

2018 LARGO ENVIRONMENTAL ACTION PLAN



LARGO

Largo.com/LEAP

LEAP

(Largo Environmental Action Plan)



Goal:

To renew our natural environment and ensure sustainability for generations.



Table of Contents

Letter from the City Manager, Henry Schubert	05
Who Made the LEAP	06
Introduction	07
How to Read LEAP	08
At a Glance - Where are We Now?	09
I. Topic: Infrastructure	11
Buildings & Energy	12
Transportation	13
Horizontal Infrastructure	14
II. Topic: Natural Resources	15
Water	16
Waste	17
Green Spaces	18
Resiliency	19
III. Topic: People & Services	20
Technologies	21
Workforce	22
Purchasing	23

Letter from the City Manager

Dear Largo Residents, Businesses and Visitors,

Sustainability is one of three primary focus areas of the City of Largo's Strategic Plan which serves as the blueprint for City operations and helps move us towards our vision of being the community of choice in Tampa Bay. I am proud to present the Largo Environmental Action Plan (LEAP) which highlights our current accomplishments and provides a detailed guide for achieving greater success to conserve our local and natural environment.



LEAP is our City's first comprehensive document focused solely on our environmental impact as an organization. It has been created with the assistance of field experts, community stakeholders, resident input, and organizational leaders who collectively have built the framework for our collaborative success. This living document will measure our accomplishments and represent our community's desire for a more resilient and sustainable future.

This plan highlights our initiatives in three main topic areas:

Infrastructure
Natural Resources
People & Services

Key indicators were identified in each topic area which will help us create an equitable community which values economic vitality and stewardship of our natural resources. Together with City Commission, staff, local businesses and our residents, we are ready to build on our previous environmental successes and work to create a future Largo which is sustainable for generations.

Sincerely,

Henry Schubert
City Manager

Contributors

Core Planning Team

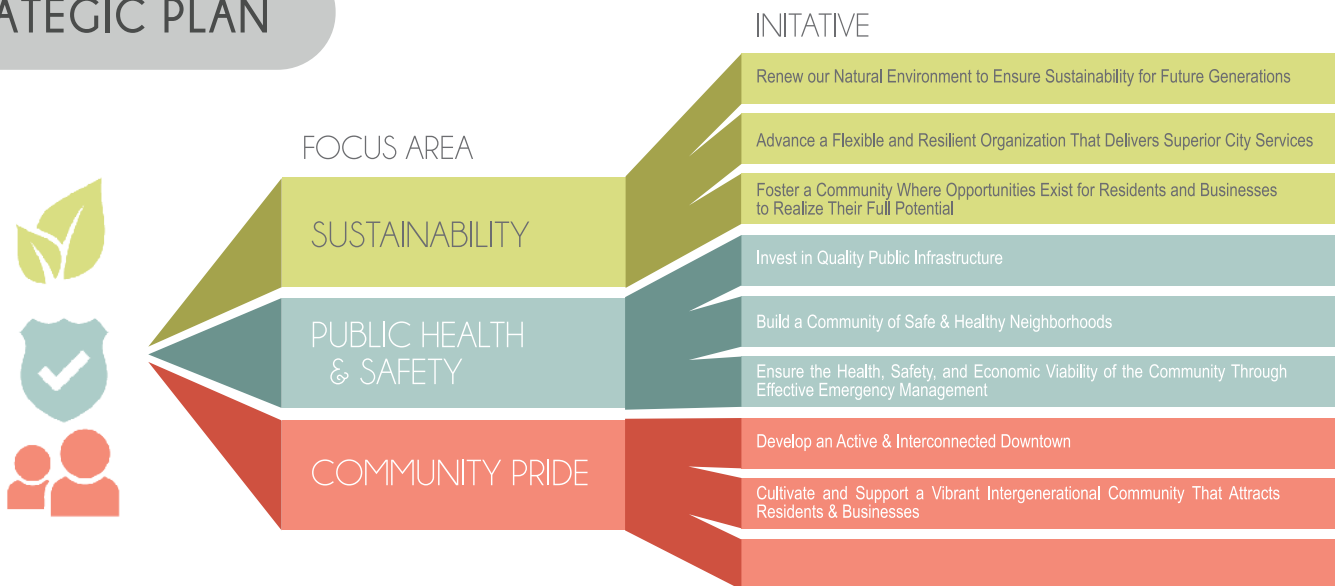
Laura Thomas, Sustainability Coordinator
 Chas Jordan, Assistant Public Works Director & Facilities Manager
 Kate Helms, Stormwater Program Administrator
 Katrina Lunan-Gordon, City Planner
 Greg Brown, Parks Superintendent
 Candice Zollicoffer, Environmental Compliance Supervisor
 Joe Gauthier, IT Specialist

Interdepartmental Team

Shelby Willis, Fire Department
 Joan Wheaton, Administration
 Greg Hill, Public Works
 Eric Walkup, Public Works
 Angie Lindell, Public Works
 Johan Hendrickson, Information Technology
 Eric Moos, Information Technology
 Tyler Thompson, Administration
 Meridy Semones, Administration

Dave Black, Environmental Services
 Mark Meyers, Public Works
 Adriana Puentes-Shaw, Community Development
 Taylor Cook, Public Works
 Chris Benign, Public Works
 Paul Harkins, Information Technology
 Scott Johnson, Administration
 Scott Fiedler, Environmental Services

STRATEGIC PLAN



The City of Largo's Strategic Plan is a blueprint for City operations and sets the goals and standards for our community that residents, businesses and employees are most proud of. This plan prioritizes our resources as an organization and facilitates daily management decisions. For more information about the Strategic Plan, visit Largo.com/StrategicPlan.

Introduction

As part of the City's guiding vision to be the community of choice in Tampa Bay, the Largo Environmental Action Plan (LEAP) strives to help our organization continue to renew our natural environment and ensure sustainability for generations. LEAP will enable Largo to serve as the role model for green government by integrating sustainability standards, resiliency and environmental goals and models into our strategic planning and daily operations. LEAP focuses on greater internal collaboration and stakeholder engagement to develop more impactful actions across our organization.

Largo's initiative to be a flexible and resilient organization that delivers superior services must be leveraged against our continued commitment to community growth. We have been successful in our efforts to attract and retain residents, visitors and businesses but have created an increased burden on our services, infrastructure and local environment accordingly. In order to maintain our long term success it is imperative for Largo to invest not only in the growing needs of our present community but in those of future generations. Largo has already supported many initiatives which have improved our operational sustainability including pioneer waste reduction programs, substantial infrastructure improvements and technology investments. LEAP will now allow us to focus on key metrics which will reduce our environmental impact while allowing us to grow as an organization and community. Specific methods will include reducing energy consumption, providing greater and more accessible transportation options, preserving and creating additional green spaces, and preparing our organization for the impacts of climate change and severe weather events.

This document outlines the guiding principles of environmental sustainability which help drive our City's mission, vision and values, as well as our Strategic Plan. LEAP serves as a blueprint which will help our organization prioritize our resources and achieve a shared vision for our residents, businesses, and City leaders, enabling Largo to serve as a leader in environmental sustainability within our community and the region.

How To Read the Plan

1. **Topic** - Main area of interest

2. **Focus Area** - Group of indicators

3. **What You Can Do!**
See how you can help

INFRASTRUCTURE

Largo's Infrastructure is critical to sustainability and our ability to provide safe, fun and affordable services to residents and businesses. This built environment includes gray infrastructure such as buildings, sidewalks and water and sewer pipes, and green infrastructure such as parks, trails and landscaping. All of this infrastructure impacts our daily lives and must be maintained and operated sustainably.

Buildings & Energy

Providing low-cost, energy efficient buildings for Largo is crucial for our communities long term environmental and economic sustainability. The City has the potential to increase our solar energy usage, retrofit existing buildings and create new buildings that live up to the highest environmental standards. Taking advantage of building and energy improvements will have one of the largest impacts on our communities sustainability goals. In coordination with our Comprehensive Plan, Largo aims to support environmentally sustainable growth and minimize the adverse effects of developments on the natural environment.

- Total Energy Reduction by Building**
The City of Largo is currently measuring energy usage per building and aiming for a 5% average reduction per year. In 2016 the average City building used just over 100 BTUs per square foot. Highland Recreation Complex had the lowest operating cost at \$0.15/square foot.
- Average Building Environmental Scorecard Rating**
Largo is developing it's first ever Environmental Score Card which will measure a buildings energy efficiency, environmental impact, operating standards and much more. The City will be scoring each building through the year.
- CIP Recommendation List**
Capital Improvement Projects are the backbone of City infrastructure. Largo is adopting a more sustainable scoring process for these projects and is recommending specific items such as land acquisition, trail expansion, fiber optic networks and electric vehicle charging stations.
- Solar and Alternative Energy Recommendation List**
The City has created a list of potential solar energy installations across the City and addressed project feasibility.

Reducing Energy in Your Home or Office

- Turn off lights when you leave the room.
- Unplug electronics and power down computers at the end of the day.
- Remove just a few overhead lights from the office to reduce your bill.
- Upgrade your windows and doors and install door sweeps to keep out drafts.
- Upgrade appliances.
- Get an energy audit, most energy companies offer these free of charge. Contact your energy provider for more information.

Below Goal In Progress Met Goal Exceeds Goal

12

4. **Why it's Important?**
See how this Topic Area affects Largo

5. **Indicators** - Specific Measurables

6. **Progress** - See how Largo is doing



Below Goal

Largo is below the suggested benchmark



In Progress

Largo is working hard to meet this indicator



Met Goal

Largo has met the goal or benchmark for this indicator



Exceeds Goal

Largo is above the goal or benchmark for this indicator

Largo At-A-Glance

Infrastructure

Buildings & Energy

- Total Energy Reduction by Complex
- Average Building Environmental Scorecard Rating
- CIP Recommendation List
- Solar and Alternative Energy Recommendation List

Transportation

- Percentage of Vehicles with Alternative Fuels
- Linear Feet of Bike Lanes and Sidewalks
- Ride-Share and Motor-Pool Recommendation List
- Electric Vehicle Charging Stations

Horizontal Infrastructure

- *Envision*™ Rating of Project or System
- Horizontal Infrastructure Inspection Rates
- Sanitary Sewer Overflows

Natural Resources

Water

- Annual Gallons of Water Used
- Percentage of *WaterSense* Fixtures
- Percentage of Reclaimed Water Used
- Pounds of Nutrients Removed from Streets

Waste

- Annual City Paper Usage
- Recycling Containers on City Property
- Bulk Waste Disposal Recommendation List
- Zero Waste Special Events



Below Goal



In Progress



Met Goal



Exceeds Goal

Green Spaces

- Canopy Cover on City Property
- Green Space on City Property
- Native & Florida Friendly Species
- Greenhouse Gas (GHG) Emissions

Resiliency

- Impervious Surfaces on City Property
- Linear Feet of Shoreline
- Resiliency Plan Progress

People & Services

Technologies

- Technology Implementation Recommendation List
- Project Data Standards

Workforce

- Staff Engagement in Sustainability Practices
- Enrollment in Emergency Notification System
- Alternative Work Schedule Recommendation List
- Sustainability Review Panel

Codes & Procurement Policies

- Local and Environmental Purchasing Policy
- Bulk and Shared Purchasing Policy

Ready for 100% Renewable Energy

- The City of Largo is committed to transition municipal operations to 100% renewable energy by 2035 and to transition the community to 100% renewable energy.



