

**Performance Audit:  
Streetlighting**

**April 2022**

**City Auditor's Office  
City of Atlanta**

File #21.07





## Performance Audit:

### Why We Did This Audit

We undertook this audit because streetlighting may improve safety and reduce criminal activity. This audit addresses whether streetlighting operational and maintenance costs are consistent with industry standards and whether adequate controls are in place to ensure that streetlight operability meets industry standards.

### What We Recommended

To improve streetlighting, the Transportation commissioner should:

- develop a plan for managing streetlighting costs and agreements, including establishing criteria for adding unregulated lights and who is authorized to approve them
- work with Georgia Power to develop a tracking nomenclature to identify the billing charges for each light
- order a physical audit of a sample of lights quarterly to ensure that billing data is accurate
- work with Georgia Power to collect billing credits for lights for which the city has been charged a flat rate but that cannot be located
- assign staff to streetlight recordkeeping to serve as a central repository for agreements and streetlight-related GIS data
- work with Law during contract renegotiations to include provisions for billing credits for outages over a certain threshold

For more information regarding this report, please use the "contact" link on our website at [www.atlauditor.org](http://www.atlauditor.org)

### Streetlighting

#### What We Found

The city may be paying more for streetlighting because it has installed more costly unregulated lights, which account for 5% of its portfolio but 16% of the costs. Regulated lights, with an average cost of \$14, are cheaper and associated tariffs are approved by the Georgia Public Service Commission, while the costs of unregulated lights, with an average cost of \$48, are governed by individual agreements. City staff, including lower-level employees, executed contracts for as few as one unregulated light because the city lacks an approval process and criteria for adding lights.

The city does not have an inventory of streetlights or the necessary information to manage them because it has not retained current agreements, in accordance with the city's retention schedule, and it has not assigned staff to maintain a database of agreements and location data.

Georgia Power was also unable to provide agreements with service locations for all streetlights, which increases the risk that the city may be paying for decommissioned lights. We were unable to locate 36 Georgia Power-owned lights listed in the utility's location data in our random sample of 27 city land lots. Without accurate location information, the city is unable to verify billing.

Of the lights that we observed in our random sample, 12% of city-owned lights and 4% of Georgia Power-owned lights were inoperable. The city's higher inoperability rate may be related to insufficient staffing and a longer turnaround time to complete repairs than other cities we reviewed. The city's proposed sale of city-owned lights to Georgia Power will likely increase cost but improve performance.

We were unable to confirm that Georgia Power was completing repairs timely because it declined to provide its service request data. Georgia Power should issue billing credits to the city for untimely repairs. City-owned lights on interstates maintained by Georgia Power had inoperability rates as high as 9.3%, but maintenance contracts have yet to establish an inoperability rate that would trigger billing credits.

## Management Responses to Audit Recommendations

Summary of Management Responses		
<p><b>Recommendation #1:</b> We recommend that the Transportation commissioner add regulated lights where possible to reduce costs.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Not Started</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2022</p>
<p><b>Recommendation #2:</b> We recommend that the Transportation commissioner establish criteria for where and why unregulated lights are added to reduce the overall expense of lighting.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Not Started</p>	<p><b>Estimated Completion Date (M/Y):</b> 07/2022</p>
<p><b>Recommendation #3:</b> We recommend that the Transportation commissioner develop a plan for managing streetlighting costs and agreements.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Started</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2022</p>
<p><b>Recommendation #4:</b> We recommend that the Transportation commissioner implement an approval process for adding new lights to the city's streetlighting portfolio, including who is authorized to sign agreements for unregulated lights.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Implemented</p>	<p><b>Estimated Completion Date (M/Y):</b> 03/2022</p>
<p><b>Recommendation #5:</b> We recommend that the Transportation commissioner work with Law to renegotiate unregulated lights under one agreement and/or at least renegotiate agreements for lights for which Georgia Power cannot provide the agreements</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Not Started</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2022</p>

<p><b>Recommendation #6:</b></p> <p>We recommend that the Transportation commissioner work with Georgia Power to develop a tracking nomenclature to identify the billing charges for each light.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Started</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2025</p>
<p><b>Recommendation #7:</b></p> <p>We recommend that the Transportation commissioner order a physical audit of a sample of lights quarterly to ensure that billing data is accurate.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Not Started</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2023</p>
<p><b>Recommendation #8:</b></p> <p>We recommend that the Transportation commissioner work with Georgia Power to collect billing credits for lights for which the city has been charged a flat rate but that cannot be physically located.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Partly Implemented</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2023</p>
<p><b>Recommendation #9:</b></p> <p>We recommend that the Transportation commissioner assign staff to streetlight recordkeeping to serve as a central repository for agreements and streetlight-related GIS data.</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Partly Implemented</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2023</p>
<p><b>Recommendation #10:</b></p> <p>We recommend that the Transportation commissioner work with Georgia Power to establish a reasonable operability rate for regulated lights and require nighttime repair work if the rate exceeds the established threshold</p>		
<p><b>Response:</b> Agree</p>	<p><b>Status:</b> Partly Implemented</p>	<p><b>Estimated Completion Date (M/Y):</b> 12/2023</p>
<p><b>Recommendation #11:</b></p> <p>We recommend that the Transportation commissioner work with Georgia Power to ensure the service request data is available to the city upon request.</p>		

<b>Response:</b> Agree	<b>Status:</b> Not Started	<b>Estimated Completion Date (M/Y):</b> 12/2023
<b>Recommendation #12:</b> We recommend that the Transportation commissioner work with Law during contract renegotiations to include provisions in the contract to provide billing credits for outages over a certain threshold.		
<b>Response:</b> Agree	<b>Status:</b> Not Started	<b>Estimated Completion Date (M/Y):</b> 12/2023
<b>Recommendation #13:</b> We recommend that the Transportation commissioner update SLAs and consider increasing the number of city maintenance crews or outsourcing repairs of city-owned lights.		
<b>Response:</b> Agree	<b>Status:</b> Partly Implemented	<b>Estimated Completion Date (M/Y):</b> 12/2023
<b>Recommendation #14:</b> We recommend that the Transportation commissioner update SLAs and consider increasing the number of city maintenance crews or outsourcing repairs of city-owned lights.		
<b>Response:</b> Agree	<b>Status:</b> Partly Implemented	<b>Estimated Completion Date (M/Y):</b> 12/2023
<b>Recommendation #15:</b> We recommend that the Transportation commissioner analyze proposed Georgia Power rates for purchasing city-owned lights to mitigate the risk created by the city contracting with the utility to assess the lights prior to purchasing them.		
<b>Response:</b> Agree	<b>Status:</b> Implemented	<b>Estimated Completion Date (M/Y):</b> 03/2022





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April 7, 2022

Honorable Mayor and Members of the City Council:

We undertook this audit because streetlighting could improve public safety in the City of Atlanta. The scope of the audit is July 2018 through March 2021.

The city has not established a plan for managing streetlighting costs and agreements. It has added lights in a haphazard way and may be paying a premium for unregulated lights installed in areas where it could have added less expensive regulated lights. We recommend that the Transportation commissioner add regulated lights where possible to reduce costs, develop criteria for adding unregulated lights, implement an approval process for adding new lights to the city's portfolio, assign staff to serve as a central repository for streetlighting agreements and GIS data, and renegotiate unregulated lights under one contract. We physically audited lights in sampled areas throughout the city and were unable to locate some Georgia Power-owned lights for which the city is charged a flat rate. To ensure that the city is not overbilled for streetlighting, we recommend that the Transportation commissioner work with Georgia Power to develop a tracking nomenclature to identify all billing charges, order a physical audit of a sample of lights quarterly, and collect billing credits for lights that cannot be physically located.

The Audit Committee has reviewed this report and is releasing it in accordance with Article 2, Chapter 6 of the City Charter. We sent a draft report to management on January 26, 2022, and received their response on March 16, 2022. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Rebecca Robinson and Erwin Coleman.

Amanda Noble  
City Auditor

Danielle Hampton  
Chair, Audit Committee

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# Streetlighting

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## Table of Contents

Introduction.....	1
Background.....	1
Georgia Public Service Commission Determines Tariff Rates for Regulated Lights .....	2
Streetlight Portfolio Includes Over 56,000 Lights .....	3
Monthly Costs Include Service, Energy, and Riders .....	7
Outages Are Reported Through ATL311 or Georgia Power Website .....	9
Georgia Power Contracts Out Repairs.....	11
City Plans to Update Streetlight Portfolio by Adding 10,000 New Lights.....	13
City Entered into \$750,000 Agreement with Georgia Power to Assess City-Owned Lights	13
Audit Objectives.....	14
Scope and Methodology .....	14
Findings and Analysis.....	17
City’s Handling of Streetlighting Has Contributed to Higher Costs and Inoperability .....	17
Unregulated Lights Account for 5% of Inventory but 16% of Total Costs .....	18
City Lacks Information to Manage Its Lighting Portfolio .....	21
Lighting Outages Are More Common for City-Owned Lights .....	26
Georgia Power Assessment of City-Owned Lights Could Present Conflict of Interest .....	31
Recommendations .....	33
Appendices.....	35
Appendix A: Management Review and Response to Audit Recommendations .....	37

## List of Exhibits

Exhibit 1: Tariff Rates Are Comparable Across Jurisdictions .....	3
Exhibit 2: City-Owned Lights Comprise 29% of City’s Lighting Portfolio .....	4
Exhibit 3: City Owns Approximately 9,500 Non-Interstate Lights in Three Lighting Types .....	5
Exhibit 4: Unregulated Lights Comprise 7% of All Georgia Power-Owned Lights .....	6
Exhibit 5: Unregulated and Regulated Lights Installed Based on Location .....	7
Exhibit 6: Riders Add 31% to the Total Bill and \$.03 Per Kilowatt Hour .....	8
Exhibit 7: City Pays Energy Costs for City-Owned Lights .....	9
Exhibit 8: Repair Process Depends on Whether City-Owned or Georgia Power-Owned Light ..	10
Exhibit 9: Georgia Power Website Has Map to Report Outages.....	12
Exhibit 10: Estimated Costs of Unregulated Lights Are More Expensive .....	19

Exhibit 11: Lower-Level Employees Signed Agreements for 502 Lights ..... 21  
Exhibit 12: Georgia Power and the City of Atlanta Execute Lighting Service Agreements for  
Unregulated Lights..... 23  
Exhibit 13: We Sampled 27 Land Lots Across All Council Districts ..... 25  
Exhibit 14: Nearly 4% of Regulated Lights Were Inoperable ..... 27  
Exhibit 15: Georgia Power Maintained Inoperability Below 5% During Half the Months ..... 29  
Exhibit 16: Nearly 12% of City-Owned Light Were Inoperable ..... 29  
Exhibit 17: Atlanta’s Expected Time to Fix Streetlights Longer Than Other Cities ..... 30





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# Introduction

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We undertook this audit because streetlighting may improve safety and reduce criminal activity. The City of Atlanta’s Department of Transportation oversees the streetlight portfolio, which includes roughly 16,000 city-owned lights and 40,000 lights owned by Georgia Power Company. Based on a recent assessment completed by Georgia Tech students, the city is seeking to add 10,000 additional streetlights throughout the city. This audit addresses whether streetlighting operational and maintenance costs are consistent with industry standards and whether adequate controls are in place to ensure that streetlight operability meets industry standards.

