CITY OF POMPANO BEACH

Sustainability Strategy

Eight-Phase Workplan

Resolution 2020-243 | September 2020

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Florida's Warmest Welcome

RS&H

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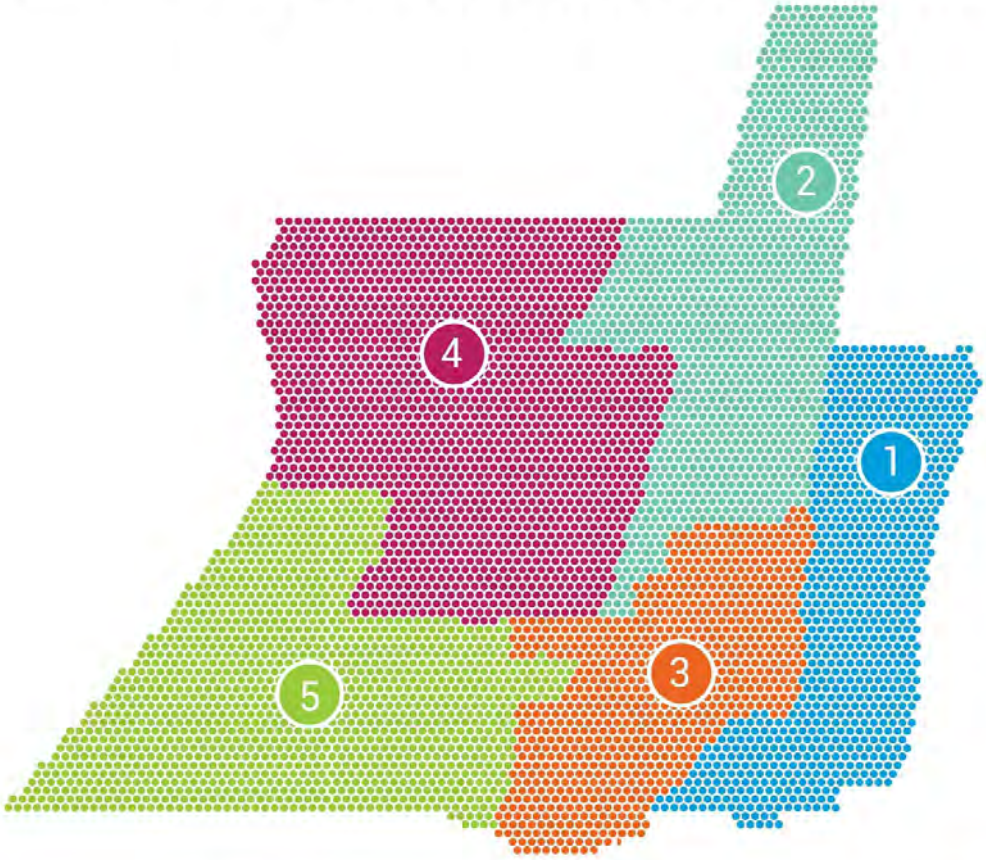
CITY OF POMPANO BEACH
COMMISSION DISTRICTS



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BEVERLY PERKINS
Commissioner - District 4

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1. SUMMARY

Sustainability involves striking a balance between the economy, the environment and society in a way that meets today's needs as well as those of future generations. Sustainability also encompasses the concept of resilience, the capacity of a community to endure and even thrive in the face of climate change.[1]

The City of Pompano Beach has established a strong foundation for advancing sustainability within its own operations and the community it serves. This is due to the commitment of its leadership and staff, as well exemplary performance of specific projects and certain departments, such as Utilities.

Pompano Beach's biggest strategic sustainability opportunity is to develop a formal program with a priority on realizing cost savings, productivity gains, risk reduction and adaptive capacity. The Workplan included in this document recommends eight phased initiatives which would advance the City's objectives, build a strong capacity to manage sustainability, and provide social, environmental, economic and resilience benefits in excess of estimated costs. Completing this work plan would establish the City as a nationally recognized leader.

This document includes strategic recommendations for establishing such a program, including communicating a City-wide sustainability vision, selecting focus areas that define the scope of its efforts, calculating a quantitative baseline against which future effort may be measured, establishing goals, designing initiatives to meet those goals, and acting to implement the resulting program.

The City's current sustainability performance was benchmarked with initiatives at the cities of Coral Gables, Fort Lauderdale and Miami Beach. These cities were selected for their similarities to Pompano Beach, as well as their record of sustainability achievement. This process affirms the City's strong sustainability foundation, while identifying opportunities to make rapid progress.

Benchmarking was based on a qualitative (rather than a quantitative) evaluation of the City's present sustainability performance. Establishing a qualitative baseline involved interviews with all City Commissioners, the City Manager and thirteen senior staff representing most City Departments. In addition, RS&H reviewed extensive information documenting the City's past and present efforts, including policies, plans and regulations.

The result of this preliminary sustainability strategy was presented to a selection of City staff at a workshop on August 14th, 2019. In addition to calibrating the qualitative baseline and benchmarking findings, the workshop began the process of establishing a sustainability vision for the City, establishing focus areas for the City's sustainability efforts and developing a portfolio of projects. The workshop represents the first step towards enhancing the City's sustainability performance as presented in this Sustainability Strategy.

[1] Sustainability is used in this document to refer to both concepts.

2. WORKPLAN

Pompano Beach has made significant progress towards sustainability, with Triple Bottom Line (Economic, Social and Environmental) performance improvements in several areas (See Baseline). Benchmarking shows the City has met more than 50% of criteria evaluated but has room for improvement compared to regional leaders. Based on a Workshop with City Staff and Strategic Analysis, RS&H has developed a work plan for a leading sustainability program. It consists of nine conceptual initiatives phased over a five-year period at a modest cost relative to potential social, economic and environmental benefits, including mitigation of and adaptation to climate change (Figure 2). The work plan is summarized below, with each phase described in detail on the following pages. The phases could be implemented by City staff, a consultant overseen by the City, or a combination of both.

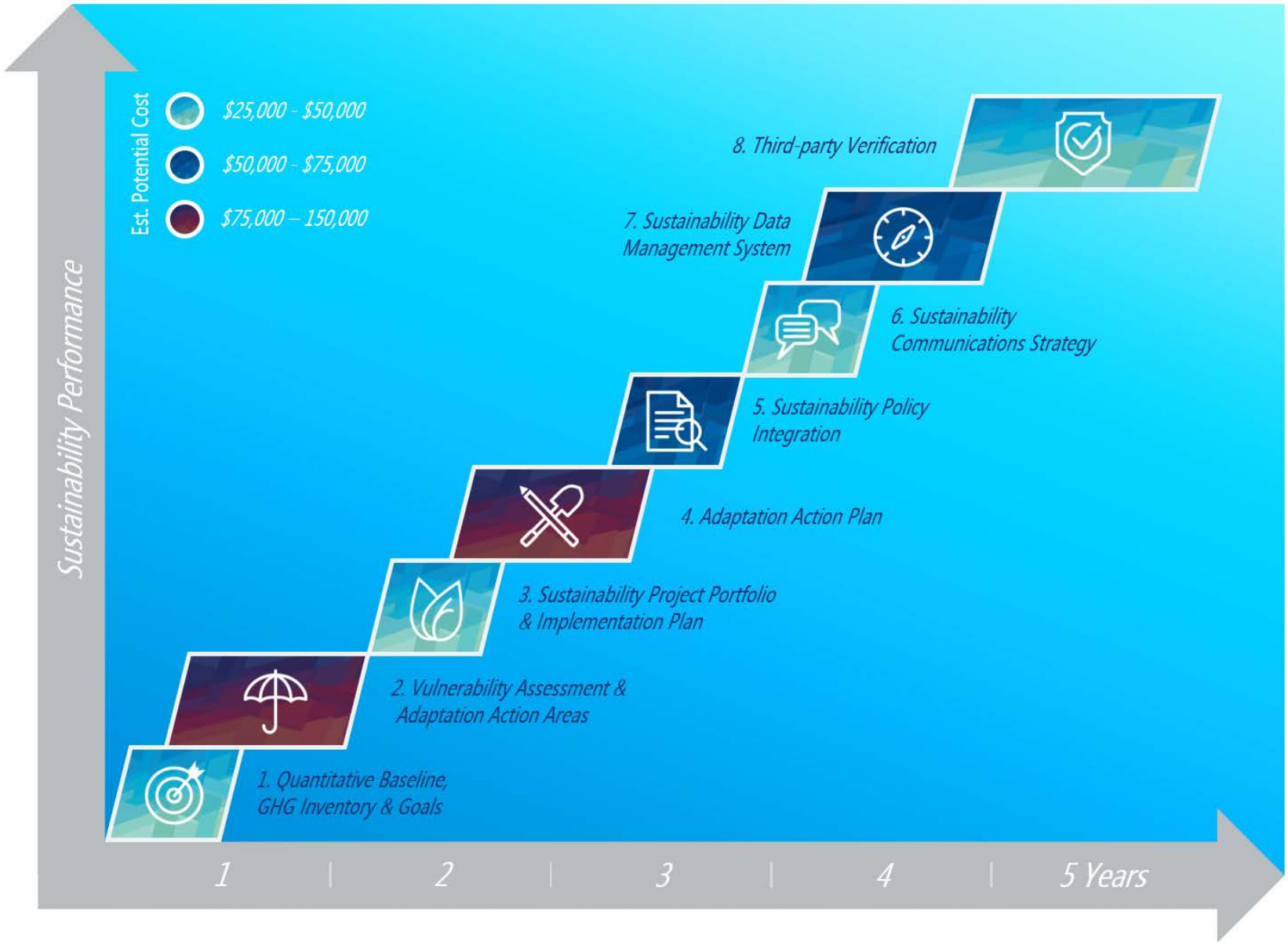
FIGURE 1: SUSTAINABILITY FOCUS AREAS

The first step (Workplan Phase 1) would establish a quantitative baseline for evaluating the City's present sustainability performance in six focus areas proposed for organizing the City's efforts (Figure 1). Including a Greenhouse Gas (GHG) Inventory, this activity supplements the qualitative baseline developed as part of this strategy. A comprehensive baseline is essential for establishing goals to achieve the City's emerging Sustainability Vision. Similarly, completing a comprehensive climate change Vulnerability Assessment would allow the City to designate Adaptation Action Areas (AAAs) to lay the groundwork for adaptation planning (Workplan Phase 2).

Although the City has already implemented some projects with sustainability benefits, they have been championed by individual departments rather as a part of a strategic portfolio designed to meet sustainability goals. This strategy includes several project recommendations (See Sustainability Program Development) derived from benchmarking and collaboration with City staff that could be developed and implemented as part of a portfolio of sustainability projects (Workplan Phase 3). An Adaptation Action Plan would supplement the sustainability project portfolio by identifying and prioritizing adaptation actions to address critical vulnerabilities (Workplan Phase 4).

New policies may be required to enable projects. Updating existing municipal policies to align with the City's vision and goals is also necessary (Workplan Phase 5). As projects are underway, a communications strategy (Workplan Phase 6) would help inform internal and external stakeholders about the City's sustainability and resilience initiatives and accomplishments, building support for the program. A Data Management System (Workplan Phase 7) would improve the ability of the City staff to effectively manage projects by automating the process of tracking and reporting key performance indicators. As the sustainability program matures, the City can consider third-party verification (Workplan Phase 8) of its program via a recognized standard to validate its achievements and leadership.

FIGURE 2: CITY OF POMPANO BEACH SUSTAINABILITY WORKPLAN



2.1 QUANTITATIVE BASELINE, GHG INVENTORY, & GOALS (PHASE 1)

Establish a quantitative baseline for key sustainability metrics for both the City's operations and the community. This would include a comprehensive GHG Inventory and forecast for a baseline year. It would also establish a base year inventory of the City's energy, water, and materials use, fleet characteristics and fuel use, mechanical equipment inventory, et cetera. For the community, energy, water and waste information would be collected and summarized. Together with the qualitative baseline already established, this information is prerequisite for establishing Specific, Measurable, Achievable, Relevant, and Timely (S.M.A.R.T.) goals consistent with the City's sustainability vision. The baseline effort would improve sustainability data management, offering the City's sustainability department the ability to effectively manage the program, quantify benefits of initiatives, and track progress over time.

2.2 VULNERABILITY ASSESSMENT AND ADAPTATION ACTION AREAS (PHASE 2)

Building off of elements of the existing Stormwater Management Plan, develop a comprehensive Vulnerability Assessment that provides detailed insight into the exposure of City facilities, critical infrastructure, roadways, and neighborhoods to various climate impacts, including sea level rise, extreme precipitation events, increased storm frequency/intensity, drought, and extreme heat. Incorporate socioeconomic metrics, such as low-income, senior and minority populations to ensure social equity is considered in adaptation planning decisions. The Vulnerability Assessment would provide information needed to recommend Adaptation Action Area (AAAs) designations in the City's Comprehensive Plan and associated adaptation projects and funding strategies.

2.3 SUSTAINABILITY PROJECT PORTFOLIO AND IMPLEMENTATION PLAN (PHASE 3)

Assemble a portfolio of projects designed to meet the goals established in Phase 1. The project development process should engage City staff to leverage their expertise, engage them in the sustainability program, and build their capacity to develop and manage sustainability projects. The projects should maximize financial, social and environmental benefits, including GHG emissions reductions and resiliency. Several initial project opportunities have been identified collaboratively as part of this strategy that could be further developed during this phase. Once designed, project "report cards" can be developed to summarize the project objective, management roles and responsibilities, contribution to goals, performance metrics, costs and benefits, budget requirements, funding sources, and schedule. Develop an implementation plan that prioritizes projects to meet the goals, establishes an implementation timeline, and includes funding sources and strategies. In addition, key performance indicators (KPIs) should be established for all projects to monitor their performance.

2.4 ADAPTATION ACTION PLAN (PHASE 4)

Establish an Adaptation Action Plan that draws on the Vulnerability Assessment (Phase 3) to develop and prioritize adaptation actions that improve resilience through addressing the identified vulnerabilities. Adaptation measures should be identified and screened via criteria including feasibility and cost, as well as social and environmental factors. Identification of suitable adaptation strategies should be founded on an objective framework that incorporates qualitative and quantitative measures of project benefits, acceptance, and obstacles. The plan should include an implementation schedule and funding analysis for the prioritized actions, so the recommended actions are ready for procurement and implementation.

2.5 SUSTAINABILITY POLICY INTEGRATION (PHASE 5)

Update and modernize the City's policy documents to reflect sustainability and resilience objectives. Examples of policies that could be revised include the City's Sustainable Development Standards, Green Building Policy, Seawall Policy, and Sustainable Procurement Policy. Enabling policies may be required for the City to move forward with larger policy objectives, such as Adaptation Action Areas, development of the Innovation District and improving mobility choices within the City, among others.

2.6 SUSTAINABILITY COMMUNICATIONS STRATEGY (PHASE 6)

Develop a Sustainability Communication Plan that establishes a brand for the City's efforts. A web presence for the sustainability program functions as a tool to communicate successes and solicitate public input. The communication plan would identify target audiences, appropriate media, and best practices for internal and external engagement. It would help build momentum for continued commitment to sustainability in the City and inform and build trust with the City's stakeholders. It should leverage traditional media outlets, public meetings and events, web and social media (i.e., Facebook, Twitter, LinkedIn, QR codes, etc.) to promote the City's sustainability and resilience messages and accomplishments. The plan should also lay the groundwork for internal and external reporting on a regular basis.

2.7 SUSTAINABILITY DATA MANAGEMENT SYSTEM AND REPORTING (PHASE 7)

Systematically tracking, trending and reporting on sustainability key performance indicators via a software solution or database verifies results and justifies investment. Managing data in this manner has its own benefits as well, typically resulting in cost savings of 1-10% from identifying erroneous billings, spotting anomalies before they become costly, prioritizing investment and evaluating progress. Options range from utilizing free tools, to purchasing "off the shelf" software or developing a custom solution. The software tool should include the ability to audit bills, track usage and costs, benchmark performance, evaluate the results of projects, analyze trends and report on improvement. Beyond identifying billing or usage anomalies and prioritizing interventions, such a system enables much more creative control of the City's resources. For example, it would enable departments to be assigned a "budget" for resource use and to be "charged" for utilities. Performance goals could be established, which could be evaluated annually. It also supports the accounting systems required to implement a revolving fund that support long-term investment and re-investment in sustainability projects at the department level.

