Audit of the City's Green Efforts

Report # 2020/21-04| December 2020

Improved Monitoring and Reporting of Sustainability Data, Progress, and Outcomes Is Essential for Tracking Impacts and Realizing the Intended Benefits

Centralized Management and Oversight of the City's Sustainability Efforts May Better Position the City to Establish Sustainability as an Organizational Priority and Core Value

Awareness of and Compliance with Sustainable Policies, Procedures, and Plans Could Be Strengthened

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City of SACRAMENTO
Office of the City Auditor

AUDIT FACT SHEET

Audit of the City's Green Efforts

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RECOMMENDATIONS

We made 26 recommendations aimed at improving the City's sustainability efforts. Our recommendations included:

Monitor Outcomes

- Require post-completion monitoring for all applicable sustainability projects, programs, and initiatives.
- Ensure sustainability reports consistently track and report progress over time.

Improve Data Integrity

- Review the data captured by the GIS streetlights system, determine key data fields, implement controls to ensure these fields contain accurate and complete information, and reconcile the various internal sources of streetlight counts.

Centralize & Coordinate Oversight

- Evaluate whether a centralized guidance, enforcement, and coordination body may better assist City staff in implementing the City's sustainability goals and vision
- Develop guidance on prioritizing Citywide sustainability goals.
- Establish a Citywide internal communication strategy and accountability mechanism for sustainability goals and priorities.
- Review City projects that may have immediate environmental savings and cost avoidance that currently lack funding, such as retrofitting the remaining streetlights to LED, and assist with identifying funding sources.

Lack of Policy Awareness

- Develop a process for notifying City employees of changes to Citywide sustainability policies, procedures, and plans and document their acknowledge of these changes.
- Ensure that the City website and any internal employee resources are up-to-date and accurate.

BACKGROUND

The objective of this audit was to evaluate the policies, procedures, and plans used to govern the City's green efforts and to evaluate program effectiveness. This audit specifically assessed energy usage and costs, energy conservation projects, sustainable purchasing practices, vehicle fuel costs and usage, and general sustainability procedures. In performing this audit, we analyzed potential barriers to implementation, including funding, information quality, and oversight. We conducted a Citywide employee survey, interviewed staff, reviewed project documents, and analyzed vendor data.

FINDINGS

Finding 1: Improved Monitoring and Reporting of Sustainability Data, Progress, and Outcomes Can Better Enable Management to Assess Whether Performance Goals are Met

Specifically, we found:

- Inconsistent tracking and reporting of sustainability metrics may be creating accountability shortfalls;
- Inconsistent performance tracking over time hinders sustainability progress;
- Sustainability plans and reports do not consistently track specific progress over time; and
- Improved energy data management is needed to address data integrity issues that hinder the City's ability to produce more reliable analyses and ensure accurate energy billing.

Finding 2: Centralized Oversight and Management of the City's Sustainability Efforts May Better Position the City to Establish Sustainability as an Organizational Priority and Core Value

We noted the following areas for improvement:

- The City does not currently have a formalized internal communications strategy or an official entity directing their green efforts;
- Inadequate funding for sustainability projects is a barrier to prompt implementation; and
- Not all City departments consistently demonstrate that sustainability is an operational priority.

Finding 3: Awareness of and Compliance with Sustainable Policies, Procedures, and Plans Could Be Strengthened

Specifically, we found:

- Approximately 44% of survey respondents are unaware of Citywide policies, procedures, and plans related to sustainability;
- Paper consumption reduced by 50% in the last ten years but further reductions may be inhibited by sustainability culture and operational barriers;
- Excess idling offsets reduction in GHG emissions while also costing the City approximately $282,000 per year; and
- The City spent approximately $242,000 in the last two fiscal years on purchases that appear non-compliant with sustainable purchasing guidelines.

Introduction

In accordance with the City Auditor's 2019-20 Audit Plan, we have completed an *Audit of the City's Green Efforts*. We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those 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.

The City Auditor's Office would like to thank the Department of Public Works, Department of Utilities, Department of Youth, Parks, and Community Enrichment, and the Department of Community Development for their cooperation during the audit process.

Objective, Scope, and Methodology

The objective of this audit was to evaluate the policies, procedures, and plans used to govern the City's green efforts and to evaluate program effectiveness. Additionally, we determined areas of risk and opportunities for savings as they relate to the City's sustainable projects and programs. In particular, we analyzed potential barriers to implementation, including funding, information quality, and oversight.

Our scope primarily focused on efforts within municipal operations as those are areas the City has direct control over. However, our review of how sustainability is structured within the City, such as any relevant reports and guidelines, may affect community-oriented efforts as well. We used project-level and general operations data and records from the relevant City departments for fiscal years 2014-15 through 2019-20. We also reviewed plans and reports relevant to sustainability from 2007 through 2018.

During this audit, we conducted a Citywide employee survey, interviewed staff, reviewed project documents, and analyzed vendor data. This audit specifically assessed energy usage and costs, energy conservation projects, sustainable purchasing practices, vehicle fuel costs and usage, and general sustainability procedures.

Background

The City of Sacramento (City) is committed to supporting and further advancing green efforts in Sacramento, both within its local government operations and throughout the community. To be sustainable or "green," the City strives to incorporate environmental stewardship as it works to meet the current generation's needs without compromising the ability of future generations to meet their needs. More specifically, the City aims to mitigate negative impacts such as greenhouse gas emissions, pollution, dependence on non-renewable resources, and over- or excessive use of natural resources.

Monitoring Greenhouse Gases

Greenhouse gases (GHG) are gases that trap heat in the atmosphere. Common GHG that are released through burning fossil fuels, solid waste, other biological materials, decaying organic waste, and other industrial or agricultural practices include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. Collectively, GHG concentrations in the atmosphere are projected to cause rising temperatures, intensify heat waves, increase ground-level pollutants, taint water supplies, and induce extreme natural events such as storms, flooding, and erosion. In turn, this can negatively impact health, access to resources, and overall quality of life.

Routine City operations require energy, water, and fuel, which contribute to the City's total municipal GHG emissions and may incur unnecessary costs when not monitored for excessive usage. These include using City fleet and equipment to conduct City business, consuming electricity to power our facilities, irrigating the City's many parks and sites, operating street and traffic lights, processing recyclables and solid waste, purchasing and using common office and cleaning products, and many others. The City's Climate Action Plan for Internal Operations 2016 Update documents the most recent municipal inventory. As of 2013, the City's internal operations resulted in an estimated 59,098 metric tons of carbon dioxide equivalent, a 24 percent net decrease from the City's emissions in 2005. The City recognizes that activities in its immediate community also contribute to GHG emissions, such as on-road vehicles, business and residential energy consumption, and waste disposal.

Green Efforts

As both adaptive and mitigative measures, the City has implemented and introduced numerous projects, programs, and guidelines that aim to improve energy efficiency, conserve resources, and promote environmentally friendly practices. In doing so, the City is working towards reducing operational costs and improving air quality within the overall community. The following figure highlights some of the green efforts the City has already accomplished or introduced.

Figure 1: City's Green Efforts Projects, Programs, and Guidelines

Source: Auditor generated based on the City's website, plans, policies, and reports as well as information provided by the Department of Public Works and the Department of Utilities. Information in this figure was not audited for accuracy.
Note: One metric ton of carbon dioxide is denoted as $MTCO_2$.

While the City continuously engages in various sustainability efforts, there remains areas of risk and opportunities for improvement, as detailed in the rest of this report.

Plans, Policies, City Codes, and Ordinances

The City has established multiple plans, policies, City codes, and ordinances to guide its sustainability goals. These plans and reports, as summarized in the following figure, aim to facilitate continuous improvement by providing strategic direction and compiling broad performance measures. It is important to note that not all of these plans and reports are currently in effect. For example, the City's 2030 General Plan and the 2012 Climate Action Plan were superseded by the City's 2035 General Plan. In addition, updates to some plans, such as the 2040 General Plan and Climate Action Plan Update are currently underway.

Figure 2: The City's Sustainability Plans and Reports

YEAR	PLAN	DESCRIPTION
1994	Urban Forest Management Plan	**1.** Outlines considerations managing the urban forest, including routine maintenance, the tree replacement rate, and funding needs and options. **2.** Identifies areas of jurisdiction and responsibility for different physical spaces in the City, such as parking lots, parks, residential areas, and others. **3.** Details policies, City Codes, and ordinances on sustainable tree management in order to maximize positive environmental impact.
2007	Sustainability Master Plan	**1.** Recognizes that the City is a major landowner, building manager, fleet operator, utility owner and operator, consumer of goods and services, and service provider and therefore has both the opportunity and the capacity to bring about significant improvements in environmental quality in and around the region. **2.** Aims to integrate environmentally sustainable practices into City policies, procedures, operations, and foster collaboration across City government. **3.** Indicates that the the City's strategy first focuses on changes the City has control over, such as its interal operations and jurisdiction over changes to the built environment within its boundaries. **4.** Acts as a tool for guiding future operational and policy decisions.
2008	Sustainable City Implementation Plan	**1.** Introduces a year-long action plan to carry out sustainable efforts in nine different focus areas: energy independence; climate protection; air quality; material resources; public health and nutrition; urban design, land use, green building and transportation; parks, open space, and habitat conservation; water resources and flood protection; and public involvement and personal responsibility. **2.** For each focus area, lists multiple specific actionable items for 2008 and the corresponding long-term goal. **3.** Highlights how seven City facilities will meet LEED building standards and states how staff intends to create new green City policies to support sustainable operations.
2009	2030 General Plan	**1.** Appendix B addresses climate change strategies by compiling relevant goals and policies as well as their respective implementation programs; examples of these programs include developing and enforcing a Water Conservation Plan, reviewing and enforcing the Residential Energy Conservation Ordinance (RECO), preparing and adopting an ordinance to require recycling and reuse of construction wastes, and preparing a plan to achieve energy efficiency targets.
2010	Climate Action Plan for Internal Operations	**1.** Examines the City's internal government operations and identifies strategies to reduce greenhouse gas emissions in a cost effective manner in the City's municipal buildings, vehicle fleet, streetlights and signals, parks maintenance, water and drainage pumping, and other facilities and operations that are within the City's immediate control. **2.** States the City's greenhouse gas emission inventory, the allocation per sector, and the City's minimum reduction target of 15% below 2005 levels by 2020 to be in accordance with Assembly Bill 32 and the recommended California Air Resources Board guidance to local government agencies. **3.** Describes projects that contribute to its overall goal, such as its Energy Efficiency Retrofits Program for Existing Facilities.
2012	Climate Action Plan	**1.** Sets a course of action for Sacramento to achieve a 15 percent reduction below its 2005 GHG emissions level by 2020. **2.** Identifies climate change effects that Sacramento may experience in the upcoming decades including higher temperatures, more air pollutants, a decrease in the snowpack, and increases in electricity demand. **3.** Forecasts business-as-usual GHG emissions to the year 2050. **4.** Offers seven strategic areas to address these issues, including sustainable land use, mobility and connectivity, energy efficiency and renewable energy, waste reduction and recycling, water conservation and wastewater reduction, climate change adaptation, and community involvement and empowerment.
2013	Water Conservation Plan	**1.** Determines opportunities to sustainably meet the future water needs of the City through cost-effective water conservation efforts and water use efficiency. **2.** Optimizes the City's Department of Utilities operational programs and decision-making process to help staff monitor progress in meeting a state mandate to achieve a 20 percent reduction in per capita water use by 2020. **3.** Describes current water conservation programs, such as community-wide leakage detection and water monitoring protocols.
2015	2035 General Plan	**1.** Appendix B summarizes the Climate Action Plan and estimates the amount of GHG reductions that may be achieved by 2020 and 2035 for each of the listed goals and strategies; examples include sustainable building practices, green building retrofits, urban forest management, partnering with local organizations and businesses to continue community green efforts, and maintaining the City's status as an environmental leader. **2.** Specifies changes that will be made as part of the Planning and Devleopment Code Update and development review process, including: streamlining the permitting process for solar photovoltaic systems; removing barriers and adding incentives to the City's Green Development Code; establishing criteria and standards to require water efficiency upgrade as a condition for renovation permits; improving parking lot shading requirements to improve tree health; and incorporating cool pavement technology into the regular maintenance of existing streets, sidewalks, and parking areas.
2016	Climate Action Plan for Internal Operations 2016 Update	**1.** Reviews the City's progress toward meeting the 2020 target for internal operations by benchmarking municipal emissions in 2013. **2.** Identifies that most GHG reductions in 2013 were in the vehicle fleet sector, with significant reductions in facility and streetlight energy use. **3.** Reviews status of actions recommended in the 2010 Internal Operations Climate Action Plan (IO CAP). **4.** New and revised action plan strategies are estimated to achieve 33 percent reduction in GHG emissions below 2005 levels by 2020. **5.** States that the City will monitor and report on accomplishments and progress towards long-term greenhouse gas reduction goals for 2050.

Source: Auditor generated based on the abovementioned plans.

Note: The Mayors' Commission on Climate Change adopted a report in June 2020 with recommendations to achieve carbon zero by 2045 in Sacramento and West Sacramento.[1] While not a City-issued report, it was passed by City Council on August 25, 2020 and directs the City Manager to implement the strategies as outlined in the recommendations.

[1] This report can be found at https://www.lgc.org/climatecommission/. More background on the Mayors' Climate Commission on Climate Change will be provided in finding 2.

To further direct employees in achieving sustainability efforts for internal operations and the community, several policies, ordinances, and resolutions have been established, examples of which are shown in figure 3 below.

Figure 3: Examples of the City's Sustainability Policies, Codes, Ordinances, and Resolutions

Source: Auditor generated based on the abovementioned policies, codes, ordinances, and resolutions.

State and Federal Regulations

The United States (U.S.) Environmental Protection Agency works to reduce environmental risk and ensure that the country has access to clean air, land, and water. It administers and enforces federal laws to safeguard both the environment and human health.

On the State level, the California Environmental Protection Agency oversees and monitors California's environmental condition, with a mission to restore, protect, and enhance the environment and to ensure public health, environmental quality, and economic vitality. It fulfills its mission by implementing and enforcing environmental laws that regulate air, water, soil quality, pesticide use, and waste, recycling and reduction through its various departments, such as the California Air Resources Board; Department of Resources, Recycling, and Recovery; and the State Water Resources Control Board.

As shown in figure 4, the California State Legislature and Governor have also promoted several bills, executive orders, and statutes to further guide California's sustainable actions.

Figure 4. Examples of California's Sustainable Regulations

Examples of State of California Regulations
Executive Orders (EO), Assembly Bills (AB), Senate Bills (SB), and Statutes

- ***1970*** **California Environmental Quality Act (CEQA)**
  Requires state or local public agencies to identify the significant environmental impacts of their actions when they undertake an activity defined by CEQA as a "project," which is an activity that must receive some discretionary approval from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment; also directs state or local public agencies to avoid or mitigate these environmental impacts, if feasible; guidelines for evaluating these projects and preparing environmental impact reports are found in the California Code of Regulations, in Chapter 3 of Title 14.
- ***2005*** **EO S-3-05**
  States that California is vulnerable to the impacts of climate change; calls for statewide emissions to be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050.
- ***2006*** **AB 32 – California Global Warming Solutions Act**
  Asserts that global warming poses a serious threat to California's economic well-being, public health, natural resources, and environment; notes that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels; and requires California to reduce its GHG emission to 1990 levels by 2020.
- ***2007*** **EO S-01-07**
  Establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and defines a Low Carbon Fuel Standard; directs the Secretary of CalEPA as coordinator of 2020 target activities and requires the Secretary to report back to the Governor and State Legislature biannually on progress toward meeting the 2020 target.
- ***2009*** **SB X7-7 – Water Conservation Act of 2009**
  Requires 20 percent reduction in urban per capita water use in California by December 31, 2020 and a minimum 10 percent reduction on or before December 31, 2015 as incremental progress towards this goal.
- ***2010*** **California Green Building Standards Code (CALGreen; Title 24 of the California Code of Regulations)**
  Mandatory green building standards code developed to reduce GHG from buildings, promote environmentally responsible, cost-effective, healthier places to live and work, reduce energy and water consumption, and respond to environmental directives of the administration; addresses parking for clean air vehicles, decreases in water usage, waste diversion from landfills, low pollutant-emitting materials, recycled materials and more; has a two tiered system designed to allow jurisdictions to adopt codes that go beyond the state mandatory provisions; is estimated by the California Air Resources Board to reduce GHG by three million metric tons by 2020.
- ***2012*** **EO B-16-12**
  Adopts a target of over 1.5 million zero-emission vehicles (ZEV) on California roads by 2025, sufficient ZEV infrastructure to support up to one million vehicles by 2020, reducing GHG emissions from the transportation sector to equal 80 percent less than 1990 levels by 2050.
- ***2013*** **SB 743**
  Instructs California's Governor's Office of Planning and Research (OPR) to amend guidelines for the implementation of CEQA by establishing criteria for determining the significance of transportation impacts of projects within transit priority areas; these criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses; OPR should also recommend potential metrics for measuring transportation impacts, such as vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated.
- ***2015*** **EO B-30-15**
  Sets interim greenhouse gas emissions target for 2030 to 40 percent below 1990 levels.
- ***2016*** **AB 2693 – PACE Preservation and Consumer Protections Act**
  Promotes standardized disclosures and protections for consumers to ensure that the Property Assessed Clean Energy program can continue to be widely used to offset the adverse impacts of years of climate change.

Source: Auditor generated based on the State of California website and the State of California Legislative Information website.

Oversight and Management

Multiple City departments are involved in sustainable efforts in their normal course of work. Two of these departments, specifically the Department of Public Works and the Department of Utilities, have a designated Sustainability Manager with supporting staff who direct these efforts specifically within their department's operational scope.

Department of Public Works

The Department of Public Works (DPW) provides a multitude of maintenance and operational services for public infrastructure, spaces, and general needs, including traffic lights, streets, parking, landscapes, urban forestry, and waste and recycling. DPW is also responsible for managing the City's vehicle fleet and facilities. As many of their core services overlap with potential areas for sustainable improvement, DPW leads several of the City's sustainability projects. This is consistent with their mission to provide innovative and sustainable public infrastructure services in order to preserve and enhance the quality of life for Sacramento residents.

Department of Utilities

The Department of Utilities (DOU) offers water, wastewater, and storm drainage services to the residents of Sacramento. DOU works with other City departments and outside governmental entities to manage the City's water resources infrastructure. In providing these services, DOU has developed a sustainability plan, adopted sustainability initiatives into the DOU Strategic plan, and carried out several water conservation programs and projects to assist both the City and the community in decreasing water consumption. Examples include outreach efforts and assistance programs to encourage water conservation behavior, the installation of the Water Wise Demonstration garden at the DOU office building, and the installation of water conserving toilets in City facilities. In turn, this has promoted DOU's mission to provide its customers with dependable, high quality water, storm drainage, and wastewater services in a fiscally and environmentally sustainable manner.

Community Development Department

The Community Development Department (CDD) fulfills its mission to help plan, build, and maintain a great city through services such as issuing building permits, enforcing City code, and urban planning; it also leads City efforts for plans and reports that capture how the City intends to achieve community-wide reduction in GHG emissions. CDD provides support for residential solar energy programs and green building standards in private development. In addition, their Environmental Planning staff reviews discretionary development projects in accordance with the California Environmental Quality Act and assesses impacts to protected biological species, air quality, and historic resources.

Department of Youth, Parks, and Community Enrichment

Community gardens and City parks are managed by the Department of Youth, Parks, and Community Enrichment (YPCE) and are considered part of the City's green efforts as they rely on irrigation to thrive. These gardens and parks contribute to the vibrant, flourishing neighborhoods that YPCE aims to develop and maintain; these also contribute to fulfilling their mission "to empower our youth, strengthen neighborhoods, and provide life-enriching programs for a beautiful and livable community."

The following figure illustrates the specific green efforts activities each of these departments lead or support.

Figure 5. Organization and Responsibilities for the City's Green Efforts

● leading department/division
+ provides critical support

		DPW												
		Office of the Director	*Facilities*	*Transportation*	*Parking*	*Fleet*	*Maintenance Services*	*Engineering*	*Recycling and Solid Waste*	DOU	CDD	YPCE	FINANCE	INFORMATION TECHNOLOGY
CLIMATE POLICY	Internal Operations Climate Action Plan	●	+			+				+	+			
	Climate Action Plan (Community-Wide)	+									●			
	GHG monitoring and reporting	+								+	+			
	Climate pacts and networks	+								+	+			
ENERGY (MUNICIPAL BUILDINGS AND NON-WATER FACILITIES)	Renewable energy procurements	●	+							+				
	Solar photovoltaics	+	●							+				
	Energy efficiency retrofits for City buildings	+	●											
	Energy efficiency and conservation	●	●							+				+
	Streetlights and traffic signals			●				+						
ENERGY (COMMUNITY-WIDE)	Property-assessed clean energy financing	●												
	Retrofit programs										+			
	Community solar or renewable energy programs	+									+			
	Building electrification	+									+			
	Green building standards and passive design										●			
MOBILITY	Active transportation			●				●						
	Transportation planning			●				+			+			
	Shared rideable programs			●	+									
	Car share program	+		●	+									
	ZEV planning	●	+	+		+					+			
	EV charging projects	●	+		+	+								
	EV parking program	+			●									
FLEET	ZEV procurement	+	+			●								
	EV charger installations and maintenance	+	●		●	●								
	ZEV technology testing and demonstrations	+				●								
	Internal fleet policies	+				●								
	EV charger policies and programs	●	+		+	+								
WATER	Water conservation programs									●				
	Energy projects for water-related infrastructure									●				
	Green stormwater infrastruture									●				
WASTE REDUCTION AND RECYCLING	Recycling and Solid waste education	+							●					
	Residential waste and recycling programs	+							●					
	Commerical waste and recycling programs	+							●					
	Green waste	+							●					
NATURAL RESOURCES AND OTHER EFFORTS	Urban forestry	+					●							
	Urban agricultural pilots	+									+	+		
	Community gardens											●		
	Agricultural ordinance										●			
	Green street design and infrastructure						+	●		●				
	City parks											●		
	Procurement policy												●	

Source: Department of Public Works.

Funding Streams

The City does not have a consolidated sustainability or "green" fund, resulting in projects being funded in a variety of ways. Funding streams for sustainability efforts are relatively siloed by department with limited centralized coordination. Depending on the project and the department, sustainability efforts may be funded through one or more of five different sources, as described below.

General Fund

Internally, funding for green efforts projects can originate from General Fund distributions to a department's annual budget, the City's Capital Improvement Program, and project-specific allocations. For example, the sustainable procurement of department or division-specific products and services are often performed at the department or division level and are charged directly to the unit requesting the products and services.

Enterprise Funds

Enterprise funds are made up of revenue collected from the public for providing a specific service and directly finances those service operations. Certain departments within the City have these funds, such as DPW's Parking Fund and DOU's Water Enterprise Fund. Green efforts that are directly related to the respective divisions in these departments may be funded with these enterprise funds.

Internal Service Funds

The City also manages several internal service funds, such as DPW's Fleet Management Fund, which is funded through billing other departments for any services rendered and is self-supporting. For example, the Fleet Management Division may use these funds to buy, operate, and maintain electric vehicles for the City's shared motor pool or for the various departments.

Special District Funds

A Special District is a legal government entity formed over a specific geographic area whose purpose is to fund or maintain a variety of public infrastructure and services. For example, the Citywide Lighting and Landscaping Assessment District may provide funding for green efforts projects that involve maintaining neighborhood streetlights, safety lighting, parks, and street medians.

External Sources

Green efforts initiatives, goals, or projects may also be funded from outside sources. These include grants, rebates, incentives, and partnerships. For example, one partnership that the City has engaged in is with Electrify America, a wholly owned subsidiary of the Volkswagen Group of America. Sacramento was designated as the city for their $44 million Green City initiative, which will consist of zero-emission vehicle car sharing, taxi fleets, electric vehicle chargers, and more. This allows the City to implement clean transportation initiatives that directly accelerate sustainability targets listed in the 2035 General Plan, such as reductions in GHG emissions and improvements to local air quality.

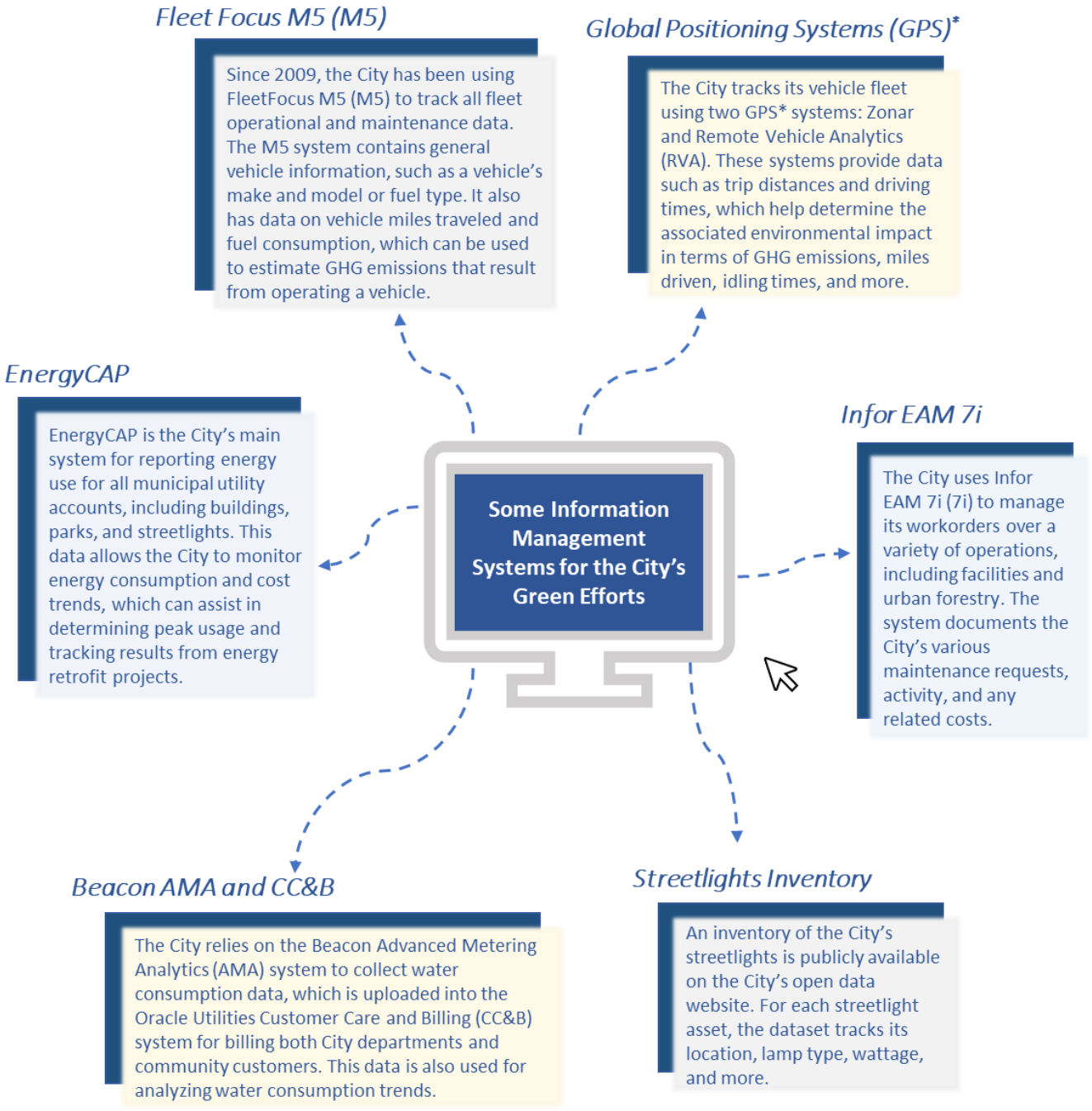
Capital Improvement Program

The Capital Improvement Program (CIP) is an ongoing five-year plan of single and multiyear capital expenditures that is updated annually alongside the approved budget. Although not a funding source, CIPs identify the funding source for each project. CIP projects are funded with available General funds, enterprise funds, internal service funds, grants, and other funding sources.

Information Management Systems

The City uses multiple systems to track and record data related to its various green efforts. In general, these systems document relevant performance measures for related projects, programs, and other metrics for their routine line of work. Some of these systems may also track sustainability measures of interest, for example, common sources of GHG emissions like fuel and energy consumption. The following figure summarizes some of the commonly used information management systems for the City's green efforts.

Figure 6. Examples of Information Management Systems for the City's Green Efforts



Source: Auditor generated based on information provided by the Department of Public Works and the Department of Utilities, the EnergyCAP system, the M5 system, the Zonar system, the Remote Vehicle Analytics system, the Infor EAM 7i website, the Beacon AMA website, the Oracle website, and the City's open data website.

* Global Positioning System (GPS) is a space-based radio-navigation system that helps pinpoint a three-dimensional (i.e. latitude, longitude, and altitude) position within approximately a meter of accuracy.

Finding 1: Improved Monitoring and Reporting of Sustainability Data, Progress, and Outcomes Is Essential for Tracking Impacts and Realizing the Intended Benefits

According to the National State Auditor's Association, "Good performance information provides [public program] managers with tools they need to manage for results." In addition, the U.S. Government Accountability Office states that "An effective performance management system produces information that…provides an early warning indicator of problems, and the effectiveness of corrective action," "provides input to resource allocation and planning," and "provides periodic feedback to employees, customers, stakeholders, and the general public about the quality, quantity, cost, and timeliness of products and services." As such, performance planning, management, and reporting mechanisms can help inform decision making and operations to ensure organizational goals are met.

> *"Perhaps most importantly, measures build a common results language among all decision-makers. Selected measures define what is important to an organization, what it holds itself accountable for, how it defines success, and how it structures its improvement efforts."*
>
> ***U.S. Government Accountability Office***

We assessed the City's monitoring and reporting procedures and determined that while the City appears to be actively participating in sustainability efforts, performance tracking is inconsistent and data quality can be better managed. Specifically, we found:

- Inconsistent tracking and reporting of sustainability metrics may be creating accountability shortfalls;
- Inconsistent performance tracking over time hinders sustainability progress; and
- Improved energy data management is needed to address data integrity issues that hinder the City's ability to produce more reliable analyses and ensure accurate energy billing.

Incomplete or irregular compilation of performance metrics limits the City's ability to fully assess its progress and determine which types of projects or programs are effective and impactful. This in turn may lead to insufficient resource allocation or hinder timely progress towards the City's sustainability goals. By implementing a reliable process for performance tracking, the City can better assess operations and track progress.

Inconsistent Tracking and Reporting of Sustainability Metrics May Be Creating Accountability Shortfalls

In describing best practices for performance measurement in government, the National State Auditors Association states that "performance measurement is a critical element of accountability for public resources. It is important to know and understand the public resources used to provide government services and whether these resources were spent in accordance with laws, rules, and regulations. It is also important to know that managers of governmental programs have adequate control procedures to safeguard the assets they are responsible for managing. Equally important is the ability to show what was received from the use of these resources and whether the public is receiving an acceptable benefit."

> *"Performance measurement is a critical element of accountability for public resources."*
>
> ***National State Auditors Association***

To examine the considerations taken before committing to a certain type of project with potential sustainability benefits and how these projects were tracked for performance, we met with City staff, assessed energy data, and evaluated project justifications. Our review found that performance measurement procedures are lacking, as outlined below.

Complete Certification of City Facilities Built to LEED Standards Could Reinforce the City's Commitment to Energy Conservation and Reputation as a Leader in Sustainability

Leadership in Energy and Environmental Design (LEED) is the most widely used green building rating system in the world and provides a framework for creating healthy, highly efficient, and cost-saving buildings. Having recognized that long-term operating savings can be realized through improvement of energy efficiency and sustainable operational and design practices, the City Council adopted Resolution No. 2004-751 in September 2004. One of the principles issued in the resolution stated that "The City will design and operate facilities to achieve the highest level Leadership in Energy and Environmental Design (LEED) rating and energy efficiency possible for that type of building. In analyzing the LEED and energy efficiency levels, life cycle costing will be utilized to determine the best selection of features and components. For appropriate buildings 5,000 square feet and larger, a minimum level of LEED Silver shall be the goal."

In 2015, this directive was incorporated into the City's 2035 General Plan.[2] The General Plan specifies that the City "shall ensure that new or renovated City-owned buildings are energy efficient and meet, as appropriate, LEED (Leadership in Energy and Environmental Design) Silver[3] or equivalent standard."

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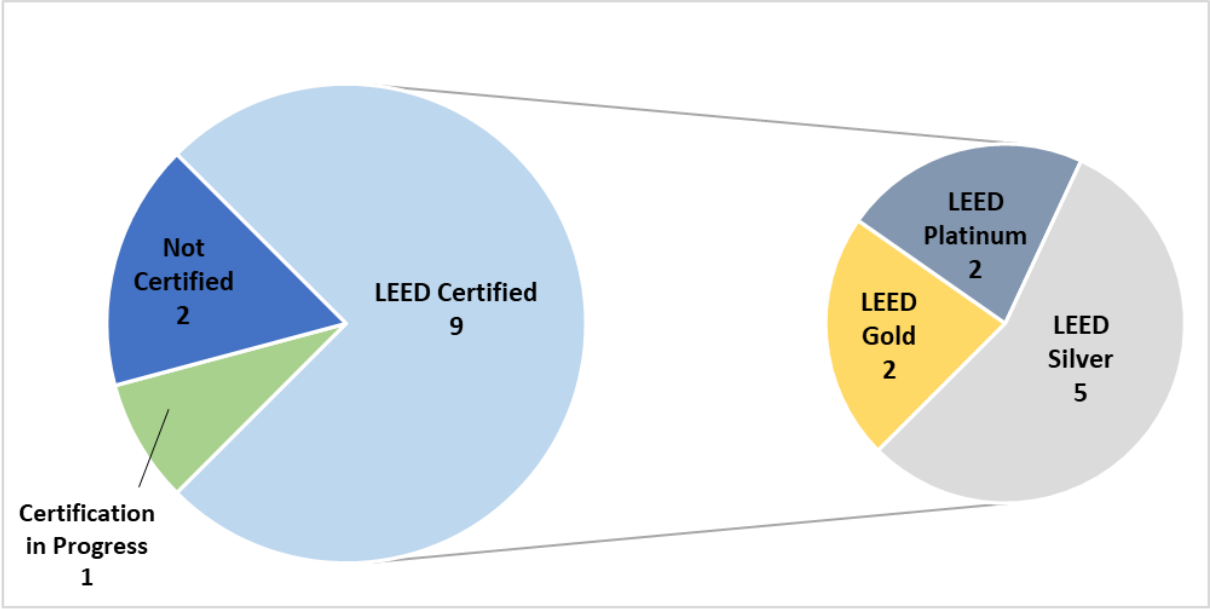
[2] The 2035 General Plan can be found at http://www.cityofsacramento.org/Community-Development/Resources/Online-Library/2035--General-Plan. The directive more specifically refers to Policy LU 8.1.5 of the Land Use and Urban Design section, which can be found at http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Land-Use-and-Urban-Design_R.PDF?la=en on page 2-116.

[3] Facilities can earn one of four LEED rating levels: Certified, Silver, Gold, or Platinum. Other than LEED Certified, all other rating levels comply with Resolution No. 2004-751.

According to the Department of Public Works, the City has, to date, built 12 City facilities to LEED standards. As shown in the figure below, nine of those facilities have been certified, one is currently undergoing the certification process, and two were not certified.

Figure 7. Percentage of City Facilities Built to Leadership in Energy and Environmental Design (LEED) Standards by Certification Status



Source: Auditor generated based on information provided by the Department of Public Works.

City staff has cited high certification and management fees as the reason for not accrediting the remaining two facilities built to LEED standards that were not certified. An official and independent verification process was not used to determine whether these two uncertified buildings were actually built to LEED standards. CDP, an international non-profit organization formerly known as the Carbon Disclosure Project[4], affirms that there are business benefits to independent third-party verification.[5] CDP specifically noted that third-party verification can help an organization build a strong reputation by increasing confidence in the data used and providing credibility for products, services, and internal processes.

Green Business Certification Inc. administers LEED by performing third-party technical reviews and verification of LEED-registered projects to determine if they have met the standards set forth by the LEED rating system. As a globally recognized symbol of sustainability achievement, LEED certification demonstrates the City's commitment to and excellence in green building practices, helps designate the

[4] As stated on CDP's LinkedIn profile, CDP "runs the global disclosure system that enables companies, cities, states, and regions to measure and manage their environmental impacts." According to CDP, they have built the most comprehensive collection of self-reported environmental data in the world, which is used by investors, purchasers, and policy makers worldwide to make better-informed decisions.

[5] While CDP's guide is aimed at the verification of climate data more generally, these guidelines can be applicable to other sustainability-related areas.

City as a leader in sustainability, and confirms that the buildings have been built to the declared standards. Additionally, this enhances management's ability to validate that sustainability goals are being met. Not obtaining LEED certifications for sustainable buildings may undermine the City's commitment towards using the LEED rating system to define its sustainable building practices. Given that funding limitations appear to be a barrier to certification, funding streams may need to be reevaluated to ensure obtaining LEED certification remains a priority. Funding for the City's sustainability efforts is discussed in more detail in a later section.

To reinforce the City's dedication to achieving energy efficiency and sustainable operations, we recommend that the Department of Public Works evaluate whether more consistent certification is beneficial to the City's reputation as a sustainability leader.

RECOMMENDATION:

We recommend the Department of Public Works:

1. Evaluate whether more consistent LEED certification is beneficial to the City's reputation as a sustainability leader.

Lack of Post-Completion Monitoring Prevents the City from Fully Attributing Sustainable Outcomes to LEED Buildings

The U.S. Green Building Council[6] introduced the option for LEED recertification, which acknowledges that a previously accredited LEED project[7] continues to function to LEED standards and is considered to be operating sustainably at the time of recertification. We inquired whether the City had an internal process for assessing whether buildings that were built to LEED standards were operating as projected. According to the City's Facilities Division, LEED certified buildings and buildings built to LEED standards are not monitored post-completion to determine whether energy, cost, maintenance, or other savings were realized because of its limited staffing capacity.

The Hong Kong Government's Efficiency Unit published *A User Guide to Post Implementation Reviews* to provide guidance on reviewing project performance after completion. In particular, it highlights that such a review includes: ascertaining whether the project has achieved its intended objectives; reviewing the performance of project management activities; and capturing learning points for future improvements. It emphasizes that the review "is not merely for measuring whether the project has

[6] The U.S. Green Building Council is an organization committed to transforming the way buildings and communities are designed, built, and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life. It began developing LEED since the organization's formation in 1993.

[7] According to the U.S. Green Building Council, "Recertification is the subsequent application(s) for certification after a project has received an initial certification under any version of LEED for Building Operations and Maintenance (LEED EB O+M)." It also clarifies that "The LEED for Building Operations and Maintenance rating system can be applied both to buildings seeking LEED certification for the first time and to projects previously certified under any version of the LEED Design and Construction rating systems. It is the only LEED rating system that requires projects to recertify."

delivered its agreed outputs, but also to examine how well the outputs delivered were matched to the actual needs that the project aimed to fulfill." When the City first formalized its commitment towards LEED buildings in Resolution No. 2004-751, it simultaneously attributed its intent behind this commitment to improving energy efficiency and realizing operational savings. While buildings built to LEED standards already offer sustainable benefits, actual savings rely on the accuracy of estimated operations and occupant behavior. It thus appears that these results may not be fully quantified or accounted for, therefore potentially undervaluing the true return of these LEED buildings. Post-completion monitoring may help alleviate this information gap.

