Submitted By: Transportation & Public Works
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Project Type: Streets/Roads/Bridges related projects - Transportation & Public Works Department
General Program Goal: Economic Prosperity

Previously Submitted and Rejected: Yes - SPLOST 2020
Continuation Project: No

Project Total Cost: $ 14,433,000 **Total Annual Operating Cost: $ 76,000**

Abbreviated - Project Description: This project provides funding to rebuild older traffic signals and associated equipment or replacement, if needed. Rebuilding or replacing includes modifications to meet smart city specifications and capabilities.

Project Location/Address: Athens-Clarke County

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: Athens-Clarke County local roadway intersections.

Does this Project require the acquisition of any land rights, whether existing sites, new site, easements, or Rights-of-Way? Unsure

Project/Program Description: Traffic Signal Replacement provides funding to rebuild aging 30 plus years of traffic signals including poles, controller equipment, signal heads, signal wire, and miscellaneous equipment. Should a new traffic signal become warranted, this project is eligible to fund installation. With every traffic signal rebuild each one is also upgraded to current specifications for smart city capability with equipment, software and fiber connectivity for efficient operations to serve all vehicles, bicycles, pedestrians and emergency services.

Project Mission Statement/Selection Criteria: The costs to maintain traffic signal equipment increase as the equipment ages beyond the national recommended lifespan of 13 years. The current average age of the 91 traffic signals owned by ACCGOV is about 24 years. At current funding levels, it is expected that this number would continue to grow. Current investment levels fund signal replacement on a 90-year frequency. In addition to stretching operating resources, older signals increase the likelihood of malfunctions which threaten the safety and efficiency of the overall traffic signal system. The proposed funding levels would reduce General Fund Capital and improve aging infrastructure. The priority replacements include 37 traffic signal rebuilds which have an age of 40 plus years. Currently there are an additional 5 traffic signals which are in the 30 year age range and within the next five years there will be a total of 40 with an age of 40 plus years.

How is this Project recommended/included in any approved ACCGov Land Use Plan, Master Plan, Corridor Study, or Service Delivery Plan? N/A
How is this Project included in the Madison Athens-Clarke County Oconee Regional Transportation Study (MACORTS) long-range Transportation Improvement Plan (TIP)? ACC Traffic Signal Replacement Program (Project V-6)

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: Rebuilding the outdated traffic signals will reduce the capital funding that currently will never reach the goal of sustainability due to the number of intersections past the recommended life span of 13 years. Updating the signals will allow the equitable funding through capital to maintain the rebuilds needed and reduce maintenance to improve the overall community through roadway efficiency.

Protects the community's existing Transportation Infrastructure Investments: With 37 traffic signals over 40 years of age the underground and pole infrastructures are failing with continuous maintenance requirements needed. The additional maintenance requirements result in additional after hour call outs, continuous equipment replacements and additional staff hours/vehicle use for temporary repairs. Rebuilding the aging infrastructure will improve the transportation system for ACC and improve the community through increased service on the roadway.

Promotes the Upgrade and Continued Use of Alternative Transportation Facilities: Updated traffic signals offer the ability to use smart connected technology and interact with alternative transportation by adapting to the demand of roadway users.

Promotes increased access to existing public facilities: Current traffic signals can operate with adaptive technology and increased efficiency by serving a higher volume of roadway users. The increased service capability can promote growth of business with improved access by vehicles and pedestrians.

Promotes increased usage of the Transit System, including improving Pedestrian access to Transit Facilities: Pedestrian detection with current technology in updated intersections will reduce the wait times for walking access even during high vehicle volumes by adaptive timing. Updated traffic signals also standardize additional pedestrian safety features including ped signals, electronic button activation systems and ADA access.

Increases capital for Transit Services or expands the Transit System: Updated traffic signals with fiber connectivity, detection and smart technology can reduce transit travel times by detecting the public transit vehicles within the proximity of intersections and reducing the delay during peak vehicle volumes.

Maintains or Improves Air Quality: Traffic signals with updated technology and detection reduce the delay times for all roadway users. Vehicle and pedestrian wait times are greatly reduced through adaptive technology and timing that changes with volume data therefore improving air quality by reducing idle times.