2.8 THIRD-PARTY VERIFICATION (PHASE 8)

Achieve a recognized third-party sustainability certification through an organization such as LEED for Cities, ISO-14001, Global Resources Institute (GRI), et cetera. Such a certification would allow the City to demonstrate regional leadership and receive public recognition for the City's sustainability programs and initiatives. Third-party certification demonstrates that the selected certification's performance standard has been met, providing quality assurance for the City's sustainability program.

3. STRATEGIC ANALYSIS

3.1 SWOT ANALYSIS

RS&H qualitatively evaluated the City's present position (see Baseline) and compared it with peer cities (Benchmarking) as the basis of a strategic assessment of its sustainability performance. RS&H's evaluation was reviewed and calibrated via a Collaborative Workshop with City staff. Results are summarized in a Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis shown in Table 1. SWOT is a planning technique for identifying strategic objectives.

TABLE 1: PRELIMINARY STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS ANALYSIS

Strengths

The City's alignment of political and management leadership with staff is a key strength. They share a high degree of awareness and a willingness to incorporate sustainability into the City's business. Integration of sustainability principles into the City's Strategic Plan and its development regulations indicate that cultural alignment is beginning to manifest in policy and programming. The City's Utilities Department provides a model of leadership, with a track record of implementing a suite of initiatives that promote sustainability and resilience in its operations and in the community.

Weaknesses

The strengths noted above are prerequisites for a sustainable organization. They provide a solid foundation for addressing several weaknesses, which relate to lack of a formal framework for managing sustainability on a day-to-day basis. Weaknesses include lack of a quantitative basis for understanding the City's performance, particularly a greenhouse gas (GHG) inventory, which is the nearest universal metric for measuring progress towards sustainability. Benchmark cities also have a well-articulated planning framework for understanding performance, setting goals, identifying projects to meet those goals, integrating priorities into the operations, and communicating progress over time. Therefore, these sustainability "programs" have attracted significant allocation of human and financial resources from both internal and external sources. Pompano Beach currently lacks most of these features.

Opportunities

Accordingly, Pompano Beach's biggest opportunity is to develop a formal sustainability program, with a priority towards seizing the associated benefits, including cost savings, productivity gains, risk reduction and adaptive capacity. Several near-term opportunities can develop aspects of this program, including the on-going update to the Comprehensive Plan and anticipated revision of seawall regulations. A focus on seizing opportunities within the City's operational control may facilitate capitalizing on external opportunities related to development, transit and "green technology" innovation (e.g. renewable energy, automated vehicles, etc.)

Threats

Climate change is an existential threat to South Florida. This threat may be mitigated and adapted to through efforts to increase sustainability and resilience. There are several additional threats that should inform design of the City's sustainability program. These generally relate to how the City is perceived, the potential negative consequences of rapid change and key stakeholders. These types of threats may affect the speed with which the City improves its sustainability performance as well as the durability of its gains.

3.2 SUSTAINABILITY PROGRAM DEVELOPMENT

Pompano Beach's biggest opportunity is to develop a formal sustainability program. Successful programs include a shared vision, focus areas, a baseline, goals, projects and an implementation framework.

Vision involves both a top-down and bottom-up approach to fully engage the City's leadership, staff, and community stakeholders. Leadership support for the program is critical and includes making appropriate resources available. It is also important to develop a shared understanding of what sustainability and resiliency mean to the City. This can be achieved through training and capacity building among City staff. The program should be considered a collaborative effort across the City's departments. While lead by the City's Sustainability Coordinator, departments including Parks and Recreation, Development Services, Engineering, Public Works, Solid Waste and Recycling, Utilities, Finance, Information Technology, General Services, Grants, among many others, will all have roles to play in accomplishing the sustainability vision for the City.

Focus Areas can then be determined based on the City's priorities and unique characteristics.

The City should develop a **quantitative baseline** that describes its current performance in its focus areas (Workplan Phase 1). This document includes a qualitative baseline, which documents the City's policies, procedures, and existing projects. A quantitative baseline should also be developed as this will establish a starting point from which to measure future performance improvements. As part of the baselining process, the City should expand its evaluation of its vulnerability to climate change (Workplan Phase 2).

Goals can then be developed using the baseline as a starting point to project the desired future targets for each area (Workplan Phase 1).

Once these are in place, **projects** can be developed through a strategic process that evaluates their alignment with the vision and contribution to the City's goals as well as their financial, social and environmental performance. This approach is significantly more powerful than developing sustainability and resiliency projects individually without the other program elements in place. It allows project performance to be measured and evaluated within the context of the overall sustainability program.(Workplan Phases 3, and 4).

Implementation of projects requires assigning responsibility for project management, developing budgets and schedules, and identifying funding sources. Projects can then integrate into the City's policy and operational framework (Workplan Phase 5), including its Comprehensive Plan, Strategic Plan, Budget, and its Capital Improvement Plan. As quick wins are achieved, a strategy to communicate success to key stakeholders ensures broad support for tackling the challenges and opportunities that lie ahead (Workplan Phase 6). Protocols must be developed to transparently measure and report on progress (Workplan Phase 7).

These elements of a sustainability program, once in place, will establish the City as a nationally recognized leader. Third-party verification programs, such as LEED for Cities, is a method for validating Pompano Beach's performance (Workplan Phase 8).

3.2.1 Vision

Vision is the embodiment of what an organization aspires to be and is a catalyst for successfully moving in the direction of stated goals. Thus, it is a fundamental aspect of sustainability in Pompano Beach and serves to clearly communicate and guide the City's direction. Like the North Star, it establishes the guidelines for the sustainability and resiliency programs and helps keep the City on the approved course.

The City of Pompano Beach has an existing Vision Statement (Figure 3) which does not directly reference sustainability or resilience, although it hints at some elements of the Triple Bottom Line such as community safety, quality of life, and economic prosperity.

FIGURE 3: CITY OF POMPANO BEACH'S EXISTING VISION STATEMENT

> *The City of Pompano Beach's vision is to be a City that attracts many people due to its sense of family, distinctive architecture, broad range of amenities, comparative safety of the community and the opportunity for employment in many diverse economic sectors.*

To complement this overall vision, RS&H recommends that the City develop a sustainability vision statement that more specifically establishes the direction for the City's programs in these areas. Draft vision statements were developed during workshops conducted with City staff for each element of the Triple Bottom Line. These are presented in the Collaborative Workshop Summary in the Appendix

Following the workshop, RS&H combined key elements of three vision statements into a single sustainability vision statement (Figure 4) that captures all Triple Bottom Line elements, as well as the concept of resiliency.

FIGURE 4: CITY OF POMPANO BEACH PRELIMINARY SUSTAINABILITY VISION STATEMENT

> *The City of Pompano Beach is committed to protecting and improving environmental quality, community cohesion and shared prosperity through innovative investment in climate change resilience, resource conservation and materials management, land use and transportation, and education and culture.*

RS&H recommends that the City continue to work on the sustainability vision statement until a consensus is reached that embodies the desired direction and ambition of the sustainability program.

3.2.2 Focus Areas

Focus areas identify the City's priorities and establishes the scope of its efforts. RS&H identified focus areas based on staff and commission interviews, literature review, benchmarking and RS&H's knowledge of successful sustainability and resilience planning programs. The focus areas were presented to City staff during the collaborative workshops. Table 2 shows the focus areas and the elements they include.

TABLE 2: FOCUS AREAS

Focus Area	Elements	
Climate and Resilience	» Leadership Commitment » GHG Inventory » Climate Action Plan » Carbon Mitigation / Sequestration Initiatives » Sea Level Rise » Seawalls	» Flood Risk Management » Stormwater Management » Hazard Mitigation Planning » Natural & Human Hazard Data » Hazard Area Zoning » Post Disaster / Business Continuity Plans » Saltwater Intrusion
Resource Conservation	» Green Building » City Facilities and Infrastructure » Electronics and Equipment » Renewable Energy	» Water Use » Irrigation / Reclaimed Water » Stormwater and Wastewater
Materials Management	» Waste Generation & Pickup Services » Sustainable Procurement » Materials Bans » Recycling	» Composting » Disposal » Universal & Hazardous Wastes
Land Use and Transportation	» Zoning and Land Development Regulation » Comprehensive Planning » Adaptation Action Areas » Innovation District » Urban Forestry	» Open Space » Transit » Bicycle and Pedestrian Network » City Fleet Management
Equity and Outreach	» Affordable Housing » Health and Wellness » Food Security » Workforce Development	» Public Safety » Employee Engagement » Stakeholder Engagement » Public Outreach
Policy and Economics	» Strategic Plan » Sustainable Development Standards » Capital Improvements » Smart City	» Sustainability Reporting » Data Management Systems » Financial Performance » Sustainability Funding Sources

These focus areas are used throughout this document to organize strategic assessment of sustainability / resilience at the City. RS&H recommends these focus areas as a framework for organizing the City's subsequent efforts. The elements within each focus area can be reduced or expanded as necessary to reflect the City's objectives.

3.2.3 Baseline

A baseline establishes current sustainability performance and provides a reference point for measuring future efforts. This document includes a qualitative baseline. RS&H recommends the City also develop a quantitative baseline to establish current performance in the City's applicable focus areas. These activities should take place as part of Workplan Phase 1, which occurs in the first year of a five year plan.

The baseline information informs goals and projects development. It also brings all the City's relevant information into one place where it can be easily tracked and managed by the City's sustainability coordinator and establishes the basis for a sustainability data management system. A quantitative baseline is usually developed for a recent fiscal or calendar year. Typically, it would include an inventory of City facilities, fleets and infrastructure; energy, fuel and water use; and waste generation and diversion. It could also include data related to parks and open space; bicycle and pedestrian networks; complete streets; transit ridership; and metrics related to affordable housing, public safety, employee and community engagement, and financial performance. The risk, vulnerability and adaptive capacity of these elements relative to climate change are also important aspects of any baseline assessment (Workplan Phase 2). These should also be established in the first year of a five-year plan.

The following Best Management Practices (BMPs) derived from benchmarking and interviews are potential elements of the City's baseline (Table 3). These recommended baseline tasks could be integrated into the City's Comprehensive Plan or Strategic Plan.

TABLE 3: BASELINE RECOMMENDATIONS

Focus Area		Recommendation	Workplan
Climate & Resilience	»	Complete a GHG emissions inventory and forecast.	» Phase 1
	»	Conduct a comprehensive Vulnerability Assessment to identify infrastructure and areas of the City vulnerable to SLR, nuisance flooding, extreme precipitation, extreme temperatures, and other climate change impacts and quantify exposure.	» Phase 2
	»	Designate Adaptation Action Areas based on the results of the comprehensive Vulnerability Assessment	» Phase 2
Resource Conservation	»	Quantify or establish a protocol for quantifying the benefit of past IT initiatives that promote energy efficiency.	» Phase 1
Materials Management	»	Conduct a waste audit to identify potentially recyclable commodities in the waste stream from City facilities.	» Phase 1
	»	Track hazardous waste generation at City facilities.	
Land Use & Transportation	»	Develop a geospatial inventory of the City's tree canopy that quantifies the triple-bottom line benefits of urban forestry. Coral Gables accomplishes this using TreeKeeper software.	» Phase 1
	»	Quantitatively evaluate the feasibility of incorporating alternative fuel vehicles into the fleet.	» Phase 1
	»	Evaluate the cost and benefits of procuring alternative fuel vehicles directly or via lease and determine the most beneficial procurement strategy.	» Phase 1
Policy & Economics	»	Quantify the economic and GHG emissions reduction benefits of the City's sustainability initiatives to date.	» Phase 1
	»	Quantify the environmental, social and economic benefits of the recently implemented four-day work week at City Hall.	» Phase 1

3.2.4 Goals

While a vision statement establishes the general direction of the program, goals provide a way to both motivate and measure progress towards the vision. Goals should relate to the City's focus areas and organizational priorities. They should be ambitious enough to motivate performance, but realistic enough to have a high probability of achievement. Ideally, goals should be Specific, Measurable, Achievable, Relevant, and Timely (S.M.A.R.T.). Goals may be quantitative or qualitative but must be clear enough that it is easy to evaluate whether the goal has been met. They should be established in relation to a qualitative and quantitative baseline that establishes current performance.

The City should develop goals related to its focus areas as part of Workplan Phase 1, which occurs in the first year of a five year plan. Often, long term goals are established and then broken down into intermediate targets. Table 4 shows examples of goals the City should consider establishing as part of its sustainability program. These goals could also be integrated into the City's Comprehensive Plan and / or Strategic Plan.

TABLE 4: GOALS RECOMMENDATIONS

Focus Area	Recommendation	Workplan
Climate & Resilience	» Establish GHG emissions reduction targets with reference to Southeast Florida Climate Compact (SEFLCC) recommendations and the City's climate protection priorities, including the Climate Mayor's commitment to limit global warming to less than two degrees Celsius[2].	» Phase 1
Resource Conservation	» Establish quantitative goals for water conservation, energy efficiency and renewable energy use in City facilities. Consider normalizing goals by operationally meaningful metrics, such as square footage, to account for future growth.	» Phase 1
Materials Management	» Establish goals for waste diversion rates for the community and for city operations. » Consider establishing goals related to recycling participation rate and contamination of single stream recycling. » Establish a goal for paper management in City operations to organize "paperless" initiatives across departments.	» Phase 1 » Phase 1 » Phase 1
Land Use & Transportation	» Establish quantitative goals related to transit, bicycle, and pedestrian mobility options. » Establish tree canopy / urban forestry goals. » Establish quantitative goals related to transit, bicycle, and pedestrian mobility options. » Consider establishing goal to maintain current levels of service for park lands considering future development. » Establish goals for fleet fossil fuel reduction and alternative fuels use.	» Phase 1 » Phase 1 » Phase 1 » Phase 1 » Phase 1
Equity & Outreach	» Establish outreach/communications goals for the sustainability program, both internally and community wide. » Establish goals for employee and community health and wellness (e.g. access to healthy foods, mobility choices, and services, etc.).	» Phase 1 » Phase 1
Policy & Economics	» Establish a goal for funding the sustainability program.	» Phase 1

[2] Pompano Beach former Mayor Lamar Fisher committed the city to adopt, honor and uphold the goals of the Paris Climate Agreement, per the Climate Mayors Website. The Paris Climate Agreement requires signatories to determine, plan, and regularly report on the contribution they undertake to mitigate global warming, with the goal of holding the increase in the global average temperature to less than 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels.

3.2.5 Projects

Projects are the heart of any commitment to sustainability. They reflect the insight and creativity of the organization applied to meeting goals. Accordingly, the most successful sustainability programs develop a portfolio of projects derived from an understanding of the City's baseline performance, the BMPs of peers and the needs and ideas of key staff. Multi-faceted analysis utilizes tools such as life cycle cost analysis and cost benefit analysis, including comparisons with "do nothing" scenarios. These tools leverage a thorough quantitative baseline of City performance (Workplan Phase 1). Often these tools are extended to account for social and environmental benefits not typically captured by conventional economic metrics. This facilitates evaluation of each project's contribution to the City's goals. Projects should be developed as part of a comprehensive portfolio with an implementation plan (Workplan Phase 3). Projects related to addressing vulnerabilities to climate change should be developed as part of an Adaptation Action Plan (Workplan Phase 4). These phases of effort should take place between the second and third year of a five-year plan.

RS&H has preliminarily identified several project ideas for the City to consider based on establishing a qualitative baseline, benchmarking City performance against peers and an initial screen of stakeholders' ideas (Table 5). Further effort is required to round out this preliminary list, select and evaluate good fits for the City and perform the analysis required to develop an actionable project portfolio. Once developed the City's project portfolio can be integrated into its Comprehensive Plan, Strategic Plan, Budget and Capital Improvement Plan.

