Understanding Rising Transmission Costs in the District of Columbia

An Overview of Transmission Planning and its Impact on Electricity Customers in DC

Prepared for the District of Columbia Department of Energy and Environment and Office of the Attorney General

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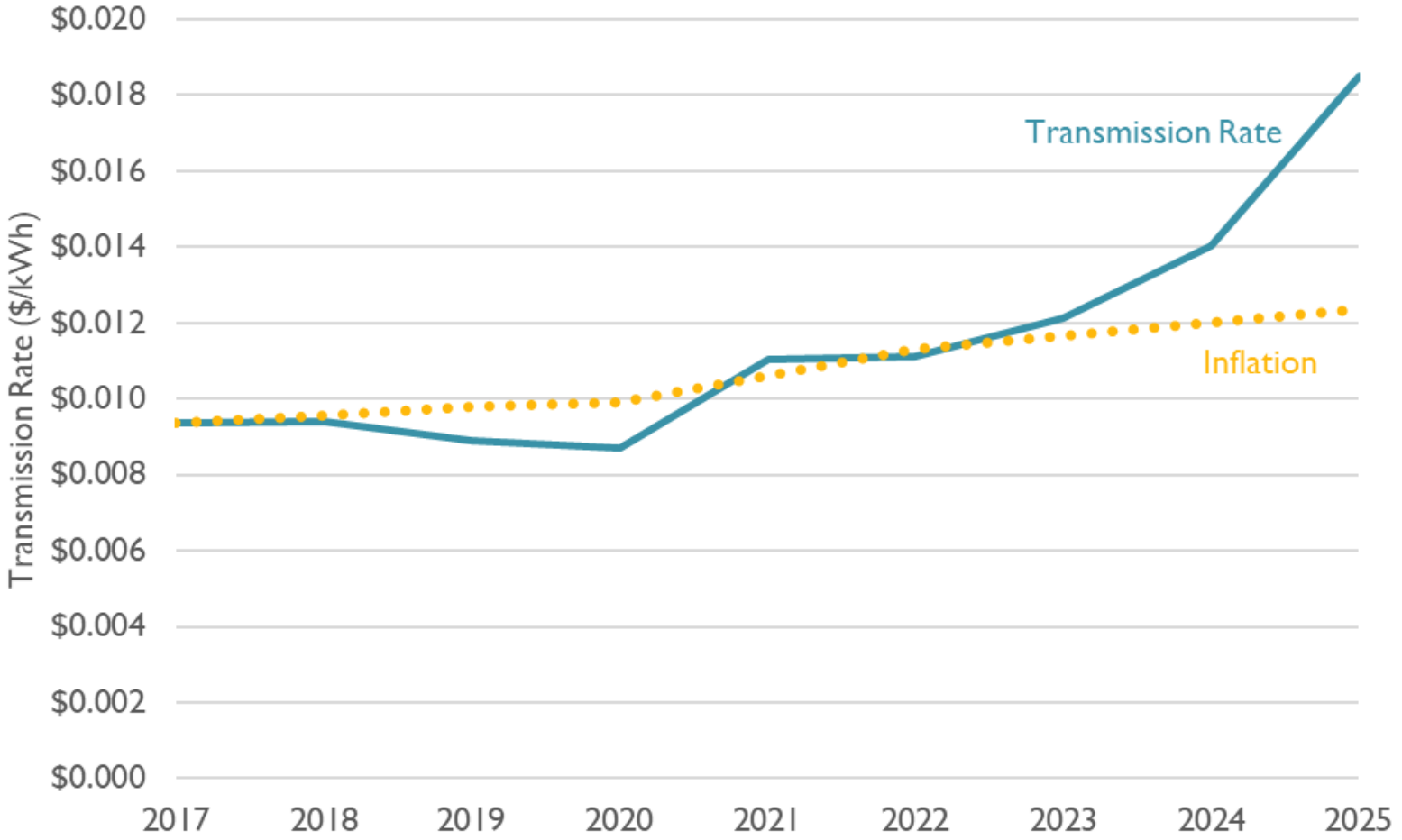
Summary & Recommendations

