Making the Business Case for Smart, Shared, and Sustainable Mobility Services

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City of Seattle

Overview

Timeline

Start Date: October 1, 2017

End Date: September 30, 2020

% Complete: 20%*

*Estimate as of April, 2019

Barriers

Lack of data informing shared vehicle electrification efforts

Lack of understanding of electric vehicle (EV) technology and benefits

Lack of Electric Vehicle Supply Equipment (EVSE) to support fuel switching

Budget

Federal Funding: $1,982,068

Cost Share: $6,214,309

Funding Received in Fiscal Year (FY) 2018: $0

Funding for FY 2019: $1,726,072

Partners

Project lead: City of Seattle

Subrecipients:

- Atlas Public Policy
- City and County of Denver
- City of New York
- Forth Mobility

Additional Partners Include:

EVgo, Maven, Uber, Clean Cities Coalitions, Portland General Electric, and more

Objectives

1. **Accelerate the adoption of EVs** in shared mobility applications in four major U.S. markets.
2. **Deploy and test tools** to overcome barriers to EV adoption by shared mobility entities.
3. **Create a playbook of best practices** that can be used across the country.

This will result in:

- The development of novel operational evidence supporting EV business models in shared mobility services
- The demonstration of the use-case for EVs in shared mobility and production of valuable data that will inform existing and future shared mobility applications
- The integration of shared EVs and supportive charging technology in our target markets
- The avoidance of gasoline fuel combusted by shared mobility vehicles that electrify as a result of this project

*Any proposed future work is subject to change based on funding levels.

VTO Technology Integration Goals Addressed:

National Security: Increases alternative fuel use

Affordability for Business and Consumers: Communicates cost savings available to EV drivers

Reliability/Resiliency: Enhances transportation options and leverages investment in EVSE

Project Approach

By piloting a series of programs in several widely varied urban environments, the project will develop, test, and prove market-viable techniques for EV adoption in shared mobility applications.

Atlas Public Policy is the Project Management Oversight Consultant.

City of Seattle

Seattle, Washington

Strategy: Increase EV charging access and awareness at or near Shared Mobility Hubs

Key Partners: Seattle City Light (municipal utility), Western Washington Clean Cities Coalition

City of New York

New York, New York

Strategy: Provide EVs and supporting charging infrastructure to ride-hailing vehicle fleets

Key Partners: EVgo, Maven, NYC Taxi & Limousine Commission, Empire Clean Cities Coalition

City and County of Denver

Denver, Colorado

Strategy: Provide EVs directly to ride-hailing drivers and supply charging infrastructure

Key Partners: Maven, EVgo, American Lung Association in Colorado

Forth

Portland, Oregon

Strategy: Promote EV use to transportation network company (TNC) drivers coupled with access to free, unlimited charging.

Key Partners: Uber, Brink, Portland General Electric

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Milestones

Task #	Description	Milestones
0	Project Management	N/A
1	EV Shared Mobility Playbook	# 1.04- Literature review and resource library published ✓ # 1.05- Publish case studies ✓ # 1.07- Draft Strategic Deployment Plan ✓ # 1.08 EV Shared Mobility Analysis Tool (September 2019, draft currently) # 1.09- Publish analysis report (September 2020)
	Go/No-Go, (October 1, 2018)	80% of Phase 1 deployment sites identified ✓
2	Initial Charging Station Deployment Phase 1	# 2.06- Initial EV infrastructure installed (September 2019)
3	Launch Operations for Initial EV Deployment	# 3.01- Initial EVs in service (September 2019)
4	Reserved	N/A
	Go/No-Go, (August 1, 2019)	80% of Phase 1 deployment sites identified
5	Infrastructure Deployment Phase 2	#5.06- Charging infrastructure at additional sites to support expansion installed (December 1, 2019)
6	EV Deployment Phase 2	# 6.01- Second tranche of EVs placed into service (December 1, 2019)
7	Project Evaluation Phase 2	N/A
8	Infrastructure Deployment Phase 3	# 8.06- All charging infrastructure deployed (September 2020)
9	EV Deployment Phase 3	# 9.01- Third and final tranche of EVs deployed (August 2020)

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Key Tasks

1.07 Strategic Deployment Plan

- All subrecipients
- Includes a comparative analysis of each region's program and model operating policies and procedures
- Includes methodology and deployment targets for EVs and EVSE
- Will be updated throughout the project period
- Will serve as a resource and replicable blueprint, shining light on influential regional factors

2.06 EVSE Deployment Phase 1

- Seattle, NYC, Denver
- Seattle City Light & EVgo are EVSE providers
- Identify EVSE locations in accordance with each region's sub-project requirements
- Work with site hosts, permitting agencies, electrical utilities, property owners, etc. (if applicable) to design and install EVSE
- Collect and analyze data from station operations

3.01 EV Deployment Phase 1

- Denver, NYC
- Maven is EV provider
- Introduce EVs into fleet operations
- Vehicles will have access to dedicated EV charging
- Align with coordinated outreach and marketing program to encourage use
- Develop data sharing agreement

