

Transportation & Climate Initiative

Regional EV Corridors

NEDC Partners Meeting

September 25, 2017

Matthew Goetz

Georgetown Climate Center

Georgetown Climate Center:

A Resource for State and Federal Climate Policy

- Launched in 2009 as a resource to states
- Works at the nexus of federal-state policies
- Supports states and other stakeholders through research, facilitation and convening





TRANSPORTATION & CLIMATE INITIATIVE

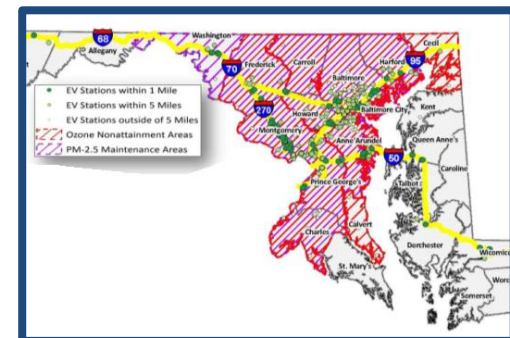
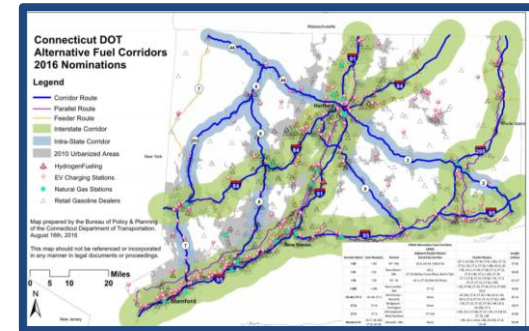
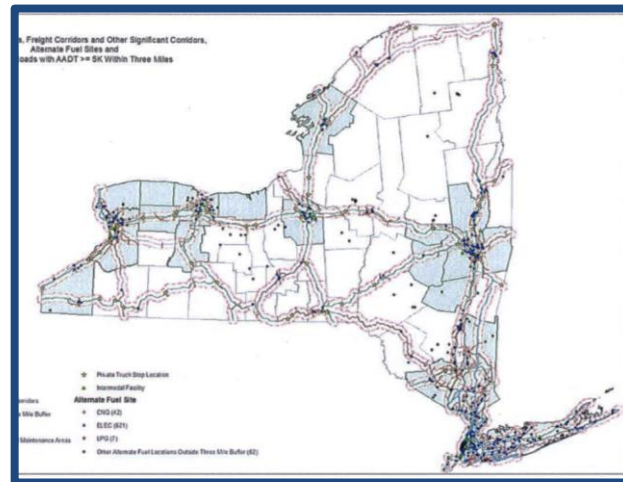
Of the Northeast and Mid-Atlantic States

- 11 Northeast and mid-Atlantic states and D.C.
- State energy, environment, and transportation agencies
- Clean vehicles & fuels, emissions reduction policies, sustainable communities, freight, and resilience



TCI Region EV Corridor Nominations

- All TCI jurisdictions nominated corridors to U.S. Federal Highway Administration
- Regional letter of support endorsed by all 12 TCI jurisdictions



Federal EV Corridor Designations



Electric Vehicle Corridors

Signage-Ready

- Includes DCFC and Level 2
- EVSE at least every 50 mi.
- <5 miles from highway
- Public stations

Signage-Pending

- Additional infrastructure needed to meet criteria

ALTERNATIVE
FUELS
CORRIDOR



TCI Region Designated EV Corridors



— Signage Ready
- - - Signage Pending



Opportunity for Regional Coordination

- More than 2500 miles of EV corridors designated in the region
- New infrastructure investments
- Potential inflection point for vehicles and charging
- Consumer awareness from highway signage



Investment by Automakers and EVSE Providers

AUTOWEEK NEWS BUYERS GUIDE REVIEWS RACING PHOTOS VIDEOS STORE ADVISORS

BMW, VW and ChargePoint complete East and West Coast charging corridors

95 NEW STATIONS COVER THE MOST HEAVILY TRAVELLED PORTIONS OF THE TWO COASTS

SEPTEMBER 19, 2016

SHARE

Electric-car owners still suffering from range anxiety will be relieved to hear that most of the the left and the right coasts of the country are now fully stocked with charging stations. BMW, Volkswagen and ChargePoint have just completed a network of DC fast chargers connecting Portland and San Diego on the West Coast, and Washington, D.C., and Boston on the East Coast.

A total of 95 chargers were installed as part of the companies' Express Charging Corridors. The network is strategically placed in metro areas to enable detours to popular vacation spots. The West Coast network runs from San Diego to Portland, Oregon, and the East Coast network runs from Sonoma, with the overall network covering 10,000 miles.

electrek APRIL 18

Nissan and EVgo to build EV fast-charging corridor on the east coast: 50 kW (pre-wired for 150 kW)

NISSAN LEAF NISSAN EVGO

Fred Lambert - Apr 18th 2017 9:08 am ET @FredLambert

FAST-CHARGE ARC
Connecting Boston to Washington D.C.

