



ELECTRIFICATION PLAN

January 2019



SMART COLUMBUS ELECTRIFICATION PLAN (SCEP)

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APPENDICES

Appendix A: Quarterly Indicators & Metric Targets

Appendix B: Budget

Appendix C: Partner Cooperative Agreements (to be included after agreements signed)

The City of Columbus, in coordination with its grant partners, has updated the Smart Columbus Electrification Plan (SCEP) for the 2019 calendar year of the grant period.

INTRODUCTION

The City of Columbus pursued and won a grant from the Paul G. Allen Philanthropies (PGAPh) (the “Foundation”) with the goal of laying a practical path to replacing carbon-based fuel consumption and inspiring action across the region to protect and sustain the environment through decarbonization and electrification. With the cooperation of partners such as American Electric Power (AEP), The Ohio State University (OSU) and the Columbus Partnership, Columbus endeavors to use this grant as the catalyst to change the long-term trajectory of carbon emissions in the 7-county Columbus region¹ (Franklin, Delaware, Fairfield, Licking, Pickaway, Madison, Union) and demonstrate the rewards of using clean energy sources in lieu of fossil fuel based sources.

The City of Columbus, along with an extensive network of public and private partners, has aligned around this vision to reduce the region’s greenhouse gas (GHG) emissions through decarbonization of the electric supply and transportation sectors. The City was also awarded the \$40 million Smart City Challenge grant from the United States Department of Transportation (USDOT), which has the potential to greatly amplify the results from the Foundation grant and vice-versa.

This plan addresses how the City of Columbus will continue to manage the Foundation’s Smart City Challenge grant monies to achieve five primary priorities.

All parties recognize that new business models, technologies, and general opportunities that have not been brought to bear as of the beginning of the program could provide for significant changes, alterations, and improvements in the program. As long as improvements meet or generally exceed the key performance indicators and the five key objectives as set out in this plan, both parties agree to draft and execute addendums to recognize these opportunities formally as part of the scope.

¹ Any mention of Columbus includes the entire 7-county region

PROJECT GOAL

The overall goal of this project is to measurably decrease light-duty transportation greenhouse gas (GHG) emissions expressed in equivalent metric tons of carbon dioxide (MTeCO₂) as a result of grid decarbonization, Electric Vehicle (EV) fleet adoption, transit, autonomous and multi-modal systems (implemented via USDOT grant agreement) and consumer EV adoption during grant period compared to a baseline year (2016).

Priority 1 Objective: Decarbonization

In partnership with power providers, by 2030 install 905 MW of utility scale renewable energy generation capable of serving the Columbus region, procure a minimum of 1.2 million MWh of renewable energy for the City of Columbus between 2017 and 2022 and save 480 GWh consumed through energy efficiency and smart grid programs during the time period of the grant.

Priority 2 Objective: Fleet EV Adoption

Work with public, private and academic sectors to place in operation 755 electric vehicles into their fleets by the end of the grant period.

Priority 3 Objective: Transit, Autonomous and Multi-Modal Systems in the City

Ensure a comprehensive, multi-modal approach to decarbonizing the Columbus region's mobility options.

Priority 4 Objective: Consumer EV Adoption

Increase electric vehicle market adoption as evidenced by the percentage of light duty electric vehicle registrations in Columbus and the surrounding seven county region attaining 1.8% of all new and used light duty vehicle registrations by the end of the three year grant period, representing a 486% increase from 2015 baseline of 0.37%.

Priority 5 Objective: Charging Infrastructure

Support the acceleration of electric vehicle adoption through installation of charging infrastructure, with the goal of 925 new charging ports by the end of the grant period.

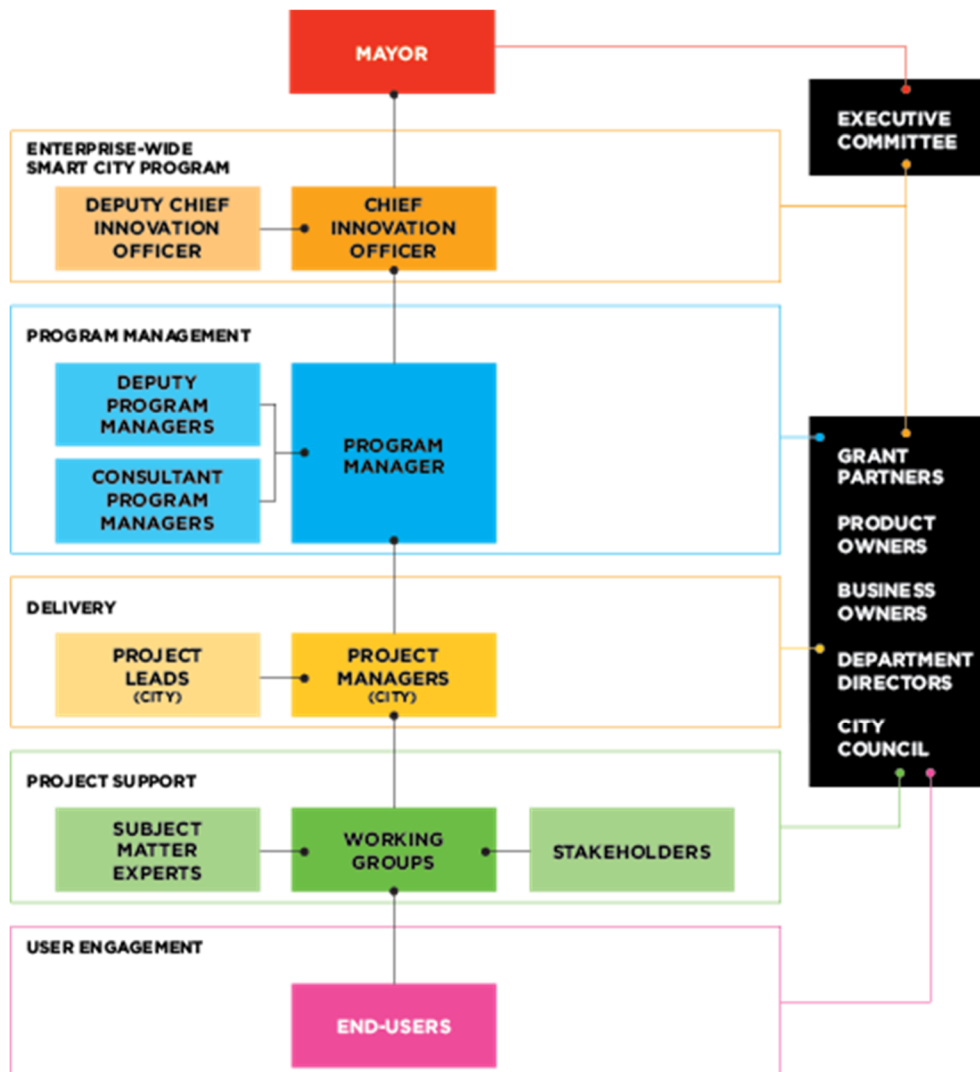
Data will continue to be tracked for each priority to learn, demonstrate successes and share best practices with the world.

A. SMART COLUMBUS ORGANIZATION

A.1 GOVERNANCE STRUCTURE

The Smart Columbus Governance structure is organized to help the City of Columbus gather input from experts and partners in an efficient and timely manner. Exhibit 1 illustrates the governance structure the City has put in place to engage stakeholders, assemble ideas and deliver the program.

Exhibit 1: Smart Columbus Governance Structure



The following describes the roles of the Executive Committee, Program Management Office and Working Groups in transforming Columbus into a smart city.

A.2 EXECUTIVE COMMITTEE

The Executive Committee is comprised of individuals who represent the largest and most invested partners for Smart Columbus. They are appointed by and serve at the pleasure of Mayor Andrew J. Ginther. Executive Committee members are expected to advise on strategic issues, leverage resources such as funding, knowledge and relationships for the advancement of Smart Columbus. The Executive Committee meets on a monthly basis to stay up-to-date on projects and follow-through on these expectations.

Executive Committee members shall not financially benefit from their position. If they have a financial interest in committee discussions, they must recuse themselves. Committee members are responsible for determining if they have a potential conflict with any committee business.

Alex Fischer and Greg Davies co-chair the Executive Committee and Mayor Ginther chairs the Leadership Committee. The Columbus Partnership maintains an up-to-date list of the Executive Committee members.

On behalf of the Executive Committee, The Columbus Partnership hired Deloitte to lead the creation of a long-term vision and platform for Smart Columbus. This long-term planning is critical to sustain the momentum and work inspired by the Smart Cities Challenge.

A.3 PROGRAM MANAGEMENT OFFICE

The Smart Columbus Program Management Office (PMO) will continue to work out of the Smart Columbus Experience Center, 170 Civic Center Drive, Columbus, OH 43215.

Exhibit 2 illustrates how the PMO is organized to deliver program success.

Exhibit 2: Smart Columbus Program Management Office Structure



As shown in Exhibit 2, the program-wide leadership team is comprised of:

- **CITY CHIEF INNOVATION OFFICER** – Responsible for promoting the Smart Columbus agenda and eventually ensuring that other innovations are prompted in other departments across city government. The Smart Columbus Program Office reports to the Chief Innovation Office.
- **DEPUTY CHIEF INNOVATION OFFICER** – Directly supports City Chief Innovation Officer's vision for innovation including enterprise-wide program management and citywide innovation solutions. Serves as acting City Chief Innovation Officer in City Chief Innovation Officer's absence. Responsible for strategic partnerships and relationships.
- **PROGRAM MANAGER** – Responsible for overall delivery of the program. This includes adding expertise to team as needed to ensure delivery.
- **DEPUTY PROGRAM MANAGER** – Responsible for program-wide project support, updating the Program Manager on project support activities, and alerting the team to critical issues proactively. Team lead for all information technology aspects of the program.

Each Smart Columbus grant has a dedicated City Project Manager (PM). Their roles include the following:

- **CITY USDOT PM** – Responsible for delivery of the USDOT program including deliverables, schedule and budget.
- **CITY FOUNDATION PM** – Responsible for delivery of the electrification program including deliverables, schedule and budget.

The Smart Columbus Program Office and the employees that are dedicated to this project are co-located at the Smart Columbus Experience Center alongside staff members from Smart Columbus partners such as The Columbus Partnership and AEP. This office space serves as the hub for this innovative program in the community.

- The following roles provide program-wide support and oversight needed to keep the program delivery on track:
 - **Fiscal/Procurement Officer** – Ensures cash flow and procurements are coordinated and in compliance with cooperative agreements and State and City laws and regulations.
 - **Master Scheduler** – Drives overall schedule of all program areas and resolves points of conflict between them.

- **Legal and Compliance Officer** – Evaluates policy, legal issues, liability and other risks and proactively addresses potential issues.
- **Project Controls Management** – Oversees document control and budget status for grants. Ensures file naming and structure are consistent.

The PMO also includes consultant team members to support the planning, design and delivery of the Smart Columbus Program. The consultant team comprises subject matter experts and design/delivery professionals with experience in the specific Smart Columbus Program elements that are being deployed.

A.4 SMART COLUMBUS ELECTRIFICATION PROJECT TEAM

The City's Smart Columbus Program Manager has the overall authority and responsibility for managing and executing this project. The project team under the leadership of the Foundation Project Manager consists of personnel from City of Columbus, the Columbus Partnership's EV Adoption Team, AEP Smart Columbus Liaison, Electrification Coalition, Clean Fuels Ohio, and additional consultant teams and vendors. The Foundation program consultant management and vendor costs/fees vary depending on the final negotiated scopes. Labor and cost details are available once contracts are negotiated.

The City's lead implementation partner for the project is the Columbus Partnership (Partnership). The Partnership has been charged with delivering the strategies and meeting the goals as outlined in this project for workplace charging, private fleet conversion, and consumer adoption activities. The Partnership is also an implementation partner on the Playbook and communications and marketing activities associated with the implementation of the Consumer Adoption priority. Detail about the relationship between the city and the Partnership in relation to the SCEP can be found in the Partnership Agreement (*see Appendix C*).

The Partnership has the authority to contract vendors and consultants to execute against their scope of work in accordance with the terms and conditions of the Paul G. Allen Foundation, Partnership Agreement with the City of Columbus and pre-approval of the City of Columbus. As a grant sub-recipient, the Partnership is reimbursed for expenses under the terms of a reimbursement agreement with the City of Columbus.

The Partnership employs at least nine full time people to support the entire Smart Columbus program under the leadership of their Vice President and Director of Smart Cities. Five of these Smart Columbus employees are paid for from the Acceleration Fund (funds raised by the Columbus Partnership) and support the overarching Smart Columbus program. The other four Smart Columbus employees are fully dedicated to the Electrification project and paid with

Foundation grant funds, two of which are employees of Electrification Coalition, but embedded on the Partnership team. These four Foundation funded positions are:

- **Manager, Smart Mobility Adoption – OEM & Dealer Relationship Lead** – Maintains relationships and serves as point of contact for designated company representatives for charging infrastructure installation and private fleet conversion. Cultivates partnerships, secures investment, and drives engagement by OEMs and Dealerships for Smart Columbus. Manages NGO contract.
- **Manager, Smart Mobility Adoption – Workplace Programs and Research Lead** – Supports Acceleration Partner companies to execute goals. Collects progress reports from companies and ensures timely and successful delivery of pledged partner commitments. Supports public education efforts related to EV adoption. Manages Research and Ride and Drive contracts.
- **Electric Vehicle Specialist** – Provides technical support and engagement for fleet electrification, workplace charging and consumer adoption. Also provides support to the Managers of Smart Mobility Adoption for other program areas involving electric vehicle adoption. The Specialist is further supported by others on the Electrification Coalition team.
- **Storyteller** – Responsible for developing a more robust cadence of multimedia content for the Playbook, including regular blog posts, videos, case studies, social media content, webinars and imagery. The Storyteller will also be responsible for the dissemination of the content. At least 80% of the Storyteller's time is focused on developing and disseminating Playbook insights. In 2019, the Storyteller will continue to create original content, publish program archives and collaborate with to help them create content about their experiences with Smart Columbus.

These positions function as a dedicated part of the Smart Columbus program, completely integrated into the reporting process and work group structure under the leadership of the Foundation Project Manager as outlined and illustrated in Exhibits 3 and 4.