- **Transmission costs have been rising in the District**, and are forecasted to continue rising in the future, especially as load from data centers continues to increase across the PJM footprint. These are driven by two key project types:
  - Regional reliability projects that serve multiple transmission zones or jurisdictions, which are often located outside DC. Examples include projects to support data center growth in northern Virginia or projects to enable the retirement of generators in Maryland
  - Local projects that are planned by Transmission Owners (not PJM), and are not subject to PJM oversight and review (supplemental projects)
- State agencies, advocates, and other stakeholders can help address concerns about rising transmission costs by advocating for:
  - **Improved PJM load forecasting**, particularly for data center loads
    - Given that data centers are the main driver of projected load growth in PJM, and by extension, transmission planning, it is critical that the large load adjustments that PJM includes in its load forecasts are realistic, based on best available data and well-vetted
  - **Increased oversight and cost management for supplemental projects**, via the creation of an Independent Transmission Monitor or similar review body
    - This approach has been taken by advocates in New England, and could require Transmission Owners to submit a benefit-cost analysis and/or demonstrate the required transmission project need to PJM and its stakeholders
  - **Improving multi-state coordination** on cost allocation methodologies and effective policy implementation
    - States and/or consumer advocates could coordinate on the prudency of local transmission projects, on the appropriateness of certain cost allocation approaches, and to ensure that long-term transmission planning is transparent, fair, and considers cost saving technologies

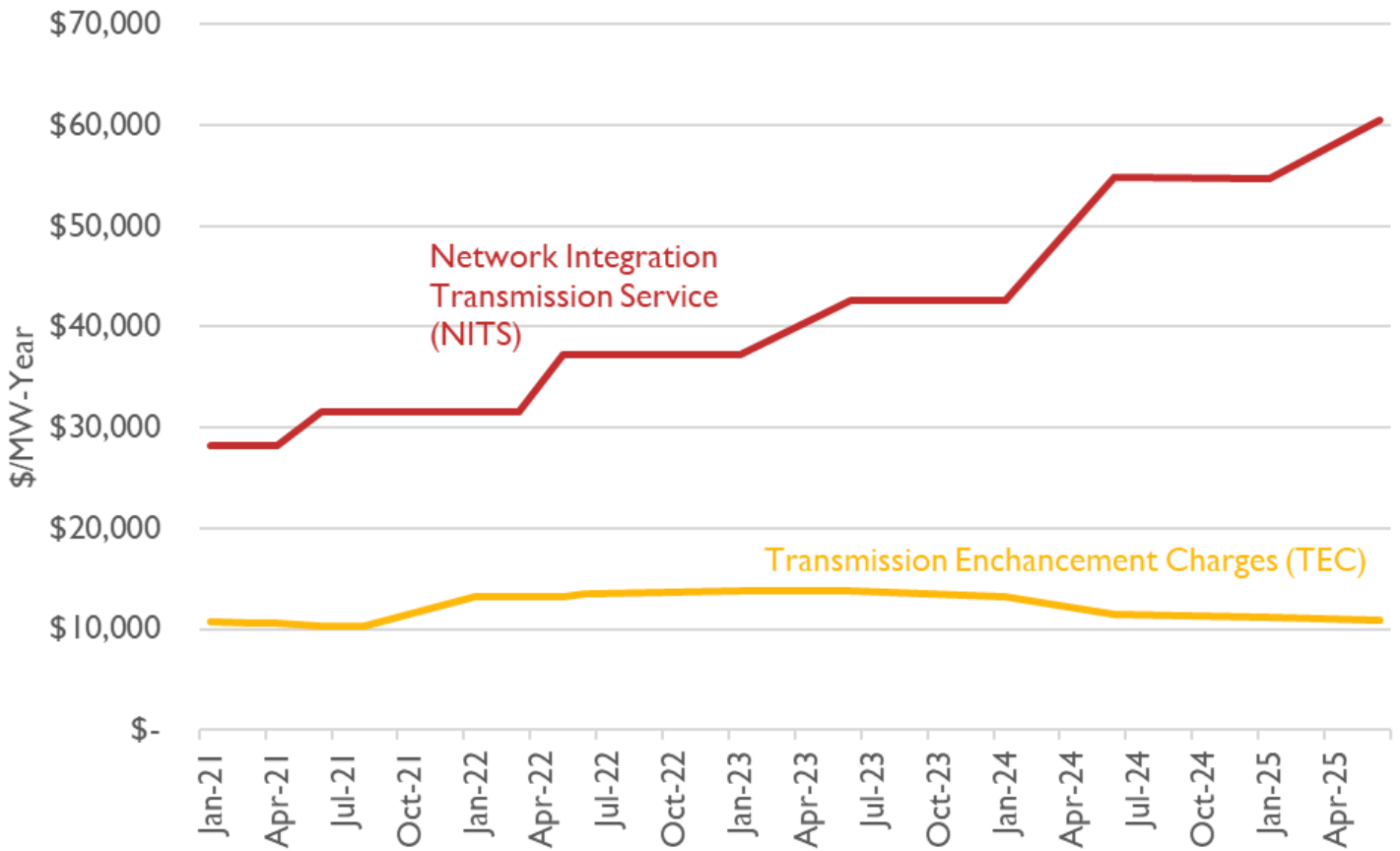
Transmission Rates Have Been Steadily Rising