Below Goal



In Progress



Met Goal



Exceeds Goal

INFRASTRUCTURE



Largo's Infrastructure is critical to sustainability and our ability to provide safe, fun and affordable services to residents and businesses. This built environment includes gray infrastructure such as buildings, sidewalks and water and sewer pipes, and green infrastructure such as parks, trails and landscaping. All of this infrastructure impacts our daily lives and must be maintained and operated sustainably.

Buildings & Energy

Providing low-cost, energy efficient buildings for Largo is crucial for our community's long term environmental and economic sustainability. The City has the potential to increase our solar energy usage, retrofit existing buildings and create new buildings that live up to the highest environmental standards. Taking advantage of building and energy improvements will have one of the largest impacts on our communities sustainability goals. In coordination with our Comprehensive Plan, Largo aims to support environmentally sustainable growth and minimize the adverse effects of developments on the natural environment.

● Total Energy Reduction by Complex

100

The City of Largo is currently measuring energy usage per building and park complex, aiming for a 5% average reduction per year. In 2017 the cost per square foot of City buildings ranged from \$0.61 to \$4.83. Usage reduction methods include LED lighting and solar opportunities.

● Average Building Environmental Scorecard Rating

100

Largo is developing it's first ever Environmental Score Card which will measure a buildings energy efficiency, environmental impact, operating standards and much more. The City will be scoring each building through the year.

● CIP Recommendation List

Capital Improvement Projects are the backbone of City infrastructure. Largo is adopting a more sustainable scoring process for these projects and is recommending specific items such as land acquisition, trail expansion, fiber optic networks and electric vehicle charging stations.

● Solar & Alternative Energy Recommendation List

100

The City has created a list of potential solar energy installations across the City and addressed project feasibility.

Reducing Energy in Your Home or Office

- Turn off lights when you leave the room.
- Unplug electronics and power down computers at the end of the day.
 - Remove just a few overhead lights from the office to reduce your bill.
- Upgrade your windows and doors and install door sweeps to keep out drafts.
- Upgrade appliances.
- *Get an energy audit, most energy companies offer these free of charge. Contact your energy provider for more information.*

Below Goal

In Progress

Met Goal

Exceeds Goal

Transportation

Sustainable transportation has the ability to improve the social, fiscal and environmental sustainability of our community. By providing sidewalks, bike lanes and other forms of mobility, residents can access needed services and reduce automobile dependence. This creates lower greenhouse gas emissions in our community and reduces the cost of more expensive transportation infrastructure. As new technologies such as autonomous and electric vehicles are continuously emerging, the City also has the opportunity to lead the way in alternative fuel vehicles and motor-pools through updated policies and purchasing procedures.

● Percentage of Vehicles with Alternative Fuels

100

Largo currently owns three alternative-fuel vehicles including one all-electric Nissan Leaf and two Hybrid Toyota RAV-4's. Largo aims to convert more of it's fleet to alternative fuel over time. An alternative fuel vehicle purchasing policy is also being recommended for the City.

● Bike Lanes and Sidewalks

The City owns 13 miles of bike lanes, with many County owned bike lanes also within City limits. Largo maintains over 8,000 feet of sidewalks and is currently conducting a city-wide inventory in order to develop the best plan to improve overall walkability.

● Ride-Share & Motor-Pool Recommendation List

A recommendation list is currently being developed for all City fleet in order to reduce vehicle purchasing, promote ride-sharing and reduce our emissions. This also includes a motor-pool recommendation City-wide policy.

● Electric Vehicle Charging Stations

100

The City currently does not own or operate any charging stations but hopes to install one each year to meet the needs of the community.

How You Can Be Mobile

- Walk, bike or use public transportation to greatly reduce your impact on the environment. Using ride-share services can reduce your carbon footprint by up to 20% and save you thousands of dollars a year.
- Businesses can install electric vehicle chargers to encourage employees to reduce their carbon footprint.
- Establish ride sharing at your work and incentivize program use.



Below Goal



In Progress



Met Goal



Exceeds Goal

Horizontal Infrastructure

Horizontal infrastructure includes our streets, water and sewer systems, which are often taken for granted. Largo has the opportunity to encourage sustainable design and operations of this infrastructure to serve as community leaders. The successful creation and operation of these systems can deliver value to our community for decades in environmental and fiscal terms, as well as improve the quality of life for residents, businesses and visitors. Largo has the opportunity to measure, inspect, maintain and create the necessary projects that deliver these vital resources and ensure we minimize our impact on the natural world.

● Envision Rating of a Project or System

Largo hopes to assess our horizontal infrastructure using the *Envision* Rating system which was developed to prioritize needs and allocate resources for critical infrastructure.

● Horizontal Infrastructure Inspection Rates

Employees constantly inspect horizontal infrastructure maintained and operated by the City, including three types of water services that are provided: Stormwater, Wastewater and Reclaimed Water. Largo aims to inspect these systems at the following rates:

	Goal	Rate	Frequency
Stormwater	10%	23.9%	Annually
Wastewater	20%	16.4%	Annually
Reclaimed Water Inspections	10	10	Quarterly

● Sanitary Sewer Overflows

Largo's Sanitary Sewer System connects every household and business to our Environmental Services Waste Water Reclamation Facility where we treat and process all of the waste water in the City. 64 total overflows were reported in 2016 with a majority contractor or storm related. We aim to have zero overflows and will be aided in this effort by our new five million gallon equalization tank.

Improving your Infrastructure

- Don't pour fats, oils and grease down your drain. This can lead to costly overflows in our community or in your home.
- Don't litter. Littering can clog stormdrains or end up in the Gulf or Bay.
- Use reclaimed water where you can. Your business or home can save money and reduce potable water consumption.
- Keep yard waste out of storm drains.



Below Goal



In Progress



Met Goal



Exceeds Goal

NATURAL RESOURCES

A bald eagle with its wings spread, perched on a gloved hand. The eagle's head is white, and its body is dark brown. The background is a blurred green forest.

The preservation of our natural environment is a critical part of any community. Shoreline, parks, wildlife and green spaces create a warm, inviting Largo, naturally. We strive to ensure the beauty of Largo and its resilience for generations.

Water

Growing pressure on our water resources comes from many sources, including population increase, building and economic growth, pollution and other important issues. The City of Largo hopes to relieve these pressures through careful implementation of reclaimed water, reduction of water consumption and improving local water quality through education and best management practices. Creating healthy water systems in our local community helps to further drive environmental diversity and protect the quality of our water for present and future generations.

● Annual Water Used on City Property

The City of Largo uses 16,659,000 gallons of potable water annually. Through the use of native landscaping, water-wise fixtures and reclaimed water Largo aims to reduce potable water usage by 10%, saving thousands of dollars annually.

● Percentage of *WaterSense* Fixtures

100

Approximately 33% of Largo fixtures, such as sinks and toilets, are 'low-flow' or adhere to the EPA's *WaterSense* program. Largo intends to have 100% *WaterSense* fixtures on City property through updates, irrigation replacement and the use of smart technologies.

● Percentage of Reclaimed Water Used

Largo uses 42.6% of all reclaimed water produced by the City. Due to the benefits of using this water source, Largo aims to expand connections to the system, with a particular focus on businesses and new subdivisions.

● Pounds of Nutrients Removed by Street Sweeping

Largo's street sweepers currently prevent nearly 5,000 pounds of nutrients such as Nitrogen and Phosphorous from entering into our waterways annually. Largo aims to increase this amount in order to help protect the quality of our local water systems.

Water Conservation Tips

- Check to see if reclaimed water is available for your home or business.
- Collect rainwater for your lawn and garden instead of potable water.
- Use a drip irrigation system or upgrade your old one to be more efficient.
- Buy 'low-flow' fixtures when upgrading old ones.
- Use best management practices when using any water source.



Below Goal



In Progress



Met Goal



Exceeds Goal

Waste

From construction materials to office furniture, Largo disposes over 85,000 tons of waste every year. Reducing the amount of waste the City generates has a large impact on our environment by reducing our landfill contributions, decreased resource consumption and increased fiscal sustainability through avoided disposal fees. As pressures such as construction and disposal fees increase, the City must utilize alternative methods of waste reduction and disposal.

● Annual City Paper Usage

2.5 Million sheets of paper are used annually by the City of Largo, the equivalent of 300 trees a year. Much of this product is virgin material, placing even more burden on our natural resources. Reducing this number by 10% annually can be achieved by converting traditional paper systems to electronic ones.

● Recycling Containers on City Property

While the number of recycling containers does not have a direct relationship with City recycling rates, increasing the number of bins available will allow for more items to be recycled, helping Largo reach its 75% recycling goal.

● Bulk Waste Disposal Recommendations

Bulk waste, such as construction materials, large quantities of small items, and items disposed of frequently, can be drastically reduced through inter-departmental communication and community partnership.

● Zero Waste Special Events

These events incorporate ideas such as biodegradable or compostable serve ware, organics recycling and reduced packaging. Largo hopes to begin including these events annually.

Waste Reductions in Your Home or Office

- Get a free waste audit from Pinellas County at [PinellasCounty.org/SolidWaste](https://www.pinellascounty.org/SolidWaste).
- Get a free recycling presentation from the City of Largo at [LargoRecycles.com](https://www.largorecycles.com).
- Compost at home or the office and use the materials to start a garden.
- For industrial or construction waste, use electronic waste exchange services such as Florida Waste Exchange or [WasteExchange.org](https://www.wasteexchange.org).



Below Goal



In Progress



Met Goal



Exceeds Goal

Green Spaces

The City of Largo maintains a total of 422 acres of green space which includes a wide variety of plant species including natives and Florida-friendly species. Maintaining large and healthy green spaces creates a more resilient community with easy access for residents and visitors to our services. Our preserved spaces create natural habitats, mitigate threats of sea level rise and provide critical benefits to local air quality.

● **Canopy Cover on City Property**

Approximately 37% of City property is covered with mature canopy with a goal of 40% coverage. Increasing our total canopy will be done primarily through site remediation.

● **Green Space on City Property**

Largo maintains a total of 422 acres of green space or 73.59% of City owned property. To achieve 80% green space Largo will focus on land acquisition and other methods.

● **Native & Florida-Friendly Species**

As of 2017, 87% of all tree species on City property are native or Florida-friendly, increasing the overall health of our natural environment. Largo aims to increase species diversity while working towards 95% native or Florida-friendly species.

● **Greenhouse Gas (GHG) Emissions**

The City of Largo will be assessing the need for a GHG survey using the Environmental Protection Agency's local municipality tool. This will help Largo understand it's greater contribution to GHG and what role the City can play in reducing it.

Keeping your Space Green and Growing

- Use Florida-Friendly species at home or work to reduce watering needs.
- Contact the City to receive free trees for your home, and help planting them at LargoParks.com.
- Contact the City before removing trees or for help with City owned trees at LargoParks.com.
- Find out about neighborhood and park cleanups by signing up for Sustainability eNews at Largo.com/eNews.



