

Submitted By: ACCGov Sustainability
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Project Type: Public Transit related projects - Athens Transit System
General Program Goal: Economic Prosperity

Previously Submitted and Rejected: No
Continuation Project: Yes - SPLOST 2011, Project 23

Project Total Cost: \$9,733,000

**Total Annual Operating Savings: \$ (496,000) for
10 years after project completion**

Abbreviated - Project Description: This project provides for the replacement of Athens-Clarke County vehicles used for Transportation purposes, such as, cars, SUVs, vans, small and medium duty trucks, and Transit Buses with electric vehicles. Also includes charging stations and replacement of gas powered tools used to maintain roadways and access with battery operated equipment. Requires \$10,197,000 in Federal and State grant funding to accomplish the savings listed.

Project Location/Address: County wide

Is the Site currently owned by the Unified Government of Athens-Clarke County? Yes

Is the Site within State Highway Rights-of-Way? No

Site Specific Information: These are all fleet and transit vehicles that provide transportation/transit or transportation-related services. Chargers will be placed on ACCGov owned property

Does this Project require the acquisition of any land rights, whether existing sites, new site, easements, or Rights-of-Way? No

Project/Program Description: This is a multi-departmental submission involving the Sustainability Office, Transportation and Public Works, Transit, Central Services, Airport, and Leisure Services.

Transportation makes up 29% of Athens' energy consumption, creating an estimated 1 million tons of greenhouse gases each year. The Electrify the Fleet Initiative targets only transportation-related fleet and transit vehicles operated by Unified Government of Athens-Clarke County (ACCGov). The project also replaces gas powered tools essential to maintaining transportation corridors and services with battery powered alternatives. EV service trucks equipped with outlets can be used to recharge tool batteries - making the use of battery-dependent tools in remote work locations a functional and feasible alternative to gas powered tools.

The project includes the installation of charging stations targeting ACCGov fleet vehicles that are used for transportation related activities only. Based on the projected cost and funding, the conversion to full electric would exchange approximately 47 pickups and cars, 11 transit busses (assumes 90% of cost paid by State and Federal Grants), and 5 route and support vehicles (assumes 90% of cost paid by State and Federal

Grants). This number will vary based on the cost of electric vehicles at time of purchase.

Project Details

This project includes the following vehicles that are used for transportation, transportation access maintenance, and related transportation activities:

- Replaces gas and diesel powered vehicles that are at the end of their lifecycle with fully electric (EV) sedans, SUVs, small trucks, vans, medium duty trucks, and route and transit buses. These include
 - Transit vehicles: 11 full size, all electric buses; 2 one-half ton micro (on-demand) extended range vans; 3 light truck/SUV extended range transit support and service vehicles; needed charging stations;
 - Transportation and Public Works Road and Right of Way Vehicles used for road, right of way, and corridor maintenance: 3 extended range light duty/SUVs; 17 one-half ton extended range trucks; 1 three quarter ton extended range truck; needed charging stations
 - Central Services/Landscape Division road right of way and multiuse trail maintenance vehicles: 6 one-half ton extended range trucks; 7 three-quarter ton extended range trucks; needed charging stations
 - Airport: vehicles used to support airport transportation operations and maintenance, including: 2 sedans; 1 light truck/SUV; 1 one-half ton extended range truck; 1 three-quarter ton extended range truck; needed charging stations
 - Leisure Services vehicles needed to provide maintenance and services to multiuse greenway and firefly path and facilities essential to system access: 2 one-half ton extended range trucks; 1 one-half-ton extended range van; 5 three-quarter ton extended range trucks; needed charging stations
- Transportation and Public Works Tools: Replaces gas/mixed gas hand power tools at the end of their lifecycle with battery powered tools, batteries, and chargers to enable the right of way and transportation corridors to be maintained using clean and renewable energy sources. Examples include weed eaters, backpack blowers, chainsaws, and trimmers. (Note: because EVs have outlets and capacity, they can be used to charge batteries on-site in real time reducing the number of batteries needed and eliminating the need to transport and use gas, oil, and mixed fuel.