Table 5: Project Recommendations Focus Area	Recommendation	Workplan
Climate & Resilience	» Develop an Adaptation Plan that identifies actionable adaptation strategies, policies and projects designed to reduce identified vulnerabilities and improve resilience community-wide with a timeline for completion.	» Phase 4
	» Identify priority sea wall areas that need to be elevated, determine costs and impacts to the community, and evaluate implementation strategies.	» Phase 4
	» Continue hardening stormwater infrastructure, installing one-way check valves, etc. to adapt stormwater systems to SLR and higher groundwater levels.	» Phase 4
	» Develop a business continuity plan to help the Pompano Beach community and private businesses achieve a quick economic recovery from the effects of a hurricane or other natural disaster	» Phase 4
Resource Conservation	» Consider a commercial / industrial building benchmarking program like the policy developed by Miami-Dade County.	» Phase 3
	» Research the feasibility of and locations for facility / infrastructure scale Solar PV projects on City-owned property. Develop cost-effective and / or strategic projects.	» Phase 3
	» Evaluate enrollment in FP&L's SolarTogether program. SolarTogether is a community solar program through which municipalities receive energy credits on their monthly bill and renewable energy credits that can be used toward meeting a renewable energy goal in exchange for a subscription fee. Broward County and Coral Springs have pre-enrolled in the program. It is currently pending approval by the Florida Public Service Commission.	» Phase 3

Focus Area		Recommendation	Workplan	
Resource Conservation	»	Utilize a recurring program of energy and water audits and retro-commissioning[3] to identify energy and water efficiency and indoor environmental quality projects at City facilities and incorporate them into the operations and maintenance budget. The audit conducted by Siemens as part of its performance contract is likely out of date.	»	Phase 3
	»	Continue expanding the water reuse system.	»	Phase 3
	»	Investigate opportunities for irrigation efficiency projects at City facilities (e.g. automated controls, low-flow devices, xeriscaping and non-potable water supply).	»	Phase 3
	»	Continue to support investment in the C-51 Reservoir project to diversify the City's water supply.	»	Phase 3
	»	Continue investing in lining of sewer mains to reduce inflow and infiltration.	»	Phase 4
	»	Consider development of a stormwater BMP manual or Low Impact Design manual. Require its use for City facilities and infrastructure. Encourage or incentivize use by developers or incorporate requirements into revised Sustainable Development Standards.	»	Phase 5
	»	Update the City's Green Building Program (Chapter 152.51) to include City-owned renovations, existing buildings and infrastructure. Require certification at specified levels, and /or include minimum performance requirements.	»	Phase 5
	»	Revise Sustainable Development Standards based upon specific goals and objectives, e.g. resource conservation, resilience, etc. Re-evaluate the point system and the feasibility / desirability of specific sustainable design options (e.g. wind power). Establish minimum performance requirements and consider an enforcement mechanism, such as the bonding requirement implemented by Miami Beach and Coral Gables.	»	Phase 5
	»	Establish energy efficiency and/or sustainability procurement standards for IT equipment based on third party standards (e.g. Energy Star, EPEAT).	»	Phase 5
Materials Management	»	Evaluate additional opportunities for paper use reduction in cooperation with the IT Department via paperless initiatives, duplex printing, digital recordkeeping and procurement, etc.	»	Phase 3
	»	Develop a waste minimization or waste management plan that identifies targets, goals, metrics, and measures to increase diversion and or reduce waste generation, including mandating recycling. Include a review of waste management contracts as they near renewal and evaluate opportunities for costs savings and/or recycling revenue.	»	Phase 3
	»	Centralize maintenance materials (e.g. lamps, ballasts, belts, filters, etc.) and standardize as feasible to sustainable products.	»	Phase 3
	»	Consider further advancing product ban ordinances to address single use plastic pollution, following the model of communities like Coral Gables and Miami Beach which have banned expanded polystyrene containers and plastic bags to protect the environment and marine wildlife. Pompano Beach has already banned plastic straws city-wide and has a ban on expanded polystyrene at City facilities.	»	Phase 5
	»	Develop and implement a Sustainable Procurement policy managed by the Purchasing Department that emphasizes source reduction, enhances the environmental performance of the City's purchases and favors local materials and services. Encourage adoption by the private sector.	»	Phase 5

[3] Retro-commissioning is a highly cost-effective process to improve the efficiency of an existing building's equipment and systems. It can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building's life as equipment has aged, or as building usage has changed.

Focus Area		Recommendation	Workplan	
Land Use & Transportation	»	Consider implementing "Eco-district" concepts Innovation District infrastructure, e.g. LID, complete streets, dockless mobility, urban agriculture, transit, district scale renewable energy, LED streetlights, etc.	»	Phase 3
	»	Identify opportunities for multimodal transportation services (e.g. a transit station at the Isle Casino and/or along the FEC corridor, coordinating with the WAVE project, expanding Fort Lauderdale's Sun Trolley system, attracting Freebee's service to the City, expand Water Taxi service, enabling car-sharing, etc.).	»	Phase 3
	»	Develop a multimodal transportation plan or a bicycle and pedestrian plan. Implement improvements City-wide.	»	Phase 3
	»	Develop standard "Complete Street" sections and develop a plan for funding upgrade existing thorough fares based on this standard.	»	Phase 3
	»	Add pedestrian amenities to the Airpark walking trail, e.g. shade, fitness gear, etc.	»	Phase 3
	»	Provide incentives for fire sprinklers in new residential developments.	»	Phase 3
	»	Consider incorporating design elements into the proposed new fleet maintenance facility that would allow it to service vehicles using gaseous fuels such as CNG or propane (e.g. ventilation, sensors, alarms and associated controls).	»	Phase 3
	»	Develop additional electric vehicles support infrastructure (EVSE) at City parking facilities. Developing Level 3 EVSE within 5 miles of the I-95 corridor would contribute towards its designation as an Alternative Fuel Corridor by the Federal Highway Administration.	»	Phase 3
	»	Establish a program for right-sizing the City's fleet, accompanied by policies that establish minimum performance standards for fuel economy.	»	Phase 3
	»	Establish a fleet pool that would allow staff to share fleet vehicles.	»	Phase 3
	»	Identify and develop projects for designated Adaptation Action Areas and incorporate them into the City's Capital Improvements Plan.	»	Phase 4
	»	Update City Green Building Program (Chapter 152.51) to include City-owned renovations, and existing buildings and infrastructure. Require certification at specified levels. Include minimum performance requirements. Harmonize provisions related to the private sector with the City's Sustainable Development Standards.	»	Phase 5
	»	Revise Sustainable Development Standards based upon specific goals and objectives. Re-evaluate the point system and the feasibility / desirability of specific options (e.g. wind power). Establish minimum performance requirements and consider an enforcement mechanism, such as the bonding requirement implemented by Miami Beach and Coral Gables.	»	Phase 5
	»	Establish special requirements in the Zoning Code and land development regulations for designated Adaptation Action Areas.	»	Phase 5
	»	Carefully consider enabling dockless mobility in the City, following BMPs derived from the City of Fort Lauderdale's experience.	»	Phase 5
	»	Consider formally adopting or incorporating BMPs from the City of Fort Lauderdale's Vision Zero plan for bicycle and pedestrian safety into policy, regulations and plans.	»	Phase 5
	»	Establish requirements for use of alternative fuels in the City fleet.	»	Phase 5
Equity & Outreach	»	Evaluate potential benefits of pursuing a third-party sustainability certification such as LEED for Cities, which benchmarks the City's performance in several social sustainability categories.	»	Phase 3

	»	*Expand the City's health and wellness programs for both employees and community members. For example, Fort Lauderdale operates a health and wellness center that provides employees with primary, preventative and acute care.*	» *Phase 3*
	»		

Focus Area		Recommendation	Workplan
Equity & Outreach	»	Identify food deserts and take actions to promote food security and local food options, such as community gardens, farmer's markets, or incentives for groceries to operate in underserved neighborhoods. Identify the City's sustainability and resilience stakeholders and engage them in planning efforts. Coral Gables has established a Sustainability Steering Committee for this purpose.	» Phase 3
	»	Provide need-based funding for energy, water and resilience home improvements.	» Phase 3
Policy & Economics	»	Evaluate use of a continual improvement framework for sustainability management of City operations, e.g. ISO 14001 Environmental and Sustainability Management System.	» Phase 3
	»	Develop a Sustainability Plan for the City that incorporates existing/completed initiatives, includes goals related to sustainability focus areas and presents a business case for projects and policy actions that will allow the City to achieve the goals.	» Phase 3
	»	Develop a Smart City Plan that establishes a roadmap for improving government efficiency and level of service through implementation of connected technology and integrates data into the sustainability program.	» Phase 3
	»	Provide vocational / technical training for residents (e.g. in "green" trades).	» Phase 3
	»	Institute Lean Six Sigma program for City operations and implement selected projects.	» Phase 3
	»	Provide or enhance incentives / reduce fees for development that meet City standards, for businesses that employ large numbers of residents, etc.	» Phase 5

3.2.6 Implementation

Results require implementation. A sustainability program must make the case that it deserves a place of priority among the City's commitments. Building a business case, with estimated costs, returns on investment, assignment of responsibilities and schedules helps make the value proposition clear. It also enhances the City's competitiveness for grants and eases integration into the City Budget, Capital Improvement Program and other key processes that determine day-to-day activity. Even with resources in hand, there are many barriers to sustainability. Often, changes to policy, procedure and regulation are required (Workplan Phase 5). Integrating sustainability into the City's policy framework should occur in the third year of a five year plan.

Meeting ambitious sustainability goals requires a broad base. The City must effectively communicate its sustainability successes to garner support from a diversity of internal and external stakeholders (Workplan Phase 6). Measurement and verification of project implementation is a frequently overlooked. Developing key performance indicators and establishing the infrastructure to track them is essential for proving results (Workplan Phase 7). These phases of effort should occur between the third and fourth years of a five-year plan.

With strong sustainability data, the City can demonstrate its success to the world. Third-party verification programs, such as LEED for Cities provides a standard for validating Pompano Beach's leadership (Workplan Phase 8). This phase should be possible in the final year of a five-year workplan.

RS&H has preliminarily identified several implementation ideas for the City to consider (Table 6). Further effort is required to round out this preliminary list after the City develops a sustainability project portfolio.

TABLE 6: IMPLEMENTATION RECOMMENDATIONS

Focus Area	Recommendation	Workplan
Climate & Resilience	» Encourage revision of Florida Building Chapter One by the County Board of Rules and Appeals of Broward County and Miami-Dade County to require vulnerability reduction measures for all new construction, redevelopment and infrastructure such as additional hardening, higher floor elevations or incorporation of natural infrastructure for increased resilience.	» Phase 5
	» Evaluate options to amend zoning code and approvals process to require resilient construction methods for all new development or post-disaster redevelopment in vulnerable areas to reduce future risk and economic losses associated with sea level rise and flooding.	» Phase 5
Resource Conservation	» Incorporate high performance and sustainable design policies and procedures into the Capital Improvement Process used by all relevant departments, such as Engineering and GO Bond Administration, including detailed requirements for the planning, design, construction and turn-over phases to ensure a consistent result.	» Phase 5
	» Require use of life-cycle cost analysis of sustainability features in City projects to facilitate selection of options that maximize long-term benefits, even if upfront costs are higher.	» Phase 5
	» Develop design criteria and standard specifications for desired sustainable design features in City facilities and street sections. This may include establishing minimum performance requirements for pedestrian amenities, streets, landscaping, lighting, mechanical and stormwater systems, for example. Encourage use by the development community as a tool to meet revised Sustainable Development requirements.	» Phase 5
	» Develop sustainable facility operations and maintenance policies and procedures for existing City facilities, deriving BMPs from a model such as LEED for Existing Buildings.	» Phase 5
	» Require connection to the City's water reuse system wherever it is available. Currently connection is voluntary.	» Phase 5
	» Develop or procure a data management solution to track sustainability data and project performance with dashboards and reporting capability.	» Phase 7
	» Expand the capability of Facility Dude to include its energy management capabilities or explore procurement of an equivalent software tool to comprehensively manage utility accounts, benchmark usage, identify billing errors and identify accounts for further investigation of utility conservation opportunities. Energy Star Portfolio Manager is an open-source example, which the City can use to get familiar with the benefits of utility management systems.	» Phase 7
Materials Management	» Develop policies, ordinances or regulations to increase the community's waste diversion rate.	» Phase 5
	» Establish policies to substitute less hazardous materials when feasible in City operations and maintenance, and ensure hazardous waste is properly managed, disposed and documented.	» Phase 5

Focus Area	Recommendation	Workplan
Land Use & Transportation	» Incorporate sustainable development requirements into the Innovation District development agreement.	» Phase 5
	» Incorporate data and analysis related to sustainability and resilience in the City's on-going Comprehensive Plan update. Include Goals, Objectives and Policies based on the SMART framework (Specific, Measurable, Achievable, Relevant, and Timely).	» Phase 5
	» Require or incentivize electric vehicle support infrastructure in the City's zoning and development regulations following a successful model such as Coral Gables.	» Phase 5
	» Coordinate any municipal alternative fuel activities with the South Florida Clean Cities Coalition, including pursuit of funds via the Volkswagen Settlement – Environmental Mitigation Trust for State Beneficiaries. Support its efforts for Alternative Fuel Corridor Designation and associated signage along these corridors.	» Phase 5
	» Establish an anti-idling policy for the City fleet that includes effective enforcement mechanisms.	» Phase 5
Equity & Outreach	» Develop a Communications Plan for the City's sustainability program that identifies target audiences, media and messaging (this could be bundled into a Sustainability Plan).	» Phase 6
	» Engage City employees in the sustainability program and incorporate sustainability concepts into onboarding and ongoing training. For example, Coral Gables has contracted with the CLEO Institute to provide a "Sustainability 101" course to all staff. Content will be adapted for incorporation into new employee orientation education requirements.	» Phase 6
	» Develop sustainability content for the City's website that highlights Pompano Beach's sustainability achievements. Communicate regularly through the website and social media channels.	» Phase 6
	» Include a regular agenda item at City Commission meetings to communicate on the City's sustainability program activities.	» Phase 6
	» Incorporate sustainability and resiliency content into existing community special events.	» Phase 6
	» Develop a program for engaging local schools on sustainability topics.	» Phase 6
	» Consider outreach and/or partnerships with the Pompano Beach Chamber of Commerce through the City's Economic Development Committee (EDC) and the EDC's sustainability subcommittee. Coral Gables views such partnerships as essential to the success of pollution prevention (i.e. plastic bag bans) policies in that City.	» Phase 6
	» Utilize third-party standards to verify the City's sustainability performance and communicate validated successes to stakeholders locally and nationally. LEED for Cities can be used to validate the City's sustainability program, while standards like Envision can be utilized for individual infrastructure projects.	» Phase 8

Focus Area	Recommendation	Workplan
Policy & Economics	» Develop a Sustainability Revolving Fund and/or establish other dedicated sources of funding for the sustainability program.	» Phase 5
	» Establish a consensus procedure for adding estimates of environmental and social costs and benefits to economic evaluation of City projects. Use results to develop a Triple Bottom Line methodology for decision making and prioritization.	» Phase 5
	» Carefully evaluate the most advantageous structure and position in the City's organizational chart for the sustainability program. Several options exist, each with pros and cons. Coral Gables and Fort Lauderdale's sustainability departments are housed within public works, while Miami Beach and Broward County have independent departments that report directly to the administration. While both structures can be successful, interviewees stressed the importance of having leadership support, dedicated funding, and good communication with both leadership and other departments.	» Phase 5
	» Dedicate staff to planning and implementing the sustainability program in a full-time, dedicated capacity. Annually evaluate staff and budget needs, increasing staff and providing resources as appropriate as the program expands over time	» Phase 5
	» Encourage leadership to consistently communicate support for sustainability and resilience to City staff.	» Phase 6
	» Consider progress towards sustainability goals in evaluation of staff performance enabled by a sustainability data management framework.	» Phase 7

4. BENCHMARKING

Benchmarking provides a systematic comparison of performance criteria with peer cities. The process identifies BMPs that have helped peers achieve positive results. In collaboration with Pompano Beach, three cities were selected for benchmarking: Coral Gables, Fort Lauderdale and Miami Beach. These cities were selected for their similarities to the City of Pompano Beach, as well as their record of sustainability achievement.