Coming Fall 2017

NEW HAVEN REGISTER NEWS

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Tesla powers up at Connecticut Post Mall, opens 14 charging stations

Chargers have been installed in the parking lot of the Connecticut Post Mall in Milford.

New Haven Register

Volkswagen Settlement EV Infrastructure Investment

Electrify America

National ZEV Investment (cycle 1)

\$40 million – Community charging

\$190 million – Highway fast charging

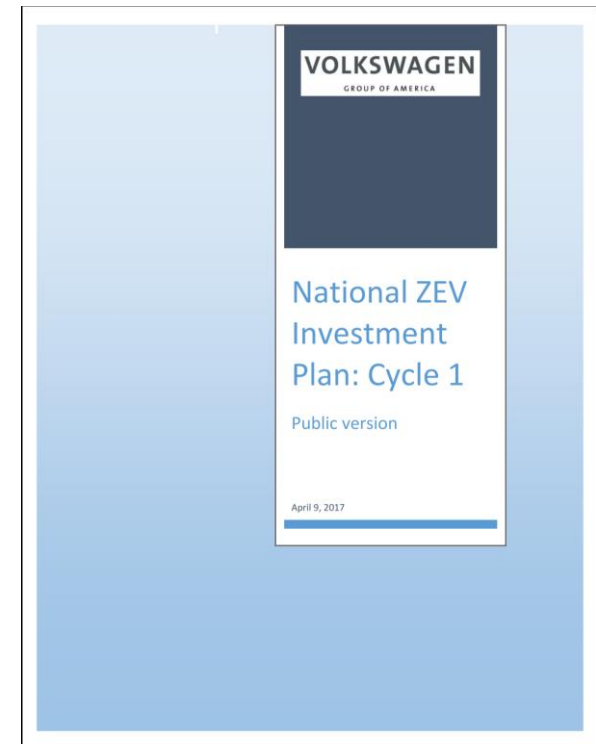
State Mitigation Trust (Appendix D)

\$2.9 billion state administered

NOx reductions

Up to 15% on EV infrastructure

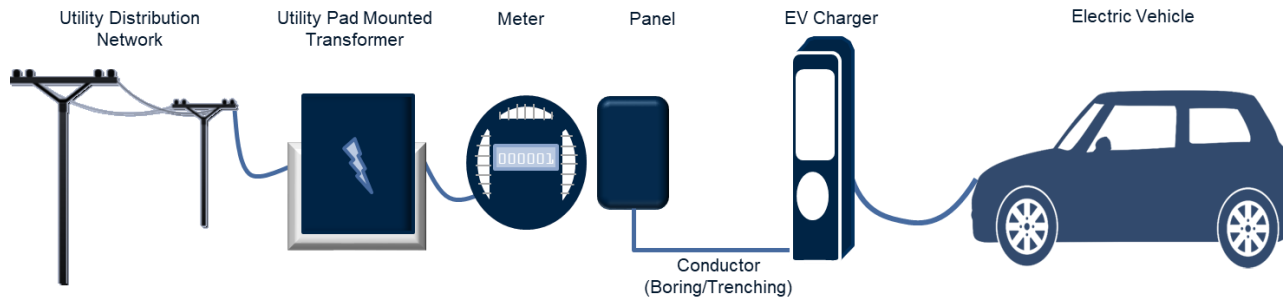
electrify america



Utility Investment in EV Infrastructure



An Exelon Company



TCI Region EV Corridor Analysis

OBJECTIVES

- Improve understanding of existing and planned EV Fast Charging infrastructure along corridors
- Identify opportunities for regional planning and coordination

TCI Region EV Corridor Analysis

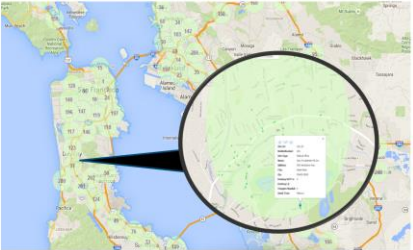
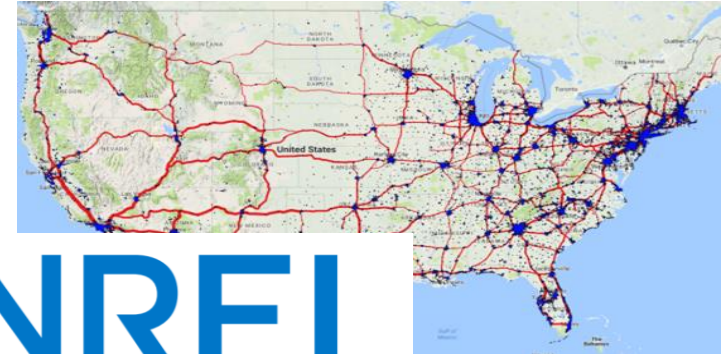
PROCESS

