



# Bundling Small-Scale Projects: P3 Opportunities and Challenges

WEBINAR SERIES: INNOVATION IN PRACTICE

WEBINAR 7

December 6, 2017



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# Webinar Overview

- **Building Capacity for P3 Success**
- **Michigan DOT - Freeway lighting**
- **Pennsylvania DOT - CNG fueling stations**
- **Washington State DOT - EV charging stations**
- **Common Themes**
- **Questions Submitted by Webinar Participants**

# Building Capacity for P3 Success

Anthony Buckley

DIRECTOR, INNOVATIVE PARTNERSHIPS OFFICE  
Washington DOT

# Why Consider P3s?

- Maximize the value and use of transportation-owned or managed properties (whether developed or undeveloped);
- Advance important public policies, such as mitigation of existing environmental impacts;
- Leverage current government investments and funding with outside sources of capital or facility improvements, resulting in more value earned for the public;
- Offer opportunities for technological advancements;
- Generate new sources of revenue for transportation projects; and
- Seek to realign the traditional contracting roles and project risks in ways that can reduce overall project cost

# Creating P3 Opportunities

- **Transportation partnerships can take many forms:**
  - new project contracting methods that realign project risks, incentives, and rewards;
  - alternative financing methods that provide additional funding for infrastructure projects; and
  - use of public resources (state lands, exclusive rights-of-way, technology, etc.) in new or innovative ways to advance public priorities
- **Strategies exist to create innovative partnerships without large revenue generating assets like toll roads.**



Kingsgate Park and Ride



Colman Dock (Seattle) Ferry Terminal

# Freeway Lighting

Gregory Losch

INNOVATIVE CONTRACTING MANAGER  
Michigan DOT

# Freeway Lighting P3

- **Project Company will Design, Build, Finance, Operate & Maintain**
- **14,870 freeway lights - all freeway lights within limited access Right of Way**
- **15 year term**
- **Energy Savings Payment**
  - Project Company will be incentivized to provide energy efficient equipment
- **Lane Rentals are included in the Contract**
- **Non-Compliance points assessed if not in compliance with Contract**
  - Example – 10 days to correct a non-operating light
  - Example – 7 days to correct a group of non-operating lights
  - First point is \$450 per occurrence
  - If not remedied, increased to \$1,000

# Cost and Payment Structure

- **Lights operating between 70-80% (current scenario)**

- Expected costs = \$140M

Based on average costs expended over the last 8 years

- **Lights operating at 100%, using High Pressure Sodium lights**

- Estimated costs = \$183M

- **Payment Structure**

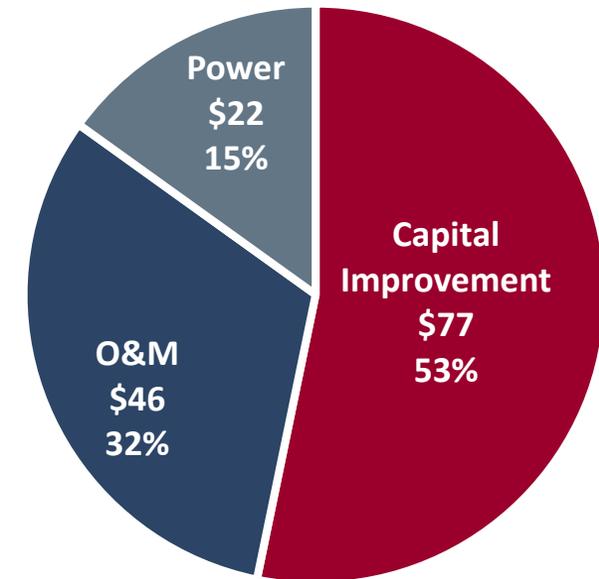
- Milestone 1 - \$6,000,000, paid once lights are operating at 90%
- Milestone 2 - \$6,000,000, paid upon Substantial Completion – 100% operational
- After Substantial Completion – Operate & Maintain

Quarterly Service Payments (est =\$2.1 w/o power)