Below Goal



In Progress



Met Goal



Exceeds Goal

Resiliency

Resilience is a community's ability to recover from a disaster or hazardous event such as flooding or a hurricane. Creating a resilient community is critical to the long-term sustainability of our Largo. Decisive planning, building and restoration, such as laid out by our Comprehensive Plan, can help us maintain our ability to adapt and respond to environmental pressures and natural disasters. As Largo adapts its infrastructure and incorporates more comprehensive planning techniques into future projects, the City will also focus on best management practices, asset planning and resiliency within the context of our larger community.

● Impervious Surfaces on City Property

These surfaces such as roads, sidewalks and other pavement, alter the natural water processes in our community, making recovery after a storm or other event more difficult. Largo hopes to reduce impervious surfaces from 16.6% to 14% on City property by 2050.

● Linear Feet of Shoreline

With a current total of 2,622 feet of shoreline, Largo may acquire more shore properties through annexation. To ensure proper development Largo will examine the Comprehensive Development Code for opportunities to increase shoreline resilience.

● Resiliency Plan Progress

100

Largo will begin exploring a Resiliency Plan for the City in order to anticipate, adapt and respond to disturbances such as environmental, social and economic pressures.

How Resiliency Works

· While sustainability looks at the overall long term survivability of a community or system, resilience looks first at a disaster, such as a flood or hurricane, and then its impacts on the community or system.

· Community or system threats can be economic, social or environmental.

· Planning and infrastructure are two key components of building a resilient community.



Below Goal



In Progress



Met Goal




Exceeds Goal

PEOPLE & SERVICES

A smiling man with a short beard, wearing an orange t-shirt, is leaning on a piece of orange machinery. He has his arms crossed and is looking directly at the camera. The background is slightly blurred, showing the interior of a vehicle or piece of equipment. The overall tone is professional and approachable.

The City of Largo is committed to providing superior services to our community. By incorporating technologies, work force practices and operational best management practices into our organization, Largo can be sustainable for generations.

A large, semi-transparent watermark of the City of Largo logo is visible in the background. The logo features a sunburst design with the text 'LARGO FLORIDA' and '1905'.

Technologies

The resources required to meet the needs of a growing organization must meet the economical and environmental needs of it's community, including residents, businesses and visitors. Technology has the unique ability to meet growing needs in a fast-paced and efficient manner, while reducing overall financial burdens, coupled with the potential to create a more healthy and vibrant environment. Utilizing technology that not only responds to a community, but adapts to it, can easily create a sustainable organization.

● Technology Implementation Profile

100

Incorporating adaptive technologies allow the development of community and operational solutions that are centralized and highly efficient. This includes adopting smart technologies such as Waste Management Sensors that signal when dumpsters are full enough for collection. Technology systems can also enhance overall operational sustainability such as Public Data Sharing. This may include methods for citizens to send pictures of issues directly to the City, expediting proper repair and maintenance. Largo continuously works on incorporating these systems into daily operations.

● Project Data Standards

Largo is working to incorporate data standards for Capital Improvement Projects to create more practical tools that can be shared across platform. This may include standardizing Computer Aided-Design (CAD) requirements for all Requests for Proposals (RFP) or providing GIS tools open to the public that help validate data currently being used.

Technology Opportunities for your Business

- Hold training sessions for staff on new technologies and schedule refreshers regularly.
- Data sharing can yield more robust, accurate results. Share the responsibility of data collection and storage to reduce cost and improve efficiency.
- Utilize technologies that anticipate and automate the needs of your organization.



Below Goal



In Progress



Met Goal



Exceeds Goal

Workforce

Being a sustainable community leader starts with an engaged and informed workforce that is knowledgeable about the latest processes, technologies and best management practices within the organization. Providing a flexible work environment that cultivates feedback and input creates resilience within the workforce and enables the organization as a whole to respond better to outside pressures. Expanding staff engagement in these and other sustainable practices will improve overall organizational efficiency and reduce the overall environmental impact.

Staff Engagement in Sustainability Practices

35% of City staff was actively engaged in sustainability practices through eNews, environmental challenges and other sustainable outreach. Largo aims to have 100% of staff engaged in one of these methods every year.

Enrollment in Emergency Notification System

Maintaining Largo's 100% enrollment in this system is integral to the organization's ability to respond to disasters or other hazardous events. Largo will maintain this level in order to provide critical services to the community during such events.

Alternative Work Schedule Recommendation List

These types of schedules allow employee flexibility and maximize efficiency across an organization. Largo will explore the utilization of these schedules for certain applicable scenarios. Alternative schedules can also reduce our community GHG emissions through telecommuting or carpooling.

Sustainability Review Panel

Developing an internal team of subject matter experts to review pertinent projects can quickly increase the operational sustainability of the City. Largo will explore creating this team for large projects.

Engaging a Workforce

- Survey staff to gauge interest level in events, cleanups and other sustainable activities.
- Create a volunteer team to work on annual projects like reducing paper waste or recycling.
- Get materials and presentations on sustainability topics from local organizations like the City of Largo at LargoRecycles.com.
- Explore alternative schedules for staff to be more productive and reduce community GHG emissions.

 Below Goal

 In Progress

 Met Goal

 Exceeds Goal

Purchasing

The products and services that Largo acquires have an inherent social, fiscal and environmental impact on our community and the long-term sustainability of our organization. Purchasing strategies can be implemented for small or large purchases and can focus on product packaging, recycling, local vendors and more. Developing efficient procurement standards can also help minimize the amount of waste generated by an organization, further reducing our environmental impact.

● Local & Environmental Purchasing

The City of Largo will be exploring the implementation of purchasing policies that suggest the use of local vendors and/or sustainable products and for the purchase of paper, office supplies, furniture and electronics among others. This would include the consideration of items such as:

- Source Location
- Chemicals and Hazardous Materials
- Waste Generation
- Energy Consumption
- Recyclability
- Impact on Biodiversity
- Life Cycle Assessment

● Bulk & Shared Purchasing

Purchasing items in bulk reduces the financial burden on an organization and its environmental impact. Largo will explore bulk purchasing procedures such as shared order forms, cooperative agreements, adaptive ordering schedules, product exceptions and selective vendor utilizations.

Purchasing Standards for Home or Work

- Purchase items in bulk when possible. Not only does this reduce overall costs, but it typically reduces packaging as well.
- Consider the source of the materials and the resources needed to transport goods to your location.
- Purchase items that can be recycled over ones that can't or items that contain less chemicals, dyes and other toxic substances.

Below Goal

In Progress

Met Goal

Exceeds Goal

Ready for 100

The City of Largo is proud to have a strategic focus on sustainability that guides our transformational initiatives and preserves the long-term environmental, social and fiscal health of our community. Largo is committed to a transition to 100 percent renewable, zero emission energy for our organization and our community in order to realize our shared vision of being the community of choice in Tampa Bay.

- **Municipal Renewable Energy**

The City of Largo is committed to achieving 100 percent renewable, zero emission energy by 2035, including at least 50 percent by 2030. Largo will explore ways to reduce our energy consumption and increase our efficiencies through technology, building upgrades and retrofits.

- **Community Renewable Energy**

The City of Largo is committed to support the achievement of 100 percent renewable, zero emission energy community-wide. Largo will encourage residents to reduce energy consumption and increase efficiencies, as well as actively engage with community stakeholders to encourage strategies such as solar powered homes and energy efficient upgrades. Largo will also work to encourage these environmental benefits particularly for the most vulnerable across our community.



Look for this symbol throughout LEAP to see our strategies for a transition to 100% renewable energy.

Energy Efficiency at Your Home or Work

- Join local co-ops or other groups to help reduce the cost of energy upgrades such as solar panels
- Contact your local utility provider for information on cost saving strategies.
- Reduce energy consumption by educating your friends, family or coworkers on energy saving methods.

· Visit OurFutureLargo.com for more tips.

 Below Goal

 In Progress

 Met Goal

 Exceeds Goal

Acknowledgments

This document was created with the support of Largo City Commission, Administration, staff and community feedback. It was designed to support and coordinate the efforts from all City Departments and Plans including:

- City Strategic Plan
- Comprehensive Plan
- Urban Forest Master Plan
- Public Works Strategic Plan
- Communications Plan

This living document serves to establish Largo as a community leader in sustainability and help guide our residents, businesses and visitors towards a more sustainable future for generations.

ourfuturelargo

sustainable for generations

OurFutureLargo.com

CITY OF

LARGO

201 Highland Avenue, Largo, FL
(727)587-6700

City of Largo, Florida

Largo's Environmental Action Plan
2018 LEAP



Policy and Data Appendix

January 1, 2018

Introduction

The Largo Environmental Action Plan, LEAP, is the City's first environmentally focused operations plan, created over the last year by critical staff members with information from every Department in the City. LEAP aims to report progress and set priorities for our organization in order to move forward in the most sustainable and resilient manner possible. This appendix serves as the backbone of LEAP and contains the metrics, data and policies for all outlined indicators in the plan.

There are two types of information displayed in this document, both of which help steer our long-term and daily operations toward the focus areas identified in the Strategic Plan.

Quantitative Data

A fundamental goal of LEAP is to increase internal collaboration and stakeholder engagement within our organization. Many indicators in LEAP were previously reported in various methods such as annual or quarterly reports. Showcasing these metrics in one document allows us to better understand our overall impact and ways that we can achieve a collective goal. Some LEAP metrics are new data points that will be collected for LEAP annually and are represented as baseline data in this report.

These quantitative measures allow us to clearly define our progress towards a more sustainable community and adjust our plans and daily operations towards more successful outputs in our organization and the community.

Recommendation Lists

Qualitative data in this report is presented as a recommendation list for each corresponding indicator within LEAP. Indicators are presented in this way as they may not be financially feasible at the moment, they may need to be completed over lengthier timelines to ensure overall project sustainability or more data collection is needed before taking action. Potential action items in each list are broken into three components:

- A. Community & Staff Outreach and Education
- B. City Operation & Projects
- C. City Codes & Policies

All of the data presented in this plan is presented topically in order to include information from multiple Departments when necessary, and to be comprehensible to the public.

Topic: Infrastructure

Focus Area: Buildings & Energy

Indicator 1: Total Energy Reduction by Complex

Current: Baseline Data 2016,

Goal: Overall Reduction of 20%

Background

The City spends nearly \$2 million dollars annually on energy costs to run City infrastructure. A 20% reduction in usage may result in annual savings of over \$375,000. One method of energy savings can be through encouraging behavior changes in employees such as turning lights off when leaving a room and powering down work stations at the end of the day. The amount of lighting can also be reduced by removing a percentage of lights in a room or adjusting their location, as well as replacing old lighting with LEDs. Additionally, Energy Savings Contracts can be created to contribute to a much larger cost savings through methods such as upgraded lighting, HVAC, control and energy systems. Investing in solar and alternative power sources can also offset the overall costs of a building.

Focusing these efforts on our least cost-effective buildings will not only increase the fiscal longevity of the City, it will also create the greatest impact on the environment through reduced resource consumption and greenhouse gas emissions.