- Engage state and utility experts and build on existing resources
 - West Coast Electric Highway/Oregon DOT
 - Pacific Gas & Electric (DC Fast Charge Siting Tool)
 - Massachusetts EEA (NREL & INL EV Case Studies)
 - National Renewable Energy Laboratory
- M.J. Bradley & Associates as technical contractor

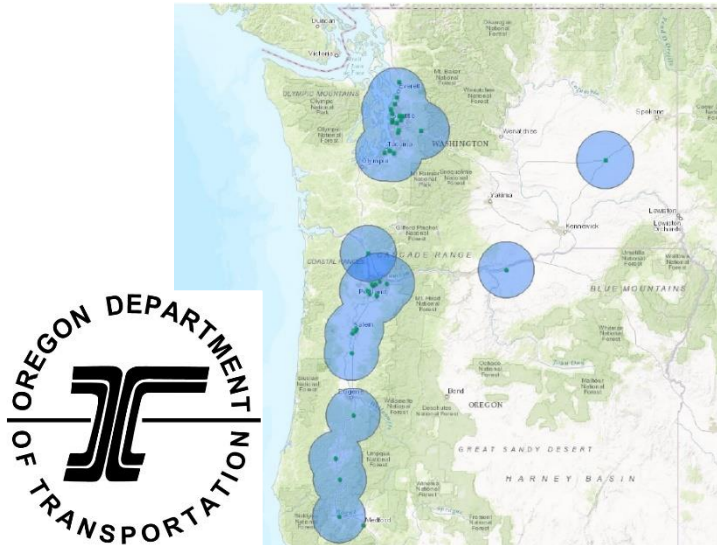
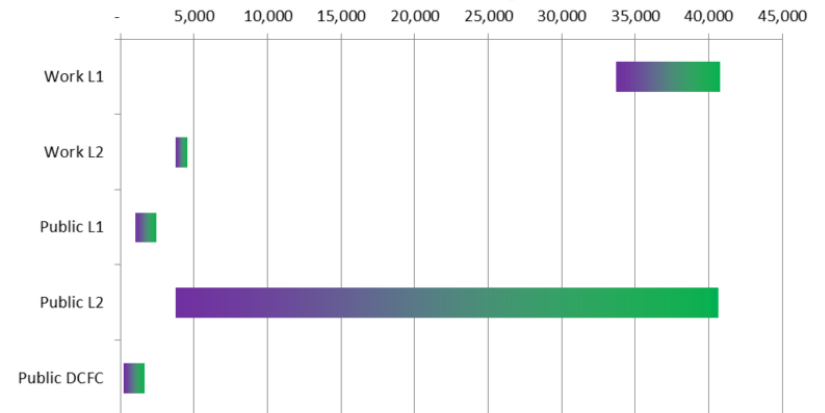
EV Charging Infrastructure Gap Analysis & Corridor Planning