Exhibit 3: Grant Initiative Implementation Responsibilities

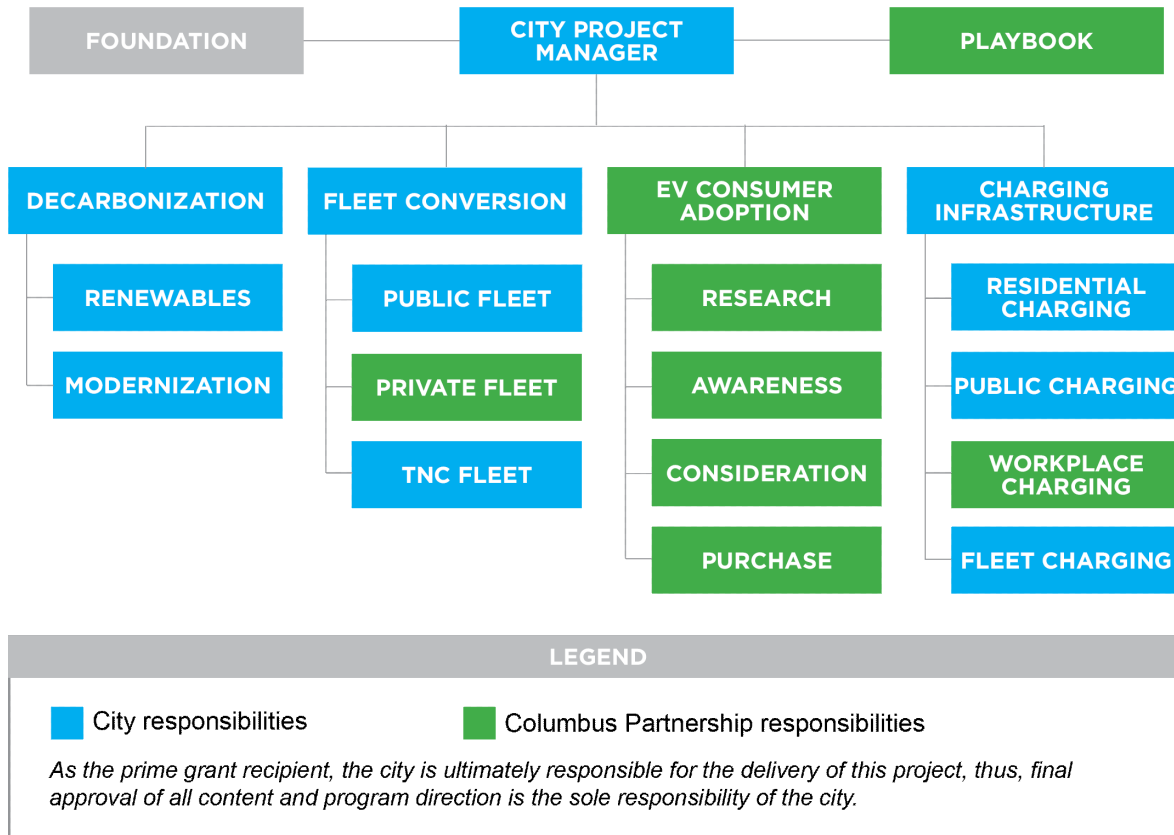
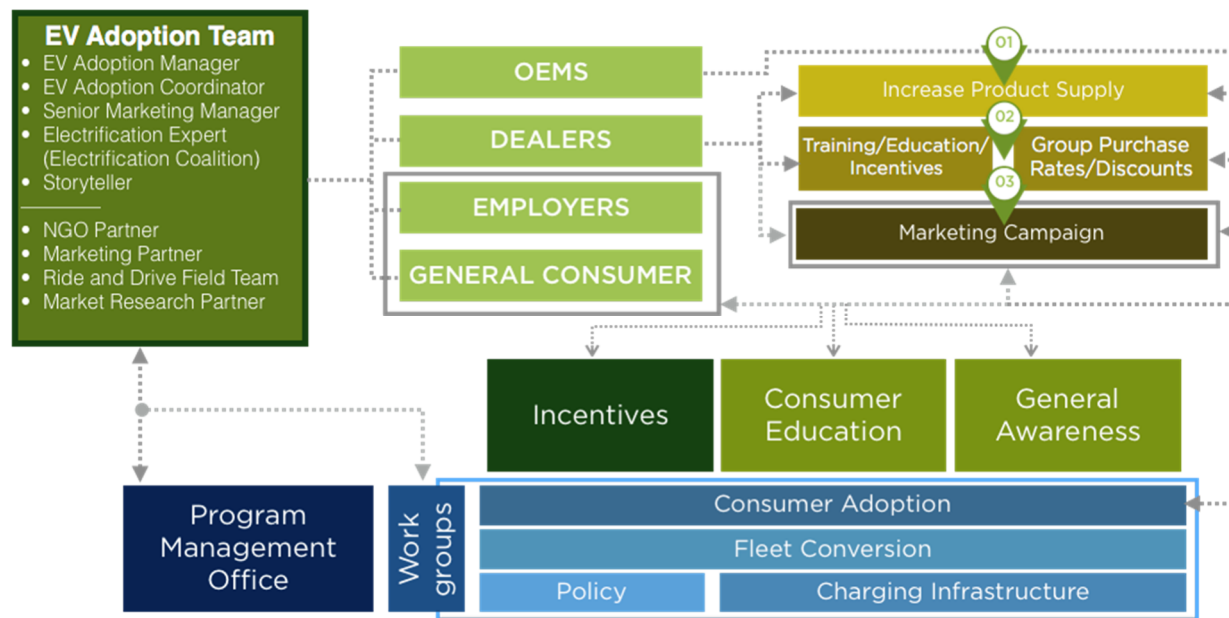


Exhibit 4: Workflow of Smart Mobility Adoption Team



The Foundation Project Manager will continue to convene as needed meetings to facilitate internal coordination between grant programs, grant funders, full time team members, and core partners. The following team members may attend:

- Program Manager
- Deputy Program Manager
- Smart Columbus Project Managers
- Consultant Project Managers
- Partnership Vice President and Director Smart Columbus
- Smart Mobility Adoption Team
- AEP Smart Columbus Liaisons
- The Ohio State University Representatives
- Other program support resources as needed

The agenda for these meetings includes but is not limited to:

- Program Area Updates
- Scope, Schedule, Budget, Short and Long Term Priorities
- Upcoming Deliverables and Status
- Indicator update
- Partnership Engagement Updates
- Decisions Needed
- Risks & Opportunities
- Review Previous Action Items
- New Action Items

A.5 WORKING GROUPS

In coordination with major partners, the PMO has established working groups comprised of subject matter experts and partners to ensure that the Smart Columbus initiatives are responsive to stakeholder and end user needs, to provide advice on project-specific decisions, and build relationships to enhance participation, performance and sustainability of the overall program.

Working Groups have been deployed to align with the Foundation priorities and their associated initiatives (see *Exhibit 5*). Working Groups are not an official committee nor are there by-laws that govern how they function. They are composed of volunteers who may decline participation at any time. If replacement members are needed, the PMO (with input from Working Group chairs and partners) will approach potential members and if they are in agreement add them to the Working Group. There is no formal approval process for adding members. All co-chairs report to the City's Foundation PM and Working Groups are advisory in nature. Committee chairs set processes for how the team functions and PMO has final authority. Recommendations made by the Working Group regarding budget are not final until approved by the City's Smart Columbus Program Manager.

Each Working Group has two co-chairs: one public and one private. The PMO staffs each Working Group to prepare agendas and provide technical guidance to ensure milestones and deliverables are met on time. The Working Group chairs determine what meeting frequency is necessary to accomplish their work. Foundation staff will continue to be invited to attend working group meetings.

The City of Columbus found it valuable to create sub-working groups to supplement the working groups in order to research into specific tasks within the priority initiatives with a smaller, more specialized group. Smart Columbus continues to use sub-working groups, especially within priorities 2, 4 and 5, where the variety and type of projects creates a need for focus on many technical specialties.

Exhibit 5: Smart Columbus Electrification Initiatives and Working Groups

PRIORITY / WORKING GROUP	INITIATIVE
PRIORITY 1: Decarbonization	Initiative 1.1: Utility-Scaled Renewables Initiative 1.2: Grid Modernization and Efficiency
PRIORITY 2: Fleet Electric Vehicle Adoption	Initiative 2.1: Public Fleets Initiative 2.2: Private Fleets Initiative 2.3: Transportation Service Providers (TSPs)
PRIORITY 3: Transit, Autonomous and Multi-Modal Systems in the City	Initiatives are covered under the Smart Columbus USDOT and other City of Columbus programs. Coordination with Priority 5 will occur through the end of the grant period.
PRIORITY 4: Consumer Electric Vehicle Adoption	Initiative 4.1: Research and Assessment Initiative 4.2: Increase Consumer Awareness for EVs Initiative 4.3: Drive Consumer Consideration for EVs Initiative 4.4: Improving Customer Sales Experience of EVs
PRIORITY 5: Charging Infrastructure	Initiative 5.1: Residential Charging Initiative 5.2: Public Access Charging Initiative 5.3: Workplace Charging Initiative 5.4: Fleet Charging Initiative 5.5: Building and Zoning changes to support electric vehicle charging

A.6 PARTNERS

Committed Smart Columbus partners enter into cooperative agreements with the City to bring an agreed upon selection of goods and services to advance one or more initiatives under the Smart Columbus program. The Smart Columbus partners will continue to engage directly with the Smart Columbus PMO to develop and deploy projects. Many of these partners are also represented on Working Groups to ensure full collaboration throughout the grant planning process. The partner cooperative agreements or letters of intent are in Appendix C. Cooperative agreements have been or are being established with the following partners:

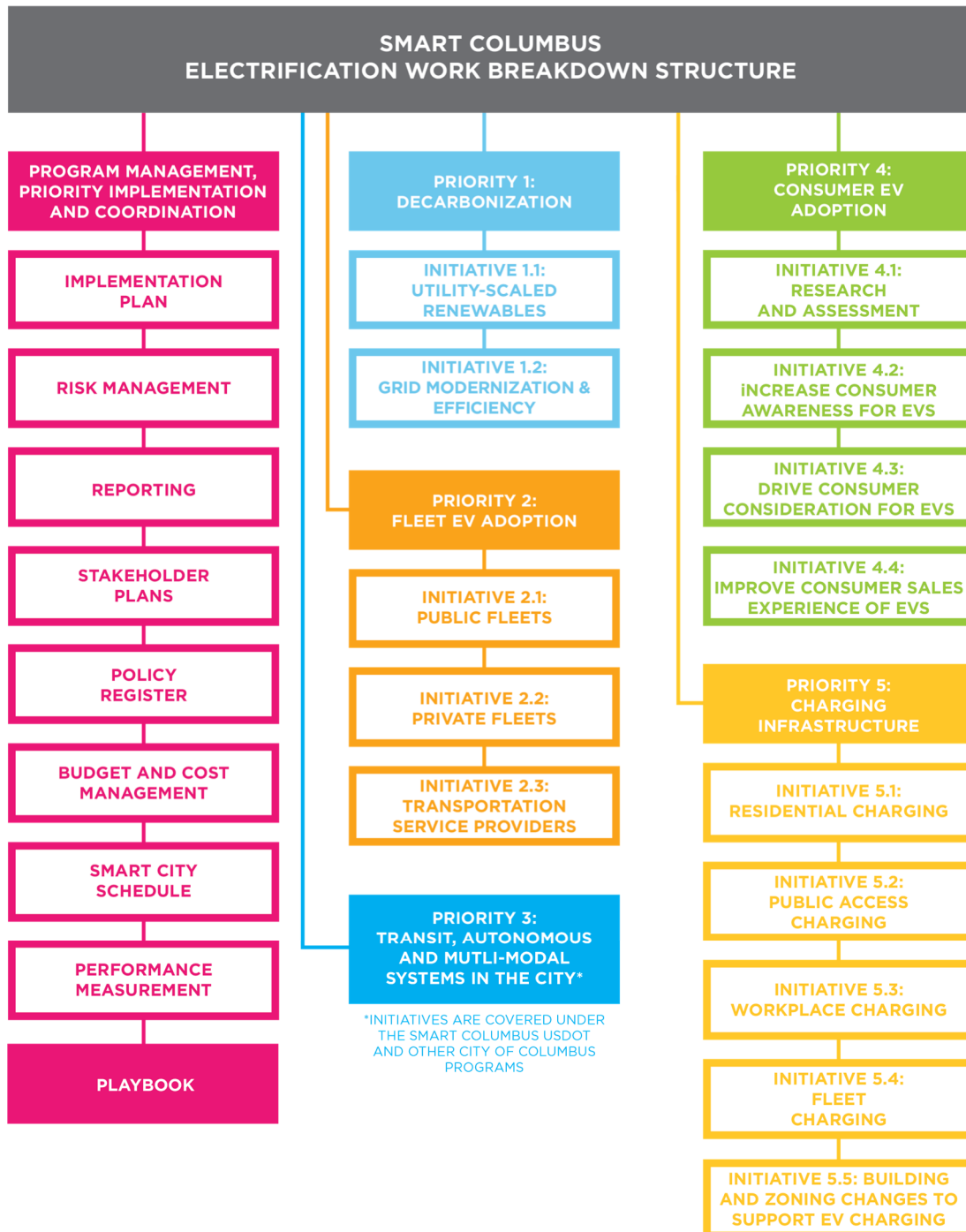
Exhibit 6: Partner Contributions

PARTNER	CONTRIBUTION	DESCRIPTION
American Electric Power (AEP)	\$22.8M	Grid modernization, charging ports, battery storage, fleet electrification, research in clean energy and vehicle to grid connectivity. Additional activities valued at over \$403.7M for grid modernization, SmartGrid 2.0, and deployment of 900 MW of renewable energy generation. (Subject to PUCO approval)
The Ohio State University (OSU)	\$7.5M	Deployment of electric vehicles and related charging infrastructure. Investment in mobility and smart grid related research.
The Columbus Partnership	\$7.5M	Value of private sector investment in contributing towards purchasing EVs for fleets and installing workplace charging stations, additional detail available in Partnership Agreement with the City of Columbus.
DC Solar	\$3.6M	Continued deployment of eight to ten mobile solar generators or EV charging ports in 11 month increments throughout the City. Mobile solar generators and EV charging ports will continue to demonstrate the use of renewable energy sources in support of fleet electrification and power generation.
Mid-Ohio Regional Planning Commission (MORPC)	\$600,000	Installation of EV charging infrastructure.
FleetCarma	\$900,000	Installation of advanced telematics devices to track and optimize fleet fuel efficiency.