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## Background

A streetlight is a light mounted on a pole, constituting one of a series spaced at intervals along a public street or highway. According to recent legislation, the installation of better streetlighting is a relatively low-risk, high-return initiative that promotes safety for pedestrians, cyclists, motorists, transit-users, and others who regularly use the transportation network and the community. Moreover, a 2019 study in New York City found that communities that were assigned more lighting experienced sizable reductions in crime.



According to state law (O.C.G.A. § 32-4-92-a-9), municipalities may provide and maintain lighting on their respective street systems. The City of Atlanta is responsible for the lighting of all streets, interstates, and highways within the city, except Georgia State Route 400 and tunnels. The city’s Department of Transportation was created on July 1, 2019, through Ordinance No. 19-O-1159. City code Section 2-281 states that Transportation’s duties include providing safe access, improving mobility, and maintaining and operating transportation assets to provide an efficient and effective system. Before the department was created, streetlighting was under the purview of the Department of Public Works. In fiscal year 2021, Transportation budgeted approximately \$10 million for streetlights from a total budget of nearly \$49 million, representing roughly 20% of its budget.

## **Georgia Public Service Commission Determines Tariff Rates for Regulated Lights**

The Georgia Public Service Commission, governed by Title 46 of the Official Code of Georgia Annotated, is responsible for overseeing utilities in the state. The Commission consists of five members who are at least 30 years old, qualified to vote, and do not hold an interest in utilities in the jurisdiction where they serve as commissioner and reside. Georgia is divided into five commission districts; however, commissioners representing each district are elected by the statewide electorate. The commissioners serve six-year terms. Both Fulton and DeKalb counties are in District 003 of the Georgia Public Service Commission. O.C.G.A. § 46-3-2 states that the State of Georgia must establish a plan to assign electric suppliers to a specific geographic area and that the Public Service Commission be delegated power, authority, and jurisdictions with respect to such plan.

The Commission supervises electric light and power companies and electric membership corporations and has the authority to:

- hear complaints
- execute its own initiatives
- devise general rules/special orders to require the reasonable maintenance of public services
- examine the affairs of companies under its supervision
- check for compliance with laws, commission orders, and charter requirements
- order a uniform system of accounts and examine all company books, contracts, records, and documents
- examine places of business and question employees and agents

The Georgia Public Service Commission approves all tariff rates that utilities propose. The tariff rate is the amount that energy providers charge customers for service charges and energy usage.

The City of Atlanta's energy provider is Georgia Power. Georgia Power bills the city for regulated streetlights based on four tariff rate schedules: EOL-12 (Energy for Outdoor Lighting Service), RLG-2 (Roadway Lighting Governmental), OLG-9 (Outdoor Lighting Service Governmental), and OLNG-12 (Outdoor Lighting Service Non-Governmental). EOL is the rate for which lights are charged for energy based on wattage. RLG is the regulated service rate for roadway lighting. Energy is charged in addition to the RLG service rate through the EOL schedule. In contrast to the RLG rate, the OLG tariff includes the service and energy charges for HID (high intensity discharge) lights,

but the tariff rate is being phased out (not applicable to lights installed after December 31, 2019).

The RLG tariff rate in District 003, which includes Atlanta, appears to be comparable to similar rates in other commission districts, as shown in Exhibit 1. We were unable to directly compare costs across jurisdictions due to variations in lighting types and lumens. We compared the monthly charges for the least expensive regulated LED lights across jurisdictions. The tariff schedules for Districts 001, 003, and 004 state that energy is not included in the flat rate, which is indicated in monthly cost column, while the rates for Districts 002 and 005 are flat rates that include energy costs.

**Exhibit 1: Tariff Rates Are Comparable Across Jurisdictions**

PSC District	Most Populous County	Utility	Light Type	Lumen	Monthly Cost
001	Chatham	Georgia Power	LED Roadway	5,000L	\$6.94 (+\$0.62 -\$1.18)
002	Gwinnett	Jackson EMC	LED Open Bottom	6,900L	\$11.25
003	Fulton	Georgia Power	LED Roadway	5,000L	\$6.94 (+\$0.62 -\$1.18)
004	Cherokee	Sawnee EMC	LED Yard Light	3,500L	\$9.75 + energy
005	Cobb	Cobb EMC	Residential, Governmental LED Lights	Unknown	\$8.29

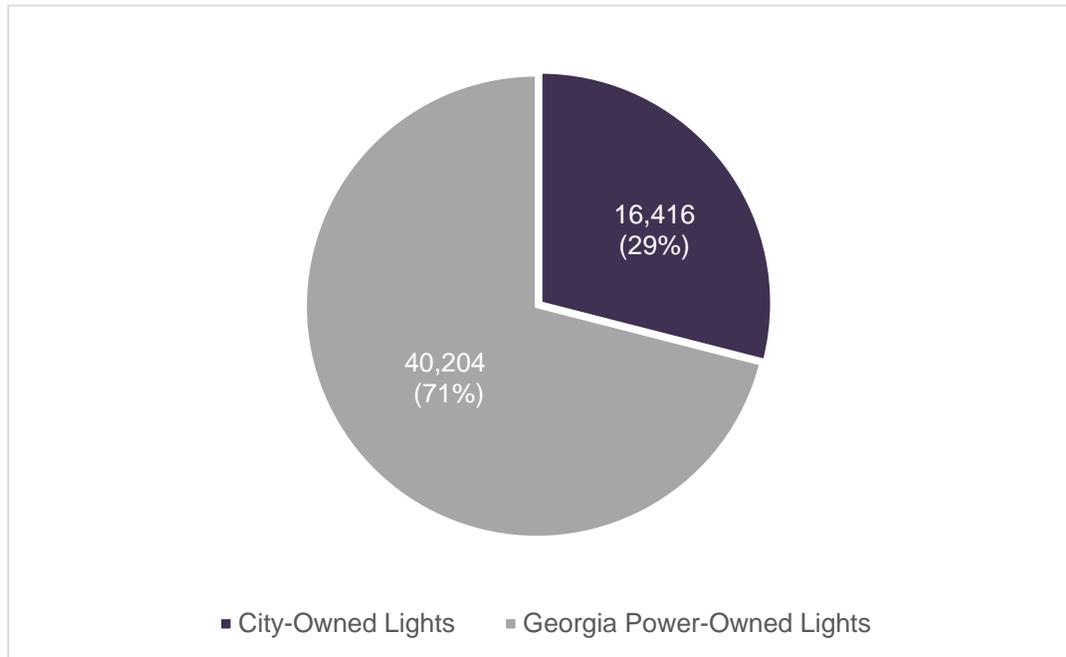
**Source:** Developed by auditors based on rates published online by utilities

**Streetlight Portfolio Includes Over 56,000 Lights**

The city’s portfolio includes both streetlights owned by the city and streetlights owned by Georgia Power (see Exhibit 2). Georgia Power owns most streetlights in the city’s portfolio. The city pays energy costs to Georgia Power but is responsible for repairing and maintaining the lights it owns. The Department of Transportation maintains city-owned lights, excluding interstate lights.

The city has contracted with Georgia Power to maintain its interstate lights, which the company does by outsourcing maintenance and repairs to third-party vendors. Vendors detect and repair outages of interstate lights by driving along the interstates to identify outages, and reporting needed repairs to the city for approval before doing the repairs. Vendors conduct the ride-throughs during the first week of each month and report outages in monthly inspection reports that Georgia Power provides to the city. Based on Georgia Power’s maintenance data, the city owns 6,876 interstate lights (including 24-hour burn lights) within city limits that are powered by 19 circuits throughout the city.

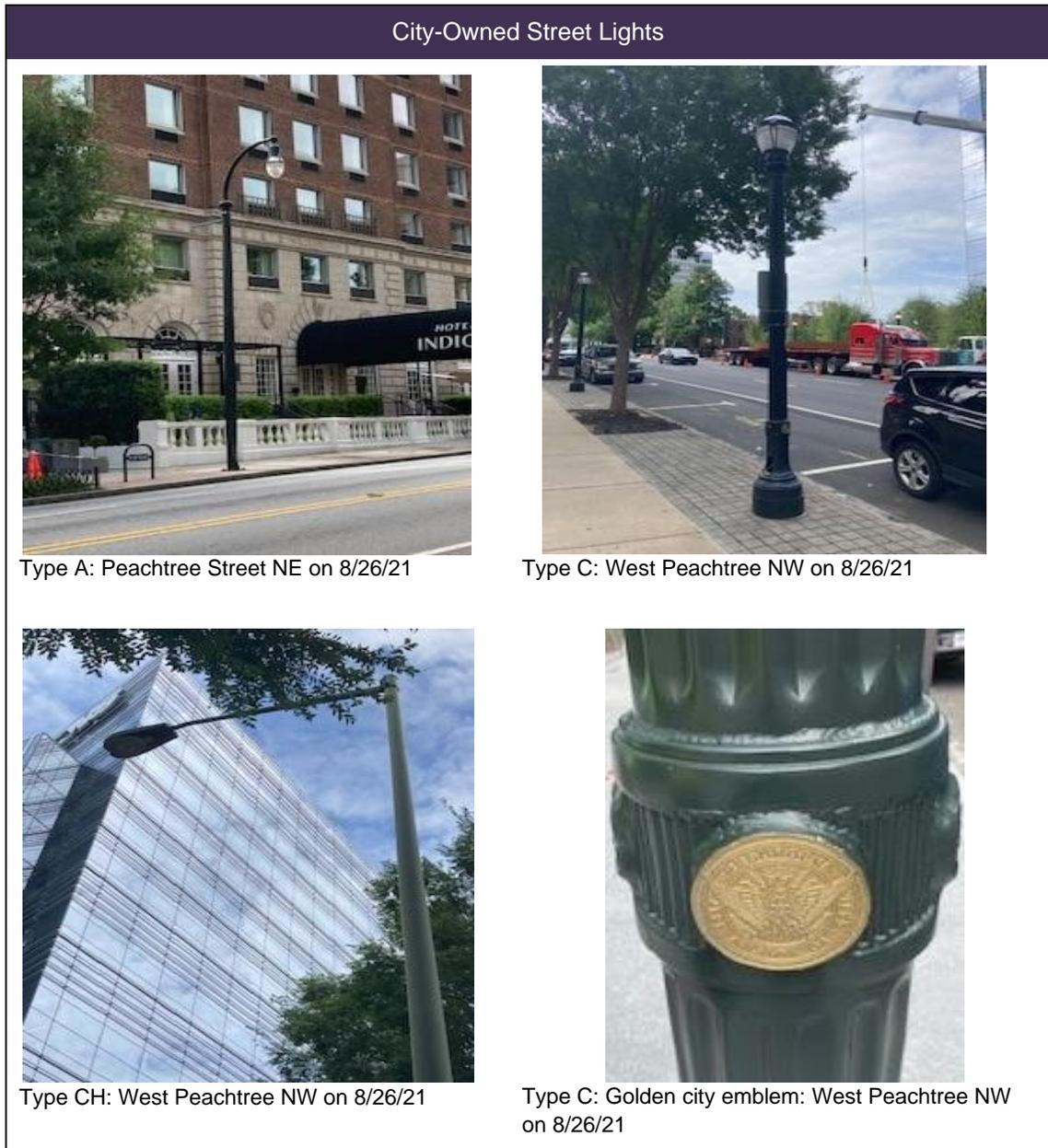
**Exhibit 2: City-Owned Lights Comprise 29% of City's Lighting Portfolio**



**Source:** Georgia Power billing data

According to Georgia Power billing data, the city pays energy costs for 16,416 lights, which include the interstate lights, and three other lighting types: Cobrahead, Type A, and Type C, as shown in Exhibit 3. The Cobrahead, Type A, and Type C lights comprise 9,540 lights, but the proportions of each are not evident in the billing data. Typically, Georgia Power installs its lights on wooden poles with silver tags in residential areas and along roadways, and city-owned lights are usually on green, metal poles with the city emblem in gold.