> *"Equally important is the ability to show what was received from the use of these resources and whether the public is receiving an acceptable benefit."*
>
> *National State Auditors Association*

As such, we compared the average energy consumption and costs in fiscal years 2017-18 and 2018-19 of three of the twelve LEED buildings to comparable data for three buildings with similar square footage that were not built to LEED standards to demonstrate how potentially realized energy or cost savings could be calculated. We estimated that LEED buildings we reviewed on average consume approximately 4.78 less kilowatt hours per square foot and cost $0.62 less per square foot to power than buildings we reviewed that are not constructed to LEED standards, as depicted in figure 8 below.

Figure 8. Estimated Energy and Cost Savings for Leadership in Energy and Environmental Design (LEED) Buildings

Building Name	VALLEY HI LIBRARY	HISTORY CENTER	NEW CITY HALL	300 RICHARDS	FIRE STATION 43	WILLIAM J. KINNEY POLICE FACILITY
LEED Certification	LEED Silver	Not LEED	Built to LEED standards **	Not LEED	LEED Silver	Not LEED
Square Footage	20,505	20,830	270,663	183,645	22,540	21,646
Energy Usage/Sq Ft	9 kWh	12 kWh	8 kWh	12 kWh	10 kWh	17 kWh
Energy Costs/Sq Ft	$1.33	$1.73	$0.96	$1.45	$1.27	$2.23
Difference in Energy Usage *	**3.46 kWh**		**4.00 kWh**		**6.89 kWh**	
Difference in Energy Cost *	**$0.40**		**$0.49**		**$0.97**	

LEED buildings consume an average of **4.78 kWh** and **$0.62 less** per square foot than buildings not built to LEED standards

Source: Auditor generated based on EnergyCAP data, the 2017 Facility Condition Assessment, data provided by the Sacramento Public Library, and information provided by the Department of Public Works.

*Difference is calculated by subtracting the non-LEED building value from the LEED building value.

** This building has never been certified by LEED.

Although our review may not capture all the environmental gains and cost savings associated with LEED buildings, it provides an estimate of realized benefits to the City. By quantifying these benefits, the City can confirm that projects have delivered on their objectives and act as a model for future projects. Furthermore, management can use this information to evaluate whether there are net benefits to constructing future buildings to LEED standards.

To fully demonstrate that these buildings have been designed, constructed, and are operating as expected, we recommend that the Department of Public Works develop a process to monitor completed LEED buildings post-completion to accurately capture the benefits of building to LEED standards and to quantify their contribution to the City's overall sustainability objectives. Additionally, we recommend the department consider participating in the U.S. Green Building Council's LEED recertification option for certified LEED buildings. Along similar lines, to accurately capture the anticipated results from the City's various sustainability efforts, we also recommend that the City Manager's Office work with other departments to require post-completion monitoring for all applicable sustainability projects, programs, and initiatives.

RECOMMENDATIONS:

We recommend the Department of Public Works:

2. Develop a process to monitor completed LEED buildings post-completion to accurately capture the benefits of building to LEED standards and to quantify their value to the City's overall sustainability objectives.
3. Consider participating in the U.S. Green Building Council's LEED recertification option for certified LEED buildings.

We recommend that the City Manager's Office work with other departments to:

4. Require post-completion monitoring for all applicable sustainability projects, programs, and initiatives.

Performance Improvement on Low Water Use Landscapes Is Limited When Staff Are Unaware of Expected Target Measures

The Government Performance and Results Act (GPRA) of 1993[8] finds that insufficient articulation of program goals and inadequate information on program performance disadvantages managers in their efforts to improve program efficiency and effectiveness. Along similar lines, program or project managers may not be able to demonstrate progress or improvement towards certain performance measures without knowledge of the expected goals.

The Department of Youth, Parks, and Community Enrichment's (YPCE) Park Maintenance, Planning, and Facilities (Parks) Division is responsible for planning and maintaining 223 parks and 4,256 acres of open

[8] Congress also passed the GPRA Modernization Act of 2010 (GPRAMA) in 2010. This will be referenced in other parts of the report.

space, turf landscape, structures, and park amenities throughout the City. This effort includes implementing methods to incorporate sustainable or low-maintenance landscaping to reduce the demand for water used to irrigate City landscapes.

Broad direction for City staff on water-efficient landscapes is published in a variety of plans and City codes, including YPCE's 2018-2023 Strategic Plan, the 2035 General Plan, and City Code 15.92. As shown in figure 9, the 2010 Climate Action Plan for Internal Operations (2010 CAP) and the 2016 Climate Action Plan Update for Internal Operations (2016 CAP) includes specific language on what the City intended to accomplish between 2010 and 2020 and what it had accomplished between 2010 and 2013 in regards to low water use landscapes.

Figure 9. Estimated Targets for and Progress on the City's Low Water Use Landscape Conversions

CONVERSION TYPE	ESTIMATED CONVERSION RATE	2010 - 2013 PROGRESS
Existing park turf	25 acres per year	1 acre per year
New parks	3 acres per year*	1.2 acres per year*

Source: 2016 Climate Action Plan Update for Internal Operations.
* Assumes that 15 percent of new parks developed between 2010 and 2020 would be low water use landscapes. Note that new parks after 2015 meet water efficient landscape requirements outlined in City Code 15.92 and the State of California's model water efficient landscape ordinance and, according to the Parks Division, typically exceed the abovementioned 15 percent assumption.
Note: Conversion and progress rates are yearly averages.

The figure above suggests that target acres for low water use landscapes were not met. To identify why these projects fell short of their goal and the process for tracking the conversion or development of low water use landscapes, we interviewed staff from the Parks Division. It appears that the Parks Division has not been formally tracking these metrics despite making progress towards the broader goal of including water-efficient landscapes in new park projects, per City Code and state requirements. Currently, only specific park plans identify the usage of low water use landscapes, but these have never been compiled or systematically tracked by staff. As such, we are unable to determine which portion of the respective parks' water bills can be attributed to the low water use landscape conversions even though a list of new parks and parks with converted turf from the last ten years is available.

According to staff from the Parks Division, neither they nor other department key staff members were aware of these goals, involved in creating goals for the 2010 CAP, or involved in providing updates to the 2016 CAP. Furthermore, staff states that these goals do not appear feasible due to lack of funding dedicated towards conversion and deferred maintenance. The Community Development Department was responsible for compiling the 2010 CAP and identified two former Parks staff who may have provided the original targets published in the 2010 CAP. Targets in the 2010 CAP then served as progress benchmarks for the 2016 CAP, which was developed by consultants. There remains a lack of clarity

regarding who provided updates for the 2016 CAP and how those numbers were determined, which brings into question the accuracy of these numbers. It appears that these goals were not communicated over the years within YPCE to ensure performance accountability.

By quantifying and publishing progress on low water use landscapes, these CAP reports imply that accomplishing these estimated targets is what defines successful performance; however, as stated previously, the Parks Division believes these targets are not feasible. The Parks Division also states that they were not made aware that the 2010 CAP or the 2016 CAP had goals directly related to their operations, which speaks to the process in which City staff are notified of sustainability plans, reports, policies, and procedures. A later section provides more details on employee awareness of the City's sustainability efforts.

The lack of a cohesive communication process over time prevented the Parks Division from weighing in on whether goals that directly affect them are attainable, determining whether additional resources or support is needed to accomplish certain goals, or developing a process to accurately track progress. Without knowledge that specific metrics for this operational area were being publicly reported on in a Citywide sustainability document, the Parks Division was not fully equipped to improve performance and meet targets on low water use landscapes and any associated reductions in water consumption, which more broadly inhibits sustainability progress.

As asserted in a Senate Committee Report regarding the GPRA Modernization Act of 2010, "The key to improving performance accountability is to document the results agencies have achieved compared to the goals they have established." This breakdown in communication may also create uncertainty in ensuring accountability for measurable progress if those responsible for implementation are unaware of goals. We further elaborate on the importance of Citywide communication later in this report.

After becoming aware of these targets and metrics, the Parks Division reached out to the Community Development Department and submitted revisions to these sections for the Climate Action Plan updates that are currently underway. The Parks Division has also initiated a database and began using the City's geographic information system to facilitate the tracking of low water use landscapes. To improve accountability towards performance improvements, account for realized water savings, and reduce insufficient tracking of relevant metrics, we recommend that the City Manager's Office work with other departments to develop a procedure that ensures internal stakeholders are involved in or made aware of relevant goals and performance measures. We also recommend that the City Manager's Office work with other departments to develop and track performance measures as they relate to published sustainability goals.

RECOMMENDATIONS:

We recommend the City Manager's Office work with other departments to:

5. Develop a procedure that ensures internal stakeholders are involved in or made aware of relevant goals and performance measures.
6. Develop and track performance measures as they relate to published sustainability goals.

Inconsistent Performance Tracking Over Time Hinders Sustainability Progress

The National Academy of Public Administration states that "Development of an effective performance measurement system requires systematic work in a number of essential areas: defining agency vision and strategic mission; establishing program missions and objectives; establishing long-term and annual program performance targets/goals; developing performance indicators and collecting performance data; using performance indicators in improving program performance; and communicating results so that they can be used by policymakers, managers, and the public."

> *"Annual program performance reports are the feedback to managers, policymakers, and the public as to what was actually accomplished for the resources expended; in other words, how well the original goals were met."*
>
> ***Senate Committee on Government Affairs***

As described in the background section, the City has published several strategic plans and reports to shape sustainability efforts and create a framework for measuring performance. To determine if these Citywide documents act as an effective tool for conveying performance measures, we reviewed the properties of these reports and the information provided therein. The following sections describe the results of our review.

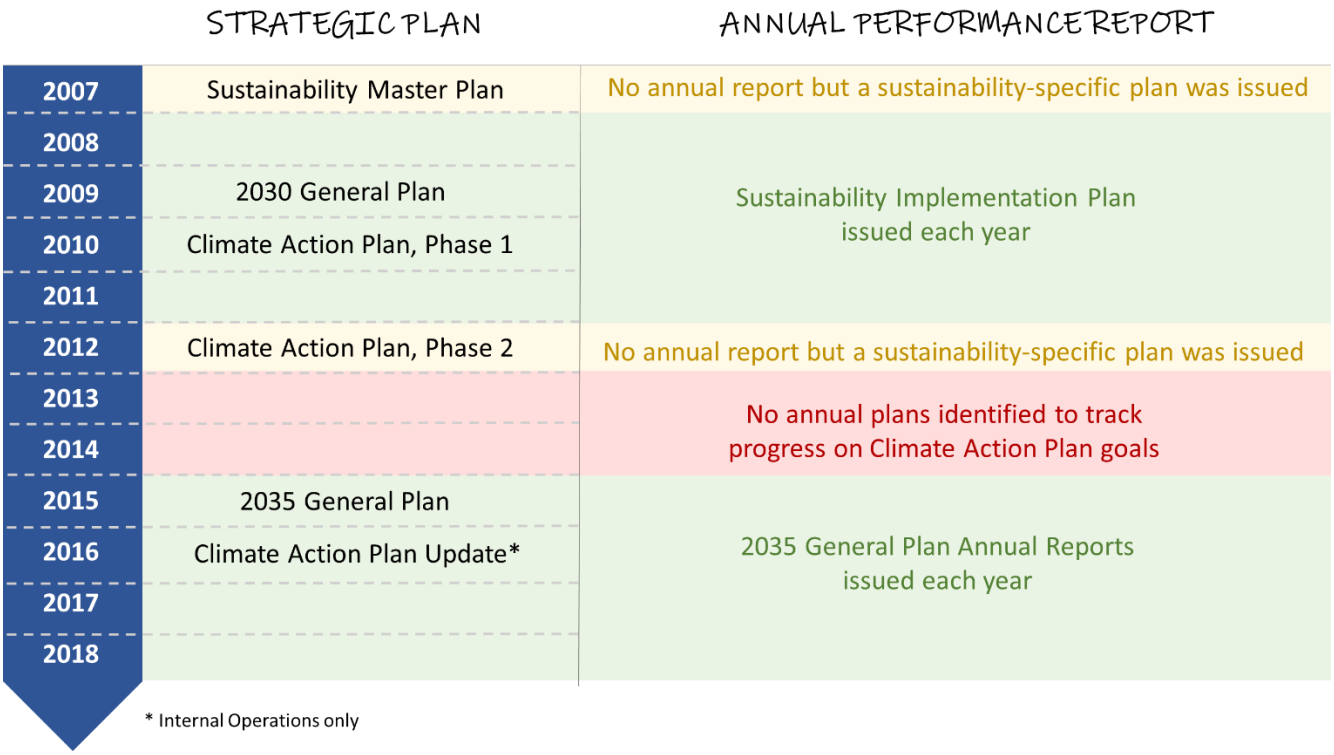
Missing Annual Reports Prevent Prompt Feedback to Management on Progress Made or Issues Identified

In its report on the Government Performance and Results Act of 1993 (GPRA), the Senate Committee on Government Affairs asserts that "Annual program performance reports are the feedback to managers, policymakers, and the public as to what was actually accomplished for the resources expended; in other words, how well the original goals were met. This type of information is ideally available to program managers on a more regular basis throughout the year, but at a minimum there needs to be an annual compilation and reporting of results." Failure to follow through with annual reporting may prevent comparisons between established goals and actual results, and in turn impede performance improvements.

The following figure outlines the City's various strategic plans that contain both sustainability goals and progress. The next column specifies the respective performance reports that include annual progress on these goals since the issuance of the 2007 Sustainability Master Plan. Rows in green indicate that an annual performance report was released that year and provides progress updates for strategic plans

published in previous years. Yellow rows indicate that an annual performance report was not issued that year, but a strategic plan was issued to provide updates. Red rows indicate that neither a sustainability-specific strategic plan nor an annual performance report appear to have been issued.

Figure 10. Citywide Strategic Plans and Annual Reports From 2007 Through 2018



Source: Auditor generated based on the City's various Climate Action Plans, General Plans, Sustainability Implementation Plans, General Plan Annual Reports, and the Sustainability Master Plan.

As seen in figure 10 above in red, it is not clear whether any annual reports were used to track the progress of sustainability goals during 2013 and 2014, specifically the goals published in the strategic plans issued between 2007 and 2012. During 2013 and 2014, all of the strategic plans issued during the 2007 to 2012 period were still in effect.

Despite this two-year gap, the City has since issued a General Plan Annual Report each year as well as an updated Climate Action Plan for Internal Operations in 2016. To evaluate the potential utility of these various Citywide plans and reports, we reviewed whether they contained properties that would be useful in improving performance or in linking to strategic direction as it relates to sustainability. Our review specifically included the Sustainability Implementation Plans, Climate Action Plans, and the General Plan Annual Reports. We recognize that the purpose of the various plans and reports may not be the same; however, as they all formally track sustainability progress, we believe a comparative analysis between the reports is valid.

The figure below compares the properties of three randomly selected plans or reports, one from each of the three types mentioned above. Although we found that they generally contain most of the properties listed, these properties may not be applicable to all goals, projects, or programs that are reported in each respective document.

Figure 11. Comparison of Citywide Plans and Reports with Sustainability Performance Measures

Properties	2009 Sustainability Implementation Plan	2016 Climate Action Plan	2018 General Plan Annual Report
Baseline Metrics	✓	✓	✓
Project or Program Specific Metrics	✓	✓	✓
Translation of Specific Metrics to a Common Metric	✓	✓	✓
Longer Term Goals	✓	✓	✓
Progress Relates to Longer-Term Goals	-	✓	✓
Progress Relates to Strategic Plan Goals	✓	✓	✓
Specific Action Items	✓	✓	✓
Trend Analysis	-	✓	✓
Implementation Time Frame	✓	✓	✓
Resources Expended	-	✓	-
Explanatory Information on Goals Not Met	-	-	Difficult to determine *
Recommended Action for Goals Not Met	-	-	Difficult to determine *

Source: Auditor generated based on the 2009 Sustainability Implementation Plan, the 2016 Climate Action Plan, the 2018 General Plan, the U.S. Environmental Protection Agency, the Government Performance and Results Act (GPRA) of 1993, and the GPRA Modernization Act of 2010.

* The 2018 General Plan Annual Report reports on progress for the 2035 General Plan, which also includes goals that are not specific to sustainability. As not all sustainability goals are easily identifiable or specifically designated, it was difficult to determine if this property was met.

For example, the 2018 General Plan Annual Report, as well as the other annual reports for the 2035 General Plan[9], includes a "Status Update on General Plan Implementation Measures" section that identifies which goals (referred to as "policies" in the 2035 General Plan) are addressed through the various implementation measures. As seen in figure 12, the section also describes the expected timeframe for each measure, the status for that year, the responsible department, and whether the measure has been completed. Given that performance is tracked by implementation measure instead of by goal, it becomes unclear whether every goal has made progress in the previous year and whether the goal is a priority for the City. Based on our review, we found that the 2018 General Plan Annual Report does not report on every goal in the 2035 General Plan. One sustainability goal that is not reported on is General Plan policy U 2.1.15 regarding water-efficient landscaping. Upon further review, we found that this specific goal was not reported in any of the General Plan Annual Reports from 2015 to 2018.

[9] In addition to the 2018 report, this includes General Plan Annual Reports from 2015 through 2017.

Figure 12. First Page of the "Status Update on General Plan Implementation Measures" Section in the 2018 General Plan Annual Report

Status Update on General Plan Implementation Measures **Attachment 4**

No.	Implementation Measures (Community Plan)	2014-2019	2014-2020	2020-2035	Annual	Ongoing	2018 Update	Complete	In Progress	Not Complete	Pending
1	The City shall conduct a study to prioritize and identify a strategy for updating the city's Community Plans. (PSR) Implements Which Policy (ies): CP 1.1.1-CP 1.1.6	●					Completed April 2014.	●			
2	The City shall develop and adopt a program to identify and prioritize neighborhoods for Strategic Neighborhood Action Plans (SNAPs). (MPSP) Implements Which Policy (ies): Admin; SA.LU 1.11	●					Proposing the establishment of Neighborhood Development Action Team. The Neighborhood Development Action Team will be representative of a cross-sector of departments, Community Development and the Office of Innovation and Economic Development. The Team will focus on opportunities to advance investment and development by initiating between two and four neighborhood plans each year. Neighborhood plans could include a Specific Plan, Station Area Plan, or Strategic Neighborhood Action Plan. These plans are effective tools to encourage neighborhood-level economic development and streamline infill development, housing production, and Transit Oriented Development (TOD).		●		

Source: 2018 General Plan Annual Report

Without tracking adopted goals in its annual reports or using a consistent method to report on these goals, the City may not be informing all relevant stakeholders of both performance achievements and delayed progress in a timely manner. This may prevent management from promptly identifying and addressing obstacles and may reduce the public perception that the City is fully and continuously committed towards its sustainability efforts. In contrast, organized and consistent annual reporting can showcase immediate accountability while also providing information to management on actionable items in the coming year.

Given that the General Plan Annual Reports include but do not clearly designate whether a goal is related to sustainability, we examined the City's other set of annual reports, the Sustainability Implementation Plans, to more specifically determine how sustainability goals and their relevant performance measures are annually reported. The results of our assessment are described in the next section.

Previous Annual Reports Do Not Clearly or Consistently Demonstrate Progress Trends Over Time

The 2012 CAP stated that every year since adopting the 2007 Sustainability Master Plan, the City has annually prepared and adopted Sustainability Implementation Plans. These implementation plans were intended to be the City's action plan for the next 12 months to move toward long-term sustainability targets.

We acquired four years' worth of Sustainability Implementation Plans, from 2008 to 2011. These plans outline nine focus areas[10], as identified in the original 2007 Sustainability Master Plan, which each

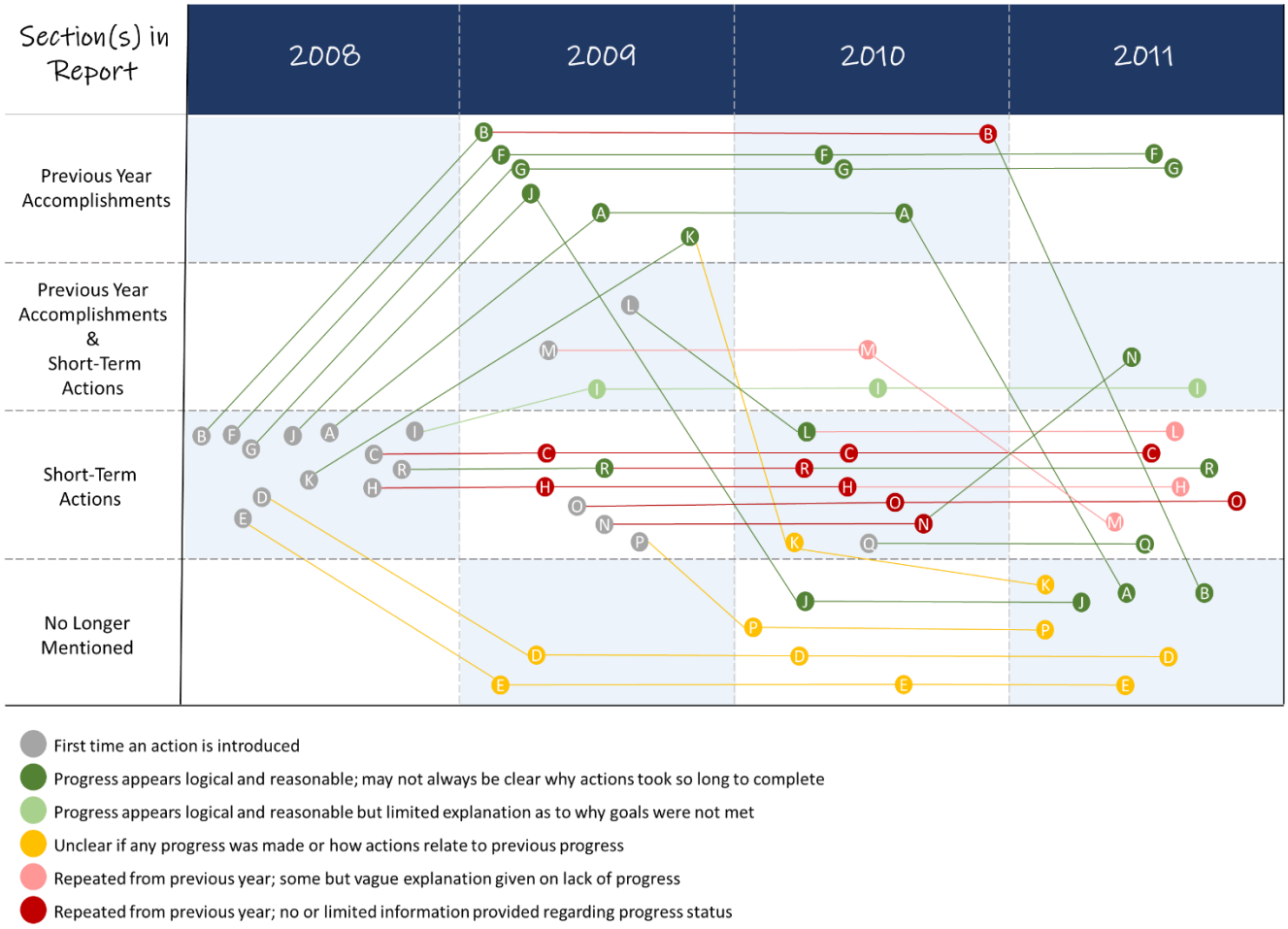
[10] The nine focus areas are as follows: Energy Independence; Climate Protection; Air Quality; Material Resources, Public Health and Nutrition; Urban Design, Land Use, Green Building, and Transportation; Parks, Open Space, and Habitat Conservation; Water Resources and Flood Protection; and Public Involvement and Personal Responsibility.

highlight the previous year's successes, short- and long-term actions for the next year, and goals for 2030. However, we found that the implementation plans were presented as a "snapshot" of the City's progress. The Senate Committee on Government Affairs' GPRA report advocates that "there may be more performance information tracked by the agency for management purposes than is summarized in the annual report, but there should be a match between the report and the goals of the previous performance plan… Otherwise, it will be difficult to spot trends in program performance, which is often the most revealing type of information for managers and policymakers."

> *"…there should be a match between the [annual] report and the goals of the previous performance plan…Otherwise, it will be difficult to spot trends in program performance, which is often the most revealing type of information for managers and policymakers."*
>
> ***Senate Committee on Government Affairs***

We randomly selected one of the nine focus areas in these plans to test for continuity of goals and progress over time. In general, these plans consistently reiterated their overall goals and relative long-term targets. We also mapped out how specific short-term actions carried over from each year's report to the next, as shown in figure 13 below. The figure illustrates 18 distinct actions, designated by letters A through R. We use lines to depict how each action flows between report sections throughout each year's report. Report sections include short-term actions, previous year accomplishments, or both. We also indicated whether certain actions have not yet been introduced or were no longer mentioned after being mentioned in a previous year. The different colors, as described at the bottom of the figure, indicate whether the action and its progress status appear to be reasonably reported.

Figure 13. Continuity of Goals and Progress in Each Year's Sustainability Implementation Plan for Focus Area 7: Parks, Open Space, and Habitat Conservation



Source: Auditor generated based on 2008 to 2011 Sustainability Implementation Plans.

Although these plans appeared to establish some continuity over time, as shown with actions that fall in the upper three rows for more than one year, we noticed some inconsistencies and lack of detail in how short-term actions were translated to the next year, as shown by the yellow, pink, and red lines. More specifically, we observed that while progress is reported, it is not always explained why action targets were not met. For example, Action I describes the goal of planting 1,000 trees a year, but the progress reported in the next year's report is always less than 1,000 without any additional explanation of why the City continuously fell short of its goal. In other cases, short-term actions are repeated every year, but there is little to no additional information provided about the progress status (see actions in red in the figure above) or vague explanation for lack of progress is given (see actions in pink in the figure above). For example, Action H, introduced in 2008, involved developing master plans for two pilot project Demonstration Landscapes (one ornamental, one food production) as tools for public education. This was repeated almost word-for-word in the 2009 through 2011 plans, with only the 2011 plan indicating that revised priorities pushed implementation to 2011. Moreover, not all short-term actions were followed up upon in subsequent reports (see actions in yellow in the figure above). For example,

Action P, introduced in the 2009 plan, entailed identifying funding for and implementing a new fully-automated water efficient irrigation system at Bing Maloney Golf Course. It was unclear what happened to this action as it was no longer reported on in 2010 and 2011.

The Senate Committee on Government Affairs articulates that "The [GPRA] also asks that the annual performance reports include explanatory information on goals not met. This includes plans for achieving the goals, or reasons why that is not possible and recommended action." As such, without clear trending of progress status across these annual reports as they link to specific actions, targets, or goals, it becomes more difficult for management to identify why anticipated actions are falling short, how to best allocate resources in the coming year, or how to reassess operational priorities.

The 2012 CAP further states that "Because many of the Climate Action Plan strategies, measures, and actions address core sustainability issues, it is expected that the annual Sustainability Implementation Plan will be used to track and monitor progress in implementing the Climate Action Plan." Despite our attempts to acquire Sustainability Implementation Plans for the years following 2011, we did not receive any additional plans or a response from the Community Development Department regarding whether there were any equivalent annual plans after 2011. As previously noted, General Plan Annual Reports were issued from 2015 through 2018 and were the only Citywide reports that consolidated progress updates related to sustainability performance each year. However, these did not report on every goal that was adopted in the 2035 General Plan.

Although the City is not required to report on performance trends, provide explanations for unmet goals, or report on the progress of every goal, this information gap presents an opportunity to better show the impact of our sustainability efforts while also being transparent about any progress. As the City already tracks progress for some of its sustainability goals by issuing its various Climate Action Plans and General Plan Annual Reports, improving its reporting process to more accurately reflect how each goal contributes to the City's approach towards sustainability may assist in developing more effective action strategies and strengthen overall performance.

As such, while these plans and annual reports publish performance measures, they may not serve as a comprehensive feedback mechanism given these various inconsistencies and information gaps. To leverage these annual reports as a tool for providing more meaningful feedback to internal stakeholders and enhancing accountability, we recommend the City Manager's Office work with City departments to ensure sustainability reports consistently track and report progress over time.

RECOMMENDATION:

We recommend the City Manager's Office work with other departments to:

7. Ensure sustainability reports consistently track and report progress over time.

Improved Energy Data Management Is Needed to Address Data Integrity Issues that Hinder the City's Ability to Produce More Reliable Analyses and Ensure Accurate Energy Billing

> *"Management should design the entity's information system and related control activities to achieve objectives and respond to risk."*
>
> ***U.S. Government Accountability Office***

According to the U.S. Government Accountability Office's (GAO) *Standards for Internal Control in the Federal Government*[11], "Management should use quality information to achieve the entity's objectives." The GAO considers information to be of "quality" if it is relevant, complete, accurate, accessible, and timely. Furthermore, the National Association of State Chief Information Officers states that "Public expectation of transparency and accountability in government programs; effective prevention of fraud, waste and abuse; improved safety and well-being of the public; strong education and workforce programs; and more engaged interaction with citizens requires that government uses its data and information assets to continually drive efficiencies and effectiveness in business operations, and create value." As such, quality data is important in facilitating the City's sustainability goals.

To determine if data that the City is currently using for its various sustainability efforts is reliable, we reviewed energy consumption data from 2018 to 2019, in addition to streetlight inventory data. Overall, we found some data management procedures are inadequate, which may lead City staff to base their analyses on unreliable and potentially inaccurate data. To ensure that project managers and staff are enabled to produce operationally useful analyses, which in turn can guide management in making decisions that appropriately align with the City's sustainability goals, we recommend that the Department of Public Works regularly review the data in their various systems, develop procedures for reconciliation between different data sources, and notify data users promptly when data corrections are made. The following sections outline the results of our review.

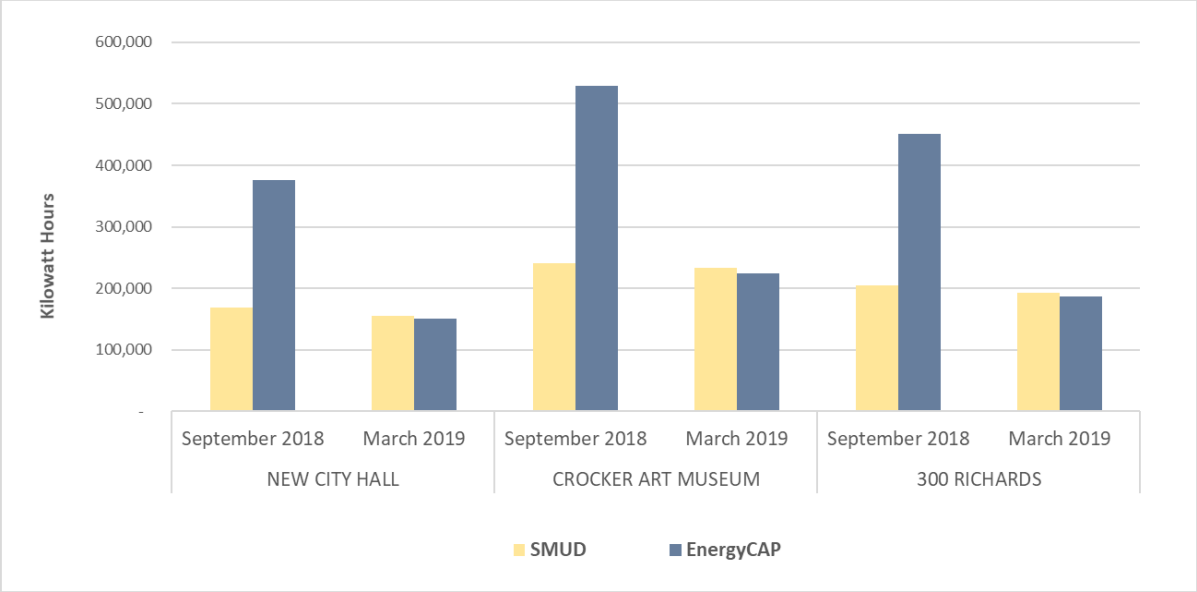
Data Duplications Are Not Communicated to Potential Users in a Timely Manner

EnergyCAP is the City's primary system for tracking energy demand, energy consumption, and its relative costs. Data in the EnergyCAP system is provided on a monthly basis by the Sacramento Municipal Utility District (SMUD), the City's main energy provider, and imported by the Department of Public Works. The City uses this data for a variety of monitoring and reporting processes, such as evaluating the City's progress towards energy efficiency improvements, renewable energy generation, and energy conservation efforts. If data in the system contains errors, this may skew the City's perception of its energy goals and potentially lead to misallocated resources.

[11] U.S. Government Accountability Office's (GAO) Standards for Internal Control in the Federal Government: https://www.gao.gov/assets/670/665712.pdf

To assess the accuracy of the data in EnergyCAP, we compared 15-minute interval usage data from SMUD to an EnergyCAP report that outputs consumption data per month by building. We reviewed two months of data for three of the City's top 25 energy-consuming buildings. Our initial review of the data found that kilowatt hours (kWh) recorded in the EnergyCAP system for September 2018 was approximately 2.2 times the SMUD interval data while there was only an average 3 percent discrepancy in the March 2019 data between the two sources, as shown in figure 14 below.

Figure 14. Comparison Between SMUD and EnergyCAP's Energy Consumption Data for Three City Buildings



Source: Auditor generated based on EnergyCAP and SMUD energy data.

We reached out to City staff to inquire about the seemingly significant September 2018 differences. We were informed that a data duplication issue was recently corrected. Figure 15 provides details of the data duplication issue for the three buildings in our sample. As seen in the figure, pulling the same report in September 2019 and January 2020 produced different results as staff corrected the data duplication issue sometime between these dates.

Figure 15. Data Duplication Issue in EnergyCAP for Three City Buildings

Building	Testing Month	September 30, 2019	January 28, 2020	Discrepancy
NEW CITY HALL	September 2018	375,356	187,678	x2
	March 2019	151,003	151,003	None
CROCKER ART MUSEUM	September 2018	529,534	264,767	x2
	March 2019	224,681	224,681	None
300 RICHARDS	September 2018	450,458	225,229	x2
	March 2019	187,414	187,414	None

Source: Auditor generated based on EnergyCAP data.

Note: September 30, 2019 and January 28, 2020 are the dates the data was downloaded from EnergyCAP.

Based on our review, this data duplication issue spanned from May 2018 to February 2019 and was not corrected in the system for at least sixteen months. By January 2020, the issue was fully resolved. To ensure that the data duplication issues did not result in the City being double billed for those months, we reviewed billing records in the City's financial system and verified that bills were not duplicated. City staff noted that this data duplication issue has occurred approximately three times in the last ten years and is likely due to coding errors when importing the billing information into a format that the system recognizes. While staff is aware of the issue and actively corrects the data to ensure data quality, we found that potential users of the system were not notified that the data was corrected, which poses the risk of inaccurate data being used to pursue projects, evaluate operations, and assist management in making operational decisions.

Currently, the EnergyCAP system automatically generates flags in the billing records to indicate that there may be a data integrity issue, such as a missing account number, bill dates that are out-of-order, or duplicate billing records. While staff was first made aware of the data duplication when making comparisons with data from the previous year, the flags assisted in confirming the issue. However, these flags are only effective in notifying the system's users of potentially erroneous or inconsistent data if users know to review the data for reliability. Furthermore, these flags, and thus any unreliable data, would not be noted when downloading reports from the system. There is no other process for notifying users of either the incorrect data or when the data has been corrected.

> *"Data management brings true value when business organizations understand how better data and better management of that data can help create insight to make better decisions every day."*
>
> ***National Association of State Chief Information Officers***

To ensure that quality energy data is used to monitor City operations and facilitate Citywide energy efficiency goals, we recommend that the Department of Public Works develop a process to check for duplicated data when it is uploaded to EnergyCAP, monitor the data in EnergyCAP for discrepancies, and notify users of issues in or changes to the data in the EnergyCAP system.

RECOMMENDATION:

We recommend the Department of Public Works:

8. Develop a process to check for duplicated data when it is uploaded to EnergyCAP, monitor the data for discrepancies, and notify users of issues in or changes to the data in the EnergyCAP system.

Inconsistent Reconciliation and Review of Streetlight Billing and Energy Data May be Limiting Cost Savings

According to the City's public website, the City currently maintains approximately 40,000 streetlights within the city limits. Based on internal data, the City to date has converted approximately one-third to light emitting diode (LED) technology. As part of the City's sustainable efforts, retrofitting streetlights to LED as a means of becoming more energy efficient appears to be a consistent priority and is often highlighted in Citywide reports.

In calendar year 2019, the City spent approximately $1.9 million on streetlight energy bills. The City draws electrical energy from service points provided by the Sacramento Municipal Utility District (SMUD), who charges the City based on three rate categories, as noted in figure 16.

Figure 16. SMUD Rate Categories Under Which the City's Streetlights are Serviced in 2019

Rate Category	Definition
SL_COM	Customer-owned and maintained
SL_COM_M	Customer-owned and maintained, metered
SL_DOM	SMUD (District)-owned and maintained

Source: Auditor generated based on information provided by SMUD.

Historically, the City's streetlights were installed without meters and charged by SMUD at a dusk to dawn flat utilization rate (SL_COM). In 2015, SMUD introduced a metered rate (SL_COM_M) for new streetlights. SMUD does not currently require metered pedestals for existing streetlight circuits unless they are being replaced with new infrastructure. Additionally, many City circuits are too old to support a metered pedestal. Previous calculations[12] by the Department of Public Works staff have shown that paying for metered lights is more expensive than paying the unmetered rate. As a result, the majority of the City's streetlights remain unmetered and only some newer streetlights are charged under the metered rate.

We reviewed various documents and datasets related to the City's streetlights to assess whether accelerating the conversion to LED technology could benefit the City. However, during the course of our

[12] These hold the wattage per light, number of lights, and operating hours constant for the calculation of both unmetered and metered rates.

review, we noted that these sources did not agree on the number of streetlights that operate within the City. Figure 17 lists the various sources and their respective number of streetlights reported.

Figure 17. Count of Streetlights by Source

Exact count known
Exact count unknown

Includes streetlights that are:

Source	Count of Streetlights	Unmetered	Metered	SMUD's
Energy Report for LED Loan Application	31,794	Unclear	Unclear	Unclear
SMUD Inventory*	38,135	Yes	No	No
GIS Open Data*	38,625	Unclear	Unclear	No
CAFR**	43,438	Unclear	Unclear	Unclear

Source: Auditor generated based on the City's public and open data websites, SMUD streetlight inventory, City financial statements, and documents provided by the Department of Public Works.
Note: SMUD-owned streetlights were not included in the GIS Open Data count but some of the data is available internally.
* As of September 2019.
** CAFR stands for Comprehensive Annual Financial Reports; these act as the City's annual financial statements. Count is as of June 30, 2019.