B. PROGRAM SCOPE

The work breakdown structure (WBS) includes program management activities as well as the five priorities and their initiatives (see *Exhibit 7*).

Exhibit 7: Smart Columbus Electrification Plan Work Breakdown Structure



B.1 PROGRAM MANAGEMENT, PRIORITY IMPLEMENTATION AND COORDINATION

The grant priorities will continue to be executed by the PMO in collaboration with numerous partners. Additionally, consultant teams have been hired to assist the PMO in delivering grant priorities, including but not limited to development of detailed implementation plans, playbook, risk register, schedule, budget and cost management, coordination with USDOT projects as well as tracking and documentation of work group proceedings and assistance with reporting requirements.

B.1.1 Implementation Plans

The PMO will continue to develop implementation plans for Foundation funded priorities and initiatives. Critical elements of the Implementation Plan include scope, task lists, schedule with milestones, and budget.

For programmatic elements that are not funded by Foundation, implementation plans may not be provided. Progress will continue to be reported and quantified in accordance with methodology developed in the performance measurement plan and using indicators established in Section 3.

Deliverable: Implementation Plans

B.1.2 Risk Management

The PMO has developed a Risk Register and will continue to maintain and update it on a quarterly basis as needed. For each risk, the probability of occurrence and the impact of the risk will be assessed. Working Group Co-Chairs will continue to review the Risk Register as submitted and provide updates to the PMO on a quarterly basis.

Deliverable: Risk Register, update to be included with each quarterly report.

B.1.3 Reporting

The City Project Manager will continue to provide quarterly progress reports to the Foundation and the Executive Committee documenting progress towards the identified indicators. Additionally, a representative from the Foundation will continue to be invited to regular Program Leadership meetings. A weekly program update will be sent by the PMO Foundation grant PM to Foundation staff. Quarterly reporting summarizes spending to date and projections for the remainder of the year. At the end of the program a report will be issued to summarize the progress in terms of scope, schedule and budget.

Deliverables: Quarterly report

Annual report to be built into the final quarterly reports of each year (Q4/Q7/Q11)

B.1.4 Policy Register

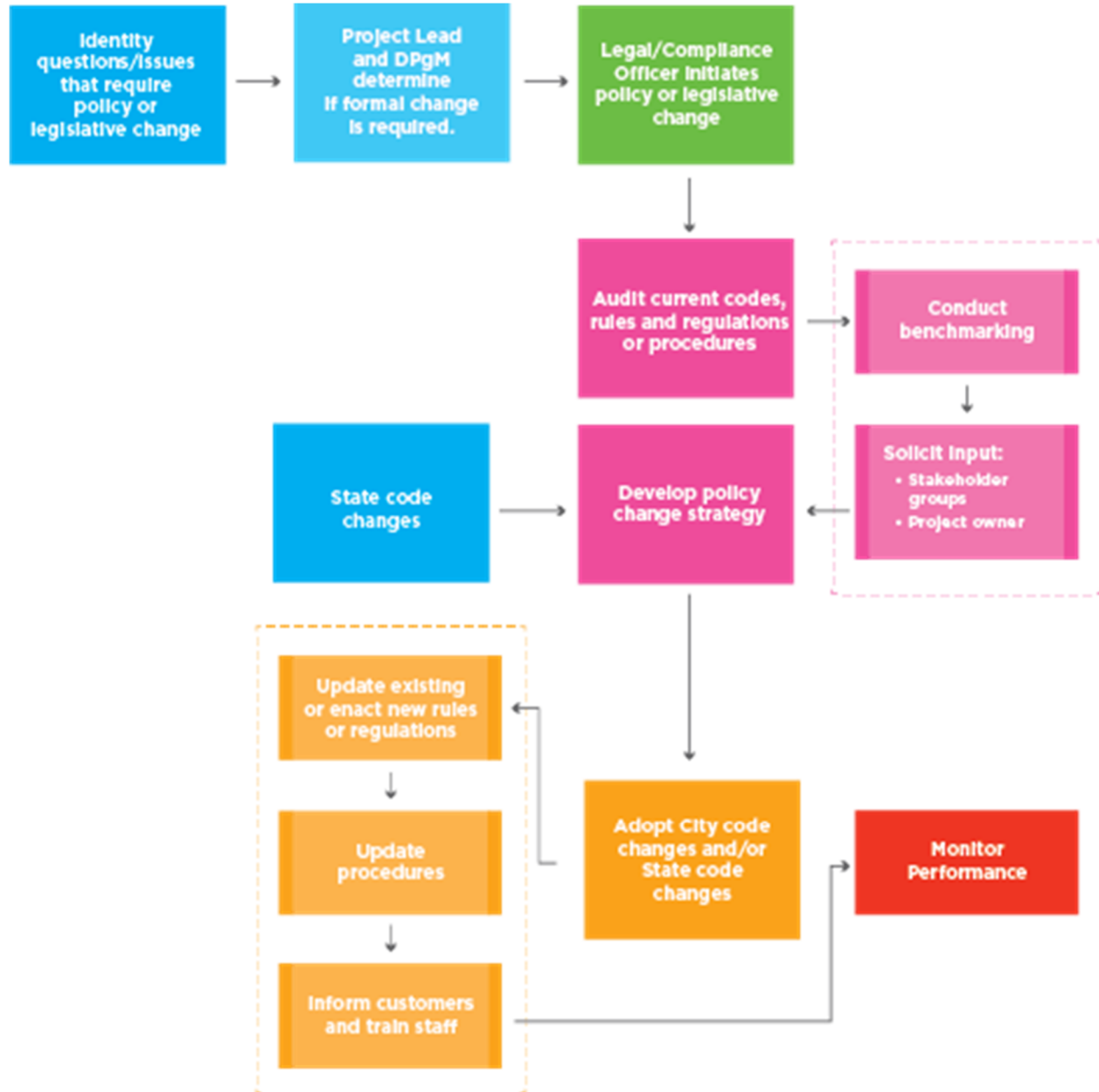
Working Group chairs and partners will continue to provide the PMO with suggestions on policy issues that warrant further investigation and need to be championed by the Mayor's Office. The Mayor's Office then reviews and decides how to proceed. In some cases, policies will be addressed internally through City departments or the City Attorney's office. As needed, the Mayor's Office may choose to engage other partners in developing an external policy strategy. The policy register is a table listing identified policy issues and progress made.

Exhibit 8: Policy Process



In cases where City policy, legislative or code changes are needed, the PMO follows the process outlined in Exhibit 9.

Exhibit 9: Policy Change Process



Deliverable: Policy Register

B.1.5 Budget and Cost Management

The City's Foundation PM presents and reviews the Foundation project's cost performance on a quarterly basis. The City's Foundation PM is responsible for accounting for cost deviations and developing and communicating a cost correction plan if the project costs and progress is out of alignment by more than 20%. A standard form will continue to be used for partners to report their progress on deliverables to the city.

The budget has been developed to the best of the PMO's abilities and is updated quarterly as referenced above.

Deliverable: Final budget, quarterly updates on cost performance.

B.1.6 Smart City Schedule

Project schedules will continue to be tracked and reported for playbook development. The schedule is broken down based on the work breakdown structure into five areas: Program Management and the five Foundation program priorities. Start date, end date, predecessors and successors are identified as needed for initiatives and strategies that fall under the priorities. Projected milestone dates listed herein are estimates and are updated as the master schedule is refined.

B.1.7 Performance Measurement Plan

The PMO will continue to develop a performance measurement plan (PfMP) that identifies baseline information, type of data being collected, analyzed and reported on for each indicator, and procedures for disseminating these data to inform decisions related to program management and overall performance. A key part of this plan is the GHG calculation methodology and definitions for all relevant terminology.

Deliverable: Performance Measurement Plan, updated quarterly.

B.1.8 Miscellaneous Items

The PMO also includes consultant team members to technically support the planning, design and delivery of the Smart Columbus Program. The consultant team is comprised of subject matter experts and design/delivery professionals with experience in the specific Smart Columbus Program priorities that are being deployed.

B.2 PLAYBOOK

The playbook is an evolving portfolio of activities that facilitates knowledge transfer across all priorities. Smart Columbus will continue developing the Smart Columbus Playbook to ensure lessons learned through the Smart Columbus Program are disseminated to other cities across the United States and internationally in order to maximize the program's impact in decarbonizing urban transportation systems.

Audiences for the playbook include:

- Elected officials, leaders and program managers from peer cities that may wish to implement decarbonization or smart city initiatives.
- Policymakers and advisors shaping legislation and policy related to sustainability, smart cities and electric vehicle adoption.
- Researchers and students advancing knowledge on sustainable practices, decarbonization consumer behavior and other topics related to the electrification program.
- Business leaders receptive to understanding how employee incentives, community engagement programs and sustainability practices may advance their business.
- Columbus residents interested to gain enhanced transparency into the Smart Columbus effort.
- Thought leaders and experts who serve as influencers to all of these communities.

Smart Columbus will facilitate knowledge transfer to these audiences not only through the development of the playbook content (B.2.1), but also by disseminating these insights and perspectives to the target audience through targeted outreach (B.2.2).

Over the life of the grant, Smart Columbus will continue to engage in and report progress on the following activities:

B.2.1 Content Generation

B.2.1.1 Smart Columbus E-Book

Upon the conclusion of the grant term in 2020, Smart Columbus will develop an interactive e-book which will serve as a capstone to the playbook initiative. Developed by the Smart Columbus Storyteller, the e-book will summarize the most impactful, transferrable learnings from the electrification program, and translate them into a cohesive narrative, presented in an interactive e-book, reinforced with multimedia integration.

Deliverables

- One electrification playbook asset to launch per week after launch.

B.2.1.2 Content Development and Management

The Smart Columbus Storyteller will oversee the development of the playbook program-wide and secure the input of the Smart Columbus PMO as well as contributions from Smart Columbus partners and collaborators.

In Year 1, development of the playbook included the aggregation of key documentation, such as meeting recaps, program plans and program collateral, as well as quarterly reports. In Year 2, a “Smart Columbus Storyteller” role was added to the team with the responsibility of developing a more robust cadence of multimedia content for the Playbook, including regular blog posts, videos, case studies, social media content, webinars and imagery. The Storyteller will also be responsible for the dissemination of the content. At least 80% of the Storyteller’s time is focused on developing and disseminating playbook insights. In 2019, the Storyteller will continue to create original content, publish program archives and collaborate with partners to help them create content about their experiences with Smart Columbus.

The Storyteller will continue to manage the playbook editorial calendar, used to establish and manage a robust flow of content. Playbook content will be developed in eight categories:

- **Our Journey** – The road to “becoming smart” is winding. Content will track Columbus’ journey from Smart City Challenge contender to the smartest city in America.
- **Future Mobility** – The vision of future mobility is vast and ever-changing. Content will track industry disruptions and projections, to cast a vision for the future and help everyone get on board.
- **Paul G. Allen Philanthropies grant** – Each of the five grant program priorities will have their own section, defining key learnings, sharing case studies, outlining emerging best practices and sharing tools and resources as they’re created.

- **U.S. Department of Transportation grant** – Each of the nine grant program priorities will have their own section, tracking project evolution and sharing tools and resources as they're created.
- **Acceleration Fund** – Smart Columbus aspires to attract \$1 billion of aligned investment in smart mobility. Content will track progress and key accomplishments from the private and public sectors.
- **Partners** – We're far from alone in this journey. Content will be contributed by key partners including the Ohio State University, AEP, MORPC, COTA and many others,
- **Data Visualization and Tools** – Value doesn't come from data, but from what you do with it. Data visualizations and tools will enable visitors to assess and manipulate data to glean insights and apply it to their own circumstances.
- **Reporting** – Activity and financial reports to our grantors will be made accessible to enhance transparency into performance and investment.

An editorial calendar for the future quarter will be provided to the Paul G. Allen Philanthropies for review. Only content related to the electrification program will be developed using Paul G. Allen Philanthropies resources (including Storyteller time), but a full breadth of perspectives will be presented in the Smart Columbus Playbook in order to present robust and engaging perspectives.

B.2.1.3 Playbook Delivery Platform – Website

The Smart Columbus Playbook will live within the Smart Columbus website, to take advantage of Smart Columbus' burgeoning brand awareness and best facilitate cross-navigation of online traffic. The website is developed in phases, with the first phase launching in June 2018. The first phase site content focuses primarily on consumer EV adoption, grant project overviews and Smart Columbus information. The playbook introduced the second phase of the website launch, in Q6.

The playbook homepage will enable users to navigate content by topic (i.e. fleet electrification, consumer adoption) or by date. Key assets, such as strategic plans or replicable toolkits, will be "anchored" at the top of the topic pages, for ready access.

In 2019, Smart Columbus will introduce a dynamic geo-targeting feature, whereby residents of the seven-county region visiting the site will see one homepage, focused on EV adoption, multi-modal mobility and other resident calls to action; and users visiting the site from outside the region will be served an experience oriented around playbook content.

B.2.1.4 Playbook content: Best practice documents and multimedia storytelling

The playbook content calendar will serve as a roadmap for content to be developed and published via the Smart Columbus Playbook.

Types of content will include:

- Blog-style narratives published upon key project milestones highlighting lessons learned and advice to peer organizations
- Best practice documents including case studies and white papers documenting program approaches and results
- Video case studies and photo stories of projects or events that bring the program to life
- Asset downloads, whereby other cities may leverage plans, contracts, agendas and toolkits created by Smart Columbus for their own applications
- Webinars streamed online and via social media, where program managers and implementation partners will explain how programs came about, and key lessons learned
- Monthly and quarterly reports, whereby the industry and public may track the progress of Smart Columbus

These multimedia documents will outline the program lessons learned from each Electrification Plan priority, so other cities can easily replicate the program areas created through Smart Columbus. The documents can be created on an ongoing basis as the program unfolds and can supplement additional activities including webinars, presentations at conferences and visits from other cities. Playbook content will be deployed continuously on the website, a minimum of one new electrification asset a week.

B.2.1.5 Smart Webinars

Smart Columbus will host webinars streamed online and via social media, to share program learnings. Each webinar will seek to feature one Smart Columbus program manager and implementation partner, in order to share a thoughtful dialogue and well-rounded perspective. During 2019, Smart Columbus will host five “organic” webinars, hosted on the Smart Columbus website and promoted to Smart Columbus contacts. It will also sponsor two webinars with media properties or trade associations, to be promoted to the respective organization’s subscriber or member base to help extend Smart Columbus’ reach.

