new approach to transportation planning will transform State investments and provide NJ residents with improved safety and expanded mobility.



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## Transit Villages

### Newark designated as 'Transit Village'

34th municipality to be recognized since the program began in 1999

Adopted a Complete Streets policy: pedestrian, bicycle, and public transit-friendly

- Reduces dependence on vehicles
- Reduces congestion
- Improves air quality
- Increases transit ridership



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## Resilience and Infrastructure

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Resilient infrastructure has the ability to withstand, adapt, and recover positively from whatever shocks and stresses it may face now and in the future.

**Understanding the future hazards of climate change can help us prepare against future risks.**

New construction should meet the highest resilience standards. By building strong resilience, we can recover quickly and downsize the degree of destruction.



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## Hurricane Ida

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There will be more storms like Ida, and catastrophes from extreme weather events are not always preventable.



Michael Mancuso, NJ Advance Media

The irreversible and worsening impacts of climate inaction are costly to our country and state's environment and economy.



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## Transportation & Stormwater

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Streets, roads, and highways carry stormwater runoff pollutants from the adjacent land and from cars, trucks, and buses, including heavy metals from tires, brakes, and engine wear, and hydrocarbons from lubricating fluids.

**Pollutants must be properly controlled.**

Green infrastructure practices should be incorporated in projects to reduce runoff and stream pollutants, relieve overburdened storm drains, improve flood protection, etc.



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## Valued Partners—YOU!

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**Please be in touch!**

**Jane.cohen@nj.gov**



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