Online Interactive Map of Potential DCFC Site Hosts

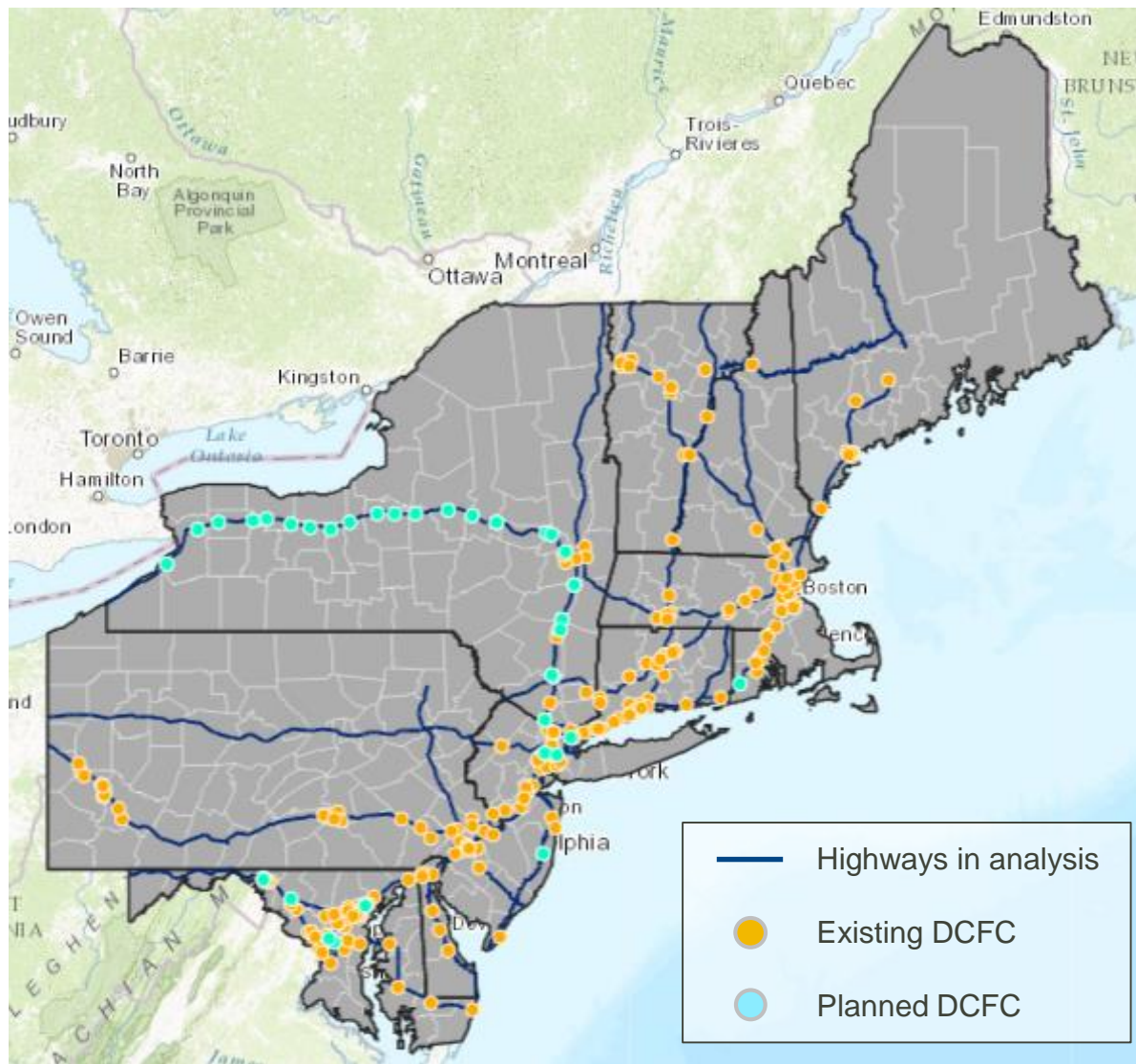
- Interactive Map shows 14,416 sites in the top 300 ranked bubbles based on highest future unmet charging demand and high traffic corridor locations (no user inputs)
- Interactive Map provides raw inputs (14,416 site characteristics) to the Micro-Siting Tool, which allows DCFC developers to identify sites based on priorities

2025 Estimated Plug Counts



Scope of Analysis: DCFC Along Selected Corridors



Overview of Corridor Analysis

Identify charging infrastructure 'gaps' along corridors and/or exits with high potential utilization of EV fast charging infrastructure.

1

Identify key metrics to compare exits

1. Proximity to Existing Stations: Closest Station
2. Proximity to Existing Stations: Density of Ports (ports within five miles)
3. Traffic Volume (AADT of exit segment)
4. Population Density (of surrounding county)
5. Points of Interest (within one mile)