Rank	Park/Complex Name	Annual Cost	Acreage	Cost/Acre
1	Whitesell	\$15,109.10	39.3	\$384.46
2	Sports Complex	\$8,042.88	13.27	\$606.09
3	Bayhead	\$7,190.85	10.91	\$659.11
4	Belcher Complex	\$5,432.74	7.99	\$679.94
Total Annual Cost		\$35,775.57		

	New Annual Cost	Annual Savings
5% Energy Reduction	\$33,986.79	\$1,788.78
10% Energy Reduction	\$32,198.01	\$3,577.56
20% Energy Reduction	\$28,620.46	\$7,155.11

Rank	Complex Name	Annual Cost	Square Feet	Cost/Square Feet	Notes
1	PW Complex	\$36,648.61	60201	\$0.61	
2	Feed Store	\$3,558.77	4802	\$0.74	
3	Golf Course Clubhouse	\$12,236.32	13094	\$0.93	
4	Police Complex	\$42,943.95	44879	\$0.96	
5	Parks Admin	\$9,637.54	7434	\$1.30	
6	Fire Station 42	\$8,166.12	5300	\$1.54	
7	Fire Station 41	\$22,761.65	14200	\$1.60	
8	Fire Station 38	\$10,575.51	6503	\$1.63	
9	Fire Station 39	\$9,330.46	5300	\$1.76	
10	Community Center	\$56,530.67	31121	\$1.82	
11	Library	\$164,798.76	90300	\$1.83	
12	CPPAC	\$49,910.31	26000	\$1.92	
13	Southwest Complex	\$87,545.03	33548	\$2.61	Building, Courts & Pool
14	Highland Complex	\$87,795.52	32754	\$2.68	Building and Pool
15	City Hall	\$279,099.60	57742	\$4.83	
Total Annual Cost		\$881,538.82			

	New Annual Cost	Annual Savings
5% Energy Reduction	\$837,461.88	\$44,076.94
10% Energy Reduction	\$793,384.94	\$88,153.88
20% Energy Reduction	\$705,231.06	\$176,307.76

Topic: Infrastructure

Focus Area: Buildings & Energy

Indicator 2: Average Building Environmental Scorecard Rating

Current: Measure FY18 as Baseline

Goal: Based on FY18 Data

Background

Developing a Building Environmental Scorecard will help the City of Largo understand the state of current assets and develop strategies for building repair, retrofitting and replacement. Based off of the Leadership in Energy and Environmental Design (LEED) Rating System, this scorecard also incorporates aspects of organizational commitment as well as employee and patron education on sustainability issues related to buildings and energy. This scorecard is not intended to replace standards within the organization but serve as a tool to assist employees in assessing sustainable development practices. Once completed, this scorecard can be used by all stakeholders to be shared ubiquitously, creating a common set of goals for building standards and design.

Topic: Infrastructure

Focus Area: Buildings & Energy

Indicator 3: CIP Recommendation List

Current: No Sustainability Scoring Metric

Goal: Incorporate Sustainability into all Project Scoring, Incorporate CIPs from Annual LEAP List

Background

Through innovative and cost effective strategies, the City of Largo will develop Capital Improvement Projects that reduce our impact on the natural environment. Superior capital improvement projects save energy, reduce costs, reduce waste, increase comfort and help ensure a sustainable future for the whole community. As a result these projects which incorporate and support the City’s sustainable vision are of increasing priority to our organization.

Potential Action Items

A. Community & Staff Outreach and Education

·Increase collaboration and communication about the CIP decision making process and annual selections through collaborative scoring methods.

B. City Operations

·**Solar Field Installation** (See Indicator 4)

·**EVSE Installation and Investment** (See Indicator 8)

·**Recycling Drop Off Locations**- While there is a very low ROI for additional recycling centers, strategically placing drop-off locations for mixed recycling would greatly increase our participation rate due to availability and convenience. Additional sites could be mixed recycling, cooking oil, textiles or any combination of these items.

·**Land Acquisition**- Focusing on acquiring shoreline and areas that are critical to best land/water management practices, adding land that would otherwise seem inefficient could increase the long-term resiliency of the community. Through hazard mitigation, acquiring and managing certain areas could lead to increased water quality, flood resistance, planning adaptations and more. Specific examples include areas around Largo Medical and within the McKay Creek Watershed.

·**City Hall Reconstruction**- City Hall has the second lowest energy performance by any City property on a daily basis. With an annual energy cost of \$120,000 relocating or building a new site would greatly reduce annual energy costs. Building this facility in a mixed-use zone would further improve community sustainability with the potential for revenue generation and community partnerships.

·**Smart Technology Incorporation** (See indicator 28)

C. City Policies

·Incorporate sustainability into the CIP Scoring Policy

Capital Improvement Program Project Evaluation and Criteria Scoring Element Addition	
Sustainability	
<i>Does the project consider its impact on organizational sustainability?</i>	
Projects designed with consideration to environmental impact, community resiliency and walkability will maximize the return on infrastructure investment and be given priority.	
5	The project will greatly decrease the City’s environmental impact.
3	The project will slightly decrease the City’s environmental impact.
1	The project will have no effect on the City’s environmental impact.
0	The project will increase the City’s environmental impact.

·Maintain a Sustainability Project Section within the CIP

·Incorporate LEED and ENVISION practices into the Facilities Design Standards to guarantee sustainable practices in building construction and renovation.

Topic: Infrastructure

Focus Area: Buildings & Energy

Indicator 4: Solar and Alternative Energy Recommendation List

Current: Few Solar Projects Exists

Goal: Incorporate Solar Capabilities into Small-Scale Projects, Environmental Services Warehouse/Ops Building

Background

Solar power projects are a key component of energy mitigation and can easily offset utility costs for the City and have the potential to be installed on many systems and structures already owned and operated by Largo. These projects are broken into two types: Small and Large. Small projects are those that can be done over time as materials are replaced, or have less significant cost implications. Large projects include projects that require significant up-front cost as well as project management to complete and install.

Potential Action Items

A. Community & Staff Outreach and Education

- Educate staff and the public about solar and alternative energy as part of the Sustainability Workshop (see indicator 29).
- Develop Public/Private partnerships to fund potential projects.

B. City Operations

Small Projects

- **Street Lights-** Technologies exist that provides solar and wind powered street lights. These lights could be used in areas such as the Largo downtown where the City owns street lighting. These lights are considerably higher in cost for replacement than a regular street light, however they show a very quick ROI in terms of the benefits to the utility costs to run them.
- **Parking Lot Lights-** Similarly to the Street Lights, these can be purchased and installed as needed, for a heavy initial cost, but over time and as replaced, will provide a ROI.
- **Southwest Rec Pool Heating-** Solar panels may be installed to assist in the heating of the water for the olympic sized pool at Southwest Recreation Complex. This would not offset all of the electricity needed due to the size and scope of a solar system needed, but could reduce annual costs. This project has a long projected ROI.
- **Bayhead Dog Park-** Due to the lack of power service in the immediate area, to light the park, a solar area and battery system could be installed to provide minimal LED lighting around the area for nighttime use. This type of array would be similar to the one being used to power irrigation at the Library complex.

Large Projects

·Public Works Fleet Garage and Streets & Stormwater Building-

Both of these areas of Public Works have wind rated roofs that could structurally hold solar panels and provide power back to their associated facilities. The costs to install these systems is substantial and would not be able to cover the entire energy load required to run either facility.

· **Highland Recreation Complex-** This new building already has energy efficient equipment installed and has new electrical systems. It also has a very large flat roof area that would be ideal for installing solar panels on. The cost of this system would be near the cost associated with the Community Center project. At this time however it is felt energy reduction measures inside the building would have greater cost value in the near term.

·Environmental Services Warehouse and New Operations Building-

Both of these buildings are brand new and have new electrical systems therefore impacts for electrical contracting costs will be relatively low. They also have roofs that can be easily used to mount and hold solar panels. The Warehouse is the suggested priority because it already has a light electrical load. Providing solar to this building may completely offset the energy costs. The new Operations Building will have an increased energy load on it due to the amount of operations in the building and a smaller roof area to install solar panel. It may be included in the project scope and offset a portion of the energy costs for the building.

·**Fire Stations**- Due to their flat roofs and relative energy requirements, fire stations have the potential to completely offset their energy costs with solar panels. As new stations are built, consideration to solar panels should be given priority.

C. City Policies

- Develop incentives through City Code to encourage solar powered residential projects while adjusting dwelling height limits for solar use.
- Develop codes to require solar or alternative energy use on City property where suitable.

LEED Checklist



City of Largo Building Environmental Scorecard Based on LEED v4 Existing Buildings O&M



Y ? N

0	0	0	Location and Transportation	LEED	10
0	0	0	Credit Alternative Transportation Options	Y	10

0	0	0	Sustainable Sites	LEED	13
0	0	0	Credit Site Management Policy	Y	4
0	0	0	Credit Site Development-Protect or Restore Habitat	Y	2
0	0	0	Credit Stormwater Management		2
0	0	0	Credit Heat Island Reduction	Y	2
0	0	0	Credit Light Pollution Reduction	Y	1
0	0	0	Credit Education – City Employees on Drainage Environmental Issues		1
0	0	0	Credit Education – City Patrons on Drainage Environmental Issues		1

0	0	0	Water Efficiency	LEED	16
0	0	0	Credit Indoor Water Use Reduction	Y	3
0	0	0	Credit Education – Lower Indoor Water Use		1
0	0	0	Credit Building-Level Water Metering	Y	3
0	0	0	Credit Outdoor Water Use Reduction	Y	2
0	0	0	Credit % of Water Efficient Toilet Fixtures – (1: <40%, 2: <80 %, 3: <100%)		3
0	0	0	Credit Cooling Tower Water Use	Y	2
0	0	0	Credit Water Metering	Y	2

0	0	0	Energy and Atmosphere	LEED	32
0	0	0	Credit Energy Efficiency Plan Adopted		4
0	0	0	Credit Minimum Energy Performance	Y	1
0	0	0	Credit Building-Level Energy Metering	Y	1
0	0	0	Credit Fundamental Refrigerant Management	Y	1
0	0	0	Credit Existing Building Commissioning— Analysis	Y	2
0	0	0	Credit Existing Building Commissioning—Implementation	Y	2
0	0	0	Credit Optimize Energy Performance	Y	10
0	0	0	Credit Advanced Energy Metering	Y	2
0	0	0	Credit Demand Response	Y	3
0	0	0	Credit Renewable Energy and Carbon Offsets	Y	5
0	0	0	Credit Enhanced Refrigerant Management	Y	1

LEED Checklist

Building Name:

Date:

0	0	0	Materials / Resources / Waste Reduction		LEED	12
			Credit	Ongoing Purchasing and Waste Building Policy	Y	2
			Credit	Facility Maintenance and Renovations Policy	Y	2
			Credit	New Materials – Purchasing- Ongoing	Y	1
			Credit	Purchasing – Recycled Office Products		1
			Credit	Purchasing - Facility Management and Renovation	Y	2
			Credit	Solid Waste Management - Internal Building Recycling Program	Y	2
			Credit	Education – City Employees on Recycling and Program		1
			Credit	Education – City Patrons on Recycling and Program		1

0	0	0	Indoor Environmental Quality		LEED	14
			Prereq	Minimum Indoor Air Quality meeting ASHRAE & CEN Standards	Y	3
			Prereq	Environmental Tobacco Smoke Control	Y	3
			Prereq	Green Cleaning Policy, Standards & Procedures	Y	3
			Credit	Indoor Air Quality Management Program	Y	2
			Credit	Enhanced Indoor Air Quality Strategies	Y	2
			Credit	Thermal Comfort	Y	1
			Credit	Interior Lighting	Y	2
			Credit	Daylight and Quality Views	Y	4
			Credit	Integrated Pest Management	Y	2
			Credit	Occupant Comfort Survey	Y	1

0	0	0	Organizational Commitment		LEED	3
			Credit	City Commission Priority		1
			Credit	City Administration Priority		1
			Credit	City Department Priority		1

0	0	0	TOTALS	Possible Points:	100
---	---	---	---------------	-------------------------	------------

Topic: Infrastructure

Focus Area: Transportation

Indicator 5: City Vehicles with Alternative Fuels

Current: Three Vehicles

Goal: 100% of Light-Duty Vehicles

Background

Largo currently owns three alternative fuel vehicles, one all-electric Nissan Leaf and two Hybrid Toyota RAV-4's out of a fleet of approximately 550 vehicles. Switching City fleet to alternative vehicles can greatly reduce carbon emissions and leads to higher air quality in the community. Fuel savings also create a large ROI, particularly as more alternative fuel vehicles are purchased. Electric and hybrid vehicles are suitable for the replacement of typical passenger vehicles while Natural Gas vehicles lend themselves for the replacement of large and heavy-duty vehicles.