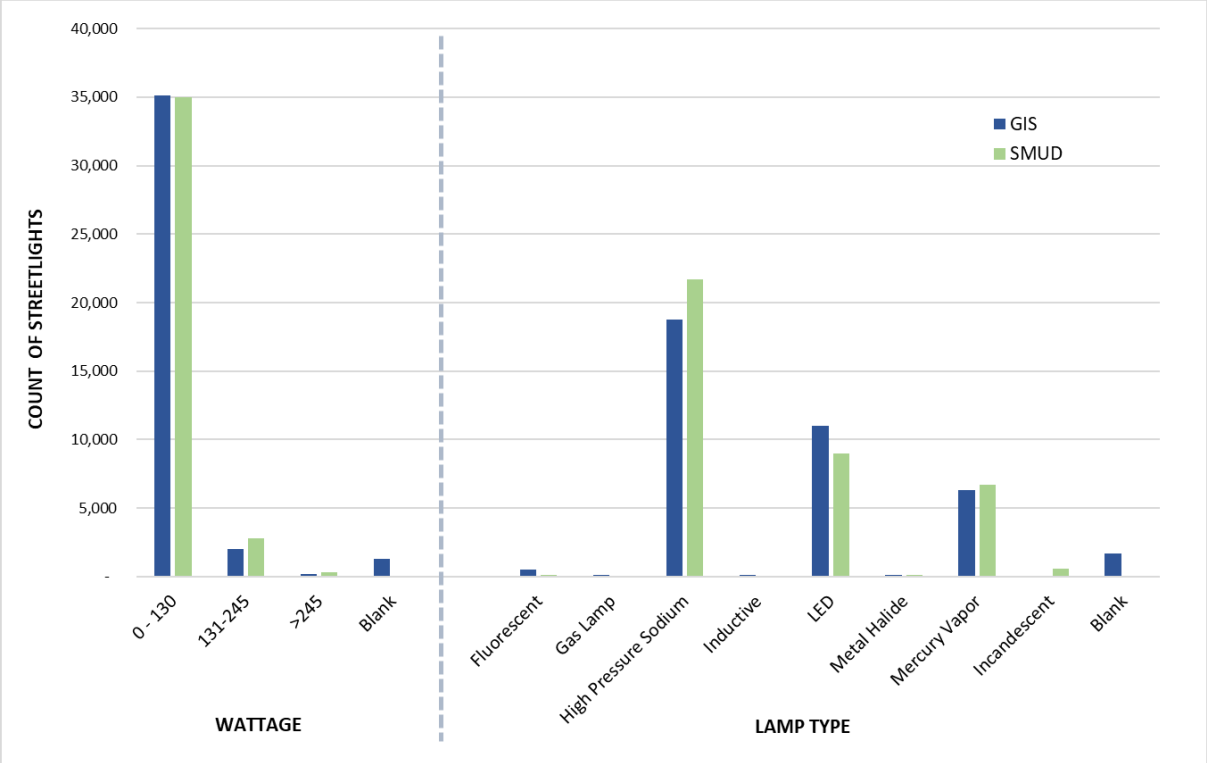
We found that the data discrepancy varies by up to 11,644 streetlights. Upon closer review, none of the identified internal sources appear to specify the billing rate categories under which each streetlight falls. Similarly, it is not apparent whether the number of streetlights that are SMUD-owned and maintained are included in all internal sources. This lack of clarity, which is shown in yellow in figure 17 above, creates uncertainty around which source would be the most appropriate to reference for any given purpose, such as billing, maintenance, or retrofitting.

The City's Open Data portal publishes the most comprehensive data on each of the City's streetlights via a geographic information system (GIS), including location, post type, and lamp type fields, by pulling data from the City's workorder system (7i). The GIS team refreshes this dataset every few days. While this is the City's most comprehensive streetlight dataset, it does not contain all relevant streetlight information. For example, rate category is not included in this dataset. Additionally, the Department of Public Works' staff conveyed that there may be inconsistencies between the data in the system and actual specifications of a light fixture as maintenance activities may not be recorded in the GIS data. Without a complete and relatively accurate internal list of streetlights and their respective rate categories, the City is unable to validate whether the City is billed for the correct number of streetlights in each rate category.

Without a complete and relatively accurate internal list of streetlights and their respective rate categories, the City is unable to validate whether the City is billed for the correct number of streetlights in each rate category.

To evaluate the effect of this discrepancy, we first conducted a comparison of the two available itemized datasets as of September 2019: the City's GIS data and SMUD's inventory of unmetered streetlights. During our initial review, we noticed that while the count of total streetlights only differed by 490 units (approximately 1.3 percent), discrepancies in other fields appeared slightly higher. For example, differences in the lamp type and wattage fields are shown in figure 18 below. Although the GIS data does not identify which streetlights are unmetered versus metered, which may affect the composition of these fields, this variation ranges between 0.1 percent and 7.6 percent for the 13 different field categories, in which 6 of the 13 field categories have differences greater than the 1.3 percent difference in total quantity. The discrepancies in these other fields suggest that the streetlights documented in one dataset might not be documented in the other; therefore, a more complex solution to reconciling these datasets may be required.

Figure 18. Difference in Wattage and Lamp Type Fields Between SMUD and GIS Streetlight Data



Source: Auditor generated based on GIS and SMUD datasets.

Using a random sample of five service (or reference) numbers – a common field between the two datasets that acts as a unique group identifier – we tested whether the individual streetlights under each service number have the same data in other fields, including the count of streetlights, the lamp type, the wattage, and the installation or effective dates. If the streetlight data matched in almost all fields that we tested for, with the exception of the date field, we defined these streetlights as potential matches.

The figure below is a summary of our testing results. For three of our five service numbers, we were unable to determine potential matches between the two datasets. This suggests that streetlights in one dataset may not be captured in the other dataset, or fields for specific lights were never updated in one or both datasets if, for example, one-time maintenance was performed. For the remaining two service numbers, we found that 45 percent and 83 percent of the streetlights were potential matches, respectively.

Figure 19. Potential Individual Streetlight Matches Between SMUD and GIS Datasets Based on a Sample of Five Service Numbers

SERVICE NO.	POTENTIAL MATCHES	GIS COUNT	SMUD COUNT	PERCENTAGE MATCH
639	5	6	6	83%
713	0	21	34	0%
720	9	20	20	45%
763	0	42	43	0%
1573	0	20	40	0%

Source: Auditor generated based on GIS and SMUD datasets.

According to the Department of Public Works, differences in the wattage field can be attributed to how unmetered streetlights were historically billed for both the wattage of the streetlight and the additional energy needed to power the streetlights from its service point. As such, a 100-watt streetlight may be billed at 107 watts or 128 watts. We took this into account to determine wattage ranges for our initial review in figure 18; this billing method may have also affected some of the discrepancies identified between streetlights in the test summarized in the figure above. However, a deeper review revealed that the data was still inconsistent. For example, the 9 potential matches under service number 720 were 110-watt LED streetlights in both datasets. However, the remaining 11 streetlights under that service number differ in both lamp type and wattages. Some of the wattage difference may be explained per the historical billing method but it also demonstrates that individual streetlights vary in how they are billed.

Inconsistent data fields can interfere not only with key operational decisions but also with the cost of the City's utility bills. We acquired a copy of SMUD's September 2019 invoice for the City's unmetered streetlights and found that the wattage recorded per individual streetlight in SMUD's dataset is used to estimate the corresponding energy usage and cost. The wattage field thus affects how much the City is

billed. As stated previously in this section, we identified discrepancies in the wattage field between the City's and SMUD's streetlight data.

In estimating the extent to which billing may have been affected, we used SMUD's billing methodology and the wattage fields recorded in the City's GIS dataset. As depicted in figure 20, the cost difference totals approximately $270,000 per year if billing calculations used the City's wattage data instead of SMUD's. This may reduce the City's documented energy consumption by approximately 3 million kWh, which converts to approximately 2,100 metric tons less in equivalent carbon dioxide emissions.

Figure 20. Approximate Differences in Billing Calculations Between Using the City's Wattage Data Instead of SMUD's

Source	Number of Streetlights	Energy Bill	kWh
SMUD 2019 Invoice	38,135	$ 1,555,653	19,437,948
GIS	38,135	$ 1,283,980	16,430,449
DIFFERENCE	-	$ 271,674	3,007,499

Source: Auditor generated based on the SMUD September 2019 invoice for unmetered streetlights, the SMUD streetlights inventory, and the GIS dataset.
Note: We adjusted the number of streetlights in the GIS dataset to match the number of streetlights in the SMUD 2019 invoice. This adjustment is intended to account for potential calculation differences caused by a higher number of streetlights in the GIS dataset. We also used a weighted average to calculate the wattage of streetlights in the GIS dataset with blank wattage fields.

Because it is unclear which dataset reflects the accurate number of streetlights and contains the correct wattage associated with each streetlight, the City cannot determine whether it is being billed correctly. Given that SMUD's dataset was previously provided by the City, SMUD also relies on the City for communicating changes in its streetlight inventory. However, there does not appear to be ongoing reconciliation of the data. Unfortunately, the accuracy of these analyses rely on whether the data used is accurate and reliable. While the data review and correction process may require staff resources, the potential discrepancies in the quantity of streetlights between the City's various internal sources as well as the inconsistencies between the City's GIS dataset and SMUD's unmetered inventory list prevents the City from fully evaluating which projects and operational changes may assist the City in achieving energy efficiency or other sustainability goals via this sector. During the audit, staff expressed willingness to reconcile the datasets and have facilitated meetings to initiate the process.

To better equip the City in accurately assessing streetlight projects, energy consumption, and billing, we recommend that the Department of Public Works review the data captured by the GIS streetlights system, determine key data fields, implement controls to ensure these fields contain accurate and

complete information, and reconcile the various internal sources of streetlight counts. We also recommend the Department of Public Works develop a process to reconcile the City's internal streetlights dataset with SMUD to ensure the City is correctly billed.

RECOMMENDATIONS:

We recommend the Department of Public Works:

9. Review the data captured by the GIS streetlights system, determine key data fields, implement controls to ensure these fields contain accurate and complete information, and reconcile the various internal sources of streetlight counts.
10. Develop and implement a process to reconcile our internal streetlights dataset with SMUD to ensure that the City is correctly billed.

Finding 2: Centralized Management and Oversight of the City's Sustainability Efforts May Better Position the City to Establish Sustainability as an Organizational Priority and Core Value

The City has long branded itself as a leader in sustainability through its accomplishment of many GHG emission-reducing projects and its establishment of multiple strategic plans that serve as a policy framework for ongoing environmental leadership. When the Sustainability Master Plan (SMP) was adopted in 2007, its intent included the integration of environmentally sustainable practices into City policies, procedures, and operations as well as the fostering of collaboration across City government. Despite this dedication, neither the Sustainability Master Plan nor subsequent strategic plans with sustainability targets appear to designate a specific City entity in charge of directing, coordinating, or monitoring sustainability efforts within the City.

In its report *Managing for Results - Enhanced Goal Leader Accountability and Collaboration Could Further Improve Agency Performance*[13], the U.S. Government Accountability Office states that "Leadership involvement and accountability are two of the most important factors in driving successful performance improvement. Our prior work has found that these two factors are critical to driving change and improvement in government by overcoming resistance, marshalling resources, building and maintaining organization-wide commitment, and ensuring persistent follow through."

We interviewed and surveyed City staff, assessed internal procedures for coordination, and examined the City's "green" groups to get a sense of the current management and accountability structure as it relates to sustainability. Overall, we found that the City lacks an organization-wide oversight mechanism, which may hinder progress towards its sustainability efforts. We specifically found that:

- The City does not currently have a formalized internal communications strategy or an official entity directing its green efforts;
- Inadequate funding for sustainability projects is a barrier to prompt implementation; and
- Not all City departments appear to have embraced sustainability as an operational priority.

To improve internal coordination and maximize the value of the City's sustainability efforts, we recommend that the City Manager's Office work with the Department of Public Works to review Citywide management and oversight processes for its green efforts and conduct an assessment of whether a more centralized and defined role may be beneficial in implementing Citywide sustainability goals.

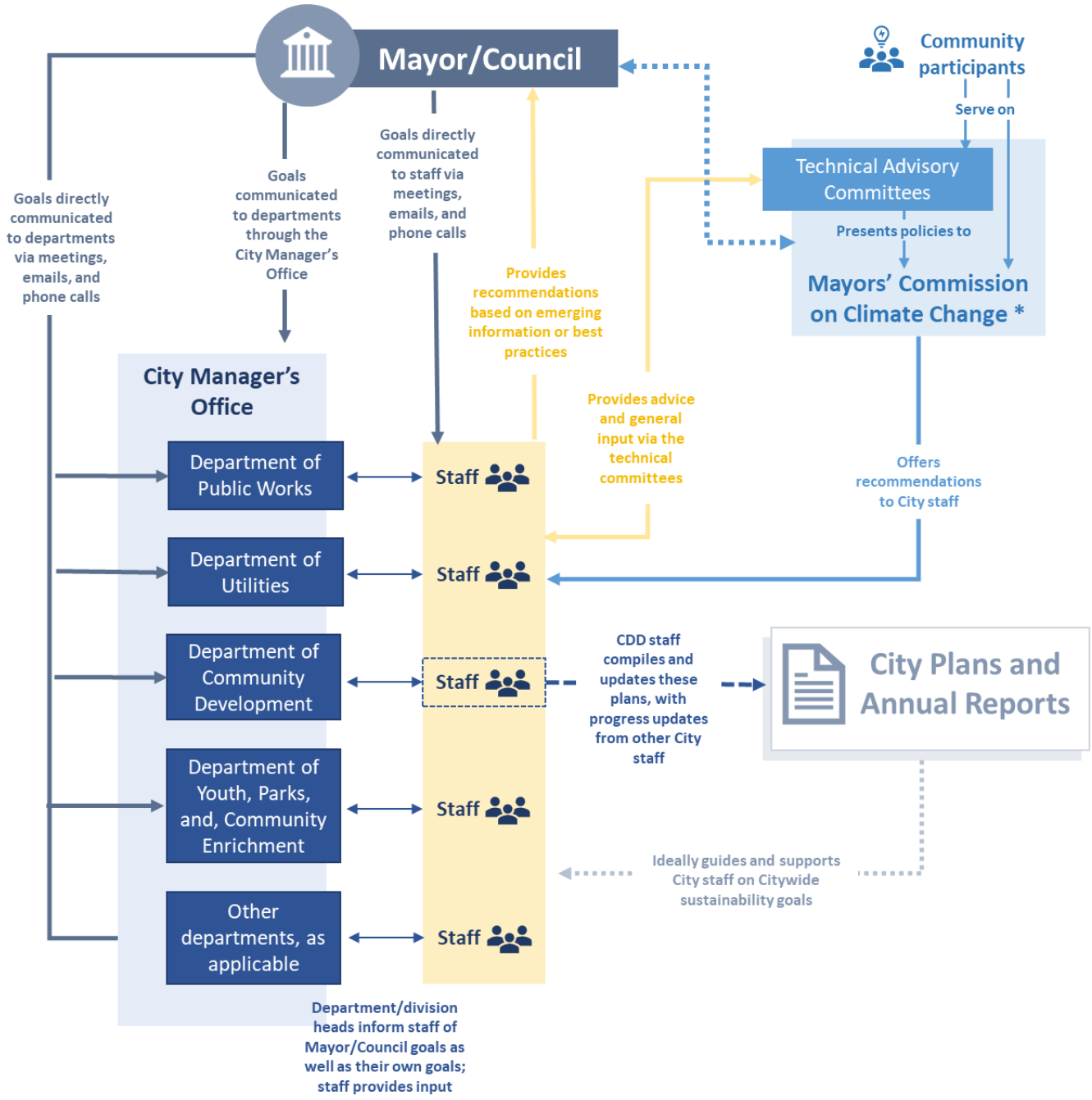
[13] U.S. Government Accountability Office. Managing for Results - Enhanced Goal Leader Accountability and Collaboration Could Further Improve Agency Performance. https://www.gao.gov/assets/670/664921.pdf

The City Does Not Currently Have a Formalized Internal Communications Strategy or an Official Entity Directing Its Green Efforts

The U.S. Office of Personnel Management states on its website[14] that "Continuous communication of agency mission, vision, and direction is key to success in becoming a high performing organization. The organization must build a clear roadmap of agency direction to secure employee commitment. These and other critical messages must have communication vehicles for strategic and orderly delivery to intended audiences." The City's current sustainability efforts are operationally siloed and responsibility for monitoring goal progress falls under the respective departments. Consequently, the present communication approach towards these efforts appears ad hoc and relies on the City Council and City management to effectively communicate priority projects and goals to the right staff. The figure below demonstrates the flow of communication within the City regarding sustainability. While the figure displays the many potential lines of communication, this varies by project, program, or effort. Communication may take the form of emails, phone calls, meetings, or approved documents.

[14] U.S. Office of Personnel Management. Workforce and Succession Planning: Communication Strategies. https://www.opm.gov/services-for-agencies/workforce-succession-planning/communications-strategies/

Figure 21. Flow of Communication Within the City Regarding Sustainability Efforts



Source: Auditor generated based on information provided by the Department of Public Works.

* The Mayors' Commission on Climate Change is not a City entity. It is led by the mayors of Sacramento and West Sacramento and aims to "develop a common vision and set of strategies for both cities to achieve net zero greenhouse gas emissions, referred to as Carbon Zero, by 2045."

The lines of communication depicted in the figure above are not formalized. City Council may provide high-level direction to staff through direct communication, via the City Manager's Office, or through the respective department head. Staff may also provide recommendations upwards to management. In addition, City staff take part in the Mayors' Commission on Climate Change (Mayors' Commission) by

sitting on the Technical Advisory Committees alongside other members of the community. These Technical Advisory Committees advise the Mayors' Commission on various subject areas.[15] Strategic guidance is then provided by the Mayors' Commission and redirected to City staff, both formally through recommendation documents[16] and informally through verbal exchanges.

Despite these multiple lines of communication acting as a potential mechanism for direction and guidance, there is oftentimes a disconnect between broader goals stated in Citywide reports or as approved by the Mayor and Council and the practical implementation of these goals. For example, the 2035 General Plan states that the City shall improve energy efficiency of City facilities so they consume 25 percent less energy by 2030 compared to the baseline year of 2005.[17] According to the Department of Public Works, no specific department or staff was assigned responsibility for achieving this goal and there was no direction to formulate an implementation plan, such as identifying which projects or programs may fulfill this goal. Subsequent General Plan Annual Reports currently track progress on this goal via two implementation measures but status updates tend to focus on what the department is already working on relative to energy efficiency instead of focusing on implementing the specific goal. Although recent analysis by the Department of Public Works suggests that the City has coincidentally exceeded this goal, such an approach towards the City's goals creates confusion over the City's priorities and staff responsibilities.

More broadly, there does not appear to be a clear or consistent enforcement or accountability strategy for formalized goals. While directed at federal agencies, the GPRA Modernization Act of 2010 provides guidance for assigning responsibility to and reviewing performance towards goals and may serve as an example for other entities to follow. The GPRA Modernization Act of 2010 requires each federal agency to issue an annual performance plan covering each program activity set forth in its budget, which must identify the agency officials responsible for the achievement of each performance goal, otherwise known as "goal leaders." It further requires that, "at each agency, the head of the agency and the agency's COO [Chief Operating Officer], with the support of the agency PIO [Performance Improvement Officer], conduct an analogous quarterly review to review priority goals with the appropriate goal leaders." Some Citywide plans or reports may name a responsible department for certain targets and actions, but it is unclear how they are held accountable for timely progress that contributes to broader Citywide goals. As summarized in figure 21, the Community Development Department's Planning Division coordinates with various City departments to collect progress statuses on implementation measures in the City's Climate Action Plans and General Plans as part of a General Plan Annual Report to Council. While they assist with tracking progress and pointing City departments to relevant goals in

[15] The Mayors' Commission, led by the mayors of Sacramento and West Sacramento, aims to "develop a common vision and set of strategies for both cities to achieve net zero greenhouse gas emissions, referred to as Carbon Zero, by 2045."

[16] As mentioned in the background section, the Mayors' Commission on Climate Change adopted a report in June 2020 with recommendations to Achieve Carbon Zero by 2045 in Sacramento and West Sacramento. While not a City-issued report, it was passed by City Council on August 25, 2020 and directs the City Manager to implement the strategies as outlined in the recommendations. This report can be found at https://www.lgc.org/climatecommission/.

[17] This is published under Policy U 6.1.4 in the Utilities section of the 2035 General Plan.

these documents, they are not responsible for ensuring that timely progress is made. For reports more generally, departments and the respective staff operationally responsible for a specific goal have discretion in what is included in the status updates or may choose not to provide an update at all.

To clarify the flow of sustainability direction, we recommend the City Manager's Office work with other departments to evaluate whether a centralized coordination and enforcement body may better assist City staff in implementing the City's sustainability goals and vision.

RECOMMENDATION:

We recommend the City Manager's Office work with other departments to:

11. Evaluate whether a centralized guidance, enforcement, and coordination body may better assist City staff in implementing the City's sustainability goals and vision.

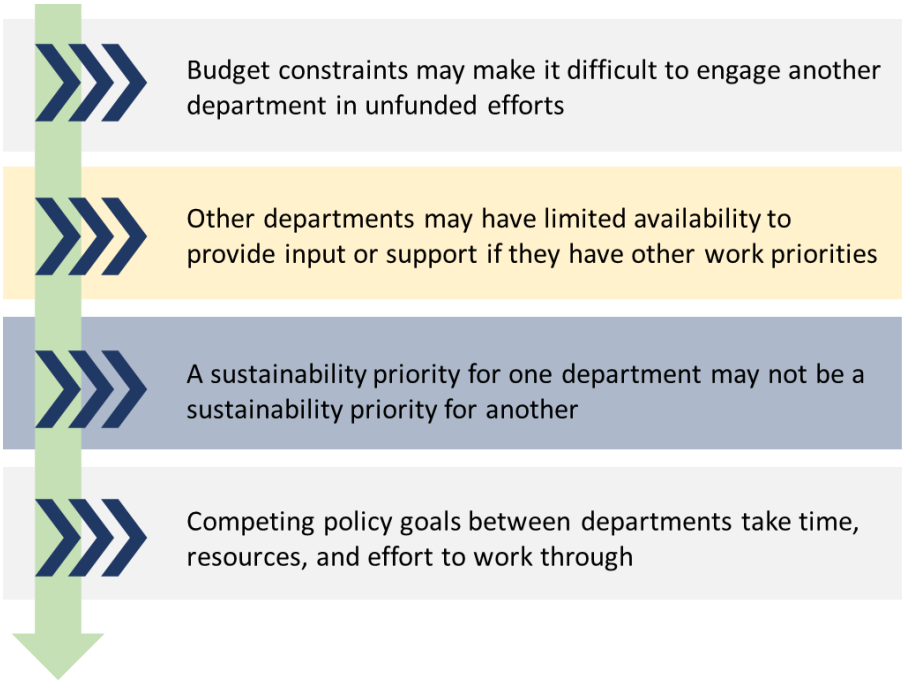
Collaboration Can Be Improved When Establishing, Communicating, and Reaching Sustainability Goals

According to the U.S. Government Accountability Office (GAO), "Collaboration can be broadly defined as any joint activity that is intended to produce more public value than could be produced when the organizations act alone." The GAO further asserts that "factors such as leadership, trust, and organizational culture [are] necessary elements for a collaborative relationship" and articulate eight practices that enhance and sustain collaborative efforts. These practices include defining a common outcome, establishing mutually reinforcing or joint strategies, identifying and leveraging resources, agreeing on roles and responsibilities, and developing mechanisms to reinforce accountability.

We surveyed the City's various departments and offices to inquire about their role in shaping the City's sustainability efforts and to develop a better understanding of their relevant goals. Our survey revealed that many sustainability projects and goals require collaboration between departments or divisions as projects may overlap multiple operational lines. For example, the Department of Utilities worked with the Department of Public Works to retrofit existing toilets to more water efficient models at New City Hall in fiscal year 2017-18. According to the Department of Utilities, water consumption decreased by approximately 73,000 gallons per month in 2018 following the completion of the retrofit, which equates to 38 percent in average water savings.

Such projects or endeavors are initiated by a variety of City staff, including the department's Sustainability Manager (if applicable), project manager, executive staff, or City management as input or assistance is needed, and often use institutional knowledge to identify appropriate contacts. There is currently no consistent process or coordinating body to assist with collaboration efforts. While the above example demonstrated a successful collaboration, a survey of department heads and applicable program managers identified several challenges when coordinating sustainability projects, as seen in the figure below.

Figure 22. Interdepartmental Collaboration Challenges for Sustainability Projects as Identified by Department Heads and Applicable Program Managers



Source: Auditor generated based on department survey responses.

An example that demonstrates some of these challenges is the City's effort to incorporate low-emission vehicles and zero-emission vehicles (ZEV) into its fleet operations. The Fleet Sustainability Policy declares that "annual purchases of Fleet replacement vehicles will include a minimum commitment of 50% for alternative fuel and/or alternatively powered vehicle replacements by 2018, and 75% by 2025 to reduce emissions and fossil fuel consumption, inclusive of ZEVs." For example, for fiscal year 2019-20, requested police patrol vehicle purchases accounted for approximately 26 percent of the Fleet Management Division's possible purchases and are taken into consideration to accomplish this goal. However, recommendations to the Police Department to switch to a hybrid model were met with concerns over the performance of hybrid vehicles and difficulties accepting the new technology. The Fleet Management Division was able to work with the Police Department to alleviate some of their concerns by engaging with department leadership, presenting the capabilities and suitability of the proposed hybrid vehicle options, and bringing in a representative from the motor company to assist with education on these vehicle types. Although the Fleet Management Division takes each vehicle's ability to serve a department's operational needs into account and despite citing both the Council-approved Fleet Sustainability Policy and data on fuel consumption, the division faced similar obstacles when deploying other alternative fuel vehicles throughout the City. While an educational strategy has helped departments understand the benefits and function of hybrid vehicles, a common success measure was not previously defined and sustainability priorities did not translate between departments. In turn, this hinders the Fleet Management Division's ability to promptly enforce one of the City's sustainability policies.

Furthermore, on project management, the Harvard Business Review states, "Prioritizing increases the success rates of strategic projects, increases the alignment and focus of senior management teams around strategic goals, clears all doubts for the operational teams when faced with decisions, and, most important, builds an execution mindset and culture." Without guidance on prioritization, a supporting mechanism for resources, or compatible goals, these challenges may serve as operational barriers to implementing the City's sustainability goals. To promote more consistent and effective communication and reduce collaboration challenges, we recommend the City Manager's Office develop guidance on prioritizing Citywide sustainability goals and establish a Citywide internal communication strategy and accountability mechanism for sustainability goals and priorities.

RECOMMENDATIONS:

We recommend the City Manager's Office work with other departments to:

12. Develop guidance on prioritizing Citywide sustainability goals.

13. Establish a Citywide internal communication strategy and accountability mechanism for sustainability goals and priorities.

Interdepartmental Funding for Water Conservation Projects May Not Be Effectively Tailored for Each Respective Department or Division's Operations

As a collaboration effort, the Department of Utilities has signed Memorandums of Understanding (MOU)[18] with both the Department of Public Works and the Department of Parks and Recreation (now the Department of Youth, Parks, and Community Enrichment or YPCE) to promote, support, and incentivize water use efficiency and water use reduction within municipal operations. The MOUs state that the Department of Utilities will reimburse the respective department for the cost of equipment and staff. This amount will not exceed $50,000 on an annual basis. Upon further review of the MOU terms, we found that the two MOUs were structured identically except for sections describing each department's operational areas.

As previously mentioned in the background section, the Department of Public Works and the Department of Utilities were able to successfully implement water efficient toilet retrofits at City facilities. However, no projects have been completed in collaboration with YPCE's Parks Division. While the Department of Utilities has worked with the Parks Division in identifying two projects since the MOU was put in place, these projects have not come to fruition. Both departments have expressed positive intentions to further collaborate on water conservation projects. However, the Parks Division expressed concerns over the financing structure of the MOU, such as how the annual $50,000 is not sufficient to complete any impactful water conservation projects. Furthermore, only projects completed by in-house staff are eligible for reimbursement and staff time can only be reimbursed at the unburdened rate. Due to limited in-house resources, contractors are often used to complete such projects. In comparison, the

[18] Although not legally binding or enforceable, MOUs are a way for departments to memorialize the common understanding and intent behind budget adjustments and services or operations performed.

Department of Public Works was able to split the toilet retrofit project by facility in order to take advantage of the additional funding offered.

The Department of Public Works signed the MOU in March 2017 while the Parks Division signed its MOU in September 2017. It appears that the terms in the Parks Division's MOU may have been copied from the Department of Public Works' MOU without adjusting for all differences between the departments' operational structures. As such, using a similarly structured MOU may not be practical in achieving mutually prioritized goals and may limit the Parks Division's ability to use available funding for projects. During the course of this audit, the Parks Division and the Department of Utilities have initiated discussions on their MOU terms.

To maximize the utility of existing funding for water conservation projects, we recommend that the Parks Division work with the Department of Utilities to revise the funding structure for eligible water conservation projects that fall under the Parks Division.

RECOMMENDATION:

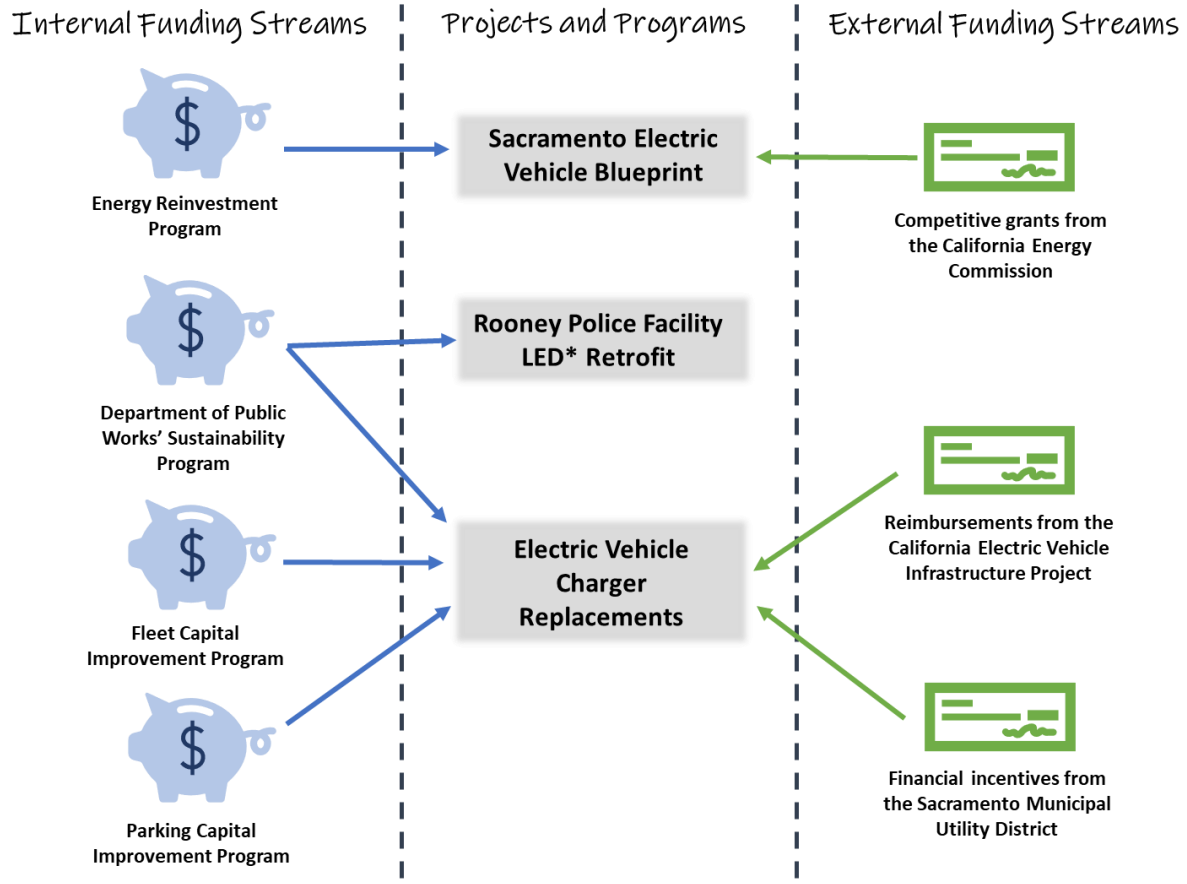
We recommend the Parks Division work with the Department of Utilities to:

14. Revise the funding structure for eligible water conservation projects that fall under the Parks Division.

Inadequate Funding for Sustainability Projects Is a Barrier to Prompt Implementation

In the background section, we describe how the City does not have dedicated sustainability funding and instead, sustainability efforts are funded through a variety of methods. Moreover, as previously mentioned in finding 2, the City's current sustainability efforts are operationally siloed. Funding for any projects, programs, or efforts thus depend on the budget and funding streams of each respective department and on whether additional funding, if needed, can be secured. In figure 23 below, we provide examples of how some projects in the Department of Public Works were funded.

Figure 23. Examples of Funding Streams for Some Projects in the Department of Public Works



Source: Auditor generated based on information provided by the Department of Public Works.
* LED stands for light emitting diodes.

As illustrated in the figure above, obtaining grant funding allowed the City to pursue the Sacramento Electric Vehicle (EV) Blueprint project, in which the City worked with consultants to develop updated data and actionable EV blueprint planning tools to further implement the City's EV Strategy and align with local and state EV goals. Without adequate funding, this effort may not have been achieved and may have delayed the implementation of other EV goals that benefited from progress made in this project.

Because there is no Citywide prioritization process to ensure that efforts receive funding needed for implementation beyond the standard budgeting process, projects that may have positive environmental impacts and easily realized cost savings may not be implemented if funding is unavailable within the responsible department's operating budget or unattainable externally. For example, retrofitting the remaining streetlights to LED appears to be a prioritized sustainability goal for the City, as previously mentioned in finding 1. The City has completed LED retrofits for approximately one-third of the City's streetlights[19] in 2016 and according to the 2016 Update of the Climate Action Plan for Internal

[19] Based on the count of streetlights at the time the retrofit started in 2014.

Operations, planned to convert 100 percent of City streetlights to LED by 2020. Although the Department of Public Works has recently earmarked approximately $2.5 million to initiate retrofits for 2,450 streetlights, the Department of Public Works estimates that at least $40 million more in funding will be required to fully complete the already delayed project. While the upfront costs are high, the City forgoes about 10 million kilowatt hours and $784,000[20] in energy savings and cost avoidance respectively in each year that the project is delayed. Other cities that have completed or are currently undergoing LED retrofits have also cited benefits to acquiring LED streetlights. Specifically, the cities of Los Angeles, Worcester, and Knoxville have estimated a reduction of between 60 and 65 percent in energy consumption.

Recognizing that funding limitations exist, the Department of Public Works has previously recommended an ongoing funding stream for priority energy conservation and climate initiatives. One budget change proposal for fiscal year 2019-20 included a three percent surcharge on the City's internal energy and fuel expenses for the most recent year. In return, it would provide individual departments and facilities with information on and methods to reduce their energy use. The surcharge option was not approved during its initial proposal for the fiscal year 2019-20 budget and the department was instead provided with defined funds for their Sustainability Program. The department submitted a similar energy reinvestment allocation for fiscal year 2020-21, which changed the proposed percentage from three to five percent. According to the Department of Public Works, a five percent allocation based on fiscal year 2018-19 facility-related energy expenses would total approximately $709,000. Reduction in energy use over five percent may offset the costs of the surcharge each billing period while assisting departments in achieving financial and environmental benefits. Such an approach may also serve as an opportunity for departments to improve accountability towards their own energy consumption.

To get a sense of how other government entities fund sustainability projects, we performed a benchmark survey and found that most respondents cited General Fund allocations and grants as the main sources of funding. However, the City of Fremont stated that most sustainability projects to date were self-financed through the financial savings they generate while the County of Sacramento appears to have employed a successful surcharge strategy and quotes active monitoring of utility consumption, energy included, as an additional benefit.

While we acknowledge that certain fund lines may be more sensitive to increased cost burdens and a surcharge made across fund lines may be challenging, investment in energy projects[21] has historically reduced energy consumption and greenhouse gas emissions for the City, which is both financially beneficial and consistent with its commitment towards sustainability. Additionally, rate escalations for the Sacramento Municipal Utility District is anticipated to grow at 4 percent or more per year for the

[20] These are estimates based on available internal data but, as noted in Finding 1, streetlights data may require further review to ensure accuracy in relevant analyses.

[21] Examples of such projects are available on the City's public website at https://www.cityofsacramento.org/Public-Works/Facilities/Sustainability/Resources/Projects.

next few years, suggesting that energy bills will rise correspondingly if energy efficiency efforts remain stalled due to insufficient funding.

Given the decentralized funding structure for the City's sustainability efforts and the reliance on departments to identify their own funding streams, there appears to be opportunities for the City to assess how centralized or dedicated funding support can further advance the City's various sustainability initiatives. We recommend that the City Manager's Office work with other departments to evaluate new funding strategies and consider whether additional funding support can be provided during the City's budgeting process. We also recommend that it works with other departments to review City projects that may have immediate environmental savings and cost avoidance that currently lack funding, such as retrofitting the remaining streetlights to LED, and assist with identifying funding sources.

RECOMMENDATIONS:

We recommend the City' Manager's Office to work with other departments to:

15. Evaluate new funding strategies and consider whether additional funding support can be provided during the City's budgeting process.

16. Review City projects that may have immediate environmental savings and cost avoidance that currently lack funding, such as retrofitting the remaining streetlights to LED, and assist with identifying funding sources.

Not All City Departments Appear to Have Embraced Sustainability as an Operational Priority

As suggested by research in organizational behavior, developing a strong culture of sustainability can improve how well an organization accomplishes sustainability. A strong culture of sustainability "exists if people share a belief in sustainability's importance and behave in ways that support it–including making decisions that balance long-term considerations with short-term needs. People see it as a priority rather than a pipe dream and don't often throw it by the wayside in favor of other objectives."[22]

We reached out to all City departments and offices to improve our understanding of their role in the City's sustainability efforts and learn about any relevant goals. While we acknowledge that some departments' primary responsibilities are not directly related to sustainability projects, based on the City's sustainability goals and directives, there exists some sustainability areas that all departments can take part in. Of the City's approximately 15 departments and offices, we only received complete responses from three departments, of which all had business lines that directly overlap with

[22] According to Tom Bateman, a published management professor from the University of Virginia's McIntire School of Commerce; he has conducted research in proactive behavior and problem solving in organization contexts as well as behavioral challenges in the domain of climate change.

sustainability projects. One additional department responded to the survey by informing us that it "has no sustainability goals/work" and "will not be providing anything for [our] survey."

As previously mentioned in the background section, the City has approved Citywide policies aimed to increase sustainable practices within internal operations, such as the Sustainable Purchasing Policy or the Sustainable Operations for City Departments (API #57) policy. These policies encourage City staff to alter their behavior in more sustainable ways, such as reducing paper usage, turning off lights when not in use, and more. While these are aimed at employees, departments can take initiative in developing more specific, department-level guidelines to contribute to these Citywide efforts.

The assertion that a department does not have any role in the City's sustainability efforts or any sustainability goals raises questions about the other departments and offices that did not provide a response to our survey. While a low response rate may be expected for any survey, it may also point to the inadequate attention paid to sustainability efforts when a department's business lines do not obviously relate to sustainability initiatives. As such, not all City departments may be operating under a strong sustainability mindset or demonstrating that sustainability is a Citywide value and priority, as directed by the City's 2035 General Plan.