- Over the last two decades, transmission rates for customers in the District of Columbia have steadily increased
- Rates have increased 68 percent between 2021 and 2025, or 44 percent when adjusted for inflation



Transmission Costs Are Collected through NITS and TEC Charges

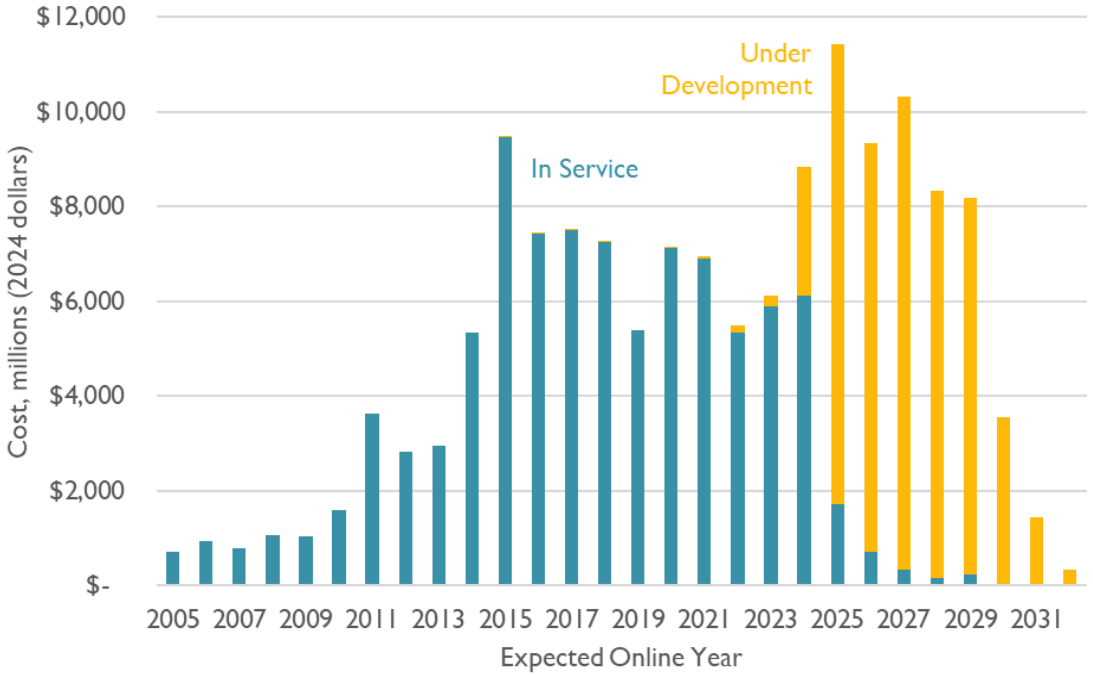
- Transmission charges in PJM consist of two components: Transmission Enhancement Charges (TEC) and Network Integration Transmission Service (NITS)
- PJM bills Pepco and other Transmission Owners, who pass these transmission costs onto the Load Serving Entities (LSEs) in their zones. The LSE's then convert these into retail transmission rates for end-use customers
- Customers in DC pay 34 percent of costs allocated to the Pepco transmission zone, based on DC's contribution to the Pepco zone's total peak load