Reduces vehicle miles traveled and traffic congestion: Traffic signals with current connected technology and detection systems increase efficiency for all roadway users. Vehicles and pedestrians can have instant access to the roadway data to reduce the travel times due to an incident or special event with notifications from the smart city technology.

Reduces time spent traveling in vehicles: Reduction in travel time's results in less time spent on the roadway by which traffic signals with current connected technology and detection systems increase efficiency for all roadway users.

Promotes Health and Safety: Updated traffic signals can improve the connectivity for pedestrians and bicycles with detection technology that changes the vehicle timing to adapt with the volumes. The connected technology can allow vehicles to detect pedestrians, bicycles and other vehicles within the intersections to avoid incidents and reduce other vehicle collisions.

Triple Bottom Line Impacts

Positive Benefits for the Economic Prosperity of Athens-Clarke County: Current updated traffic signals can operate with adaptive technology and increased efficiency by serving a higher volume of roadway users. The increased service capability can promote project development and economic growth with improved access by vehicles, pedestrians and freight shipments/delivery.

Detrimental Impacts to the Economic Prosperity of Athens-Clarke County: N/A

Positive Benefits for the Social Well-Being of our Residents and visitors: Reduced traffic and pedestrian delays results for the residents, UGA students and visitors with the rebuilding of the 40 percent of ACC owned traffic signals which have little or no detection for vehicles or pedestrians. The upgrades will bring the intersections to current standards that are capable of providing a higher level of service to all users within roadway systems.

Detrimental Impacts for the Social Well-Being of our Residents and visitors: N/A

Positive Impacts on the Environment: Providing an increased level of service for intersections will reduce environmental impacts such as air and noise pollution from vehicle congestion. Upgrading these traffic signals to current technology and infrastructure standards allows for a more efficient traffic, pedestrian and transit movement with less delays.

Detrimental Impacts on the Environment: N/A

Positive/Negative Impacts on ACCGov Departments, Agencies, or other Organizations, if not covered in one of the above questions: Operational standards and failing infrastructure for these traffic signals creates liability issues not only for ACCGOV with public safety but also for employee safety. The hazards with the current equipment within the public right of way are at risk to all users of the roadway including motorists, pedestrians, bicyclists and the ACCGOV technicians who service these intersections on a daily basis just to maintain operations. The national average lifespan of a traffic signal is 13 years, this is due to the fact that the equipment is susceptible to weather, UV and 24/7 operations. This equipment has been in service 3 times past the ordinary lifespan and is past the stage of complete replacement.
Rebuilding these intersections will improve the proficiency of operations for all transportation related business within Athens-Clarke County.

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.)	$	450,000
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:	$	10,750,000
5. Construction Contingency: (10% of the Construction line item)	$	1,075,000
6. Acquisition of Capital Equipment:	$	-
7. Testing:	$	-
8. Project Management: (4% of the total budget line items above)	$	491,000
9. Project Contingency: (10% of the total budget line items above)	$	1,277,000
10. Public Art: Calculated at 1% of the Construction line item.	$	107,000
11. Other 1:	$	
12. Other 2:	$	
Project Subtotal:	$	14,150,000
14. Program Management (2% of Project Subtotal):	$	283,000
TSPLOST 2023 Project Total:	**$**	**14,433,000**

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:	
4. Equipment Maintenance:	75,000
5. Facility Maintenance:	
6. Other: Art Maintenance (Minimum)	1,000
7. Other:	
8. Other:	
TOTAL EXPENDITURES	76,000
NET OPERATING COSTS OF PROJECT:	**$ 76,000**

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]:	$ 14,433,000
OTHER SOURCES	
2. ACCGov General Fund:	$ 575,000
3. ACCGov Enterprise Fund:	$
4. State Grant:	$
5. Federal Grant:	$
6. Previous SPLOST:	$ 60,000
7. Other (describe):	$
8. Other (describe):	$
TOTAL SOURCES:	$ 15,068,000

[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: The current cost range for a traffic signal rebuild is $185,000.00 to $285,000.00 depending on the infrastructure needed within the intersection. For ACCGOV to reach a sustainability goal of normal lifespan for annual capital signal replacements, this project will need to rebuild 10 intersections each year for the project term.