Introduction

It would not be an understatement to say that the Pennsylvania Turnpike Commission (PTC) is fervent about sustainability. "Responsibility Matters" is one of five core values in our strategic plan, stressing a commitment to "diversity, integrity, and sustainability in all practices." This extends to resources including service plazas, maintenance and office facilities, and our fleet. Last year, we became the first state agency to achieve a 100% score from the GreenGov Council by committing to high sustainability standards. With a 30-year pledge to sustainable best practices, the PTC aims to become America's First Sustainable Superhighway by 2040.

EV Current State

The PTC first installed chargers for EV customers at service plazas nearly a decade ago. It's worth mentioning some other alternative-fuels projects as well: A compressed natural-gas fueling station is available at the New Stanton Service Plaza; and the Commission operates propane-powered vehicles in its maintenance fleet.

The Turnpike first made EV charging available to customers in April 2014. Today, the Turnpike — along with its service-plaza concessionaire Applegreen — offers 63 EV plug-ins to travelers at eight of its 17 service plazas. This number includes 48 Tesla plug-ins among five service plazas and 15 Blink Charging plug-ins also split between five plaza locations. Blink Charging units include five Level-1/Level-2 plug-ins and 10 Level-2/Level-3 plug-ins.

PA Turnpike EV Car-Charging Status

Service Plaza	Blink Charging Company				Tesla	
	Level-2 charging (Install Date)	Number of Plug-ins	Level-3 charging (Install Date)	Number of Plug-ins	Super Charger (Install Date)	Number of Plug-ins
Hickory Run					5/28/2021	8 NB & 8 SB
Allentown						
King of Prussia	4/1/2014	1	7/22/2015	2		
Valley Forge						
Peter J. Camiel	7/22/2015	1	7/22/2015	2	12/23/2021	8
Bowmansville	4/1/2014	1	7/23/2015	2	7/16/2021	8
Lawn						
Highspire						
Cumberland Valley						
Blue Mountain						
Sideling Hill						
North Midway						
South Midway						
North Somerset					5/19/2021	8
South Somerset					7/20/2021	8
New Stanton	5/1/2014	1	2/10/2016	2		
Oakmont	5/1/2014	1	2/10/2016	2		
TOTAL		**5**		**10**		**48**

EV charging stations are generally located in the service plaza car-parking lots. A fee is charged, which customers can pay via a smartphone app or online through the Blink network.

EV Future State

This fall, the PA Turnpike will initiate a significant upgrade of our EV-charging program by installing new DC fast chargers across our 564-mile system. The Commission is negotiating with Applegreen Electric — a subsidiary of our service-plaza operator — to install universal DC fast chargers at all service-plaza locations. The project's goal is to enable EV drivers to have continuous, convenient access to charging without leaving the PA Turnpike.

Site preparation and installation is expected to begin this fall, with completion in about five years. In all, four universal DC fast chargers will be installed at each of the 17 plaza locations (eight chargers at the three "bidirectional" plazas) for a statewide total of 80 upon completion. All construction costs are to be borne by the Applegreen Electric, and the PTC will receive a share of the subsequent gross revenue.

The Commission will closely monitor charger usage across the system, installing additional units where demand necessitates. The existing Blink chargers will be decommissioned and removed when the new DC fast chargers are fully operational, while the current Tesla chargers will remain for a future systemwide total of 128 units.

Inductive Charging

To address an anticipated surge in EV usage and maintain our commitment to creating a sustainable roadway, the PTC plans to pilot "inductive" — or wireless — EV charging. Using coils embedded in the pavement, inductive charging creates a magnetic field that can be picked up by a receiver on electric vehicles. The Commission plans to focus the pilot on medium and light cargo EVs only before making induction charging available for passenger vehicles.

The move toward induction charging will provide Turnpike travelers a more-efficient experience with fewer stops while supporting PTC sustainability goals. The ability to charge on the go makes inductive charging ideal for long-range trips, especially for truck drivers and vacationers. It will also improve the experience for EV drivers with disabilities.