- Plan to use a mix of Federal and State funds

Total Cost of P3 contract = \$145M (includes energy)

Total Cost of P3 contract = \$145M  
(includes energy)



# Why a P3?

- **Significant upfront capital costs required to improve the existing system**
- **Energy costs can be significantly reduced if re-lamped to something more efficient**
  - Estimated \$21M in Construction Costs to convert lamps to LED
  - Use of energy savings can help reduce the overall payment
- **Allows shift of MDOT staff functions to focus on other electrical infrastructure**
- **Shift the Risk**
  - New technologies are always being developed
  - Allows use of emerging tech more quickly
  - Shifts risk of failure onto the project company
  - Allows the possibility of energy savings to offset some of the contract cost
- **Theft Prevention and Liability**
  - Project Company – first \$150,000
  - 50/50 share up to \$250,000
  - Department – any costs over \$250,000
- **Damage to Infrastructure**
  - Vehicle damage – Department responsible for costs associated with damage caused by errant vehicles
  - Department will then pursue reclamation from insurance company

# Developing the Project Scope

- Initial screening assessed potential that private partner could provide value, market interest, financial feasibility, project scope, and risk allocation
- Request for Letters of Interest (August 2013) included three alternatives: statewide, regional and specific tunnel projects. Market feedback (12 responses) informed development of RFQ
- Request for Qualifications issued in March 2014. MDOT shortlisted four of the nine teams that responded.
- MDOT conducted site visits and one-on-one meetings with shortlisted teams to inform development of RFP
- Request For Proposals (March 2015 RFP).
- Announcement of Preferred Proposer (May 2015)
- Commercial and Financial Close (August 2015)

# Project Status and Lessons Learned

- **Project reached substantial completion in August 2017**
- **Document and version control**
- **RFQ should...**
  - Be developed with input from the full DOT team
  - Include as much information as is readily available
  - Provide detail on the planned structure of the P3 agreement as well as the expected closing process
- **Risk workshops and updates to the financial model and engineering estimates should be done often and reflect the current risk profile of the contract**
- **Updated term sheets should be readily available to inform management when asked**

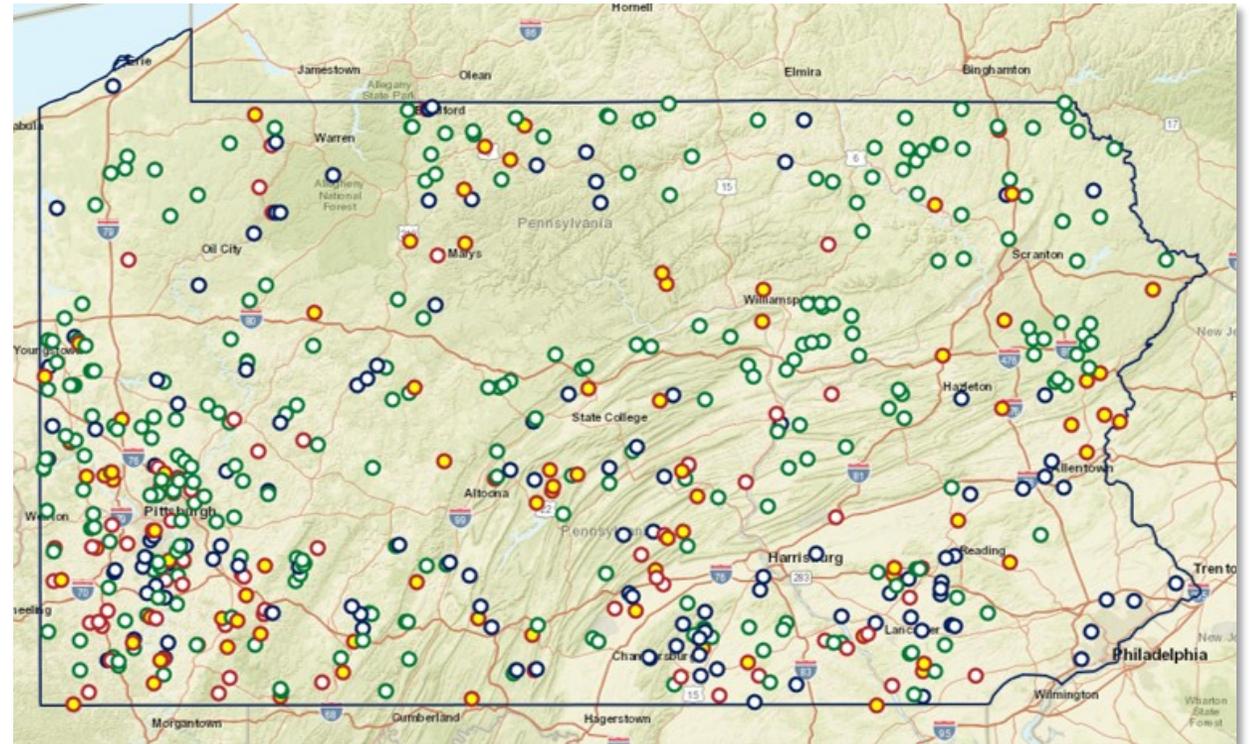
# Compressed Natural Gas (CNG) Fueling Stations