2

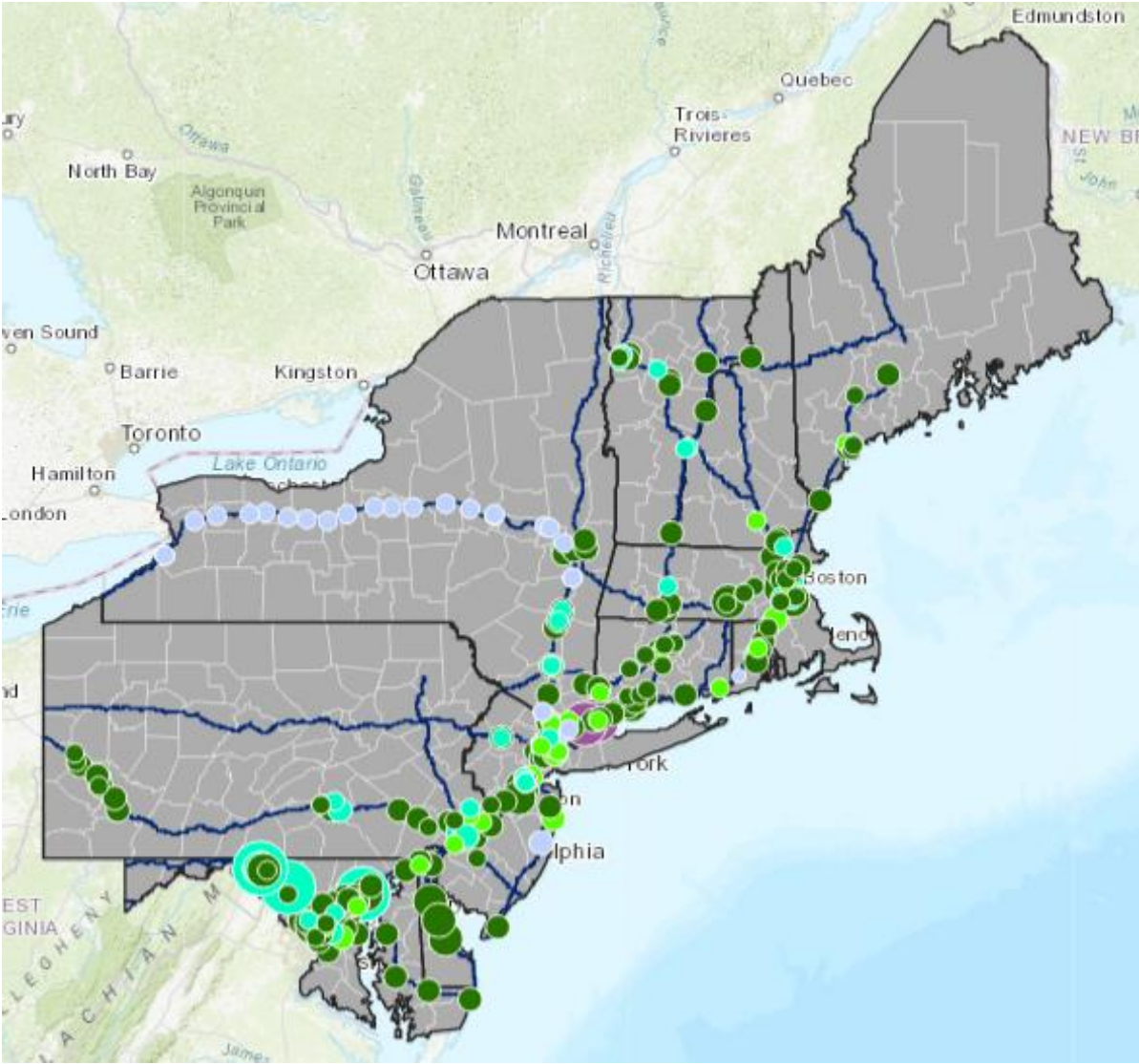
Calculate weighted score for each exit

3

Identify highest ranked exits under various scenarios

(e.g., priority for filling gaps along corridors or potential for high utilization)