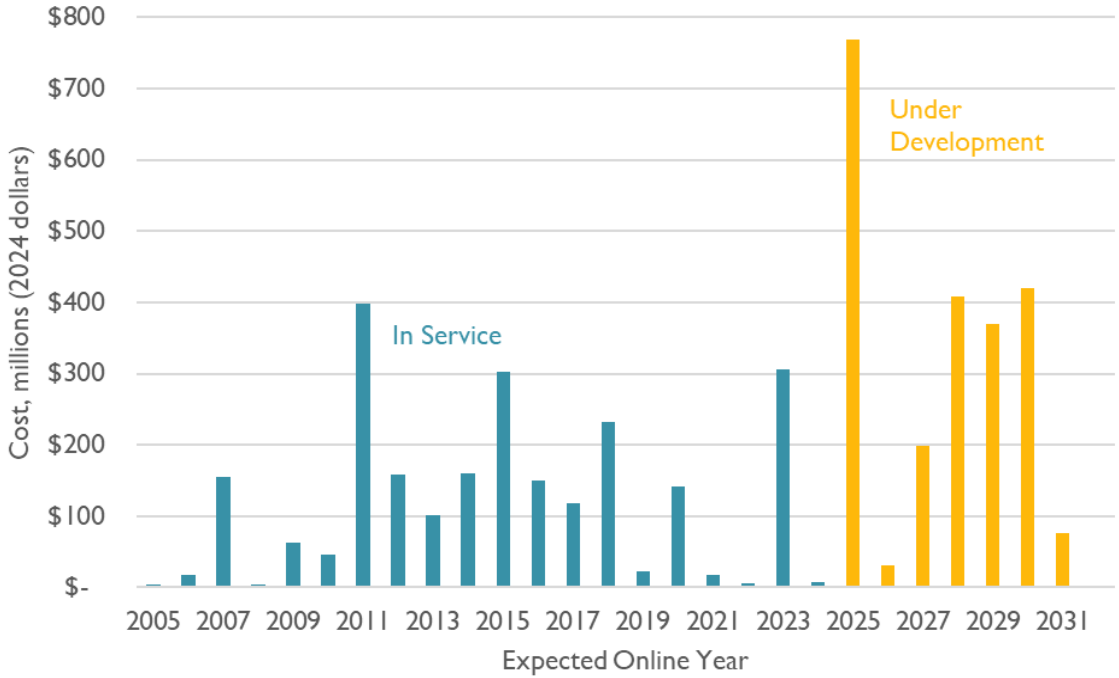
Project Costs Rising Across PJM

- From 2005 to 2025, in-service transmission project cost for the PJM region (left) totaled roughly $82 billion (2024 dollars). PJM has approved an additional $51 billion (2024 dollars) in projects now under development.
- $4.5 billion of these in-service or under development projects have been allocated to the Pepco transmission zone (right), accounting for roughly 3 percent of the region's total transmission costs (left)