**Exhibit 3: City Owns Approximately 9,500 Non-Interstate Lights in Three Lighting Types**



**Source:** Photos taken by auditors during observations with Transportation staff

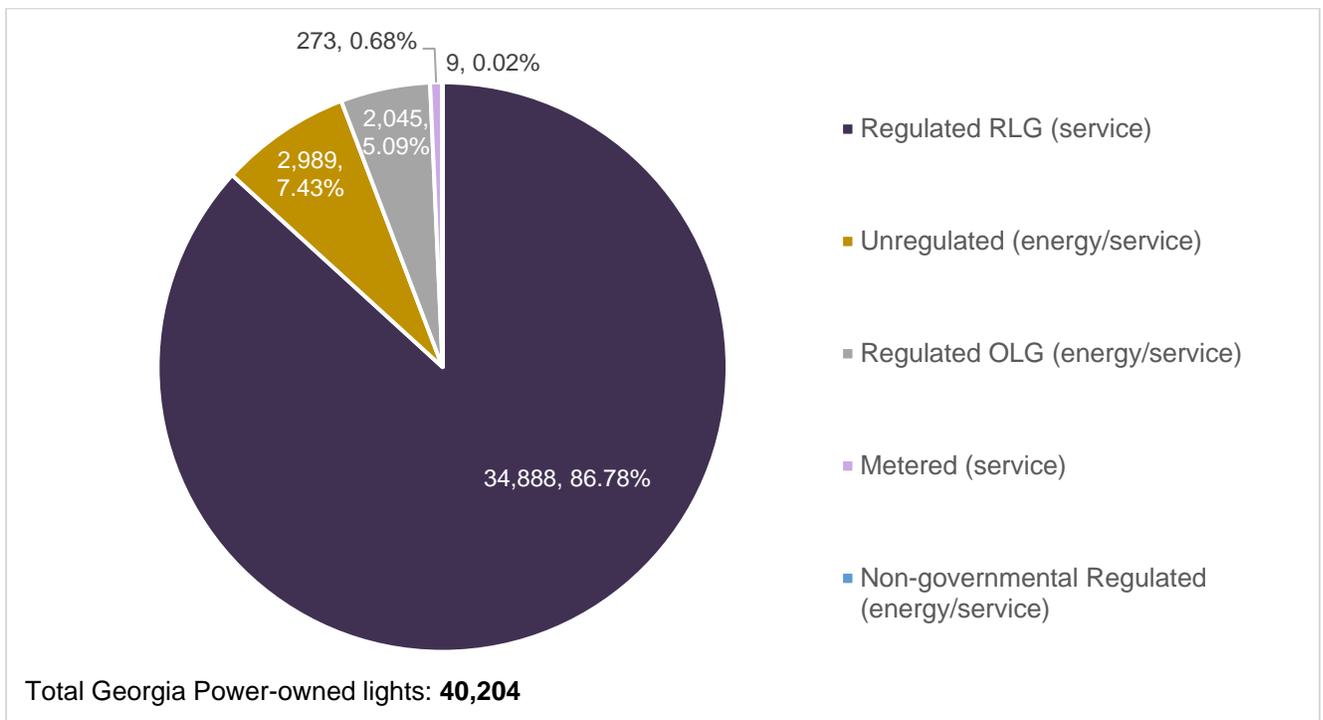
Some Georgia Power-owned lights are billed to the city based on rates established by the Georgia Public Service Commission (regulated lights), while others are governed by specific lighting service agreements between the city and Georgia Power (unregulated lights). Georgia Power bills the city for Georgia Power-owned lights based on five categories:

- Regulated OLG (Outdoor Lighting Service Governmental): tariff rate includes service and energy charges

- Regulated RLG (Roadway Lighting Governmental): service tariff (Georgia Power charges for energy usage based on EOL (Energy Outdoor Lighting) tariff rate)
- Unregulated: service and energy charges based on lighting service agreement (varies between agreements)
- Metered: service charges based on lighting service agreement (varies between agreement) and energy charges are metered
- Non-governmental Regulated: OLANG tariff rate includes service and energy charges

The number of lights by type is shown in Exhibit 4.

**Exhibit 4: Unregulated Lights Comprise 7% of All Georgia Power-Owned Lights**



**Source:** Georgia Power billing data

Most Georgia Power-owned lighting is regulated under the RLG and OLG tariff schedules, which are the rates for service and energy charges that the Georgia Public Service Commission approves. Exhibit 5 shows the physical difference between RLG and OLG regulated lights and unregulated lights. RLG regulated lights, installed along roadways, and OLG regulated lights tend to be less expensive than unregulated lights, which are installed in parks, parking lots, and where infrastructure (poles and wiring) for regulated lights is absent. OLG regulated lights are found in similar places to unregulated lights, but only specific light fixtures and poles qualify for this tariff rate.

**Exhibit 5: Unregulated and Regulated Lights Installed Based on Location**

Georgia Power-Owned Lights		
		
Georgia Power RLG Light on Handley Street SW on 10/13/21	Georgia Power Unregulated Light in Adair Park I on 10/15/21	Georgia Power OLG Light in City Facilities on Claire Dr SW on 12/16/21

**Source:** Photographs taken by auditors

Unregulated lights comprise 7% of all Georgia Power-owned lights (5.3% of the city’s total lighting portfolio) and are governed by specific agreements (see Exhibit 6). Georgia Power sales representatives receive a commission for selling unregulated lights.

**Monthly Costs Include Service, Energy, and Riders**

The city pays Georgia Power for energy for city-owned lights, and energy, maintenance, and repairs for city-owned interstate lights. In addition to the tariff rates, the Georgia Public Service Commission approves riders that customers pay based on the total bill or kilowatt hours used. The city pays approximately an additional 31% in riders plus \$.03 per kilowatt hour (see Exhibit 6). Georgia Power staff told us that regulated RLG lights within the city limits are exempt from the Municipal Franchise Fee rider.

**Exhibit 6: Riders Add 31% to the Total Bill and \$.03 Per Kilowatt Hour**

Rider	Calculation Method
Environmental Compliance Cost Recovery	19.8276% total bill
Demand Side Management	2.0285% total bill
Nuclear Construction Cost Recovery	5.8456% total bill
Municipal Franchise Fee	3.0584% times usage revenue
Fuel Cost Recovery	\$0.025104 per kWh
<b>Total rider charges</b>	<b>30.7601% + \$0.025104 per kWh for each light</b>

**Source:** Developed by auditors based on Georgia Power website information

The city also pays a service and energy charge for Georgia Power-owned regulated lights, and a rate for unregulated lights based on specific agreements that include service, maintenance, and energy charges. We estimate that the city pays \$875,000 per month for streetlights.

To set up service for new lights, a citizen or other entity makes a request for new streetlights. Transportation sends an inspector to assess the place where additional lights were requested. If the Transportation inspector determines that additional lighting is needed, the department contacts Georgia Power, and the utility also completes an assessment. The department and Georgia Power come to an agreement on the total number of additional lights needed. Georgia Power sends a proposal to the Transportation commissioner, who approves the proposal. Georgia Power installs the new lights, and Transportation staff observes them during a 30-day period. If the lights are functioning properly after 30 days, they are added to the city account.

The Department of Enterprise Assets Management staff sets up service for new lights, based on the utilities service application that Transportation or other city departments submit, and begins receiving bills for the service within 30 days. Enterprise Asset Management staff also receives and pays citywide energy bills, including service and energy fees for streetlighting. Transportation and other city departments follow a similar process to remove service for lights; they submit the utilities service application with “remove” selected to Enterprise Assets Management staff, and the staff forwards the form to Georgia Power after it has been approved.

Transportation staff pays maintenance and cost-plus repair invoices for interstate lights. Cost-plus repair means that the city is charged for the

costs of the repair plus an additional 20% for Georgia Power’s administrative costs. The department receives an invoice through email, and Transportation staff pays the invoice after the Engineering Director verifies that the work has been completed and the charges are accurate.

Billing differs based on whether the city or Georgia Power owns the light and whether the light is regulated or unregulated, as Exhibit 7 demonstrates. For most city-owned lights, the city only pays energy charges, but it also pays for maintenance contracted through Georgia Power for lights on the interstates. The city pays Georgia Power for service and energy tariffs for regulated lights, or the amount based on an agreement for service, energy, and maintenance of unregulated lights. Transportation staff told us that typically energy and service bills are charged to the “Utility, Electricity” account, while maintenance and repairs invoices are charged to the “Utility, Street Lights” account.