Corridor Analysis: Existing EV Fast Charging



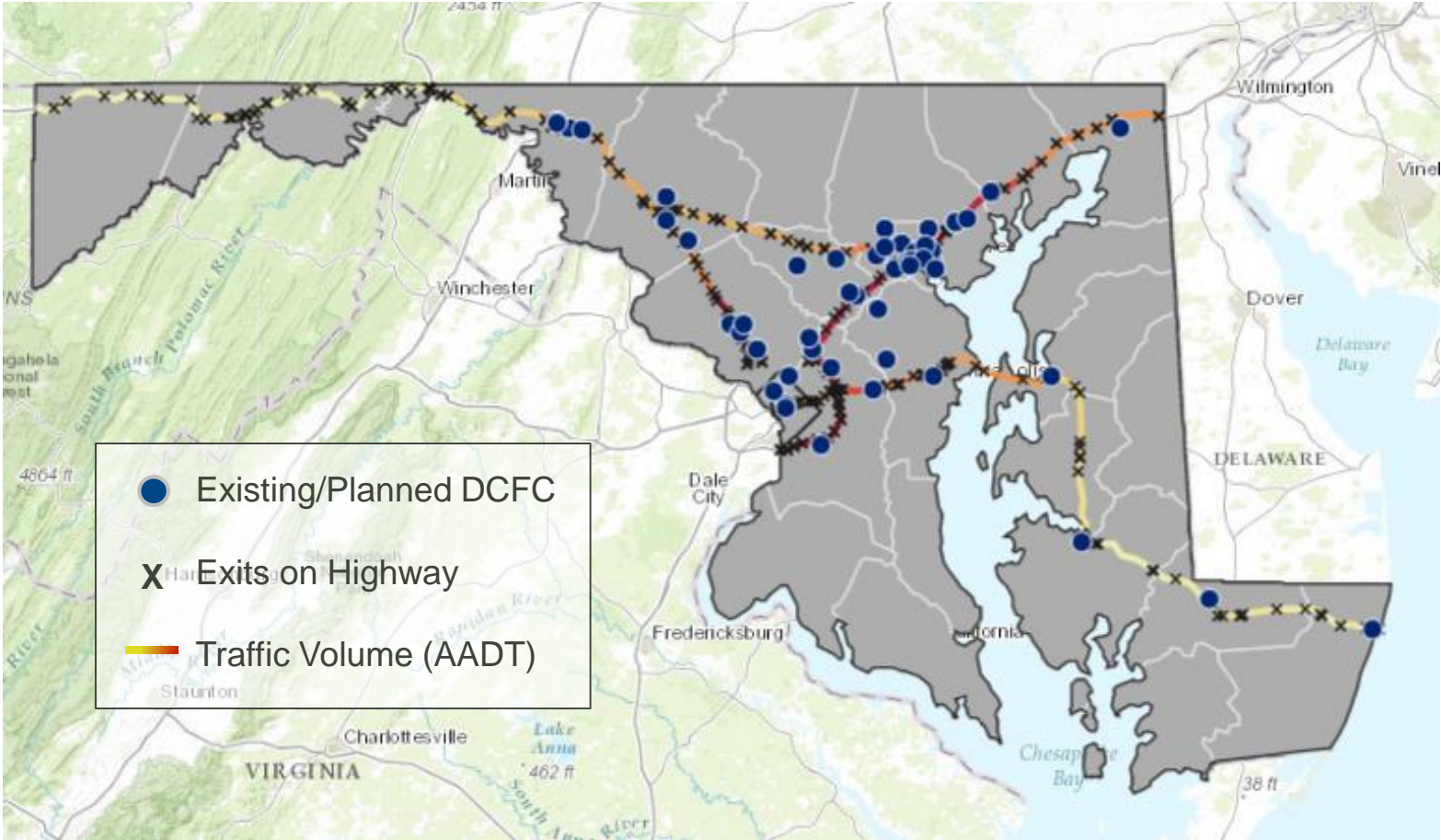
Port Type

- CHAdeMO
- CHAdeMO & SAE
- SAE
- Tesla & CHAdeMO
- Planned/TBD

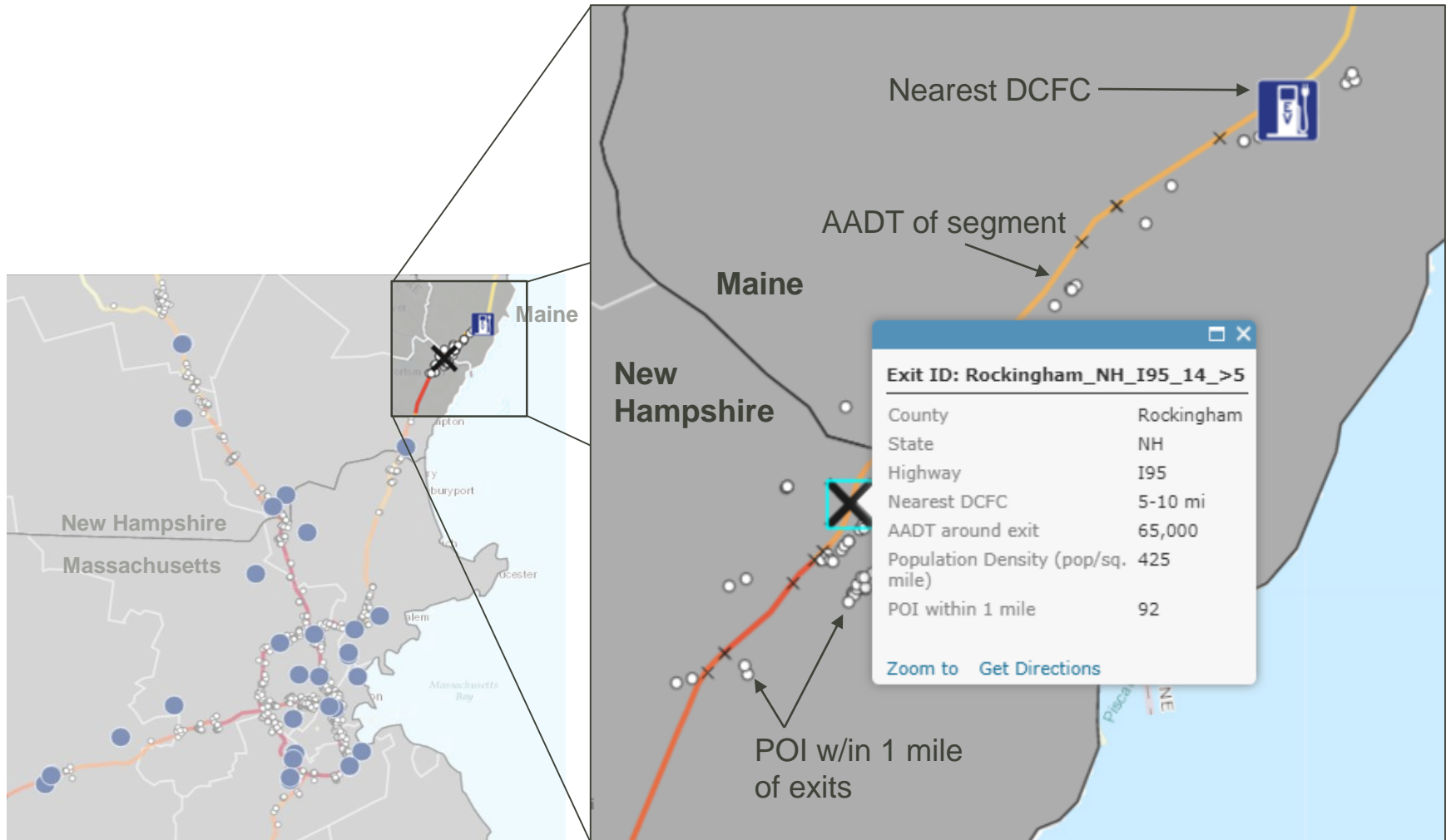
Number of Ports

- 8-10
- 6
- 4
- 2
- 1

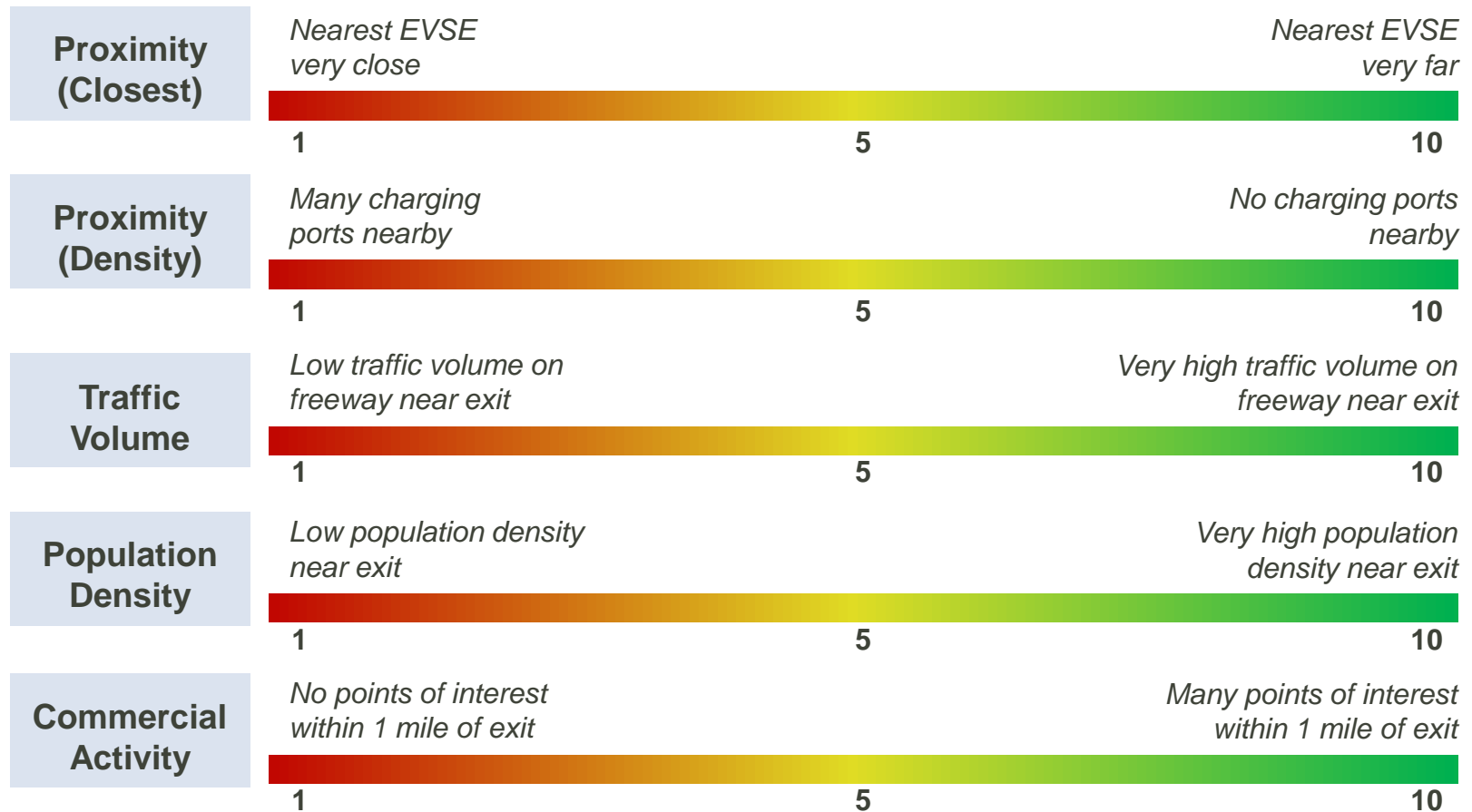
Corridor Analysis: Traffic Volume and Highway Exits



Corridor Analysis: Commercial Activity Near Exits



Overview of Proposed Ranking Methodology



“Weighting” Metrics for Exit Assessment

			METRIC WEIGHTING (must sum to 100)					SAMPLE EXIT FINAL SCORE	
	Method. Name	Target Goal(s)	Proximity		Traffic Volume	Pop. Density	Points of Interest	Group: TCI Region	Group: NH Exits
			Distance	Density					
1	Even	Reflect even weighting of available metrics	12.5	12.5	25	25	25	68	86
2	Gaps	Emphasize those areas that could be used to fill “gaps” in existing network	27.5	27.5	15	15	15	74	85
3	High Traffic Gaps	Emphasize gap areas with high through traffic	20	20	40	10	10	67	83
4	Through Traffic	Focus on use by “through traffic” rather than the local population	15	15	30	10	30	74	87
5	Travelers Stopping By	Target likelihood of travelers in area at local businesses	10	10	30	20	30	69	86
6	Residents Stopping By	Target likelihood of local residents at local businesses	10	10	20	30	30	68	86