PJM-Wide Transmission Projects

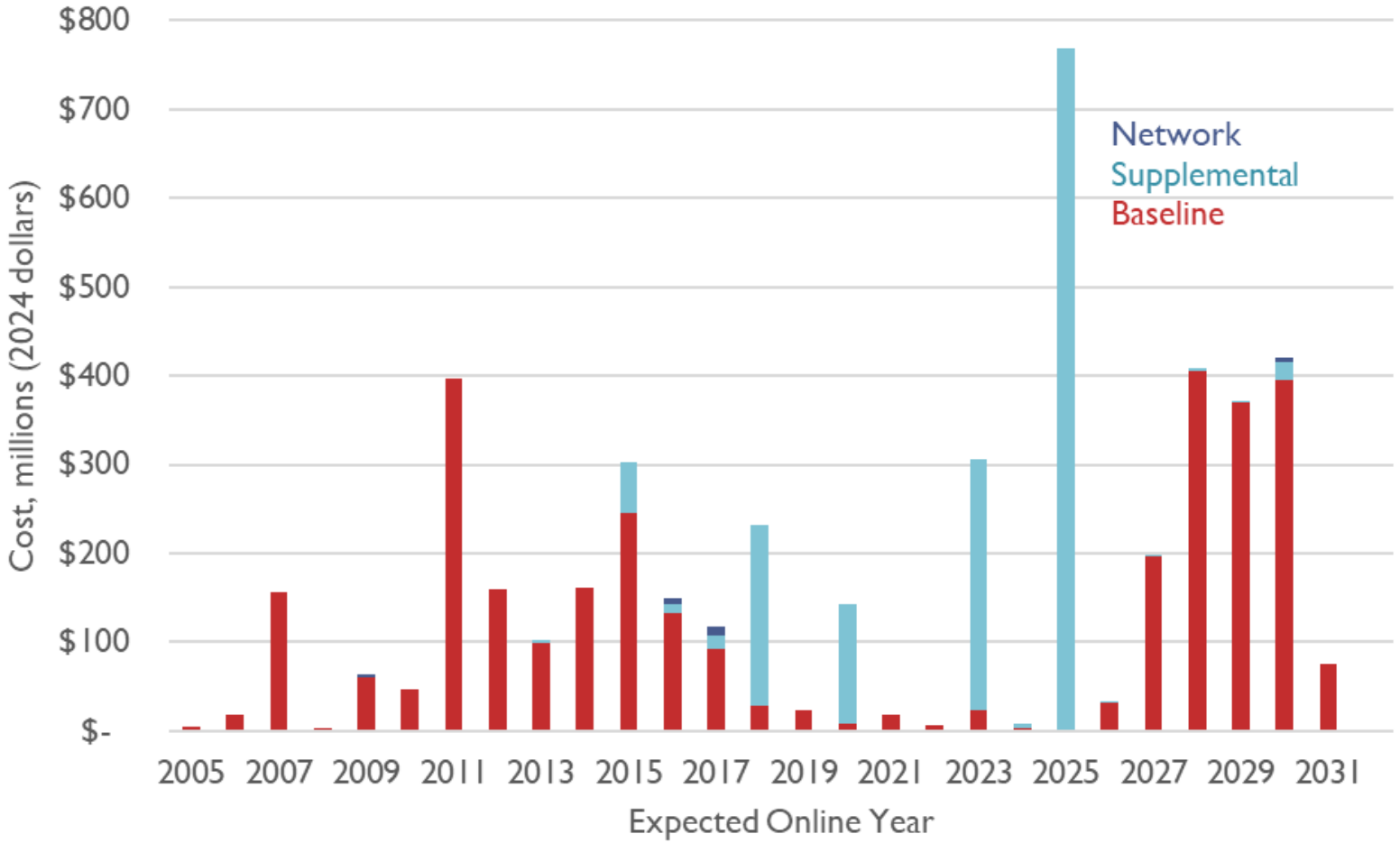


Transmission Projects with Costs Allocated to DC



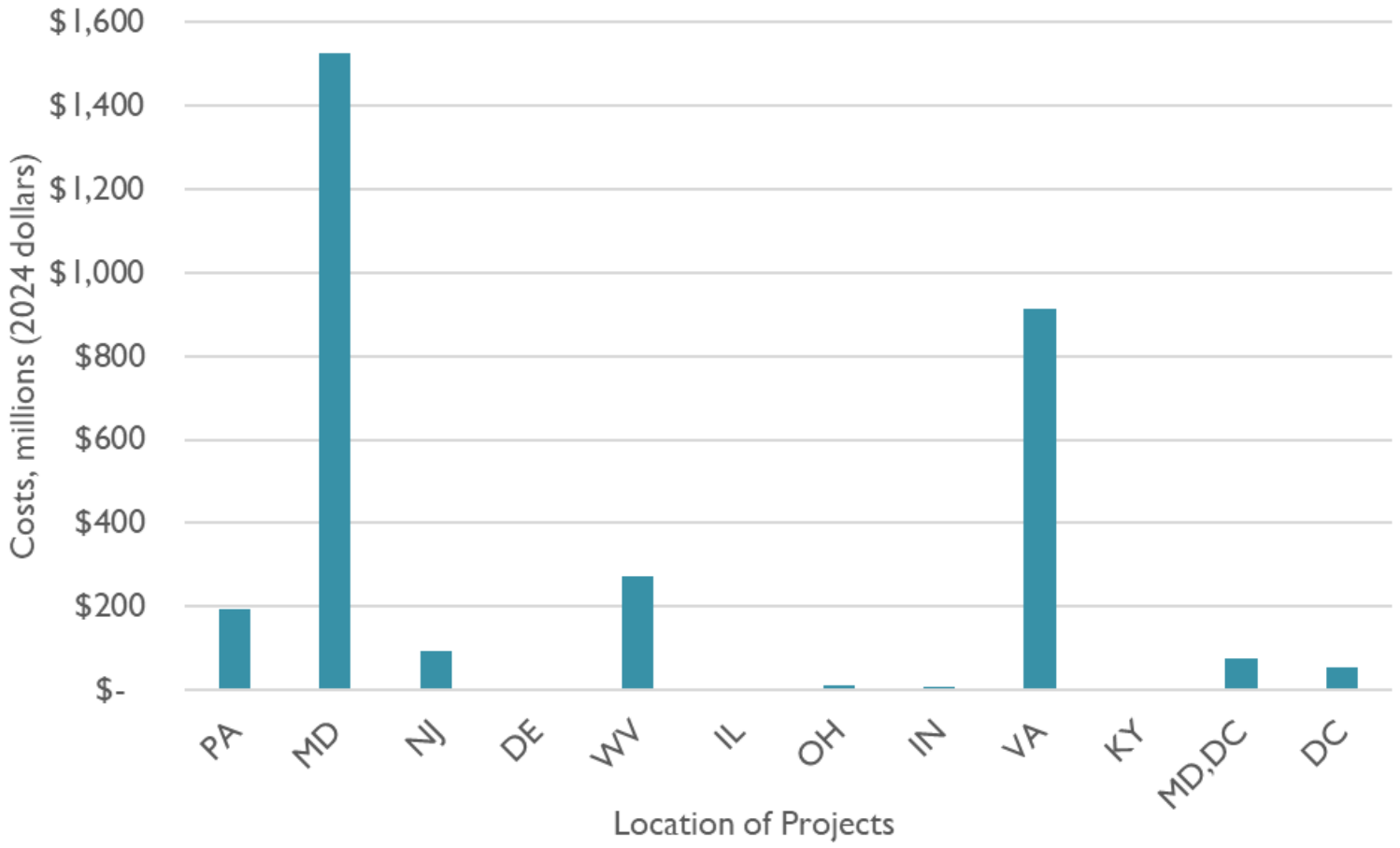
Three Transmission Project Types

- In PJM transmission projects fall into three main categories: Baseline, Supplemental, and Network projects
- For the projects costs allocated to the Pepco zone and DC, Baseline and Supplemental projects each make up roughly 45 percent of total transmission costs, while Network projects make up 10 percent
  - There is one very large supplemental project expected to be in service by the end of 2025 (the transmission portion of the Capital Grid Project)



