



Somerset County EV Study

POWERING AHEAD FOR SOMERSET COUNTY

Executive Summary

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Somerset County
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Executive Summary

Somerset County is positioning itself as a leader in New Jersey's transition to electric vehicles (EVs), advancing a strategic vision that encompasses both County fleet electrification and the expansion of publicly accessible charging infrastructure. This report provides a comprehensive assessment of current conditions, identifies gaps and opportunities in the EV charging network, and establishes an actionable roadmap for implementation. The study is grounded in data analysis, mapping-based screening, and stakeholder and public engagement.

Scope of Work and Regional Significance

This study provides a strategy to guide three primary efforts: the transition of the County's fleet to zero-emission vehicles (ZEVs), the designation of secondary EV charging corridors that complement federally designated Alternative Fuel Corridors, and the prioritization of County-owned properties for publicly accessible electric vehicle supply equipment (EVSE). By strengthening local charging infrastructure and coordinating with regional planning initiatives, the County contributes to a more connected and resilient EV network across the North Jersey Transportation Planning Authority (NJTPA) region.

The study establishes a countywide needs assessment using mapping and other datasets, including population and employment density, multi-family housing concentrations, traffic volumes, proximity to electrical infrastructure, existing charging coverage and environmental constraints such as flooding. Accessibility considerations are embedded throughout the study, with particular attention to residents who may not have reliable home charging, including residents living in multi-family housing. This data was used to identify areas of unmet demand. A multi-criteria evaluation framework was used to assess candidate sites based on demand potential, site suitability, cost considerations, accessibility, and policy alignment.

Key Findings

Somerset County is well-positioned to support EV adoption, but targeted investments are needed to address gaps in charging access and fleet readiness.

- **Access for all is central to public charging need:**
The NJ ZEV Roadmap estimates EV market share at approximately 38 percent in 2035, and average annual increases of light-duty vehicles (passenger cars, pickups, and delivery vans) have recently been about 0.55 percent, so the number of EVs in Somerset County will continue to grow. Studies indicate that 80 to 90 percent of charging occurs at home, but as EV adoption increases, public charging demand will also grow. Communities with higher concentrations of multi-family housing and limited home-charging access are more reliant on public EV charging, particularly in central and eastern Somerset County.

Charging Station Types

There are three types of EV charging stations. Level 1 charging uses a standard household outlet (120V) and provides the slowest charge, typically adding only a few miles of range per hour. Level 2 charging (240V) is significantly faster and can fully charge most electric vehicles in several hours. Level 3 charging, or DC fast charging, delivers high-power direct current and can recharge a vehicle to 80 percent in 20–40 minutes.



- **Charging coverage is uneven by charger type:** Level 2 charging is more prevalent in central areas, while northern and southern areas of the County are comparatively sparse, especially for Level 3 charging.
- **Secondary corridors can help close network gaps:** Eight non-interstate corridors were identified to extend charging coverage beyond I-78 and I-287 and better connect population, employment, and activity centers.
- **Near-term County fleet electrification is most feasible for light-duty vehicles:** Sedans/SUVs/minivans and other light-duty vehicles represent the most practical early transition segment, referred to as Tier 1, based on market availability and operational fit.
- **County Fleet facilities vary significantly in readiness:** Differences in County fleet vehicles, County site parking layouts, and electrical capacity mean implementation should prioritize County-owned sites with high concentrations of Tier 1 vehicles and strong charger utilization potential.
- **Public and fleet charging must be operationally managed:** Public and fleet charging require active operational management. In locations where both are co-located, clearly separating public access from County fleet-designated chargers is critical to prevent conflicts and ensure reliable fleet operations.
- **Utility coordination and lead times are critical risks:** Early engagement with utilities is necessary to confirm capacity and manage long lead times for transformers/switchgear and related electrical upgrades.

Stakeholder and Public Engagement

Stakeholders included County departments, regional planning partners, community organizations, and residents. The study's recommendations were informed by a robust engagement effort, including Technical Advisory Committee (TAC) meetings, Fleet Transition Working Group meetings, public meetings, pop-up events, focus groups and a survey. At public events, Spanish translation services were offered, and all materials were also produced in Spanish. In total, approximately 500 residents and stakeholders provided input either through the survey or at an in-person or virtual outreach event.