**Exhibit 7: City Pays Energy Costs for City-Owned Lights**

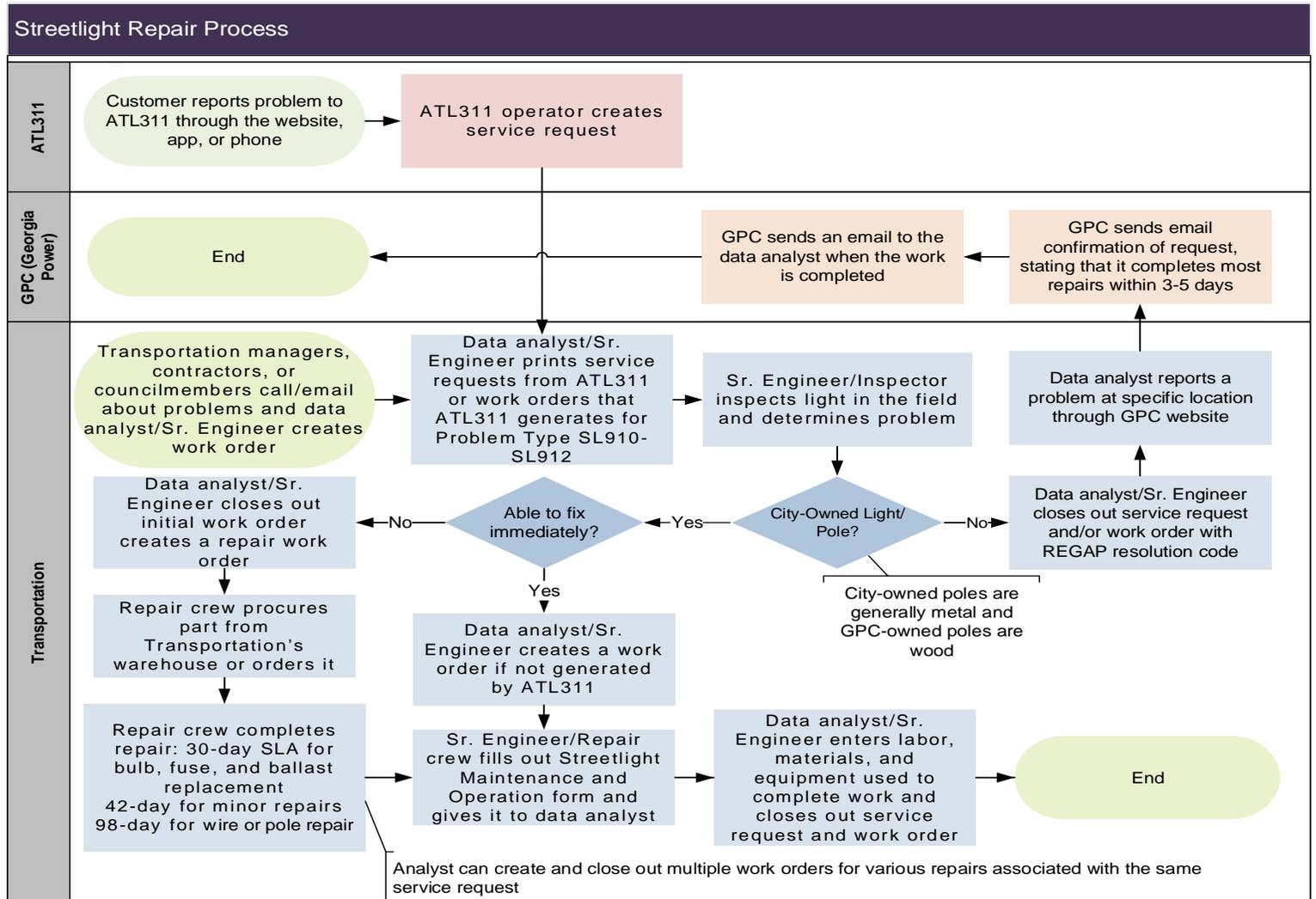
Light Description	Service Tariff	Energy Tariff	Maintenance Flat Rate	Repair Cost + 20%
<b>City-owned/city-maintained</b>	No	Yes	No	No
<b>City-owned/ Georgia Power-maintained interstate lights</b>	No	Yes	Yes	Yes
<b>Georgia Power-owned unregulated</b>	Governed by individual contract	Included	No	No
<b>Georgia Power-owned regulated</b>	RLG (Roadway Lighting Governmental)/OLG (Outdoor Lighting Governmental) (includes energy)	EOL (Energy Outdoor Lighting)	No	No

**Source:** Developed by auditors based on online rate schedules

**Outages Are Reported Through ATL311 or Georgia Power Website**

Citizens may call ATL311, Atlanta’s primary phone number for government information and non-emergency services, to report a streetlight out (see Exhibit 8).

**Exhibit 8: Repair Process Depends on Whether City-Owned or Georgia Power-Owned Light**



**Source:** Developed by auditors based on interviews with Transportation staff

When an outage is reported, the ATL311 operator creates a service request that describes the problem. If an outage is reported directly by a City Council member, Transportation staff, or contractor, Transportation staff creates a work order in ATL311. Transportation staff prints the service requests or work orders from ATL311 for problem types SL910, SL911, and SL912, which are the problem types associated with streetlights. Transportation’s senior engineer or inspector inspects the light in the field to determine the problem.

If inspectors determine that the light is city owned, they may fix the problem immediately after creating a work order in ATL311, if it has not automatically generated the work order based on the problem type. To close out the work order, inspectors fill out and submit a Streetlight Maintenance and Operation form to the data analyst. The data analyst

updates the labor, materials, and equipment used to fix the problem in ATL311 and closes the work order.

If inspectors cannot immediately fix the problem associated with a city-owned light, they close the initial inspection work order and create a repair work order. The repair crew procures parts from the warehouse or orders them. The SLAs (service level agreements) associated with streetlight repairs include:

- 30 days for bulb, fuse, and ballast replacement
- 42 days for other minor repairs
- 98 days for wire or pole repair

After the repair crew has fixed the problem, it submits the Streetlight Maintenance and Operation form to the data analyst, and the work order is closed in the same manner as outlined above.

If the reported light is Georgia Power owned, the data analyst closes the service request and/or work order with the REGAP (refer to Georgia Power) resolution code and reports the problem through Georgia Power's website. During our observations of the ATL311 outage reporting process, we found that some ATL311 operators tell customers to call Georgia Power directly or submit information about the outage through the website.

During the scope of our audit, the city was using SOM to manage service requests. In March 2021, the city switched to a new work order management system called ATLServ. AIM (Atlanta Information Management) migrated all open service requests to the new system, and it copied historical data, which can be queried with an application called ATLSHIP. Some historical data has not been retrievable using ATLSHIP.

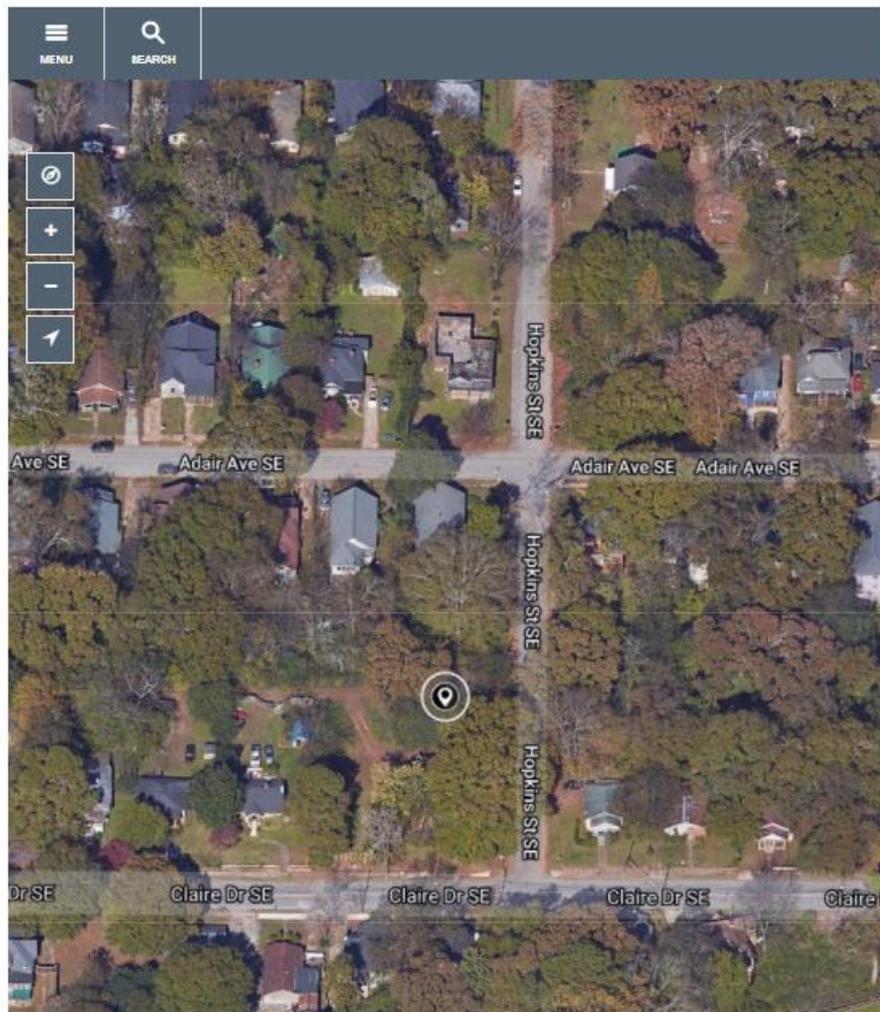
### **Georgia Power Contracts Out Repairs**

Customers can report outages of Georgia Power-owned lights through its website by entering the address of the light or identifying the light on the mapping interface (see Exhibit 9).

Customers receive a confirmation email stating that lights are normally repaired within three to five days. Georgia Power also sends an email when the repair is complete. Customers can also request repairs by phone, but they do not receive email confirmation of the requested service or that the repair has been completed.

Georgia Power staff told us that the company contracts for repairs with third-party vendors for city-owned interstate lights and for Georgia Power-owned lights. According to Georgia Power maintenance policy, outdoor lights (including streetlights) will be repaired within three business days, weather permitting, unless cable or pole repairs are required. The policy also states that pole replacement would require an additional seven business days, and cable replacement would require an additional 14 days.

### Exhibit 9: Georgia Power Website Has Map to Report Outages



Source: Auditor's screenshot of outage reporting through Georgia Power website

Transportation staff told us that Georgia Power repairs can be delayed by up to 12 weeks when it needs to order parts. Georgia Power staff stated that it will install temporary lights when repairs are delayed. We were unable to confirm these repair turnaround times because Georgia Power told us it was unable to filter service requests within city limits. Georgia Power said that the city may request a billing credit if a light is

out for an extended time, but the city is unable to determine how long the lights are out without the service request data.

### **City Plans to Update Streetlight Portfolio by Adding 10,000 New Lights**

Atlanta City Council adopted Resolution 20-R-4509 on November 2, 2020. The resolution calls for the Transportation commissioner to create a street lighting plan to assess the number of additional streetlights that Atlanta needs to maintain safety, the maintenance cost of existing and additional streetlights, and the best maintenance option for streetlights. Transportation contracted with Georgia Tech to complete the plan by May 2021. In early 2021, the Transportation commissioner placed a moratorium on adding new lights to the city's portfolio until the plan was complete.

Based on the findings of the Georgia Tech assessment, Transportation determined that it must install approximately 10,000 new streetlights as part of the One Atlanta—Light Up the Night initiative to reduce crime in Atlanta. The assessment also identified “a historic underinvestment in streetlights in Southwest Atlanta.” The One Atlanta—Light Up the Night initiative also aims to reduce serious traffic accidents on Atlanta streets in line with the Vision Zero initiative. In June 2021, Atlanta City Council approved Ordinance 21-O-0371 to reallocate \$1 million from the general fund to Transportation to support the One Atlanta—Light Up the Night initiative.

### **City Entered into \$750,000 Agreement with Georgia Power to Assess City-Owned Lights**

In June 2021, Atlanta City Council approved Resolution 21-R-3661 to execute a Lighting Equipment Study Agreement with Georgia Power in an amount not to exceed \$750,000. The scope of the agreement is for Georgia Power to assess the number, location, and quality of the city's current outdoor lighting poles, lights, and related assets. The city entered into this agreement because Transportation is evaluating whether to recommend selling city-owned lights to Georgia Power so the company will be responsible for maintaining them. Georgia Power staff told us that the monthly charge for formerly city-owned lights would be approximately \$28 per light plus regulated energy and applicable riders.

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## Audit Objectives

This report addresses the following objectives:

- Are Atlanta’s streetlighting operational and maintenance costs consistent with industry standards?
- Are adequate controls in place to ensure that streetlighting operability meets industry standards?

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## Scope and Methodology

We conducted this audit in accordance with generally accepted government auditing standards. We reviewed available Transportation and Georgia Power data between July 1, 2018, and March 31, 2021.