Baseline Projects

Baseline projects are regional upgrades that are needed to maintain regional reliability standards. They often span multiple transmission zones or states.

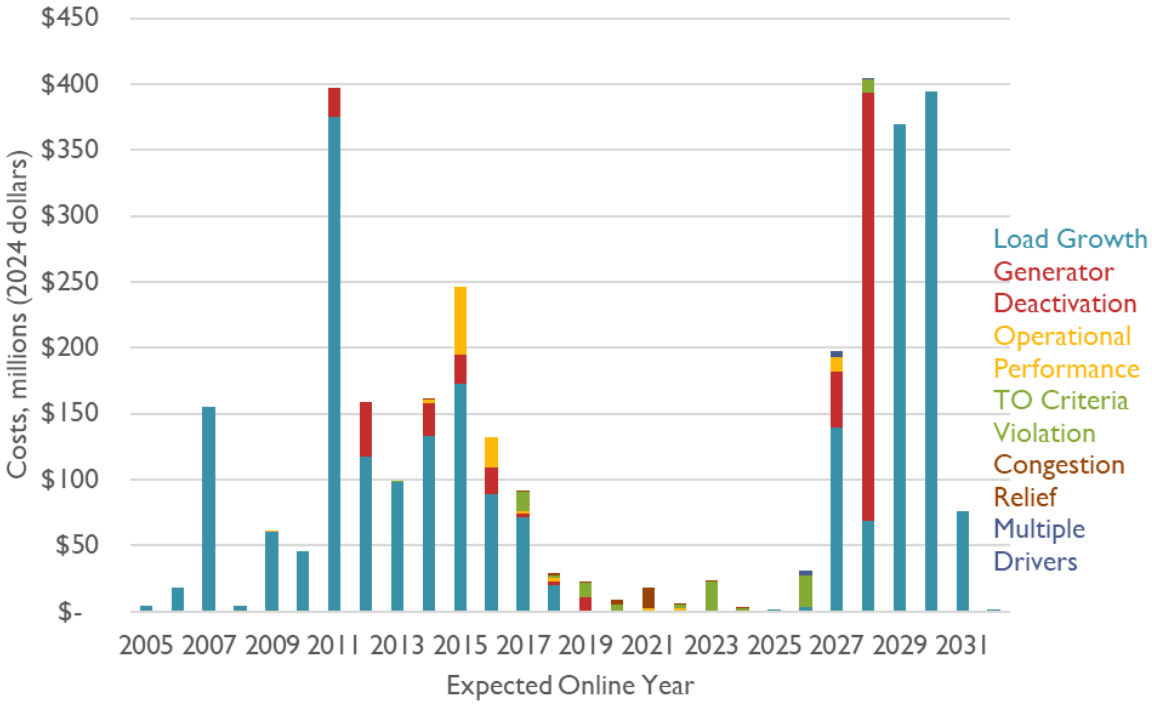


- Costs are allocated to the transmission zones that benefit directly from the project or transmission asset
- Most baseline projects allocated to the Pepco zone are located in Maryland (including other zones like BGE), Virginia, West Virginia, and Pennsylvania
  - Virginia-based projects have represented a large share of projects allocated to Pepco since 2015, and will likely continue increasing as more data centers are built in that region