Project Mission Statement/Selection Criteria: The mission of the Electrify the Fleet initiative is to replace greenhouse gas producing, fossil fuel-based vehicles at the end of their lifecycle with electric vehicles and to support the deployment of associated infrastructure (ex: chargers) and the conversion to electric power tools needed to maintain transportation corridors. Goals include:

- Provide significant financial savings to ACCGov and the community through fuel cost savings, decreased maintenance costs, and deferred capital cost of replacement due to extended vehicle and equipment life cycles. Total savings in annual operating and capital cost is estimated to be \$4,921,000 over a 10 year period.
- Enhance community and ACCGov staff health and safety by reducing pollution (toxic chemicals, fumes, spills, noise, and particulate matter) and decrease equipment vibration.

- Enhance worker productivity by reducing time spent obtaining, monitoring, purchasing, and transporting fuel.
- Enhance worker health by reducing front line staff (i.e. drivers, corridor maintenance, and vehicle maintenance) exposure to toxic fumes and pollutants.
- Significantly decrease climate-changing greenhouse gases
- Significantly reduce the amount of time vehicles are out of service for maintenance, enhancing service levels and reducing work schedule disruption
- Enable transit to add capacity to serve more community members through the reduction of loss of service time, reduced time spent purchasing, monitoring, and storing fuel and time spent fueling equipment.
- Enhance community ecosystem health through a decrease in particulate matter and avoided greenhouse gas production while reducing the potential for toxic fuel spills, and reducing ambient noise levels.
- Enhance water quality and help protect aquatic ecosystems by reducing airborne particulates that are subsequently washed out of the air through rainfall, directly impacting wildlife and species diversity while acidifying the aquatic environment.
- Promote economic health and the expansion of "skilled green jobs" needed to install and service electric vehicle charging stations, solar panels, and battery storage units.
- Reduce ambient noise levels lessening impact of people and wildlife*

*Note: high noise levels disrupts wildlife behavior, impacting their overall health. Noise impacts reproductive and territorial behavior, nesting and denning activities, and the ability to hunt for food.

How is this Project recommended/included in any approved ACCGov Land Use Plan, Master Plan, Corridor Study, or Service Delivery Plan?

- ACC Mission Statement:
Athens-Clarke County, an open and responsive government, facilitating a positive environment for individuals to obtain a high quality of life and local organizations to achieve success by providing innovative, high quality services and responsible stewardship of the community's resources, to benefit current and future generations.
- Mayor and Commission Strategic Commitments and Goals:
 - o Healthy, Livable, and Sustainable Athens-Clarke County
 - o Transportation Mobility and Connectivity
 - o Shared Prosperity
 - o Informed and Engaged Citizens
 - o Accountable and Responsive Government
 - o Safe and Prepared Community

- Envision Athens Action Agenda:

Environment E3: Increase energy efficiency, sources, and use of renewables.

- ACC 2018 Comprehensive Plan (Vision Statement from 2018 ACC Comprehensive Plan): Athens-Clarke County remains steadfast in its commitment to improve the health, equity and prosperity for all residents and to preserve our natural and cultural resources.

- Environment:

Need/Opportunity D: Sustain a culture of conservation that maximizes waste reduction, increases the life of our landfill, and ensures waste is properly handled.

Need/Opportunity E: Focus efforts on incorporating the concept of energy efficiency into all sustainability initiatives as it can often be overlooked in comparison to more popular "green" strategies.

- Goal: A forward-thinking community that protects and improves the quality and function of our land, air, and water resources, recognizing their relationship to human health and the region's ecological functioning. Stewardship of the natural environment includes exploring ways for our actions and decisions to have a positive impact on the environment and to reduce negative impacts.

Strategy 2: Increase energy efficiency, sources, and use of renewables.

Policy F: Increase energy efficiency, sources, and use of renewables.

- Government Operations: The local government plays a crucial and necessary role in setting the foundation for community success and sustainability. Although many initiatives pertaining to the comprehensive plan are the responsibility of the local government, operations within this institution are not immune from examination and improvement. By consistently challenging the traditional norm in public administration, the community will achieve sustainability and a greater future.

Need/Opportunity C: Understand that Athens-Clarke County no longer functions as a "small town" anymore and cannot keep operating as such.

Policy C: Improve internal efficiency and effectiveness.

- ACC FY22 Budget: Manager's Office Stated Goal/Objectives:

- o Facilitate the completion of the Sustainability Plan. Further, to develop a strategy for ACCGov to become 100% clean and renewable energy by 2035.