3.02 Outreach and Marketing

- Seattle, NYC, Denver, Forth
- Conducted in partnership with local clean cities coalitions and shared mobility providers, as feasible
- Coordinated outreach and marketing programs encourage use of EVs by shared mobility drivers and users
- Driver-based education and outreach campaign encourages drivers to share knowledge about EVs and charging

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Project Accomplishments (1/4)

Task 1: EV Shared Mobility Playbook

- Published EV Shared Mobility Literature Review and State of Play
- Published case studies:
  - Electrifying Carshare Services
  - Electrifying Ride-hail Services
- Engaged with external stakeholder through multiple channels:
  - 2 project webinars,
  - 11 additional presentations,
  - Project mailing list, and
  - Ongoing meetings with partners and service providers

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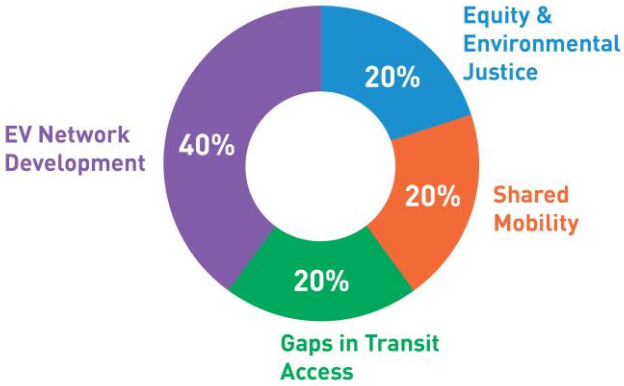
Project Accomplishments (2/4)

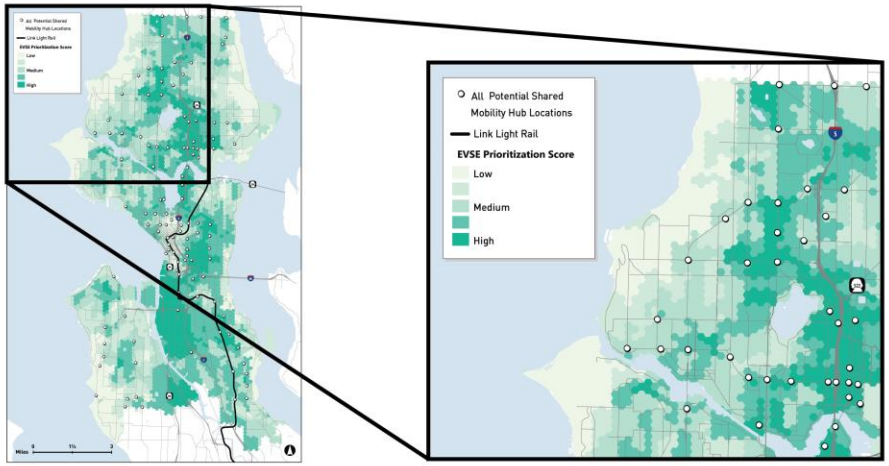
Task 2.01: EVSE Roadmap Strategy (Seattle only)

- Involved Seattle area partners, led by Seattle DOT
- Identified priority areas for EVSE deployment based on policy guidance, research, stakeholder feedback, and Dynamic EVSE Prioritization Model
- Dynamic EVSE Prioritization Model is based on 11 metrics across 4 priority areas and is designed to be easily replicated
- Provided implementation guidance on site selection, equity considerations, and community outreach
- EVSE Roadmap Strategy will be updated throughout the project period

Weighted Metrics by Priority Area:



Dynamic EVSE Prioritization Model Results:



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Project Accomplishments (3/4)

Task 2: EVSE Deployment Phase 1

- Two Direct Current (DC) Fast Charging stations installed in Seattle near Beacon Hill Light Rail Station
- Operational since January 2018 under Seattle DOT's Electric Vehicle Charging in the Right-of-way permit pilot
- 18% growth in station usage over 2018
- Some frequent users charged over 20 times per month