B.2.2 Content Dissemination

B.2.2.1 Smart Columbus E-Book

Deliverables:

- Digital E-Book will be published by the end of 2020 sharing a comprehensive story of the learnings of the Smart Columbus Electrification Plan
- The Digital E-Book will be sent directly to 1,000 city officials, policy makers, business leaders, and influencers

B.2.2.2 Attending and presenting at EV-related and OEM dominated conferences

Smart Columbus will proactively pursue and reactively evaluate opportunities to speak at local, regional, national and global conferences to share key program outcomes to take the perspectives articulated in the playbook and broadcast them with a broader audience. This will help share successes, challenges, and key lessons learned to support efforts in other communities. The conferences will also assist Columbus in developing top-tier expertise related to its Electrification Plan and inform the development of Smart Columbus grant priorities.

B.2.2.3 Media Relations and PR

Many publications reaching our national audiences will provide a forum to profile Smart Columbus programs and innovations. Outreach to these publications will happen on an ongoing basis throughout the life of the program and beyond. Smart Columbus will engage a national public relations agency with the objective of sharing Columbus' electrification best practices and learnings with peer cities, policymakers, the automotive/EV industry and sustainability thought leaders through outreach through national business and trade publications.

B.2.2.4 Social Media

Social media channels, including Facebook, Twitter, LinkedIn and YouTube provide a channel to reach Smart Columbus' playbook audience nationwide. Smart Columbus will syndicate its content to social media channels to extend the reach of insights and perspectives, and to draw users in to the playbook content. Social media posts will be targeted nationally against people with professions and interests that mirror the playbook audience profile.

B.2.2.5 Learning Exchanges

A brick and mortar experience center was established to educate and inform local residents, visitors, stakeholders, and other cities and leadership delegations from around the world about how Columbus is becoming a Smart City. The interactive space is regularly updated with real time program progress. The space includes an EV showroom to provide electric vehicle education and test drives for visitors. As part of this effort, tours for other cities will be organized to learn best practices from the program.

As Columbus develops expertise in the various program areas associated with Smart Columbus, many cities across the U.S. and globally will be interested in visiting Columbus to learn first-hand about Columbus' progress. Partnerships will continue to be forged with entities around the country and the world to transfer knowledge and learning. Smart Columbus will host listening and learning tours with an open invitation to cities around the world. Columbus will also leverage its existing relationships with other Ohio cities to create a network that can learn from each other and start new programs within the state of Ohio. Smart Columbus team members will continue to travel to peer cities, join coalitions, and become members of associations that are advanced in EV adoption and sustainability initiatives.

B.2 – 2019 Quarterly Activities

2019 Activities:

- Issue at least one playbook asset per week
- Produce multimedia material about program accomplishments and learnings
- Develop quarterly editorial calendar for the coming quarter
- Issue news releases on program accomplishments and learnings
- Engage national and trade media on program accomplishments and learnings
- Pursue and secure local, regional and national speaking engagements on electrification
- Host webinars

Q8 Activities

- See 2019 activities

Q9 Activities

- EVS Conference
- Roadmap Conference

Q10 Activities

- Procure design agency to help develop e-book
- Develop e-book outline

Q11 Activities

- Onboard e-book design agency
- Begin developing content for e-book

2020 Activities:

- Complete e-book
- Disseminate e-book

Playbook Milestones/Deliverables and Proposed Due Dates

DATE	MILESTONE/DELIVERABLE
Weekly	Playbook asset publish
March 2019	Deliver Q9 Editorial Calendar
March 2019	Smart Columbus webinar
May 2019	Issue RFP for Playbook design agency
June 2019	Deliver Q10 Editorial Calendar
June 2019	Smart Columbus webinars
September 2019	e-book Outline Delivered
September 2019	Deliver Q11 Editorial Calendar
September 2019	Smart Columbus webinars
December 2019	Deliver 2020 Editorial Calendar
December 2019	Smart Columbus webinar

B.3 PROJECT INDICATORS

PROJECT GOAL

To measurably decrease light-duty transportation GHG emissions expressed in equivalent metric tons of carbon dioxide (MTeCO₂) as a result of grid decarbonization, EV fleet adoption, transit, autonomous and multi-modal systems (implemented via USDOT grant agreement), and consumer EV adoption during grant period compared to a baseline year (2016).

The two overall project indicators are the percent reduction in emissions and total GHG reductions and savings within the light-duty transportation sector. These metrics will be tabulated from the combined effect of the contributing priorities and associated initiatives and strategies.

PRIORITY 1 – DECARBONIZATION

Objective Statement: *In partnership with power providers, by 2030 install 905 MW of utility scale renewable energy generation capable of serving the Columbus region, procure a minimum of 1.2 million MWh of renewable energy for the City of Columbus between 2017 and 2022 and save 480 GWh consumed through energy efficiency and smart grid programs during the time period of the grant.*

This effort will be achieved by focusing on consumer energy efficiency, public lighting efficiency, solar, wind and hydro generation deployments, and purchase of renewable energy for regional use. The 900MW of new utility scale solar and wind generation is planned for the entire State of Ohio, but will be capable of serving the region of Columbus (more detailed estimates of how much of this capacity is projected to serve the Columbus region will be calculated during the grant period).

Initiative 1.1 – Utility-Scaled Renewables

Objective Statement: *By 2030, deploy up to (pending PUCO approval) 900 MW of utility scale wind and solar in the state of Ohio, 5MW of hydro in the Columbus region, and between 2017 and 2022, procure a minimum of 1.2 million MWh of renewable energy in the City of Columbus.*

The Decarbonization Working Group will create the model for estimating and projecting past 2019 GHG reductions due to these efforts. These projections will capture all GHG improvements to the power supply in the Columbus Region. Additionally, the PMO will identify policy and legislative opportunities to create incentives for commercial and residential renewable energy installations.

Strategy 1.1.1 – AEP Solar and Wind Generation

AEP will develop a number of utility-scale wind and solar projects contingent on approval from the Public Utilities Commission of Ohio (PUCO). These projects are part of the Purchase Power Agreement application settlement filed 3/31/2016. The steps of the regulatory process include:

1. Discovery period for potential intervening parties;
2. Testimony by potential intervening parties;
3. Hearings;
4. Legal briefs and reply briefs;
5. Commission's initial order;
6. Rehearing on the initial order; and
7. The rehearing order.

The PMO will monitor the progress of the regulatory process to determine progress made towards AEP's solar and wind generation commitment.

- **Link to ESP Filing press release:**
<https://www.aepohio.com/info/news/viewRelease.aspx?releaseID=2112>

Solar Project(s) Selection

The regulatory order filed by AEP specifies a “best efforts” attempt to complete at least 400 MW of capacity by 2021. The solar projects that will be given preference are to be sited in Appalachian Ohio, create permanent manufacturing jobs in the same region and commit to hiring Ohio military veterans.

Wind Project(s) Selection

The regulatory order filed by AEP requires at least 500 MW of capacity sited in Ohio to be proposed, with construction to begin by the deadline for eligibility of benefits available under the EPA Clean Power Plan and to be completed by 2021. This assumes timely Commission approval of individual projects.

Strategy 1.1.2 – AEP Research and Development (R&D) to Advance Clean Energy

In order to learn innovative methodologies to advance clean energy technologies and/or processes, AEP will seek to identify a Research and Development Project which can be implemented within the timeframe of the Smart Columbus program. This was completed in the 2nd quarter of Year 2 with research grants of \$250,000 each, one to OSU for power grids cyber security research and the other to OU Voinovich School for economic development impacts of solar deployment and other renewable energy initiatives.

Strategy 1.1.3 – AEP Distributed Generation Coordination of New Customer Installation

AEP will continue to coordinate with current and future proposed customer projects to install new distributed generation projects within the AEP distribution system. These efforts help the customers connect new distributed resources into the grid to enable more renewable generation of electricity. During this grant period, AEP will track Distributed Generation installations within the Smart Columbus region.

Strategy 1.1.4 – Solar Generator Deployment (DC Solar)

DC Solar has satisfied their original commitment to the program. However, the PMO will continue to monitor use of chargers and GHG calculations provided by the existing units.

Strategy 1.1.5 – Columbus Division of Power Green Power

The Columbus Division of Power purchases on average 885,000 MWh of power each year to serve approximately 14,000 customers and the street light system throughout the city. The division is committed to reducing its GHG emissions by raising the green energy portfolio from 5.7% of their total power sold as of 2016 (50,760 MWh) to 28.4% by the end of the grant period and to 50% by 2023. It is estimated that between 2017 and 2022, a minimum of 1.2 million MWh of new green energy will be supplied through the Columbus Division of Power. Green Power shall mean renewable energy certificates from any of the resources defined as Alternative Energy Resource, including Advanced and Renewable Energy Resources as defined in the Ohio Revised Code 4928.01.

Program 1.1.5.1: 8,760 MWh of the green energy purchased each year is sourced from Central Ohio Bio-Energy (COBE) and Quasar Energy Group, which develops biomass waste-to-energy technology utilizing anaerobic digestion. This system converts readily available biomass sources (food waste, manure, bio solids, crop waste) into biogas that can be used as a fuel source to generate electricity. The Columbus Division of Power is committed to continuing this green power purchase annually at a cost of \$140,000 to the City.

Program 1.1.5.2: Columbus Division of Power has an EcoSmart Choice Green Pricing Program option for its customers allowing them to offset up to 100% of their electric usage. This green pricing program funds the purchase and retirement of renewable energy certificates through American Municipal Power (AMP). The division will work with AMP to reduce the per MWh price of RECs in 2018, in order to further increase participation in the program by 5% of renewable energy supplied by the end of the grant period.

Program 1.1.5.3: Beginning June 2018, the Columbus Division of Power purchased 20% of its total power from Green Power resources. This is approximately 180,000 MWh of renewable energy certificates each year at an estimated cost of \$1/MWh. The City of Columbus utilized The Foundation grant funds to cover fifty percent of the cost for the first year, but future years will be funded 100% by the City of Columbus.

Strategy 1.1.6 – City of Columbus Wastewater Treatment Plant, Co-Generation

The City of Columbus will use biogas from City wastewater treatment plants as fuel for a Combined Heat and Power (CHP) plant, which will consume all the biogas being produced and supply half of the power at two wastewater treatment plants. This will generate approximately 5,000 MWh per year by 2022.

Strategy 1.1.7 – Columbus Division of Power Hydroelectric Improvements

The Columbus Division of Power is continuing its commitment to clean energy by rehabilitating the City's 5 MW hydroelectric plant located in the O'Shaughnessy Dam. In 2018, the division completed detailed design. Construction should start early 2019. When this plant is returned to full operation, it is anticipated to generate 10,000 MWh per year.

Initiative 1.1 – 2019 Quarterly Activities

Q8 Activities:

- Establish deployment plan and continue using solar generators from DC Solar
- Continue plans for using biogas from City wastewater treatment plants as fuel for Combined Heat and Power at the Jackson Pike facility (Cogen).
- Columbus Division of Power to continue design of rehabilitation of hydroelectric plant
- Columbus Division of Power to continue to work with Department of Public Utilities, AEP, MORPC and Columbia Gas to develop a plan for residential energy audits.

Q9 Activities:

- Continue deployment of the solar generators from DC Solar
- Continue plans for using biogas from City wastewater treatment plants as fuel for Combined Heat and Power at the Jackson Pike facility (Cogen).
- Columbus Division of Power to finalize design of rehabilitation of hydroelectric plant.
- Columbus Division of Power to continue to work with Department of Public Utilities, AEP, MORPC and Columbia Gas to finalize a plan for residential energy audits.

Q10 Activities:

- Collect and analyze data on deployment of solar generators from DC Solar
- Columbus Division of Power to continue rehabilitation of hydroelectric plant.
- Columbus to finalize detailed design of the City wastewater treatment plant Cogeneration project at Jackson Pike.
- Columbus to begin residential energy audits (if they have been determined feasible).

Q11 Activities:

- Columbus Division of Power to begin construction of the hydroelectric plant.
- Columbus to begin residential energy audits (if they have been determined feasible).

2020 Activities:

- Continue to use and report on DC Solar generators
- Complete construction of the hydroelectric plant at the O'Shaughnessy Dam.
- Complete installation of the Cogeneration plant at Jackson Pike.

Initiative 1.2 – Grid Modernization and Efficiency

Objective Statement: *AEP and Columbus Division of Power will deploy energy efficiency programs, grid modernization projects, which include battery storage installations, street and area light upgrades, AEP’s Smart Grid 2.0 upgrade and expanded capacity programs that support renewables and electric vehicles.*

Strategy 1.2.1 – AEP Energy Efficiency

AEP will save 480 GWh by the end of the grant period as a result of energy efficiency efforts. AEP Ohio will actively support the Community Energy Savers (CES) program for any civic association in the Smart Columbus area that chooses to participate.

This effort will be designed to further drive the energy efficient consumption of electricity, which leads to further decarbonization. AEP Ohio offers multiple energy efficiency programs to commercial and residential customers to meet these goals. Among them is CES, which works with local communities and civic organizations on a first-come, first-serve basis to recruit community members to increase participation in existing energy efficiency programs. In return, the communities or civic organizations earn financial awards to help achieve energy saving projects that are relevant to their members. CES relies on community or civic association engagement and leadership to be successful; its funding is limited, so interested communities or civic associations are encouraged to apply by January 31 for 2019 support to identify and perform energy saving projects. This is one program of AEP’s total portfolio of 16 Energy Efficiency (EE) Programs across the 66 counties served. This effort is contingent on approval for cost recovery and shared savings through the Public Utilities Commission of Ohio. The intent of this project is to track improvements from the CES program in MWh in the 7-county Columbus region.

- **Link to EE Program Overview:**
<https://www.aepohio.com/save/business/>
<https://www.aepohio.com/save/residential/>
- **Community Savers Article:**
<https://www.aepohio.com/save/residential/programs/CommunityEnergySavers.aspx>

Strategy 1.2.2 – AEP Vehicle to Home Research

By the end of the grant period, AEP will develop and execute research on using plug-in electric vehicles (PEV) to provide power from the PEV to the facility or residence as a demand response tool to lower distribution demand during peak periods. Additionally, AEP will research how a PEV can help provide power during distribution power outages. This effort is contingent on securing cost recovery through PUCO.