Joe Gurinko, AICP

DEPUTY DIRECTOR  
Public-Private Transportation Partnerships Office  
Pennsylvania DOT

# Pennsylvania P3s

- Pennsylvania's General Assembly passed P3 enabling legislation in 2012
- Pennsylvania Rapid Bridge Replacement Project



- Candidates for Pennsylvania's second P3...
  - Statewide
  - Benefits to urban and rural communities

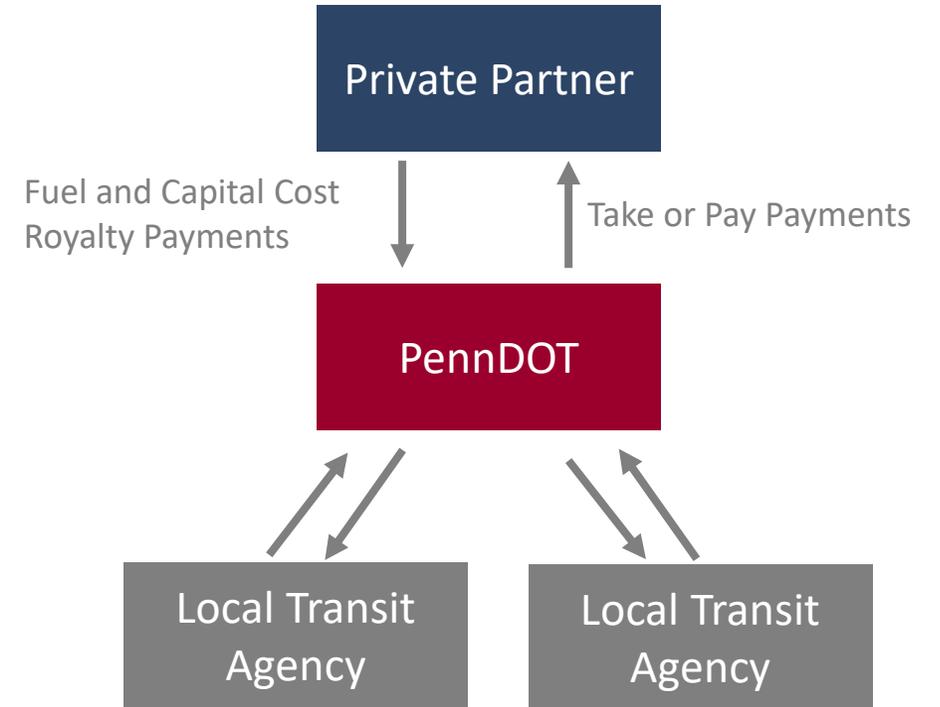
# Why a P3?