To determine whether this mindset was pervasive among City employees and whether employee behavior is more generally aligned with sustainable practices, we conducted a survey of all City employees. Based on our survey results, we found that City employees are engaging in behavior that may not be supportive of the City's sustainability efforts, such as printing paper copies of electronic files or using paper copies to disseminate information, or not always turning their vehicles off when not in use. While guidance regarding more sustainable behavior is provided in various policy documents, reference to these policies does not appear widespread. We further discuss the survey results and impact of these behaviors in finding 3 of this report.

Sustainability research suggests that "A strong [sustainability] culture motivates people in desirable directions. You want a culture in which people feel responsible for contributing to the changes you want, feel empowered to act on behalf of sustainability and realize multiple types of rewards for their sustainability contributions."[23] Without a Citywide mindset that sustainability is widely applicable and an effort that all employees have a role in, the City may not be fully realizing its contribution to its sustainability goals.

To educate and inspire City employees on sustainability practices and to further incorporate sustainability efforts into internal operations, we recommend that the City Manager's Office offer outreach efforts and programs to City employees to improve the City's sustainability culture. We also recommend that the City Manager's Office assist other City departments and offices with incorporating

[23] According to Tom Bateman, who is introduced in the previous footnote as a published management professor from the University of Virginia's McIntire School of Commerce.

sustainability into their department-level operations through the creation, implementation, and tracking of specific performance goals.

RECOMMENDATIONS:

We recommend the City Manager's Office:

17. Implement outreach efforts and programs to City employees to improve the City's sustainability culture.

18. Assist other City departments and offices with incorporating sustainability into their department-level operations through the creation, implementation, and tracking of specific performance goals.

Current and Previous Sustainability Teams Do Not Appear to Have Formalized Roles or Responsibilities

The Green Impact, an environmental consultancy based in the Bay Area, describes green teams as "self-organized, grassroots and cross-functional groups of employees who voluntarily come together to educate and build awareness about sustainability issues and to implement programs that encourage employees to take action." They further describe "corporate green teams" as a version that "brings representatives from key departments together to help implement and support strategic corporate sustainability initiatives. They also act [as] a cross-functional umbrella group to screen ideas that are suggested by green teams, identify resources to support new initiatives and help to link green team activities with corporate sustainability objectives."

During the audit, we identified two groups in the City that may be considered "green teams," per the definitions above, and reviewed their structure, membership, and function, as displayed in figure 24.

Both groups engage staff from various City departments and were formed with a designated purpose, but neither group has formalized responsibilities or goals. The teams were informally created by City staff and have not communicated their specific role to the public. The City of Portland, a municipality that has demonstrated commitment towards sustainability, released a guide to provide tools for setting up and implementing a successful green team. Their guide acknowledges that "Green teams are instrumental in creating positive environmental change within an organization" and advocates for green teams to develop a mission statement, create goals, measure their contributions, and publicize their efforts and accomplishments. These actions demonstrate the team's value to the organization and keep the team focused and motivated. However, we found that these components were absent and information on these green teams is not easily available to City staff or the public. For example, the Energy Working Group's "Energy Savers" campaign was recognized in the City's 2016 Climate Action Plan Update for Internal Operations, but the team was not specifically credited and the initiative's results could not be quantified. In addition, neither the City's public nor internal website provide information on these green teams.

Figure 24. Comparison of the City's Green Teams

Feature	Energy Working Group	Green Team
Active?	No	Yes, since October 2019
Formalized?	No	No
Members	All departments at one time had a representative	Employees across the City whose work overlaps some area of sustainability; mostly from the Department of Public Works, the Department of Utilities, and the Department of Community Development. Original members were vetted by the City Manager's Office and each member's department head.
Purpose	Brainstorm energy saving initiatives	Keep members apprised of sustainabiiltiy initiatives across departments, support internal projects that reduce GHG emissions and costs, collaborate to implement external policies and programs, and coordinate funding applications.
Programs/ Initiatives/ Actions	"Energy Savers" Campaign, in which employees pledge to turn off their lights and computers each night before leaving	None
Mission Statement	None	None
Action Plan or Goals	None	None
Measured Contributions	None	None
Publicized Efforts	None	None
Publicized Accomplishments	None	None

Source: Auditor generated based on information provided by the Department of Public Works.

To understand how other cities' green teams operate, we reviewed various city websites and found that most green teams influence and coordinate sustainability initiatives within city operations and amongst city employees. While team structure and activities vary by city, the City of Fort Lauderdale appears to have an active green team that may serve as a guiding example.[24] Actions and results from the team's efforts are published on their city website, which assists in defining their role, leveraging collaboration, and demonstrating their achievements relative to sustainability within their city. Specifically, the team issued a Green Team Charter in 2016 that included a mission statement, background information, purpose, member selection, responsibilities, and meeting rules. To increase employee awareness, education, and participation, the team launched projects aimed at changing employee behavior in

[24] More information on Fort Lauderdale's Green Team can be found at https://gyr.fortlauderdale.gov/greener-government/green-your-routine/green-team.

recycling and paper usage. The team not only tracked these project achievements but also aligned these achievements with both their goal to foster a sustainability culture and their city's mission.

Although there are no standard requirements for an organization's green team, the lack of defined roles or responsibilities of the City's green teams may be a missed opportunity to fully leverage employee interest, commitment, and expertise as a coordination platform. Clearer definition may facilitate employee education and engagement, enhance the City's sustainability mindset or culture, support the implementation of strategies that directly fulfill the City's sustainability goals, and assist in alleviating the collaboration challenges mentioned in a previous section. We recommend the City Manager's Office work with other City departments to evaluate whether more formalized Citywide green teams may be beneficial for supporting the City's sustainability culture, programs, and goals.

RECOMMENDATION:

We recommend the City Manager's Office to work with other City departments to:

19. Evaluate whether more formalized Citywide green teams may be beneficial for supporting the City's sustainability culture, programs, and goals.

Finding 3: Awareness of and Compliance with Sustainable Policies, Procedures, and Plans Could Be Strengthened

In its *Standards for Internal Control in the Federal Government,* the GAO advises that "Management should implement [internal] control activities through policies" by "document[ing] in policies for each unit its responsibility for an operational process's objectives and related risks, and control activity design, implementation, and operating effectiveness." Additionally, PowerDMS, a cloud-based software company for managing policies, procedures, and trainings, states that "Policies and procedures provide a roadmap for day-to-day operations. They ensure compliance with laws and regulations, give guidance for decision-making, and streamline internal processes." They further indicate that "When [employees are] following policies and procedures, [the] organization will use time and resources more efficiently." As such, awareness of and compliance with policies and procedures play a critical role in managing risk, ensuring consistency, and facilitating effective operations within an organization. Along similar lines, awareness of current plans channels resources towards achieving an organization's strategic goals.

Awareness of and compliance with policies and procedures play a critical role in managing risk, ensuring consistency, and facilitating effective operations within an organization.

To determine the extent to which employees are aware of and behaving in accordance with Citywide sustainability policies, procedures, and plans, we distributed a survey to all City employees, assessed policies with sustainability components from the City's public website, evaluated data from vendors, and reviewed employee testimonies. Based on our review, we found that inadequate outreach, monitoring, and enforcement procedures may have contributed to insufficient awareness and non-compliance with these policies. In particular, we found:

- Approximately 44 percent of survey respondents are unaware of Citywide policies, procedures, and plans related to sustainability;
- Paper consumption reduced by 50 percent in the last ten years but further reductions may be inhibited by sustainability culture and operational barriers;
- Excess idling offsets reduction in GHG emissions while also costing the City approximately $282,000 per year; and
- The City spent approximately $237,000 in the last two fiscal years on purchases that appear non-compliant with sustainable purchasing guidelines.

When employees are not fully engaged in complying with the City's sustainability policies and procedures, the City falls behind in its commitment towards sustainability as both an operational objective and an organizational value. To more fully engage employees and encourage behavior that aligns with Citywide sustainability policies and plans, we recommend the City Manager's Office work with other departments to implement a notification process when new policies and plans become effective, review and update current policies and practices, and designate monitoring responsibilities.

Approximately 44 Percent of Survey Respondents Are Unaware of Citywide Policies, Procedures, and Plans Related to Sustainability

Risk Management, a magazine published by the Risk and Insurance Management Society, Inc. (RIMS)[25] that explores concepts and strategies used by those tasked with protecting an organization's assets, suggests that "Well-defined policies, procedures, and processes…provide a basis for an organization to analyze how to get from their existing state to a target state. By outlining current requirements, operations, interdependencies, risks and control, they can help identify gaps and improvement opportunities. Only then can organizations intelligently embed the right controls into the right processes." Inherent to the effectiveness of these policies and procedures is whether those responsible for following them are aware of them and consistently adhering to them. As PowerDMS[26] states, "Consistency in practices is also right for employees individually [as they will] know what they're responsible for, what's expected of them, and what they can expect from their supervisors and co-workers."

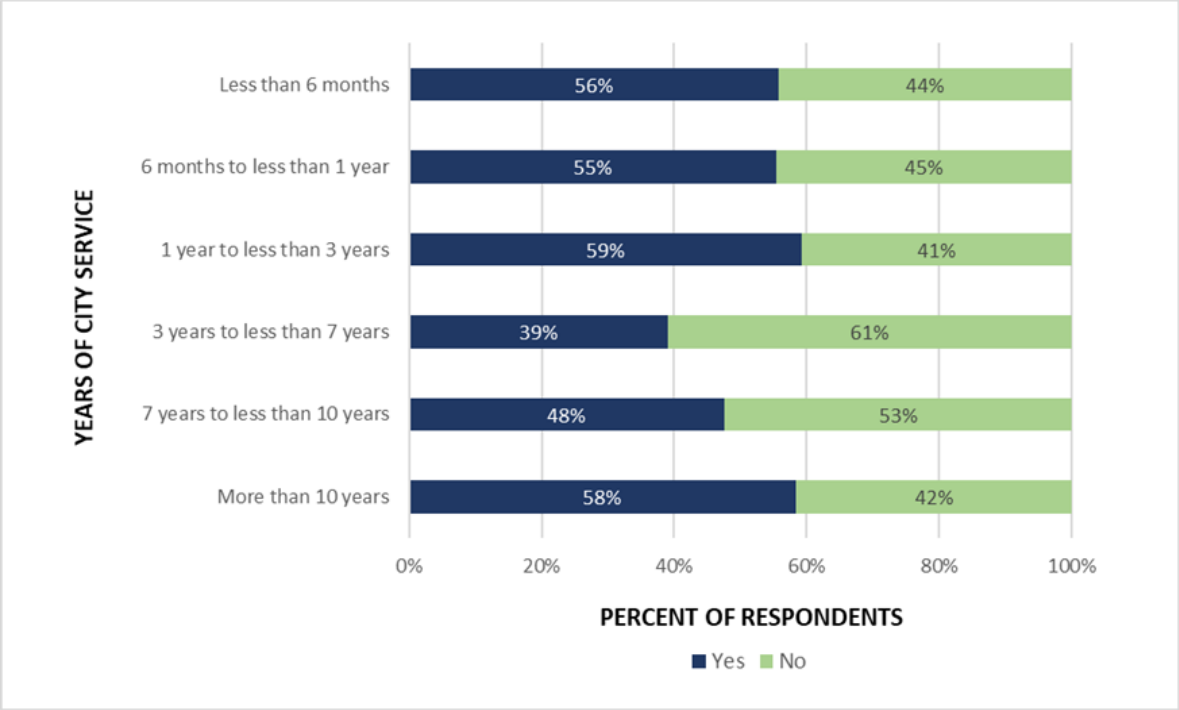
As mentioned in finding 2, we conducted a Citywide survey to gauge employee awareness and adherence to sustainability guidance (see Appendix A). Specifically, of the 542 respondents, approximately 44 percent stated that they were unaware of Citywide policies, procedures, or plans related to energy conservation, water conservation, alternative fuel use, or any other sustainable operations prior to taking the survey. This gap in awareness presents the risk that these various guidelines are not followed, which undermines the City's intent in using these guidelines to advance its sustainability efforts. It also hinders the City's ability to both facilitate compliance with its direction and administer accountability for noncompliance. As such, this gap presents an opportunity for improved awareness.

To determine whether this was consistent across the City or was specific to certain groups of employees, we first broke down the data by the respondents' years of City service, as shown in the figure below.

[25] RIMS is a nonprofit dedicated to educating, engaging, and advocating for the global risk community and has a membership of approximately 10,000 risk practitioners worldwide.

[26] PowerDMS, as introduced in the beginning of Finding 3, is a cloud-based software company for managing policies, procedures, and trainings.

Figure 25. Results of Citywide Green Efforts Survey – Were You Aware of Any Citywide Policies, Procedures, or Plans Related to Energy Conservation, Water Conservation, Alternative Fuel Use, or Any Other Sustainable Operations Prior to Taking This Survey? (by Years of City Service)

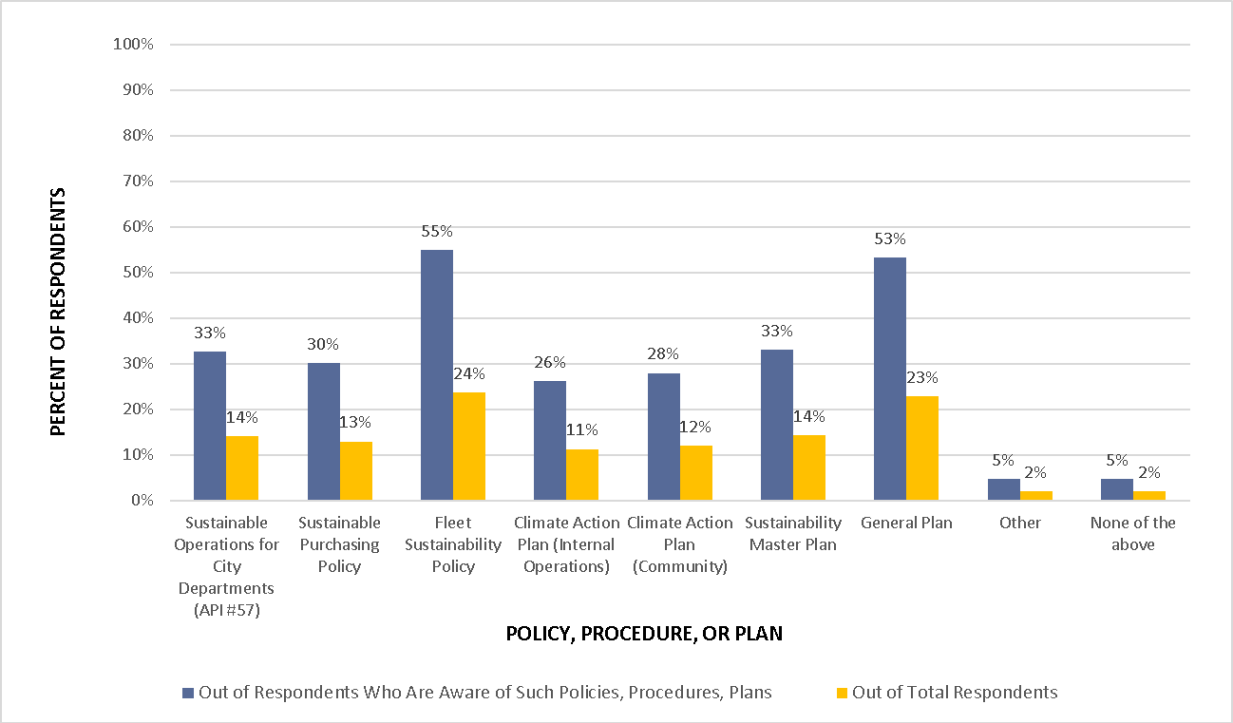


Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 542 responses. Shows percentage of respondents out of the total respondents per year range. See Appendix A for methodology and full survey results.

Given that between 39 percent and 59 percent of respondents in each service period reported being aware of such guidance, with an average of 53 percent across service periods, it appears that awareness is not dependent on years of City service. Similarly, a breakdown by department demonstrates that an average of 59 percent of respondents within each department are aware of such guidance, which is relatively consistent with Citywide results of 56 percent. Approximately half of the respondents are unaware of guidance related to sustainability. This relatively high percentage of employees lacking awareness prevents employees from being fully engaged in Citywide sustainable practices or understanding the City's strategic direction towards sustainability.

Of those who reported they were aware of sustainability guidance, 229 respondents also identified which specific policies, procedures, or plans they were aware of. As seen in figure 26, the Fleet Sustainability Policy and the General Plan appear to have the highest awareness rates, at over 50 percent amongst those who are overall aware of sustainability policies, procedures, and plans. The remaining ones all fell at or below 33 percent awareness rates. However, when we take all respondents into account, those awareness rates drop to just over 20 percent and at or below 14 percent, respectively.

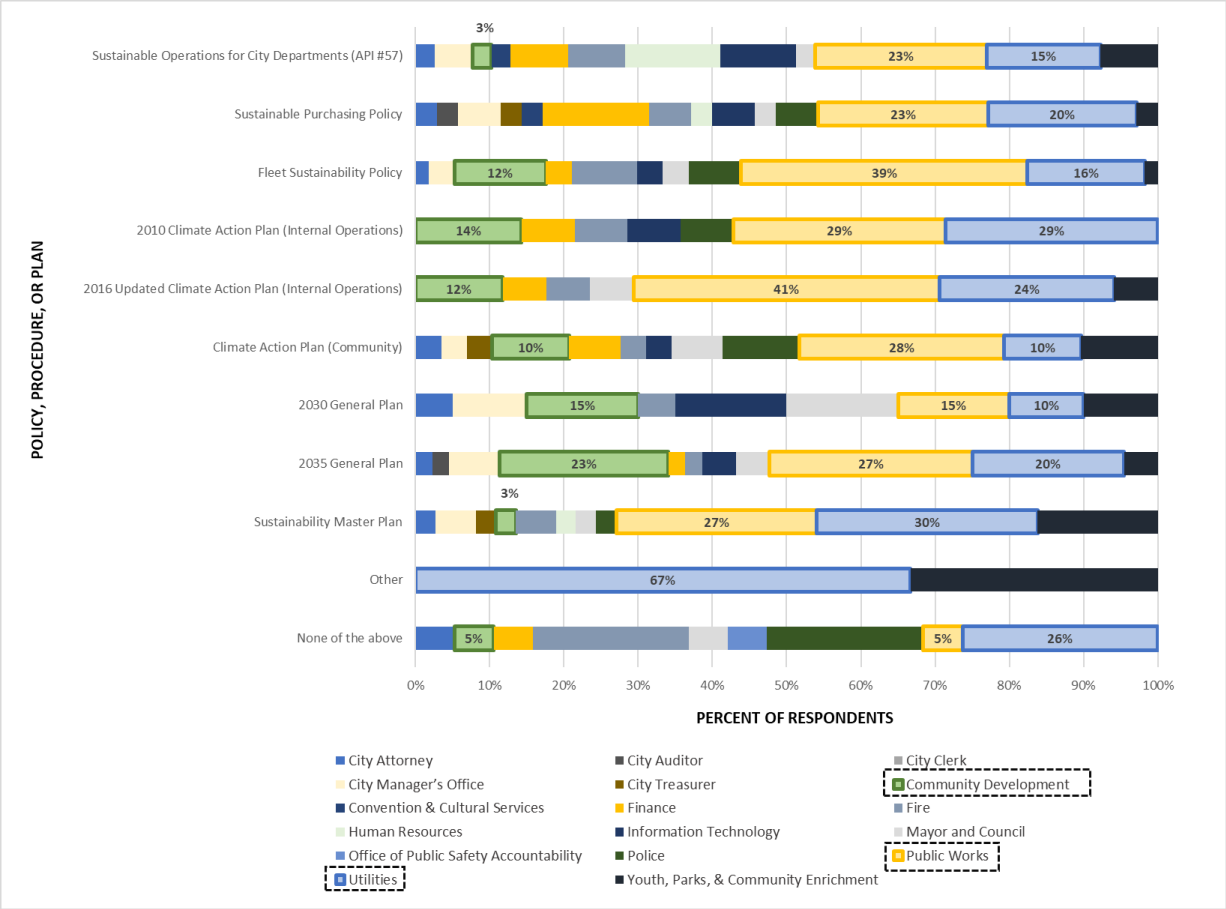
Figure 26. Results of Citywide Green Efforts Survey – Which Citywide Policies, Procedures, or Plans Are You Aware Of?



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 229 respondents who stated that they were aware of sustainability policies, procedures, and plans and 542 total respondents. This question asked respondents to check all that applied. See Appendix A for methodology and full survey results.

Further analysis revealed that the Department of Public Works, the Department of Utilities, and the Community Development Department had the highest awareness rates for each of the listed policies, procedures, and plans. As previously described in Finding 2, both the Department of Public Works and the Department of Utilities have business operations that directly overlap with sustainability areas while the Community Development Department is responsible for compiling many Citywide sustainability plans. When asked which of these policies, procedures, and plans were referred to in their daily line of work or for administrative operations, the same three departments, as demonstrated in the figure below, generally had the highest number of respondents who referred to the guidelines, with some exceptions for the Community Development Department. This factor may have contributed to their higher overall awareness rates, in comparison to other departments.

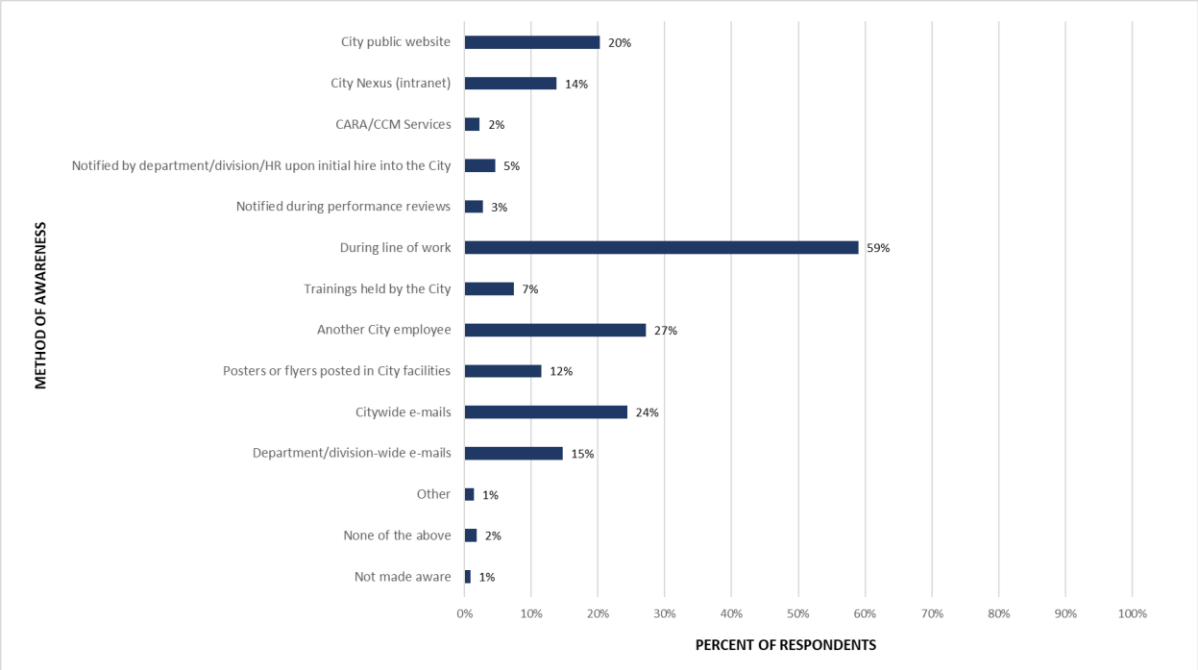
Figure 27. Results of Citywide Green Efforts Survey – Which Citywide Policies, Procedures, or Plans Are You Currently Referring To in Your Daily Line of Work or For Administrative Operations?



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 170 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied. See Appendix A for methodology and full survey results.

Figure 28 below shows that more respondents appear to be made aware of such guidance while in their line of work than through any other method of awareness.

Figure 28. Results of Citywide Green Efforts Survey – How Were You Made Aware of These Policies, Procedures, or Plans?



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 217 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question allowed respondents to check all that applied. See Appendix A for methodology and full survey results.

Additionally, respondents most commonly become aware of changes to, removal of, or currently active policies, procedures, or plans during their line of work (44 percent), through Citywide e-mails (44 percent), through department or division-wide e-emails (34 percent), or through another City employee (28 percent).

Based on our survey results, awareness of Citywide policies, procedures, and plans related to sustainability can be improved. Awareness rates are at 56 percent overall and, as previously seen in figure 26, 24 percent or lower for specific policies, procedures, or plans.

While there appears to be attempts to communicate Citywide guidance via methods such as e-mails, trainings, or flyers, most respondents stated they were made aware of both the policies and any relevant changes through their line of work. As such, if employees do not come across sustainability policies, procedures, or plans in their line of work, the likelihood of their becoming aware of such guidance is much lower.

Furthermore, as previously seen in figure 27, respondents from several departments still refer to rescinded plans, such as the 2030 General Plan or the Sustainability Master Plan. Although such references may correspond with staff using the information in these plans to develop updated plans, there remains the risk that resources are being used towards achieving outdated goals. This may also create confusion over what the City's current goals are or what progress has already been achieved.

According to the Community Development Department, plans are usually removed or updated on the website when they are no longer in effect or if they have been superseded to "notify" relevant City employees of these changes. It appears that employees are responsible for consistently visiting the City's website for updates, although they do not receive prompts on when to do so. Moreover, we found that the City's public website may not always be accurate, which in turn may misinform or confuse employees. For example, as of September 2, 2020, the *Sustainable Operations for City Departments* policy is not correctly linked on the City's *Citywide Policies and Procedures* webpage and instead loads the *Sustainable Purchasing Policy*. A search of the City's website also does not appear to direct employees to the *Sustainable Operations for City Departments* policy.

To increase organizational accountability towards sustainability, employees should be informed of their obligations and the City's strategic direction. Without such awareness, the City may be unable to further make improvements that assist in reaching its target level of sustainability. We recommend that the City Manager's Office work with other departments to develop a process for notifying City employees of changes to Citywide sustainability policies, procedures, and plans and document their acknowledgement of these changes. We also recommend that the City Manager's Office work with other departments to ensure that the City website and any internal employee resources are up-to-date and accurate.

RECOMMENDATIONS:

We recommend the City Manager's Office work with other departments to:

20. Develop a process for notifying City employees of changes to Citywide sustainability policies, procedures, and plans and document their acknowledgement of these changes.

21. Ensure that the City website and any internal employee resources are up-to-date and accurate as they relate to sustainability policies, procedures, and plans.

Paper Consumption Reduced by 50 Percent in the Last Ten Years but Further Reductions May Be Inhibited by Sustainability Culture and Operational Barriers

The *Sustainable Operations for City Departments* policy, also known as Administrative Policy Instruction #57 (API #57), became effective in 2009 and is one of the three sustainability-specific policies listed on the City's public website. API #57 consolidates a set of policies[27] previously approved by the Mayor and City Council and serves to provide City employees with clear and consistent instructions on how to operate in a sustainable manner that is consistent with these adopted policies. API #57 acknowledges that there are environmental benefits to reducing the amount of paper used by the City, such as decreasing the consumption of trees, water, and electricity in the life cycle of paper production and any

[27] These include the Sustainable Operations Policy (an action item in the 2008 Sustainability Implementation Plan), the Fleet Sustainability and Fuel Conservation Policy, and the Business Environmental Resource Center Certification of City Facilities (which was an action item in the 2008 Sustainability Implementation Plan).

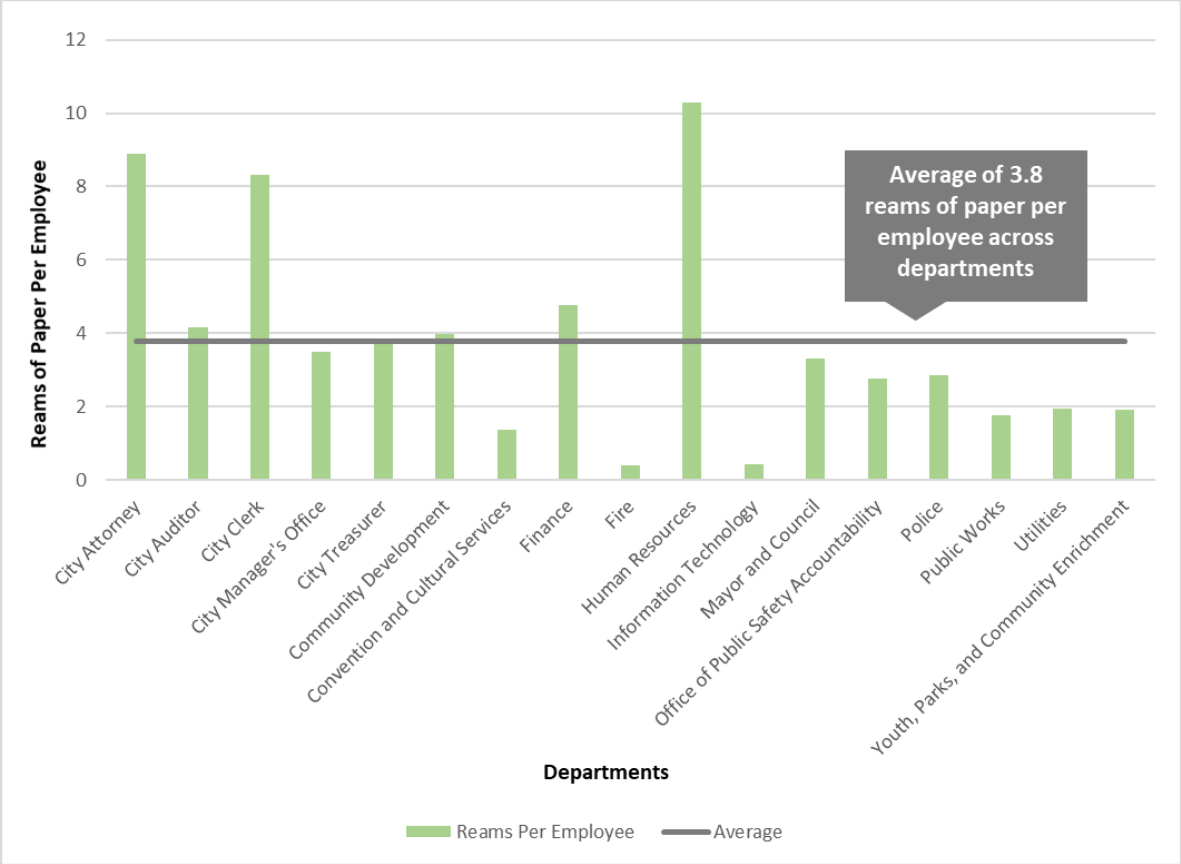
subsequent GHG emissions. The policy states that in 2009, at the time API #57 was approved, the City was consuming over 50,000 reams of paper annually.[28] For as much as is practical, the policy directs employees to print and copy double-sided and move towards electronic storage and dissemination of all files in order to reduce paper consumption. Furthermore, the 2016 Climate Action Plan Update for Internal Operations affirms that "it is the City's current practice to store and disseminate files and documents electronically."

To evaluate whether the City is actively pursuing this direction, we obtained printer output data from our vendor and estimated the amount of paper the City consumed in calendar year 2019 as well as the relative costs. Given that the data is collected by the vendor to facilitate charging the City for printing and copying services, the printer data only gives the number of sides printed or copied, instead of the number of pages consumed and how many were double-sided or single-sided. More specifically, each page has two sides. Therefore, two sides could count as one side each of two pages or both sides of the same page. Based on this information, we estimate the City consumed between 11,100 and 22,300 reams of paper in 2019 if all pages printed or copied were double-sided and single-sided respectively, at a cost of $55,000 to $110,000 annually. As such, it appears that the City has reduced its consumption of paper over the last ten years by over 55 percent from the baseline of over 50,000 reams of paper. According to the Department of Information Technology (IT), every printer obtained from our current vendor is set to double-sided printing by default, but City staff can manually override this setting. Additionally, IT informed us that third-party software exists that could provide specific information on paper consumption and double-sided printing or copying but there is currently no software installed that provides this information. Due to the data limitations and lack of active monitoring by the City, it appears that paper consumption is dependent on individual employee behavior.

Along these lines, we further analyzed the printer output data to determine whether the consumption behavior was consistent across departments. As seen in the figure below, six of the seventeen departments consumed above the 2019 average of 3.8 reams of paper per employee by department, with the Human Resources Department consuming the highest amount at approximately 10.3 reams of paper per employee in 2019.

[28] A ream of paper contains 500 sheets; please note that we did not verify the methodology used to determine 50,000 reams.

Figure 29. Estimated Paper Consumption by Department in 2019



Source: Auditor generated based on vendor printer output data.

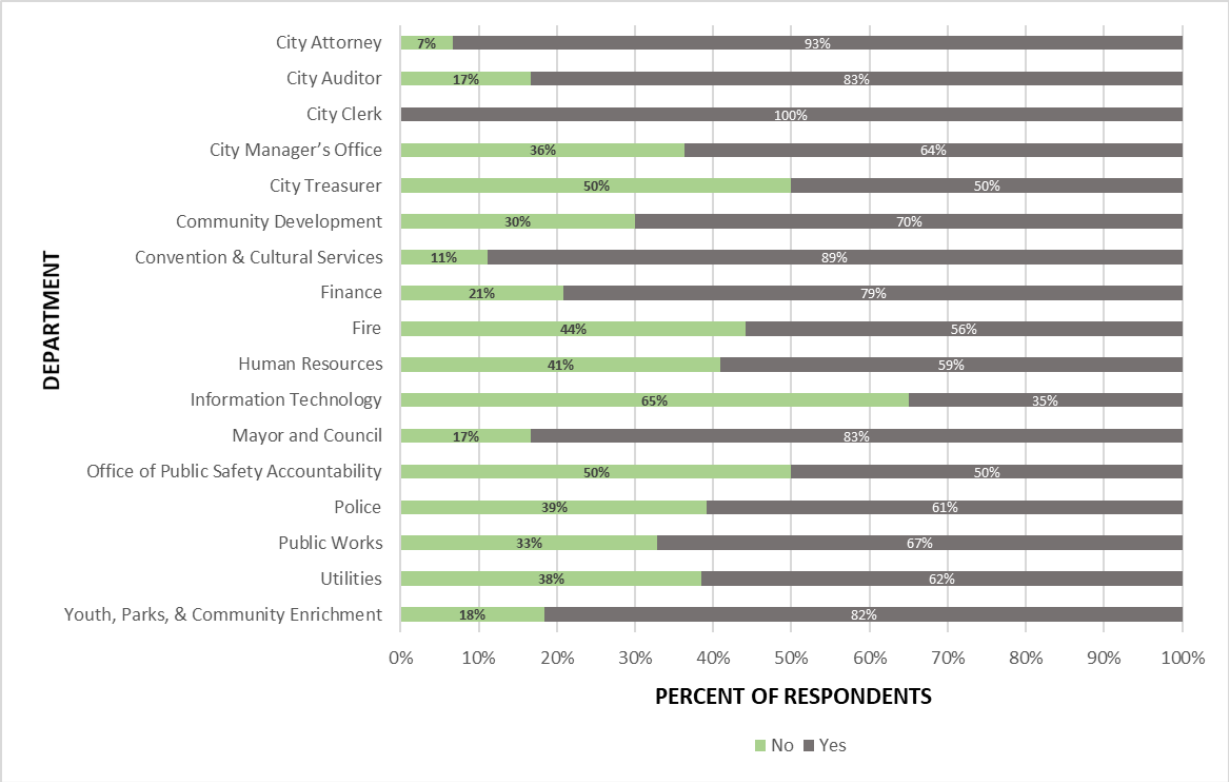
Note: This assumes all pages printed or copied were double-sided. If single-sided, the number of reams will double. Additionally, this does not include another 530 reams of paper from printers without an assigned department.

In total, the City uses at least 55,800 total pounds of paper on printing and copying each year. Depending on the recycled content of the paper consumed, GHG emissions from consuming paper range between an estimated 212,000 pounds of carbon dioxide equivalent to 502,000 pounds of carbon dioxide equivalent each year.[29] Further reductions in paper consumption could help decrease the City's carbon footprint.

To establish whether there are any barriers to further reducing paper consumption levels at the City, our Citywide Green Efforts Survey asked respondents about their paper consumption behavior. Based on the survey, 67 percent of total respondents and at least half of the respondents from each department (except the Information Technology Department) reported that they distribute documents or disseminate information using paper copies, as seen in the figure below.

[29] Environmental impact estimates were made using the Environmental Paper Network Paper Calculator Version 4.0. For more information visit www.papercalculator.org.

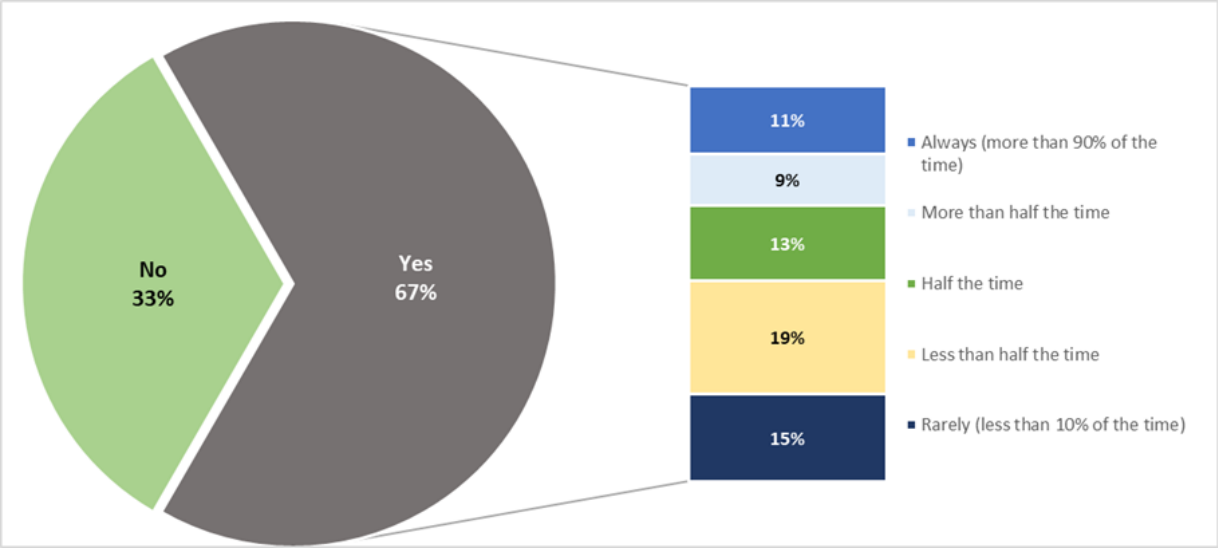
Figure 30. Results of Citywide Green Efforts Survey – Do You Distribute Documents or Disseminate Information Using Paper Copies? (by Department)



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 438 responses. See Appendix A for methodology and full survey results.

Approximately 49 percent of those who distribute documents or disseminate information using paper copies do so about half the time or even more frequently. That equates to approximately 33 percent of total respondents for this question, as shown in figure 31.

Figure 31. Results of Citywide Green Efforts Survey – Do You Distribute Documents or Disseminate Information Using Paper Copies? If So, How Often?