Additionally, establishing Departmental and general motor-pools can greatly reduce the number of vehicles per full time employee. This would create significant cost savings to the City and reduce waste, resource consumption and carbon emissions in the community.

The following Policy is suggested for City-wide adoption.

City of Largo Policies and Procedures	
Policy Number:	Supersedes Policy Number: N/A
Policy Name:	Light Duty Fleet Efficiency
Approved By:	
Originating Division:	Effective Date:

BACKGROUND

In March 2017, City Commission approved the new Strategic Plan highlighting three broad focus areas: Sustainability, Public Health & Safety and Community Pride. In support of the focus on sustainability, the City is developing a city-wide Environmental Action Plan in order to address our organizational impact on the environment with the goal of reducing resource consumption, improving fiscal sustainability and creating a more healthy environment for our community. The Largo Environmental Action Plan (LEAP) has three topic areas with over 30 indicators which signal our progress towards this goal, including the percentage of City vehicles with an alternative fuel source. Advancing towards a more sustainable fleet will include favoring vehicles which use bio diesel, natural gas, electricity and other fuel alternatives, as well as installing infrastructure to support these vehicles. Additionally, creating a ride-share system for City use will reduce the number of redundant passenger vehicles increasing purchasing power for alternative fuel vehicles.

Supporting vehicles that lessen our resource consumption serves to support the City’s Strategic Plan initiative to renew our natural environment in order to ensure sustainability for future generations. This policy is intended to formalize those goals and initiatives for the City fleet.

DEFINITIONS AND RESPONSIBILITIES

Conventional Fuel: A vehicle powered by gasoline-only or diesel fuel.

Alternative Fuel: A vehicle powered by a one (or a combination) of the following:

- Flexible Fuel – gasoline OR E85
- EV – vehicle is battery powered and must be plugged into a charging stations
- Hybrid – vehicle can be powered with battery and/or gasoline. Battery is recharged by the gasoline engine.
- PHEV – plug-in hybrid electric vehicle. Vehicle can be powered with battery and/or gasoline. Battery can be recharged by being plugged into a charging station.
- CNG – vehicle is powered by compressed natural gas
- FCV – vehicle is powered by a fuel cell using pressurized hydrogen

Administrative Vehicle: A vehicle which is primarily used by the Department for personal or group transportation. Administrative vehicles are not routinely used off the roadway.

Work Vehicle: A vehicle which is used for transporting equipment and parts, in addition to personnel, to and from work sites around the City. Work vehicles may be expected to go off the roadway.

Equipment: Other individually powered work tools. Equipment could range from lawn mowers to vector trucks.

Supervisor/Operational Manager: Personnel responsible for assessing vehicle operational requirements, determining feasibility of options, and coordinating purchase with the Fleet Management Division

POLICY

1. The City of Largo may replace all administrative and light duty vehicles with makes and models utilizing alternative fuels as vehicles are replaced.
 1. Due to infrastructure limitations at the time of policy adoption, preference may be given to hybrid, PHEV, and EV vehicles.
 2. Vehicles must be selected from options provided and approved by the Fleet Management Division (i.e. available on state contract, sheriff's bid, etc).
 3. Supervisors and Operational Managers will take into account vehicle operation and specialized needs, miles traveled, fuel costs, vehicle maintenance and alternative fuel availability when selecting vehicle.
 4. Supervisors and Operational Managers will conduct cost/benefit analysis of the selected alternative fuel vehicle utilizing information available at fuelconomy.gov.
 1. Analysis will include, but not be limited to, overall capital cost of alternative versus conventional fuel vehicle; comparison between alternative and conventional fuel cost and consumption estimates, greenhouse gas emissions, and smog ratings.
2. The City will make a good faith effort to replace all work vehicles with makes and models utilizing alternative fuels.
 1. Supervisors and Operational Managers will begin the replacement vehicle selection process by examining feasibility of alternative fuel makes and models.
 2. If no alternative fuel vehicles are deemed suitable, Supervisors and Operational Managers will provide written justification to explain why an alternative fuel vehicle was not suitable.
 3. Supervisors and Operational Managers will utilize the fuel economy comparison tool available at fuelconomy.gov to compare fuel consumption and emissions statistics of conventional fuel vehicle options.
 1. Preference will be given to vehicles with better fuel economy and fewer emissions.
 2. Supervisors and Operational Managers will compare the fuel economy and emissions of the selected replacement conventional vehicle to the conventional vehicle being replaced.
3. Selection of replacement vehicles will be made early enough so as to be included in the appropriate fiscal year budget.
4. Supervisors and Operational Managers are encouraged to investigate and experiment with the purchase of alternatively fueled equipment where possible.
 1. New equipment will only be purchased for experimentation to replace broken or retired equipment.
 2. If alternatively fueled equipment does not adequately perform to the same standards as conventional equipment staff will be permitted to return to the conventional equipment.
 3. Supervisors and Operational Managers are encouraged to seek out try-it-before-you-buy-it programs.
5. Supervisors and Operational Managers are encouraged to consider utilizing an internal motor-pool as an alternative to new vehicle purchases.
 1. If annual vehicle mileage is not sufficient to support the need for a vehicle, Supervisors and Operations Manager will investigate the possibility of utilizing a motor-pool.
 2. Savings from the reduced number of redundant vehicles may be used to acquire additional alternative fuel vehicles and necessary infrastructure.
6. This policy may be rendered invalid in the event of funding constraints as determined by City Administration, and/or technical maintenance concerns as determined by the Fleet Manager.

Topic: Infrastructure

Focus Area: Transportation

Indicator 6: Bike Lanes and Sidewalks

Current:

Bike Lanes: 13 miles

Sidewalks: 8,242 Linear Feet

Goal: Complete a Community Street Every Five Years / 100% of City owned streets with alternative transportation

Background

Increased community mobility has the potential to drastically reduce carbon emissions, increase community pride and public access to City services. In accordance with both the Strategic Plan and the Comprehensive Plan, Largo aims to foster bicycle and pedestrian community multimodal corridors while building safe and healthy neighborhoods (Comprehensive Plan, Objective 1.6). The Multimodal Plan outlines the City's community streets and serves as a 25 year work program designed to guide funding and scheduling of multimodal improvements along a designated network of streets and trails.

The City, where applicable, must design, develop and maintain a safe, well-connected, comfortable and convenient environment for bicyclists, pedestrians and transit users. This will reduce vehicle miles traveled, facilitate the creation of vibrant places, increase health and recreation opportunities and reduce our carbon footprint.

Currently, many of the streets within the multimodal network cannot adequately support bicycle and pedestrian activities due to a lack of sidewalks or bicycle lanes, gaps or obstacles along existing sidewalks, inadequate transit facilities and roadway crossings, or other safety hazards. Creating these pathways not only creates a sustainable improvement for the community but can also serve as a branding and City identity opportunity through designs and imprints along the lanes. This would all coordinate with the Pinellas County Metropolitan Planning Organization's proposed improvements.

There are currently 13 miles of bike lanes in Largo and approximately 8,242 feet of sidewalk. A City-wide sidewalk inventory is also being conducted for accuracy and to establish future metrics and goals for community mobility and is to be completed in FY18.

Potential Action Items

A. Community & Staff Outreach and Education

- Educate staff and the public about alternative transportation as part of the Sustainability Workshop (see indicator 29).
- Develop Public/Private partnerships to fund potential projects.

B. City Operations

- **Expand Multimodal Network-** Accommodate City growth by promoting the use of transit and addressing deficient bicycle and pedestrian facilities along community streets, improving mobility within constrained rights-of-way that cannot be expanded to allow additional automobiles.
- **Expand Work with Outside Organizations-** Foster a deeper relationship with Pinellas County, PSTA, Tampa Bay Regional Planning Council, local municipalities and others to better identify improvement areas that have the greatest potential impact on regional multimodal networks. This may be done with programs such as a City-wide bike share program or other mobility efforts.

C. City Policies

- Require all City right-of-way projects to incorporate alternative transportation methods when applicable.

Topic: Infrastructure

Focus Area: Transportation

Indicator 7: Ride Share Recommendation List

Current: No Program Currently Exists

Goal: Establish one Internal Program for City Employees

Background

Ride-Sharing is the sharing of vehicles by passengers to reduce vehicle trips, traffic congestion and automobile emissions. Types of transportation that are considered ride-sharing include, carpool, vanpool, and transit or public transport.

There are approximately 550 vehicles in Largo's fleet which operate on a daily or weekly basis, however there is no ride-share program. Creating such a program would greatly reduce vehicle emissions and create better air quality in our local community.

Potential Action Items

A. Community & Staff Outreach and Education

- Create a Citizen and Employee "Sustainability Leader" awards to promote the dedication of those who strive to be environmentally friendly by using the programs provided by the city to reduce all harm unto the environment.
- Create an annual ride-share competition for employees.

B. City Operations

- Employee Bus Programs-** Coordinate with PSTA or other outside organizations that offer public transportation incentive programs such as the Mobility on Demand, MOD, and Employer's Choice Programs.
- Carpooling-** Carpooling may provide less stress commuting to and from work; financial savings due to sharing commuting costs; reduces need for parking; increases free time for riders; and reduces pollution due to auto emissions. Carpoolers could be eligible to win gas cards.
 - a) Convert the first two visitors parking spots at the City Hall front parking lot to carpool only.
 - b) Convert spaces reserved for specific departments/division (with the exceptions of emergency vehicles) to carpool only.
 - c) Create a staff carpool database with voluntary staff data using GIS capabilities.
- Public Partnerships for Food Trucks on City Property-** Support local businesses by allowing food trucks to visit City Hall and other City Property on set schedules, reducing time spent driving and emissions spent on driving to lunch.