- **CNG fueling for transit agencies offered opportunities to...**
  - Capitalize on the abundance of natural gas in Pennsylvania
  - Reduce transit agency expenditures on fuel
  - Fuel savings results in enhanced service
  - Reduce long-term operating costs
  - Reduce emissions
  - Establish a new long-term revenue source to support capital improvement projects
- **Bundled P3 procurement allowed for...**
  - Faster delivery than traditional procurements for each site
  - Estimated capital cost savings of more than \$46 million
  - Risk transfer
  - Utilizing CNG industry expertise in management and operations

# Private Role and Responsibilities

- **Private partner**

- Will design, build, finance, operate and maintain CNG fueling stations through a 20-year, \$84.5 million public-private partnership agreement with PennDOT
- Build stations over the next five years
- Make CNG-related upgrades to existing transit maintenance facilities
- Obtain necessary permits and approvals
- Assume design/ construction and O&M/ performance risk of stations
- Gain rights (not exclusive) to sell CNG to third parties & retain revenues subject to royalty arrangement



# Public Roles and Responsibilities

- **Transit agencies**

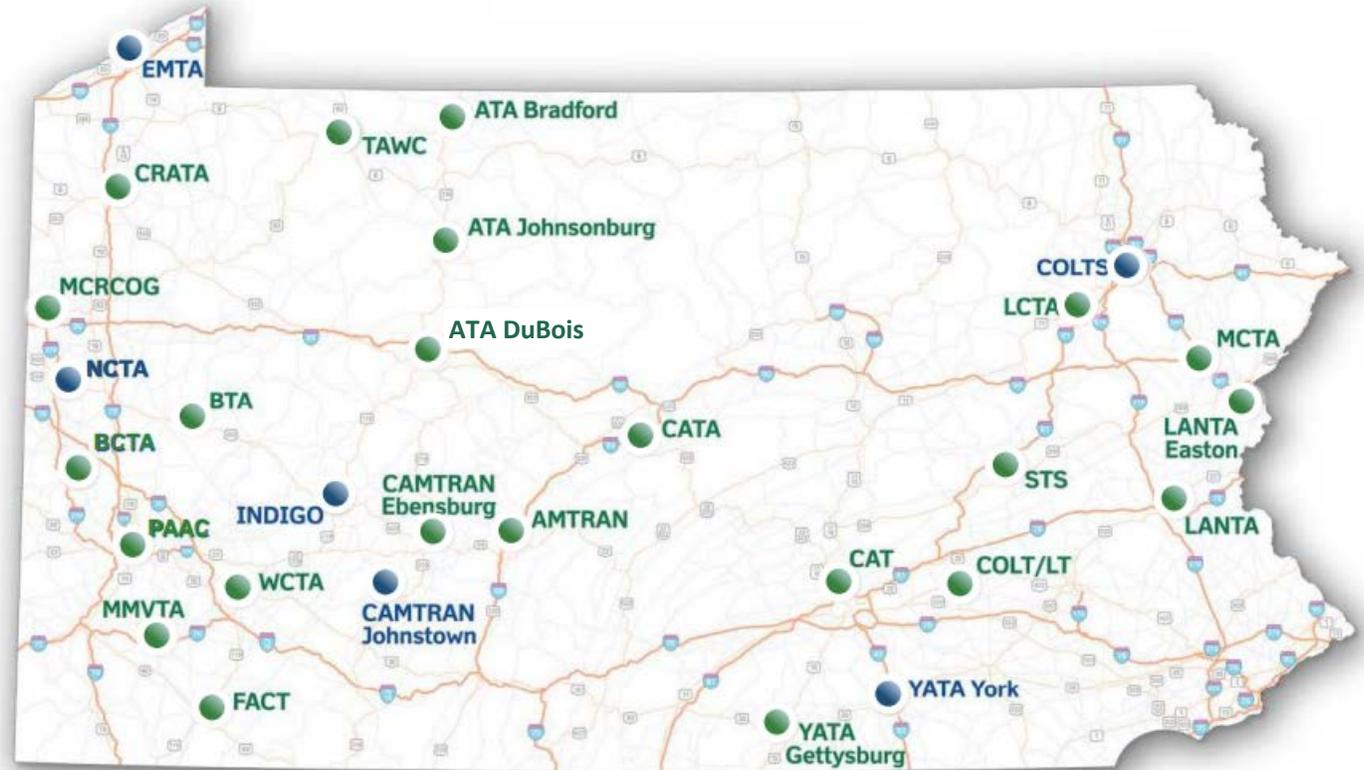
- Commit to established conversion schedule
- Are forecast to save a total of more than \$10 million annually