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Totals are based on 438 responses. See Appendix A for methodology and full survey results.

Respondents reported that convenience, lack of access to electronic copies, and required wet signatures as the top three reasons for why paper copies were used. While we acknowledge that there are legitimate and potentially legal reasons why paper copies must be used in certain instances, these top three reasons for printing paper copies suggest that there is room for improvement. For example, one respondent attributed the use of wet signatures to a cultural practice within the City. Another respondent describes how despite sharing information electronically, City staff often print the documents for signing, then scan and e-mail back the signed copies.

Similarly, approximately 68 percent of respondents stated that they print documents that are already available or already stored electronically. Specifically, they indicated the lack of appropriate electronic equipment in meeting rooms or out in the field as a hurdle to using electronic copies. Respondents also cited convenience and lack of access to these electronic documents when they are needed as top reasons for printing paper copies. Other top reasons include a personal preference to read off paper and being required by office procedures to store a paper copy.

Although aggregate printer output data suggests the City is generally aligning itself with guidelines provided in API#57, the lack of detailed data prevents us from accurately monitoring paper consumption. There is also no comprehensive data for tracking whether the City is using more paper with recycled content, which is also identified by API#57 as producing environmental savings; we discuss the purchase of paper with recycled content in a later section. At most, individual departments and offices may track paper savings if such practices are implemented. For example, the City Clerk's Office

has retired from printing documents for their agenda review meetings since mid-March 2020.[30] This new practice is estimated to save approximately 55 reams of paper each year, which equates to between 5,900 to 13,800 pounds of carbon dioxide equivalent reduction in greenhouse gas emissions each year.[31] In addition, our survey revealed that some City practices, such as printing for the purpose of obtaining signatures or storing files, may be outdated and potentially inefficient.

The tendency of staff to print paper copies for personal preference without consideration of the environmental cost or the City's inadequate equipping of staff with appropriate tools to access these files electronically may speak more broadly towards the City's sustainability culture, as previously mentioned in finding 2. While solutions to these practices may be costly due to software or equipment costs compared to the estimated savings of approximately $55,000 to $110,000[32] per year if the City went completely paperless, there may also be additional operational gains beyond the monetary and environmental benefits of reducing paper consumption, such as increased efficiencies and time savings. In order to further align the City with direction on sustainable operations, as set forth in API#57, we recommend that the City Manager's Office work with other departments to conduct internal outreach efforts to improve awareness of and facilitate further reductions in paper consumption.

RECOMMENDATION:

We recommend that the City Manager's Office work with other departments:

22. Conduct internal outreach efforts to improve awareness of and facilitate further reductions in paper consumption.

Excess Vehicle Idling Offsets Reductions in GHG Emissions While Also Costing the City Approximately $282,000 Per Year

Unnecessary vehicle idling releases exhaust into the atmosphere, which can directly counteract Citywide goals to reduce municipal GHG emissions. In the *Audit of the Department of Utilities Vehicle Fleet*, we found that the Department of Utilities spent approximately $59,500 in excess fuel costs and emitted approximately 200 metric tons of carbon dioxide using vehicles that idled over five consecutive minutes

[30] According to the City Clerk's Office, it has been there intent to implement this practice for some time, but the transition to remote meetings in mid-March 2020 created consensus to completely eliminate the use of paper copies moving forward.

[31] Environmental impact estimates were made using the Environmental Paper Network Paper Calculator Version 4.0. For more information visit www.papercalculator.org.

[32] These savings only include the cost of paper. Real savings may be greater if the cost of using toner, renting the printer, and consuming energy are taken into account.

in calendar year 2018. We recommended the Fleet Management Division[33] formalize the City's intent to limit idling to five consecutive minutes for all vehicles and equipment in the City's fleet.

To determine whether excess idling is pervasive throughout the City, we reviewed four weeks of vehicle idling data for fiscal year 2018-19 for City vehicles equipped with Zonar and Remote Vehicle Analytics (RVA).[34] Despite 84 percent of respondents from our Citywide Green Efforts Survey who use a vehicle or other fleet equipment reporting that they turn off their vehicle or equipment when not in use, we found almost 1,000 vehicles—approximately 42 percent of the City's fleet[35]—that exceeded the five-minute idling limit during the sample periods.[36] The contradicting results suggest that City employees may not be fully aware of the five-minute limit for idling vehicles, may be unaware that their vehicles are idling, or may have varying understandings of whether a vehicle needs to be idling for operational purposes.

Assuming that these four weeks of data are indicative of typical idling in fiscal year 2018-19, figure 32 below shows that the City used almost 93,000 gallons of fuel in excess idling over the five-minute limit and thus spent an estimated $282,000 in relative fuel costs.[37]

Figure 32. Estimated Fuel Consumption and Costs Associated with Excess Vehicle Idling in FY 2018-19

Testing Period	Idling Time (hours)	Fuel Consumed (gallons)	Fuel Cost
August 1-7, 2018	914	766	$2,144
November 1-7, 2018	2,413	1,817	$5,656
February 1-7, 2019	2,793	2,159	$5,985
May 1-7, 2019	3,113	2,410	$7,865
TOTAL:	9,233	7,152	$21,650
AVERAGE:	2,308	1,788	$5,412
ANNUAL:	120,035	92,977	$281,449

Source: Auditor generated based on Zonar and RVA reports, information provided by the Fleet Management Division, and fuel consumption rates obtained from the U.S. Department of Energy.

To quantify the environmental cost of City vehicles that idled over the five-minute idling policy, we estimated the emissions released using conversion rates and guidance from the U.S. Environmental Protection Agency. As illustrated in figure 33, excess idling over the five-minute limit has emitted an estimated 842 metric tons of carbon dioxide in fiscal year 2018-19, amongst other GHGs.

[33] In May 2019,the Fleet Management Division drafted a policy to formalize this intent but as of July 2020, the policy has not yet been officially approved. However, a memorandum issued by the Interim City Manager in 2010 also describes the intent to limit all vehicle idling to five minutes or less.

[34] These two systems are Global Positioning Systems (GPS) with additional vehicle information. Refer to the background section for additional details.

[35] Excludes vehicles from the Police Department as those are not equipped with either of the GPS systems.

[36] Vehicles that are required to idle to operate attached equipment were excluded from this analysis.

[37] This estimate relies on fuel consumption rates obtained from the U.S. Department of Energy.

Figure 33. Estimated Emissions Associated with Excess Vehicle Idling in FY 2018-19

Metric tons

Testing Period	Carbon Dioxide (CO_2)	Carbon Monoxide (CO)	Nitrogen Oxides (NO_x)	Total Hydrocarbons	Volatile Organic Compounds	PM 2.5	PM 10
August 1-7, 2018	6.809	0.098	0.004	0.005	0.004	0.000	0.000
November 1-7, 2018	16.585	0.228	0.024	0.012	0.011	0.001	0.001
February 1-7, 2019	19.537	0.286	0.024	0.015	0.014	0.001	0.001
May 1-7, 2019	21.829	0.309	0.027	0.017	0.015	0.001	0.001
TOTAL:	64.760	0.922	0.079	0.049	0.044	0.002	0.002
AVERAGE:	16.190	0.230	0.020	0.012	0.011	0.000	0.000
ANNUAL:	841.881	11.980	1.029	0.640	0.570	0.023	0.025

Source: Auditor generated based on Zonar and RVA reports, information provided by the Fleet Management Division, and emission rates obtained from the U.S. Environmental Protection Agency.

According to the Fleet Management Division, RVA sends out weekly dashboards to provide designated City staff with idling trends by department, month, and vehicle class. These dashboards also identify the top 50 highest idling vehicles in the last week. City staff has previously used this information to resolve high idle instances for vehicles assigned to their department, but there is currently no Citywide process for ensuring that all City vehicles are abiding by the five-minute idle limit. Without appropriately enforcing the five-minute idle limit, the City offsets progress made towards its GHG reduction goals while also excessively consuming fuel and incurring excess fuel costs.

In the *Audit of the Department of Utilities Vehicle Fleet*, we recommended that the Department of Utilities develop a process to identify instances of non-compliance with the Fleet Engine Idling Limit Policy and to hold employees accountable. Similarly, to reduce the risk of excess monetary costs to the City and to minimize unnecessary GHG emissions, we recommend that the City Manager's Office work with all departments that are assigned City vehicles to identify instances of non-compliance with the Fleet Engine Idling Limit Policy and hold employees accountable.

RECOMMENDATION:

We recommend that the City Manager's Office work with all departments that are assigned City vehicles to:

23. Identify instances of non-compliance with the Fleet Engine Idling Limit Policy and hold employees accountable.

The City Spent Approximately $237,000 in the Last Two Fiscal Years on Purchases That Appear Non-Compliant with Sustainable Purchasing Guidelines

The *Sustainable Purchasing Policy* (SPP), effective since 2010, instructs employees on how to procure products and services in a manner that integrates fiscal responsibility, social equity, environmental stewardship and community enhancement. In general, the policy aims to facilitate purchases that would reduce adverse effects on human health and the environment. The SPP includes specific purchasing guidelines for a variety of products, such as office supplies, janitorial products, building materials, lighting, and vehicles. For example, the SPP directs the City to strive for the lowest amount of volatile organic compounds (VOC), highest recycled content and low to no formaldehyde when purchasing materials such as paint, carpeting, adhesives, furniture, and casework when maintaining buildings.

With respect to data collection and performance reporting, the SPP states that "Buyers shall compile records for producing an annual summary of the City's environmentally responsible/ sustainable purchasing actions, and to evaluate the effectiveness in reducing the environmental impacts of City procurement. Each City department shall cooperate in information gathering for the purposes of tracking, reporting, and evaluating the sustainable purchasing program." When we requested this information, the Procurement Division stated that they did not collect this information. The policy places the responsibility of obtaining this data on the individual buyers and due to staffing constraints in the Procurement Division, annual summaries of the City's sustainable purchasing performance are not available. As a result, the City has no comprehensive information on its adherence to this policy.

To determine compliance[38] with guidelines issued in the SPP and to assess the effectiveness of this policy, we selected three vendors with Citywide agreements that supplied items subject to these guidelines. These vendors provided a range of office products, janitorial supplies, and electronics[39]. We obtained itemized purchase data for fiscal years 2017-18 and 2018-19, selected a sample of twelve items per applicable product category with the highest amount spent, and reviewed vendor websites for information available to the consumer at the time of purchase. Results from our evaluation estimate that the City has spent approximately $237,000 in the last two fiscal years on purchases that do not appear to meet sustainable purchasing guidelines and approximately $204,000 on products with undetermined compliance due to limited sustainability information on the vendor's website. In comparison, approximately $1.2 million was spent on purchases that are compliant with the SPP. Figure 34 summarizes our testing results by each of the three vendors. As seen below, the level of compliance varies by vendor.

[38] The policy specifically states that "It is the intent of this policy to phase in the implementation by immediate consideration of the following." As such, we use "compliance" in this section to denote whether the City is following the guidance issued in the policy.

[39] Not all three vendors supplied items from all of these categories. For example, Vendor C only supplies electronics.

Figure 34. Compliance with the Sustainable Purchasing Policy by Vendor

Vendor	In Compliance	Not In Compliance	Could Not Be Determined
A	$21,464	$236,804	$41,921
B	$146,158	$0	$27,241
C	$1,017,264	$0	$134,961
TOTAL:	**$1,184,886**	**$236,804**	**$204,123**
PERCENTAGE:	**73%**	**15%**	**13%**

Source: Auditor generated based on vendor websites and itemized purchase data from City vendors.

According to the Procurement Division, the SPP is outdated and requires revision to be more feasible. Taking this into consideration, we requested the Procurement Division provide us with what they believe would be more realistic expectations, which are described in the figure below. We compared the cost differences for one vendor (Vendor A) with this standard in mind. Based on our calculations, we estimate that even taking into consideration the updated intent of the SPP, the City still spent approximately $181,000 on products that do not appear to meet SPP guidelines and approximately $87,000 on products with indeterminate compliance from this one vendor.

Figure 35. Compliance with Updated Intent of the Sustainable Purchasing Policy for Vendor A

			In Compliance	Not In Compliance	Could Not Be Determined
Category	Policy	Requirement	Amount Spent		
Paper	SPP	Exclusive purchases of 100% recycled paper.	$1,877 1%	**$183,812 99%**	-
	Updated Intent	Encouraged purchase of recycled paper.	$10,875 6%	**$174,814 94%**	-
Office Supplies	SPP	Minimum of 20% post-consumer recycled content for office supplies.	$7,699 27%	$6,147 21%	**$14,952 52%**
	Updated Intent	Purchase of post-consumer recycled content office supplies (goal of 20% post-consumer recycled content).	$12,499 43%	$1,346 5%	**$14,952 52%**
Janitorial Paper Products	SPP	Purchase of 100% post-consumer recycled paper products used for cleaning and janitorial services.	-	$3,818 43%	**$5,107 57%**
	Updated Intent	Encouraged purchase of SPP cleaning and janitorial products*, including recycled paper products.	$1,242 14%	$2,577 29%	**$5,107 57%**
Janitorial Cleaning Products	SPP	Purchase of SPP cleaning and janitorial products*.	-	-	**$14,923 100%**
	Updated Intent	Encouraged purchase of SPP cleaning and janitorial products*.	-	-	**$14,923 100%**
Cartridges	SPP	100% remanufactured laser toner cartridges	$3,530 8%	**$43,027 92%**	-
	Updated Intent	Not mentioned	-	-	-
Electronics	SPP	Exclusive purchases of appliances and electronics for which Energy Star certification is available when practicable.	**$8,358 55%**	-	$6,939 45%
	Updated Intent	Encourage purchases of appliances and electronics for which Energy Star certification is available when practicable.	**$8,358 55%**	-	$6,939 45%

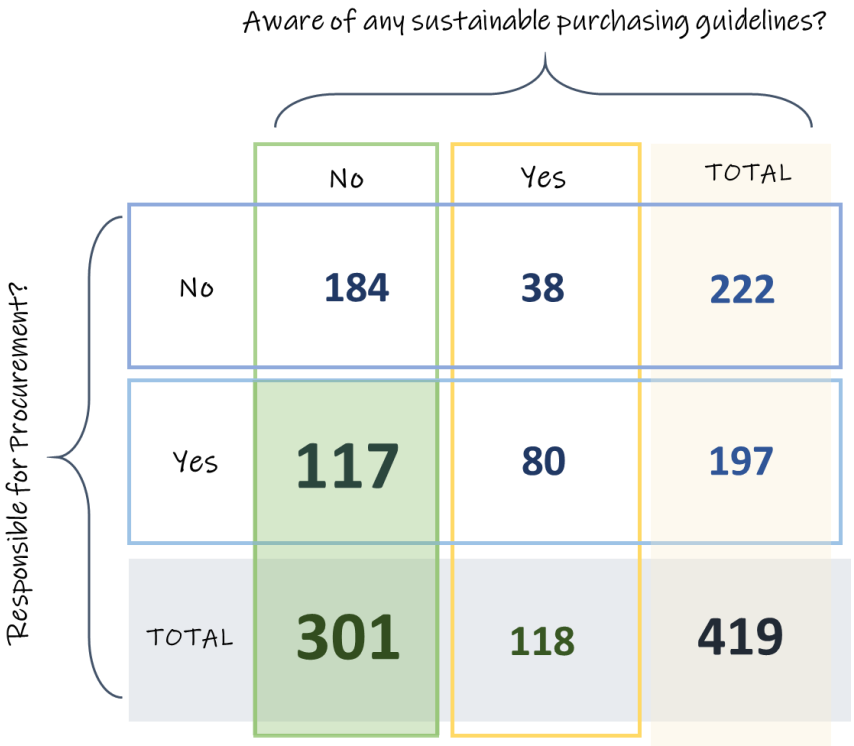
Source: Auditor generated based on vendor website and itemized purchase data from the vendor.

Note: Percentages may not add up to exactly 100 percent due to rounding. Bolded spending amounts and percentages highlight the compliance type with the highest amount per category.

* In general, SPP products and services are those that would have a reduced adverse effect on human health and the environment when compared with competing products and services.

Although the updated intent of the policy is to unofficially relax its guidelines, it has not been widely communicated to employees, leading to potentially inconsistent procurement activity in the City. Furthermore, there may be a negative correlation between the spending amounts that are noncompliant or indeterminant and employee awareness levels on the SPP. Approximately 72 percent—301 of 419 respondents—from our Citywide Green Efforts survey reported that they were unaware of any purchasing guidelines or restrictions that are in place to support sustainability. Of those responsible for purchasing supplies, equipment, or services, approximately 59 percent, or 117 of 197 respondents, are not aware of any sustainable purchasing guidelines, as illustrated in the figure below.

Figure 36. Results of Citywide Green Efforts Survey – Are You Aware of Any Purchasing Guidelines or Restrictions That Are in Place to Support Sustainability? (for Respondents with Procurement Responsibilities)



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 419 responses. See Appendix A for methodology and full survey results.

While the SPP is posted on both the City's public and internal websites, and standard templates for sourcing goods including language encouraging potential vendors to supply environmentally preferable and effective products are available, there appears to be a gap between those carrying out procurement activities in the City and those aware of sustainable purchasing guidelines. Inadequate awareness prevents the City from fully aligning itself with its various sustainability policies, plans, and procedures. One potential way to offset the lack of full awareness is for the City to work with its vendors to implement viewing controls on their respective websites, which can limit the types of products available to City employees for purchase.

During our review, we also noted that sustainable purchases may be more expensive than non-sustainable purchases. For example, our sample revealed that the City has purchased reams of paper with 100 percent recyclable content, which is on average $1.27 more expensive per ream than reams of paper with zero to 30 percent recyclable content. Using this cost difference, we estimate that the City would have paid $58,000 more in the last two fiscal years if all comparable paper purchases in our sample contained 100 percent recycled content. Given these numbers, being more sustainable may cost the City approximately 34 percent more. The SPP provides guidance on reasonable increases in price for buying more sustainably. Specifically, it defines a fiscally responsible price as "The cost factor or purchase price for recycled products, or for more environmentally responsible items, should be consistent with a suggested variance of 5% above the acquisition cost for similar or less environmentally responsible items." Our example above suggests that following the SPP's guidance to make exclusive purchases of 100 percent recycled paper may exceed the five percent price increase also suggested in the SPP. As such, purchasing 100 percent recycled paper may comply with the purchasing considerations of the SPP while simultaneously be incompliant with the cost factor part of the policy. Although the policy states that all purchases shall be handled in a fiscally responsible manner, it is not clear whether a sustainable purchase exceeding the policy's cost threshold complies with or is incompliant with the policy. Clearer instructions on which parts of the SPP take precedent over other parts may thus be beneficial for the City in evaluating whether or not to choose a sustainable purchase over a more cost-effective one.

To ensure the SPP accurately reflects the City's intent towards sustainable purchasing and to increase accountability, we recommend the Procurement Division work with the City Manager's Office to review and update the Sustainable Purchasing Policy. We also recommend the Procurement Division work with the City Manager's Office to develop a process for improving accountability with the Sustainable Purchasing Policy and to consider working with applicable City vendors to implement website controls that encourage more sustainable purchases.

RECOMMENDATIONS:

We recommend that the Procurement Division work with the City Manager's Office to:

24. Review and update the *Sustainable Purchasing Policy*.

25. Develop a process for improving accountability with the *Sustainable Purchasing Policy.*

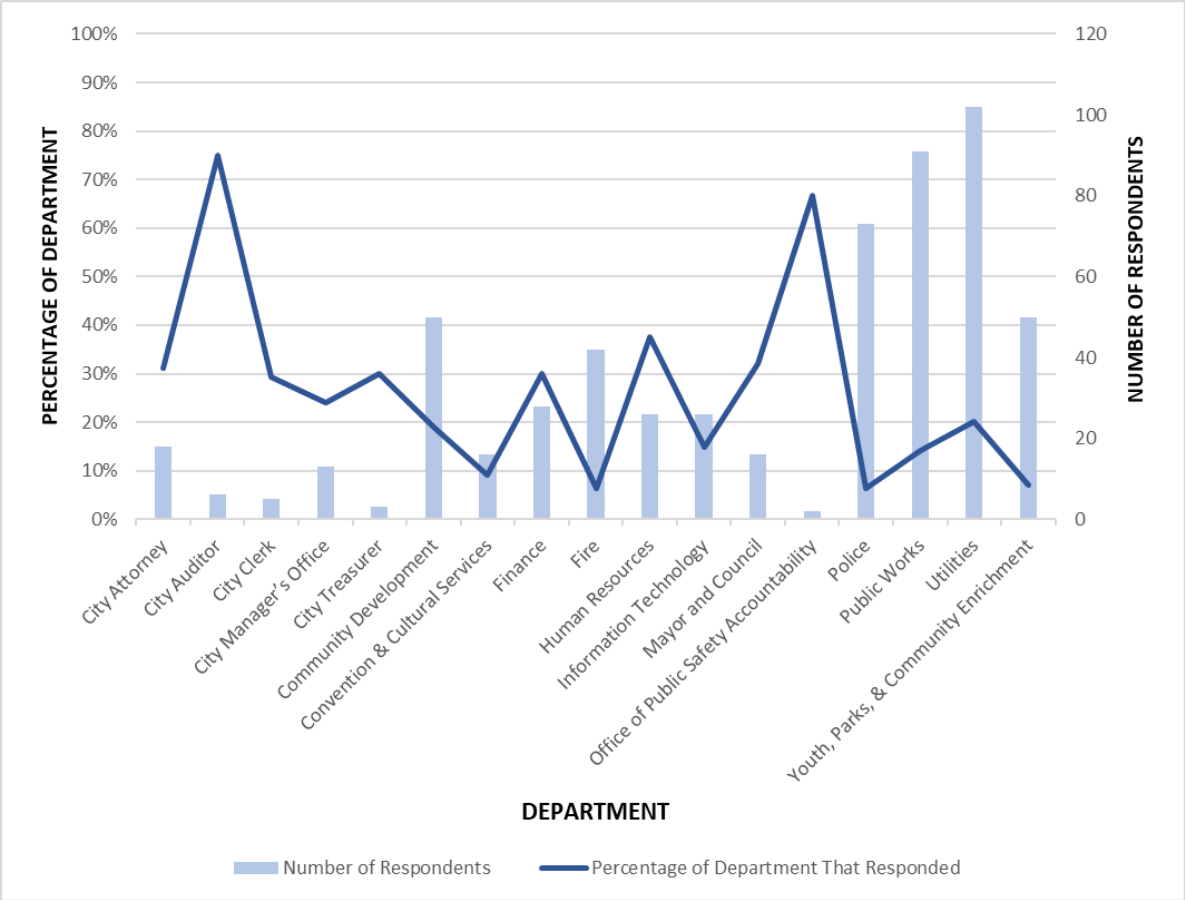
26. Consider working with applicable City vendors to implement website controls that encourage more sustainable purchases.

Appendix A: Citywide Green Efforts Survey

During the *Audit of the City's Green Efforts,* our office conducted an anonymous Citywide survey to understand how sustainability is incorporated into the City's culture and daily operations, and to both review and promote awareness of relevant City policies and procedures related to sustainability. The survey consisted of 33 total questions. Several survey questions were follow-up questions to a previously answered question; therefore, depending on the answers selected, survey respondents were not prompted to answer all 33 questions. In addition, some respondents did not respond to every prompted question. These blank respondents are not reported, and we note the total number of respondents for the respective question in each figure.

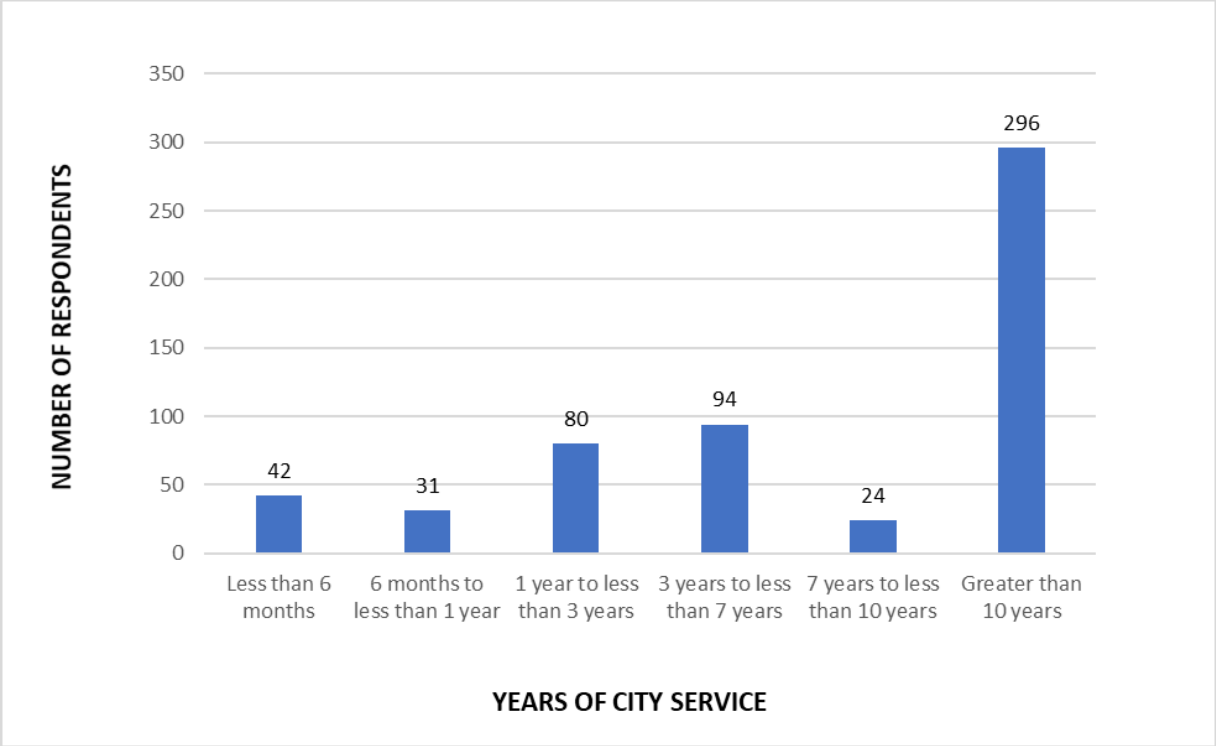
The first part of the survey covered the specific sustainability policies and plans that employees may be aware of, whether they refer to them during their daily line of work, and how they are made aware of new or updated policies and plans. The second part of the survey asked behavioral questions regarding energy conservation, paper usage, and sustainable purchasing practices. The survey was open to all City employees between September 30, 2019, and October 31, 2019. Employees were asked to self-identify which departments or offices they worked in and how long they have been employed with the City. The survey received 567 responses, which equates to approximately 12 percent of the City's employees as of January 2020.

Figure A-1: Number of Survey Respondents by Department and Percentage of Department that Responded to Survey



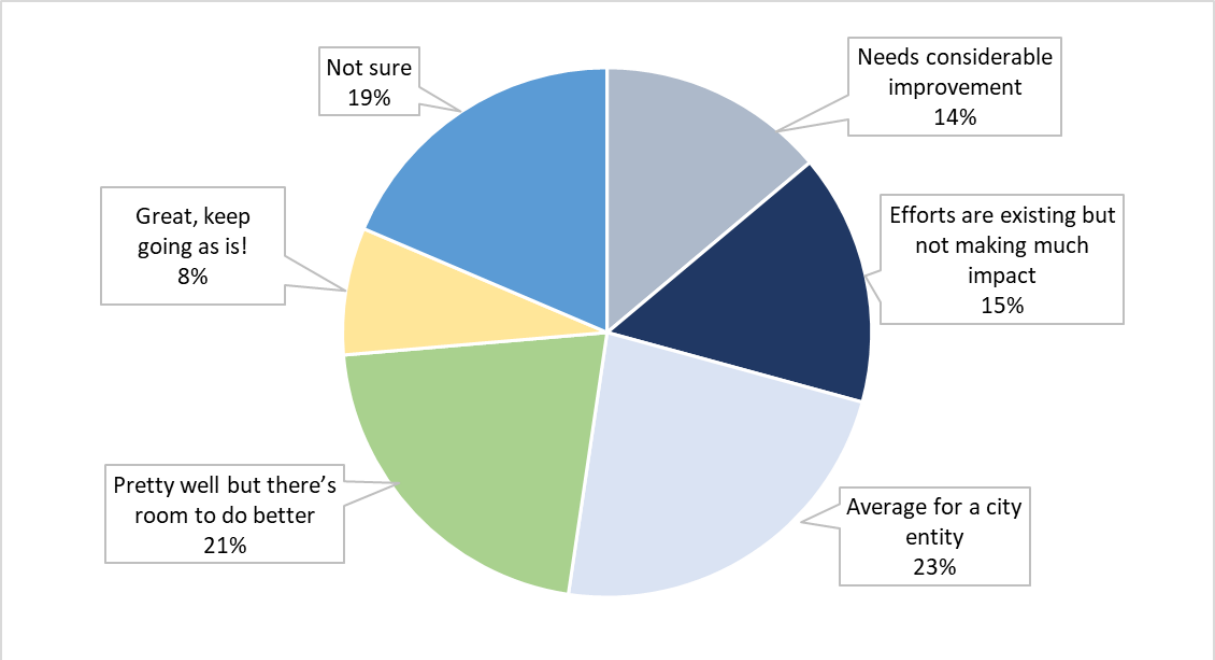
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 567 responses. The percentage of the department that responded to the survey uses the total number of employees per department as of January 16, 2020.

Figure A-2: How Long Have You Been with the City?



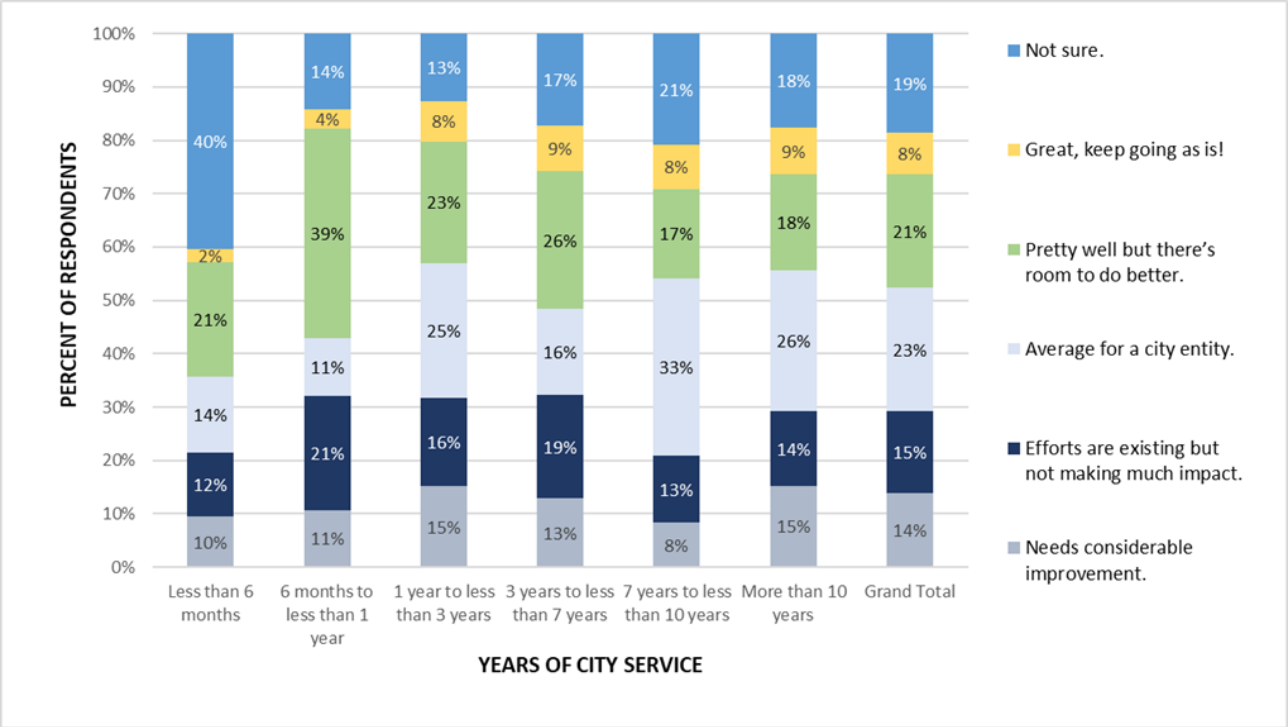
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 567 responses. This includes all positions the respondent has held.

Figure A-3: How Do You Think the City is Doing in Terms of its Sustainability Efforts?



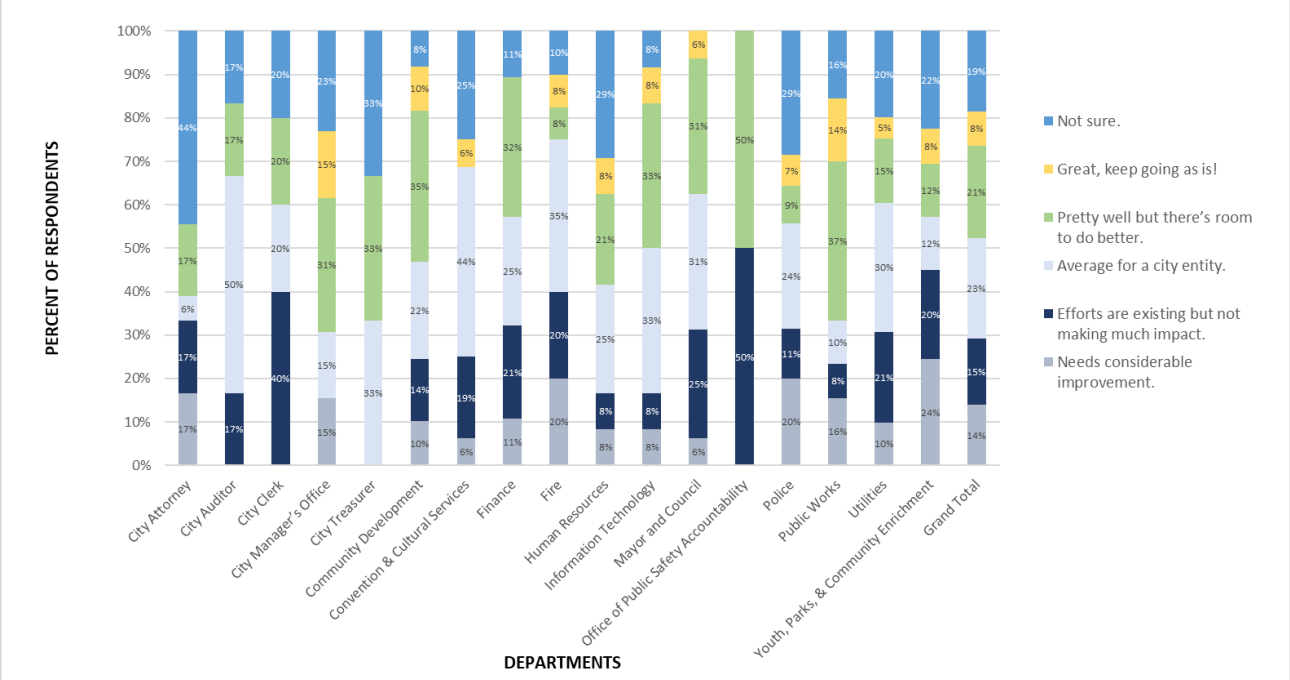
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 554 responses.

Figure A-4: How Do You Think the City is Doing in Terms of its Sustainability Efforts? (by Years of City Service)



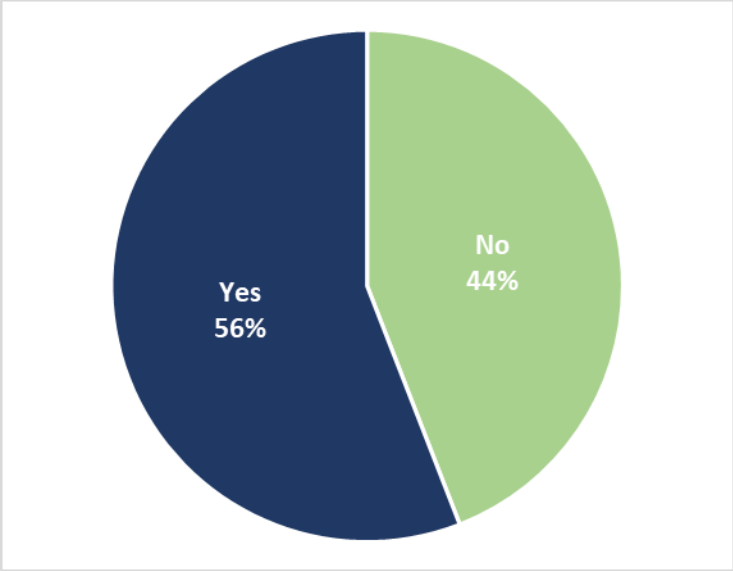
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 554 responses. Shows percentage of respondents out of the total respondents per year range.

Figure A-5: How Do You Think the City is Doing in Terms of its Sustainability Efforts? (by Department)



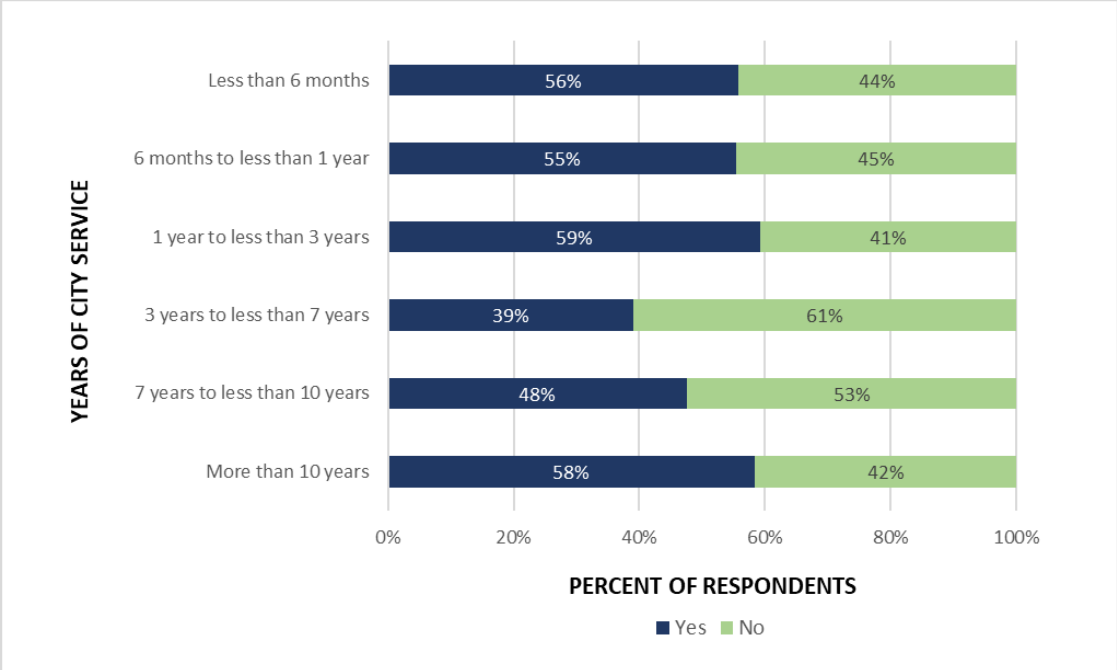
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 554 responses. Shows percentage of respondents out of the total respondents per department.