C. City Policies

- Require all new City buildings to incorporate alternative transportation methods when applicable.

Topic: Infrastructure

Focus Area: Transportation

Indicator 8: Electric Vehicle Charging Stations

Current: No Stations Exist

Goal: 1 Single-Charge Station per Four All-Electric Vehicles, one Dual-Charge Station per six All-Electric Vehicles

Background

As electric (EV) and alternative fuel vehicles become a standard option for fleets the necessary infrastructure must be installed and maintained in order to operate these vehicles. While not much data currently exists on the number of charging stations (EVSE) necessary per fleet vehicle, early indicators show that for every four EVs, one Level-2, single-use charging station is used. Alternatively one Level-2, dual-use charging station can be used per six EVs, or one DC Fast-Charging, dual-use station per 8 EVs. While installation costs vary greatly for the EVSEs, the ROI is highly tied to the estimated EV fleet size over a five to ten year period. Public funding and public-private partnerships are both highly encouraged to cover the costs of the asset as well as installation and maintenance.

	Level 2 Home	Level 2 Parking Garage	Level 2 Curb-side	DC Fast Charging	Description/Key Assumptions
Charge station hardware	\$450-\$1,000	\$1,500-\$2,500	\$1,500-\$3,000	\$12,000-\$35,000	
Electrician Materials	\$50-\$150	\$210-\$510	\$150-\$300	\$300-\$600	<ul style="list-style-type: none"> • \$1.50-2.50/ft for conduit and wire, plus <u>misc</u> other materials • \$50-80/hour (per dist?) • \$500-1000 if new breaker is required • Assume 2x electrical cost for level 3
Electrician Labor	\$100-\$350	\$1,240-\$2,940	\$800-\$1,500	\$1,600-\$3,000	
Other Materials		\$50-\$100	\$50-\$150	\$100-\$400	<ul style="list-style-type: none"> • \$25-100/ft for trenching/boring—depends on surface, soil, and underground complexity • Mounting, signage, protection, and restoration also included here, but don't usually contribute more than a few hundred dollars
Other Labor		\$250-\$750	\$2,500-\$7,500	\$5,000-\$15,000	
Transformer	NA	NA	NA	\$10,000-\$25,000	<ul style="list-style-type: none"> • 480V transformer installed by utility
Mobilization	\$50-\$200	\$250-\$500	\$250-\$500	\$600-\$1,200	<ul style="list-style-type: none"> • Home: 1-3 hours of electrician time for a home installation • Public: \$250-500 of time for 1-2 electricians and other labor. We found that the work could usually be completed in a single visit from each contractor.
Permitting	\$0-\$100	\$50-\$200	\$50-\$200	\$50-\$200	<ul style="list-style-type: none"> • Varies city to city, often a flat fee for one or several stations

Topic: Infrastructure

Focus Area: Horizontal Infrastructure

Indicator 9: Average *Envision*TM Rating of a Project or System

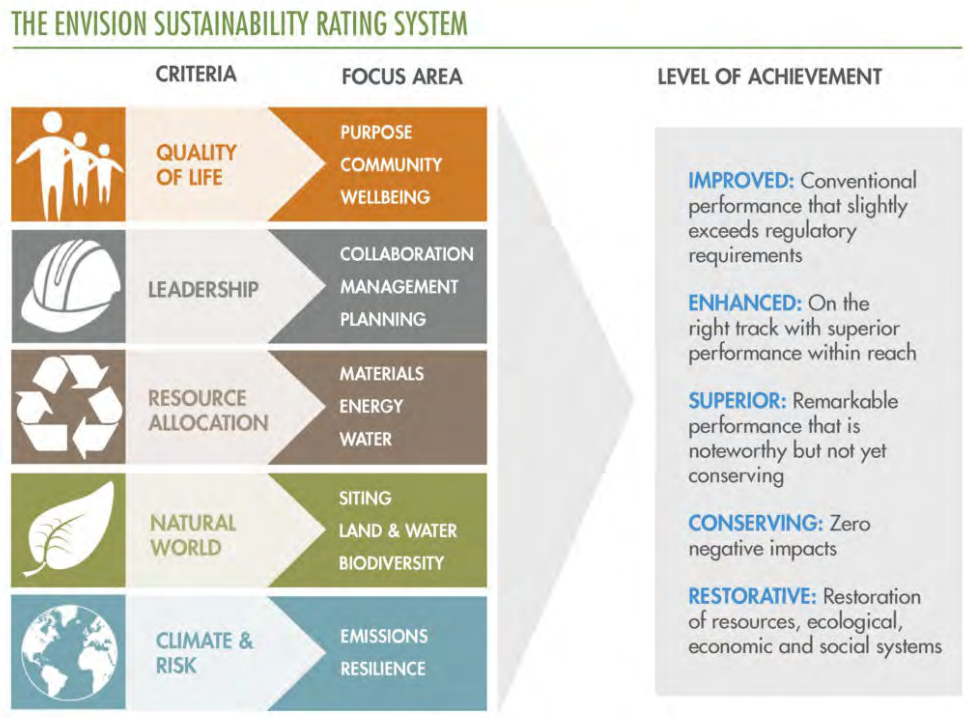
Current: Not Currently Rated

Goal: Projects Must Meet Envision Rating Standards

Background

City infrastructure is a critical component of sustainability and our ability to provide safe, fun and affordable services to residents, businesses and visitors. This infrastructure is not currently rated by any widely used system in the way LEED certification is used for buildings. The *Envision*TM Rating System ensures that projects, specifically horizontal infrastructure, are created and maintained in a way that delivers value to the community for decades, both fiscally and environmentally.

Created by the Institute for Sustainable Infrastructure, *Envision*TM is a framework of 60 criteria that encompass the full range of environmental, social and economic impacts that should be assessed in order to determine how such a project has incorporated sustainability. To ensure these criteria are met a city-wide policy could be created to establish a minimum rating that all projects must meet, creating long-term financial savings. Projects built to this *Envision*TM standard would not be required to be certified, and therefore would not require additional funding on top of capital costs for internal ratings.



Topic: Infrastructure

Focus Area: Horizontal Infrastructure

Indicator 10: Water Line Inspections

Current (FY16):

Stormwater: 23.90%

Reclaimed Water: 10 Weekly Pump and Motor Inspections

Wastewater: 16.9% of Line Inspected Annually

Goal:

Stormwater: 10% of Line Inspected Annually

Reclaimed Water: 10 Weekly Pump and Motor Inspections

Wastewater: 20% of Line Inspected Annually

Background

Stormwater, wastewater and reclaimed water infrastructure are some of the City's most important assets, providing service to every resident, business and visitor within and outside of the City's boundaries. In order to maintain this infrastructure, a very high set of standards has been created to constantly ensure their proper function. Currently, the City is meeting or exceeding their goals in all three areas.

Stormwater		
Year	Inspected	Goal
2016	23.90%	10.00%

Reclaimed Water					
Fiscal Year	Valve	Blow-Off's	Hydrant	Pump/Motor Inspections	Vibration Testing
FY15	90	82	28	10	Quarterly
FY16	77	68	31	10	Quarterly

Wastewater						
Fiscal Year	Cleaned/Jetted	Vacuumed	CC TV'ed	Jetting Rate	Total Line ft (Gravity and Force Main)	Percentage CC TV'ed
FY15	522,051	331,715	296,576	34.0	1,693,665	19.30%
FY16	464,535	224,794	257,781	30.8	1,693,665	16.40%
FY17	452,717	206,288	259,829	29.5	1,693,665	16.90%

Topic: Infrastructure
Focus Area: Horizontal Infrastructure
Indicator 11: Annual Sanitary Sewer Overflows
Current: 64 (2016)
Goal: 0

Background

Sanitary Sewer Overflows (SSOs) are caused by a variety of conditions including leaks, breaks, blockages, power failures and system overload. The Environmental Protection Agency (EPA) estimates there are 23,000- 75,000 SSOs per year, not including backups into buildings. This point source discharge can cause immediate detrimental effects to our community and the ultimate goal is to have no discharges.

Due to various infrastructure and Inflow and Infiltration (I&I) issues in 2017, Largo had 64 SSOs on public property though many of these were due to contractor issues, Wet Weather construction projects and an active hurricane season. Through the City's Capacity Management, Operations and Maintenance (CMOM) program framework Largo works to substantially improve the management and operations of this infrastructure towards the ultimate goal of reducing and eliminating SSOs.

In FY17 Environmental Services completed upgrades to help reduce the City's contribution to SSOs, including a five million gallon equalization tank and many upgrades to lift and pump stations. These upgrades have already made a huge impact on reducing SSOs as we aim for zero overflows annually. Public education is also a key component of reducing SSOs as private laterals can directly impact the overall system. Conducting smoke tests to identify malfunctioning laterals can create opportunities to improve the publicly owned system, though the burden of ownership has the potential to create downstream negative impacts.

Topic: Natural Resources

Focus Area: Water

Indicator 12: Annual Water Use on City-Owned Property

Current:

Potable Water: 16,659,000 Gallons

Goal:

Potable Water: Reduce by 10% Annually

Background

Growing pressure on water use comes from many sources including population increase, building and economic growth, pollution and other important issues. The financial impact these pressures have on our water sources continue to rise, along with their environmental impact. To relieve unnecessary pressure on our water system the amount of potable water used by the City must decrease. Reducing potable water use by 10% can save over \$8,000 annually which may be reinvested in future projects throughout the community.

Potential Action Items

A. Community & Staff Outreach and Education

· Educate staff and the public about water usage and reuse as part of the Sustainability Workshop (see indicator 29).

B. City Operations

· **Native Landscaping-** In order to reduce the amount of water necessary for landscaping on City properties, landscaping should be selected which is native, drought tolerant or xeric. Reclaimed water should be used to water landscapes across City properties where available.

· **WaterSense Fixtures-** Assets such as faucets, toilets and water fountains should be retrofitted to use 'low-flow' technology which adhere to the EPA WaterSense criteria when applicable. New installations should have these fixtures at a minimum.

· **Reclaimed Water Connections-** Reclaimed water should be utilized on all City property, particularly where there are areas of large, open-areas which require relatively high maintenance where available.

C. City Policies

· Require all new and updated City properties to provide infrastructure connections for reclaimed water where applicable, even if service is not currently available.

· Require all new business and residents to connect to reclaimed water where applicable.

Topic: Natural Resources

Focus Area: Water

Indicator 13: Percentage of EPA *WaterSense* Fixtures on City Property

Current: 33%* (Approximation)

Goal: 100%

Background

The City spends thousands of dollars annually to provide potable water to its buildings and property. Reducing the cost of this utility can be done easily through fixture replacement and education. Incorporating smart technologies into future investments can drastically reduce our impact on water and water quality in our community. The City is currently assessing the total number of *WaterSense* or 'low-flow' fixtures installed. *WaterSense* is a voluntary partnership program sponsored by the EPA and serves as a label for water-efficient products and a resource for helping to conserve water.