- **PennDOT**

- Transit agencies fuel savings will allow PennDOT to save on subsidy costs to those agencies. After 10 years, the PennDOT estimates that the project will pay for itself with the estimated \$100 million in savings.
- PennDOT will receive a 15 percent royalty, excluding taxes, for each gallon of fuel sold to the public, the private partner has guaranteed at least \$2 million over the term of the agreement, which will be used to support the cost of the project.

# Geographic and Environmental Impact

- **When the project is complete...**
  - CNG fueling stations will supply gas to more than 1,600 CNG buses at participating transit agencies.
  - Vehicles' engine life will be enhanced due to cleaner combustion versus conventional vehicles.
  - 20 million pounds of carbon dioxide emissions will be eliminated each year.
  - Market demand will be expanded as individuals and small-fleet owners will have access to CNG.



CNG Fueling Stations: ● Public & Transit Fueling ● Transit Fueling

# Developing the Procurement

- **Transit agencies must be fixed route operators**
- **New vehicles provided by PennDOT**
- **All CNG equipment paid for by PennDOT**
- **O&M done by the development entity**
  
- **P3 Proposals evaluated based on...**
  - Highest royalty/ revenue sharing
  - Lowest capital costs for stations and facility improvements
  - Prior experience with transit agencies

# Project Status

Agency	Abbreviation	Year	CNG Fueling Infrastructure	Maintenance / Storage Facility Modifications
Cambria County Transportation Authority Johnstown Facility *	CAMTRAN	2017	Completed	Completed
Central Pennsylvania Transportation Authority York Facility *	CPTA	2017	Completed	N/A
Mid Mon Valley Transportation Authority	MMVTA	2017	Completed	Completed
Westmoreland County Transportation Authority	WCTA	2017	Completed	Completed
Cambria County Transportation Authority Ebensburg Facility	CAMTRAN	2017	Completed	Completed
Centre Area Transportation Authority	CATA	2017	Completed	N/A
Beaver County Transportation Authority	BCTA	2017	Completed	Completed
New Castle Area Transportation Authority *	NCATA	2017		
Crawford Area Transportation Authority	CRATA	2017		
Lehigh and Northampton Transportation Authority Allentown Facility	LANTA	2018		
County of Lebanon Transportation Authority	COLT	2018		
Indiana County Transportation Authority *	INDIGO	2018		
Central Pennsylvania Transportation Authority Gettysburg Facility	CPTA	2018		
Butler Transportation Authority	BTA	2018		
Altoona Metro Transit	AMTRAN	2018		
County of Lackawanna Transportation System *	COLTS	2018		
Erie Metropolitan Transportation Authority *	EMTA	2018		
Monroe County Transportation Authority	MCTA	2019		
Area Transportation Authority of North Central PA Bradford Facility	ATA	2019		
Area Transportation Authority of North Central PA Johnsonburg Facility	ATA	2019		
Mercer County Regional Council of Governments	MCRCOG	2019		
Fayette Area Coordinated Transportation System	FACT	2019		
Area Transportation Authority of North Central PA DuBois Facility	ATA	2020		
Transit Authority of Warren County	TAWC	2021		
Lehigh and Northampton Transportation Authority Easton Facility	LANTA	2021		
Luzerne County Transportation Authority	LCTA	2021		
Schuylkill Transportation System	STS	2021		
Capital Area Transit	CAT	2021		
Port Authority of Allegheny County	PAAC	2021		