To benchmark Pompano Beach's performance against each peer city, RS&H reviewed publicly available information and other sources. RS&H also conducted phone interviews with representatives of each city. In addition, RS&H interviewed Jennifer Jurado, Broward County's Chief Resilience Officer. Information gained from these sources was compared to Pompano Beach's qualitative baseline.

The benchmarking process defines 68 criteria across six focus areas. For each criterion, RS&H assigned a qualitative score.

- The highest score is "Integrated sustainability strategy," meaning the criterion is clearly incorporated into the City's operations.
- The intermediate score is "progress towards sustainability," meaning that the criterion has not been fully implemented, but some progress has been made.
- The lowest score is "Pre-implementation Phase," indicating that implementation of the criterion has not begun. This score could also indicate that RS&H found no evidence supporting implementation of the criterion.
- "Not applicable" was assigned to criterion that cannot be applied to the City. For example, criteria related to water utility initiatives do not apply to Coral Gables because it does not operate a water utility.

Benchmarking results are shown in Figure 5 below. These were reviewed and calibrated during the Collaborative Workshop with City staff.

FIGURE 5: BENCHMARKING SUMMARY RESULTS

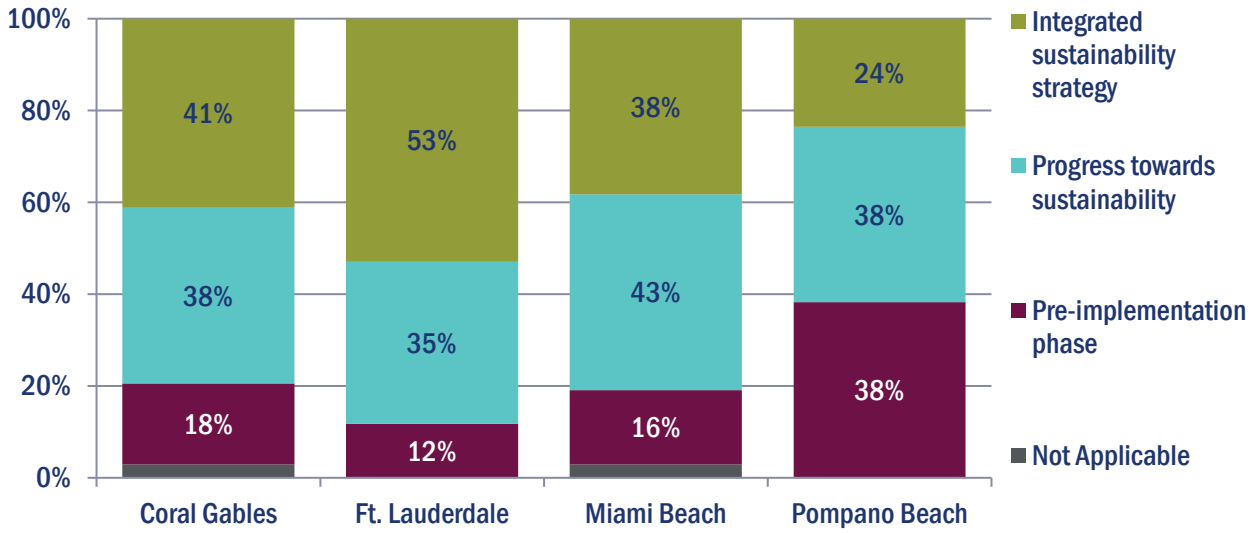


Figure 5 reflects Pompano Beach's strong sustainability foundation, having fully or partially met over half of the 68 evaluated criteria. However, it lags Fort Lauderdale, Coral Gables and Miami Beach, each of which have fully integrated more criteria and have fewer unimplemented criteria. This indicates that the City has an opportunity to make rapid progress with its sustainability and resilience efforts. Further, with over eighty percent of the criteria met or in progress, these cities are good sources of BMPs for Pompano Beach's future sustainability efforts.

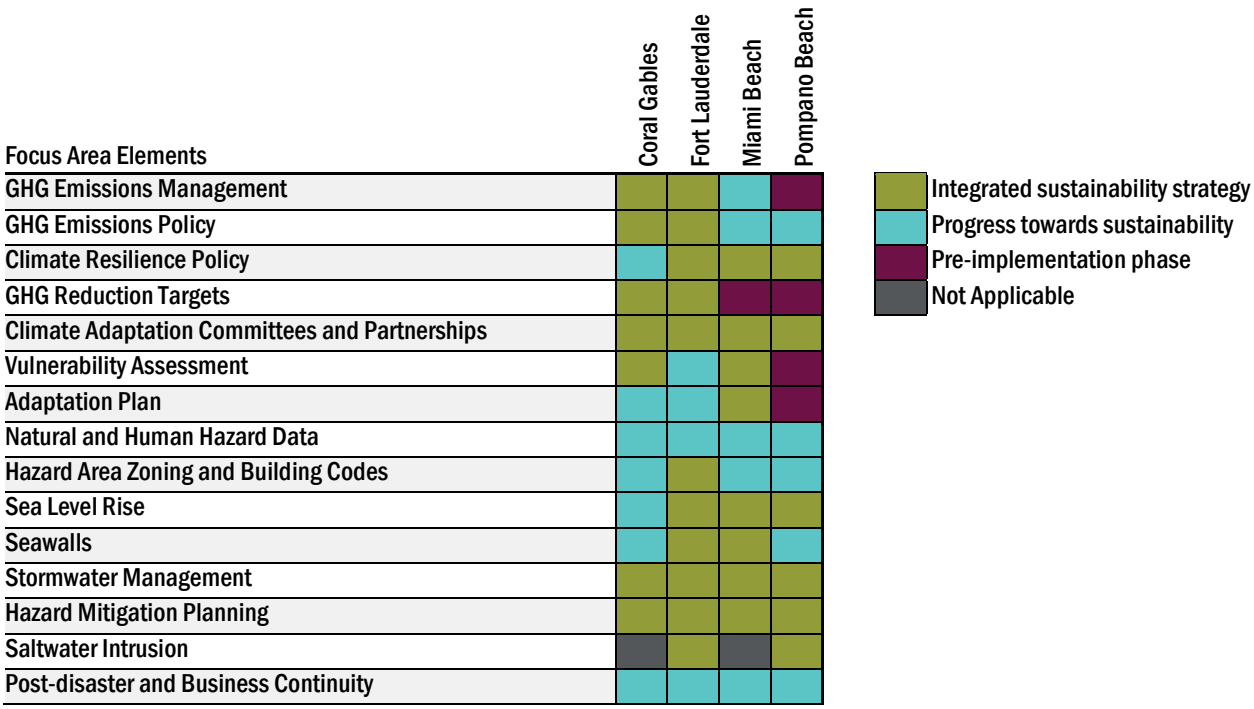
Benchmarking is inherently a qualitative exercise, involving interpretation and judgement. Cities are difficult to compare precisely, given the diversity of their unique qualities. Therefore, the purpose of benchmarking is not to rank cities "good," "better," or "best." Rather, insight is gained by comparing relative positions with respect to the focus areas, which identifies areas where Pompano Beach may focus its efforts. Comparing cities' performance relative to the specific criteria identifies BMPs that the City can consider adapting to its own situation.

Benchmarking results within each focus area by criterion are on the following pages. BMPs derived from this analysis are collected in the Strategic Analysis section.

4.1 CLIMATE AND RESILIENCE

Figure 6 below summarizes benchmarking within the Climate and Resilience focus area. This focus area encompasses both climate mitigation and adaptation to climate impacts. Both strategies are key to reducing the potential for harm as a result of increased temperatures, severe weather, sea level rise, and other consequences of global climate change.

FIGURE 6: CLIMATE AND RESILIENCE BENCHMARKING RESULTS



Pompano Beach has made a leadership commitment to reduce emissions, coordinated with the Southeast Florida Climate change Compact (SEFLCC), Broward County and other partners, amended seawall height regulations, and incorporated climate adaptation into stormwater management, among other actions. The City has also begun to reduce natural and human hazards through the Comprehensive Plan and implemented Floodplain Regulations that provide standards for development seaward of the coastal construction control line.

The City's performance in this focus area lags somewhat behind its peers with 27% of benchmarked elements in the pre-implementation phase. These elements include establishing a GHG inventory, setting reduction targets, and demonstrating emission reductions. They also include completing a comprehensive Vulnerability Assessment that includes City facilities, neighborhoods, infrastructure, vulnerable populations, and social equity. Once vulnerabilities have been identified, the next step is to develop an Adaptation Plan to address them, a step only Miami Beach has completed to date among the benchmarked cities.

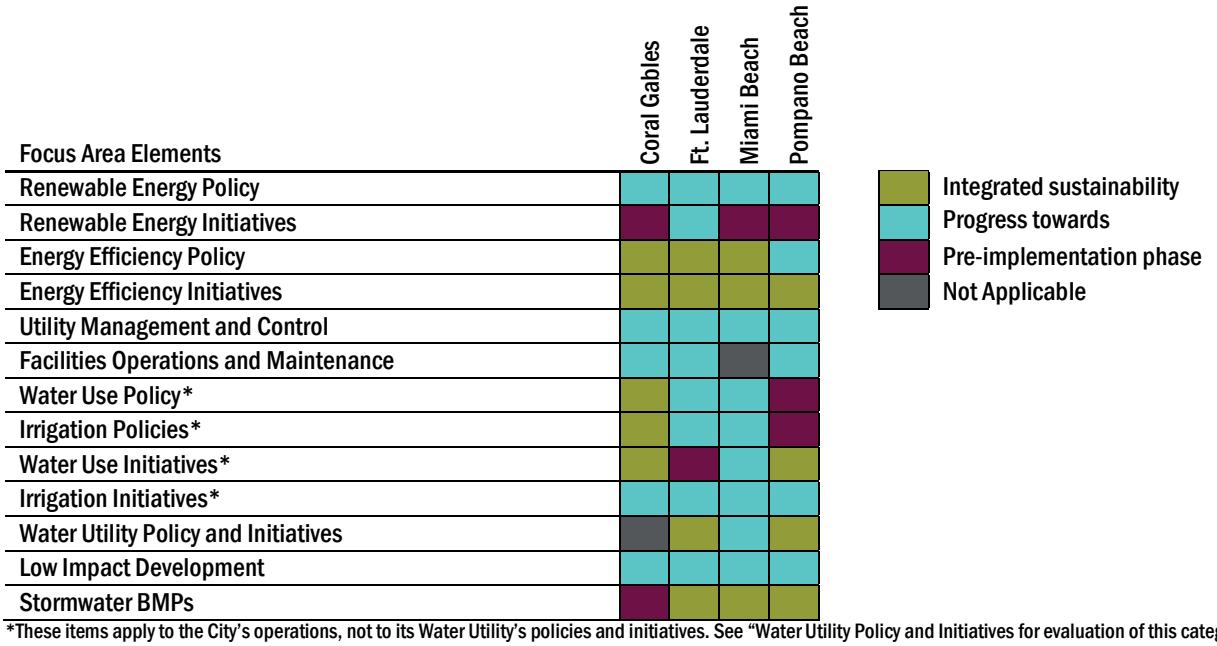
Recommendations derived from benchmarking are included in the Strategic Analysis section.

4.2 RESOURCE CONSERVATION

Figure 7 below summarizes benchmarking within the Resource Conservation focus area.

Since resource conservation projects result in cost avoidance, they typically exhibit the highest demonstratable return on investment of all sustainability and resilience projects. Accordingly, it is common for Cities to feature resource conservation projects as the cornerstone of their program.

FIGURE 7: RESOURCE CONSERVATION BENCHMARKING RESULTS



*These items apply to the City's operations, not to its Water Utility's policies and initiatives. See "Water Utility Policy and Initiatives for evaluation of this category.

The City's performance in this focus area is like its peers, with 70 to 80 percent of criteria met or in progress. Its water utility has undertaken exemplary water conservation and reuse projects (see "Water Utility Policy and initiatives" in Figure 7). The City's performance contract with Siemens has resulted in several energy and water conservation projects. As this contract nears conclusion, new opportunities should be presented. The City has restricted watering days, advanced irrigation controls, and an AMI system that can show utility customer's water use hour by hour.

All cities show difficulty meeting renewable energy criteria, in part because of state and utility policy, which do not support technologies like solar at levels of states of comparable size (e.g. California, New York, Texas). Establishing policies and goals for resource conservation would increase the City's performance relative to peers.

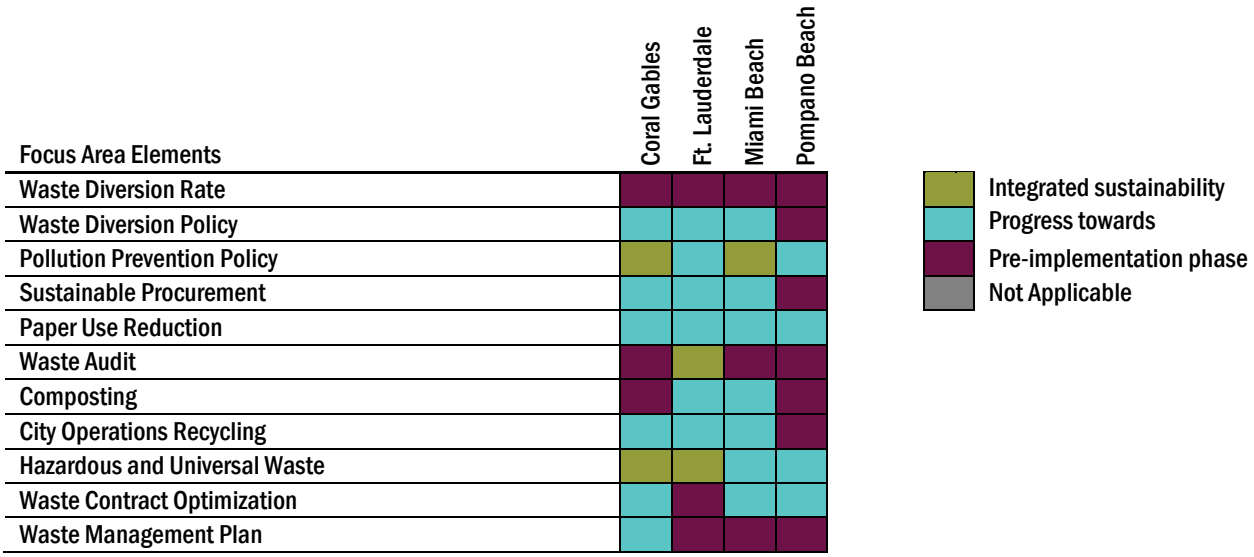
Recommendations derived from benchmarking are included in the *Strategic Analysis* section.

4.3 MATERIALS MANAGEMENT

Figure 8 below summarizes benchmarking within the Materials Management focus area.

This focus area encompasses source reduction, waste diversion, and effective waste management. Municipalities have achieved significant cost reductions through a variety of strategies aimed at increasing waste diversion and improving recycling. This can allow cost savings through reduced infrastructure and tipping fees, and in some cases allow recycling revenue to be captured. In addition, enhanced waste management benefits the environment and may improve aesthetics and quality of life for residents.

FIGURE 8: MATERIALS MANAGEMENT BENCHMARKING RESULTS



The benchmarking results show significant room for improvement in materials management in the City. All benchmarked communities had waste diversion rates lower than the national average. Except for Fort Lauderdale, none had initiated a waste audit, often seen as the first step to improving diversion. A waste management or waste minimization plan is one of the best ways to act on waste audit findings and implement improvements. None of the benchmarked cities has implemented such a plan to date, although Coral Gables is in the process of developing one.[4]

Pompano Beach's waste manager indicated the City has a good waste and recycling contract because it allows the City to maintain recycling service even when marketing conditions are not favorable. The City's contact with Waste Management (WM) also requires the company to utilize CNG. The City appears to lack a formal sustainable procurement policy although some purchases meet sustainable criteria. The City lacks a composting initiative. Staff noted multi-family residences may pose challenges for composting.