Strategy 1.2.3 – AEP Smart Grid 2.0 Advanced Metering Infrastructure Deployment

AEP will expand its Smart Grid Advanced Metering Infrastructure (AMI) to customers in the Smart Columbus area by 2020. These meters provide accurate and timely energy usage information to customers allowing them to make better decisions creating a potential for a reduction in overall electricity consumption.

AEP Ohio's Smart Grid program is a suite of customer programs and advanced technology initiatives. This group of projects and technology is directed at improving efficiency, identifying and responding to outages more quickly and better monitoring and control of the distribution system. These innovative programs allow customers to monitor and control their own energy use, saving resources and money.

This effort is contingent on securing cost recovery through PUCO.

See the links below for further details about AEP's Smart Grid program:

- **Smart Grid Phase 2 FAQ:**
<https://www.aepohio.com/global/utilities/lib/docs/save/demoproject/FAQs.pdf>
- **Smart Grid and Energy Efficiency Testimonials:**
<https://www.aepohio.com/global/utilities/lib/docs/save/business/programs/SuccessStories/ContractorTestimonialsAugust2011.pdf>
- **AEP Ohio Smart Grid Workshop (10/1/2014):**
<https://www.aepohio.com/global/utilities/lib/docs/account/service/choice/oh/CRESWorkshops/2014%20CRES%20Workshop%20-%20Smart%20Grid.pdf>

Strategy 1.2.4 – AEP Microgrids and Battery Storage

Through the establishment of a Smart City Rider, AEP Ohio will establish one or more micro grid projects targeting non-profit, public serving AEP Ohio customers such as fire and police stations, municipal facilities, medical facilities, social service agencies, emergency shelters and water and sewer infrastructure facilities. The demonstration projects may provide rebates to partially cover the costs for customer-owned renewable generation that integrally support the microgrid.

The scale and equipment selection will be determined on a case-by-case basis so as to maximize community value. These efforts will help advance these technologies and demonstrate how batteries and renewables will help deliver more robust and renewable electricity. This effort is contingent on securing cost recovery through PUCO.

Strategy 1.2.5 – AEP Smart Lighting

In November 2016, AEP Ohio filed to install over 200,000 smart lights as part of the ESP III Extension plan. The Smart Lighting component was not part of the final joint stipulation that was filed in August 2017. AEP Ohio is actively strategizing and investigating potential pilot projects to gather learnings in preparation for future filings.

AEP Ohio remains interested in installing and operating Smart Street and Area Lighting controls on existing AEP owned street and area lights during the grant period and beyond. This effort will help enable quicker resolution on lighting that is not functioning correctly, which will lead to improved customer satisfaction. As a future goal outside the grant period, and upon the establishment of national standards, AEP will work to utilize dimming functionality of the Smart Lighting to lower overall energy consumption. This effort is contingent on securing cost recovery through PUCO.

Smart Lighting efforts also have the opportunity to provide additional value added services ranging from gunshot detection to pollution monitoring. AEP is also investigating opportunities pertaining to implementation of this infrastructure.

Strategy 1.2.6 – Columbus Division of Power Grid Modernization

The Columbus Division of Power is committed to the deployment of 10,000 AMI within its customer base in 2019.

Strategy 1.2.7 – Columbus Division of Power Street Light Technology Conversion

In 2019, the Division of Power will continue converting 40 streetlights circuits to LED. The Division of Power will also develop an implementation plan for a Smart Streetlighting system.

Initiative 1.2 – Year 2 Quarterly Activities

Q8 Activities:

- Columbus Division of Power to award contract for the consultant assisting with the Smart Streetlighting implementation plan.
- Columbus Division of Power to continue converting streetlights to LED to help reduce production of greenhouse gases in the region and provide a significant yearly cost savings for the Division.

Q9 Activities:

- Columbus Division of Power to work with the consultant on developing the Smart Streetlighting implementation plan to determine the type of control system and future connectivity options.
- Columbus Division of Power to continue working with AMI project team to deploy AMI.

Q10 Activities:

- Columbus Division of Power to continue working with project team to deploy AMI.
- Columbus Division of Power to continue working with the consultant on developing the Smart Streetlighting implementation plan.
- Columbus Division of Power to continue converting streetlights to LED.

Q11 Activities:

- Columbus Division of Power to continue working with AMI project team to deploy AMI.
- Columbus Division of Power consultant to finalize the Smart Street Lighting implementation plan.
- Columbus Division of Power to continue converting streetlights to LED.

2020 Activities:

- Columbus to begin implementation of the Smart Street Lighting system.

Decarbonization Milestones/Deliverables and Proposed Due Dates

DATE	MILESTONE/DELIVERABLE
March 2019	CoC Economic Impact Study update for Cogen project
March 2019	CoC Issue Notice to Proceed to Smart Streetlight consultant
June 2019	CoC Hydroelectric Plant design complete
June 2019	CoC Final Residential Energy Audit Plan
June 2019	CoC update AMI deployment project schedule
September 2019	CoC Issue Notice to Proceed for construction of hydroelectric plant
September 2019	CoC draft Smart Street Lighting Implementation Plan
December 2019	CoC final Smart Street Lighting Implementation Plan

For the remainder of the program, activities related to Priority 1 will be reported on as information is made available by AEP and DOP.

PRIORITY 2 – FLEET ELECTRIC VEHICLE ADOPTION

Objective Statement: *Work with public, private and academic sectors to place in operation 755 electric vehicles into their fleets by the end of the grant period.*

Charging infrastructure to serve these fleets will come from a wide range of providers. These will include public access charging, dedicated fleet (“behind the fence”) charging infrastructure, workplace charging and multi-unit dwelling (MUD) charging infrastructure. To ensure competitive vehicle pricing, the PMO and Fleet Working Group will continue to coordinate efforts based upon Group Purchase Programs and OEM dealer engagement.

Initiative 2.1 – Public Fleets

Objective Statement: *Work with public and academic sectors to place in operation 265 electric vehicles into their fleets by the end of the grant period.*

Government fleets will purchase a total of 235 electric fleet vehicles within the grant period.

- City of Columbus – 200 EVs
- The Ohio State University – 15 EVs (reduced from 50 EVs)
- City of Dublin – 10 EVs
- Franklin County – 10 EVs

The PMO will continue to work with other regional governments to identify 30 other government fleet acquisitions to create a total of 265 EVs acquired in public fleets during the grant period.

The PMO and Fleet Adoption Working Group will work with public fleet managers to analyze EV options and prepare vehicle acquisition and charging infrastructure plans. The City of Columbus Fleet Services Division will continue to play a leadership role among the other government fleets in the region by arranging training and developing tools to increase utilization. The effort started with the City of Columbus and will expand to other public fleets in the 7-county (Franklin, Delaware, Fairfield, Licking, Pickaway, Madison, Union) region. A training and education plan will be developed to ensure high utilization of these vehicles.

Strategy 2.1.1 – Training and Technical Assistance Workshops

Columbus will host a minimum of one technical workshop each quarter within the grant timeline. This will be open to both public and private sectors. The technical programs will correspond with the Electrification Plan components, particularly fleet electrification and charging station development. Examples of training and technical assistance include workplace charging webinars, fleet electrification webinars, fleet electrification advising for companies, workplace charging advising, etc. Resources permitting, private sector fleets will be accommodated.

Initiative 2.1 – 2019 Quarterly Activities

2019 Activities:

- Provide training and education to fleet managers and procurement officers (or purchasing decision makers)
- Coordinate extended test-drive opportunities
- Provide education materials and communication templates/assets to support their efforts
- Help determine charging station infrastructure needed for fleets
- Continue to execute SCEP Public Fleet MOUs for rebate disbursement
- Coordinate quarterly data gathering for each committed fleet for reporting and GHG calculations.

Q8 Activities:

- Finalize approval of remaining SCEP Public Fleet Commitment letters for EV purchases

Q9 Activities:

- See 2019 Activities above

Q10 Activities:

- See 2019 Activities above

Q11 Activities:

- See 2019 Activities above

2020 Activities:

- Continue activities above as needed to complete all final deliverables
- Coordinate final data gathering and reporting
- Continue to work with fleets beyond the grant performance period as other deployment and funding opportunities arise.

Initiative 2.2 – Private Fleets

Objective Statement: *Work with private partners to place in operation 450 electric vehicles for their fleets by the end of the grant period.*

Strategy 2.2.1 – Secure Purchase Pledges

The Columbus Partnership (Partnership) will work with senior leadership of companies in the region to achieve the goals for private fleet conversion. Securing private sector engagement will be regionally focused and extend beyond the members of the Partnership. Early focus will be applied to the existing 60 Partnership member companies, that represent the largest concentration of the region's workforce (nearly 20%), and have been connected to the effort since the application phase. Beyond the Partnership member base, the Partnership team with the help of the PMO and working groups will secure commitments from civic partners and non-profits including, but not limited to, Columbus Chamber members, Columbus 2020 investors, Columbus' Young Presidents Organization, and Columbus Entrepreneur's Organization.

Companies that want to pursue electrification of their fleet will designate a point of contact to work with the EV Adoption Team and Fleet working group to assess their fleet and complete a pledge form expressing their commitment to purchase EVs. This general approach to company engagement will be the standard throughout the grant period, but it is acknowledged that relationship development and different company structures may call for slightly different approaches to engagement and execution.

The EV Adoption Team will work with companies to:

- Provide training and education to fleet managers and procurement officers (or purchasing decision makers);
- Conduct fleet assessment, as needed;
- Coordinate extended test drive opportunities;
- Provide education materials and communication templates/assets to support their efforts;
- Provide survey templates and reporting tools for simple tracking of their progress and success; and
- Help determine charging station infrastructure needed for their fleet.

Strategy 2.2.2 – Network Development

Companies that express interest in purchasing electric fleet vehicles will be encouraged to participate in existing education programs and engage with their peer group to foster best practice sharing and increase motivation in converting to electric. The EV Adoption Team and Fleet Working Groups will assist in making connections to fleet leaders and experts to aid in their evaluation and decision-making, including connecting private fleet training to public fleet initiative training.

Strategy 2.2.3 – Fleet Telematics Assessment

Companies interested in deeper assessment of fleet operation, with sizable deployment and commitment, can engage with the Smart Columbus program to deploy a telematics-based assessment. This ensures vehicle electrification options are best-fit and scalable, based on data capture of day-to-day driving routes and operation. Assessments can help provide the TCO needed to drive commitment by companies, and ensure maximum utilization of electric vehicle operation.

Initiative 2.2 – 2019 Quarterly Activities

Q8 Activities:

- Conduct Private Fleet Outreach and Engagement Plan
- Work with membership organizations to connect with fleets.
- Rollout used electric vehicle promotion for fleet procurement.
- Drive top committed fleets towards procurement, push lower tiered fleets towards commitment.
- Assist private entities with installing charging infrastructure
- Continue making contact with private fleet managers and assessing opportunities
- Coordinate with Consumer Adoption on Group Purchase programs and OEM dealer engagement strategies that will support Fleet Transition goals
- Assist private fleet managers with EV technical and safety training
- Assist private fleet managers with procurement specifications
- Recruit/receive new private fleet pledges
- Continue with baseline fleet analysis for private sector
- Update/establish total fleet vehicles available to transition opportunity
- Update/establish fleet purchasing options for pledged companies

Q9 Activities:

- Continue Private Fleet Outreach and Engagement Plan
- Work with membership organizations to connect with fleets.
- Drive top committed fleets towards procurement, push lower tiered fleets towards commitment.
- Assist private entities with installing charging infrastructure
- Continue making contact with private fleet managers
- Assist private fleet managers with EV technical and safety training
- Assist private fleet managers with procurement specifications
- Continue receiving private fleet pledges
- Continue with baseline fleet analysis for private sector
- Continue completing vehicle analysis acquisition plans.

Q10 Activities:

- Continue Private Fleet Outreach and Engagement Plan
- Work with membership organizations to connect with fleets.
- Drive top committed fleets towards procurement, push lower tiered fleets towards commitment.
- Assist private entities with installing charging infrastructure
- Assist private fleet managers with EV technical and safety training
- Assist private fleet managers with procurement specifications
- Continue with baseline fleet analysis for private sector
- Continue completing vehicle analysis acquisition plans.

Q11 Activities:

- Continue Private Fleet Outreach and Engagement Plan
- Work with membership organizations to connect with fleets.
- Drive top committed fleets towards procurement, push lower tiered fleets towards commitment.
- Continue assisting private entities with installing charging infrastructure
- Continue assisting private fleet managers with EV technical and safety training
- Continue with baseline fleet analysis for private sector
- Continue completing vehicle analysis acquisition plans.

2020 Activities:

- Deploy remaining 40 vehicles for private fleets
- Continue assisting private entities with installing charging infrastructure
- Continue assisting private fleet managers with EV technical and safety training
- Continue completing vehicle analysis acquisition plans

Initiative 2.3 – Transportation Service Providers (TSPs)

Objective Statement: *Work with Transportation Service Providers to place in operation 40 electric vehicles into their fleets by the end of the grant period.*

Most privately-owned, and some government-owned fleets fall into the general category of Transportation Services Fleets. These include traditional taxis, transportation network companies, car sharing, ride sharing (e.g. van pool commuter services), traditional transit agencies, private limo services and others. These fleets are good candidates for electrification since their high annual miles per vehicle provide “Total Cost of Operation” benefits by transitioning to EVs. Additionally, this initiative is an opportunity to influence future consumer adoption as larger portions of the population will be exposed to EVs, thus increasing the likelihood of adoption.

In addition, the PMO will work with other agencies such as the Columbus Regional Airport Authority to encourage the installation of charging ports and agreements with Transportation Service Providers.

Strategy 2.3.1 – Recruit TSP Partners

The PMO and Fleet Adoption Working Group Fleets will continue to engage priority TSPs in the Columbus region such as Columbus Yellow Cab, COTA and MORPC Ride Share Program in support of their fleet electrification. Several additional TSPs including Uber, Lyft, county-based transportation agencies in the region and private contracted service providers will continue to be engaged to support their EV adoption.