Potential Action Items

A. Community & Staff Outreach and Education

- Encourage employees to use Water-Wise facilities
- Encourage Water-Wise product installation throughout the community

B. City Operations

- Buildings-** Replacing old water fixtures such as toilets, shower heads and faucets can lead to a relatively quick ROI in high traffic areas as needed. Specific consideration should be given to areas the public has access to, such as Recreation, Park and Arts buildings, to increase recognition in the program and increase community participation.
- Irrigation-** Replace old irrigation systems as needed with products that have correct pressures and coverage. Installing new systems should be done only after a site assessment in order to determine the most effective locations.
- Smart Technology-** Incorporating smart technologies into water assets has the potential to save thousands annually and greatly reduce our impact on the environment. Purchasing equipment such as smart irrigation controllers has a very short-term ROI.

C. City Policies

- Require all new and updated City buildings to use as many Water-Wise products as feasible.
- Require all landscaping equipment that is replaced to be 'low-flow' or Water-Wise.

Topic: Natural Resources

Focus Area: Water

Indicator 14: Percentage of Reclaimed Water Used City-Wide

Current: 42.6% Annually

Goal: 70% Annually

Background

Largo creates 4,281.68 million gallons of reclaimed water annually, of which only 1,849.83 million gallons are utilized. There are numerous benefits to increasing this usage such as fiscal savings, improved water quality and social equality. Expanded reclaimed water systems can reduce residential water fees, reduce operational costs long-term and reduce the burden on potable water systems as well as our local environment. While the cost of expanding this network is currently the largest deterrence to expansion, sustainable planning, building and operational design can alleviate much of this burden on a long-term scale.

Potential Action Items

A. Community & Staff Outreach and Education

- Educate staff and the public about reclaimed water as part of the Sustainability Workshop (see indicator 29).
- Expand public education campaigns in coordination with multiple Departments.

B. City Operations

- **Business Focus-** Business and industrial use of reclaimed water has the largest impact on usage per subscriber. Focusing efforts on this type of customer can create a larger impact than many small residential subscribers. Through coordination with Economic Development, soliciting reclaimed water subscription through existing businesses as well as bringing in new businesses would create fiscal savings through reduced annual discharge fees.
- **Capital Improvement Project Coordination-** As horizontal infrastructure projects are being developed, consideration to reclaimed water should be given even when direct connection is not currently possible. Infrastructure that could be connected within a five year time period could be installed for future expansion of the network.

C. City Policies

- Require all new and updated subdivisions to provide infrastructure connections for reclaimed water where applicable, even if service is not currently available.
- Require all new business and residents to connect to reclaimed water where applicable.

Topic: Natural Resources

Focus Area: Water

Indicator 15: Pounds of Nutrients Removed by Street Sweeping

Current:

Nitrogen: 3,001

Phosphorous: 1,924

Goal: Increase annually

Background

Stormwater runoff is contaminated by nutrients running off of roadways, parking lots, lawns, roofs and other surfaces. This water collected nutrients such as nitrogen and phosphorous which can eventually be released into our surrounding water systems. An increase in these nutrients can lead to harmful and expensive health and environmental conditions such as algae blooms and fish kills. Largo has many efforts directed at reducing this nutrient load such as street sweeping which prevented nearly 5,000 pounds from entering our waters in 2016.

Potential Action Items

A. Community & Staff Outreach and Education

·Educate staff and the public about nutrient runoff as part of the Sustainability Workshop (see indicator 29).

B. City Operations

·**Street Sweeping-** Continue to expand the City's street sweeping program and focus on areas around critical bodies of water or high nutrient runoff.

·**Smart Technologies-** Incorporate smart technologies, such as debris cameras on garbage trucks, to help identify areas of high nutrient runoff throughout the City.

·**Community Education Art Projects-** Develop partnerships with schools and outside organizations to create community art projects that highlight the importance of stormdrains, rainwater, and nutrient loads. This may include artwork painted on or around stormdrains, placards or participation at public events within the City.

C. City Policies

·Create policies requiring specific landscaping techniques which reduce overall nutrient runoff.

·Increase the LOS for street sweeping.

Topic: Natural Resources

Focus Area: Waste

Indicator 16: Annual City Paper Usage

Current: 2.5 Million Sheets* (Approximate)

Goal: Reduce 10% Annually, Incorporate tablets into Commission, hiring and other standard operations.

Background

Largo spends over \$20,000 on paper annually for appropriately 2.5 million sheets of paper, the equivalent of 300 trees. Much of this paper is virgin, not often containing recycled content, placing a further burden on our natural resources. Simply using electronic document sharing internally and with vendors, as well as converting traditional systems to electronic systems can save these valuable resources.

Potential Action Items

A. Community & Staff Outreach and Education

- Develop annual paper reduction campaigns.
- Create minimum standards for recycled paper purchasing.

B. City Operations

- Commission-** Utilize tablets and electronic document submission for all Commission staff reports and presentations. Each Agenda Item currently requires at least seven copies without edits with a total impact of potentially thousands of sheets of paper each year. Converting to an electronic-only system would save hundreds of trees annually and reduce overall operating costs.
- Human Resources and Hiring-** The hiring process is highly reliant on paper copies of each application for multiple interviewers. Much of this paperwork is simply filed after use and not utilized again. Purchasing software or hardware that can be used by Departments during the course of hiring and would streamline the process and create a large fiscal savings.
- Monthly Statements, Invoices and Purchase Orders (PO)-** Every month thousands of credit card statements, invoices, vendor receipts and checks are printed and kept on file. In order to reduce physical space needed for file storage, and the amount of paper printed for City operations, these documents should only be shared electronically. Vendors should also send all correspondence electronically.
- Ordering System-** Several different companies and ordering schedules are used across Departments for paper. In order to streamline the process common ordering standards, including recycled content paper and appropriate schedules, as well as selective vendor utilization can save the City thousands of dollars annually.
- Digital Editing Software-** Purchasing digital editing software or software upgrades would enable employees to electronically edit, sign, track and send documents. The ROI for these programs would be very short-term.

C. City Policies

- All paper purchased for daily City operations should have a minimum 50% recycled content.
- All outside vendors should correspond with the City electronically where possible.
- All internal documents should be shared digitally to reduce overall operating costs and environmental impact.

Topic: Natural Resources

Focus Area: Waste

Indicator 17: Percentage of Recycling Containers on City Property

Current: 35.97%

Goal: 75% Statewide Goal

Background

The State of Florida continues to pursue its goal of a 75% recycling rate by 2020. In order to support these efforts the City of Largo would like to provide enough recycling capacity on City properties to accommodate. While major City facilities do have recycling bins they often are smaller or not easily accessible. Some smaller locations do not have any recycling bins. Expanding the number of waste streams at certain locations, such as including organics or textile recycling, can greatly increase the available recycling options within the City.

Potential Action Items

A. Community & Staff Outreach and Education

- Educate staff and the public about recycling as part of the Sustainability Workshop (see indicator 29).
- Encourage staff and public recycling by providing 3:4 recycling at events.
- Provide recycling opportunities at staff desks and inside vehicles.

B. City Operations

- **City Buildings-** Provide recycling bins at all City properties at 3:4 ratio.
- **Smart Technologies-** Incorporate responsive recycling bins to reduce operational needs on recycling collection systems.
- **Special Events-** Provide recycling bins at all special events at all locations, including parks, facilities, employee desks and vehicles at a 3:4 ratio.
- **Organics Recycling-** Develop public partnerships to recycle organic materials such as food waste and landscaping material. These items can be used as a resource for community gardens, City green spaces and for public use.
- **Oil Recycling-** Expand the Cooking Oil Recycling Effort to additional locations on City property.
- **Textile Recycling-** Create a textile recycling program for City employees to increase total diversion rates across the City.

C. City Policies

- Require recycling bins at all new businesses and City properties.
- Require waste enclosure specifications on new and updated properties to include space for additional waste streams such as organics recycling.

Topic: Natural Resources

Focus Area: Waste

Indicator 18: Bulk Waste Disposal Recommendation List

Current: There is currently no bulk waste disposal program

Goal: Bulk waste warehouse or website

Background

The City of Largo disposes over 85,000 tons of waste every year much of which is generated by the City itself. From construction materials to office furniture, reducing the amount of waste the City generates has a large impact on our environment through reduced landfilling, reduced resource consumption and increased savings through avoiding tipping fees and potential revenue generation. With increasing populations, construction services and disposal fees, potentially threefold, the need to establish alternative methods of waste disposal should take priority for City operations.

Potential Action Items

A. Community & Staff Outreach and Education

- Educate staff and the public about bulk waste and reuse as part of the Sustainability Workshop (see indicator 29).
- Educate staff and the community on reuse and resource reduction.

B. City Operations

- **Community Garden-** A community garden has the potential to collect organic waste items and turn them into compost material for on site use. This could be managed with public/private partnerships at current community garden sites and would reduce the cost of disposal for the City.
- **Internal Trading Website-** Volunteer employees could operate a webpage which lists City office items that could be used elsewhere internally. This option would require little to no investment but would likely only reduce waste on smaller items, typically not in bulk.

C. City Policies

- Require all bulk waste to be sent to warehouse or listed on webpage for reuse.

Topic: Natural Resources

Focus Area: Waste

Indicator 19: Number of Zero Waste Special Events

Current: 0

Goal: Add one event annually

Background

Zero Waste events incorporate the ideals of sustainability such as plastic and organic recycling, reusable or biodegradable items and reduced purchasing. These events lower the overall operational costs of the City by reducing the costs of waste disposal. They serve as educational opportunities for staff and the community and can support other aspects of City operations such as community gardens.

Potential Action Items

A. Community & Staff Outreach and Education

- Create a Community Garden Team that operates composting for City events.
- Educate staff and the public about the concept of zero waste as part of the Sustainability Workshop (see indicator 29).

B. City Operations

- **Public Partnership for Organics-** Work with outside organizations to develop an organics recycling program for City events.
- **Purchase Reusables-** Use only recyclable, reusable or biodegradable serve-ware and supplies such as plates, utensils and cups.
- **Vendor Regulations-** Require all outside vendors to use recyclable, reusable or biodegradable serve-ware and supplies.
- **Outreach Organizations-** Donate all leftover food to local charities and non-profits.
- **Packaging-** Purchase items in bulk or items that use less packaging.

C. City Policies

- Require all internal City events (picnics, lunches, meetings, etc.) to use reusable, recyclable or biodegradable supplies.

Topic: Natural Resources

Focus Area: Green Spaces

Indicator 20: Percentage of Canopy Cover on City Property

Current: 37.11%

Goal: 40%

Background

A robust tree canopy is important for a comfortable, safe and socially integrated community. Streets with more tree canopy have proven to be associated with greater health and sociability with neighbors, improve local air quality and decrease the ‘heat-island’ effect. American Forests has set a 40% tree canopy coverage as the goal for all US communities. Largo’s Urban Forest Master Plan supports this goal with FY17 coverage on City property at 37.11%

Potential Action Items

A. Community & Staff Outreach and Education

· Continue to promote Tree City USA at City Welcome signs and yearly events, tree give away and tree planting programs.

B. City Operations

· Continue to educate staff on tree crews and landscape maintenance crews to care for sites and trees with the latest methods and techniques to ensure tree on City property reach maturity and are healthy.