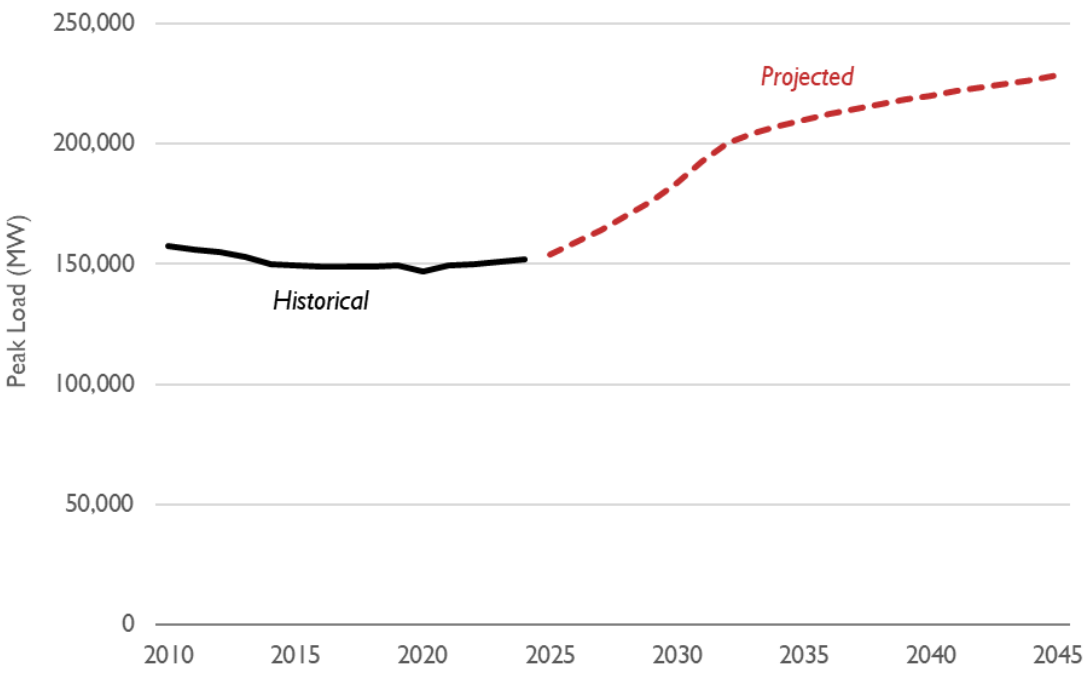
Baseline Project Drivers

- Load growth has been the primary driver for baseline in-service and projects under development (left)
- PJM is projecting that its system-wide peak load will increase substantially in the coming years, largely due to data center load growth in Virginia and elsewhere in the mid-Atlantic (right)
  - This will likely mean more baseline transmission projects, some of which will be allocated to the Pepco zone and DC