Our audit methods included:

- reviewing state and city legal provisions related to streetlighting responsibilities designated to various entities
- interviewing Transportation, Finance, Enterprise Assets Management, and Georgia Power staff to understand their processes for streetlighting operation and maintenance
- developing flowcharts to illustrate city outage reporting and repair processes
- examining Transportation’s draft standard operating procedures for streetlighting operation to understand processes for adding and decommissioning lights
- interviewing councilmembers to ascertain their concerns about streetlighting
- reviewing relevant media articles
- analyzing Georgia Power billing data and monthly inspection reports for interstate light maintenance
- comparing the city’s expected days to complete minor streetlight repairs to other jurisdictions
- researching best practices to determine industry standards for the number of service requests per light
- reviewing the city’s service request data

- selecting a random sample of 27 of 504 land lots of a third of a square mile each, stratified based on council district land mass, and locating and physically counting streetlights within the selected plots to verify Georgia Power billing and location data and to determine streetlight operability
- estimating the city's monthly charges for streetlighting based on lighting type and applicable tariffs and agreements
- comparing tariff rates across Georgia Public Service Commission districts to understand Georgia Power's rates relative to other jurisdictions
- working with Department of City Planning staff to map the concentration and operability of lights by council district

Generally accepted government auditing standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.



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## Findings and Analysis

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### City's Handling of Streetlighting Has Contributed to Higher Costs and Inoperability

The city has not managed streetlighting in a purposeful or cost-effective manner. The composition of its streetlighting portfolio suggests that the city may be paying a premium for service. Unregulated lights account for 5% of total streetlight inventory, but 16% of total costs. Because Georgia Power sales representatives receive a commission for the sale of unregulated lights, there is an incentive for Georgia Power to encourage their use. Without clear criteria for deciding on the types of streetlights to install or who is authorized to execute streetlighting agreements, the city may have entered into agreements when less costly options were available. Our analysis of 74 individual agreements executed between 2014 and 2021 found that each agreement covered between 1 and 334 streetlights at an average estimated cost of \$48 per light.

Neither the city nor Georgia Power could provide all current, executed streetlighting agreements, and some agreements lacked the physical location of the lights installed and/or Georgia Power account numbers. Although the Atlanta Department of Transportation has developed a plan for deciding where to add additional lighting, it still needs a plan for managing costs and agreements associated with streetlights. We recommend that the Transportation commissioner develop criteria for adding unregulated lights and designate who can execute agreements for new lights. We also recommend that the Transportation commissioner work with the Law Department to renegotiate unregulated lights under one agreement or at least renegotiate agreements for lights for which Georgia Power cannot provide the existing agreements.

Neither the city nor Georgia Power has maintained a complete, accurate inventory of streetlights, creating risk that the city is paying ongoing service costs for decommissioned streetlights. We identified at least 36 streetlights in Georgia Power's location data that were not present in our random sample of land lots covering about nine square miles across the city. While Georgia Power told us that it can link all billing charges to specific lights, they also told us they could not identify lights charged under the OLG tariff from billing data, and their location data included only lights charged under the RLG tariff—62% of lights for which it bills.

We recommend that the Transportation commissioner work with Georgia Power to develop an equipment identification number to identify the billing charges for each light. We also recommend that the Transportation commissioner order a physical audit of a sample of lights quarterly to ensure that billing data is accurate. We further recommend that the Transportation commissioner work with Georgia Power to collect billing credits for lights for which the city has been charged a flat rate but that cannot be physically located.

Almost 12% of the 695 city-owned lights we observed in October 2021 in our random sample of land lots were not working; 3.7% of the 2,843 Georgia Power lights we observed were not working. Monthly inspection reports for interstate lights between March 2019 and March 2021 show a range of 3.5% to 9.3% of lights not working. We were unable to assess repair times because data were not available from Georgia Power or the city, but the city's expected repair times are much longer than Georgia Power's or other cities we reviewed. The city's proposed sale of its streetlights to Georgia Power will likely increase overall cost but improve performance.

We recommend that the Transportation commissioner work with Georgia Power to establish a reasonable operability threshold for regulated lights and to ensure that repair time data are available upon request. We also recommend that the Transportation commissioner work with Georgia Power to increase ride-throughs on the interstates to ensure that lights are operable and work with Law to negotiate a billing credit threshold for inoperable interstate lights.

### **Unregulated Lights Account for 5% of Inventory but 16% of Total Costs**

The city has not approached streetlighting systematically through a citywide plan, resulting in a less controlled process and higher costs. Departmental employees in non-leadership positions have executed agreements for unregulated lights with Georgia Power for as many as 213 lights. Unregulated lights cost more than regulated lights and Transportation has not developed procedures for determining where and why unregulated lights should be added to the city's streetlighting portfolio.

**Unregulated lights drive costs higher.** Exhibit 10 shows the difference in costs between regulated and unregulated lights. The estimated average monthly cost of unregulated lights is higher than the estimated average monthly cost of regulated lights, and, although they make up only 5% of the total streetlight inventory, they account for 16% of the total lighting cost. In comparison, regulated RLG (Roadway Lighting

Governmental) lights make up 62% of all lights in the city’s portfolio and 56% of the costs. Regulated tariffs are applicable to certain lighting fixtures. We estimated monthly charges based on applicable tariffs, riders, and agreements.

**Exhibit 10: Estimated Costs of Unregulated Lights Are More Expensive**

Light Description by Billing Category	Estimated Total Monthly Charges (with Riders)	Total Count	Average	% of Cost	% of Lights	Minimum	Maximum
OLG (GPC-owned)	\$46,715.36	2,045	\$22.84	5.3%	3.6%	\$10.66	\$60.88
RLG (GPC-owned)	\$487,904.63	34,888	\$13.98	55.7%	61.6%	\$11.77	\$25.64
Unregulated (GPC-owned)	\$142,011.25	2,989	\$47.51	16.0%	5.3%	\$32.63	\$100.83
City-owned (OLG/OLNG)	\$192,859.61	16,416	\$11.75	21.8%	29.0%	\$2.12	\$35.83
Metered	\$5,645.46	273	\$20.68	0.6%	0.5%	\$7.48	\$56.87
Non-Governmental Regulated	\$292.3	9	\$32.48	0.0%	0.0%	\$19.91	\$65.95
<b>Totals</b>	<b>\$875,428.37</b>	<b>56,620</b>	<b>\$15.46</b>	100.0%	100.0%		

**Source:** Developed by auditors based on March 2021 Georgia Power billing data

According to the Transportation commissioner, one of the department’s goals is to negotiate a more competitive rate with Georgia Power for the purpose of adding lights. Due the composition of the lighting portfolio, the city may be paying more than it needs to for lighting services. Because Georgia Power sales representatives receive a commission for the sale of unregulated lights, there is an incentive for Georgia Power to encourage use of unregulated lights and a risk of kickbacks and/or collusion. Georgia Power told us that its compliance department has controls in place to review pricing agreements.

The city’s plan to add 10,000 lights for the One Atlanta–Light Up Night initiative highlights the importance of considering the difference in costs between regulated and unregulated lights. The proposed monthly cost for an additional unregulated light would be approximately \$38 per light, whereas the monthly cost of the most common 5,000L regulated light is approximately \$12. Georgia Power told us that it no longer installs 5,000L fixtures.

To reduce the overall expense of lighting, we recommend that the Transportation commissioner add regulated lights where applicable based on tariff requirements.

The number of lights covered by each agreement suggests that the city added lights in a haphazard way. We requested all current lighting service agreements for unregulated lights, and Georgia Power provided 74 lighting service agreements executed between 2014 and 2021, covering 2,850 of 2,989 unregulated lights. The individual agreements authorized the installation of between 1 and 334 lights each. Moreover, the Transportation commissioner told us that, when Transportation took over the streetlighting function from Public Works, Public Works did not have an approval process in place for adding new lights.

Transportation staff told us that the department would like to approach streetlighting in a more systematic way. To this end, in 2021, Transportation placed a moratorium on adding new lights to the city's portfolio. Prior to May 2021, the city did not have a streetlighting plan. Atlanta City Council requested the plan in Resolution 20-R-4509, which was approved on November 2, 2020. The plan included a Georgia Tech assessment of lighting throughout the city to determine which areas of the city require additional lighting.

Although Transportation has developed a plan for deciding where to add additional lighting, it lacks a plan for managing costs and agreements associated with streetlights. Criteria for which lighting type to install are unclear. In June 2021, Transportation approved the installation of 334 unregulated lights in Vine City, in a mainly residential area where Georgia Power could install regulated lights. The Transportation commissioner told us that the department added unregulated lights rather than regulated ones to Vine City because unregulated lights "fit both the lighting and aesthetic requirements of the city." Yet, the city may be able to negotiate better rates with Georgia Power based on the quantity of lights in the agreements if the city were more deliberate about how it added lights to its portfolio. Without a plan for managing costs and agreements, the city may continue to pay more than necessary for streetlighting.

We recommend that the Transportation commissioner establish criteria for where and why unregulated lights should be added. We further recommend that the Transportation commissioner develop a plan for managing streetlighting costs and agreements.

Lower-level employees signed lighting service agreements for 17.6% of unregulated lights. We found that commissioners or deputy commissioners authorized and signed agreements for 2,288 of 2,850 (80.3%) unregulated lights. Lower-level staff, such as project managers, executed agreements for 502 unregulated lights, as shown in Exhibit 11. In 2015, for example, a data reporting analyst for Public Works executed 13 agreements for a total of 217 unregulated lights. One agreement for 60 lights was signed by a city councilmember.

Once a lighting service agreement is signed, the agreement is in effect on a month-to-month basis until the city cancels the agreement in writing. According to the Transportation commissioner, no policy exists for approving new lights; therefore, without a central plan or authority for adding new streetlights, departmental staff may sign agreements that obligate the city in perpetuity for new lights.

**Exhibit 11: Lower-Level Employees Signed Agreements for 502 Lights**

Position	Number of Lights Authorized in the 74 Agreements	% of Lights
Commissioner/Deputy Commissioner	2,288	80.3%
Lower-Level Staff	502	17.6%
City Council member	60	2.1%
<b>Total</b>	<b>2,850</b>	

**Source:** Developed by auditors based on Georgia Power lighting service agreements

We recommend that the Transportation commissioner implement an approval process for adding new lights to the city’s streetlighting portfolio, including designating who is authorized to sign agreements for unregulated lights.

**City Lacks Information to Manage Its Lighting Portfolio**

Neither the city nor Georgia Power could provide all lighting service agreements, and the city cannot link them to streetlight locations or billing data because agreements sometimes lack the service address, and location data appear inaccurate. Further, the city has not maintained a current inventory of lights, creating risk that the city is paying ongoing service costs for decommissioned streetlights. We identified at least 36 streetlights listed in Georgia Power’s location data that were not present in our random sample of land lots.

Georgia Power did not provide service agreements for about 139 unregulated lights. We requested all current lighting service

agreements from Georgia Power employees, but they said that they could only provide the ones that were available electronically because the COVID-19 pandemic prevented them from going into the office. We received agreements for 2,850 of 2,989 unregulated lights that Georgia Power owns, approximately 95%. Unregulated lights are governed by lighting service agreements, which determine the service, energy, and maintenance costs of lights included in the agreements (see Exhibit 12). Georgia Power does not offer standard prices for unregulated lights, even unregulated lights of the same type, so agreements should be available to the city upon request to verify that Georgia Power is charging the correct amount. As a party to the agreement, the city should also keep a copy of the agreements; however, Transportation staff stated these were not available. Without the ability to verify charges, the city may be overbilled for streetlighting.