Pompano Beach Ordinance 2019-20 bans plastic straws city-wide. Ordinance 2018-22 is designed to reduce the use of expanded polystyrene by City contractors and special event permittees. However, these bans are

[4] Due to weekly pick up of bulk items, the City has observed a "dumping" issue, whereby piles of refuse items accrue at curbside prior to collection, some of which may be contributed by non-residents.

not as far-reaching as those of Coral Gables and Miami Beach. Coral Gables banned polystyrene containers, plastic straws and single-use plastic bags city-wide. Miami Beach banned plastic straws and stirrers from city properties and banned plastic bags and expanded polystyrene city-wide. It has implemented the "Plastic Free MB Business" program to help businesses comply.

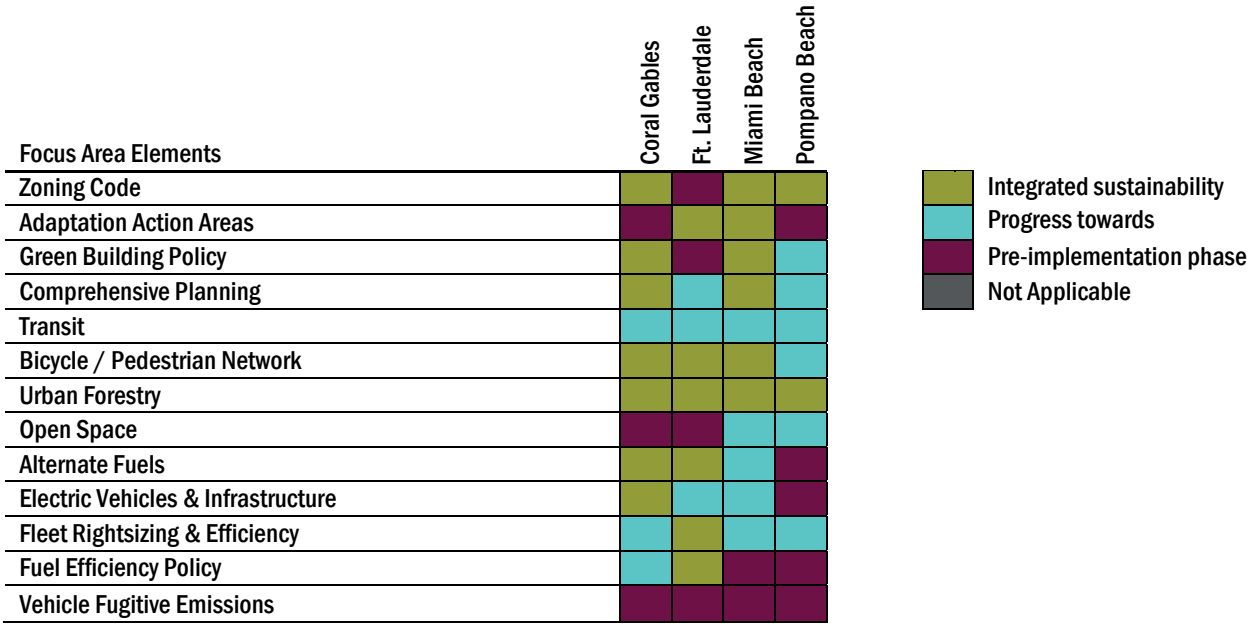
The City has initiated several paper use reduction initiatives on an *ad hoc* basis. However, the City has not yet adopted a comprehensive policy or strategy, including goals and metrics.

Recommendations derived from benchmarking are included in the Strategic Analysis section.

4.4 LAND USE AND TRANSPORTATION

Figure 9 below summarizes benchmarking within the Land Use and Transportation focus area. Land Use criteria relate to the City's policy and regulatory influence over the build environment. While difficult to quantify, initiatives in this area have a significant, long-term influence on sustainability and resilience. Transportation initiatives, particularly those related to the City's fleet, will likely have a significant return on investment.

FIGURE 9: LAND USE AND TRANSPORTATION BENCHMARKING RESULTS



The City's performance in this focus area is slightly behind its peers, with about 60 percent of criteria met or in progress, compared to 70 to 80 percent for peers.

While the City's zoning code includes several outstanding sustainability features, including sustainable development requirements, they may be due for an update to reflect current BMPs. This is reflected in the City's current project to update its Comprehensive Plan. The Comprehensive Plan update will incorporate several sustainability and resilience aspects.

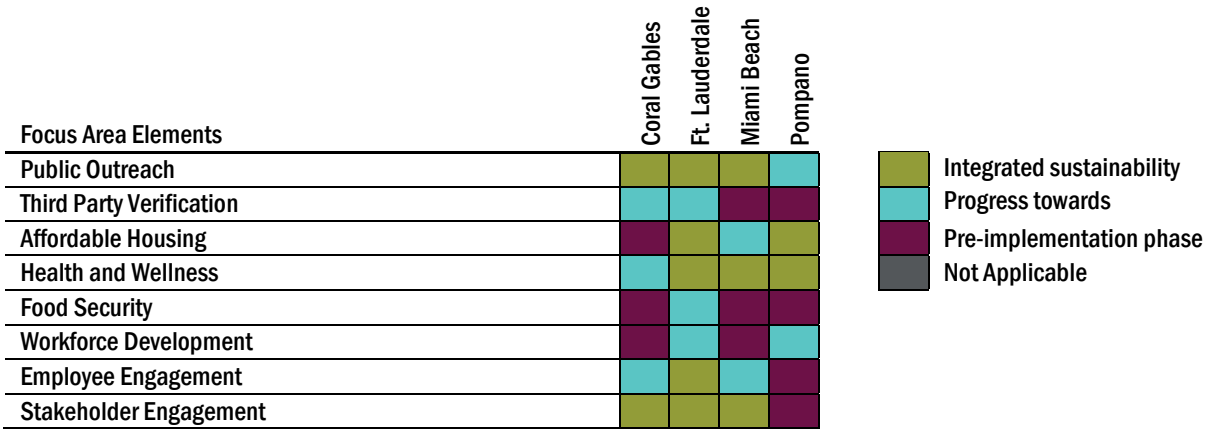
The City's vehicle fleet may present a big opportunity to demonstrate leadership. Coral Gables has been very successful in integrating electric vehicles into its fleet and is now seen as a leader in the state in this area. Opportunities to incorporate other types of alternative fueled vehicles may also exist and may lead to cost savings. Pompano Beach's fleet initiatives to date include substituting a limited number of more efficient vehicles and an informal requirement that workers limit idling in cool months. The City has GPS trackers that could be used to monitor idling. The IT department created the "Where is my inspector" application, which optimizes routing for building inspectors, leading to fuel savings.

Recommendations derived from benchmarking are included in the Strategic Analysis section.

4.5 EQUITY AND OUTREACH

This focus area encompasses social equity, health and wellness, food security, public outreach on sustainability and resilience issues, and stakeholder engagement. While sometimes overlooked, social issues are a vital component of the Triple Bottom Line. Social equity is also of critical importance when considering adaptation planning options, both in identifying climate impacts to vulnerable groups such as low income, minority or elderly populations, and in ensuring that they are not disadvantaged by proposed solutions. Public outreach and stakeholder engagement are important to provide transparency in sustainability planning processes, collect stakeholder input, and build support and consensus.

FIGURE 10: EQUITY AND OUTREACH BENCHMARKING RESULTS



Fort Lauderdale has progressed the furthest in this focus area with 63% of elements integrated into sustainability strategy and 38% having made progress. In contrast, Pompano Beach has 50% pre-implementation, 25% have made some progress, and 25% are integrated into sustainability strategy. Pompano Beach scores well for the attention it has paid to affordable housing. The City has also hosted community health and wellness events, and supported workforce development through its Revolving Loan Fund (RLF) Program. Staff indicated the City has strong health and wellness programs for employees.

Relative to Coral Gables, Fort Lauderdale and Miami Beach, the City does not have sustainability or resilience webpages that highlight its accomplishments. Coral Gables and Fort Lauderdale have made steps towards third party verification of their sustainability progress. Coral Gables completed a preliminary feasibility assessment

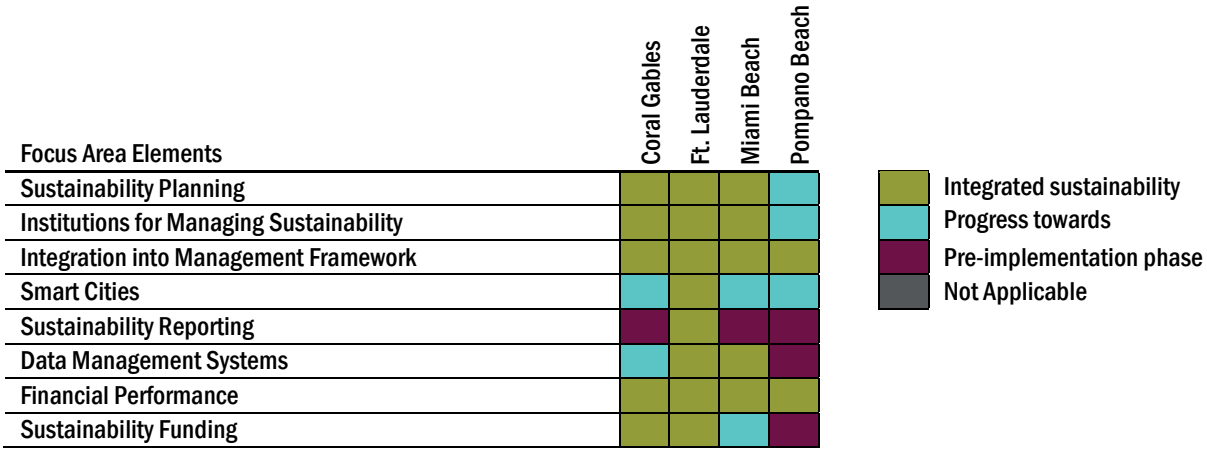
for the STAR Community Rating System (now incorporated into LEED for Cities), and Fort Lauderdale is Florida Green Government Certified at the Gold Level.

The issue of food insecurity / food deserts was raised as a concern in interviews with commissioners. Pompano Beach has a community garden as well as a weekend farmers market during the winter months which can help alleviate the food desert problem. The City has not yet formally mapped its stakeholders[5] or substantively engaged stakeholders or employees in sustainability or resilience planning.

4.6 POLICY AND ECONOMICS

Figure 11 below summarizes benchmarking within the Policy and Economics focus area. This focus area includes elements related to planning and managing the sustainability program, as well as financial performance and funding. Effective organizational and management structures, tracking of metrics and key performance indicators, and providing financial resources and returns are critical to the success of the City's sustainability and resilience initiatives.

FIGURE 11: POLICY AND ECONOMICS BENCHMARKING RESULTS



Pompano Beach had 38% of elements in the pre-implementation phase, 38% in progress and 25% fully integrated. Fort Lauderdale had successfully integrated all elements, while Coral Gables and Miami Beach each had 13% pre-implementation, 25% in progress, and 63% integrated. Pompano Beach does not yet have a formal sustainability plan that establishes a vision and goals for the sustainability program, presents a baseline for City operations and the community[6], and includes projects designed to meet Triple Bottom Line objectives. The City recently filled a Sustainability Coordinator position but does not yet have a sustainability department or other dedicated staff, as its peers do. However, some sustainability and resilience elements have been integrated into the City's Vision 2033 goals within the 2018 Strategic Plan. Of the four benchmarked Cities, only Fort Lauderdale has published a sustainability report.

[5] Stakeholder mapping involves identifying, analyzing and prioritizing residents, community organizations, partners, and other stakeholders who will be affected by or contribute to the success of sustainability and/or resilience planning efforts

[6] A community-wide baseline would include metrics like community GHG emissions, energy and water use. While the City does not directly control these factors, it can influence them through policy and regulation.

IT department staff indicated Pompano Beach is considering Smart City technologies which offer an opportunity to integrate data into the sustainability program. It does not yet have a comprehensive sustainability data management system.

All four cities have strong financial performance as evidenced by an "AA" or better municipal bond rating. Pompano Beach does not yet have a sustainability revolving fund (SRF) or other dedicated funding source for sustainability initiatives, in contrast to the other cities which have established funding for their sustainability departments.

5. BASELINE

RS&H reviewed documents from the City, Broward County, the Southeast Florida Climate Compact, and other sources to establish a qualitative baseline for the City's sustainability and resilience planning activities to date. This section summarizes relevant information by focus areas (see *Focus Areas* above) to provide a qualitative baseline of the progress that has been made.

In the future, the City should consider supplementing this effort with a quantitative baseline that defines resource use, GHG emissions, and other key indicators of the City's performance. A quantitative baseline facilitates estimation of project costs and benefits. It also facilitates tracking the results of initiatives to demonstrate they meet planned objectives.

5.1 CLIMATE AND RESILIENCE

The Climate and Resilience focus area includes elements that reduce GHG emissions or make the City more resilient to climate change impacts. In general, approaches to dealing with climate change can be divided into two categories, mitigation and adaptation. Mitigation involves addressing the root cause of climate change by reducing anthropogenic GHG emissions or increasing carbon sequestration. Adaptation requires improving resilience by reducing the vulnerability of human and natural systems to the expected impacts of climate change. Because temperatures, sea levels and other climate impacts are expected to continue to increase even if GHG emissions can be rapidly curtailed, both mitigation and adaptation actions are necessary for any successful climate strategy.

5.1.1 Mitigation

A typical framework for managing and reducing GHG emissions involves a series of steps that include: developing a GHG inventory, establishing GHG emissions reduction targets, developing a Climate Action Plan (CAP) or Sustainability Action Plan (SAP) with projects that will reduce emissions, implementing the plan, and monitoring and verifying results. As a circular process leading to continual improvement, monitoring and verification frequently leads back to future GHG inventory updates, further calibration of targets, and so on. Leadership commitment, already present in Pompano Beach as a result of the Climate Mayors' agreement, is a prerequisite for this framework.

5.1.1.1 Leadership Commitment

In 2013, the City Commission affirmed its endorsement of the Mayors' Climate Action Pledge and the City's support for the Southeast Florida Regional Climate Change Compact (SEFLCC) in Resolution 2013-134. The

resolution recognized the City's vulnerability to climate change impacts and the need for action and agreed to consider integrating the SEFLCC's Regional Climate Action Plan (RCAP) into the City's future Comprehensive Plans, Climate Action Plans, and Sustainability Plans as appropriate. SEFLCC's 2016 Regional Climate Action Plan (RCAP) Municipal Implementation Survey Report details the City's progress in implementing the RCAP. In 2016, Mayor Lamar Fisher joined the U.S. Conference of Mayor's Climate Change Committee. The Mayor continues to be active on the committee.

5.1.1.2 GHG Inventory

The City has not yet developed a GHG inventory. An inventory provides accurate accounting of the heat-trapping gases that contribute to climate change and its effects, including sea level rise. It also establishes a baseline against which emissions reduction progress can be measured. As a universal metric for measuring performance, the inventory can systematically uncover high-value opportunities to better manage resources. By completing a GHG inventory, the City will gain more control over its emissions-producing activities and be better able to manage them, identify opportunities for energy conservation and cost savings, and demonstrate its commitment to addressing the root causes of climate change. Completing a GHG Inventory is an essential first step to be able to demonstrate emissions reductions.

5.1.1.3 Climate Action Plan

The City has not yet developed a CAP or SAP that includes a suite of projects strategically selected to reduce GHG emissions. The City has implemented some projects during recent years which have emissions reduction benefits, including adopting energy efficient technologies and practices. The City has also made some policy changes which have emissions reduction benefits, such as requiring LEED standards for new facilities and retrofits. Additionally, the City has conducted some public outreach on climate, such as proclaiming October 24, 2009 "International Climate Action Day" and hosting the Broward Solar Co-op outreach meeting on May 21, 2019.

However, in the absence of a CAP or SAP these initiatives and policies are being implemented on an *ad hoc* basis without a strategic analysis of environmental, social, and financial benefits, cost-benefit analysis, including tracking emissions, energy and resource savings.[7] This approach makes it difficult to measure emissions mitigation and energy / resource savings City-wide and limits the City's ability to publicize its accomplishments.