Initiative 2.3 – 2019 Quarterly Activities

2019 Activities:

- Provide training and education to TSP owners (or purchasing decision makers).
- Conduct fleet assessment as needed with TSPs.
- Coordinate extended test-drive opportunities.
- Provide education materials and communication templates/assets to support their efforts.
- Help determine charging station infrastructure needed for TSP fleets.
- Continue to administer SCEP TSP Rebate Program.
- Continue to Execute TSP Rebate Program Agreements for Rebate disbursement.
- Coordinate Quarterly data gathering for each committed TSP fleet/driver for reporting, GHG calculations, and Rebate program disbursement based on TSP VMT.

Q8 Activities:

- See 2019 Activities above.

Q9 Activities:

- See 2019 Activities above.

Q10 Activities:

- See 2019 Activities above.

Q11 Activities:

- See 2019 Activities above.

2020 Activities:

- Continue activities above as needed to complete all final deliverables.
- Coordinate final data gathering and reporting.
- Continue to work with TSP fleets beyond the grant performance period as other deployment and funding opportunities arise.

Fleet EV Adoption Milestones/Deliverables and Proposed Due Dates

DATE	MILESTONE/DELIVERABLE
January 2019	Host Service Provider Meet-up Host Technical Training 1 for regional fleet partners
February 2019	Continue to and disburse available rebates as needed
March 2019	Gather and report data from Quarter 1 Host Service Provider Meet-up 166 Private Fleet EVs purchased 138 Private Fleet EVs deployed
April 2019	Host Technical Training 2 for regional fleet partners
May 2019	Continue to disburse available rebates as needed Commitments for 450 EVs for private fleet Host Service Provider Meet-up
June 2019	Gather and report data from Quarter 2 237 Private Fleet EVs purchased 209 Private Fleet EVs deployed
July 2019	Host Technical Training 3 for regional fleet partners
August 2019	Continue to disburse available rebates as needed Host Service Provider Meet-up
September 2019	Gather and report data from Quarter 3 Midwest Green Fleets Forum 344 Private Fleet EVs purchased 298 Private Fleet EVs deployed
October 2019	Host Technical Training 4 for regional fleet partners Host Service Provider Meet-up
November 2019	Continue to disburse available rebates as needed
December 2019	Gather and report data from Quarter 4 450 Private Fleet EVs purchased 410 Private Fleet EVS deployed Host Service Provider Meet-up

PRIORITY 3 – TRANSIT, AUTONOMOUS AND MULTI-MODAL SYSTEMS IN THE CITY

Objective Statement: *Ensure a comprehensive, multi-modal approach to decarbonizing the Columbus region’s mobility options.*

The goal is to enhance and increase transit system efficiency to lower carbon intensity and boost ridership; deploy electrified autonomous vehicles and truck platooning to demonstrate proof of concept and lead to long-term carbon reduction; and reduce single occupancy vehicle trips by providing tools to plan and execute multi-modal trips in order to reduce greenhouse gas emissions.

The priority is targeted at reducing harmful emissions by encouraging people to use alternative modes of transportation, rather than choosing to travel in a single occupancy vehicle. This priority will be executed through the USDOT grant. The types and environmental benefits offered by these options vary, but they all do serve in some capacity to benefit the overall system. Moving to transit is an option proven to have numerous benefits versus single occupancy vehicles. A second option includes the use of first/last mile electric autonomous vehicles that serve as a valuable link to encourage overall transit use. And finally, the use of car sharing or bike sharing, which has obvious benefits including a reduction in greenhouse gas emissions.

Additional multi-modal efforts being undertaken by the City of Columbus Department of Public Service include:

- Connect Columbus
 - Update to the City of Columbus Thoroughfare Plan that establishes priority [transit/bike/multi-modal] corridors for the City;
 - Adopt new multi-modal street design standards that will guide the City in its application of its 2008 Complete Street Resolution; and
 - Develop new multi-modal evaluation process for prioritizing transportation projects and spending in the future.
- Add 25 miles of city bike infrastructure (bike lanes, sharrows, shared use path) within the right-of-way from 2017 to 2020.
 - The annual budget for this work is approximately \$2 Million from MORPC.
- Continue to promote sustainable transportation alternatives with the goal of reducing congestion in the region, saving commuters on their fuel cost and improving the environment through RideSolutions.

The overall annual budget attributed to these other programs is \$1.5M.

Initiatives and Strategies under Priority 3 are funded under the USDOT grant program currently under development. The performance metrics developed for the USDOT grant program and additional City of Columbus programs in this area will be reported to the Foundation.

2019 Activities:

- The Ohio Department of Transportation, the City of Columbus, The Ohio State University, and the Columbus Partnership launched a Connected Electric Autonomous Vehicle shuttle starting December 1, 2018. The route connects COSI, Veterans Memorial, the Smart Columbus Experience Center, and Bicentennial Park.
- The City of Columbus will be reviewing submissions from an RFI from October 2018 requesting vendor input of multiple routes to serve first mile / last mile challenges using connected electric autonomous vehicles.

2020 Activities:

- Continue to monitor and report on USDOT project on a quarterly basis in conjunction with the quarterly report submittals to USDOT (April 30, July 30, October 30, 2019, January 30, 2020)

PRIORITY 4 – CONSUMER ELECTRIC VEHICLE ADOPTION

Objective Statement: *Increase electric vehicle market adoption as evidenced by the percentage of light duty electric vehicle registrations in Columbus and the surrounding seven county region attaining 1.8% of all new and used light duty vehicle registrations by the end of the three year grant period, representing a 486% increase from 2015 baseline of 0.37%.*

At least 50 community leaders (CEO or C-Suite executives) will be recruited to buy a BEV or PHEV in order to directly impact this objective and set the pace for adoption among their workforce by the end of the program. The Partnership will expose their members and executive leadership teams to EVs throughout the duration of the grant and extend exclusive group purchase rates for this group.

The EV Adoption Team, hired by the Columbus Partnership, will drive forward the following initiatives and strategies in coordination with PMO and under advisement of the Consumer Adoption Working Group. All related communications activities will be supported by the resources allocated to this priority.

Initiative 4.1 – Research and Assessment

Objective Statement: *Develop performance measures through researching and assessing the local market shifts and behavioral change related to electric vehicles in order to validate, inform, and measure the strategies and tactics undertaken as part of Consumer Adoption.*

Establish a data measurement environment that is reliable and best tells the story of how Columbus will create a sustainable EV market by 2020 without being a zero emissions vehicle (ZEV) state.

Strategy 4.1.1 – Consumer Research

In order to create sustained consumer demand for EVs, a culture shift must occur in the attitude of consumers towards EVs. Greater focus will be placed on identifying and engaging early adopters. Consumer perception change will be closely monitored and measured throughout the grant period to ensure preferences move in a positive direction toward EVs. During year one of the grant period, research parameters and methodologies were developed. In 2019, the findings will be used to implement programming designed to grow EV adoption over the benchmark. At the completion of the grant term, the survey will be repeated to assess final impact.

Research efforts focused on the following areas:

1. **Awareness** – What percent of consumers are aware that EVs are available for purchase? What percent are aware that these vehicles are available in the Columbus market?
2. **Consideration** – What is the purchase consideration of consumers during specified time frames to purchase an EV vehicle (for example, 1-2 years, 2-3, 3-5)?
3. **Perceptions** – EV consumer adoption barriers are well studied. Efforts will be focused to understand any regional variances.

The Partnership is using the findings of the reputable market research firm to inform strategy, work plan refinement, marketing efforts, and program success.

Initiative 4.1 – 2019 Quarterly Activities

Q8 Activities:

- Utilize Navigant study findings on best practices to increase efficacy of EV adoption interventions.

2020 Activities:

- Commission report on consumer perception in Columbus region to compare against year 1.

Initiative 4.2 – Increase Consumer Awareness for EVs

Objective Statement: *Smart Columbus will use earned and shared media to create broad awareness of electric vehicles, their benefits and Smart Columbus’ endorsement of EVs among the general population in the seven-county region, with a particular focus on early adopters. This layer of general awareness will help foster receptivity to more targeted campaigns and create a culture in Columbus that embraces mobility innovation.*

Strategy 4.2.1 – Community Events

Gatherings of the Columbus community are an opportunity to tell our story, educate on the future of mobility, educate on electrification and invite everyone to get on board. Local festivals draw hundreds of thousands of residents and visitors—oftentimes, to the Scioto Mile, location of the Smart Columbus Experience Center. Smart Columbus will leverage these opportunities to create awareness for Smart Columbus and advance its electrification efforts.

Smart Columbus will also host information tables at mission-aligned events to promote electric vehicle adoption to further advance awareness and education on electric vehicles. Smart Columbus will also proactively pursue and reactively evaluate speaking opportunities at local events, professional development sessions and conferences to share information on the organization’s vision, the future of mobility and the benefits of electric vehicles.

Strategy 4.2.2 – Local Media Relations

Publications reaching the local public will provide a forum to provide updates on the electrification program and advocate for driving electric and driving less. Outreach to these publications will happen on an ongoing basis throughout the life of the program and beyond. Smart Columbus will engage a local public relations agency with the objectives to:

- Increase awareness and support of Smart Columbus among all residents of the seven-county region
- Inspire and empower residents of the region to drive electric and drive less
- Increase Smart Columbus engagement, including participation in the Acceleration Partners program, among business, civic and public sector leaders
- Share grant program updates to communicate successes and enhance transparency into grant-funded initiatives

Strategy 4.2.3 – Social Media

Social media outlets, including Facebook, Twitter, Instagram and YouTube, provide a channel to reach central Ohio residents. Smart Columbus will develop and issue content to educate residents on the future of mobility, the objectives and plans of the Smart Columbus program, and how they can impact positive change in the community by driving electric and driving less. Social media posts will be targeted against local geography and related interests.

Strategy 4.2.4 – Electric Asset Branding

Incorporation of electric vehicles into fleets directly increases their use and provides prospective owners with increased exposure to the vehicles. Electric Vehicles introduced to fleets will receive an emblem that makes it more noticeable on the roadways that the vehicle is electric. Additionally, Smart Columbus will continue to partner with the Columbus College of Art and Design to bring art to electric vehicle charging stations to make them more noticeable and in turn increasing consumer awareness of the presence of charging in the Columbus area.

Strategy 4.2.5 – Smart Columbus Experience Center

Smart Columbus has acquired a brick and mortar educational space in order to engage thousands of community residents throughout the life of the program about the future of mobility, Smart Columbus initiatives, and current technologies in transportation, such as electric vehicles. This is a cornerstone of the engagement model and featured components of the venue include test drive opportunities and EV specific education about currently available EVs in the market and charging station locations and infrastructure.

Electric Vehicles will be loaned to the Columbus Partnership for display and test drives. The Experience Center will be staffed by brand neutral “EV ambassadors” to deliver an ideal, low-pressure consumer experience. Additionally, Smart Columbus will host community education programming and events about electrification at the Experience Center.

Initiative 4.2 – 2019 Quarterly Activities

2019 Activities:

- Establish a regular cadence of media pitches to deliver a steady drumbeat of news to the local community
- Regularly and consistently issue social media content, engage with residents and local influencers and leverage paid spend to expand the reach of Smart Columbus's social media channels
- Host regular open hours of the Smart Columbus Experience Center

Q8 Activities:

- Develop summer festival calendar

Q9 Activities:

- Staff community festivals

Q10 Activities:

- Staff community festivals

Q11 Activities:

- See 2019 Activities above

2020 Activities:

- Staff community festivals
- Host events in the Smart Columbus Experience Center
- Establish a regular cadence of media pitches to deliver a steady drumbeat of news to the local community
- Regularly and consistently issue social media content, engage with residents and local influencers and leverage paid spend to expand the reach of Smart Columbus's social media channels

Initiative 4.3 – Drive Consumer Consideration for EVs

Objective Statement: *Smart Columbus will deploy best practice interventions and targeted marketing tactics that move early adopters through the consideration phase of the consumer journey delivering (TBD by end of Q6 by marketing consultant) dealer sales leads that connect the customer to a potential purchase.*

Strategy 4.3.1 – Test Drives

The Test Drive strategy will be led by the EV Adoption Team Manager.

Substrategy 4.3.1.1 – Test Drives at the Smart Columbus Experience Center

400 Test Drives will be given to visitors of the Smart Columbus Experience Center during the grant period, generating 60 dealer sales leads. Residents can sign up for a test drive by walk-in or by pre-registering on the Smart Columbus website. Those taking a Test Drive from the Experience Center will complete the same pre and post drive survey as those who take a drive at a Smart Columbus Ride and Drive Roadshow Event.

Substrategy 4.3.1.2 – Ride and Drive Roadshow

120 Smart Columbus Ride and Drive events will be executed at corporate campuses and select public venues during the grant period. The Ride and Drive Roadshow series will conduct approximately 12,000 EV test drives, generating 1,641 dealer sales leads.

Substrategy 4.3.1.3 – Extended Test Drives for Executives

Consumers are more likely to purchase a vehicle when provided an extended test drive longer than the typical 15-30 minutes. In support of the goal for 50 executives to be driving electric by 2020, Smart Columbus will work with Dealers and OEMs to facilitate 30 extended test drive experiences for executives and influencers.

Strategy 4.3.2 – Workplace Electric Vehicle Adoption Campaign

A companywide commitment will be secured from at least 100 employers to substantially engage in Smart Columbus' electrification plan by the end of the grant period.

Substrategy 4.3.2.1 – Accelerator Partners Program

The Columbus Partnership will work with senior leadership of area companies to gain support for Smart Columbus initiatives. Securing private sector engagement will be regionally focused and extend beyond the members of the Partnership. Early focus will be applied to the existing 60 Partnership member companies, that represent the largest concentration of the region's workforce (nearly 20%) and have been connected to the effort since the application phase. Beyond the Partnership member base, the Partnership team with the help of the PMO and working groups will secure commitments from civic partners and non-profits including, but not

limited to, Columbus Chamber members, Columbus 2020 investors, Columbus' Young Presidents Organization, and Columbus Entrepreneur's Organization.

Substrategy 4.3.2.2 – Workplace Campaigns (Ignite Action Fund)

The companies will be presented with a package of options to engage their associates; the priority request is to organize an EV adoption campaign within their company to encourage employees to purchase vehicles. A Mobility Ambassador sponsored by a member of the company's executive committee will lead the internal effort on their behalf.

Committed companies can apply for matching dollars from the Smart Columbus Ignite Action Fund to extend the impact, expedite the timeline, and guarantee progress reporting on employee adoption education and benefits. Mobility Ambassadors will submit workplace campaign proposals that include metrics and reporting that will contribute to the Smart Columbus Playbook. The Ignite Action Fund dollars can match up-to \$15,000 of company spend to deploy educational programs, and EV incentives and benefits.