**Exhibit 12: Georgia Power and the City of Atlanta Execute Lighting Service Agreements for Unregulated Lights**

*Spicer West Duffield Young*

**Governmental NESC® Lease Agreement Lighting Services**



**GEORGIA POWER**  
A SOUTHERN COMPANY

Customer Legal Name ATLANTA CITY OF DBA N/A  
 Service Address 124 CLAIRE DR ATLANTA, GA 30315 County FULTON  
 Mailing Address STE 1225 55 TRINITY AVE ATLANTA, GA 30303  
 Email N/A Tel # (404) 244-9916 Alt Tel N/A  
 Tax ID SAME Business Description CITY GOVERNMENT  
 Existing Customer Yes  No  If Yes (and if possible), does Customer want Equipment added to an existing account? Yes  No  If Yes, Which Account Number N/A

Equipment (excludes any applicable sales taxes)										
Action	Qty	Wattage	Type	Description	OH/UG	M/UM	Equipment Amount (\$)	Estimated Regulate Charge (\$)*	Estimated Monthly Charge(\$)	
(1)	INS	30	420	LED	FLOOD	OH	UM	\$1,334.70	\$465.30	\$1,800.00
(2)										
(3)										
(4)										
(5)										
Monthly Total *							\$1,334.70	\$465.30	\$1,800.00	

\* The Regulated Charge is subject to change at any time as dictated by the Georgia Public Service Commission. The amount shown is an estimate based on Summer rates in effect at time of Agreement proposal; actual charges may vary.

Project Notes:

RECEIVED  
FEB 18 2016

Initial Term 1 months Prepaid Amount (excludes any applicable sales taxes) \$0

Customer agrees to lease the Equipment referenced above from Georgia Power Company on the attached terms and conditions and authorizes all actions noted above.  
 Customer also agrees to allow removal of existing outdoor lights as outlined in the removal contract incorporated by this reference. Yes  No

Customer Authorized Signature <i>Michael A. Dobson</i>	Date <u>8-18-15</u>	Georgia Power Company <i>Richard Gresham</i>	Date <u>8/18/15</u>
Print Name <u>Michael A. Dobson</u>	Print Name <u>RICHARD GRESHAM</u>	Print Title <u>ACCOUNT EXECUTIVE</u>	
Print Title <u>SECURITY MANAGER</u>			

GPC Internal Use Only						LEAD #	PPID#
DWE	INS/REG	UNREG/REG	LED/LED	RETRY/RETRY	CUST. CHOICE/CHOICE		
<u>CP8163L11716</u>	<u>INS</u>	<u>UNREG</u>	<u>LED</u>	<u>NEW</u>	<u>No</u>		<u>015711110</u>
DWE						Rev Class: Com1 <input checked="" type="checkbox"/> Res <input type="checkbox"/> Ind <input type="checkbox"/>	
DWE						Region <u>METRO SOUTH</u>	
DWE						Construction: New <input type="checkbox"/> Existing <input checked="" type="checkbox"/>	
DWE						Customer Choice? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

If an existing customer, list account number if it is not shown above:

NESC is a federally registered trademark of IEEE
Page 1 of 2
Revised 1/15/2014

Source: Georgia Power

In addition to the missing agreements, we found that some service addresses (actual locations of lights) on the agreements were incorrect, and some lacked Georgia Power account numbers, discrepancies that limit the city's ability to match agreement information to specific lights to verify billing. For example, 11 agreements that authorized the

installations of 1,234 unregulated lights between 2019 and 2021 listed “0 Roadway Lighting” as the service address of the lights.

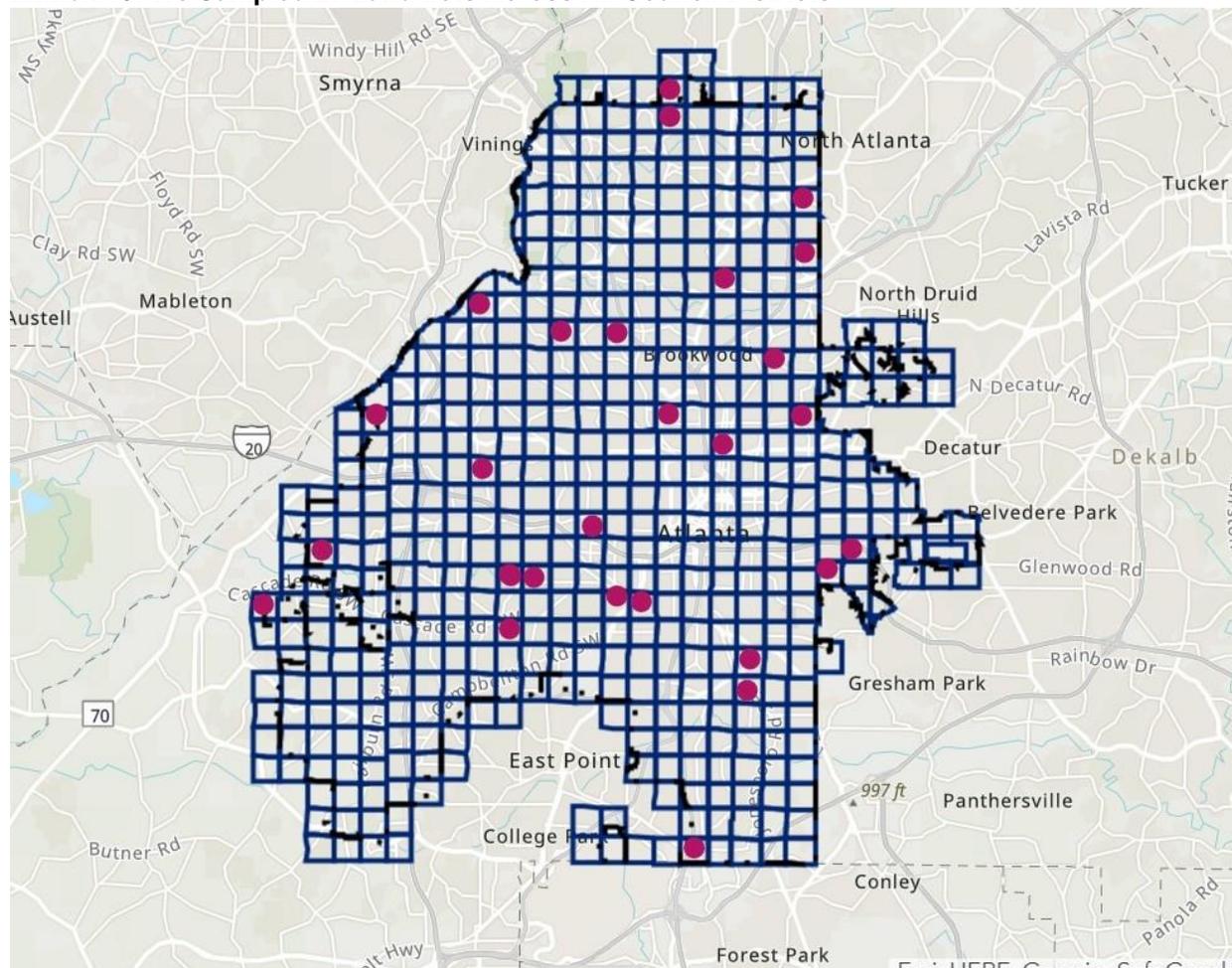
We recommend that the Transportation commissioner work with Law to renegotiate unregulated lights under one agreement and/or at least renegotiate agreements for lights for which Georgia Power cannot provide the agreements.

**We could not locate 36 lights in sampled areas.** We counted 2,843 regulated RLG lights in randomly sampled areas throughout the city. We were unable to locate 36 lights that Georgia Power data identified as within the sampled locations. We used City of Atlanta GIS (Geographic Information System) data to randomly select 27 land lots within the city totaling about 9 square miles (see Exhibit 13). We selected between one and four land lots per council district. We visited each selected land lot to count the total number of streetlights and record the number of operable and inoperable lights. We also asked the city’s GIS team to render maps of our selected land lots with the locations of regulated RLG and other lights based on location data that Georgia Power provided to us. We counted the lights on these maps and compared the map counts to our physical count of lights within our sampled areas.

We encountered some difficulty in counting the lights, in terms of trees obscuring lights, overlooking lights that were out, and knowing when to start and stop counting lights on streets that extended outside the sampled areas. Focusing on streets in the randomly selected areas with clear boundaries for counting lights (i.e., streets that began and ended within the sampled area and those with distinct parameters for beginning and ending the count, such as intersections), we verified our physical count of the number of regulated RLG lights.

Georgia Power staff told us the utility could link all billing charges to specific lights, although the discrepancy between our physical and map counts indicates that the location data may be incorrect. Transportation staff told us that the department is unsure how to verify Georgia Power energy and service billing, so it mainly relies on the honor system for accuracy. Transportation employees also said that Georgia Power billing is not connected to location data, and the location data that Georgia Power provided to the department had discrepancies and inaccuracies.

### Exhibit 13: We Sampled 27 Land Lots Across All Council Districts



Source: Auditor's screenshot from <https://gis.atlantaga.gov/lotboundary/>

City staff told us that the energy/service charge bills do not include the number of lights for which Georgia Power is billing the city. Moreover, the city has not maintained records of service agreements, and Georgia Power has declined to provide them, so it is impossible to confirm that billing is accurate. As a result of the inability to link lights to a specific location, the city may be overbilled for streetlighting, billed a flat rate for uninstalled/removed lights, and/or billed for lighting outside of its jurisdiction.

We recommend that the Transportation commissioner work with Georgia Power to develop an equipment identification number to identify the billing charges for each light. We also recommend that the Transportation commissioner order a physical audit of a sample of lights quarterly to ensure that billing data is accurate. We further recommend that the Transportation commissioner work with Georgia Power to collect billing credits for lights for which the city has been charged a flat rate but that cannot be physically located.

The city does not maintain an inventory of lights. Prior to July 2020, Public Works was responsible for the city's streetlighting portfolio. We requested lighting service agreements from Transportation employees, some of whom worked in streetlighting under Public Works, but none was able to provide all agreements. Moreover, the city has not kept records of where city-owned lights are located; it contracted with Jacob's Engineering to audit the locations of its streetlights in 2016. Additionally, Georgia Power staff told us that the utility does not have location data for all city-owned lights. Transportation staff told us that the department needs someone to maintain a database of streetlighting types and locations, but Transportation has not yet employed someone to do this.

According to the City of Atlanta Approved Retention Schedule, Public Works should have retained copies of contracts until they were no longer needed, per O.C.G.A. §50-18-90. City employees failed to comply with record retention requirements, and departments managing streetlighting did not have employees dedicated to tracking data and agreements for lights. As a result, the city is unable to confirm whether billing is correct.

We recommend that the Transportation commissioner assign staff to streetlight recordkeeping to serve as a central repository for agreements and streetlight-related GIS data.

### **Lighting Outages Are More Common for City-Owned Lights**

Our observation of streetlights in a random sample of 27 land lots across the city found that 81 of 695 (11.7%) city-owned lights were not working and 105 of 2,843 (3.7%) Georgia Power lights were not working. Monthly inspection reports for interstate lights between March 2019 and March 2021 show a range of 3.5% to 9.3% of 6,876 lights not working. We were unable to assess repair times because data were not available from Georgia Power or the city, but the city's expected repair times of 30 days to replace a bulb, fuse, or ballast, and 42 days for other minor repairs are much longer than Georgia Power's or other cities we reviewed.