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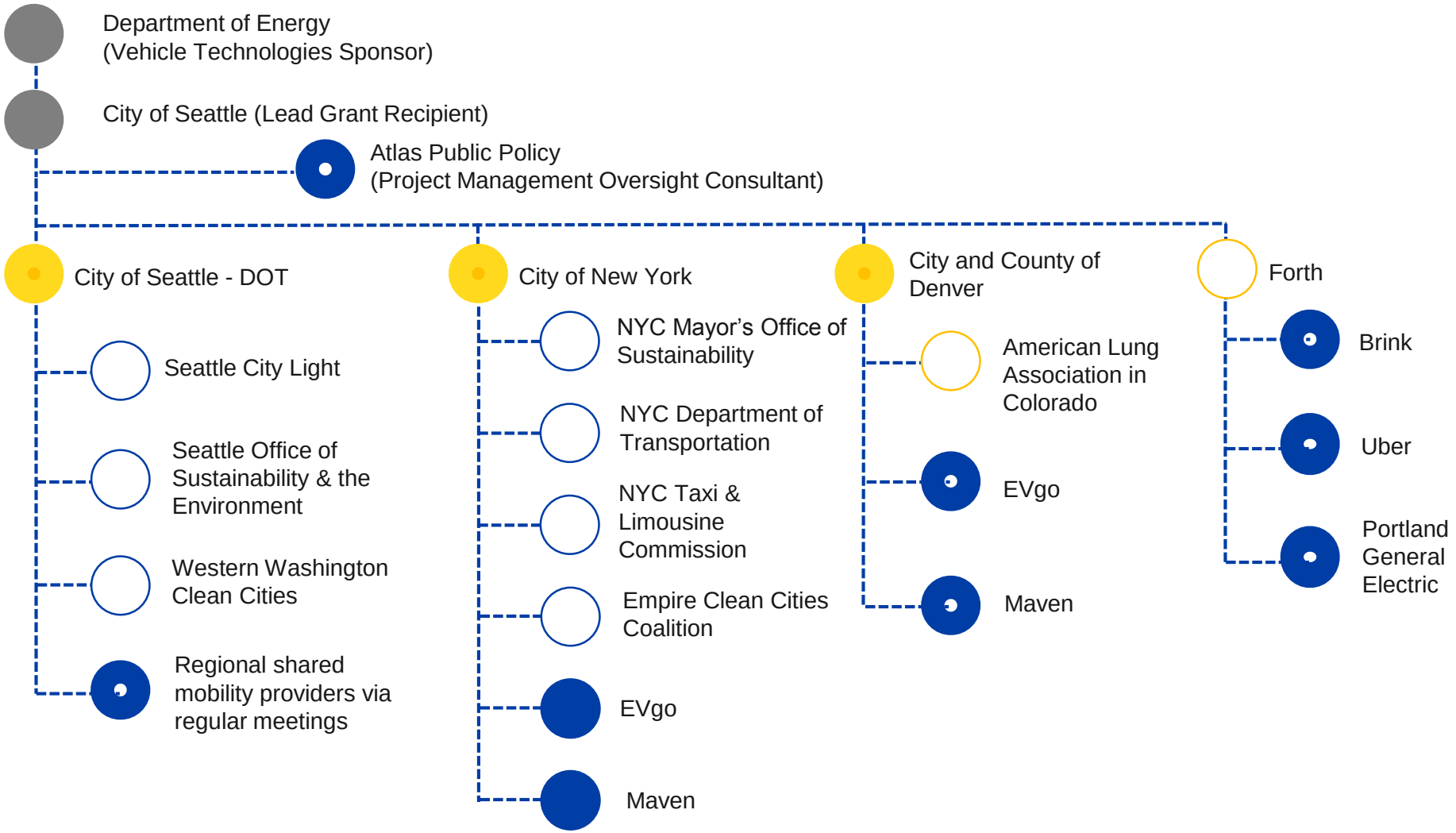
Project Accomplishments (4/4)

Task 3.02: Conduct outreach and marketing

- Seattle's Office of Sustainability & Environment kicked-off regular meetings with local shared mobility service providers
- Portland launched its "Driver Goals" awareness campaign including:
  - A landing page, campaign video, GIFs for social media, wall posters, and rack cards
  - An EV 101 and ride & drive event with shared mobility drivers
  - Tabling at locations frequented by locals drivers

What are your #DriverGoals?

Collaboration & Coordination



Overall Impact

Impact to date:

- Heightened urgency and forged partnerships to increase EVs in shared mobility applications in four U.S. metro regions
- Developed and launched marketing campaign, including digital and print media
- Published and communicated a variety of resources including case studies, a literature review, and the EVSE Roadmap for Shared Mobility Hubs
- Installed 2 DC Fast Chargers

Cumulative project impact:

- The development of novel operational evidence supporting EV business models in shared mobility services
- The demonstration of the use-case for EVs in shared mobility and the production of valuable data that will inform existing and future shared mobility applications
- The integration of shared EVs and supportive charging technology in our target markets
- The avoidance of gasoline fuel combusted by shared mobility vehicles that electrify as a result of this project

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Summary

Objectives

1. Accelerate the adoption of EVs in shared mobility applications in four major U.S. markets
2. Deploy and test tools to overcome barriers to EV adoption by shared mobility entities
3. Create a playbook of best practices that can be used across the country

Approach

- Pilot a series of programs in several widely varied urban environments
- Deploy EVs and supportive EV charging infrastructure
- Develop, test, and prove market-viable techniques for EV adoption in shared mobility applications
- Collect data and lessons learned to project's playbook of best practices

Accomplishments

- Published literature review and case studies
- Developed draft strategic deployment plan
- Published EVSE Roadmap for Shared Mobility Hubs (Seattle only)
- First EVSE installed
- #Drivergoals campaign launched

Up Next

- Publish data dashboards (draft currently)
- Publish shared mobility analysis (draft currently)
- Deploy infrastructure and EVs
- Grow outreach and engagement efforts
- Evaluate and adjust implementation strategies

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