Drivers for Transmission Projects Allocated to Pepco

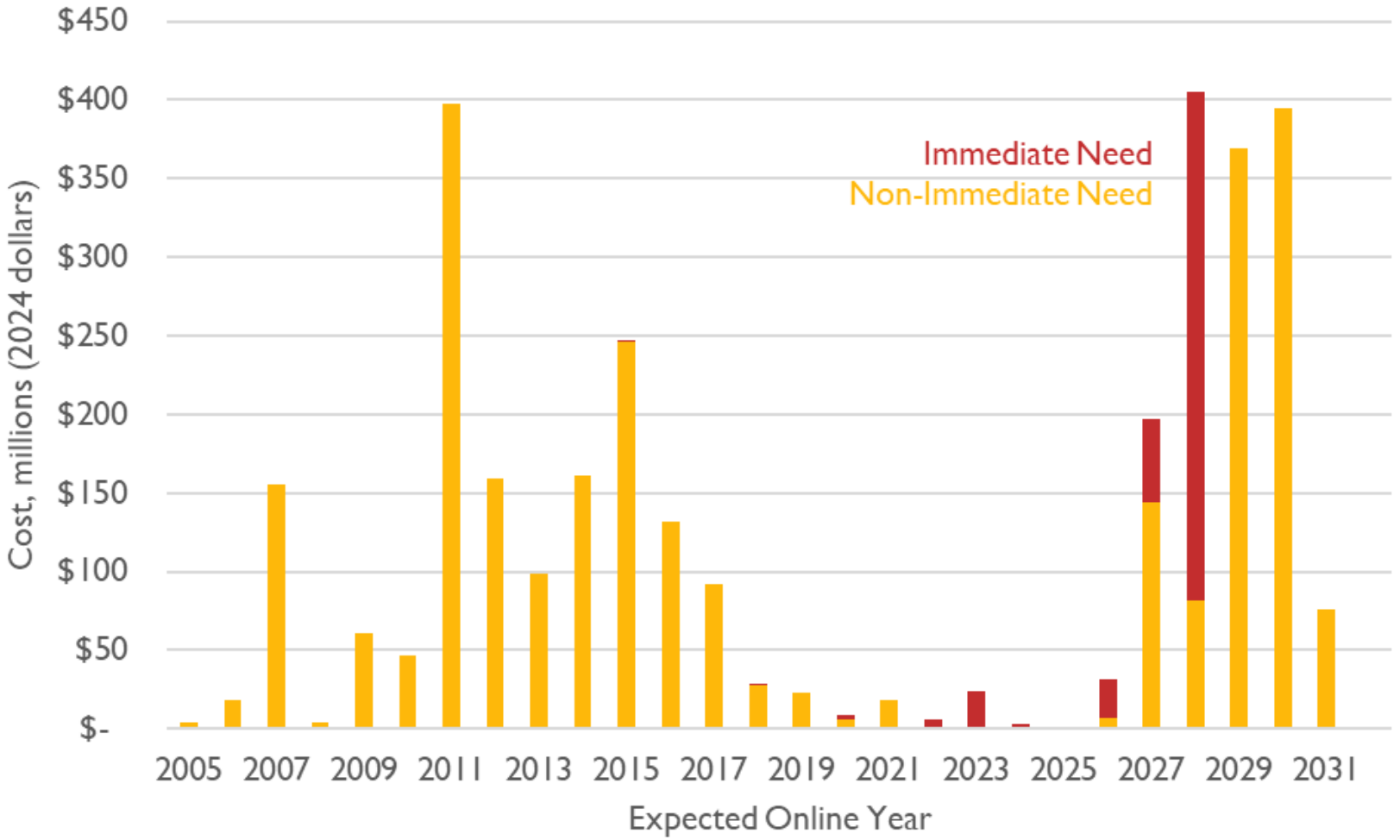


PJM-Wide Historical and Projected Peak Load



Baseline Projects

- Most of Pepco's baseline projects are non-immediate needs (3+ years, not time-sensitive) and are procured through a competitive process administered by PJM
- Recently, there have been a growing number of immediate need projects, which are exempt from competition and are often more expensive than non-immediate projects
- Notably, 84% of Pepco's immediate-need costs stem from a single project: the Brandon Shores Deactivation



Supplemental Projects

- Supplemental transmission projects are enhancements and expansions that address local reliability needs
- These projects are planned and developed by Transmission Owners and are outside of the PJM reliability and planning process, and not subject to competitive solicitation
  - They are not subject to oversight and review by PJM staff and its Board
  - Because of the lack of oversight, stakeholders have fewer opportunities to challenge the prudency of these projects
- Supplemental projects have been a major driver of transmission cost increases across PJM. They represent roughly 30 percent of transmission costs allocated to the Pepco zone
- Transmission Owners propose supplemental projects according to five key drivers: (1) customer service, (2) equipment material condition, performance and risk, (3) operational flexibility and efficiency, (4) infrastructure resilience, and a catchall category of (5) other
  - Customer-service projects represent a large share of Pepco supplemental projects, having the highest average project cost size, and increasing from $16 million in 2017, $203 million in 2018, $227 million in 2024, and $685 million in 2025

Network Upgrades

- Network Upgrades are transmission infrastructure upgrades needed to support interconnection of new generators, merchant transmission facilities looking to interconnect to the network, or new transmission requests in an area with insufficient transmission capacity.
  - Network upgrades are planned through the interconnection queue process
- Project developers pay for network upgrade costs and integrate that cost into generation prices, indirectly increasing consumer costs.
  - Network upgrade costs have been increasing in recent years
- In PJM, network upgrades represent 10 percent of total transmission costs, while in the Pepco transmission zone they represent less than 1 percent of total costs.
- PJM is having major issues with its clogged interconnection queue. As data centers push load forecasts to unprecedented levels, and as old, inefficient generators continue to retire, the system needs more generation to come online quickly and cost-effectively
  - PJM is reforming its interconnection queue process, but it is still slow and expensive for resources looking to interconnect and come online. The increasing network costs only add to these challenges

Thank you!

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