The EV adoption team will be responsible for working with the designated company project managers to support the execution of their commitment. The adoption team will work with individual companies to:

- Provide training and education to respective company project managers to develop a workplace adoption campaign that fits with their company culture;
- Provide education materials and communication templates/assets to support their efforts;
- Coordinate at least one high-profile Ride and Drive event at their workplace a year for the duration of the grant;
- Extend group purchase rates and information for distribution;
- Support coordination/strategy of additional workplace campaign activities such as thought leadership speakers, car giveaways, corporate purchase incentive packages, etc.; and
- Provide survey templates and reporting tools for simple tracking of their progress and success.

In support of this program, the Smart Columbus website will include a portal for an on-going feedback loop, reporting interface, templates and tools for program execution, educational material, and community building across participating companies.

Strategy 4.3.3 – Consumer Focused Education Campaign

Smart Columbus has deployed a consumer-facing education campaign in the seven-county region, promoting electric vehicles to individuals with early adopter characteristics who are actively considering a car purchase. The campaign seeks to engage car buyers actively involved in vehicle purchase, provide education and encouragement to select an EV and propel their selection process forward to dealership referral.

Substrategy 4.3.3.1 – Website

The consumer-facing portion of the website will serve as the central “hub” of consumers’ engagement with Smart Columbus. Individuals participating in Acceleration Partner engagements, Ride and Drive events, community events, and engaging with Smart Columbus social media content will be drawn to the website to engage with deeper resources on charging, EV benefits, model availability information and more.

The website will serve to bridge awareness and conversion phases of the consumer journey, nurturing consumer knowledge and interest in electric vehicles into purchase intent. Visitors will be served the call to action to test drive a vehicle at the Smart Columbus Experience Center and ultimately, to submit their contact information, so they may be contacted by an EV dealer, creating new sales opportunities.

The website will also help advance the Acceleration Partners portal by supporting an exclusive (password protected) partner area. The partner area of the website would host content and updates for Acceleration Partners. Importantly, it will also host a reporting feature, through which partners may relay performance KPIs to Smart Columbus.

Substrategy 4.3.3.2 – Digital Education

Once exposed to Smart Columbus through workplace campaigns, Ride and Drives and general awareness activities, consumers are most likely to take their car search online. Car buyers spend an average of 12 hours, 30 minutes—75% of their total purchase journey—researching and evaluating their purchase online.

After engaging Columbus residents at their workplace, at Ride and Drives, in public right-of-ways and beyond, the program will meet them where they are during this next phase of the journey: online. Digital interactions will intercept car buyers on social media, search, car comparison websites and more and draw them to the Smart Columbus website for education and engagement, to be nurtured into a dealer lead (consisting at a minimum of a name, phone number or email address and model interest).

The consumer-facing educational campaign will target individuals in the seven-county region with early adopter characteristics who are actively considering a car purchase. The integrated marketing communications campaign may leverage advertising, digital, public relations, social media engagement, events and other activations as deemed appropriate and effective.

On a continuous basis in 2019, Smart Columbus will use campaign performance data to optimize the campaign's performance, to deliver maximum dealer referrals.

Substrategy 4.3.3.3 – B2B Marketing

There is an opportunity to attract additional Acceleration Partners and deepen the engagement of existing partners through media exposure. In addition to the consumer-facing campaign, Smart Columbus will also conduct a smaller business-to-business (B2B) campaign to generate recognition for employer commitments and successes, to help attract additional partners and to foster deeper engagement from existing Acceleration Partners.

This campaign in 2019 will celebrate how Acceleration Partners are moving our community forward, creating B2B awareness and engagement in the program, as well as a “halo” of consumer awareness among early adopters.

Strategy 4.3.4 – EV Loyalty Program

Smart Columbus will build affinity among PEV owners with Smart Columbus by celebrating, rewarding, and highlighting them as modeling our way forward to the future of Columbus. In 2019, Smart Columbus will continue to distribute new owners gifts. When new PEV owners pick up their vehicle to take home from a dealership, they'll receive a gift from Smart Columbus, prompting organic social media activity and promotion of EV ownership to their friends and networks. New owners will be invited to share their information with Smart Columbus for deeper engagement with the initiative and information will be shared with them to ensure they have a smooth transition to EV ownership so that they will become ambassadors to their friends, neighbors and colleagues.

Initiative 4.3 – 2019 Quarterly Activities

2019 Activities:

- Continue to engage and support Mobility Ambassadors in building and executing successful workplace campaigns
- Continue to deliver digital leaders to dealers and OEMs.
- Leverage Clean Fuels Ohio to provide EV education at smaller events.
- Continue to connect EV owners with the Clean Fuels Ohio EV owners' group
- Continue promoting extended test drives for executives and sustainability leaders.
- Continue conducting test drives at the Experience Center and on the Ride and Drive Roadshow.
- Continue to distribute New EV Owners Gift
- Host EV educational programming at Smart Columbus Showroom
- Update communications materials and toolkit with new information
- Coordinate outreach with fleet and workplace priorities
- Optimize consumer education campaign based on performance and continue most effective promotions
- Speak to company executive leadership teams
- Continue accepting and reviewing applications for the Ignite Action Fund Program
- Assist partners executing projects funded through the Ignite Action Fund

Q8 Activities:

- Recruit new companies to join the Acceleration Partner Program.
- Share Ignite EV adoption stories through the Playbook and media outlets.
- Continue recruiting Mobility Ambassadors from the second cohort of Acceleration Partners.

Q9 Activities:

- Continue recruiting Mobility Ambassadors from the second cohort of Acceleration Partners.

Q10 Activities:

- Develop 2020 work plan
- National Drive Electric Week marketing activations

Q11 Activities:

- See 2019 Activities above

2020 Activities:

- Sunset Ride and Drive Roadshow
- Celebrate and determine sustainment of Acceleration Partners Program
- Continue test drives from Smart Columbus Experience Center
- Complete digital education campaign
- Complete reimbursements and reporting for Ignite Action Fund Recipients
- Continue to update and maintain the website

Initiative 4.4 – Improving Consumer Sales Experience of EVs

Objective Statement: *Engage in partnerships with local car dealerships and Original Equipment Manufacturers (OEMs) to secure a satisfactory supply of new and used EVs and improve the sales environment of these models to satisfy the increased consumer demand created during the life of the grant.*

The availability of EV models will be monitored and measured to ensure product is increasingly available through the duration of the grant period and is consistently increasing to match the increased demand.

The supply of EVs to the Columbus market will be periodically monitored by maintaining a log of all EVs sold and distributed to the U.S. and conducting regular engagement with dealerships and OEMs to know what models are being sold and where.

Strategy 4.4.1 – Lead Management and Sales Support

Barriers will be addressed and opportunities will be pursued to enhance the success of dealers selling EVs in the seven county region. An opportunity exists for Smart Columbus to secure contact information for prospective car buyers (lead capture) and educate and engage them over time (lead nurturing) in order to convert more car buyers to electric vehicles.

While the Ride and Drives and consumer education campaign will immediately turn “hot leads” (consumers ready to engage a dealer today) over to dealers, it will turn “warm leads” (receptive to EV purchase in the near future) over to a lead nurturing program. The nurturing program will re-target and re-engage car buyers to deepen understanding of and interest in electric vehicles, eventually creating dealer-ready leads.

Throughout the grant period, new ways to support dealerships in their efforts to sell EVs will be identified. Communications support will be provided to dealerships by making Smart Columbus collateral and consumer education material available for their distribution. This may include resource guides and collateral that may be used inside the dealership, as well as digital logos and assets that they may use to create their own promotions and collateral.

Strategy 4.4.2 – Dealer Preparedness and EV Readiness

Through continuing relationships directly with local dealers and OEMs and engaging new ones, we will be able to address the EV supply issue with OEMs, and educate local dealers on EV sales and Smart Columbus. This will provide consumers one fluid sales process that is guided by Smart Columbus, and not disjointed, ultimately driving sales for dealers.

Substrategy 4.4.2.1 – Dealer and Original Equipment Manufacturers Engagement

To be sure we keep supply on par with demand, regular and continued engagement with dealers and OEMs will be conducted. This will continue our relationships with OEMs and local dealerships so they understand the increase in demand Smart Columbus is creating. This will result in a more connected sales environment and increase product availability of new and used EVs throughout the grant period.

Substrategy 4.4.2.2 – Dealer Certification

Through the relationships that are developed with dealership owners and local automotive associations, dealerships will be enrolled in the Smart Columbus Electrified Dealer program. Their involvement in the program would consist of, but is not limited to commitments to:

1. Have supply of EV models on lot;
2. Conduct and certify sales team members;
3. Prioritization of EV placement at the dealership;
4. Provide onsite charging;
5. Share EV and or PHEV sales data to Smart Columbus;
6. Advertise EV models; and
7. Co-market with Smart Columbus

Substrategy 4.4.2.3 – Smart Columbus Electrified Dealer EV Sales Training

As part of the Smart Columbus Electrified Dealer program, a forward-thinking, engaging, and effective dealer training will be delivered that incorporates Smart Columbus messaging. To become Electrified, dealers must train at least two car sales people from each participating dealership.

The EV Adoption Team under the advisement of the Consumer Adoption Working group will continue to improve the training curriculum for new dealers and follow up trainings for electrified dealers. Feedback and input from dealers and OEMs will be sought and incorporated.

Strategy 4.4.3 – Group Purchase Programs

Group purchase discount programs will be secured from OEMs that can be extended to corporate employers and their employees, and or, public consumers, with the intention of making EV purchasing decisions easier and more enticing throughout the life of the program.

The EV Adoption Team will secure group purchase incentives with the aid of enlisted NGOs and the Consumer Adoption Working Group.

Initiative 4.4 – 2019 Quarterly Activities

2019 Activities

- Actively engage with local dealership owners and OEM leadership
- Facilitate ongoing collaboration, commitment, and engagement among dealerships and OEMs
- Negotiate group purchase rates for fleet/consumer purchases of new and used vehicles
- Facilitate Dealer Trainings
- Continue lead generation efforts across consumer consideration strategies
- Continue to enroll new dealerships in the Smart Columbus Electrified Dealer program.
- Track Electrified Dealer monthly sales numbers
- Host quarterly roundtable with Electrified Dealers

Q8 Activities:

- Integrate group buy promotion into Mobility Ambassador program more explicitly
- Continue discussions about OEMs supplying EV models for Experience Center
- Invite Dealerships to the Smart Columbus Experience Center

Q9 Activities:

- See 2019 Activities above

Q10 Activities

- Assess current dealership engagement and make necessary adjustments

Q11 Activities:

- Send end of year thank you gifts and recaps of achievements to Dealers and OEMs

2020 Activities:

- Continue assessing and tracking success of Electrified Dealer Program
- Continue cultivating new relationships and opportunities with local dealership owners and OEM leadership
- Negotiate group purchase rates for fleet and consumer purchases of new and used vehicles
- Continue lead generation efforts across consumer consideration strategies
- Continue to educate dealers about EVs and how to increase sales
- Keep models current in Smart Columbus Experience Center with support of local dealers and OEMs
- Continue developing dealership partnerships and relationships

Consumer Electric Vehicle Adoption Milestones/Deliverables and Proposed Due Dates

DATE	MILESTONE/DELIVERABLE
January 2019	Q7 Campaign Performance Report
February 2019	Kick-Off 2019 Mobility Ambassador Program with integrated cohorts
March 2019	Launch 2019 Ride & Drive Roadshow Host Electrified Dealer Roundtable
April 2019	Q8 Campaign Performance Report
May 2019	Earned media promotion of Ignite Action Fund projects
June 2019	Host Electrified Dealer Roundtable
July 2019	Q9 Campaign Performance Report
September 2019	Host Electrified Dealer Roundtable
October 2019	Close Ride & Drive Roadshow Program
October 2019	Q10 Campaign Performance Report
December 2019	Closing Ride & Drive Roadshow Report Host Electrified Dealer Roundtable
January 2020	Q11 Campaign Performance Report

PRIORITY 5 – CHARGING INFRASTRUCTURE

Objective Statement: *Support the acceleration of electric vehicle adoption through installation of charging infrastructure, with the goal* of 925 new charging ports by the end of the grant period.*

*AEP Ohio funded charging infrastructure through the ESP III Extension included provisions for 300 Level 2 stations and 75 DC Fast Charging Stations. This goal was subject to adoption of the Joint Stipulation filed on August 25, 2017 and authorized in PUCO order on April 25, 2018 and should be considered a statewide allocation. Ultimate placement of infrastructure was determined through the established rebate process announced August 16, 2018.

This priority will support the acceleration of electric vehicle adoption through deployment of charging infrastructure. The quantity of charging ports to be deployed will be evaluated and updated as necessary. The Charging Workgroup will develop guidance for type and number of charging ports to install based on demand and electrical needs. The type and number of charging ports specified may change as new information is collected and as data from pilot installations is gathered.

Initiative 5.1 – Residential Charging

Objective Statement: *150 charging stations will be deployed at multi-unit dwellings (MUDs) throughout the grant period. The PMO will install a total of 90 (60 in Year 2, 30 in Year 3) and AEP will provide incentives for business customers to install, in the AEP Ohio service territory, up to 60 Level 2 stations during the life of the project to support EV adoption.*

As the majority of EV charging occurs at home, this initiative will mitigate the EV adoption barrier of lack of charging access in shared parking structures (40% of City of Columbus and 28% of suburban households are multi-unit dwellings). Additionally, the installation of Level 2 charging ports in residences will provide the ability to track the impact of EV adoption to the grid. Level 2 charging ports are deemed cost-effective and of sufficient capacity to satisfy the needs of MUD residents.

Strategy 5.1.1 – Develop MUD Infrastructure Plan

The Charging Workgroup will work with MUD rebate awardees to monitor progress of EVSE installation projects and to educate tenants. The group will also work with the SCEP to establish a method for obtaining and tracking quarterly data. The work group will analyze charging station data from the first two years of the program to measure usage and determine future need and demand for EVSE infrastructure in the greater Columbus region.

Strategy 5.1.2 – Residential Charging Research and Assessment

The Columbus Division of Power and AEP Ohio will research and assess the use of residential smart chargers and provide this information to the PMO.