- o Support the implementation strategies for Envision Athens and the Comprehensive Plan.

How is this Project included in the Madison Athens-Clarke County Oconee Regional Transportation Study (MACORTS) long-range Transportation Improvement Plan (TIP)? N/A

PROJECT JUSTIFICATION

How will the Project meet one or more of the Selection Criteria?

Promotes the Goal of improving Equitability of capital improvements throughout the Community:

The petroleum-based vehicles being replaced provide transportation corridor maintenance and transit services throughout the community, providing equitability of capital improvements. Thus, the health, environmental, cost savings, and "avoided loss of service" realized by electric vehicles reaches the entire community. Installing solar panels plus battery storage for the ACCGov Vehicles that are converted to electric will reduce the cost of charging vehicles, helping lower cost to ACCGov. .

Protects the community's existing Transportation Infrastructure Investments: TSPLOST funding puts new equipment on the road by replacing sedans, trucks, buses, and other vehicles that are at or past the end of their lifecycle with fully electric ones. Electric vehicles require less routine maintenance, spend less time "off the road", provide more time serving the community, and have longer lifecycles than petroleum-based vehicles. Adding new charging stations for use by ACCGov vehicles encourages the expanded use of EVs, helping transform Athens into a more sustainable community, reducing climate changing greenhouse gases, and helping protect the community's investment in transportation infrastructure. This project will also expand "green" and skilled service and mechanic jobs critical to the support the transportation infrastructure.

Almost 30% of energy used in the community is expended on transportation. This Electrify the Fleet project the community meet the goals of the 2019 Mayor and Commission 100% Clean and Renewable Energy Resolution.

Promotes the Upgrade and Continued Use of Alternative Transportation Facilities: This project promotes the continued expansion of alternative fuel vehicles and associated infrastructure through the transition to electric vehicles, the expanded use and placement of charging stations, and the transition to battery-powered corridor maintenance equipment used to maintain both traditional and alternative transportation corridors.

Promotes increased access to existing public facilities: Because they spend less out of service time for routine maintenance, EVs increase the amount of time buses and vehicles remain "in-service", thereby increasing public access to these services. Based on projected electric fleet and transit vehicles lifecycles and maintenance, the amount of time EVs will stay on the road, providing full service, is estimated to be 22,720 hours over 10 years of service - the equivalent average of 45 days per vehicle (2,838 total days) over a 10 year period.

Promotes increased usage of the Transit System, including improving Pedestrian access to Transit Facilities: Electric transit buses are able to provide service with less down-time for maintenance and fueling than petroleum-based vehicles. The additional in-service hours allows transit greater

flexibility to adjust routes and timing, along with more robust service delivery levels and enhanced customer satisfaction thereby encouraging an increase in transit system utilization.

Increases capital for Transit Services or expands the Transit System: Continuing to purchase petroleum-based buses and transit support vehicles will not generate any new savings whereas investing in electric vehicles will. Through fuel, maintenance, and capital costs savings, investing in transit related electric vehicles alone will generate an estimated \$2,710,000 or more in savings over 10 years. These savings are funds that transit will be able to re-direct approximately to other initiatives and service needs to increase services or expand the transit system.

Maintains or Improves Air Quality: Fossil fuel combustion releases lung-damaging particulate matter, nitrogen oxides, benzene, various metals, volatile organic compounds, Sulphur dioxide - more than 150 different chemicals are found gasoline alone. Over 10 years, this initiative eliminates the use of approximately 1,162,671 gallons of gas and diesel fuel. This not only translates to cost significant cost savings, but eliminates the production of approximately 12,612 tons of CO₂, *16 tons of NO_x, 3 tons of hydrocarbons and 880 pounds of health damaging particulate material.

Eliminating fossil fuel use also eliminates the associated toxic fumes. These fume impact the comfort and long-term health (and associated health care costs) of front line workers such as transit drivers, vehicle maintenance staff, and corridor maintenance personnel.