Stakeholders consistently emphasized the need for reliable and affordable charging, simple payment systems, clear rules and enforcement, early utility coordination, and siting chargers in amenity-rich destinations such as near shopping centers or downtowns, and lower-income areas. Public feedback reinforced the importance of pairing infrastructure investment with user-friendly design, clear communication, and attention to geographic location. The engagement process also highlighted operational and behavioral considerations, such as charger turnover, pricing fairness, enforcement, and access hours.

County Fleet Electrification Transition Strategy

Somerset County operates a diverse fleet of 872 vehicles across 39 departments. The County Fleet Electrification Transition Plan (a standalone document released in conjunction with the Final Report) evaluates current fleet operations, infrastructure needs, vehicle technologies, and site-specific conditions to guide both immediate and future investments.

The analysis integrates County fleet inventory information, operational data, market availability of ZEV technologies, and site-specific characteristics. Vehicles are grouped into prioritization tiers. Tier 1 vehicles,



including those widely adopted, such as sedans, SUVs, minivans, and light-duty utility vehicles, are identified as the most suitable for early electrification due to their prevalence. Tier 2a vehicles are available from a limited number of manufacturers and include buses, vans, full-sized pickup trucks, and police vehicles. Type 2b are vehicles for which ZEV models don't currently exist, such as small/mid-sized pickup trucks and shuttle buses, which may be viable for near-term transition with additional operational considerations. Tiers 3-6 encompass heavy-duty vocational trucks and specialized equipment that face greater market and technical constraints and are not currently recommended but can be considered later for mid- to long-term adoption as technology matures.

The vehicle type prioritization tiers and vehicle parking location data were used to translate vehicle-level readiness into a location-based electrification strategy. The County's Social Services Building and Richard Hall are classified as Priority 1 locations due to the high concentration of Tier 1 vehicles, primarily County-owned passenger cars. The Courthouse, Prosecutor's Office, Public Health Complex and County Complex buildings are classified as Priority 2 locations. The Finderne Facility is assigned Priority 3 because its fleet is dominated by cutaway bus vehicles, for which electric options remain limited and lack robust real-world performance data. The Recycling Center, North County Garage, and South County Garage are designated Priority 4 because they primarily house refuse trucks and heavy-duty road equipment, with limited commercially viable electric alternatives, making near-term electrification impractical until technology and market conditions mature.

Identification of Secondary EV Charging Corridors

Building on federally designated primary Alternative Fuel Corridors in Somerset County, including Routes I-78 and I-287, the study identifies a network of eight secondary EV charging corridors to extend coverage for local and regional travel. These corridors were selected based on network connectivity, existing and potential demand for charging and access to activity centers.

The secondary corridor network is intended to support everyday trips between homes, workplaces, commercial centers, recreational destinations, and transit hubs. The corridors also provide a planning framework to signal priority routes to private charging operators and developers, guide partnerships, and support future public funding decisions.

Candidate Public EV Charging Locations

The report identifies 14 County-owned candidate sites for publicly accessible EV charging, evaluated using a combination of qualitative and quantitative analyses that considers demand potential, site functionality, cost and implementation considerations, accessibility, and policy alignment. It was designed to ensure that infrastructure investments align with County needs, maximize public benefit, capture EV demand, and support Somerset's commitment to clean energy and transportation equity. Those elements include:

1. Site Context – defined by several essential qualities: accessibility, safety, and visibility. Ideal locations are easy for drivers to reach and navigate, offer secure surroundings for users and their vehicles, and are clearly visible to help promote use and awareness.
2. EV Demand Analysis – evaluates relevant attributes that contribute to the potential demand for EV charging. These include annual average daily traffic (AADT), population and employment



densities, nearby large employer sites or multi-family dwellings, plus exclusion areas for flood hazard zones.

3. Demographic Considerations – used to ensure recommended candidates meet the needs of all members of the public, including communities living in multi-family housing units lacking their own parking space, to install an EV charger.
4. Somerset County Evaluation – insights from their local knowledge and expertise.
5. Spatial Distribution – each parcel was mapped against existing public EV charging stations and the transportation network to evaluate coverage adequacy.