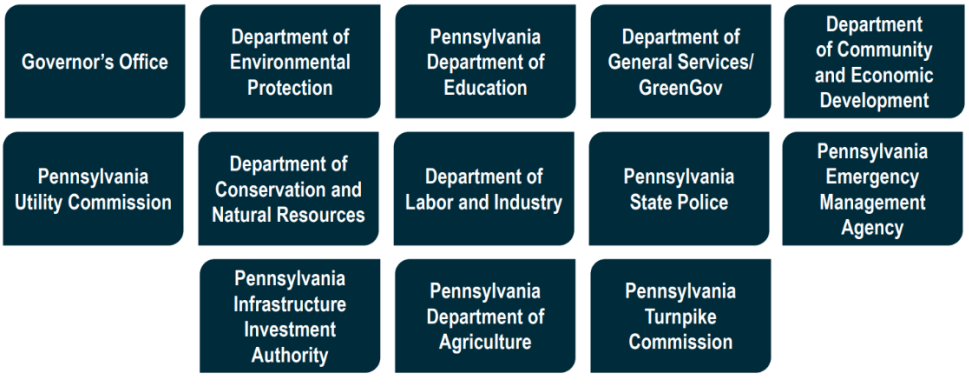
The PTC's in-road charging network is expected to go live sometime between 2026 and 2030 on the new Mon/Fayette Expressway section from State Route 51 in Jefferson Hills to State Route 837 in Duquesne, Allegheny County. The technology will be installed on three to five miles of the Mon/Fayette, although a final site has not yet been identified.

Ultimately, the PTC aims to use power generated from solar fields at maintenance facilities and service plazas to electrify portions of the roadway. Today, the Commission operates one solar field, with six others planned. Its first solar microgrid came online in Westmoreland County in 2022. The solar and natural gas powered microgrid supplies energy to the Greensburg Maintenance Facility campus and is connected to the utility grid where excess power is sold, creating additional revenue for the PTC.

In 2024, the PTC will begin using inductive charging for a handful of fleet vehicles housed at the Central Administration Building in Middletown. Inductive charging allows smaller batteries to be used since they hold less charge, making EVs lighter and less expensive. Stationary inductive charging will allow drivers to park in designated inductive-charging spots without the need to plug in.

EV Interagency Task Force

In January 2022, PennDOT established an EV Interagency Task Force to facilitate coordination among Commonwealth agencies on EV issues. The Commission is a willing and active participant in this critical undertaking. The EV Interagency Task Force helps to inform the development of the Pennsylvania State Plan for Electric Vehicle Infrastructure Deployment. This plan charts how more than $170 million in federal EV infrastructure funding will be invested across the Commonwealth over the next 5 years. The funding stems from the National Electric Vehicle Infrastructure (NEVI) Formula Program created in 2021 under the federal Bipartisan Infrastructure Law (BIL). The Task Force helps identify key goals and stakeholder outreach needed to support the Pennsylvania State Plan for Electric Vehicle Infrastructure Deployment. Led by PennDOT, the Task Force is comprised of 13 other state agencies including the PTC:



Unified Back Office Systems

The PTC's Unified Back Office System (UBOS) is a significant customer service and IT infrastructure enhancement that will help futureproof collection operations to meet ever-evolving consumer preferences by unifying PTC customer data — including toll transactions as well as non-toll interactions — into one system. It will provide improved and consistent customer service while ensuring that the Commission's critical customer infrastructure advances and grows along with our changing business needs.

It's clear that we are seeing a shift in how travelers pay for all forms of transportation, and highways are certainly part of that discussion. UBOS will accommodate collection of future mobility revenues including Mileage-Based User Fees (MBUF) or Road User Fees, allowing the PTC to serve as Account Manager and Clearinghouse processor. The Commission stands ready to support the Commonwealth as we rethink how to maintain, upgrade and finance transportation infrastructure.

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