# Electric Vehicle (EV) Charging Stations

Tonia Buell

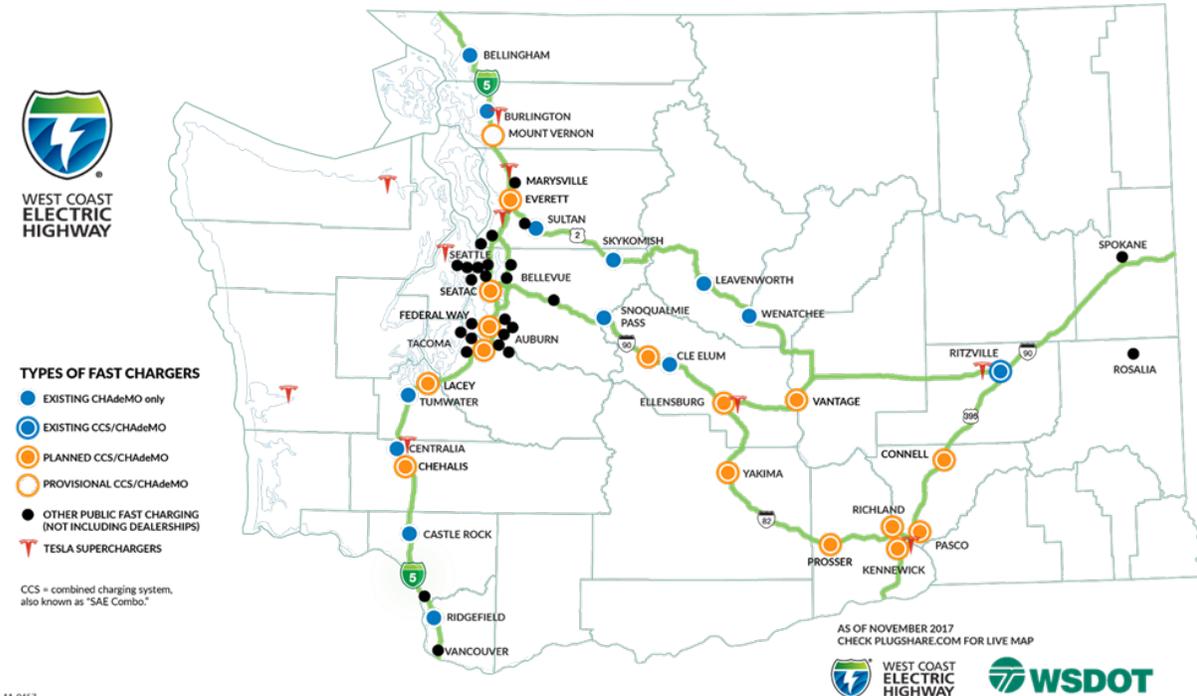
PROJECT DEVELOPMENT MANAGER, INNOVATIVE PARTNERSHIPS  
Washington State DOT



# Why a P3?

- State goal of having 50,000 plug-in electric vehicles on the roads by 2020.
- Joint Transportation Committee Study on EV Charging Business Models found need to strengthen and expand the state highway DC fast charging network, fill infrastructure gaps, and encourage private investment through government intervention in the short-term.
  - Difficult to make EV charging investment attractive to business owner-operators (5-year payback) with private sector partners alone
  - Public sector interventions are needed
  - If EV market develops, government role could be scaled down to virtually nothing in 5 years
- Limited funding available from EV registration fee, WSDOT needed to build a program that will maximize the state's investment by leveraging private investment.
- Partnerships increase private investment by capturing the value of:
  - Direct Revenue to owner/operator: user fees, onsite advertising, and
  - Indirect Value to private partner: increased EV sales, increased retail sales, sales for site host, increased tourism.