5.1.1.4 Carbon Mitigation / Sequestration Initiatives

The City has been an All-American Tree City for 25 years. In addition to aesthetic, stormwater, air quality and cooling benefits, trees sequester carbon from the atmosphere as they grow. The City has not yet quantified the carbon sequestration benefits of its street tree program.

In 2012, the City adopted Zoning Code Article 5, Part 8: Sustainable Development Standards (SDS). The regulations were designed to promote sustainable development practices to protect natural resources and address climate change. SDS promoting and resource and energy efficiency have carbon mitigation benefits community-wide. The SDS incentivizes renewable energy production, electric vehicle support equipment (EVSE), energy efficiency and other measures which reduce GHG emissions in the community.

[7] For example, Siemens reports annually on the results of the performance contract its holds for the City. However, the results of other resource efficiency efforts at the City are not tracked and quantified in a comparable manner.

Internal energy efficiency initiatives such as those implemented under the City's performance-based contract with Siemens also reduce GHG emissions, although these benefits have not been tracked or quantified. These initiatives are discussed in more detail in the Resource Conservation section.

5.1.2 Adaptation

Although the City has taken many steps to improve resilience, it has not yet completed a formal adaptation planning process. Adaptation planning begins with understanding the risks posed by climate change, the City's specific vulnerabilities to those risks, and its capacity to adapt and become more resilient. In order to thrive in the future, the City must understand its vulnerabilities at a deep level and carefully choose options to adapt to changing conditions. The first step is to develop a Vulnerability Assessment, followed by an Adaptation Plan.

The City has not yet completed a comprehensive Vulnerability Assessment, although Broward County prepared a brief, high-level "Vulnerability to Sea Level Rise Assessment Report" for the City, and the City's Stormwater Master Plan includes some adaptation elements. A Vulnerability Assessment would identify risks to City buildings, infrastructure, habitats and connections to vital services and resources (e.g., transportation networks, schools, hospitals, landfills, utilities, and groundwater). This would allow risks to be analyzed and prioritized based on likelihood, cost, spatial extent, and time horizon. To date, the City has focused most of its adaptation efforts on SLR. Other probable climate impacts, such as extreme precipitation events, drought, heat, and economic impacts, have received much less attention.

Once vulnerabilities are understood, an adaptation plan can be developed. This involves identifying potential adaptation and mitigation measures and prioritizing them via criteria, including feasibility and cost, as well as social equity and environmental factors. The resulting adaptation plan would ensure the City is addressing the correct risk and vulnerabilities in the most strategic, cost effective and socially responsible way.

5.1.2.1 Sea Level Rise

In 2016, the City passed Resolution 2016-134, adopting the SEFLCC's "Unified Regional Sea Level Rise Projection for Southeast Florida" (URSLRP). The URSLRP projects sea level rise (SLR) of six to ten inches by 2030 and 14 to 26 inches by 2060, above a 1992 baseline, and includes SLR projections for 2100, as well as a third, higher curve for long-term, risk-intolerant investments. In adopting the URSLRP, the City committed to use it for planning, infrastructure design and other decision-making. SLR can contribute to high-tide or nuisance flooding, salt-water intrusion and water table impacts that can affect septic tanks, wells, underground electric lines and other infrastructure.

Broward County prepared a 2013 "Vulnerability to Sea Level Rise Assessment Report" which analyzed Pompano Beach's vulnerability to SLR with a limited level of detail. The report looked the vulnerability of municipal infrastructure to SLR based on sunny day conditions, i.e. the combined effect of SLR and storm events was not considered. The report found that under three acres of the City was vulnerable to one foot of SLR, but that more than 58 acres were vulnerable to two feet, a level within the range predicted by 2060. It found that eight City parks, a section of the East Community Redevelopment Area (CRA) and one of the City's fire stations were vulnerable to SLR.[8]

[8] These facilities are located on the barrier island, where the City is obligated to provide such services. Generally, parks can be acceptable uses in areas vulnerable to flooding, since they may feature the capacity to retain and filter excess water as it percolates through soils.

The City's Stormwater Master Plan includes a section devoted to analysis of sea level rise, including the effect of rainfall on sea level rise projections of one, two and three years. The analysis concluded that most of the City is vulnerable to flooding from significant rainfall events with higher sea levels and identified alternatives for improving the City's stormwater system to address these findings, such as stormwater pumps and backflow prevention devices.

The City has taken steps to monitor the progress of SLR. In 2016, the City installed a sea level gauge on the intracoastal at a location known for historical flooding. A second gauge was installed in 2018. The gauges provide continuous monitoring of sea levels at their locations.

The City's 2018 Strategic Plan includes preparing and planning for SLR as an objective under Goal 4, "Superior Capacity for Growth through Quality Sustainable Development". The plan requires analysis of SLR in the City and implementation of response to SLR in the City's Comprehensive Plan. Some of the projects detailed in the Strategic Plan may have benefits in adapting to SLR; for instance, the installation of stormwater check valves that prevent backflow due to high water conditions. However, the plan does not include detailed discussion of the SLR threat or strategic analysis of potential responses.

City staff are aware of the threat posed by SLR and are seeking regional collaboration to develop solutions. Development Services staff participated in the Sea Level Rise Solutions Conference held by the Greater Miami Chamber of Commerce in 2017 and have attended the Southeast Florida Climate Change Compact annual conferences for the past several years. City staff has also completed the 2019 Water and Climate Academy conducted by Broward County. The City's utility, public works and engineering divisions are actively planning for SLR and have begun implementing a variety of improvements to stormwater and wastewater systems to prevent groundwater flooding and stormwater overloads, however, this has not yet been addressed as part of a City-wide strategic planning effort.

5.1.2.2 Seawalls

Seawalls are engineered structures that can provide protection against coastal flooding and erosion. Their advantages include an ability to protect against flooding up to their design height, a long-life span, and the ability to be upgraded and increased in height over time. Disadvantages include high construction and maintenance costs, and potential for failure due to scouring as a result of wave action. Seawalls can be subject to overtopping if water levels exceed their design height. They can also disrupt natural processes such as habitat migration and may encourage development in unsafe areas.

The City requires that all property owners abutting a waterway construct a seawall, except for properties on the beach. Pompano Beach staff are monitoring the regulations being written by Broward County and will present an ordinance to establish a minimum required height of sea walls once those regulations are adopted. Higher seawalls will help protect adjacent properties in the City from higher tides, however, they cannot protect from the additional flooding that will occur due to the reduction in soil storage which will also result from rising seas filling the porous limestone underlying most of Florida.

5.1.2.3 Flood Risk Management

The City's land development regulations reduce flood risk by mandating the top surface of the lowest floor of all new buildings at or above the base flood level or eighteen inches above the crown of the adjacent road (residential) or six inches above the crown of the adjacent road (non-residential). (§152.24.C.1).[9] The city requires drainage facilities for all new development, limits paving of swales in the right-of-way and encourages homeowners to maximize green space.

The City makes public outreach information related to various kinds of flood risk available on its website. This includes maintaining digital flood zone maps in an online GIS system accessible to the public. The City also mails an 11-page, highly detailed "Flood Hazard" brochure to all property owners near the start of each hurricane season. The Tradewinds magazine, sent to residents twice a year, also contains articles on flooding and flood protection.

The City further reduces flood risk through participation in the Community Rating System (CRS). Administered by the National Flood Insurance Program (NFIP), CRS is a program for participating communities which seeks to reduce flood damages to insurable property. The program provides insurance premium discounts to communities which demonstrate they have taken certain actions to reduce flood risk. Pompano Beach has been enrolled in the CRS program since October 1993. The City's current CRS classification is 7, resulting in a 15% discount for Special Flood Hazard Area (SFHA) properties and a 5% discount for non-SFHA properties.[10]

In 2017, the City entered into a Service Agreement with CRS Max Consultants with the goals of assessing flood mitigation practices, reducing rain-related flood risk and possibly obtaining a lower classification and increase flood insurance discounts. The City subsequently adopted some regulatory changes the consultant firm identified to obtain additional CRS points. The City also created a Program for Public Information (PPI) Committee to identify additional outreach opportunities to improve its CRS rating. As a result of these efforts, the City's CRS rating will improve to a 6 (20% discount on properties in the SFHA) starting on May 1, 2020.

5.1.2.4 Stormwater Management

The City's 2013 Stormwater Master Plan (SWMP) includes inundation maps that show the impact of SLR and storm events and identifies vulnerable stormwater facilities. The City plans to fund SWMP projects with stormwater utility fees and state revolving fund money over the next decade. The City's Potable Water Masterplan Update and Reuse Water Masterplan Update, currently in progress, will also include SLR considerations.

5.1.2.5 Hazard Mitigation Planning

In coordination with the City of Pompano Beach and the National Weather Service, Broward County issues hurricane and tropical storm watches and warnings as well as storm surge watches and warnings (new in 2017). The City operates an Emergency Operations Center and coordinates with Broward County, utilizing the CodeRed system for emergency notification messages. The City also maintains a Vulnerable Population

[9] Pompano Beach Code of Ordinances §152.24.C.1, accessed 10/13/19 at 3:25 PM.

[10] CRS 12, April 2018, Table 3: Community Rating System Eligible Communities Effective May 1, 2018

registry. Broward County's Enhanced Local Mitigation Strategy (ELMS) is the primary hazard mitigation planning document used by the City.

5.1.2.6 Natural and Human Hazard Data

The City has taken some steps to reduce the number of homes that do not meet current building code standards located in high risk areas. The Comprehensive Plan and Floodplain Regulations require substantially damaged or substantially improved structures to meet all current construction and flood plain regulations when rebuilt or improved. The City has not yet seen the repetitive loss conditions that would warrant a relocation or buyout program in the high risk areas.

5.1.2.7 Hazard Area Zoning

Floodplain development regulations provide standards for development seaward of the coastal construction control line. The City does not allow the allocation of flexibility units on the barrier island. They are available everywhere else in the City.

5.1.2.8 Post Disaster / Business Continuity Plans

The City has adopted Broward County's post-disaster redevelopment plan via the City's Comprehensive Plan. The City does not currently have a post-disaster business continuity plan designed to minimize impact to the business community.

5.1.2.9 Saltwater Intrusion

Rising sea levels can cause saline water to penetrate freshwater aquifers in coastal areas, resulting in contamination of drinking water supplies. This process, known as saltwater intrusion, has already been observed in Broward County. Pompano Beach has begun to address this threat. Since 2006, the City's utility, public works and engineering divisions have been planning changes to the infrastructure system to address SLR. Those initiatives and actions include using reuse water to abate saltwater intrusion impacts, as well as operating a second wellfield located further inland. In addition, the City's strategic plan requires implementation of saltwater intrusion abatement projects. The City has also recently purchased water withdrawal capacity by investing in the C-51 basin project which is designed to introduce water otherwise lost to the tides into the Biscayne Aquifer and thus pushing back the salt water intrusion line.

5.2 RESOURCE CONSERVATION

Resource conservation includes energy and water use associated with facilities and infrastructure, including industrial, commercial and residential buildings as well as City buildings and utilities. Along with transportation, facilities and infrastructure is typically the leading source of greenhouse gas emissions in City operations and in the Community. For this reason and because resource conservation projects result in cost avoidance and exhibit the highest measurable return on investment of all sustainability and resilience projects, it is common for Cities to make this focus area the cornerstone of their program.

5.2.1 Green Building

The City's Strategic Plan, Goal 4 includes an objective to encourage new buildings to meet LEED or other sustainability building standards. Chapter 152.51 of the City's Code of Ordinances establishes a Green Building Program. The intent of the program is to "promote sustainable and environmentally-friendly practices [in] design and construction for City facilities and the community." The program is explicitly voluntary for the community. The program includes incentives, including expedited permitting, reduction of City fees and

rebates. Interviews with staff indicated that the program is not widely used by developers. Further, the Building Department stated that it is not empowered to reduce required fees, therefore the program must be subsidized by the general fund.

The intent of the Green Building Program overlaps substantially with the City's Sustainable Development Standards (Chapter 155.58). These standards establish a requirement for incorporating aspects of sustainable design into private development, excepting small-scale residential projects. The standards establish a point system. Projects must incorporate sustainable design options (including LEED certification) to earn a minimum number of points. While meeting the minimum point value is required, selection of options is voluntary. Based on this program, developments that exceed the minimum point requirement may receive density (155.3708.F.I), height bonuses (155.3708.EI) or a reduction in parking or landscaping requirements. Interviews with staff indicated that the program may not be producing outcomes in line with the City's emerging vision for sustainability and resilience.

According to USGBC's database of public projects, there are 25 LEED certified buildings in Pompano Beach, including five City facilities. The Captiva Cove development, an affordable multi-family complex, has 11 certified units.

5.2.2 City Facilities and Infrastructure

The City's Strategic Plan, Goal 4 includes an objective to increase the energy efficiency and sustainable design of all City facilities.

5.2.2.1 New Construction

The City's Green Building Program applies to City-owned civic or office construction, not including expansions, remodeling or existing facilities. It does not apply to City infrastructure. Further, the program does not clearly require third-party certification or certification to a specific level. Specific performance requirements are not specified. Nevertheless, most new City facilities are LEED certified at some level. These include the Cultural Center (Gold), Library (Gold), Utility Services Complex (Certified) and Fire Stations 11 (Silver) and 103 (Gold). Other City facilities are in the process of certification. The LEED rating system is actively used by City departments including GO Bond and Engineering for design and construction of new City facilities consistent with the Green Building Program. There are no specific policies and procedures, however, guiding incorporation of high performance and sustainable design in new buildings, existing buildings or City infrastructure.

5.2.2.2 Existing Facilities and Infrastructure

The City has entered an energy savings performance contract (ESPC) with Siemens. Typically, an ESPC facilitates investment in projects that conserve facility and infrastructure resources at no upfront cost. The ESPC contractor provides capital. Interest and principal payments to the contractor are covered by guaranteed resource cost savings. In the City's case, the contract was funded by the City using American Recovery and Reinvestment Act funds. It included several energy and water efficiency projects, including lighting retrofits, HVAC upgrades, chiller plant development and building automation systems (BAS) as well as modernization of the City utility's metering system. According to Siemens, the ESPC produces about $1.1 million in annual energy / utility savings. Approximately 70% of the savings stipulated by Siemens are attributable to increased water utility billing revenues enabled by meter modernization. Most benefits are not associated with decreases

in consumption of energy or water. The useful life of several of the projects included in the ESPC is nearing an end (e.g. lighting retrofits), providing opportunities for new energy and water efficiency projects. Staff expressed interest in utilizing energy audits and existing building commissioning to identify new energy and water efficiency projects. The City continues to work with Siemens on BAS system implementation at four of its recreation centers.

The City manages facility O&M through a software solution (Facility Dude). Dude Solutions offers Dude Solutions Energy Manager, which manages all utility accounts in a single dashboard that is capable of auditing bills and identify opportunities for utility savings projects. Similar solutions are available from a variety of software providers. Interviews with staff indicated an interest in a utility management solution for the City.

City streetlights are in the process of being retrofitted with LED luminaries. This is occurring at no upfront cost to the City. The City is in the process of transferring all City-owned streetlights to FPL ownership. Currently the City owns about 1,000 poles and lights, while FPL owns 5,000. The City has identified several areas where streetlighting should be improved. A performance specification that would result in use of the most efficient technology has not yet been developed.

5.2.3 Electronics and Equipment

The City's Information Technologies department serves over 750 staff with computers and other productivity technology. Presently, the department does not utilize third-party standards for energy efficiency and sustainability in electronics (e.g. ENERGY STAR, EPEAT, etc.). It has invested in virtualizing servers, paperless software solutions and security technology that requires computers / monitors to hibernate after 15 minutes. It has also reduced the inventory of equipment and time required for service. While the department has completed several initiatives that save energy and promote sustainability, it has not quantified their effects.

5.2.4 Renewable Energy

Code of ordinances 155.5803 includes renewable energy as an option for compliance with the City's Sustainable Development Standards for multifamily and nonresidential / mixed use development, including specific options for solar photovoltaics (PV) and wind energy. The City does not have data on the degree to which this program has increased renewable energy use in the Community.

The City's expedites permit applications for solar power systems. Pompano Beach is a designated SolSmart Gold community due to the City's three-day quick service program, for solar installation permits.