*Note: a pound of NO_x gas has 300 times the impact of a pound of CO₂ on air quality

Continues TSPLOST 2018 Corridor Improvements or transportation related safety improvements:

Using electric vehicles and electric corridor maintenance tools reduces the level of ambient noise produced, resulting in quieter streets and neighborhoods and improving transportation corridors. Noise is a pervasive intrusion into the life of every community member. Over time, noisy transportation corridors can contribute to hearing loss, high blood pressure, sleep disturbance, stress, and heart disease. Noise also has an impact on the health and well-being of wildlife, creating stress, disrupting and lowering hunting effectiveness, and interfering with mating and reproduction. Reducing noise will have a positive impact on transportation corridors.

Promotes Health and Safety: Transitioning from fossil fuels to electric will

- o Promote long term health and safety for front line employees (transit drivers, corridor maintenance crews, vehicle service crews) by reducing exposure to toxic chemicals and fumes.
- o Reduce the pollutants and particulate matter associated with fossil fuel combustion at the community level.
- o Enhance water quality by reducing particulate matter, metals, and other pollutants that are washed into aquatic systems with each rainfall event, increasing acidification of soil and water
- o Reduce noise, creating a healthier environment for people and wildlife

o Enhance tool safety for workers and the nearby public by using electric tools, reducing exposure to loud and sustained noise, reducing joint/muscle-damaging vibration, enhancing worker situational awareness (better hearing = heightened awareness of potential approaching vehicles), and eliminating the hazards that impact workers, the public, and the environment associated with storing, transporting, using fossil fuels

Triple Bottom Line Impacts

Positive Benefits for the Economic Prosperity of Athens-Clarke County: This project:

Helps achieve Mayor and Commission Clean and Renewable Energy goals as indicated in the 2019 resolution to transition ACCGov assets to by 2035 and assisting the community's transition to clean and renewable energy by 2050.

Provides new as well as maintains existing infrastructure needed to grow economic development that have been identified in previously adopted plans.

Reduces existing and/or future operating costs, providing opportunities for funding to be redirected to meet other service and operational needs. Over a 10 year period, investing \$9,733,000 in this initiative will generate a projected \$4,921,000 in direct savings over a 10 year period (fuel, maintenance, capital).

Because electric vehicles travel further between scheduled maintenance, the investment in EV will avoid approximately 22,700 hours of "loss of service" time, translating to 2,838 additional days the EV fleet remains on the road at full capacity serving the Athens community.

Supports other capital expenses needed to achieve action items identified in previously adopted plans for Land Use, Economic Development, Transportation and/or Infrastructure Elements.

Supports the development of and expansion of "green" and skilled jobs

Detrimental Impacts to the Economic Prosperity of Athens-Clarke County: Long-term components of vehicles, such as batteries, can be expensive to dispose of after their useful life.

Positive Benefits for the Social Well-Being of our Residents and visitors: This project:

Provides funding for Transportation-related infrastructure or incentives needed to increase access to workforce housing.

Maintains and improves equitable access to public facilities and infrastructure across the community.

Supports other capital expenses needed to achieve action items identified in adopted Master Planning documents.

Helps create a healthier, quieter, and more desirable transportation experience and corridor by reducing noise, pollution, and hazards associated with fossil fuel-burning transportation vehicles as well as the equipment necessary to maintain the corridor.

Detrimental Impacts for the Social Well-Being of our Residents and visitors: None

Positive Impacts on the Environment: This project:

Protects and enhances the quality of natural areas that provide recreation, clean water and habitat preservation through the reduction of pollution (ex: noise, particulates, hazardous materials spills, pollutants)

Supports other transportation related capital expenses needed to achieve action items identified in the Environment, Transportation, and / or Agricultural elements from previously adopted plans

Eliminates the use of approximately 1,162,671 gallons of fossil fuel over 10 years,
Avoiding the creation of greenhouse gases (12,250 tons CO₂, 1.52 tons of NO_x*, 0.36 tons of hydrocarbons),
and 880 pounds of health damaging particulate matter,
Reducing acidification of aquatic ecosystems through particulate matter reduction

Reducing potential environmental damage incurred by release/spills associated with the transport, storage, and use of fossil fuels

Reducing noise and pollutants reduces the these have on wildlife reproductive, hunting, and nesting/denning strategies while improving the overall health of both people and wildlife.