The 14 candidate sites identified by the above methodology include:

Name	Municipality
Natirar Park	Peapack
Lord Stirling Park Environmental Education Center	Bernards
Warrenbrook Golf Course & Pool	Warren
Green Knoll Golf Course & Tennis Center	Bridgewater
Richard Hall Mental Health & Wellness Center	Bridgewater
North Branch Park	Bridgewater
Bernie Field Parking Deck	Somerville
Finderne Public Works Facility	Bridgewater
Frank "Nap" Torpey Athletic Complex	Bridgewater
Neshanic Valley Golf Course	Branchburg
Colonial Park and Howe Athletic Complex	Franklin
Quail Brook Golf Course & Park	Franklin
Mountain View Park	Hillsborough
Skillman Park	Montgomery

The evaluation process incorporates feasibility checks, assessing across multiple metrics, and public feedback. These include modeled EV charging demand and proximity to designated secondary corridors; on-site conditions such as access, visibility, parking adequacy, and safety; public-use considerations including access hours and seasonality; alignment with County fleet operations and employee use; estimated installation cost and implementation risk; relevance to low-income communities and multi-unit dwelling access; grant-stacking potential; and qualitative input from County staff and the TAC. Public feedback was incorporated as an adjustment factor to reflect community support or concerns identified through outreach activities.

Based on the combined evaluation, three County-owned locations have been identified as priority locations for near-term public charging deployment: Lord Stirling Environmental Education Center, Colonial Park and Howe Athletic Complex, and Mountain View Park. These locations are recommended based on their suitability, demand potential, geographic coverage, and alignment with County goals.

Name	Municipality	Number of Chargers
Lord Stirling Environmental Education Center	Bernards	6
Colonial Park and Howe Athletic Complex	Franklin	8
Mountain View Park	Hillsborough	14



The number of chargers at each location was determined by estimating future (2035) demand based on projected EV ownership growth and utilization patterns. It is anticipated that installation may follow a phased approach, starting with a lower initial number of chargers, followed by usage monitoring and expansion as demand increases and funding allows.

Lord Stirling Park Environmental Education Center

This site, located near Lord Stirling Park, offers charging options for visitors to the park and environmental center. It is within a short distance, less than one mile, from major highways, offering convenient regional access. Visibility of parking areas and wayfinding is generally good, and the parking lot layout is well configured, but it lacks lighting and surveillance. The parking lot is accessible throughout the day, though park visitation varies seasonally, which may reduce charging demand during off-peak seasons. The Environmental Education Center's conceptual site layout plan includes five dual-port and one single-port chargers located south of the parking lot.

Colonial Park and Howe Athletic Complex

This site is a large, heavily utilized park offering a variety of amenities and multiple parking lots, with the potential to serve visitors to the nearby Rose Garden. It is located in a suburban setting adjacent to medium-density residential areas and provides ample space for EV charger installation. The site has good visibility, convenient access, and a well-configured parking layout. However, the absence of lighting and surveillance raises safety concerns. Park visitation is also subject to seasonal variation, which may affect charging demand during off-peak periods. The Howe Athletic Complex conceptual site layout plan shows seven dual-port and one single-port chargers in the northern section of the parking lot.

Mountain View Park

This site features a newly opened sports field that can accommodate a large number of visitors and offers ample parking, with plans for future expansion. It is located near US-206, a proposed secondary corridor; however, visibility is limited due to a long access road from the public roadway. The site has good accessibility to the parking lot, a well-configured layout, and adequate lighting. The parking area is open and accessible throughout the day with no controlled access, but sports-related activities are likely to be limited during winter months, which may reduce charging demand during off-peak seasons. The conceptual site layout plan shows 13 dual-port chargers and 1 single-port charger located at Baseball Field 2.

Priority recommendations

- **Establish operating rules for public charging**, including signage, enforcement, idle policies, and payment options) access hours, and maintenance responsibilities.
- **Prioritize near-term public charging deployment at three County locations** identified through the evaluation matrix: Lord Stirling Park Environmental Education Center, Colonial Park and Howe Athletic Complex, and Mountain View Park.
- **Embed accessibility into implementation** by ensuring ADA-compliant design, multilingual communications and wayfinding, and pricing and payment approaches that do not disadvantage residents who depend on public charging.