Figure A-6: Were You Aware of Any Citywide Policies, Procedures, or Plans Related to Energy Conservation, Water Conservation, Alternative Fuel Use, or Any Other Sustainable Operations Prior to Taking This Survey?



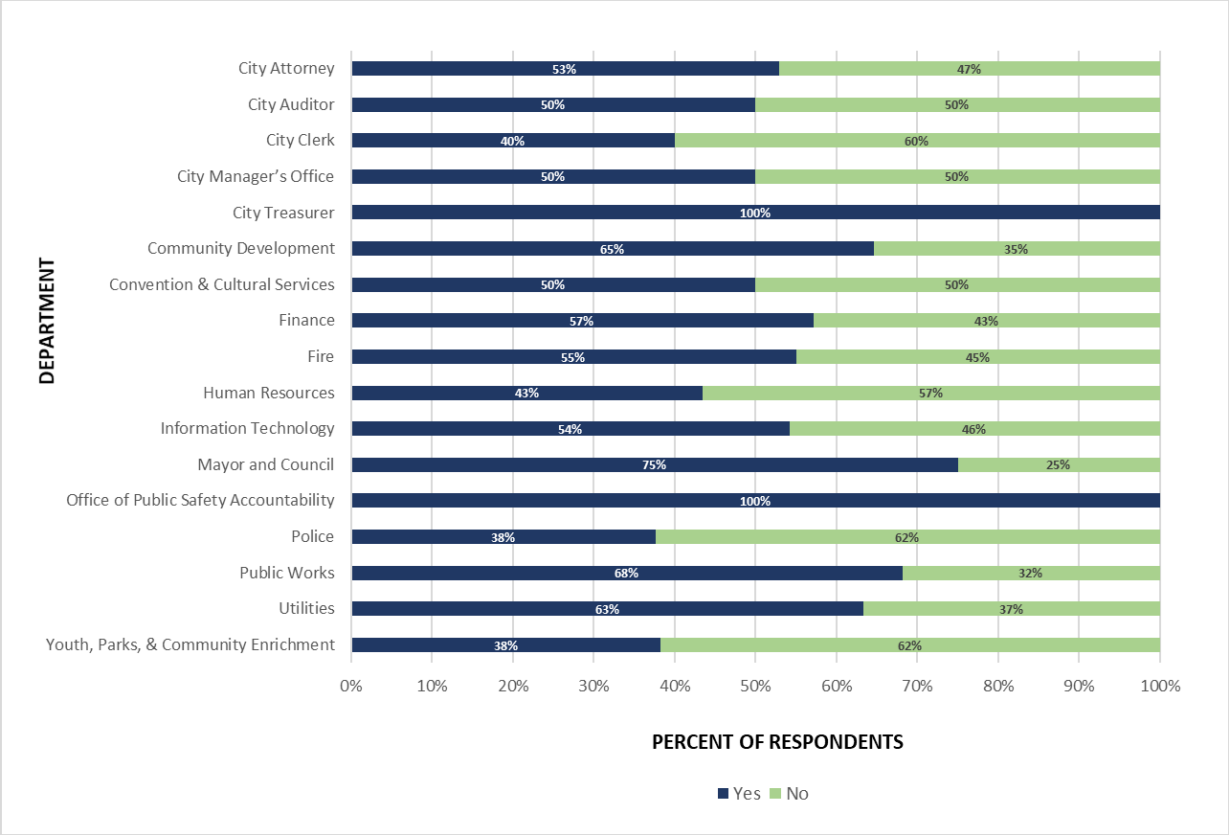
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 542 responses.

Figure A-7: Were You Aware of Any Citywide Policies, Procedures, or Plans Related to Energy Conservation, Water Conservation, Alternative Fuel Use, or Any Other Sustainable Operations Prior to Taking This Survey? (by Years of City Service)



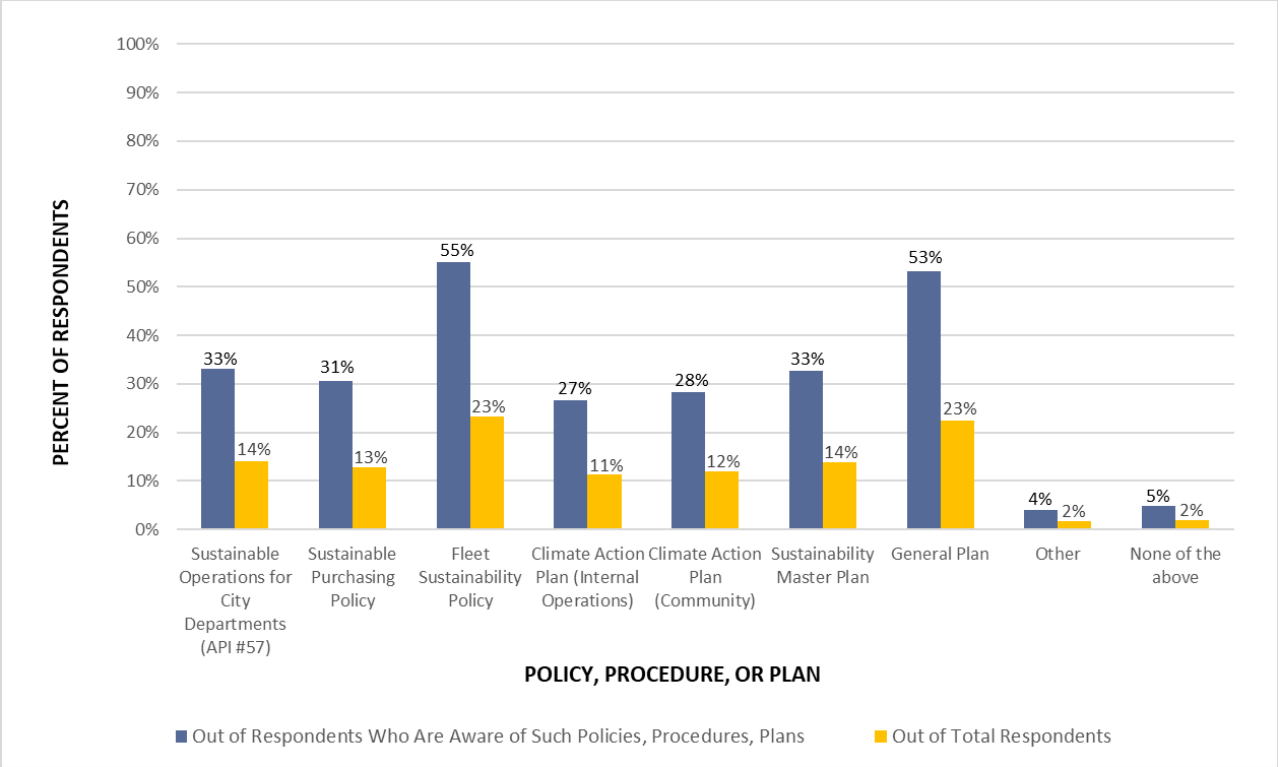
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 542 responses. Shows percentage of respondents out of the total respondents per year range.

Figure A-8: Were You Aware of Any Citywide Policies, Procedures, or Plans Related to Energy Conservation, Water Conservation, Alternative Fuel Use, or Any Other Sustainable Operations Prior to Taking This Survey? (by Department)



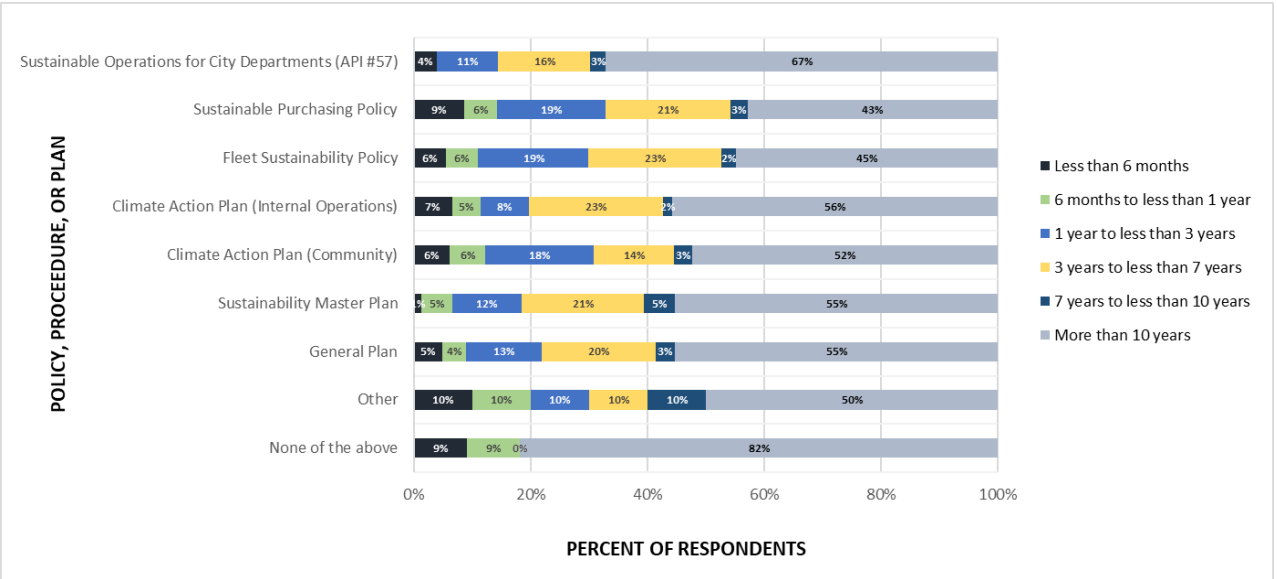
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 542 responses. Shows percentage of respondents out of the total respondents per department. Also note that the City Treasurer's Office and the Office of Public of Safety Accountability each had only two total responses for this question, all of which were "Yes."

Figure A-9: Which Citywide Policies, Procedures, or Plans Are You Aware Of?



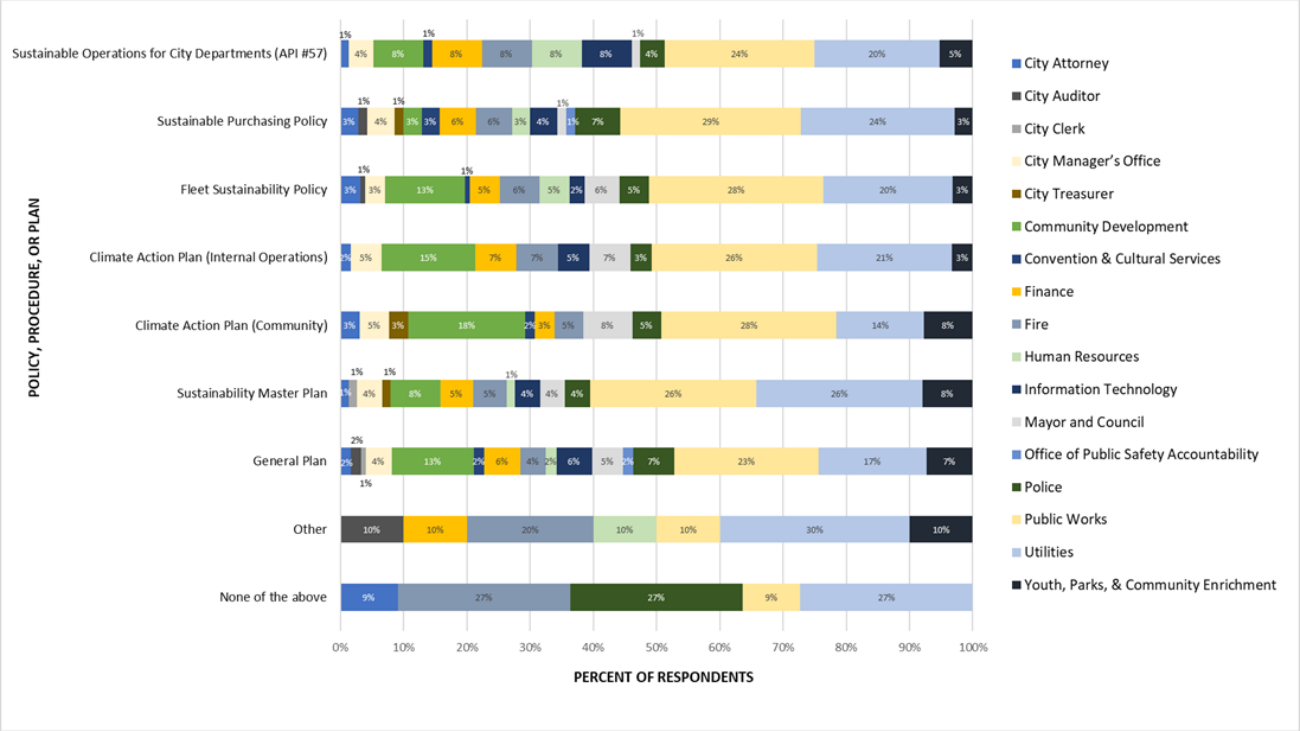
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 229 respondents who stated that they were aware of sustainability policies, procedures, and plans and 542 total responses. This question asked respondents to check all that applied.

Figure A-10: Which Citywide Policies, Procedures, or Plans Are You Aware Of? (by Years of City Service)



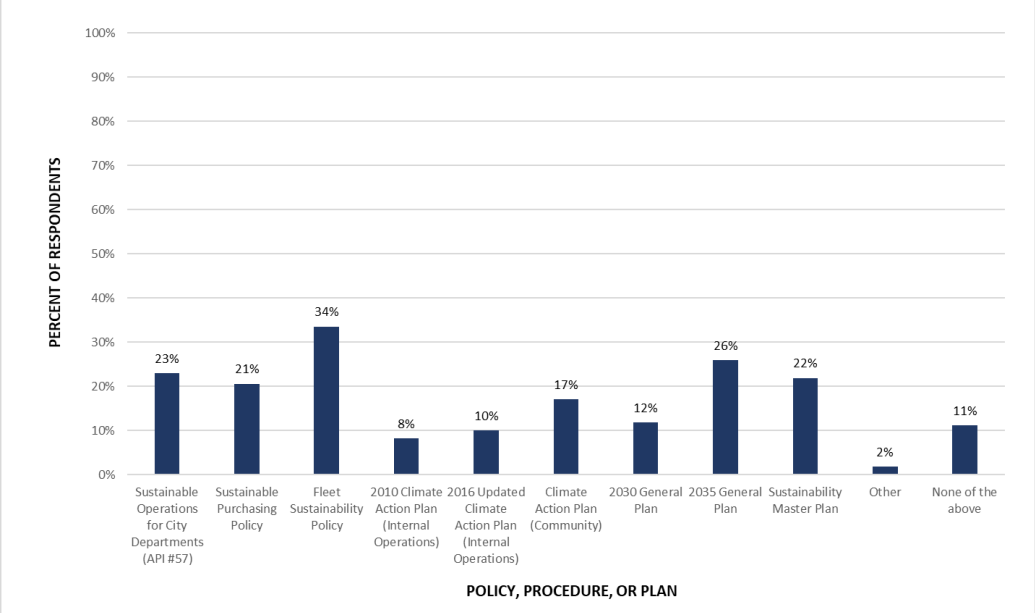
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 229 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-11: Which Citywide Policies, Procedures, or Plans Are You Aware Of? (by Department)



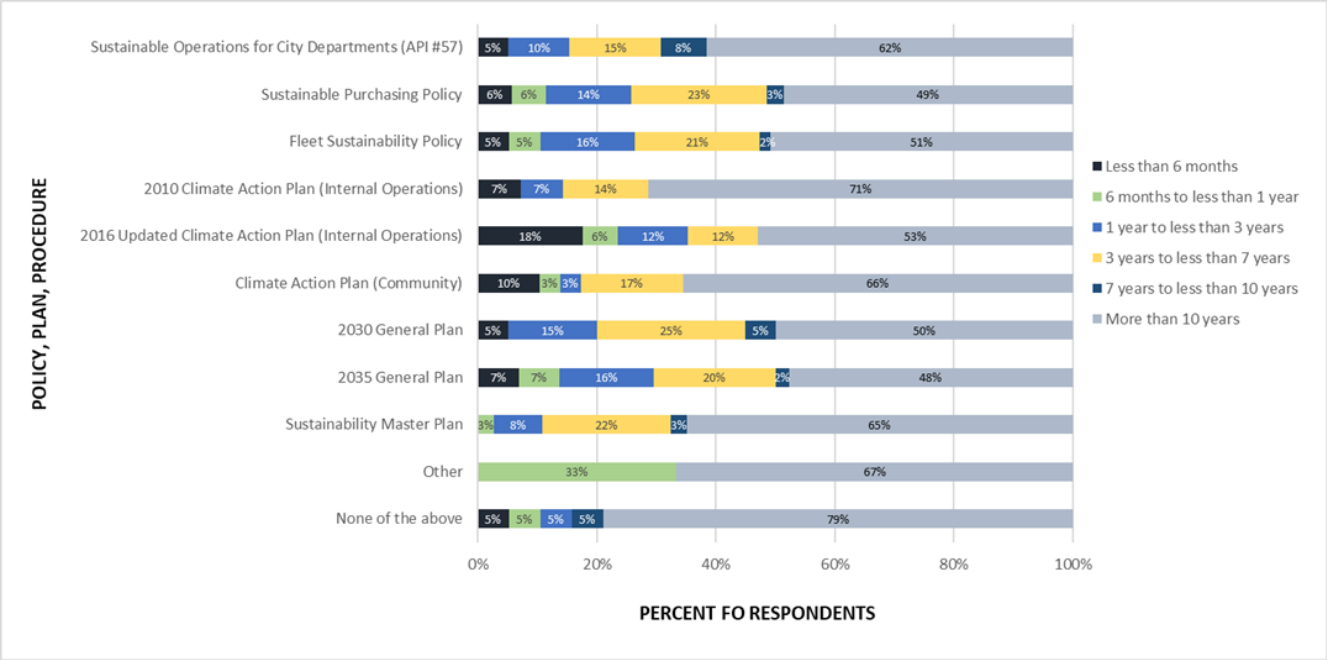
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 229 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-12: Which Citywide Policies, Procedures, or Plans Are You Currently Referring To in Your Daily Line of Work or for Administrative Operations?



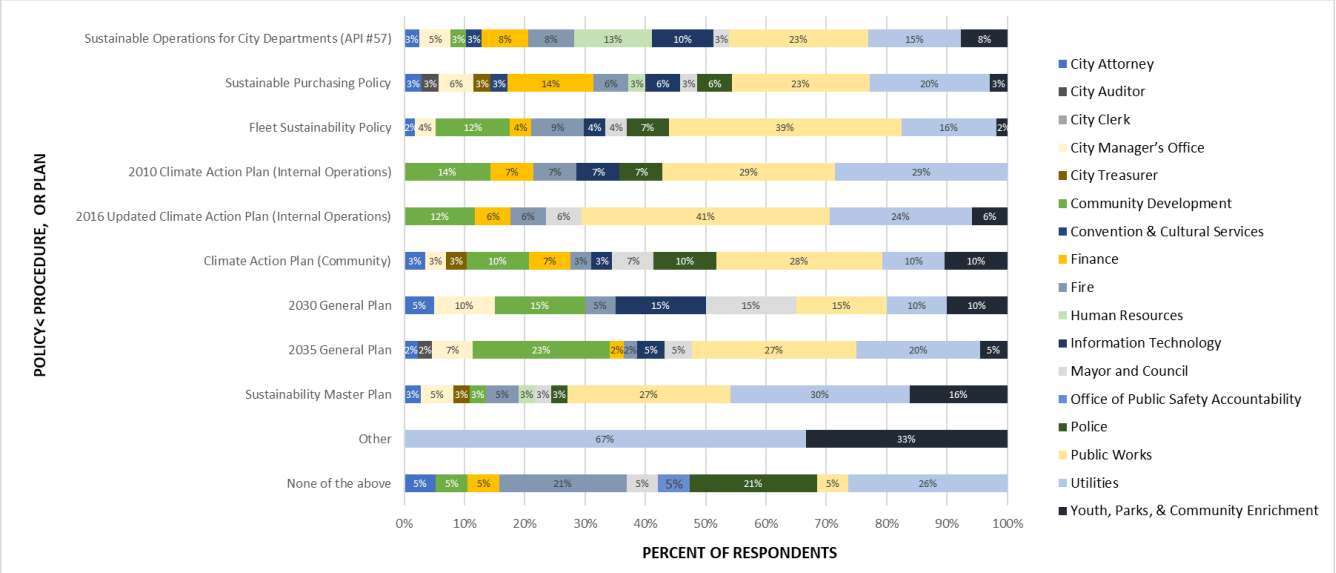
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 170 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-13: Which Citywide Policies, Procedures, or Plans Are You Currently Referring To in Your Daily Line of Work or for Administrative Operations? (by Years of City Service)



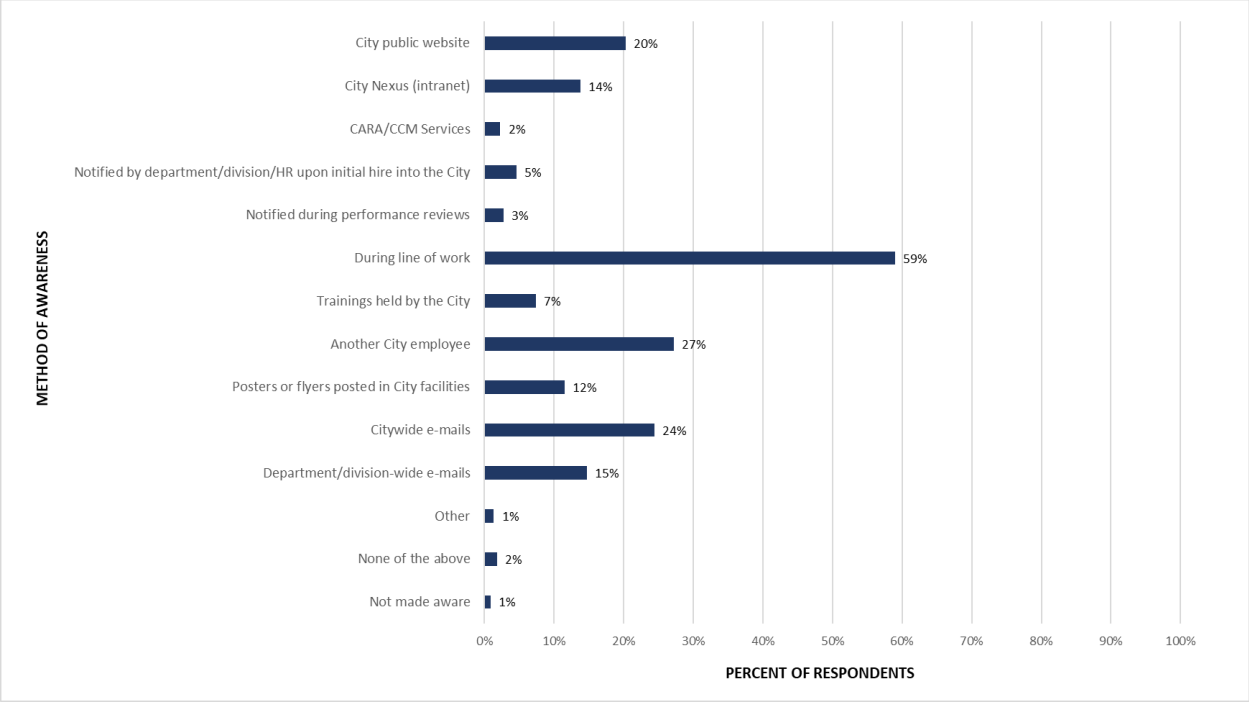
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 170 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-14: Which Citywide Policies, Procedures, or Plans Are You Currently Referring To in Your Daily Line of Work or for Administrative Operations? (by Department)



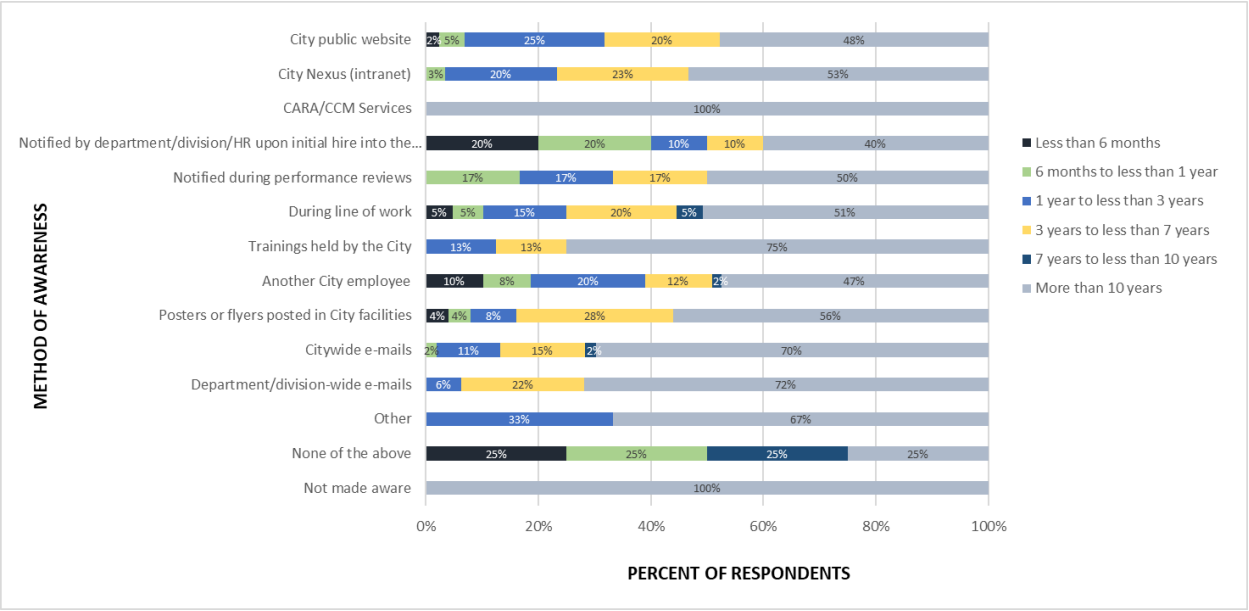
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 170 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-15: How Were You Made Aware of These Policies, Procedures, or Plans?



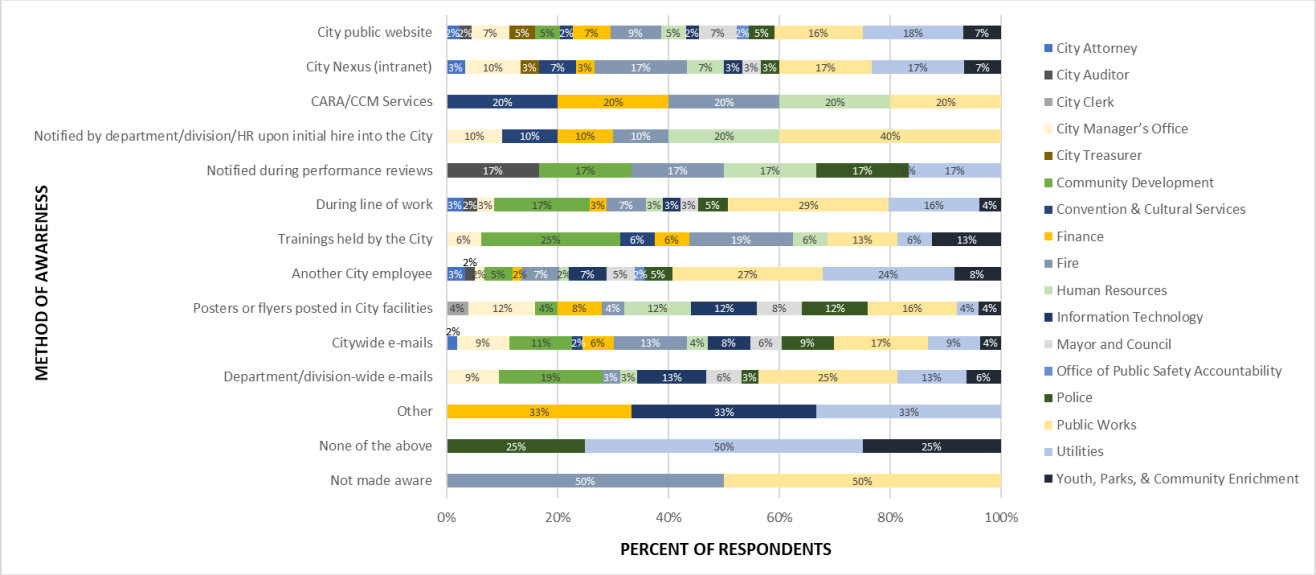
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 217 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-16: How Were You Made Aware of These Policies, Procedures, or Plans? (by Years of City Service)



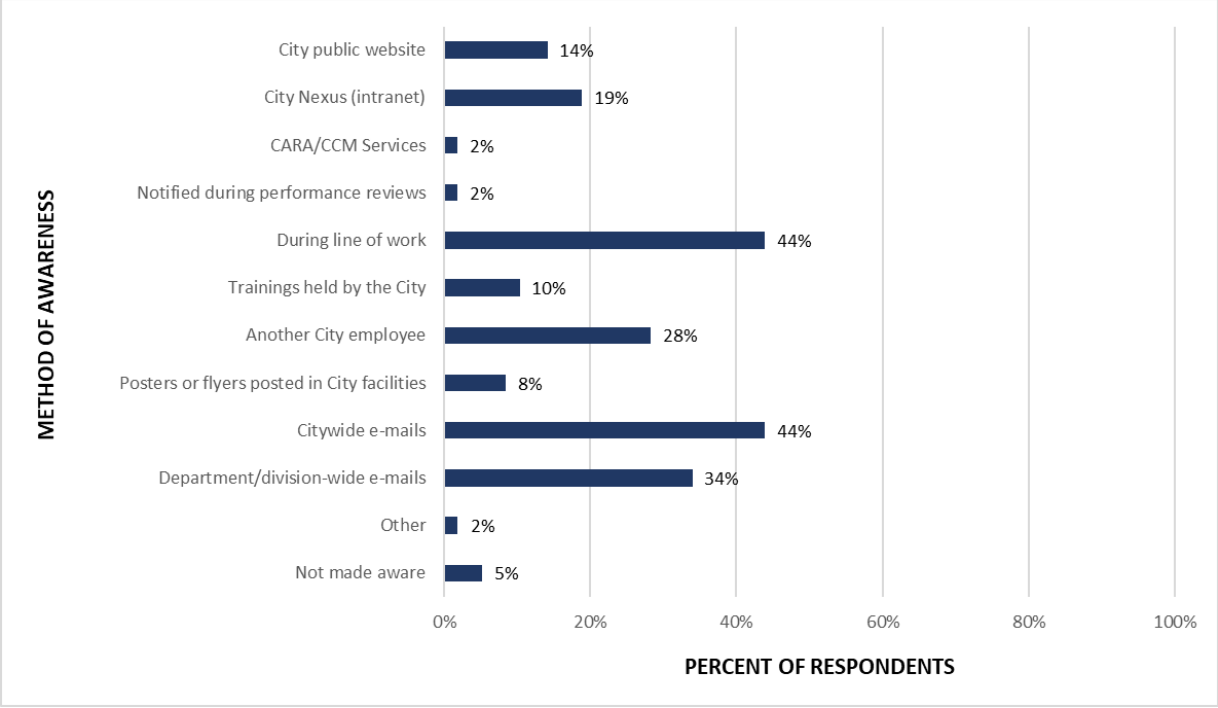
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 217 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-17: How Were You Made Aware of These Policies, Procedures, or Plans? (by Department)



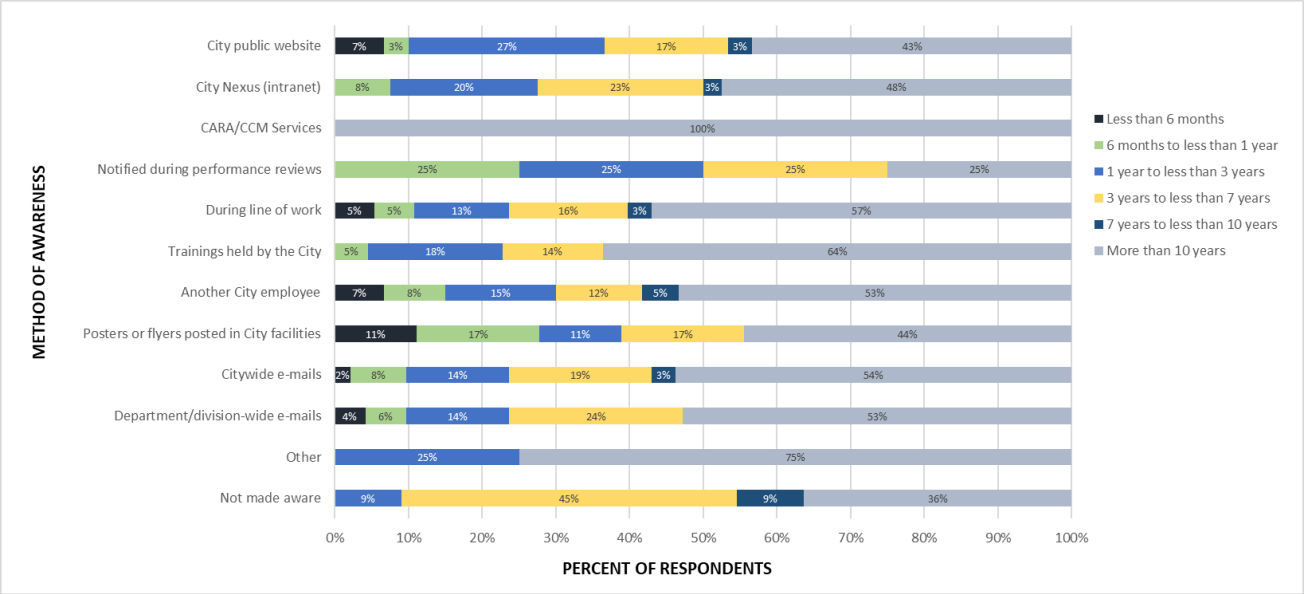
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 217 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question asked respondents to check all that applied.

Figure A-18: How Respondents Are Made Aware of Changes to, Removal of, Currently Active Citywide Policies, Procedures, or Plans



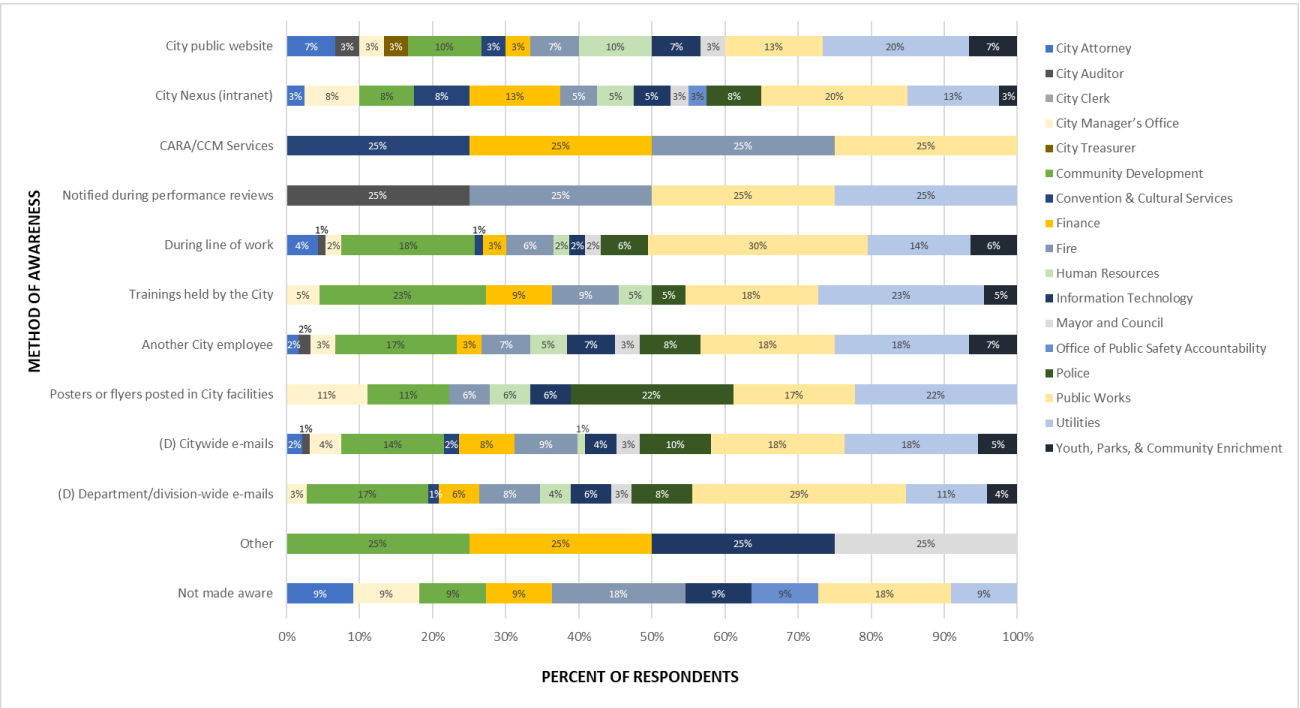
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 212 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question allowed respondents to check all that applied.

Figure A-19: How Respondents Are Made Aware of Changes to, Removal of, Currently Active Citywide Policies, Procedures, or Plans by Years of City Service



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 212 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question allowed respondents to check all that applied.

Figure A-20: How Respondents Are Made Aware of Changes to, Removal of, Currently Active Citywide Policies, Procedures, or Plans by Department



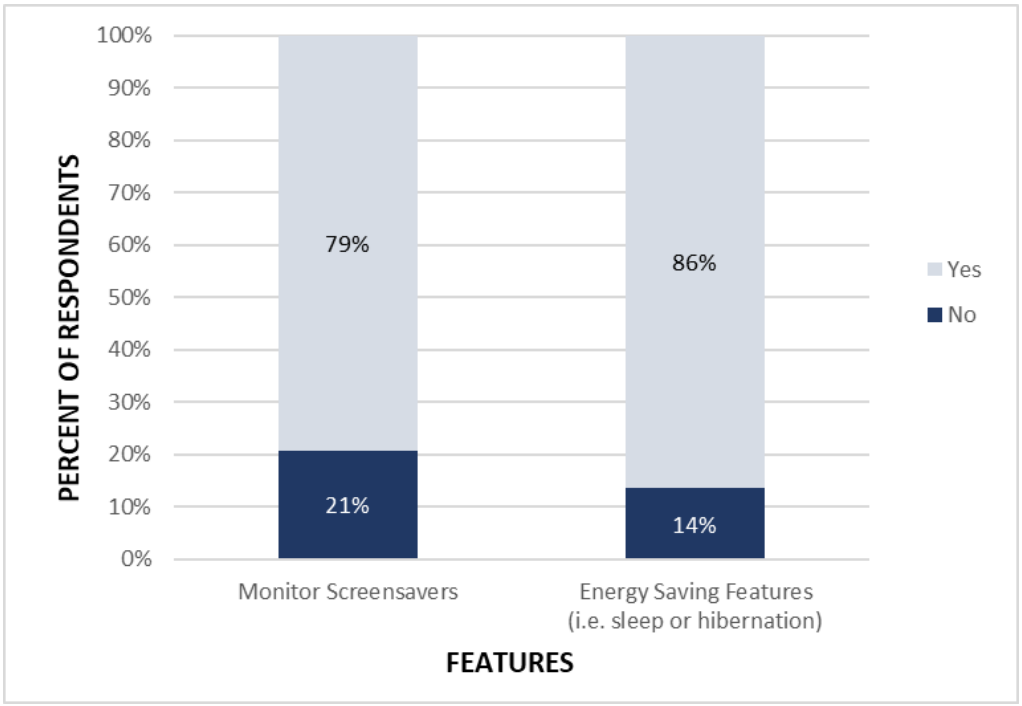
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 212 respondents who stated that they were aware of sustainability policies, procedures, and plans. This question allowed respondents to check all that applied.