**Less than 4% of Georgia Power-owned regulated RLG lights were out during our observations.** As Exhibit 14 shows, we counted a total of 2,843 regulated RLG lights in our sampled areas, and 105, or 3.7%, were inoperable. If we project the results of our physical count onto the city's entire streetlight portfolio, approximately 3.5% to 3.7% of regulated RLG lights were inoperable throughout the city. According to Georgia Power, customers sometimes request that lights be disabled. We selected 27 land lots throughout the city based on the land area of

each council districts, visited them, and physically counted the lights in each area. We recorded the total number of lights and the total number of inoperable lights in the sampled areas.

**Exhibit 14: Nearly 4% of Regulated Lights Were Inoperable**

Georgia Power-Owned Lights in Sample	Total
Number of regulated lights	2,843
Inoperable regulated RLG lights	105
Percent inoperable	3.7%

**Source:** Developed by auditors based on audit testing results

Once a customer reports an outage, Georgia Power procedures state that outdoor lights (including streetlights) will be repaired within three business days, weather permitting, unless the pole or cables are damaged, or usual circumstances exist. Customer-based reporting, particularly in residential areas, seems to expedite outage detection and service request initiation, resulting in lights being repaired quickly. Yet, according to the findings of the Georgia Tech assessment, the Detroit Public Lighting Authority was able to maintain an operability rate of 98% (2% inoperability) through repair crews examining the streetlights at night. In contrast, the third-party vendors that repair lights for Georgia Power work during the day, so they may not detect outages in the field.

We recommend that the Transportation commissioner work with Georgia Power to establish a reasonable operability rate for regulated RLG lights and require nighttime repair work if the rate exceeds the established threshold.

**Georgia Power declined to provide data on repair times.** Georgia Power is responsible for maintaining its own streetlights, although it relies on citizens to report outages. Citizens can call the utility to report an outage or submit service requests for repairs through its website, which routes requests directly to a repair truck. ATL311 operators may submit service requests for Georgia Power-owned lights if citizens call in repairs through ATL311, or they may advise customers to call Georgia Power directly. We reported the outage of a Georgia Power-owned regulated light through ATL311 in March 2021, and, as of November 1, 2021, the light remained inoperable.

We requested service request data for maintenance and repairs from Georgia Power to analyze the utility’s SLAs, but it declined to provide them. Georgia Power staff told us that the utility could not provide the data for several reasons:

- it migrated to a new system in 2018 and could not retrieve pre-migration data
- it receives services requests in several formats
- it cannot filter service requests submitted through the outage tool (its website) to those within city limits
- the volume of service request data is immense

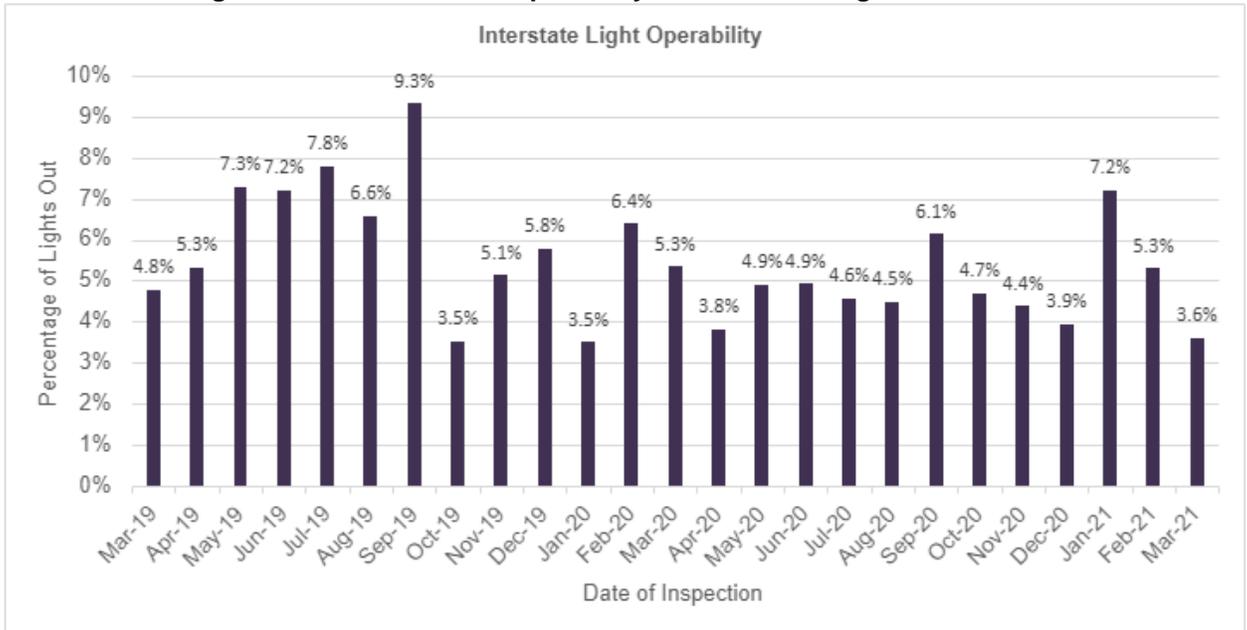
Georgia Power staff stated that the utility would issue a billing credit if lights were not repaired timely. However, because Georgia Power will not provide its service request data, the city has no way of knowing when it is entitled to billing credits. Without the data to verify SLAs, lights may remain inoperable for extended periods of time, and the city is unable to collect billing credits for delayed repairs.

To encourage transparency and timely repairs, we recommend that the Transportation commissioner work with Georgia Power to ensure the service request data is available to the city upon request.

**Georgia Power-maintained interstate lights were out more than its regulated RLG lights.** We requested monthly inspection reports for July 2018 through March 2021. Vendors began providing monthly inspection reports to Georgia Power in March 2019; therefore, Georgia Power provided the reports for 25 of the 33 months in our scope. According to these reports, outages on the interstates ranged from 3.5% to 9.3% (see Exhibit 15).

Georgia Power mainly contracts with third-party vendors to repair lights on the interstates. Georgia Power staff told us that its third-party vendors ride along the interstates during the first week of each month to find outages. Therefore, if a light goes out the day after the vendor conducts the ride-through of the interstate lights, the light may be inoperable for nearly a month before it is repaired. Despite the light being inoperable, the city pays the maintenance fee and a flat rate for energy charges. The ride-throughs of the interstate lights may not be frequent enough to ensure that lights remain operable.

**Exhibit 15: Georgia Power Maintained Inoperability Below 5% During Half the Months**



**Source:** Developed by auditors based on monthly inspection reports that Georgia Power provided

We recommend that the Transportation commissioner work with Law during contract renegotiations to include provisions in the contract to provide billing credits for outages over a certain threshold.

Twelve percent of city-owned lights were out. We counted the number of city-owned lights and the number of inoperable lights in our sampled areas. As Exhibit 16 shows, we counted 862 city-owned lights, and 81 were inoperable.

**Exhibit 16: Nearly 12% of City-Owned Light Were Inoperable**

City-Owned	Total Lights	% of Total
Type A	87	12.5%
Type C	431	62.0%
Type CH*	177	25.5%
<b>Total</b>	<b>695</b>	
<b>City-owned inoperable</b>	<b>81</b>	<b>11.7%</b>

**Source:** Developed by auditors based on audit testing result

**\*Note:** Total excludes interstate lights because Georgia Power maintains them

Transportation staff told us they do not have enough repair staff; the department currently has one repair crew with two people. We compared the city’s reported time to complete minor streetlight repairs to other cities based on the turnaround times that they published online

and found that Atlanta’s expected response times are longer than other cities. As Exhibit 17 shows, the city’s response time goal for minor repairs is at least 18 days more than other cities’ reported goals.

**Exhibit 17: Atlanta’s Expected Time to Fix Streetlights Longer Than Other Cities**

City	Days to Complete Minor Repairs	Difference from Atlanta (In Days)
<b>Atlanta</b>	<b>30</b>	<b>0</b>
Chicago	2-7 (median 4.5)	-25.5
Newark (CA)	12	-18
Raleigh	3-5 (median 4)	-26
St. Louis	3	-27
San Diego	12	-18
San Francisco	2	-28
San Jose	7-14 (median 10.5)	-19.5
Santa Monica	2	-28
Washington, D.C.	2-5 (median 3.5)	-26.5

**Source:** Developed by auditors based on online sources of information

The department relies on citizens to report city-owned streetlight outages through the ATL311 system. Service requests are assigned a response time based on a problem code indicating the issue. According to Transportation, the minimum response time is 30 days, and the maximum is 98 days.

Transportation currently has one repair crew, which is insufficient staffing to proactively maintain streetlights, as Transportation staff told us that it would need four crews (eight total people), using the Federal Highway Administration’s ratio of lights to repair people, to perform routine maintenance. Transportation also lacks written procedures for processing streetlight service requests; therefore, the city may not be able to accurately track repair turnaround times. If Transportation is not repairing streetlights promptly, lights may remain inoperable for extended periods of time and citizens’ and motorists’ safety may be adversely affected.

If the city decides to maintain city-owned lights in its portfolio, we recommend that the Transportation commissioner develop written procedures for processing streetlight service requests. We further recommend that the Transportation commissioner update SLAs and consider increasing the number of city maintenance crews or outsourcing repairs of city-owned lights.

## **Georgia Power Assessment of City-Owned Lights Could Present Conflict of Interest**

The city's proposed sale of its streetlights to Georgia Power will likely increase overall cost but improve performance. However, the city's contract with Georgia Power to assess city lights in preparation for the proposed sale appears to pose a conflict of interest. The city should mitigate the risk created by this conflict by carefully analyzing the proposed service rates.

Resolution 21-R-3661 authorized the city to contract with Georgia Power to conduct a Lighting Equipment Study to assess the inventory of the city-owned streetlights. The study will assess the number, location, and quality of the city's current outdoor lighting assets. Because Georgia Power would benefit from acquiring city-owned lights, contracting with the utility to conduct the study could present a conflict of interest.

We recommend that the Transportation commissioner mitigate the risk created by this conflict by carefully analyzing the proposed service rates.

Georgia Power staff told us that if the utility took over the city-owned lights, it would charge the city \$28 per month for the operation and maintenance of each light, \$39.90 per light with riders. Interstate lights are outside of the scope of Georgia Power's proposed acquisition. The city currently pays for energy only for 9,540 city-owned lights, which averages to \$11.85 per light. Based on the estimates of the Georgia Tech assessment, the city would also pay an estimated \$155,000 in monthly maintenance costs for labor and parts, if it increased the number of repair crews to the level that the Federal Highway Administration suggests for the current number of lights to improve repair turnaround times. Selling to city-owned lights to Georgia Power could increase monthly costs by about \$114,000.