Planned Next Steps

Corridor Analysis Deliverables:

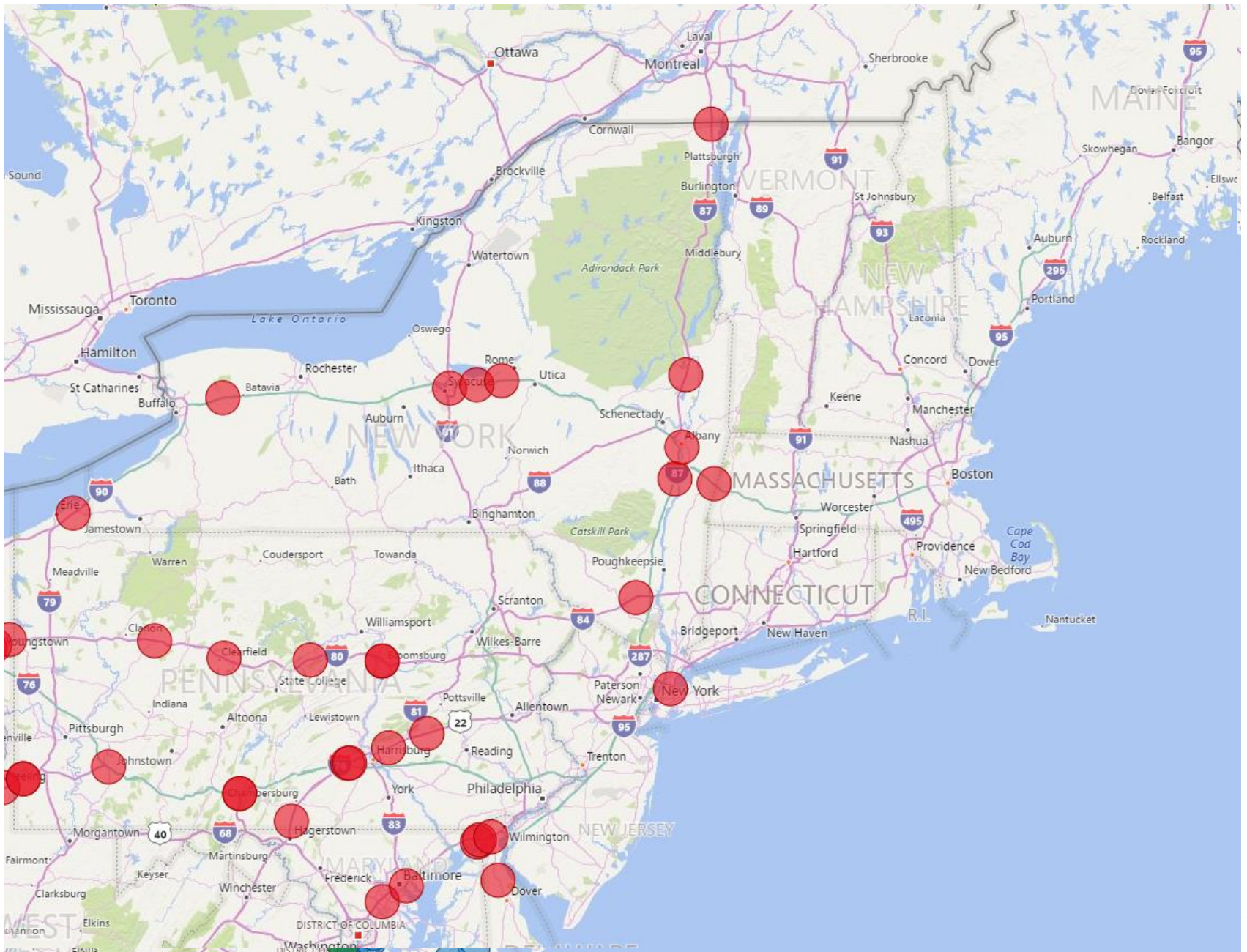
- Highway exit assessment tool (provided to states)
- ArcGIS map of corridors (publicly available)

Opportunities for Stakeholder Engagement:

- Potential 'virtual meetings' to share analysis
- Discuss Northeast EV Network build out with interested stakeholders

Opportunities for Coordination

- State, regional, and metropolitan transportation planning
- U.S. Dep't of Energy Clean Cities coordinators
- Electric utilities
- Truck stop electrification co-location



For inquiries, please contact

Matthew Goetz

202-661-6674

goetz@georgetown.edu