Existing and Planned DC Fast Charging Locations



# Potential Partners



- Lead applicants (e.g. cities, counties, tribes, and transit agencies) proposed in coordination with private sector partners
- Project had to demonstrate value to EV drivers and expected sustainability for the owner-operator and profitability for the private sector partner

## Applicants & Public Partners

- Public Utility Districts
- Regional planning organizations
- Counties, Cities, Ports
- Transit systems
- Tribes
- Plug In America, EV Associations
- Clean Air Districts
- Clean Technology and Energy Orgs
- Western Washington Clean Cities
- Environmental Advocacy Groups
- State and federal agencies—Ecology, Commerce, Enterprise Services
- National Parks
- Convention and Visitors' centers
- Economic Development Associations
- Tourism boards
- Universities

## Private Partners

- Businesses that stand to gain indirect value from development of the project
- Investor-owned utilities—Avista, Puget Sound Energy (PSE), PacifiCorp
- Automakers and dealers
- EV charging equipment manufacturers and service providers
- Co-location with Tesla Superchargers
- Mitigation settlement investments, power plants
- Retail chains, fueling stations, shopping centers, outlet stores, restaurants, casinos, wineries, resorts, hotels, tourist destinations.
- Commercial real estate owners
- Employment centers, worksites
- Business with EV fleets or shuttles.
- Transportation network companies (TNC's)

# Developing the Procurement

- **Gathered stakeholder feedback: car dealers and manufacturers; citizens; elected officials; EV drivers & associations; EV charging equipment providers; cities, counties, transit agencies, and tribes; utilities; and universities.**
- **Identified priority corridors (I-5, I-82, I-90, I-182, U.S. 2, U.S. 101, and US 395) but allow bidders to propose other corridors.**
- **Private partner required to contribute to project**
- **Developed rules and requirements**
  - Create corridors (rather than single locations)
  - Equipment to serve maximum number of vehicle types (Provides CHAdeMO and CCS 50kW DCFC and L2 EVSE)
  - Equipment adaptable to future technological development
- **Developed application and evaluation criteria**
  - Strong focus on leveraging state funds

# Project Status

- **Electric Vehicle Infrastructure Pilot Program (EVIPP) projects selected in May**
- **Awarded \$1m in state funds in June to leverage an additional \$1.5m match (\$2.5m in total value)**
  - Energy Northwest on behalf of the Electric Vehicle Infrastructure Transportation Alliance (EVITA), in collaboration with Greenlots, EV4, public utilities, cities, economic development organizations, and businesses, is installing fast charging to fill charging gaps along 3 highways in 9 communities in Eastern Washington.
  - Forth Mobility, in collaboration with EVgo, SemaConnect, ABB, utilities, businesses, retailers, and tourist organizations, to bolster fast charging infrastructure by providing charging stations in 6 to 7 communities along I-5.
- **Doubles the number of fast charging stations**
- **Triples the miles of roadway accessible for EV drivers**
- **Coordinating with EV charging investments (Electrify America, VW Mitigation Settlement, Utility and Private)**
- **Projects to be completed by June 30, 2019**