The City has completed several small-scale, pilot renewable energy projects, such as solar powered lights at municipal parking lots near the beach. It evaluated solar thermal water heaters in fire stations but found that it was not a cost-effective solution for stations that heat water with natural gas. It has been approached by FPL to locate small-scale photovoltaic demonstration projects in the City but has not moved forward under the terms offered by the utility. It has not completed any facility-scale renewable energy systems. Several staff members expressed interest in exploring options for large rooftop or ground mounted PV systems.

5.2.5 Water Use

The City operates a water utility. The utility has a long tradition of educating customers on ways to reduce water consumption and providing incentives for action. The City connects customers to its water reuse system at low cost, gives away low flow aerators, shower heads and spray valves. Customers are billed via an increasing block rate design, which incentivizes water conservation. The City's ESPC included water conservation measures, such as installation of low flow aerators on faucets. Siemens estimates annual savings of $30,000.

5.2.6 Irrigation / Reclaimed Water

In addition to water conservation initiatives, the City is a regional leader in provision of reclaimed water to customers. The reclaimed water utility avoids 2.6 – 3 million gallons per day of potable water use. Reuse is voluntary in the areas where it is offered, but about 75% of eligible users participate. The City has also instituted year-round irrigation restrictions, but they are only enforced during drought conditions. Staff expressed interest in enforcing it at all times.

The City's efforts to reduce irrigation water use at its facilities could not be identified. Automated controls, low-flow devices, xeriscaping and non-potable water supply (e.g. reuse water, non-potable wells) have been used by peer cities to reduce municipal irrigation.

5.2.7 Stormwater and Wastewater

The wastewater utility has a minimum performance standard for 100% compliance with sanitary sewer overflows. Per staff, the system meets this standard.

Like most utilities, the City experiences inflow and infiltration (I&I). The City has been lining it sewer pipes to limit I&I, which saves energy and investment in treatment. Staff expressed interest in expanding efforts to line sewer pipes.

5.3 MATERIALS MANAGEMENT

Materials management encompasses initiatives that reduce waste at the source, divert materials from the waste stream, or ensure hazardous materials are handled appropriately. The U.S. Environmental Protection Agency (EPA) recommends managing non-hazardous solid waste according to a waste management hierarchy. The hierarchy prioritizes source reduction and beneficial reuse, followed by recycling / composting, energy recovery and finally disposal. Reducing waste through these strategies can have significant environmental, GHG emissions reduction, and financial benefits.

5.3.1 Waste Generation and Pickup services

Waste Management (WM) provides waste pickup and disposal services to residents and businesses. WM's contract includes residential solid waste, residential recycling, commercial solid waste, and construction waste. Residential curbside collection occurs twice weekly. RS&H did not obtain waste generation or recycling totals for the City. The City's 2015 Hauling Agreement with WM indicates the company has a responsibility to report this information to the City on a monthly basis. Using this data to develop a quantitative baseline for the City's waste generation and diversion can be an important step to improving sustainability performance.

RS&H did not obtain waste generation totals for City-owned facilities. The first step to improving waste diversion at City facilities is typically to conduct a Waste Audit, also known as a waste characterization study. Such a study can determine what potentially recyclable commodities are present in the waste stream and provide data needed for cost/benefit analysis of waste diversion opportunities. Staff interviews indicate that waste and recyclables collected in City facilities are comingled and disposed as waste.

The City's policy and planning documents do not include any goals that relate to materials management, source reduction or waste diversion, however, the City has implemented some sustainability improvements into the solid waste and recycling program. The City implemented automated pick up of carts in 2016 for residential solid waste and residential recycling, including multifamily. It also supplies waste and recycling carts to residents. The vehicles WM uses for pickup must be CNG fueled under the City's contract, reducing particulate emissions and oil dependence.

5.3.2 Sustainable Procurement

Sustainable Procurement involves creating procurement policies designed to reduce waste and excessive packaging, prioritize environmentally friendly products, and substitute toxic, universal or hazardous materials with less harmful alternatives. In some cases, cost savings can also be achieved. A search of the City's website did not turn up evidence of any Sustainable Procurement policies.

Many Florida municipalities have reduced paper waste by transitioning to paperless practices. The City has an electronic bidding system which reduced the need for paper in the bidding process. The City is not currently tracking the environmental or cost-savings benefits of this initiative.

5.3.3 Material Bans

Several Florida cities have taken action to protect the environment by enacting product bans on expanded polystyrene foam containers and/or single use plastics such as straws and plastic bags. For instance, the City of Coral Gables has ordinances banning the use of polystyrene and plastic carry-out bags. RS&H found references to a Pompano Beach policy requiring city vendors and food providers at city events to avoid putting takeout food in plastic foam clamshells, and the City has a ban on plastic straws. Despite state-level legal challenges to such bans, they can be an effective way to reduce litter, improve aesthetics, and benefit water quality and wildlife.

5.3.4 Recycling

Participation in a recycling program is optional for residents and business owners, although encouraged by the City. The City provides single stream recycling for material including cardboard, magazines, office paper, paper bags, newspapers, paperboard, plastic containers, glass, aluminum cans, and tin or steel cans. Recycling is picked up weekly for residential customers. The City's current recycling diversion rate is approximately 19.5%. The City's Solid Waste Director noted that the diversion rate includes contaminated material that may not actually be recyclable. He also noted that the single stream approach may be a barrier to effective recycling because of contamination. The City's policy framework does not include any goals related to materials management, source reduction or waste diversion.

5.3.5 Composting

The City does not currently provide composting services to residents or businesses. Composting programs can be very useful for improving diversion rates by removing food and green waste from the waste stream, however the lack of a suitable private partner to manage the composting program limits the ability of many south and central Florida municipalities to offer composting services. The City's Solid Waste Director mentioned that at home composting program for food waste could be a possibility in the future. As the City becomes more urban, it will have more multi-family units that may lack available space for composting. During the most recent RFP process, the City evaluated the potential to separate yard or green waste from the waste stream, however this option was deferred due to a lack of a location to store the material and the need for a third type of vehicle to transport it.

5.3.6 Disposal

The City's waste is disposed of at the WM's landfill at Sample and Powerline. The facility captures methane and utilizes it to generate energy offsite. There is a waste-to-energy incineration plant at the facility which has been decommissioned and abandoned in place. The City generates around 100,000 tons of solid waste per year. Current tipping fees are about $81 per ton, or $55 per ton for municipal solid waste (MSW) disposal. These prices are within a normal range for the region.[11]

5.3.7 Universal and Hazardous Wastes

The City partners with other Broward County municipalities to offer monthly collection and disposal of household hazardous waste and electronic scrap recycling at no cost to residents. A list of materials accepted is available on the City's website. Details of the City's programs to manage universal and hazardous waste generated at municipal facilities are unknown.

5.4 LAND USE & TRANSPORTATION

5.4.1 Zoning and Land Development Regulations

Pompano Beach's zoning code includes several aspects related to sustainability and resilience. Chapter 152.51 a Green Building Program and Chapter 155.5803 establishes Sustainable Development Standards (See Green Building). The Zoning Code (Article 3) includes several districts designed to promote transit-oriented development and foster compact, walkable and mixed land use. This kind of development reduces dependence on single occupancy motor vehicles, saving fuel and reducing GHG emissions. The Code includes several Overlay Districts (e.g. Atlantic Overlay District), Downtown TOC, East TOC) aimed in part at accomplishing these goals, or other sustainability goals such as affordable housing and economic development (e.g. Community Redevelopment Area). It also includes requirements for landscaping and tree preservation, including irrigation efficiency requirements. Parking regulations (155.5102) include options for electric vehicle charging, but do not directly incentivize electric vehicle or supporting infrastructure. Floodplain development regulations (155.5502) provide standards for development in seaward of the coastal construction control line.

[11] Information sourced from interview with Russ Ketchum, the City's Solid Waste Director.

5.4.2 Comprehensive Planning

City is currently updating its Comprehensive Plan. A primary objective of the update is to incorporate sustainability and resilience elements throughout the document. The current plan includes discussion related to climate change and greenhouse gas management (Conservation Element). The coastal zone element includes SLR policies that were adopted in 2018.

5.4.3 Adaptation Action Areas

The City has not yet formally adopted Adaptation Action Areas (AAAs). It is considering developing AAAs as it moves forward with its sustainability program. The Flood Insurance Rate Maps (FIRMs) being developed as part of a Coastal Study all along Florida's southern coast may include a line designating the so-called Limit of Moderate Wave Action (LiMWA). Areas seaward of this line may be designated as Coastal A Zones which identifies areas that will be affected by waves with 1.5-foot wave height or greater. These are areas that are vulnerable to damage from storm surge which will be worsened by sea level rise. Designating areas like Coastal A Zones and the areas adjacent to the Intracoastal and tidally influenced canals that are subject to flooding from sea level rise as AAA's allow prioritization of funding for adaptation planning and infrastructure improvements. Fort Lauderdale has designated some areas as AAA's in the 5-year CIP, and Miami Beach has designated its entire city as an AAA.

5.4.4 Innovation District

Innovation districts are designed to fuel economic development and job growth through partnerships with the business community, higher education and government. Pompano Beach's Innovation District provides an opportunity for the City to build a new mixed-use downtown with an innovative system of canals that eliminate the need for traditional dry retention ponds and lakes. The innovation district is planned to be a dense, pedestrian-oriented downtown development that will include office space, retail, restaurants, residential units and two hotels. The area is located near the Broward County Transit Station and the future Florida East Coast (FEC) railway station, providing public transit access to the City.

5.4.5 Urban Forestry

The City maintains an Urban Forestry Division within the Development Services department. The division manages tree permitting and enforcement (Section 155.2411 and 155.5204) and provides education and awareness services to the community. The City has been certified as a Tree City USA for decades as a result of staffing the Division, its tree protection ordinances, allocating at least $2 per capita (more than $200,000 per year based on 2018 population) and official observance of Arbor Day. The City is also a Certified Wildlife Federation Community Wildlife Habitat.

5.4.6 Open Space

The City's comprehensive plan (Recreation Element) establishes a level of service (LOS) standard for open space and parks of five acres per 1,000 residents. The County has established a standard for of 3 acres of recreation land use per 1,000 residents, which the City exceeds according to the current Parks and Recreation Master Plan. The City's LOS performance is like or better than the Cities benchmarked as part of this project (See Benchmarking).

5.4.7 Transit

The City partners with Broward County to provide four community bus routes that supplement routes provided by Broward County Transit. The Pompano Beach Tri-Rail station is located on the northern border of the City near Sample Road and Andrews Avenue. Dockless mobility services are not currently permitted in the City.[12] The City's Complete Streets Design Manual references its intention to complete a Multimodal Transportation Plan, however, staff indicates that this manual is not currently guiding design decisions.

Interviews with staff and commissioners revealed strong interest in the City's role in developing transit options (e.g. developing a Tri-Rail station at the Isle Casino and a commuter rail station along the FEC corridor, coordinating with the County on the WAVE project, expanding or replicating Fort Lauderdale's Sun Trolley system, attracting Freebee's service to the City, expand Water Taxi service, enabling car-sharing, etc.).

The City recently received an $800,000 grant from FDOT related to developing a "micro-transit" system focused initially on relieving traffic on Atlantic Boulevard to the beach.

5.4.8 Bicycle and Pedestrian Network

The Parks and Recreation Master Plan includes a bikeway element that would connect all city parks. The Interviews with the City staff indicated an interest in developing a Bicycle and Pedestrian Plan. The City has not developed a comprehensive bicycle and pedestrian plan that outlines the current network of bicycle and pedestrian paths, identifies needs and establishes a capital improvement plan for building out the network. The City is developing a $16.9 million complete streets project along State Road A1A.

5.4.9 City Fleet Management

The City's waste hauling contract with Waste Management requires use of compressed natural gas refuse trucks. The trucks are owned and operated by Waste Management. They are fueled at Waste Management's fleet yard near Powerline and Sample Road; however, the city presently has no policies related to alternative fuels use in City-operated vehicles. The City fleet does not utilize alternative fuels.

The City has evaluated use of CNG in the past but has determined that the infrastructure costs for fueling and maintenance facility upgrades are too high. The planned renovation of the fleet maintenance facilities may present an opportunity, since the current facility is not equipped or permitted to maintain vehicles that operate on gaseous fuels (e.g. CNG). The City has developed limited electric vehicles support infrastructure (EVSE) for public use, including five Level 2 stations in City parking facilities.

Staff expressed interest in using fleet right-sizing principles to limit the number of vehicles in the fleet and require use of the most fuel-efficient models. There are currently no policies establishing standards for fleet performance (e.g. fuel economy, vehicles miles travelled, idling, greenhouse gas management, etc.) The City's current agreement with Enterprise Leasing may limit options for using alternative fuel and/or fuel-efficient vehicles as well as their potential benefits.

[12] Dockless mobility services include bike- or scooter-sharing services that do not require storage infrastructure. Bikes and scooters are accessed and stored virtually anywhere.

5.5 EQUITY AND OUTREACH

Increasing sustainability and resilience in a community requires addressing community needs in an equitable way. This is because the most vulnerable members of society, such as low-income residents, minority populations, the elderly, and those with special needs are often those most exposed to climate change impacts. In addition, these populations are frequently overlooked when economic, planning and infrastructure decisions are made. For this reason, the issue of equity has been elevated by the SEFLCC and other groups working on adaptation issues. Successful sustainability and adaptation planning seek to include vulnerable stakeholder groups through inclusive outreach programs that solicit their input and hear their concerns.

5.5.1 Third Party Verification

Many cities have sought third-party verification or certification for their sustainability programs. Achieving a third-party verified certification can result in positive publicity and recognition, as well as providing transparency. In addition, there are additional benefits such as gaining greater control over sustainability data management and sourcing BMPs from the certification scheme. Some options for third party verification/certification for municipalities include: the STAR Community Rating System, LEED for Cities, the Florida Green Local Government Designation Standard of the Florida Green Building Coalition, and the Global Reporting Initiative (GRI). Pompano Beach has not yet evaluated the benefits of third-party verification but may wish to do so once its sustainability program matures.

5.5.2 Affordable Housing

Affordable housing and deconcentrating poverty is a significant issue in Pompano Beach. The 2018 Broward County Affordable Housing Needs Assessment by the Metropolitan Center at Florida International University found that Broward County is one of the most unaffordable places to live in the United States. Fifty-four percent of households are considered cost-burdened, meaning they spend more than 30 percent of their income on housing costs. In 2018, the median sales price of a single-family home in Pompano Beach was $256,000, well out of reach for many lower-income families, but lower than the median price county-wide ($365,000).

The City's FY2015-2020 Consolidated Plan includes a Housing Needs Assessment and market analysis and identifies housing rehabilitation and the deconcentration of poverty as a priority need for the City. The City recently commissioned a study of the affordable housing issue which was completed in May 2017.

The City has used Community Development Block Grant (CDBG) funding to address the affordable housing issue in addition to state funding sources. The City's CDBG-funded Housing Rehabilitation program is designed to assist the housing needs of very low, low and moderate income households while preventing the spread of blight, preserving the city's existing housing stock, strengthening its tax base, abating Code Violations, and reducing lead based paint hazards.[13] The program provides deferred loan assistance to qualified very low to moderate income homeowners to address code violations or unsafe conditions. Other CDBG-funded programs addressing housing include the Emergency Repair Program, Florida Hardest Hit programs, and Principal Reduction program. The HOME Investment Partnerships Program (HOME) and the State Housing Initiatives

[13] CDBG Works Report on City Progress, June 2017 accessed July 24,2019 at http://www.usmayors.org/wp-content/uploads/2017/06/17.34.USCM_.CDBG_.Works_.D5.3.pdf

Partnership (SHIP) program are additional sources of City funds. The City also collects "in lieu of" fees that capitalize its Affordable Housing Trust Fund.

5.5.3 Health and Wellness

The City hosts public events focused on health and wellness, for instance a free Health and Financial Wellness Fair is held every year. The Fair was last held in July 2019. The annual event features local medical providers conducting free health screenings along with financial seminars and insurance information for residents. The City has an extensive health and wellness program for employees. The program benefits the City through reduced absenteeism and increased productivity. Benefits to employees include discounts on gym memberships, weight watchers, smoking cessation and other wellness programs.