Detrimental Impacts on the Environment: This project has significant positive impacts on the community

Positive/Negative Impacts on ACCGov Departments, Agencies, or other Organizations, if not covered in one of the above questions: project is a collaborative effort undertaken by multiple ACCGov departments. By investing in electric vehicles and associated infrastructure, ACCGov provides leadership, education, and guidance (including "lessons learned") and, in the process, develops the expertise, confidence, and encouragement that will help business, industry, and the public transition to a clean, renewable, more livable, and more sustainable community.

Project Costs

Detailed project capital budget costs (to be funded from TSPLOST 2023 only):

Project Costs (round to thousand)	Amount
1. Land Acquisition / ROW / Easement:	\$ -
2. Design Fees: (Min.12% of New Const.; 14% of reno,; 16% for LEED proj.)	\$ -
3. Miscellaneous Fees: (Min. Minimum of 3% of Construction Costs – used for permitting, etc. Utilize minimum of 10% if land acquisition if necessary.)	\$ -
4. Construction:	\$ -
5. Construction Contingency: (10% of the Construction line item)	\$ -
6. Acquisition of Capital Equipment:	\$ 8,341,000
7. Testing:	\$ -
8. Project Management: (4% of the total budget line items above)	\$ 334,000
9. Project Contingency: (10% of the total budget line items above)	\$ 867,000
10. Public Art: Calculated at 1% of the Construction line item.	\$ -
11. Other 1:	\$ -
12. Other 2:	\$ -
Project Subtotal:	\$ 9,542,000
14. Program Management (2% of Project Subtotal):	\$ 191,000
TSPLOST 2023 Project Total:	\$ 9,733,000

Operating Cost

Total Annual Net Operating Costs when Project is complete:

Only identify additional or net operating costs to be paid by ACCGov as a result of this Project. Identify the additional or net costs needed, above ACCGov's current operating budget, to operate the requested project; as well as any additional Project related revenues that would be generated. Provide budget costs for each identified category below.

Operating Costs (round to thousand)	Estimated Impact for Annual Operating Expenditures
TOTAL PROJECTED REVENUES FROM PROJECT	
PROJECTED EXPENDITURES	
1. Personnel Costs: from Appendix A	
2. Annual Utilities:	
• Natural Gas:	
• Electrical:	
• Water:	
• Sewer:	
• Phone:	
• Solid Waste Collection:	
• Other:	
3. Operating Supplies: Annual Fuel Savings	(327,500)
4. Equipment Maintenance: Annual Maintenance Savings	(35,500)
5. Facility Maintenance:	
6. Other: Annual Deferred Capital Cost (fleet vehicles only – Federal Transit Authority mandates how long buses can be in service)	(133,000)
7. Other:	
8. Other:	
TOTAL EXPENDITURES (Annual Savings)	(496,000)
NET OPERATING COSTS OF PROJECT:	\$ (496,000)

Project Financing

Is the proposed Project to receive funding from source(s) other than TSPLOST 2023? Yes

Total Capital Financing for Project:

If the proposed Project is to receive funding other than TSPLOST 2023, provide a listing of amounts from each of the categories listed below. Please round all dollar amounts to the nearest \$1,000.

Project Sources (round to thousand)	Amount
1. TSPLOST 2023 ¹ :	\$ 9,733,000
OTHER SOURCES	
2. ACCGov General Fund:	\$
3. ACCGov Enterprise Fund:	\$
4. State Grant:	\$ 1,133,000
5. Federal Grant:	\$ 9,064,000
6. Previous SPLOST:	\$
7. Other (describe):	\$
8. Other (describe):	\$
TOTAL SOURCES:	\$ 19,930,000

¹ If any additional sources of funding other than TSPLOST 2023 are indicated above, please provide information related to the source here. Be specific and be prepared to provide all necessary written approvals. (For example: Roadway projects that have approval for Federal Aid and will utilize TSPLOST 2023 funding for matching funds, you would need to provide specific written approval by GDOT)

Describe the current commitments for the other sources funding this project: Federal transit grants will pay 80% of the cost of transit buses and State transit grants will pay 10% of the cost of transit buses (\$10,197,000 in grant funding).

This project is estimated to generate \$4,960,000 in savings over 10 years

In summary, investing \$9,733,000 in TSPLOST funds to this initiative will generate \$15,158,000 in grants and savings over 10 years.