# Evaluation of Pilot and Plans for Future Procurements

## Successful Pilot:

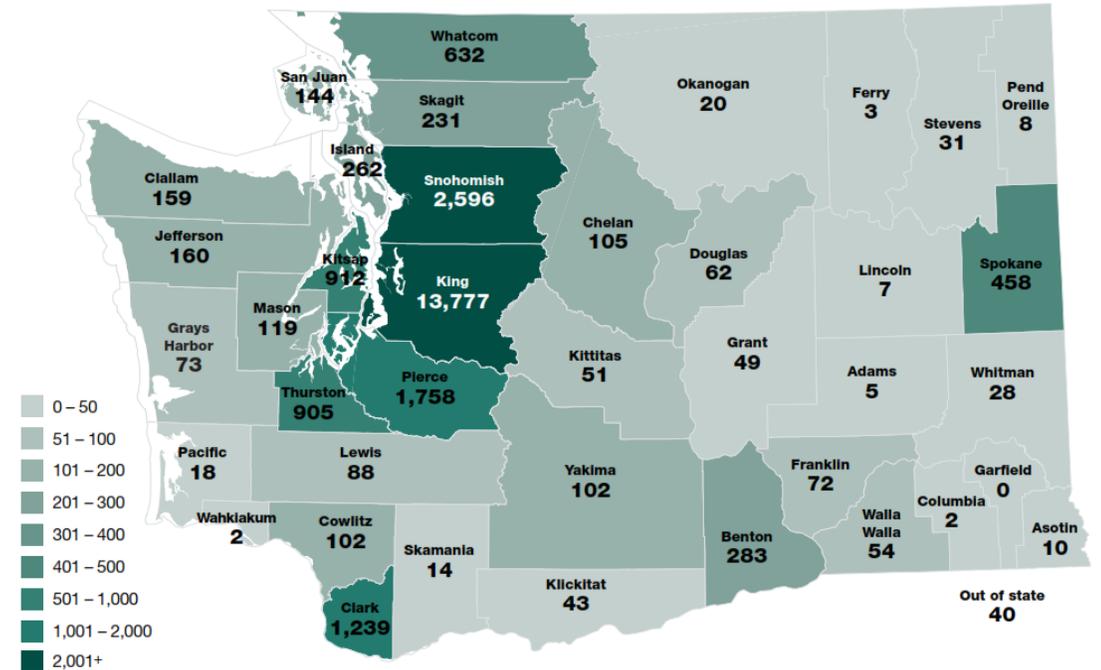
- Connecting Communities and Enabling Long Distance Travel
- Providing convenient, reliable, accessible public charging
- Increasing number of plug in electric vehicles registered in Washington
- Continued investment of EV registration fees for charging

## Future Investments in Interstate Charging

- More Investment Needed (\$100 Million In WA)
- Prepare for Extreme Fast Charging (XFC)
- More Charging Plazas
- Farther DCFC Spacing on Corridors (70 miles)
- Faster DCFC Charge Time (20 minutes or less)
- Higher DCFC Power Levels (120 kW to 400 kW)
- Higher electricity demand charges

## 24,624 Plug In Electric Vehicles Registered in Washington

As of June 30, 2017



17-09-0350

Map includes Electric Vehicles (EVs) produced by major automakers since about 2011. It does not include cars that were converted to EVs by their owners, neighborhood EVs or EV models from the 1990's that are still registered in Washington, or motorcycles. WSDOT created this map based on data provided by the Washington State Department of Licensing.

# Common Themes

Anthony Buckley

DIRECTOR  
Innovative Partnerships Office, Washington State DOT

# Common Themes

- The public policy objectives and the rationale for private sector involvement in these programs are clearly stated and easily understood.
- The financial focus is on enhancing the potential impact of available public funding, not necessarily minimizing public investment or maximizing private financing.
- The public sponsor has extensive interaction with potential private partners and project stakeholders before finalizing the project scope and risk allocation provisions in the request for proposals.
- Contracts for operating and/or maintaining the bundled assets can be relatively short-term (15 to 20 years versus 40 to 50 years for major highway projects) with explicit risk transfer provisions and performance requirements.
- Initial pilot programs can be duplicated or scaled and the lessons learned can be applied to other assets.

# Questions and Answers

Jennifer Brickett

DIRECTOR

BATIC Institute: An AASHTO Center for Excellence

# Discussion



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**Joe Gurinko**  
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**Tonia Buell**  
Project Development Manager,  
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Washington State DOT

Please submit any questions to our panel using the Q&A box in the bottom left corner of your screen

# Wrap-Up

- The BATIC Institute will post responses to all questions received today on its website
- The recorded webinar will also be available on the BATIC Institute website:

[www.financingtransportation.org](http://www.financingtransportation.org)

## UPCOMING BATIC INSTITUTE OFFERINGS

### **Roundtable on Funding & Financing Short Line Rail Projects**

February 20, 2018

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April 2018

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Spring 2018

Thank you for attending today's webinar