Figure A-21: How Frequently Respondents Turn Off the Following When Not In Use or When They Leave the Room for a Significant Amount of Time in Their Usual Work Environment

FREQUENCY	LIGHTS (OVERHEAD AND LAMPS)	COMPUTERS	MONITORS	OFFICE EQUIPMENT e.g. PRINTERS, SCANNERS, COPIERS, FAX MACHINES	VEHICLE OR OTHER FLEET EQUIPMENT
Always	34%	35%	30%	9%	35%
Most times but may occasionally forget	21%	17%	17%	5%	2%
About half the time	6%	10%	9%	2%	2%
Once in a while, but only if I explicitly remember	6%	7%	6%	3%	0%
Never	9%	26%	32%	38%	5%
Not applicable because I have no control over this item	18%	4%	4%	33%	14%
Not applicable because my work environment does not include this item	5%	1%	2%	9%	42%

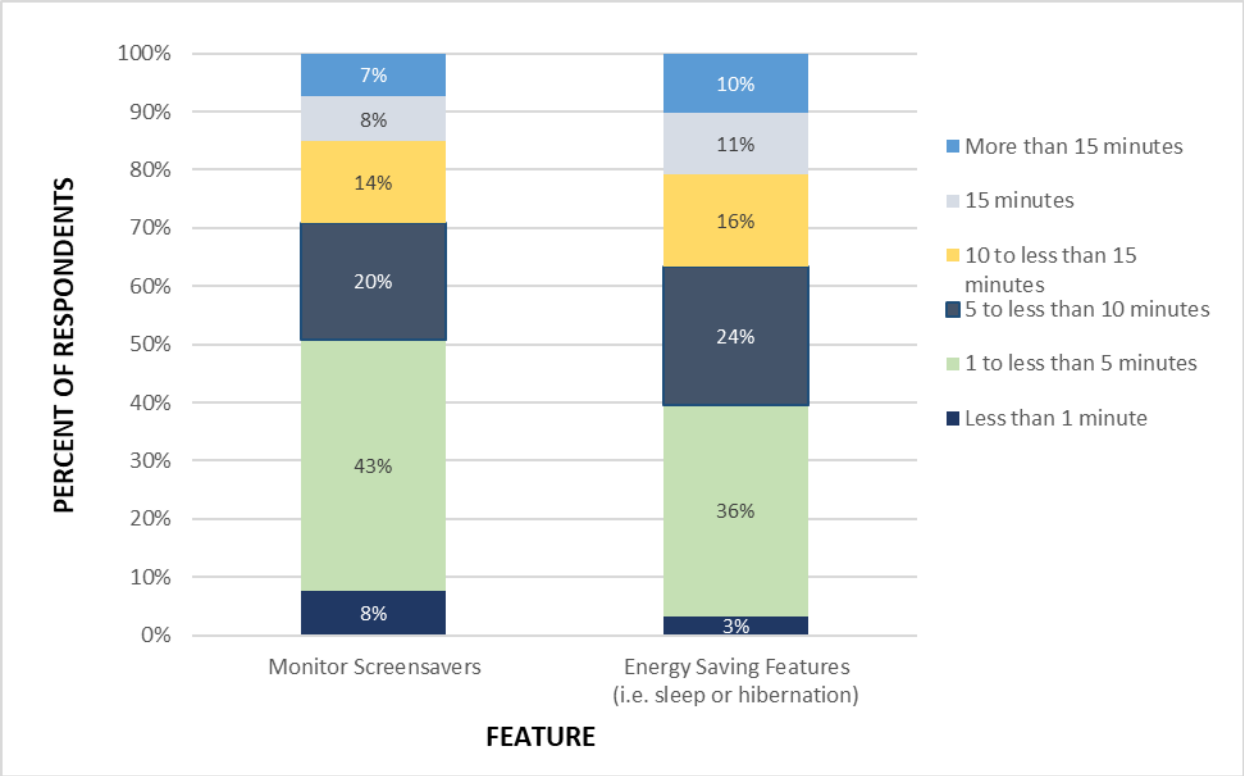
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Percentages are out of the total per column, which ranges between 435 and 450 responses.

Figure A-22: Are Screensavers Activated on Your Monitors? Are Energy-Saving Features (i.e. Sleep or Hibernation Modes, etc) Activated on Your Computers?



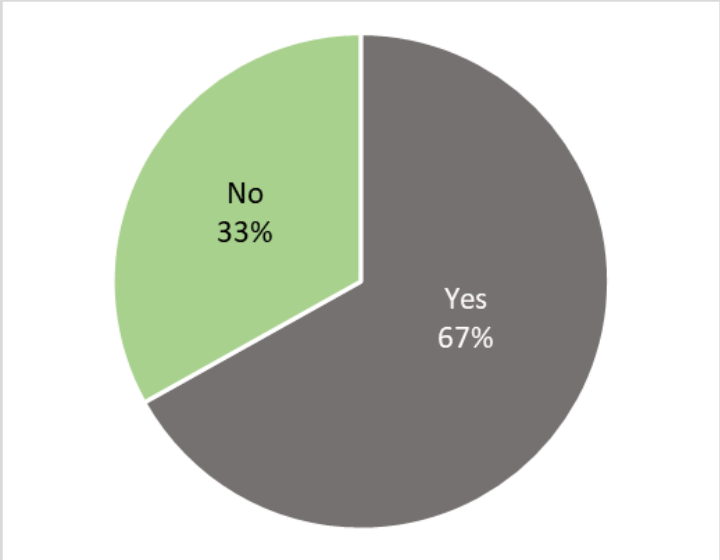
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 452 responses for monitor screensavers and 443 responses for energy saving features.

Figure A-23: How Long Are Your Screensavers Left On For Before a Power-Saving Mode is Activated? After How Many Minutes Are These Energy-Saving Features Activated?



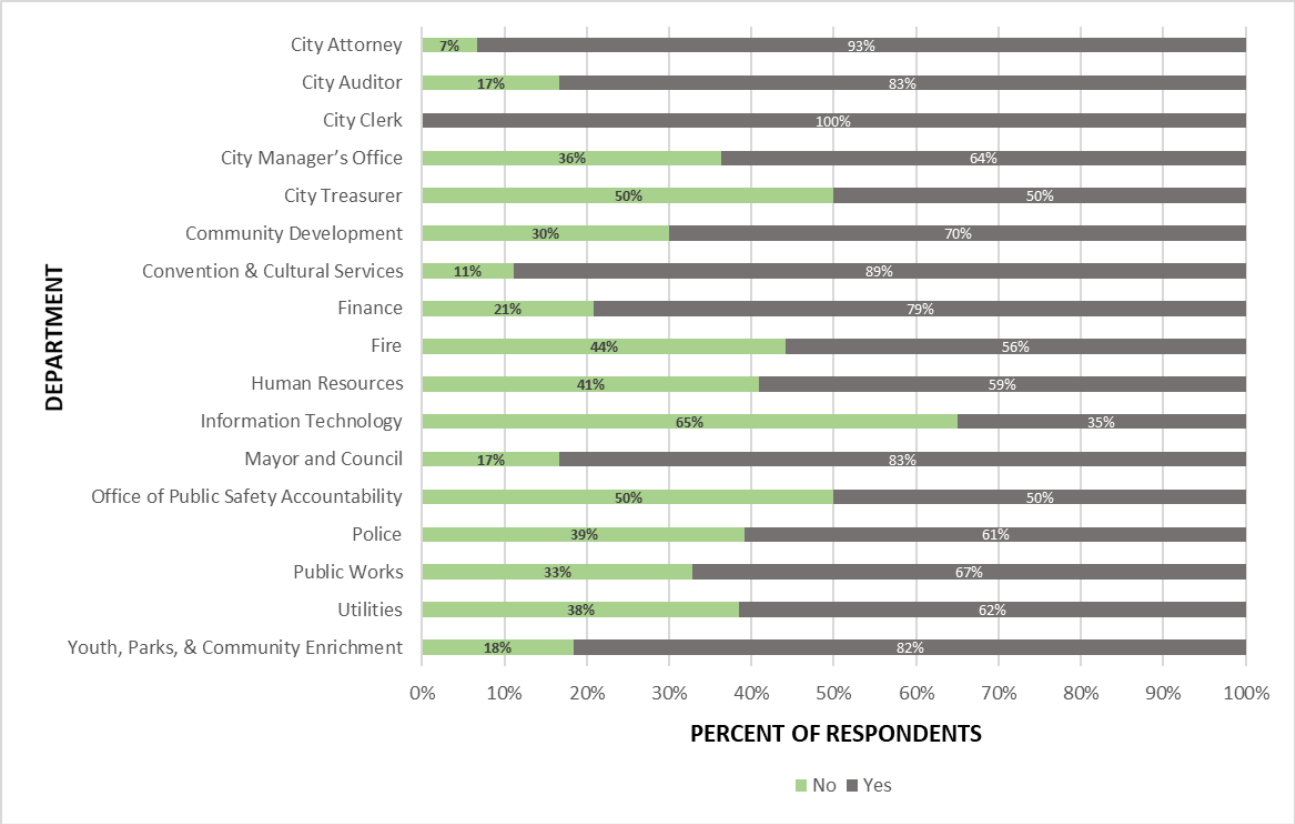
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on respondents who have these features activated. More specifically, this was generated based on 351 responses for monitor screensavers and 379 responses for energy saving features.

Figure A-24: Do You Distribute Documents or Disseminate Information Using Paper Copies?



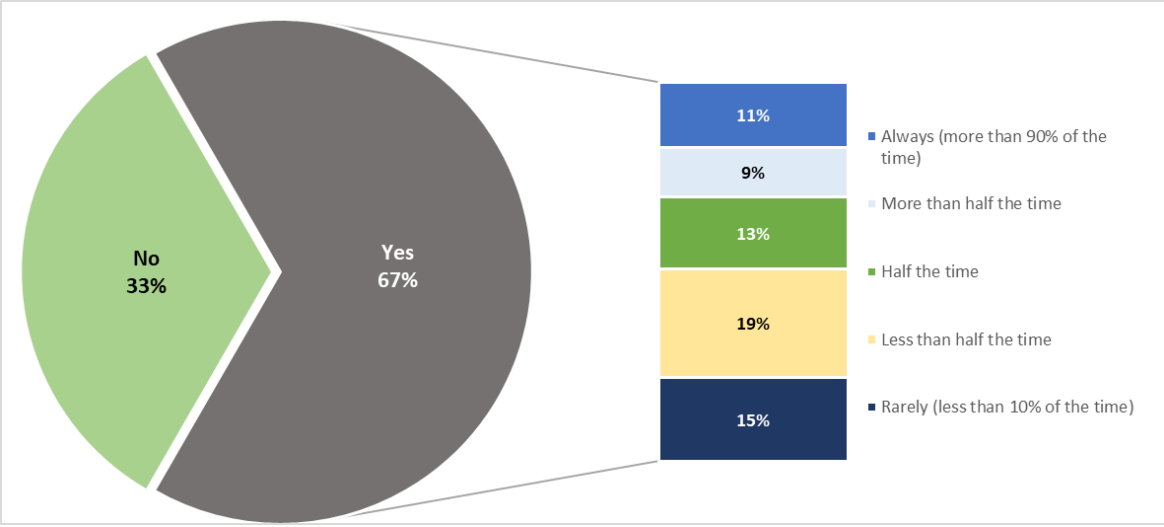
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 438 responses.

Figure A-25: Do You Distribute Documents or Disseminate Information Using Paper Copies? (by Department)



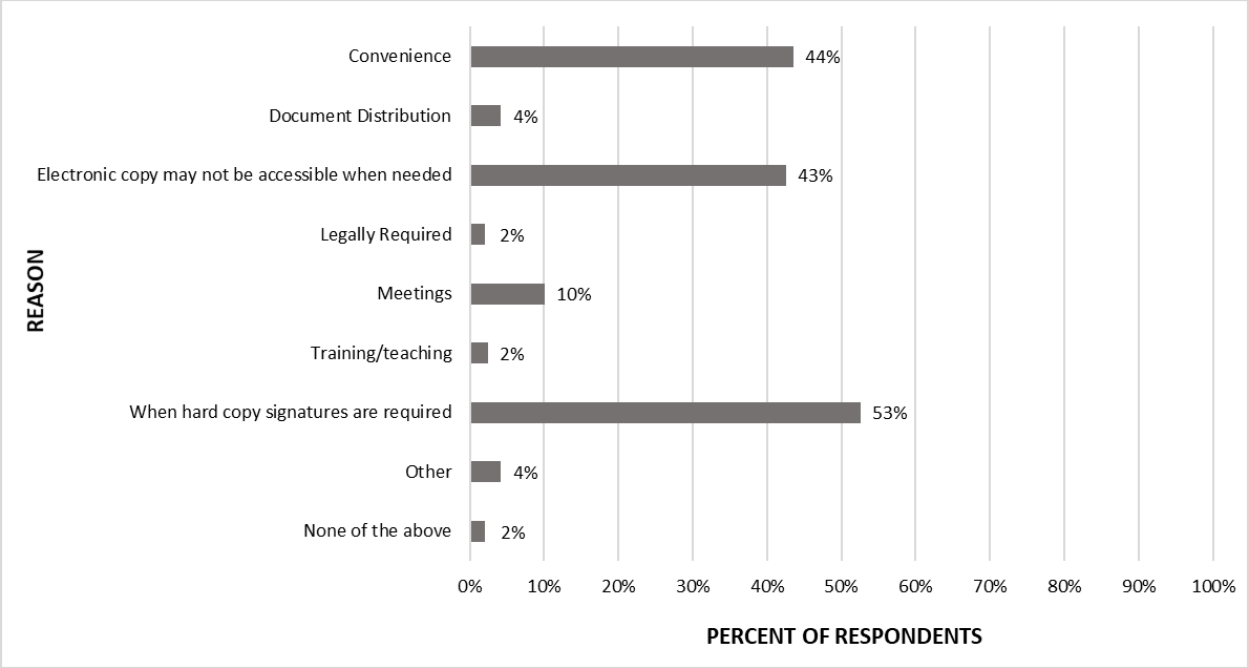
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 438 responses. Percentages are also out of 438 responses.

Figure A-26: How Often Do You Distribute Documents or Disseminate Information Using Paper Copies?



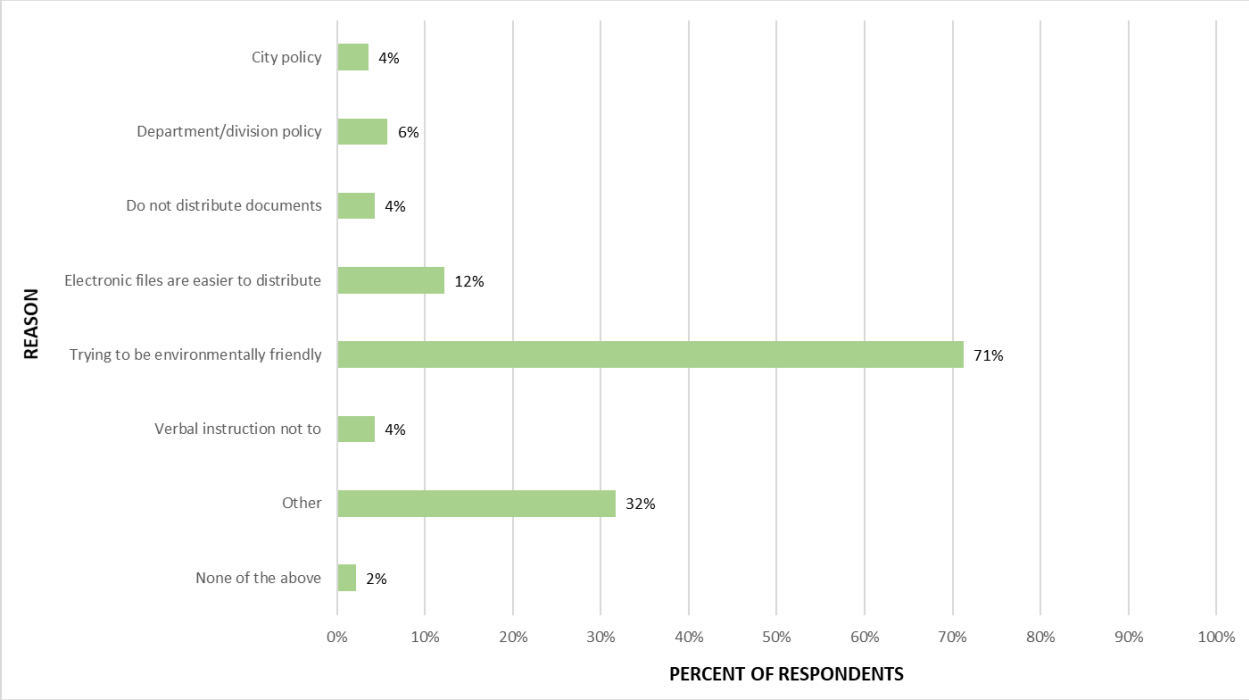
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 438 responses. All percentages are out of 438 responses.

Figure A-27: What is the Reason for Distributing Paper Copies Instead of an Electronic Copy?



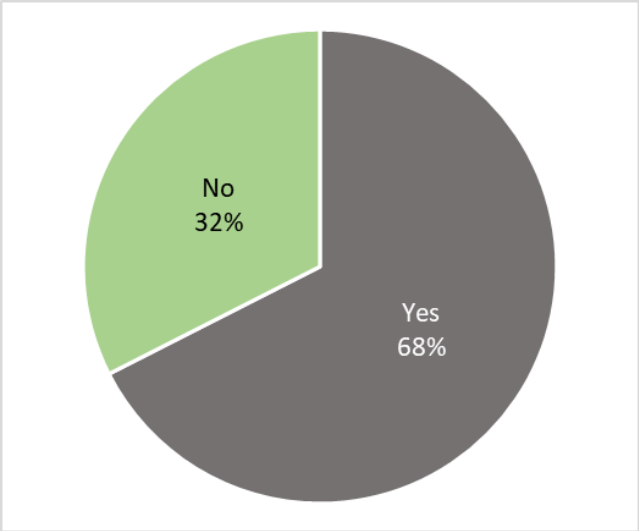
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 287 respondents who distributed documents or disseminated information using paper copies. This question asked respondents to check all that applied.

Figure A-28: Why Do You Not Distribute Documents or Disseminate Information Using Paper Copies?



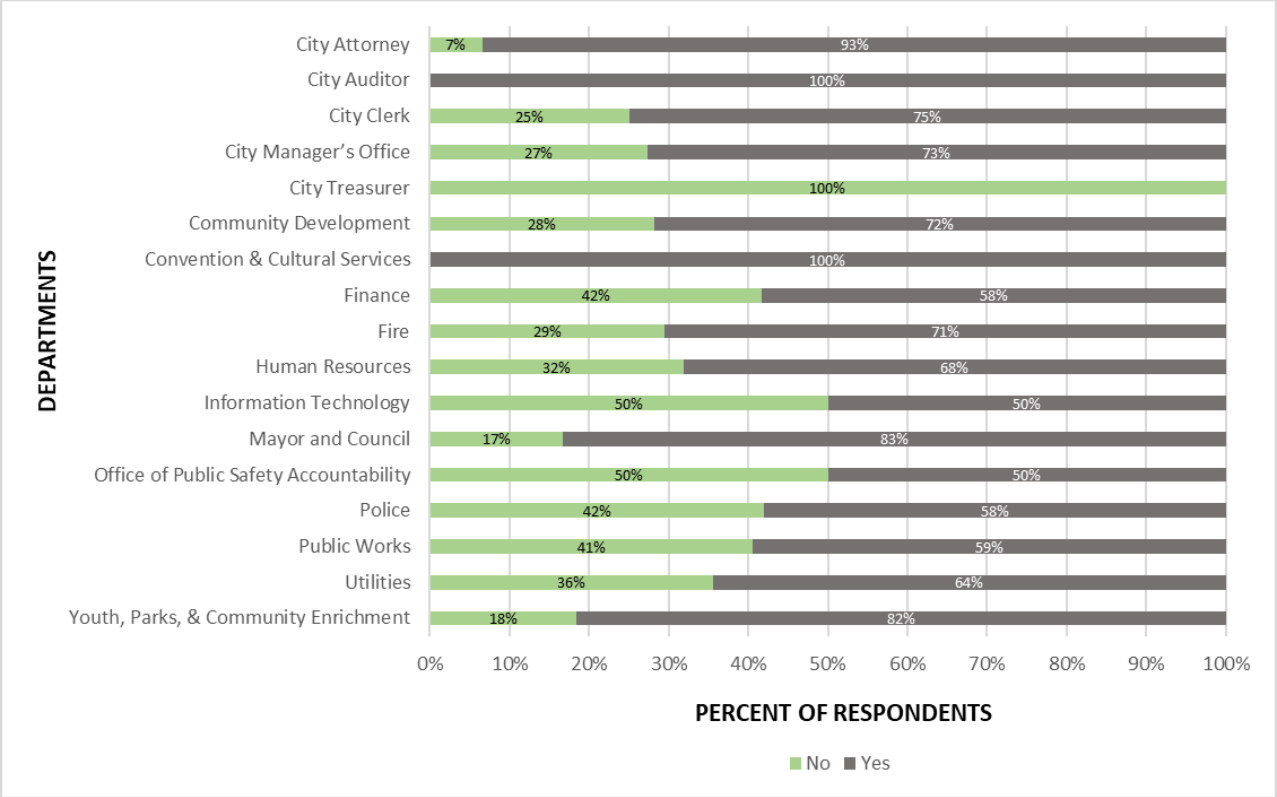
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 139 respondents who did not distribute documents or disseminate information using paper copies. This question asked respondents to check all that applied.

Figure A-29: Do You Print Documents That Are Either Available Electronically or Already Stored Electronically?



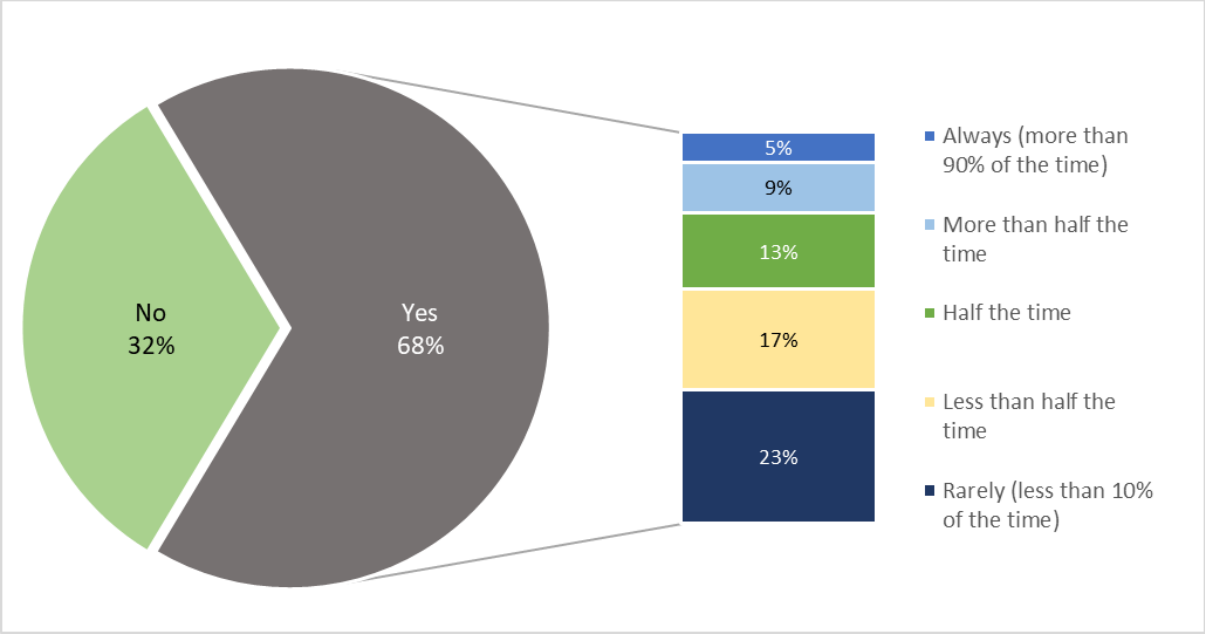
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 431 responses.

Figure A-30: Do You Print Documents That Are Either Available Electronically or Already Stored Electronically? (by Department)



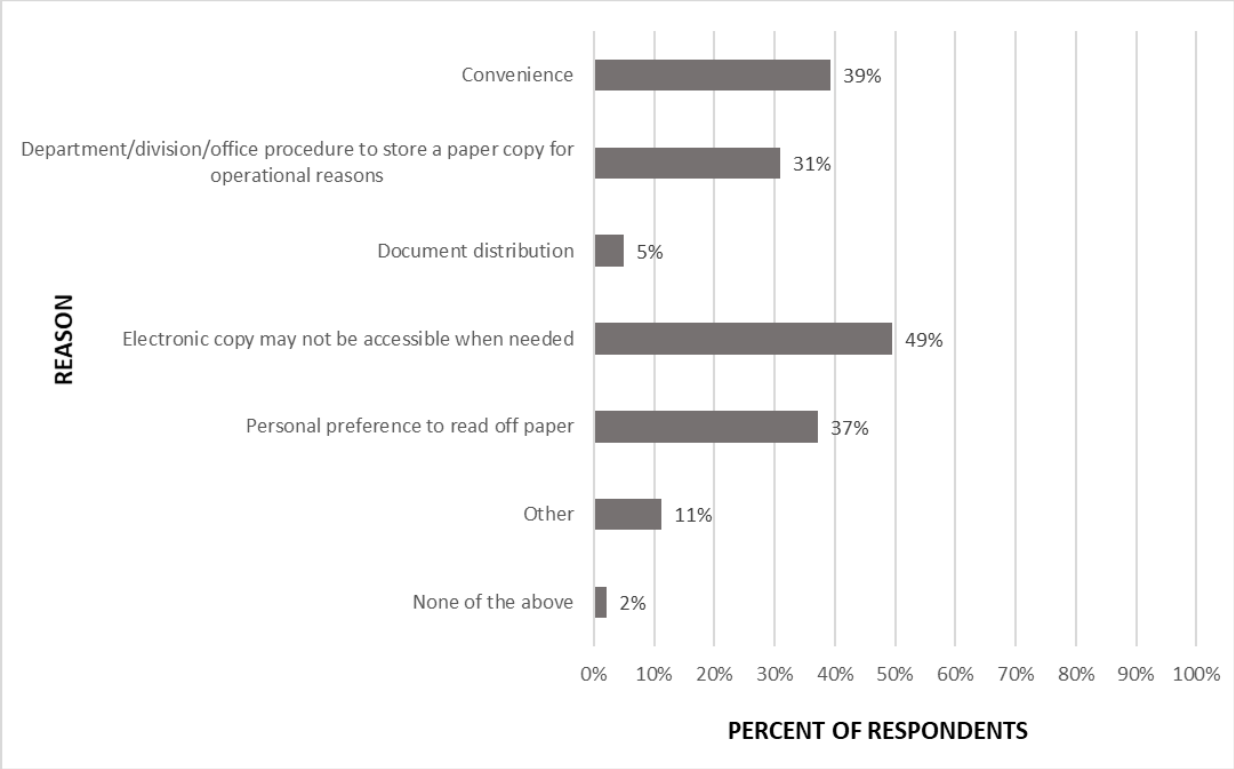
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 431 responses.

Figure A-31: How Often Do You Print Hard Copies Instead of Using the Electronic Version?



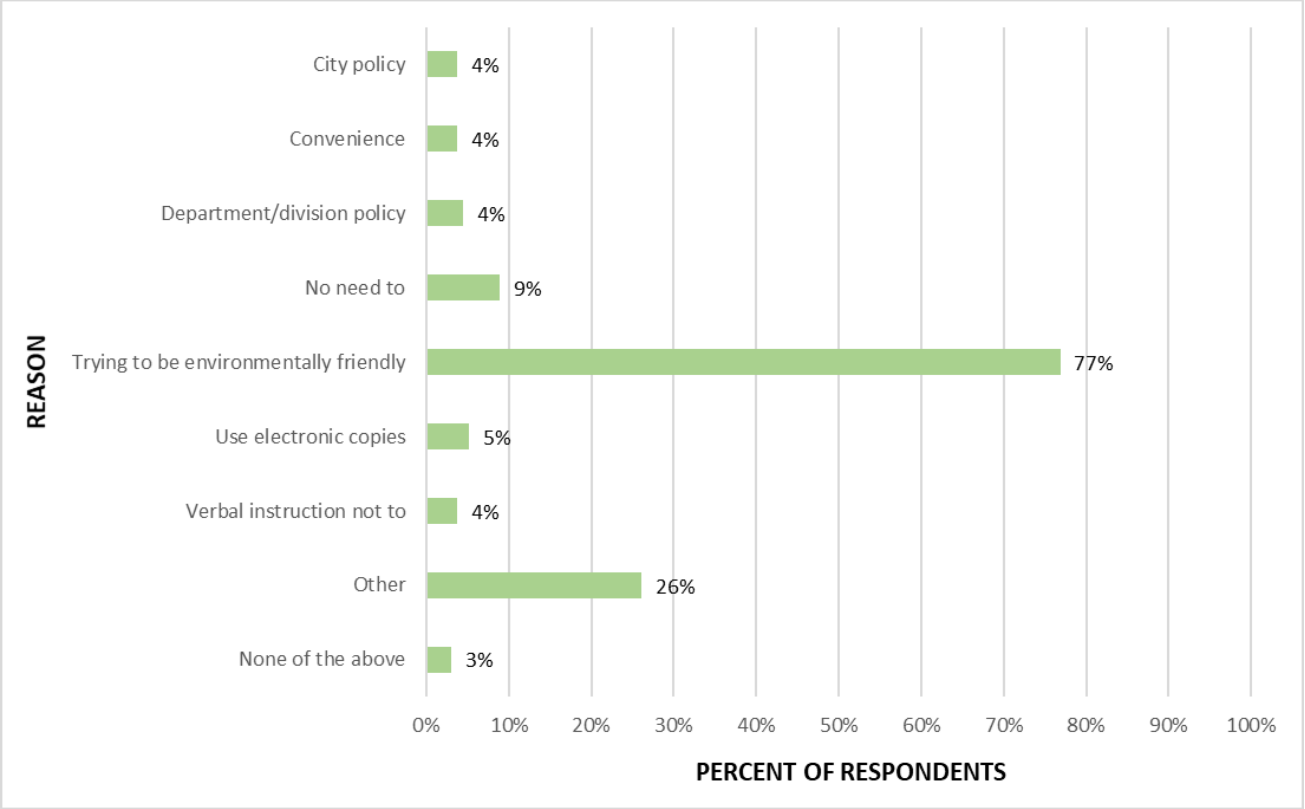
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 431 responses. All percentages are out of 431 responses

Figure A-32: What is the Reason for Printing Hard Copies Instead of Using the Electronic Version?



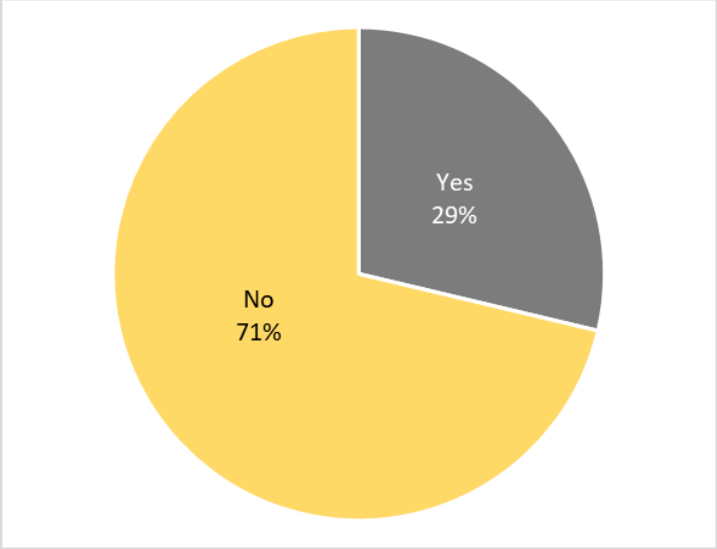
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 285 respondents who printed documents that are either available electronically or already stored electronically. This question asked respondents to check all that applied.

Figure A-33: Why Do You Not Print Hard Copies?



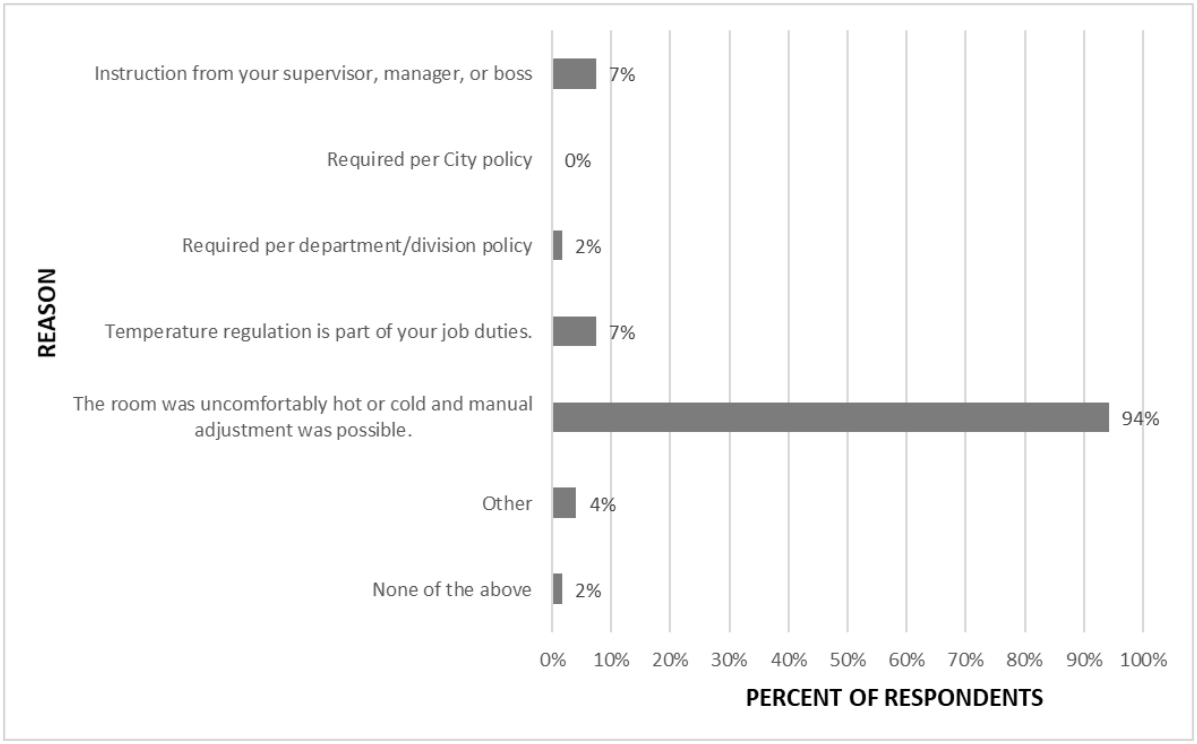
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 134 respondents who do not print documents that are either available electronically or already stored electronically. This question asked respondents to check all that applied.

Figure A-34: Have You Ever Manually Adjusted the Temperature in a City Facility or Building, Whether in Your Specific Office or for the Entire Building?



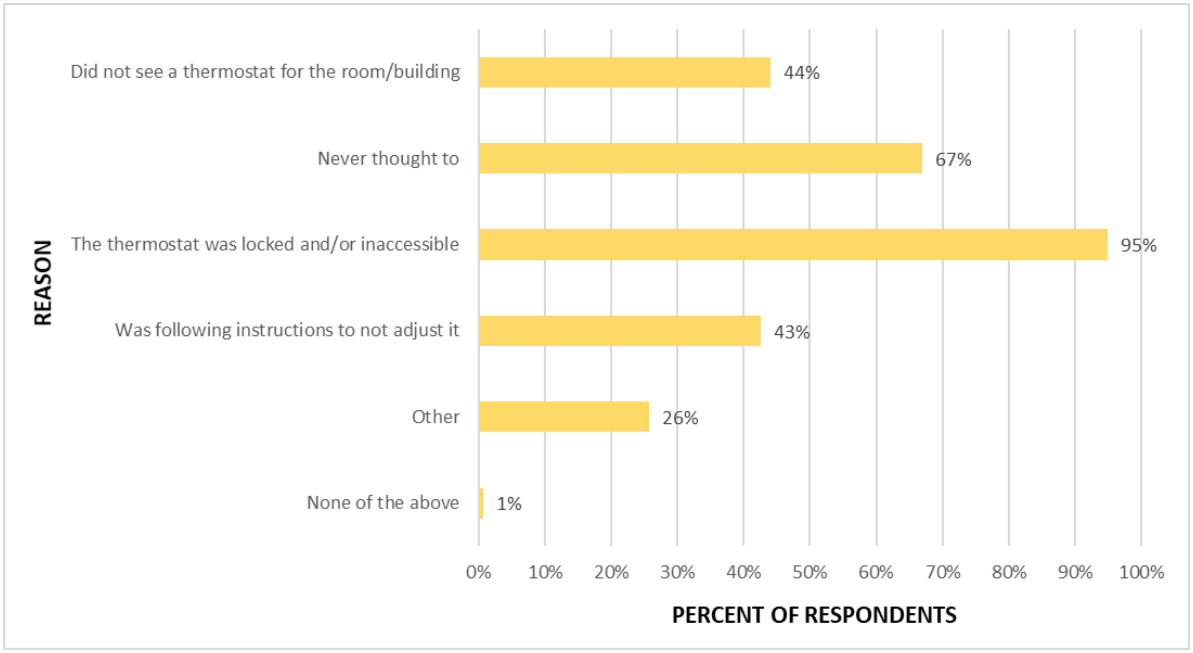
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 425 responses.

Figure A-35: What is the Reason for Manually Adjusting the Temperature?



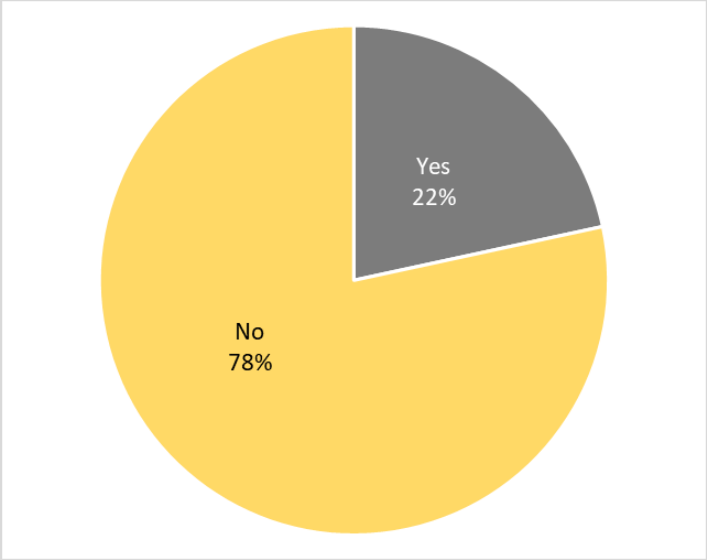
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 122 respondents who have manually adjusted the temperature in a City building or facility. This question asked respondents to check all that applied.