5.5.4 Food Security

Food security and food deserts are issues which can affect low income residents who may lack transportation and find it difficult to access grocery stores that sell healthy, nutritious food. Broward County land use policy 3.2.5 indicates that "local governments should consider the identification and elimination of 'food deserts' when making land use policy and decisions." The United States Department of Agriculture's (USDA) Food Access Research Atlas shows there are low-income census tracts in Pompano Beach where a significant number of residents are located more than one mile from the nearest
supermarket. In addition, the food desert issue was mentioned as a concern in the interviews with City commissioners for District 4. A search of the City's website did not reveal any current or past City programs focused on alleviating food deserts or food insecurity, indicating this may be an area for future attention.

5.5.5 Workforce Development

The City of Pompano Beach administers federal Community Development Block Grant ("CDBG") funds for eligible economic development projects. The Revolving Loan Fund (RLF) Program provides loan funds to eligible businesses with the ultimate objective of creating jobs for low/moderate income people.

5.5.6 Public Safety

Public safety and the opioid epidemic were mentioned as concerns for the City in staff and commissioner interviews. The City of Pompano Beach contracts with the Broward Sheriff's Office (BSO) to provide police services. The city violent crime rate for Pompano Beach in 2016 was higher than the national violent crime rate average by 114.39% and the city property crime rate in Pompano Beach was higher than the national property crime rate average by 94.2%. Historical data shows an overall increasing trend in crime, with violent crime decreasing and property crime increasing.[14]

Opioid overdoses caused 5,725 deaths in Florida in 2016, more than fifteen per day statewide. The opioid crisis has significantly impacted Pompano Beach, both in its human toll and in costs imposed on the City. The City has considered joining litigation to attempt to recover some of these costs.

The Public Safety Task Force (PSTF) was recently formed by the Pompano Beach Economic Development Council to research, analyze and provide recommendations for enhancing public safety within the City of

[14] City Rating Pompano Beach Crime Rate Report, accessed July 24, 2019 at https://www.cityrating.com/crime-statistics/florida/pompano-beach.html

Pompano Beach. The task force was charged with the mission to determine what areas needed attention and to make recommendations that would be both effective and economically feasible.

5.5.7 Employee Engagement

The full extent to which the City has worked to engage its employees in sustainability and adaptation issues is not known. Memorandum No. 18-213 details several instances of staff engagement on these issues including participating in the Sea Level Rise Solutions Conference held by the Greater Miami Chamber of Commerce (2017), participating in the Broward County Mitigation team (2018) and attending climate change meetings & webinars. City staff has also completed the 2019 Water and Climate Academy conducted by Broward County. RS&H did not find evidence that the City provides sustainability or adaptation training for its employees, either in the on-boarding process or on an ongoing basis.

5.5.8 Stakeholder Engagement

Stakeholder engagement is an important component of sustainability and adaptation planning. Understanding the influence of stakeholders and how the sustainability/adaptation program will affect their interests allows communications to be tailored to meet their needs, helping to avoid roadblocks and misunderstandings. The four phases of stakeholder mapping include: identifying relevant organizations and groups, analyzing their interests and influence, visually mapping their relationship to the project and other stakeholders, and prioritizing strategies to effectively manage stakeholder engagement. RS&H did not find information indicating the City has identified and engaged stakeholders regarding its sustainability/adaptation program.

5.5.9 Public Outreach

Currently, the City's website does not include pages relevant to its sustainability or adaptation program. Web pages compiling and highlighting the City's various sustainability initiatives would be a valuable way to communicate their benefits to the public. Although it is likely that the City hosts or participates in some sustainability/adaptation themed events, information provided to RS&H does not document many instances. One example is an ongoing outreach program to expand connections to reuse system and promote water conservation. Another is that the City proclaimed October 24, 2009 as "International Climate Action Day". The City also hosted the Broward Solar Co-op outreach meeting at the cultural center on May 21, 2019.

5.6 POLICY AND ECONOMICS

Successful sustainability programs require integration with other City planning processes, effective data management and tracking, and financial support. Sustainability policies should be strategically developed in line with vision and goals and then integrated into strategic plans, comprehensive plans, and capital improvement plans. Effective program management requires collecting information related to energy, water and resource use, GHG emissions, waste, and other metrics. This process can be facilitated through Smart City technology and effective data management systems, including software or online data solutions with reporting capability. Finally, financing the sustainability program may require setting up a Sustainability Revolving Fund or other means of returning resource efficiency cost savings to the sustainability program. Other funding options can include special fees, [15] public-private partnerships and grants.

[15] For example, Miami Beach collects a bond for new construction projects. Projects that meet 100% of the City's sustainable designs standards are refunded 100% of the bond. A portion of the funds may be retained for projects that only meet a portion of standards.

5.6.1 Strategic Plan

The City's Vision 2033 includes a statement that Pompano Beach will be distinguished by its reputation for sustainable development and redevelopment. This vision is evident in the 2018 Strategic Plan, which contains many sustainability and adaptation goals and projects.

The plan's goals to make Pompano Beach a preferred place to live, do business, and visit, superior capacity for growth through quality sustainable development, quality and affordable city services and building confidence in city government reflect the Triple Bottom Line approach to sustainability through ensuring social, economic and environmental performance. Many of the objectives contained in these goals are related to the elements of sustainability focus areas identified in this report. Examples include public safety, cultural opportunities, affordable housing, parks, economic growth, public transportation, and many others.

In particular, the objectives of Goal 4, "Superior Capacity for Growth through Quality, Sustainable Development" are relevant. These include elements related to transit, bicycle and pedestrian infrastructure, water supply, energy efficiency of City facilities, green building and preparation for sea level rise.

5.6.2 Sustainable Development Standards

The City's Sustainable Development Standards (SDS) were developed to meet its priorities for stormwater management and flood protection, renewable energy and energy conservation, water conservation, certified green development, and active design. The SDS is a point-based system required for all major site plans. It is designed to assist property owners and developers in selecting and implementing the optimal sustainable design options for their projects. It offers preferred sustainable design options for various types of buildings and projects but allows developers to select those they prefer to reach the required point score. Examples of design options promoted within the SDS include LID, pervious pavements, dune restoration, green roofs, renewable energy systems, EVSE, Energy Star appliances, LEED Certification, and bicycle infrastructure.

5.6.3 Capital Improvements

The City's FY19-23 Capital Improvement Plan (CIP) shows that 36 percent of the CIP budget will be spent on Parks and Recreation, 33 percent on Streets and Bridges, 14 percent on Public Safety, eight percent on Renewal and Replacement, seven percent on General Capital, and two percent on Stormwater. Although concepts such as "sustainability", "adaptation", "resilience" and "sea level rise" are not found in the CIP, it includes many projects related to sustainability and/or resilience. Some examples include:

- Rehabilitation of City-owned seawalls
- Wastewater system improvements, such as manhole rehabilitation to reduce permeability
- Expansion of the "purple pipe" reuse water system
- Wastewater lift station rehabilitation/upgrades
- Utility asset management
- Utility Hardening of Water Inter-Connections (installation of meters and backflow protection)
- Concentrate Treatment Study
- Wellfield Performance and Relocation Study
- Stormwater system upgrades including backflow valves, drainage improvements, pipe lining, etc.

5.6.4 Smart City

Many municipalities are embracing the concept of "Smart Cities". Smart Cities rely on networked sensors that continuously collect data that is used to streamline the management of City operations. Smart City systems have the potential to enhance sustainability programs by providing real-time access to information which can be used to track and monitor data such as traffic, energy and resource use, utilities, public safety and other services. The Smart City concept came up in interviews with City staff, however the City has not yet completed any plans or projects related to this concept.

5.6.5 Sustainability Data Management and Reporting

The City does not have a data management system for sustainability and resilience indicators. As a result, information related to these programs is distributed across City departments where it may be difficult to access. In some cases, key information needed to track sustainability and resilience performance has not been collected. To date, the City has not published a comprehensive sustainability report.

5.6.6 Financial Performance

The City's FY19 Adopted Operating Budget indicates the City's financial position is good. The City benefits from a growing population and tax base, and a favorable economic climate leading to growth in jobs and businesses. The budget references the City's sustainable development goals and lists SLR as a challenge that will affect the City.

The City recently issued General Obligation (GO) Bonds to raise funds for municipal projects that will benefit the entire community – such as public parks, fire stations, streets, bridges and related projects. The City has an AA rating from Standard and Poor's and an Aa2 rating for its 2018 GO Bonds from Moody's. Both are close to the highest rating available, indicating very high-grade credit. Moody's states the rating "reflects the city's sizable, growing tax base that benefits from regional tourism, healthy reserve position despite draws for capital projects over the past several years, formalized fiscal policies, low debt burden, and above-average pension liabilities."

5.6.7 Sustainability Funding Sources

The City's sustainability and adaptation projects to date appear to be funded primarily through the operating budget or GO bonds. The City has not set up a Sustainability Revolving Fund (SRF) or other dedicated source of funding for sustainability initiatives.

6. APPENDIX

6.1 COLLABORATIVE WORKSHOP SUMMARY

A half-day collaborative workshop at Pompano Beach City Hall was held on August 14th, 2019. Workshop materials are collected in Section 3.1.6. The workshop was attended by leaders from across the City's functional areas (Table 7). The objectives of the workshop were to understand sustainability concepts, review and calibrate RS&H's qualitative assessment of the City's baseline performance and benchmark comparison with peer cities, confirm the City's focus areas, draft a preliminary vision statement and develop ideas for sustainability initiatives.

TABLE 7: WORKSHOP ATTENDEES

Attendee Name	Role
Jean Dolan	Principal Planner
John Sfiropoulos	City Engineer
Russell Ketchem	Solid Waste Operations Manager
Gene Zamowski	Chief Information Officer
A. Randolph Brown	Utilities Director
Allison Feurtado	Controller
Tammy Good	Capital Improvement Project Manager
Molly Thistle	Reuse Outreach and Water Conservation
James Galloway	Fire Inspector
Robert McCaughan	Public Works Director
Barbara Harrison	Assistant Chief Information Officer
Peter McGinnis	Fire Marshal
Beth Dubow	Recycling Coordinator
Carpelo Jeoboam	Building Plans Examiner
Jennifer Gomez	Assistant Development Services Director

6.1.1 Sustainability Concepts

The workshop began with a presentation of sustainability concepts. The value proposition for sustainability is compelling. Research on sustainability in the private sector indicates leaders realize superior sales and employment growth, while attracting more productive and quality-conscious employees. For municipalities, sustainability promises similar fiscal and economic benefits.

Every organization should develop a unique definition of sustainability that reflects its values and objectives. RS&H presented common definitions, including the concepts of intergenerational equity and the Triple Bottom Line. Sustainability is best understood as encompassing resilience to climate change, including both mitigation of and adaptation to its effects.

The process of sustainability planning is a system of continuous improvement, beginning with defining the organization's sustainability vision, followed by establishing a qualitative and quantitative baseline, setting goals, benchmarking against peers, developing initiatives, implementing projects and monitoring and evaluating results. Insights from this last stage informs a new round of planning.

While sustainability is clearly beneficial to organization, several barriers prevent its adoption. Barriers include financial constraints, lack of commitment from senior management and / or staff, conflicting priorities, misperception of benefits and costs and lack of knowledge, among others. Organizations can overcome barriers by clearly defining the organization's mission and vision, enabling both top-down and bottom-up management of challenges and opportunities, understanding how to motivate action, defining and measuring key metrics, and establishing momentum though attraction of resources.

6.1.2 Baseline and Benchmarking

RS&H presented the results of the qualitative baseline and benchmarking studies.

RS&H discussed the methodology for the baseline, with included a literature review of the City's plans, policies and other documents, including the City website, municipal code, Strategic Plan, Comprehensive Plan, Stormwater Master Plan, Vulnerability to Sea Level Rise report, Sustainable Development Standards, Operating Budget, and others. RS&H also discussed the interviews that were conducted with City staff and commissioners. RS&H reviewed results with attendees.

Results of the benchmarking were also discussed, including why the City scored as it did on various focus area elements. In some cases, workshop attendees provided feedback or brought new information to light that resulted in revisions to the benchmarking scores.

6.1.3 Focus Areas

Workshop attendees were shown the focus areas and associated elements recommended by RS&H. Attendees reached a consensus that these were appropriate focus areas for the City.

6.1.4 Visioning Exercise

RS&H introduced workshop attendees to the concept of a sustainability vision statement. Several examples from peer cities were presented and discussed. Attendees were then asked to work collaboratively in groups corresponding to the three elements of the Triple Bottom Line (Social, Environmental, and Economic). Each group then drafted a sustainability vision statement for their assigned element. The Environmental group drafted two versions. The groups reported on their progress and discussed how to improve the draft mission statements.

TABLE 8: SOCIAL, ENVIRONMENTAL AND ECONOMIC VISION STATEMENT DRAFTS FROM THE VISIONING EXCERCISE

Triple Bottom Line Element	Draft Vision Statement
Social	Create an atmosphere of cohesion amongst the community and vibrancy in our neighborhoods, and ensure equitable distribution of resources, services, and education so residents can come together with shared respect, vitality and educational and vocational prosperity. Preserve historic features from the past while celebrating diversity in the City through new opportunities for arts, events, culture, recreation and innovation.
Environmental	1. Commit to resiliency by preserving and protecting our natural resources and environment through enhanced transportation, energy and water resource conservation, and sea level rise adaptation. 2. We are committed to preserving, protecting and improving the quality of the land, water and air through purposeful and diverse investment in our City's development through management, public outreach and energy conservation to ensure a resilient community for Pompano Beach's businesses, residents and visitors.
Economic	Commit to develop and implement sustainability initiatives by incorporating incentives and policies citywide.

After the workshop, RS&H combined the three vision statements above into a single succinct version that encompasses all three Triple Bottom Line elements for the City's consideration. (See Vision above).

6.1.5 Projects Exercise

RS&H presented an introduction to the strategic process for developing sustainability projects, including the relationship between projects and goals, how to identify BMPs, the concept of backcasting, and successful project examples from Coral Gables, Fort Lauderdale, and Miami Beach. Attendees were then assigned to three groups with two focus areas each for a project brainstorming exercise. They were given a list of project ideas and tasked with developing a list of ten projects concepts based on the provided list or their own ideas (Table 9). Staff's ideas were incorporated into the Sustainable Program Development recommendations in the Strategic Analysis.

TABLE 9: PROJECT IDEAS FROM BRAINSTORMING EXERCISE

Group	Project Idea
Climate & Resilience / Land Use & Transportation	Greenhouse Gas Inventory
	Electric car charging stations
	Fleet conversions to fuel efficient & electric vehicles
	Seawall inventory (elevation) and assessment
	Study sea level rise impact areas to identify AAA's
	Reuse expansion of distribution system and revolving fund
	Study and implement on-demand shuttle for regional activity center, beach, multi-use districts, etc.
	On-demand driverless cars or golf-cart shuttles
	Implement sustainable features into innovation district
	Shared use pedestrian path improvements city-wide
	Adopt standard street sections and fund upgrades for complete streets

Group	Project Idea
Materials Management / Policy & Economics	Standardization and centralization of materials
	Local procurement mandates for contractors on City projects
	Reducing the number of printers and the volume of paper use
	Electronic record-keeping
	Mandate recycling and reusing of materials
	Reduce permit fees for buildings in Pompano Beach - 2 tier payment plan
	Eliminate payment process for City projects
	Provide tax incentives to businesses that have more than 10 employees
	Provide vocational / technical center training
	Implement internal Lean policies
Resource Conservation / Equity & Outreach	Resources - adding resources to these programs
	[Job] training for residents in green trades
	School engagement program
	Add exercise and shade equipment to airport walking trail
	Protect your home - provide needs-based funding for energy and water conservation and hurricane resilience
	Incentive program - fire protection - fire sprinklers in new neighborhood developments
	Solar panel initiative for City facilities and private buildings
	Invest in C-51 reservoir - water supply
	Mandate recycling
	Increase irrigation (reuse) - mandate connection