- **Adopt a phased County fleet transition approach** that prioritizes Tier 1 vehicles first, expands to Tier 2a/Tier 2b where operationally viable, and revisits heavy-duty and specialty assets as technology matures. At all locations, Level 2 chargers are recommended. In locations serving medium- and heavy-duty vehicles, Level 2 chargers are supplemented by a limited number of Level 3 chargers.
- **Formally use the secondary corridor network** to guide partnerships and investment with local businesses or EV charging providers, focusing on routes that connect employment centers, downtowns, transit, recreation destinations, and multi-family housing concentrations.
- **Align the implementation roadmap with funding opportunities** by preparing shovel-ready projects, coordinating match and grant application strategies, and tracking key program timelines.

Implementation Framework

The priority recommendations are included in an implementation framework that divides specific actions into three matrices: public charging action items, County fleet transition action items, and policy action items. These matrices also include information about responsible entities, timeframes, approximate costs, impacts and benefits, and possible funding sources for each action item.

Implementation is envisioned in coordinated phases. Near-term actions focus on finalizing priorities, initiating utility coordination, pursuing funding, and piloting early County fleet replacements and Level 2 charging. Mid-term steps include completing design and permitting, constructing priority charging infrastructure, increasing County fleet procurement, and expanding workforce training. No displacement of the existing workforce due to the implementation of EVs is anticipated; instead, as a priority recommendation, existing employees will receive appropriate training, coaching, and refresher courses to ensure they can safely operate and maintain the new fleet while continuing to deliver County services. Long-term actions will adapt plans based on technological progress, operational data, and evolving community needs.

For reference, there are three types of EV charging. Level 1 charging uses a standard household outlet (120V) and provides the slowest charge, typically adding only a few miles of range per hour, making it best suited for overnight residential use. Level 2 charging (240V), which is commonly used in homes, workplaces, and public locations, is significantly faster and can fully charge most electric vehicles in several hours. Level 3 charging, or DC fast charging, delivers high-power direct current and can recharge a vehicle to 80 percent in 20–40 minutes, making it ideal for highway corridors and high-turnover public sites but more expensive to install and operate.

Timeframes for implementation are defined as follows:

For publicly accessible charging on County facilities:

- Near-term – < 1 year
- Mid-term – between 1 and 3 years
- Long term – over 3 years

For County fleet charging, timelines are longer to allow for vehicle procurement:

- Near-term – < 1 year
- Mid-term – between 1 and 5 years
- Long term – over 5 years



Throughout all phases, the County should monitor charger performance and utilization, update fleet inventories, evaluate user experience, and maintain ongoing engagement with stakeholders and the public.

The report identifies a range of federal, state, and regional funding programs and incentives that Somerset County can leverage to advance ZEV adoption and expand publicly accessible EV charging infrastructure that are administered by the New Jersey Department of Environmental Protection (NJDEP), the NJTPA, and other agencies. These programs can support the transition to ZEVs, particularly the deployment of charging infrastructure, and offer opportunities for Somerset County to leverage available resources.

Next Steps

Somerset County's EV Study provides a clear, actionable framework for advancing County fleet electrification, expanding publicly accessible charging infrastructure on County-owned sites, and strengthening the local EV charging network by identifying eight secondary EV corridors to complement EV corridors on Routes I-78 and I-287. The recommendations are grounded in data-driven analysis, stakeholder input, and a commitment to accessibility for all users.

Moving forward, the County will take a phased approach to implementation, beginning with near-term actions that include coordinating with utilities to confirm electrical capacity and timelines, advancing design and permitting for priority charging sites, pursuing available funding opportunities, and initiating early fleet electrification focused on light-duty vehicles. Mid-term efforts will include construction of priority charging infrastructure, expansion of fleet electrification, and workforce training to support operations and maintenance. Over the long term, the County will scale infrastructure deployment, incorporate advancements in EV technology, and refine its strategy based on system performance, user demand, and evolving community needs.

By prioritizing high-impact sites, coordinating early with utilities, and aligning implementation with funding opportunities, Somerset County will be well-positioned to advance clean transportation in a practical and sustainable manner. Ongoing monitoring, stakeholder engagement, and adaptation to evolving technologies will ensure that the County's EV strategy remains responsive to implementation realities and community needs over time.