Figure A-36: Is There a Reason for Not Adjusting the Temperature?



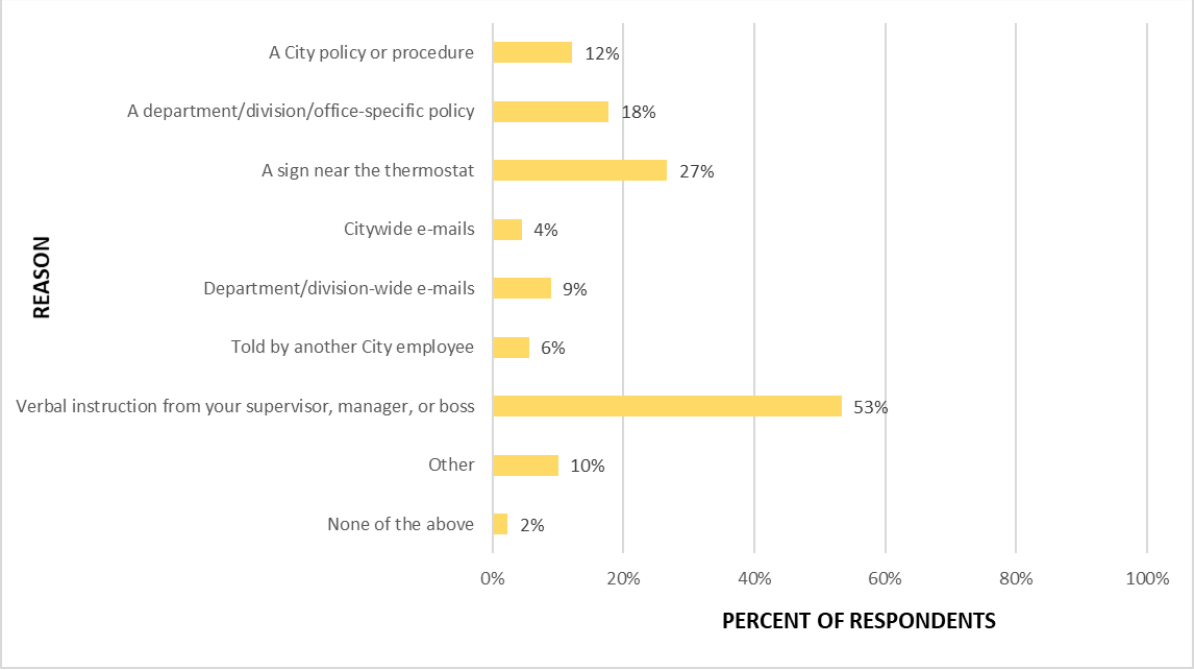
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 136 respondents who have not manually adjusted the temperature in a City building or facility. This question asked respondents to check all that applied.

Figure A-37: Have You Ever Been Instructed to Refrain from Adjusting Temperature Settings in a City Facility or Building, Whether in Your Specific Office or for the Entire Building?



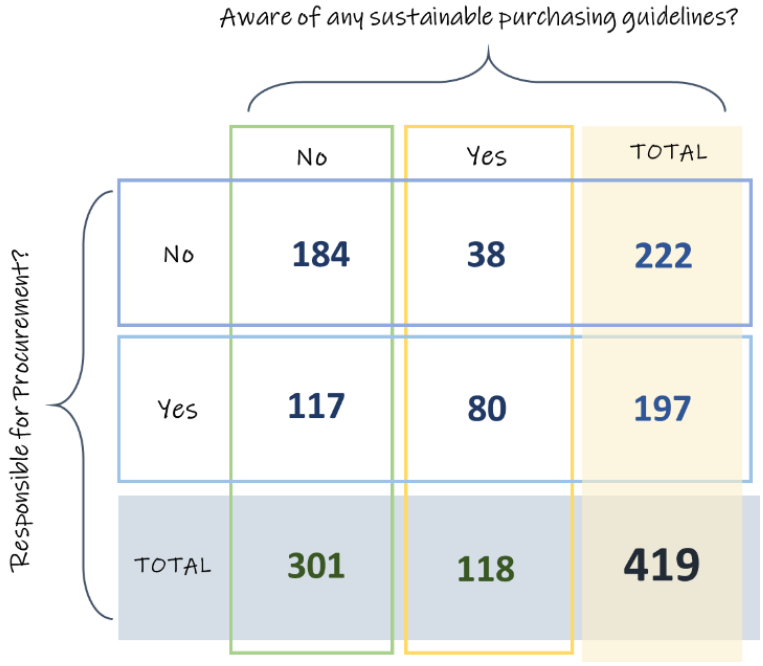
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 421 responses.

Figure A-38: How Were You Instructed to Refrain from Adjusting Temperature Settings in a City Building or Facility?



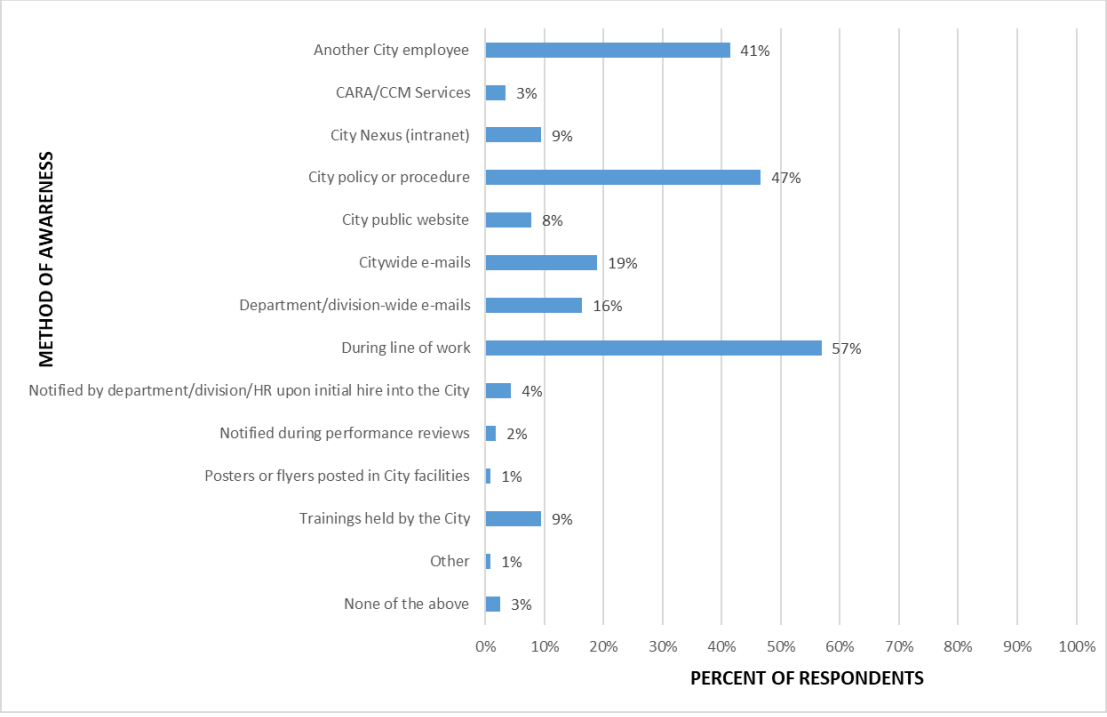
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 90 respondents who have been instructed to refrain from adjusted temperature settings in a City building or facility. This question asked respondents to check all that applied.

Figure A-39: Are You or Have You Ever Been Responsible for Purchasing Supplies, Equipment, and/or Services in Your Department/Division/Office? Are You Aware of Any Purchasing Guidelines or Restrictions That Are in Place to Support Sustainability?



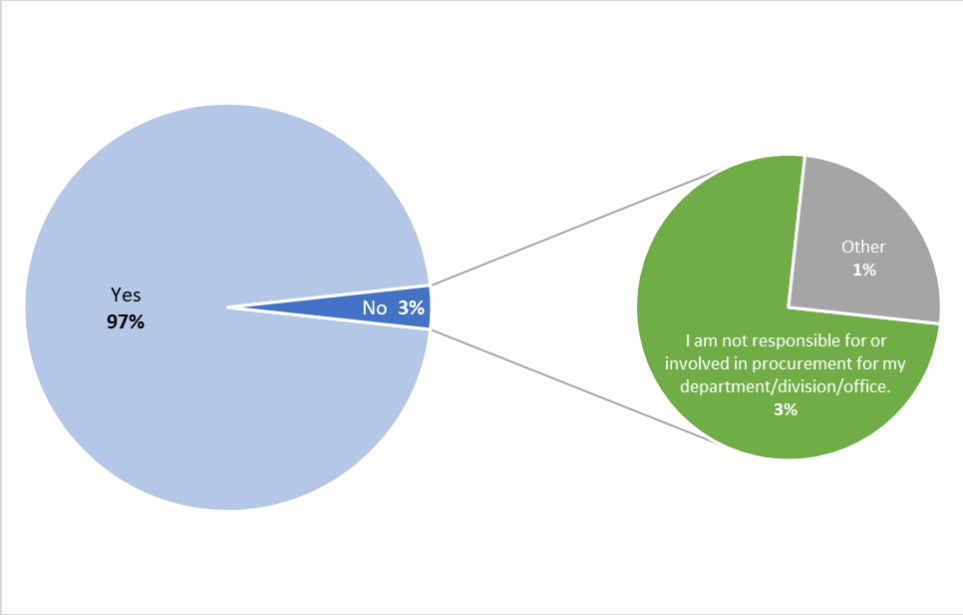
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 419 responses.

Figure A-40: How Were You Made Aware of These Purchasing Guidelines or Restrictions?



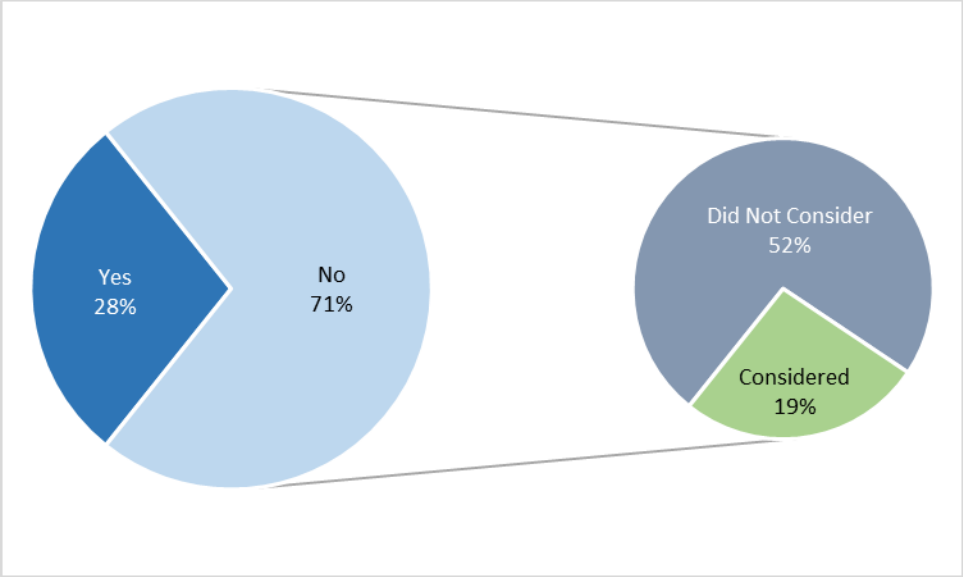
Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 116 respondents who were aware of any purchasing guidelines or restrictions that are in place to support sustainability. This question asked respondents to check all that applied.

Figure A-41: Did You Follow the Purchasing Guidelines Listed? Is There a Reason for Not Following These Purchasing Guidelines or Restrictions?



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 116 respondents who were aware of any purchasing guidelines or restrictions that are in place to support sustainability. The 1 percent and 3 percent in the smaller chart do not appear to equal the 3 percent in the larger chart due to rounding.

Figure A-42: Are You Aware of Any Purchasing Guidelines or Restrictions That Are in Place to Support Sustainability? Have You Considered More Sustainable Options and/or Vendors When Making Procurement Decisions?



Source: Auditor generated based on Citywide Green Efforts Survey results.
Note: Generated based on 419 who were not aware of any purchasing guidelines or restrictions that are in place to support sustainability. This question asked respondents to check all that applied.

City of SACRAMENTO
Department of Public Works

MEMORANDUM

DATE: November 6, 2020

TO: Jorge Oseguera, City Auditor

FROM: Ryan Moore, Director, Department of Public Works

CC: Hector Barron, Assistant City Manager

SUBJECT: AUDIT OF THE CITY'S GREEN EFFORTS

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1. This memorandum is in response to the City Auditor's Audit of the City's Green Efforts. The Department of Public Works (DPW) incorporates sustainability objectives into its mission and operations. The Sustainability Program in the Office of the Director is directly responsible for the following sustainability efforts: implementing the Electric Vehicle (EV) strategy, special sustainability initiatives, various grants and rebates, and coordinating portions of Climate Action Plan implementation. The Transportation Division directs the City's Active Transportation Programs which promote biking and walking opportunities throughout the community. The Facilities Division maintains the City's 400+ public buildings and directs the construction of new facilities and retrofits of existing facilities, including renewable energy projects, energy efficiency measures, and reporting. The Engineering Services Division manages streetlight installations and retrofits to LEDs. The Recycling and Solid Waste Divisions manage the City's recycling, green waste, and waste reduction efforts. The "Green Fleet" award-winning Fleet Management Division implements the City's sustainable fleet policies. The Maintenance Services Division manages and maintains the public urban tree canopy, comprised of approximately 100,000 City trees. The Parking Services Division manages on-street parking and City-managed parking lots and facilities, operating approximately 100 EV chargers and the City's first EV incentive program, the EV Parking Program.

2. DPW acknowledges the scope and purpose of the audit, but I would also like to highlight that our department has made great strides advancing sustainability through our operations and programs to date. Due to the focus of the audit on shortcomings or areas of risk, it does not provide a complete picture of our significant green efforts as we keep core City services and infrastructure running. DPW maintains over 42,000 streetlights, 150 bridges, 18 floodgates, 3,000 lane-miles of roadways, 3,200 miles of sidewalks, 83 miles of off-street bikeways, 25,000 on-street parking spaces, and over 400 City-owned buildings.

In the course of our work, just a few of DPW's green accomplishments include the following:

- Leading by example, supporting attainment of a 28 percent reduction in municipal greenhouse gas emissions from 2005 to 2013. This achievement exceeds our adopted 2020 goal of a 22 percent reduction, and largely reflects reduction in energy use by DPW-operated streetlights and traffic signals, and reductions in City Fleet emissions.
- Operating an award-winning "Green Fleet," which is consistently ranked as the greenest in North America. Most recently, the City Fleet was ranked as the top 2019 Green Fleet in 2019. Currently, 12% of the City's light-duty fleet consists of zero-emission vehicles (82 vehicles), and the City has reduced the number of fleet vehicles by 18% since 2010. Our Fleet Sustainability Policy establishes a "Zero-emission Vehicle First" commitment, with at least 75 percent of all annual light-duty vehicle replacements to be zero-emission. We estimate that the light-duty EVs in our Fleet operate at just 25% the costs of our gasoline fleet, and we are currently in the process of installing Samserra telematic devices to track mileage and operating costs. The City's vehicles and equipment run on 55% alternative fuels, with further upgrades in process.
- Maintaining one of the largest human-planted urban forests in the world, providing 19% tree canopy citywide. Sacramento is a Sterling Tree City USA and is rated one of the top ten urban forests in the country.
- Retrofitting City facilities with energy-efficient lighting, equipment, and improvements, including completion of approximately $1 million of lighting retrofits at City-owned community centers and libraries in 2019 that are estimated to save over $170,000 in energy costs annually.
- Retrofitting 9,226 mast arm streetlights with LED fixtures along major arterial and collector streets, and allocating approximately $2.4 million in FY20/21 to begin the next phase of retrofits.
- Procuring over 28,900 mega-watt hours of municipal electricity needs from solar through SMUD's SolarShares program, equivalent to approximately 35% of municipal electricity use. The program delivers solar at a locked-in rate and is expected to deliver savings of approximately $8 million over the 20-year agreement term.
- Operating 4.9 megawatts of solar at City facilities through a power-purchase agreement.
- Operating and maintaining EV chargers at City facilities to provide 170 EV charging connectors, with 115 of these available for public use.
- Supporting one of the most successful shared rideable programs in North America, enabling private vendors to operate over 2,000 e-bikes and e-scooters in Sacramento that supported over 1.8 million miles ridden over the last year.
- Planning, designing, and constructing improvements for safe walking and rolling across the community, including implementation of the City's Vision Zero program to eliminate traffic fatalities and serious injuries by 2027.

DPW staff secured and received $21 million in transportation grants in 2019 to work towards our transportation goals.

3. DPW would like to thank the City Auditor's Office for their extensive coordination and effort in the Green Audit, and acknowledges receipt and concurs with the recommendations from the City Auditor's draft report. However, DPW notes that full implementation of all recommendations would require additional staffing, dedication of new funding, and/or redirection of funding from current programs.

4. DPW's Sustainability Program continues to lead the state and region in addressing innovative mobility and sustainability efforts, and corrective actions are actively being taken in response to the audit. In addition, internal operating procedures and policies are being considered/established to comply with the recommendations of this audit. Staff are evaluating feasible strategies to implement recommendations.

5. I would like to take this opportunity to thank the City Auditor and staff for their efforts in identifying process improvements to continue the Department's efforts to advance sustainability. Please feel free to contact me directly should you have any questions.

6. Below is the management response to the seven audit recommendations directed specifically to the Department of Public Works, as identified in the draft audit report. DPW also supports the audit recommendations related to overall City coordination of sustainability efforts.

AUDIT RECOMMENDATIONS AND THE DEPARTMENT RESPONSE

Please find our responses to audit recommendations for DPW below. Specifically, we address recommendations 1, 2, 3, 8, 9, 10, and 16. The numbered list corresponds to audit recommendation numbers.

1. Evaluate whether more consistent LEED certification is beneficial to the City's reputation as a sustainability leader.

Response: DPW has a history of supporting LEED certification in the construction of new and renovated City facilities wherever financially feasible. Since September of 2004 when City Council adopted the LEED policy, only one building, the Sacramento Greyhound Bus Facility, has not been LEED certified. City Hall opened in 2005; however, the design was started in 2000, predating the LEED policy. With adoption of the LEED policy so late into project design and construction, it was not possible for staff to construct the building to LEED standards. Otherwise, the department concurs with the audit findings that buildings constructed to LEED standards consume less energy and typically provide operational cost savings. The costs to complete LEED certification, however, need to be considered in the context of limited funding availability for needed upgrades of existing City facilities and construction of new facilities, as LEED certification could result in redirecting funds for building improvements into consultant time and certification fees. At this time, the

City does not have dedicated funds to specifically cover facility certification through the LEED program.

The department will evaluate an estimate of the costs to maintain an ongoing LEED certification program and whether it would result in greater benefits than direct investments in facilities, or whether some other certification program is more appropriate, based on the following factors:

- State standards for energy efficiency and sustainability are increasingly approaching LEED equivalency; LEED Silver is established as a minimum threshold by the 2035 General Plan as noted by the audit, but is no longer as ambitious as it once was. New construction may be able to meet LEED Silver standards for energy efficiency simply by complying with the state code.
- The City is currently piloting a more holistic certification through the new Living Communities Challenge (LCC) program for the Sacramento Valley Station area master plan in partnership with the Sacramento Municipal Utility District, which would include more rigorous certification than LEED with a mandatory post-occupancy evaluation.
- On August 25, 2020, the City Council considered the recommendations of the Mayor's Climate Commission and directed the City Manager to proceed with an ordinance requiring electrification of new construction and to phase existing construction away from natural gas.
- The department is also supporting new policy recommendations for the 2040 General Plan update and Climate Action Plan update.

In light of this context, the department will consider whether LEED, investing in retrofits, or another approach such as the Living Communities Challenge is appropriate to demonstrate sustainability leadership at City facilities while advancing energy and cost reductions within available resources.

2. Develop a process to monitor completed LEED buildings post-completion to accurately capture the benefits of building to LEED standards and to quantify their value to the City's overall sustainability objectives.

Response: DPW will use available resources to report on post-completion performance of major City-owned and occupied buildings. The department recently completed the first municipal energy benchmarking report, which provides an energy scorecard for the largest City-owned buildings. For the report, staff also created a turn-key reporting tool to streamline future energy benchmarking. City staff will update the report on a regular basis, with a goal for annual updates as feasible with available staff resources.

3. **Consider participating in the U.S. Green Building Council's LEED recertification option for certified LEED buildings.**

   Response: Maintenance of LEED certification would require consultant support, additional staff time, and payment of ongoing recertification fees, tasks for which the department would need to identify additional resources to implement. The department will evaluate the cost-benefit of LEED recertification along with other options to demonstrate sustainability leadership, potentially through an alternate certification program or other approaches, as identified in the response to recommendation #1.

8. **Develop a process to check for duplicated data when it is uploaded to EnergyCAP, monitor the data for discrepancies, and notify users of issues in or changes to the data in the EnergyCAP system.**

   Response: The department is currently evaluating data discrepancies in the EnergyCAP database, working with both the Sacramento Municipal Utility District (SMUD) and EnergyCAP. Staff believe that the errors that emerged during the period of the audit may be partially attributable to the audit taking place during the transition of all EnergyCAP data for the City's 1,700+ energy accounts into the new cloud-based system. This transition began in August 2019. However, City staff actively monitor the data and will identify options for enhancing data procedures and improving notifications to system users to document data updates in the system. Staff regularly undertake quality control testing of the data, but will develop improved methods to communicate corrections to system users. Although the EnergyCAP system is not without its periodic challenges, the database was made possible through grant funds and DPW estimates that staff has invested over 3,000 hours of grant-funded time to bring the system into its current state over the last ten years, including the most recent transition to a cloud-based system. City staff will continue to operate the EnergyCAP system using available tools and staff resources, but will improve notifications to EnergyCAP users of changes in the data.

   Additionally, the EnergyCAP system operates independently of the City's financial database, eCAPS. As noted by the audit, data duplication did not result in the City being overbilled. EnergyCAP allows for energy management of the City's accounts, but is not used for billing or invoice payment. Both EnergyCAP and eCAPS upload data directly from the utility providers. Therefore, data issues in EnergyCAP are not necessarily indicative of billing issues, but reflect issues in the EnergyCAP data inputs or EnergyCAP processes. The City's financial systems use data that comes directly from the utility providers; any billing discrepancies would be due to utility data inputs into eCAPS or eCAPS processes, not EnergyCAP.

9. **Review the data captured by the GIS streetlights system, determine key data fields, implement controls to ensure these fields contain accurate and complete information, and reconcile the various internal sources of streetlight counts.**

   Response: DPW will work with IT to evaluate options to improve the existing streetlight data set. Given the age of the City's streetlight network and different technologies that have evolved over time, fully verifying the accuracy of all existing data would require significant staff resources to inspect and verify each of the City's approximately 40,000 individual streetlights in the field, and then to reconcile the data in the system. As a rule, staff inspects streetlights when a problem is reported, when undergoing maintenance, when telecommunication companies request to collocate, and when retrofits or replacements take place. Redirecting staff that are also responsible for other critical safety priorities, such as the replacement of broken streetlights and traffic lights, to do an inventory would result in a delay in addressing more immediate issues. While a complete inventory of all streetlights may be infeasible at this time, staff may develop a process to ensure that data is updated as streetlights are replaced or evaluated over time using GIS programs accessible from City-provided mobile devices. City staff will determine whether additional resources to conduct such an inventory would likely realize any longer-term savings or efficiency and how such an effort would be funded. Please note that the City has an enormous number of public assets and facilities that have been installed over the last 150 years and streetlights are only one element of that asset base.

   DPW is responsible for a diverse range of assets. We acknowledge shortcomings in our asset management databases, which are largely attributable to the significant number, complexity, and age of our assets. DPW hopes to establish a more comprehensive database, but this effort will require additional staff and resources to complete.

   Also, we acknowledge that verifying the accuracy of the City streetlight database is necessary to confirm billing accuracy. In addition, metered rates are far more expensive for City streetlights than nonmetered rates. We will continue to evaluate these issues. If more streetlights were transitioned to metered rates, our analysis indicates that streetlight electricity costs to the City would increase. However, funds that cover electricity costs for streetlights are limited and are not anticipated to keep pace with a transition to more expensive rate tariffs, or future SMUD rate increases. Please refer to the response to recommendation #10 below for more information on this topic.

10. **Develop and implement a process to reconcile our internal streetlights dataset with SMUD to ensure that the City is correctly billed.**

    Response: DPW is reviewing City and SMUD streetlight data, and will evaluate options to reconcile the data. Staff anticipate that many of the discrepancies identified in the audit reflect changes in how the City historically reported streetlight

wattages to SMUD rather than errors. As fixtures are serviced and retrofit, their data can be updated. See response to #9. Additional resources may be required to fully reconcile the data.

16. Review City projects that may have immediate environmental savings and cost avoidance that currently lack funding, such as retrofitting the remaining streetlights to LED, and assist with identifying funding sources.

Response: DPW agrees with this finding and supports investments in projects that provide environmental and cost savings. Specifically, we concur with retrofitting lighting with LED technology to reduce energy costs. We also agree with the potential cost savings for LED streetlighting identified in the audit. Initial capital investments are needed, but these can deliver ongoing cost savings and energy benefits. Not only do LED streetlights reduce energy billing costs, but they have a longer useful life and thus require less frequent material replacement and staff labor to maintain their effective operation.

The City's most significant retrofit projects to date were largely funded by one-time grants through the American Recovery and Reinvestment Act (ARRA) of 2009. However, ARRA funded building retrofits, a solar power purchase agreement, and other energy savings projects – but not streetlight retrofits. These projects were repaid into a reinvestment capital improvement project (CIP), but this funding is insufficient to support significant projects such as streetlight retrofits. Regardless of available capital for new retrofits, staff estimates that retrofits to City buildings and facilities to date are yielding annual savings of approximately $1 million (inclusive of both ARRA-funded projects and those implemented with other funding sources).

Currently, the City does not have a dedicated funding source or program to reinvest energy cost savings into new energy-saving municipal projects. The most significant streetlight retrofit effort to date cost $4,850,000 to retrofit 9,226 mast arm streetlights, and was funded through a combination of Citywide Landscape and Lighting (L&L) funds, Major Street Construction funds, Gas Tax, Bond funds, and General funds. This effort was estimated to save approximately $250,000 a year in energy costs. Staff estimates that if all existing streetlighting was converted to LED, an additional annual energy cost savings of $750,00 could be realized, for a total streetlight energy cost savings of approximately $1 million.

DPW recognizes the importance of continuing to reinvest in energy efficiency and continues to work with SMUD and other partners to identify funding opportunities. Not only are these projects necessary to attain municipal climate goals, but they are necessary to limit the impact of continued energy rate escalation that is anticipated to increase by approximately 4% per year in the near term, based on information provided by SMUD. This rate increase is higher than the current rate increases allowed under the City's L&L Assessment District, which is used to pay the City's electricity bills associated with streetlights. L&L Assessments may increase between

0% and 3% per year, so energy reduction is vital to ensure the City can continue to afford to keep the lights on.

Upfront capital funding for large-scale retrofit projects such as streetlights is difficult to obtain; in FY2019/2020, DPW allocated $2,480,000 from several years of revenue from the L&L funds to retrofit approximately 2,500 of more than 13,000 existing neighborhood post-top lights within the City from high-pressure sodium fixtures to LED. This project will be one of just several necessary to retrofit all remaining streetlights to LED. Remaining types of lighting to retrofit include primarily neighborhood post-tops and other pedestrian-scale ornamental lights, which are initially more costly to retrofit. Without a new source of investment or reinvestment for these retrofits, it will not be feasible to continue to fund with existing L&L revenues.

Staff will continue to pursue funding for unfunded future phases of retrofit work. We will work with the City Manager's Office to identify suitable options and develop a funding plan.

Jennifer Venema
Interim Climate Action Lead

City Hall
915 I Street, Fifth Floor
Sacramento, CA 95814-2604
916-808-5704

MEMORANDUM

DATE: November 13, 2020

TO: Jorge Oseguera, City Auditor

FROM: Jennifer Venema JAV

CC: Howard Chan, City Manager and Hector Barron, Assistant City Manager

SUBJECT: **AUDIT OF THE CITY'S GREEN EFFORTS**

The City Manager's Office acknowledges receipt and concurs with the findings in the City Auditor's Audit of the City's Green Efforts. Given that the City's implementation of the vast programs and projects related to municipal operations involves multiple departments, we appreciate and acknowledge the effort to reach out to the respective department leads throughout the audit process. We understand that given the limited scope of the audit, several of the City's recent accomplishments could not be further reviewed.

During the August 25, 2020 City Council meeting, the Council heard a report and recommendations from the Mayor's Commission on Climate Change. The Council requested several follow-up items, including identifying a lead person to direct first year projects. The City Manager appointed me to lead these efforts. I have been further tasked with evaluating and leading the implementation of the City Auditor's recommendations on behalf of the City Manager's Office. This position's responsibilities are well aligned with a principal theme of the audit for the City Manager's Office to take a more active role in leading the implementation of the City's sustainability goals.

We would like to thank the City Auditor and team for their efforts in reviewing the City's Green Efforts and providing recommendations. The City Manager's Office appreciates recommendations that further allow City staff to continue to improve the services we provide the residents of the City of Sacramento.

Please see refer to the following pages for responses related to findings and recommendations identified in the audit:

AUDIT RECOMMENDATIONS AND CITY MANAGER'S OFFICE RESPONSE

Recommendation 4. Require post-completion monitoring for all applicable sustainability projects, programs, and initiatives.

Response: The City Manager's Office will work with departments to evaluate and identify sustainability projects, programs, and initiatives that require post-monitoring. The evaluation will include consideration of cost-benefit and available funding.

Recommendation 5. Develop a procedure that ensures internal stakeholders are involved in or made aware of relevant goals and performance measures.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop, implement, and are aware of relevant goals, performance measures, monitoring, and reporting. The example provided by the City Auditor's report, although specific to staff from one department and the Climate Action Plan for Internal Operations, demonstrates the need for enhancing visibility of citywide goals and ongoing monitoring.

Recommendation 6. Develop and track performance measures as they relate to published sustainability goals.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop, implement, and are aware of relevant goals, performance measures, monitoring, and reporting.

Recommendation 7. Ensure sustainability reports consistently track and report progress over time.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop, implement, and are aware of relevant goals, performance measures, monitoring, and reporting. Staff will leverage new tools currently under development for the City's climate action planning work, which Community Development is managing as part of the General Plan 2040 update.

Recommendation 11. Evaluate whether a centralized guidance, enforcement, and coordination body may better assist City staff in implementing the City's sustainability goals and vision.

Response: The City Manager agrees that enhanced staff leadership is needed to fully implement the City's sustainability vision and goals. The appointment of a staff lead person, located in the City Manager's Office, to lead implementation of the Mayor's Commission on Climate Change and sustainability efforts is an initial step toward accomplishing this recommendation.

Recommendation 12. Develop guidance on prioritizing Citywide sustainability goals.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop, implement, and are aware of relevant goals, performance measures, monitoring, and reporting. Furthermore, over the next year, the City Manager's Office will work with departments to develop a workplan along with priority projects, program, and services.

Recommendation 13. Establish a Citywide internal communication strategy and accountability mechanism for sustainability goals and priorities.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop, implement, and are aware of relevant goals, performance measures, monitoring, and reporting. This will include enhanced communication to staff on the City's sustainability efforts. The City Manager's Office has already initiated work on an internal webpage toward improving communication to city staff.

Recommendation 15: Evaluate new funding strategies and consider whether additional funding support can be provided during the City's budgeting process.

Response: The City Manager's Office will continue to support and work with departments to evaluate funding needs and strategies to implement the City's goals. Furthermore, over the next year, the City Manager's Office will work with departments to develop a workplan along with priority projects, programs, and services.

Recommendation 16. Review City projects that may have immediate environmental savings and cost avoidance that currently lack funding, such as retrofitting the remaining streetlights to LED, and assist with identifying funding sources.

Response: The City Manager's Office will continue to support and work with departments to evaluate funding needs and strategies to implement the City's goals. This will include identifying projects that may have immediate environmental benefit and cost avoidance. Furthermore, over the next year, the City Manager's Office will work with departments to develop a workplan along with priority projects, program, and services.

Recommendation 17. Implement outreach efforts and programs to City employees to improve the City's sustainability culture.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop, implement, and are aware of relevant goals, performance measures, monitoring, and reporting. The City Manager's Office has already initiated work on an internal webpage toward improving communication to City staff.

Recommendation 18. Assist other City departments and offices with incorporating sustainability into their department-level operations through the creation, implementation, and tracking of specific performance goals.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop and implement goals, and are aware of relevant goals, performance measures, monitoring, and reporting. This will include a process to further identify department-specific sustainability goals and measures.

Recommendation 19. Evaluate whether more formalized Citywide green teams may be beneficial for supporting the City's sustainability culture, programs, and goals.

Response: As noted in the audit, currently a green team does meet on a regular basis. The City Manager's Office will be formalizing the green team and expanding the membership to ensure all departments are engaged in support the City's goals.

Recommendation 20. Develop a process for notifying City employees of changes to Citywide sustainability policies, procedures, and plans and document their acknowledgement of these changes.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop and implement goals, and are aware of relevant goals, performance measures, monitoring, and reporting. This will include further communicating to City staff along with an internal webpage.

Recommendation 21. Ensure that the City website and any internal employee resources are up-to-date and accurate as they relate to sustainability policies, procedures, and plans.

Response: The City Manager's Office is currently working to update the City website as a resource for both City employees and the public.

Recommendation 22. Conduct internal outreach efforts to improve awareness of and facilitate further reductions in paper consumption.

Response: The City Manager's Office will work with departments to ensure departments are part of the process to develop and implement goals, and are aware of relevant goals, performance measures, monitoring, and reporting. This includes awareness of further reductions in paper consumption.

Recommendation 23. Identify instances of non-compliance with the Fleet Engine Idling Limit Policy and hold employees accountable.

Response: The City Manager's Office is aware of the benefits of reducing vehicle idling for our environment and to save costs. The City is currently working on a policy to address idling of the City's fleet and will enforce the policy as appropriate. The city-wide policy applies to all city vehicles and equipment, on-road and off-road, and reinforces a five consecutive minute engine idling limit. The policy also recognizes that there are limited exceptions, based on the required city service and specialized use of the vehicle.

City of SACRAMENTO
Youth, Parks, & Community Enrichment

MEMORANDUM

Date: October 7, 2020

To: Jorge Oseguera, City Auditor

From: Raymond Costantino, Park Planning and Development Manager, Department of Youth, Parks, and Community Enrichment (YPCE)

Cc: Roshini Das, Sustainability Manager, Department of Utilities; Shannon Brown, Assistant Director, YPCE; Jason Wiesemann, Senior Landscape Architect, YPCE; Tony Ulep, Park Maintenance Manager, YPCE; Brianna Moland, Assistant Planner, YPCE

Subject: Response to Green Efforts Audit Recommendations

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1. This memorandum is in response to the Audit of the City's Green Efforts.

2. The Department of Youth, Parks, and Community Enrichment (YPCE) acknowledges receipt and concurs with the recommendations from the City Auditor's draft report.

3. It is YPCE's understanding that the City Auditor will review completed recommendations for effectiveness of policy, procedure, and implementation.

4. Corrective actions are actively being taken. Policies are being established to comply with the recommendations of this audit.

5. Since one of the recommendations is about a Memorandum of Understanding with Department of Utilities, YPCE and DOU have combined their response to the recommendation in this memo.

6. I would like to thank the City Auditor and staff for their efforts in identifying process improvements in this audit and for their support. Please feel free to contact me directly should you have any questions.

Youth, Parks, & Community Enrichment Department
916-808-5200
915 I Street, Third Floor
Sacramento, CA 95814

7. Below is the response of the Department of Youth, Parks, and Community Enrichment to the 1 audit recommendation identified in the audit report:

AUDIT RECOMMENDATIONS AND DEPARTMENTAL RESPONSE:

We recommend the City Manager's Office work with other departments to:

5) **Develop a procedure that ensures internal stakeholders are involved in or made aware of relevant goals and performance measures.**
6) **Develop and track performance measures as they relate to published sustainability goals.**

Response: YPCE will conduct the following to establish policies for compliance with the recommendation, and to ensure the success of the recommendation:

- Develop a procedure that ensures internal stakeholders are involved in or made aware of relevant goals and performance measures and meet monthly with Maintenance Division to discuss goals and performance measures.
- Develop and track performance measures as they relate to published sustainability goals.
- Meet on an annual basis to track progress through performance measures.
- Secure dedicated funding for low water use landscape conversions to assist in meeting policy goals and/or increase funding for deferred park maintenance to absorb costs of conversions.
- Use GIS to map best park locations for landscape conversions.

We recommend the Parks Division work with the Department of Utilities to:

14) **Revise the funding structure for eligible water conservation projects that fall under the Parks Division.**

Response: YPCE and DOU were already aware of this issue and had started revising the MOU to address the specific needs of projects that fall under the Parks Division.

Response by DOU: Department of Utilities is already working with Parks Division to revise the funding in the MOU while ensuring consistency with what DOU offers commercial customers.

City of SACRAMENTO
Finance Department

Procurement Division
915 I St, 2nd Floor
Sacramento, CA 95814

M E M O R A N D U M

TO: Jorge Oseguera, City Auditor

FROM: Ashley Petralli, Contract & Compliance Specialist

DATE: September 22, 2020

RE: Green Efforts Audit

This communication is in response to the City Auditor's *Green Efforts Audit*.

1. The Procurement Division acknowledges receipts and concurs with the findings and recommendations from the City Auditor's report.
2. Corrective actions are being taken. The Procurement Division is currently reviewing the audit recommendations and creating a timeline for editing the *Sustainable Purchasing Policy*.
3. Below please find the Procurement Division's response to the three audit recommendations identified in the report.

Recommendation Number	Responsible Division	Recommendation	Responsible Division Response
24	Procurement	Review and update the *Sustainable Purchasing Policy*.	Procurement has reviewed the *Sustainable Purchasing Policy* and will be making edits in order to better align it with our business practices and create attainable goals for our departments.
25	Procurement	Develop a process for improving accountability with they *Sustainable Purchasing Policy*.	Procurement will outline goals within the updated policy that are able to be measured and tracked to improve Citywide Accountability.
26	Procurement	Consider working with applicable City vendors to implement website controls that encourage more sustainable purchases.	Procurement will work with Citywide vendors who offer web-based purchasing to implement controls which encourage more sustainable purchasing. The biggest opportunity here will be with our Office Supplies contract. An analysis must be performed to determine the estimated financial impact of implementing system controls that force compliance with the policy.