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## Recommendations

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In order to develop better controls for streetlighting, the Transportation commissioner should

1. add regulated lights where possible to reduce costs
2. establish criteria for where and why unregulated lights are added to reduce the overall expense of lighting
3. develop a plan for managing streetlighting costs and agreements
4. implement an approval process for adding new lights to the city's streetlighting portfolio, including who is authorized to sign agreements for unregulated lights
5. work with Law to renegotiate unregulated lights under one agreement and/or at least renegotiate agreements for lights for which Georgia Power cannot provide the agreements
6. work with Georgia Power to develop a tracking nomenclature to identify the billing charges for each light
7. order a physical audit of a sample of lights quarterly to ensure that billing data is accurate
8. work with Georgia Power to collect billing credits for lights for which the city has been charged a flat rate but that cannot be physically located
9. assign staff to streetlight recordkeeping to serve as a central repository for agreements and streetlight-related GIS data
10. work with Georgia Power to establish a reasonable operability rate for regulated lights and require nighttime repair work if the rate exceeds the established threshold
11. work with Georgia Power to ensure the service request data is available to the city upon request
12. work with Law during contract renegotiations to include provisions in the contract to provide billing credits for outages over a certain threshold
13. develop written procedures for processing streetlight service requests if the city decides to maintain city-owned lights in its portfolio

14. update SLAs and consider increasing the number of city repair crews or outsourcing repairs of city-owned light if the city decides to maintain city-owned lights in its portfolio
15. analyze proposed Georgia Power rates for purchasing city-owned lights to mitigate the risk created by the city contracting with the utility to assess the lights prior to purchasing them

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# Appendices

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## Appendix A: Management Review and Response to Audit Recommendations

Report # 21.07	Report Title: Streetlighting	Date: March 2022
<b>Recommendation 1:</b> We recommend that the Transportation commissioner add regulated lights where possible to reduce costs.		
<b>Risk Category:</b> Cost Control		<b>Response:</b> Agree
<b>Related Findings:</b> 1. Unregulated lights drive costs higher. Unregulated lights account for 5% of total streetlight inventory, but 16% of total costs.		
<b>Proposed Action:</b> Prioritize unregulated lights where possible.		<b>Current Status:</b> Not Started
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> Dec 2022
<b>Additional Comments:</b>		

<b>Recommendation 2:</b> We recommend that the Transportation commissioner establish criteria for where and why unregulated lights are added to reduce the overall expense of lighting.		
<b>Risk Category:</b> Cost Control		<b>Response:</b> Agree
<b>Related Findings:</b> 1. Unregulated lights drive costs higher. Unregulated lights account for 5% of total streetlight inventory, but 16% of total costs.		
<b>Proposed Action:</b> Develop criteria for where and why unregulated lights are added to reduce the overall expense of lighting.		<b>Current Status:</b> Not Started
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> July 2022
<b>Additional Comments:</b>		

<b>Recommendation 3:</b> We recommend that the Transportation commissioner develop a plan for managing streetlighting costs and agreements.	<b>Risk Category:</b> Process Improvement	<b>Response:</b> Agree
<b>Related Findings:</b> 1. Unregulated lights drive costs higher. The number of lights covered by each agreement suggests that the city added lights in a haphazard way; the individual agreements authorized the installation of between 1 and 334 lights each.		
<b>Proposed Action:</b> Plan underway to better manage streetlights		<b>Current Status:</b> Started
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> Dec 2022
<b>Additional Comments:</b>		

<b>Recommendation 4:</b> We recommend that the Transportation commissioner implement an approval process for adding new lights to the city's streetlighting portfolio, including who is authorized to sign agreements for unregulated lights.	<b>Risk Category:</b> Process Improvement	<b>Response:</b> Agree
<b>Related Findings:</b> 1. Unregulated lights drive costs higher. Lower-level staff, such as project managers, executed agreements for 502 unregulated lights.		
<b>Proposed Action:</b> No one is allowed to authorize any new streetlights except the Commissioner of Transportation.		<b>Current Status:</b> Implemented
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> March 2022
<b>Additional Comments:</b>		

<b>Recommendation 5:</b> We recommend that the Transportation commissioner work with Law to renegotiate unregulated lights under one agreement and/or at least renegotiate agreements for lights for which Georgia Power cannot provide the agreements.	<b>Risk Category:</b> Contract Management	<b>Response:</b> Agree
1. City lacks information to manage its lighting portfolio. We received agreements for 2,850 of 2,989 unregulated lights that Georgia Power owns, approximately 95%. Unregulated lights are governed by lighting service agreements, which determine the service, energy, and maintenance costs of lights included in the agreements. Without the ability to verify charges, the city may be overbilled for streetlighting.		
<b>Proposed Action:</b> Work with Law to renegotiate unregulated lights under one agreement and/or at least renegotiate agreements for lights for which Georgia Power cannot provide the agreements.		<b>Current Status:</b> Not Started
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> Dec 2022
<b>Additional Comments:</b>		

<b>Recommendation 6:</b> We recommend that the Transportation commissioner work with Georgia Power to develop a tracking nomenclature to identify the billing charges for each light.	<b>Risk Category:</b> Cost Control	<b>Response:</b> Agree
<b>Related Findings:</b> 1. City lacks information to manage its lighting portfolio. We were unable to locate 36 lights that Georgia Power data identified as within the sampled locations. Georgia Power staff told us the utility could link all billing charges to specific lights, although the discrepancy between our physical and map counts indicates that the location data may be incorrect.		
<b>Proposed Action:</b> Working with Georgia Power to install sensors and meters that will measure status of all streetlights		<b>Current Status:</b> Started
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> Dec 2025
<b>Additional Comments:</b>		

<b>Recommendation 7:</b> We recommend that the Transportation commissioner order a physical audit of a sample of lights quarterly to ensure that billing data is accurate.	<b>Risk Category:</b> Cost Control	<b>Response:</b> Agree
<b>Related Findings:</b> 1. City lacks information to manage its lighting portfolio. We were unable to locate 36 lights that Georgia Power data identified as within the sampled locations. Georgia Power staff told us the utility could link all billing charges to specific lights, although the discrepancy between our physical and map counts indicates that the location data may be incorrect.		
<b>Proposed Action:</b> Developing methodology and roles for monitoring streetlight finances and Georgia Power compliance		<b>Current Status:</b> Not Started
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 8:</b> We recommend that the Transportation commissioner work with Georgia Power to collect billing credits for lights for which the city has been charged a flat rate but that cannot be physically located.	<b>Risk Category:</b> Revenue Collection & Cost Recovery	<b>Response:</b> Agree
<b>Related Findings:</b> 1. City lacks information to manage its lighting portfolio. We were unable to locate 36 lights that Georgia Power data identified as within the sampled locations. Georgia Power staff told us the utility could link all billing charges to specific lights, although the discrepancy between our physical and map counts indicates that the location data may be incorrect.		
<b>Proposed Action:</b> Developing methodology and roles for monitoring streetlight finances and Georgia Power compliance		<b>Current Status:</b> Partly Implemented
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 9:</b> We recommend that the Transportation commissioner assign staff to streetlight recordkeeping to serve as a central repository for agreements and streetlight-related GIS data.	<b>Risk Category:</b> Contract Management	<b>Response:</b> Agree
<b>Related Findings:</b> 1. City lacks information to manage its lighting portfolio. We requested lighting service agreements from Transportation employees, some of whom worked in streetlighting under Public Works, but none was able to provide all agreements. The city has not kept records of where city-owned lights are located.		
<b>Proposed Action:</b> Developing methodology and roles for monitoring streetlight finances and Georgia Power compliance		<b>Current Status:</b> Partly Implemented
<b>Business Owner: Transportation</b>		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 10:</b> We recommend that the Transportation commissioner work with Georgia Power to establish a reasonable operability rate for regulated lights and require nighttime repair work if the rate exceeds the established threshold.	<b>Risk Category:</b> Contract Management	<b>Response:</b> Agree
<b>Related Findings:</b> 1. Lighting outages are more common among city-owned lights. Less than 4% of Georgia Power-owned regulated RLG lights were out during our observations.		
<b>Proposed Action:</b> Program to improve streetlight maintenance is underway		<b>Current Status:</b> Partly Implemented
<b>Business Owner:</b> Transportation		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 11:</b> We recommend that the Transportation commissioner work with Georgia Power to ensure the service request data is available to the city upon request.	<b>Risk Category:</b> Contract Management	<b>Response:</b> Agree
<b>Related Findings:</b> 1. Georgia Power declined to provide data on repair times. Because Georgia Power will not provide its service request data, the city has no way of knowing when it is entitled to billing credits. Without the data to verify SLAs, lights may remain inoperable for extended periods of time, and the city is unable to collect billing credits for delayed repairs.		
<b>Proposed Action:</b> Developing methodology and roles for monitoring streetlight finances and Georgia Power compliance		<b>Current Status:</b> Not Started
<b>Business Owner: Transportation</b>		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 12:</b> We recommend that the Transportation commissioner work with Law during contract renegotiations to include provisions in the contract to provide billing credits for outages over a certain threshold.	<b>Risk Category:</b> Contract Management	<b>Response:</b> Agree
<b>Related Findings:</b> 1. Georgia Power-maintained interstate lights were out more than its regulated RLG lights. According to maintenance reports, outages on the interstates ranged from 3.5% to 9.3% from July 2018 through March 2021. Despite the light being inoperable, the city pays the maintenance fee and a flat rate for energy charges.		
<b>Proposed Action:</b> Developing methodology and roles for monitoring streetlight finances and Georgia Power compliance		<b>Current Status:</b> Not Started
<b>Business Owner: Transportation</b>		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 13:</b> We recommend that the Transportation commissioner develop written procedures for processing streetlight service requests.	<b>Risk Category:</b> Process Improvement	<b>Response:</b> Agree
<b>Related Findings:</b> 1. Twelve percent of city-owned lights were out. Transportation staff told us they do not have enough repair staff; the department currently has one repair crew with two people. The city's response time goal for minor repairs is at least 18 days more than other cities' reported goals.		
<b>Proposed Action:</b> Program to improve streetlight maintenance is underway		<b>Current Status:</b> Partly Implemented
<b>Business Owner: Transportation</b>		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 14:</b> We recommend that the Transportation commissioner update SLAs and consider increasing the number of city maintenance crews or outsourcing repairs of city-owned lights.	<b>Risk Category:</b> Process Improvement	<b>Response:</b> Agree
<b>Related Findings:</b> 1. Twelve percent of city-owned lights were out. Transportation staff told us they do not have enough repair staff; the department currently has one repair crew with two people. The city's response time goal for minor repairs is at least 18 days more than other cities' reported goals.		
<b>Proposed Action:</b> Program to improve streetlight maintenance is underway		<b>Current Status:</b> Partly Implemented
<b>Business Owner: Transportation</b>		<b>Estimated Implementation Date (M/Y):</b> Dec 2023
<b>Additional Comments:</b>		

<b>Recommendation 15:</b> We recommend that the Transportation commissioner analyze proposed Georgia Power rates for purchasing city-owned lights to mitigate the risk created by the city contracting with the utility to assess the lights prior to purchasing them.	<b>Risk Category:</b> Planning and Budgeting	<b>Response:</b> Agree
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<b>Related Findings:</b>	
1. The city's proposed sale of its streetlights to Georgia Power will likely increase overall cost but improve performance. However, the city's contract with Georgia Power to assess city lights in preparation for the proposed sale appears to pose a conflict of interest.	
<b>Proposed Action:</b> We have access to pictures of every light audited and can confirm its status.	<b>Current Status:</b> Implemented
<b>Business Owner: Transportation</b>	<b>Estimated Implementation Date (M/Y):</b> March 2022
<b>Additional Comments:</b>	