Initiative 5.1 – 2019 Quarterly Activities

CITY OF COLUMBUS

Q8 Activities:

- Execute second round of Smart Columbus MUD incentive funding and award to developers for a minimum of eighteen (18) charging ports.
- Columbus Division of Power to identify a residential smart charger research team.

Q9 Activities:

- Work with recipients to assemble paperwork and submit for reimbursement of Smart Columbus MUD incentives
- MUD incentive recipients to purchase, install and have fully operational their electric vehicle charging stations
- Perform in-person site visits to inspect the completed stations to ensure they're operating properly.
- Columbus Division of Power residential smart charger research team to begin assessment process.

Q10 Activities:

- Continue to work with developers to ensure all charging ports are operating properly.
- Work with developers to market the new charging station at developments and help to educate users and consumers about the new available chargers.
- Columbus Division of Power residential smart charger research team to continue assessment process.

Q11 Activities:

- Continue to work with developers to market the successes of installing electric vehicle charging stations at MUDs.
- Columbus Division of Power residential smart charger research team to finalize assessment.

2020 Activities:

- Although all the funding is expected to have been utilized, it is anticipated developers will leverage the previously received electric vehicle charging station incentives to install additional stations to meet demand for future electric vehicle adoption and growth.

AEP

Q8 Activities:

- Announce Wave 2 of EV Charging Incentives Program.
- Continue to promote EV Charging Incentives Program.
- Process EV Charging Incentives Program applications as received.

Q9 Activities:

- Announce Wave 3 of EV Charging Incentives Program.
- Continue to promote EV Charging Incentives Program.
- Process EV Charging Incentives Program applications as received.

Q10 Activities:

- Continue to promote EV Charging Incentives Program as long as funds available.

Q11 Activities:

- Continue to promote EV Charging Incentives Program as long as funds available.

2020 Activities:

- Assess status of EV Charging Incentives Program funding and plan accordingly.

Initiative 5.2 – Public Access Charging

Objective Statement: *Up to 150 Level 2 and 75 DC Fast charging stations will be installed at priority locations throughout the AEP Ohio service territory and Columbus region during the period of the grant.*

AEP Ohio will continue to provide incentives for business customers to install up to 90 Level 2 and 75 DC Fast Charging stations within the AEP Ohio Service Territory that will be accessible to the public. Priority locations have been identified through analyses conducted by the United States Department of Energy (USDOE), MORPC and AEP Ohio funded siting studies. These analyses are based on traffic patterns and current gaps in network infrastructure. To maximize usage of stations, the Charging Working Group will determine how public charging facilities can augment and fill public and private fleet charging needs. For example, see Denver’s approach: <http://lungwalk.org/CleanCitiesWebsite/wordpress/wp-content/uploads/2015/05/Colorado-PEV-Readiness-Plan.pdf>

With the DOE plan and concurrently completing the city’s building and zoning code structure review (see *Initiative 5.5*), the PMO will continue to work with site hosts to facilitate installation of charging ports by AEP. Utilization of the charging ports will be tracked to further define future EVSE needs.

A combination of Level 2 ports and DC fast charging stations are being installed to track region specific usage patterns.

Initiative 5.2 – 2019 Quarterly Activities

CITY OF COLUMBUS

Q8 Activities:

- Install 5 Level 2 or DCFC charging ports
- Continue development of partnerships with site hosts and secure commitments
- Continue work with the Ohio EPA to have charging ports installed throughout the seven county region through the VW Mitigation Settlement
- Analyze data from chargers to confirm site specific and overall public charging needs

Q9 Activities:

- Install 5 Level 2 or DCFC charging ports
- Finalize program development of partnerships with site hosts and secure commitments
- Continue work with the Ohio EPA to have charging ports installed throughout the seven county region through the VW Mitigation Settlement
- Confirm city permitting and planning functioned as intended for prior year installations and develop plan to fix issues for future projects

Q10 Activities:

- Install 10 Level 2 or DCFC charging ports
- Begin planning efforts for sustainability of public charging beyond grant program
- Research and develop additional EVSE needs for future years

Q11 Activities:

- Install 10 Level 2 or DCFC charging ports
- Continue planning efforts for sustainability of public charging beyond grant program
- Finalize additional EVSE needs for future years

2020 Activities:

- Analyze ongoing data from chargers to confirm site specific and future public charging needs
- Follow-up with site hosts to share charger data and analyze site impacts of charger location
- Begin implementing transition plan to sustain public charging efforts within the 7 county region into the future

AEP

Q8 Activities:

- Announce Wave 2 of EV Charging Incentives Program.
- Continue to promote EV Charging Incentives Program.
- Process EV Charging Incentives Program applications as received.

Q9 Activities:

- Announce Wave 3 of EV Charging Incentives Program.
- Continue to promote EV Charging Incentives Program.
- Process EV Charging Incentives Program applications as received.

Q10 Activities:

- Continue to promote EV Charging Incentives Program as long as funds available.

Q11 Activities:

- Continue to promote EV Charging Incentives Program as long as funds available.

2020 Activities:

- Assess status of EV Charging Incentives Program funding and plan accordingly.

Initiative 5.3 – Workplace Charging

Objective Statement: *To install a minimum of 250 charging ports at workplaces during the grant period.*

The Columbus Partnership will work with AEP Ohio and senior leadership of area companies to gain support for installing workplace charging on corporate campuses and company owned properties.

AEP Ohio has been approved by the PUCO to provide incentives for business customers to install up to 150 Level 2 workplace accessible charging stations within the AEP Ohio Service Territory (in addition to the 47 installed at AEP Ohio offices in year 1 of the program).

Companies that want to pursue workplace charging will designate a point of contact to work with the EV Adoption Team and charging infrastructure working group to complete a pledge form expressing their commitment to install new stations. This general approach to company engagement will be a standard throughout the grant period, but it is acknowledged that relationship development and different company structures may call for slightly different approaches to engagement and execution.

The EV Adoption Team will work with companies to:

- Provide training and education to facilities manager and procurement officers (or purchasing decision makers);
- Arrange consultations, OEM meetings, and utility discussions, as needed;
- Provide support for interested parties to apply for available rebates and incentives;
- Provide education materials and communication templates/assets to support their efforts;
- Provide survey templates and reporting tools for simple tracking of their progress and success
- Help determine charging station infrastructure needed for each workplace; and
- Work with employers to engage employees through a comprehensive workplace charging program, which will include developing an infrastructure governance policy as well as raising awareness of the charging stations.

Initiative 5.3 – 2019 Quarterly Activities

CITY OF COLUMBUS

2019 Activities:

- Continue discussions with potential site hosts and identify workplace employee representatives.
- Assist private entities with site plans, charging specifications and construction.
- Provide facility managers with any needed training and assistance.
- Provide education materials and communications assistance to support efforts with employees.
- Work with employers to engage employees through a comprehensive workplace charging program, which will include developing an infrastructure governance policy as well as raising awareness of the charging stations.
- Support workplaces with application to available rebate and incentive funding, such as AEP rebate programming.

Q8 Activities:

- See 2019 Activities above.

Q9 Activities:

- See 2019 Activities above.

Q10 Activities:

- Determine long term plan for workplace charging.

Q11 Activities:

- See 2019 Activities above.

2020 Activities:

- Continue discussions with potential site hosts and secure commitments.
- Provide facility managers with any needed training and assistance.
- Provide education materials and communications assistance to support efforts with employees.
- Install additional workplace charging ports depending on demand.

AEP

Q8 Activities:

- Announce Wave 2 of EV Charging Incentives Program.
- Continue to promote EV Charging Incentives Program.
- Process EV Charging Incentives Program applications as received.

Q9 Activities:

- Announce Wave 3 of EV Charging Incentives Program.
- Continue to promote EV Charging Incentives Program.
- Process EV Charging Incentives Program applications as received.

Q10 Activities:

- Continue to promote EV Charging Incentives Program as long as funds available.

Q11 Activities:

- Continue to promote EV Charging Incentives Program as long as funds available.

2020 Activities:

- Assess status of EV Charging Incentives Program funding and plan accordingly.

Initiative 5.4 – Fleet Charging

Objective Statement: PMO is designing and installing 96 Level 2 charging ports by the end of Year 1, and an additional 104 during the grant period. As needed, the PMO will work with other public agencies to install an additional 65 charging ports for their fleets by end of grant period.

The City of Columbus will deploy charging ports in support of their EV fleet conversion detailed in Priority 2, Initiative 2.1: Public Fleets. Specifications and tools will be refined to streamline the site plan and building approval process for public charging. This information will continue to be used to develop specific charging standards and codes for all applications (workplace, residential, etc.). Level 2 charging ports were selected to facilitate faster charging and higher utilization of fleet vehicles.

Other public agencies and private companies will install charging ports to support their own fleets as they are procured and deployed, however the PMO office will be engaged and help manage the projects as needed. The PMO is tracking the number of both public and private fleet charging ports.

Initiative 5.4 – 2019 Quarterly Activities

Q8 Activities:

- Complete installation of 32 chargers for Columbus Fleet
- Begin scoping and plan development for Q11 charging station installations for Columbus fleet
- Analyze ongoing data from chargers to confirm site specific charging behavior and needs
- Continue to advise and work with Columbus Fleet to determine needs: number, locations, specifications, etc.

Q9 Activities:

- Finalize plans for Q11 charging station installations for Columbus fleet

Q10 Activities:

- Begin planning efforts for fleet charging needs beyond grant program

Q11 Activities:

- Complete installation of 72 chargers for Columbus Fleet
- Finalize transition plan for fleet charging needs beyond grant program

2020 Activities:

- Analyze ongoing data from chargers to confirm site specific charging needs
- Begin implementing transition plan to coordinate long term fleet charging efforts within the 7 county region

Initiative 5.5 – Building and Zoning Changes to Support EV Charging

Objective Statement: *Develop and refine standards and codes to facilitate efficient City of Columbus EV infrastructure permitting beginning in Year 1 of grant period and share information and lessons learned with other municipalities.*

The City of Columbus initiated the process of installing EV charging ports on city property at three locations during the first quarter after signing of the grant agreement. These test cases will be monitored for any barriers to installations and will inform changes and enhancements to City codes and processes to make EV infrastructure permitting more efficient.

Initiative 5.5 – 2019 Quarterly Activities**Q8 Activities:**

- Begin working through the formal outreach and legislative processes to enact EV Parking, EV Readiness, and ‘right to charge’ ordinances
- Continue research into various EV owner and driver incentives available for development through policy
- Finalize model site plan and specifications for installation of charging ports
- Review impact of current charging policy on charger installations to date

Q9 Activities:

- Continue working through the formal outreach and legislative processes to enact EV Parking, EV Readiness, and ‘right to charge’ ordinances
- Begin policy development of chosen EV owner and driver incentives
- Determine if additional policy updates are needed for future installations
- Develop post-program transition plan to potentially include budget, activities, and milestones for 2020

Q10 Activities:

- Finalize policy development of chosen EV owner and driver incentives

Q11 Activities:

- Pass legislation for EV Parking, EV Readiness, and 'right to charge' ordinances
- Support transition between approved legislation and the policy enforcement date for the EV Parking, EV Readiness, and 'right to charge' ordinances
- Enact or pass legislation (if needed) of chosen EV owner and driver incentives

2020 Activities:

- Reporting and analysis of in-effect EV Parking, EV Readiness, and 'right to charge' ordinances
- Review impact of policy and standards changes on 2019 charger installations

Charging Infrastructure Milestones/Deliverables and Proposed Due Dates

DATE	MILESTONE/DELIVERABLE
November 2018	Charging station specifications adopted
December 2018	Anticipated award of MUD Round 2 incentives
January 1, 2019	CoC Part 2 Fleet Charging Sites Operational
January 1, 2019	Completion of Round 1 MUD rebates for EVSE charging stations
February 2019	Electric Avenue Grand Opening
February 2019	Submit final EV policy ordinances for City Attorney Review
March 2019	Anticipated completion of work associated with Round 2 MUD awards
April 2019	Grand opening/ribbon cutting at MUD charging stations from Round 2 of funding
May 2019	Public Access Charging Pilot Project Opening
June 2019	Anticipated completion date for issuing of rebates/incentives for both Round 1 and Round 2 of MUD projects
July 2019	Final outreach and hearings for EV policy ordinances complete
October 2019	EV policy ordinances approved by City Council
December 2019	DOP delivery of final assessment plan to PMO

APPENDIX A – QUARTERLY INDICATORS & METRIC TARGETS

The Quarterly Indicators and Metric Targets spreadsheet is used as a way to track actual indicator progress against the established targets/goals for each priority of the project on a quarterly basis. The indicators are provided at the Project, Priority and Initiative level.

Performance indicators are addressed at three levels:

1. The overall project level;
2. The five project priorities (grid decarbonization, fleet EV adoption, Transit, Autonomous and Multi-Modal Systems in the City, consumer EV adoption and EV charging infrastructure); and
3. The specific initiatives under each priority areas.

The project, priority and initiative indicators are hierarchical. Priority indicators contribute directly to a project indicator, and similarly, initiative indicators contribute directly to one of their respective priority indicators. Progress indicators are also defined. Progress indicators encompass anything that can be numerically evaluated and reflect progress towards objectives, but do not contribute directly to higher level indicators. Methods and data sources for estimating indicators and tracking progress towards targets are described in the PfMP.

The 'Adjusted Targets' spreadsheet outlines the current goals that have been established by the project working groups for each indicator. The 'Progress' spreadsheet reports the actual progress of each indicator toward the established targets. The 'Tracking' spreadsheet simply takes the difference between the targets and progress numbers to specify how each indicator is tracking toward the goal.

The 'Progress' spreadsheet includes highlighted cells to help clarify how the spreadsheet functions. Cells that are yellow are direct inputs. Cells that are orange are calculations that are either summing values or converting values to a common unit. Cells that are green are calculations that are converting the appropriate values into MTeCO₂ used to calculate overall GHG emission reductions.

Timelines for indicators contingent upon PUCO approval will be adjusted as approval is received.

See the attached *SCC-P7-Quarterly Indicators and Metric Targets-2019 SCEP Update.xlsx* for more detail.

APPENDIX B – BUDGET

See the attached SCEP_2019 Budget Estimate_Proposed.xlsx for more detail.

APPENDIX C – PARTNER COOPERATIVE AGREEMENTS

To be included after partner cooperative agreements have been signed.