C. City Policies

· Strengthen tree protection standards and develop a Grand Tree Ordinance.

Topic: Natural Resources

Focus Area: Green Spaces

Indicator 21: Percentage of Public & Green Space on City Property

Current: 73.59%

Goal: 80% by 2050

Background

Largo maintains a total of 422 acres of green space on City property which includes tree canopy, grasses, low-lying vegetation, parks and areas with the Future Land Use Designation of preservation and recreation or open space. This equates to over 73% of Largo's 573 acres of total property. Preserving these spaces is critical to maintaining a LOS to our community for recreation and parks and helps to create a more healthy and livable environment. Our preserved spaces create natural habitats, mitigate threats of sea level rise and provide critical benefits to local air quality. In support of the Urban Forestry Master Plan, Largo aims to increase our green spaces, and hopes to achieve 80% by 2050.

Potential Action Items

A. Community & Staff Outreach and Education

- Promote the use of parks and open spaces within our organization.
- Educate staff and the community about green spaces and resiliency.
- Encourage the use of Florida-Friendly landscaping to improve the health of current green spaces.

B. City Operations

- Comprehensive Development Code (CDC)**- Research potential policy changes in the CDC to address programs and issues such as pocket parks, parcel designation and densities.
- Land Acquisition**- Acquire critical parcels that would connect current and future park and trail systems. Acquire green spaces that provide environmental benefits to areas potentially impacted by sea level rise. Acquire spaces adjacent to vulnerable economic areas such as CRA's and local businesses.

C. City Policies

- Increase the LOS for access to green spaces and parks.

Topic: Natural Resources

Focus Area: Green Spaces

Indicator 22: Percentage of Native & Florida-Friendly Species on City Property

Current: 87%

Goal: 95%

Background

Native and Florida-Friendly species help provide a natural habitat for local wildlife, require less resources to maintain and increase our communities resiliency. These trees use less water and fertilizer over their life and typically have less diseases, providing long-term financial benefits to our organization. Largo has a total of 3,756 trees on City property, of which 3,292 are Florida-Friendly or Native, or 87%. While some locations such as medians and other microhabitats may not support these species sustainably, Largo aims to increase the total percentage of Native & Florida-Friendly species to 95%.

Potential Action Items

A. Community & Staff Outreach and Education

- Create an Adopt-a-Tree program.
- Expand programs that promote Native & Florida-Friendly species as well as species diversity.

B. City Operations

- Site Rehabilitation-** In order to further mitigate against sea level rise and increase our communities overall resiliency, green space rehabilitation will be prioritized at critical infrastructure and economic development points.
- Diversity-** Increase the diversity of Native & Florida-Friendly species to reduce the threat of diseases and increase community resiliency.

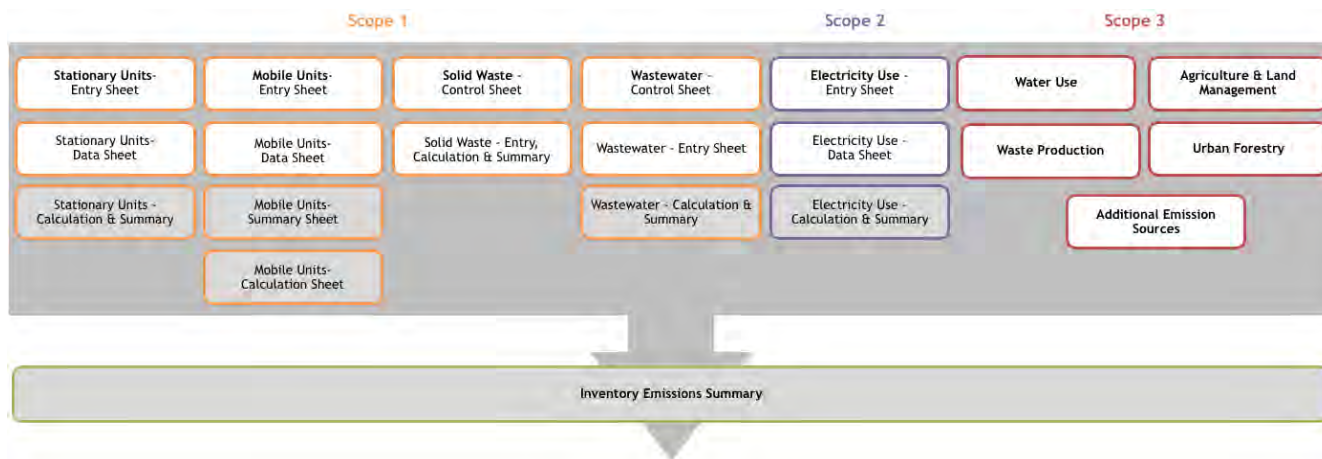
C. City Policies

- Require all species to be a Native or Florida-Friendly for site redevelopment, where applicable.

Topic: Natural Resources
Focus Area: Resiliency
Indicator 23: Green House Gas Emissions
Current: Measure Baseline 2018
Goal: Measure Annually

Background

The Environmental Protection Agency (EPA) provides a tool for local municipalities to evaluate and estimate greenhouse gas (GHG) emissions within their communities. This tool can help Largo understand local greenhouse gas emissions profiles and the sectors driving those emissions, as well as provide a baseline for tracking emission trends which can further support LEAP and the Strategic Plan. Ultimately, reducing GHG emissions creates a more resilient community that is less susceptible external environmental changes and improves local air quality. It is the goal of LEAP to begin calculating a simplified GHG emission profile using the EPA tool which covers 20 topics and their impact on our community.



Topic: Natural Resources

Focus Area: Resiliency

Indicator 24: Percentage of Impervious Surfaces on City Property

Current: 16.6%

Goal: 14% by 2050

Background

Impervious surfaces are artificial structures such as road, sidewalks, pavement or any other surface that alters the natural air and water processes in an area. The control of impervious surfaces ensures continued absorption of rainwater, aids in the control of stormwater runoff, and implements the policies of the Natural Resources and Public Facilities Element of the Comprehensive Plan. It is important to keep in mind that land is a crucial component of the built environment and can be planned, designed, developed and maintained to protect and enhance the benefits we derive from healthy functioning landscapes. It is our initiative to invest and foster a resilient community that benefits the environment, property owners and local and regional communities and economies.

Impervious surface ratio (ISR) is the area of ground covered by any part of a building, vehicular use area, or any other structure, improvement or facility or material that prevents or severely restricts natural percolation of moisture, not including residential swimming pools. City property has a ISR of 16.6% while the City-wide ISR is 45%. Reducing the ISR can be done through the use of structural, landscape and low impact development (LID), best management practices (BMPs) and policy changes.

Potential Action Items

A. Community & Staff Outreach and Education

· Educate staff and the public about the community resilience as part of the Sustainability Workshop (see indicator 29).

B. City Operations

· **Comprehensive Development Code-** Review the CDC for the opportunity to improve overall ISR. Potential focus areas may be redevelopment code changes, density bonuses for vertical construction, impact fee reduction or parking credits for semi-impervious surfaces.

· **Legal Surveys-** Acquire up-to-date legal surveys for each city-owned property to ensure accurate information as it pertains to location of all permanent structures, property lines, right of way lines, easements or encroachments, etc. in order to submit and/or apply for any development review process.

· **Infrastructure Standards-** Ensure the use of sustainable street and parking lot infrastructure that encourages stormwater best management practices (BMPs) and low impact development (LID).

· **Site Rehabilitation-** Any improvement on city-owned properties over 25% of a parcel must meet the goals identified in Indicator #1 of this Plan.

C. City Policies

· Incorporate the Low Impact Development (LID) standards to reduce impervious surface and lessen surface water runoff into the CIP scoring Policy.

Topic: Natural Resources

Focus Area: Resiliency

Indicator 25: Linear Feet of Shoreline on City Property

Current: 2,622 feet

Goal: Provide resilient City policies to best manage shoreline properties.

Background

Coastal resiliency is critically important to the overall vulnerability of communities in sensitive regions. Heavy storms, increased tides and sea levels and loss of natural habitat pose risks to community infrastructure and public health. Sustainable planning can lessen the impact of these issues on human health and safety while providing a more diverse local environment. Largo aims to provide exceptional best management practices and City policies in order to create a more resilient community.

Potential Action Items

A. Community & Staff Outreach and Education

· Educate staff and the public about the concept of community resilience as part of the Sustainability Workshop (see indicator 29).

B. City Operations

- **Comprehensive Development Code-** Review the CDC for potential impact on community resilience and shoreline management.
- **Best Management Practices-** Maintain or improve BMPs for shoreline property and development to ensure the protection of the environment and City infrastructure.
- **Land Acquisition-** Acquire land with shoreline in order to better manage parcels which affect community resilience.

C. City Policies

· Require all shoreline on City property to be designated as preserved land space.

Topic: Natural Resources

Focus Area: Resiliency

Indicator 26: Resiliency Plan Progress

Current: Develop a City-Wide Resiliency Plan

Goal: FY2019

Background

Resiliency is the ability for a community to anticipate, adapt and respond to disturbances such as environmental, social and economic pressures. Resilient communities plan for such disturbances while balancing current characteristics of the community. Developing resiliency requires careful policy and infrastructure planning, particular to communities more susceptible to these pressure such as those on the coast.

Researching and developing a Resiliency Plan will allow Largo to remain sustainable through the careful planning of City operations within the context of external pressures and disasters. The National Oceanic and Atmospheric Administration (NOAA) recommends a six-step planning process for community resiliency that considers three types of risks:

- Routine Hazards (High-tide, Tree Damage, etc.)
- Design Hazards (CRA Placement, Shelter Design, etc.)
- Extreme Events (Natural Disasters, Community-Scale Threats)

Integrated resilience plans incorporate steps to disaster preparedness and recovery efforts seamlessly with other City plans. To successfully accomplish this, these plans should be made with support from the highest levels of the organization with the assistance and detailed input from all sections of the organization. Potential action items may be items from the Natural Resources and Hazard Adaptation Policies of the Comprehensive Plan.

SIX-STEP GUIDE TO PLANNING FOR COMMUNITY RESILIENCE



Topic: Workforce

Focus Area: Technologies

Indicator 27: Technology Implementation List

Current: No Standardized List Exists

Goal: Incorporate One Method Annually

Background

As the City of Largo continues to grow and require more resources to meet the needs of residents and businesses, our organization must seek economically feasible and environmentally sustainable solutions to meet this objective. In support of the Strategic Plan, investments in technology can address growing needs in a way that is not only more cost efficient but can offer a higher quality of life for residents in a sustainable manner. Incorporating responsive technology projects into our organizational culture will allow us to develop solutions in a centralized and adaptive manner, decreasing our resource consumption and increasing operational efficiencies.

Potential Action Items

A. Community & Staff Outreach and Education

·**Smart City Leadership Workshop-** Designed for Administration, ELT and key staff, develop a workshop with community partners such as the Institute of Food and Agricultural Sciences (IFAS) or the Tampa Bay Regional Planning Committee (TBRPC) in order to highlight the importance and utility of smart technology in daily operations.

B. City Operations

·**Smart City Technologies-** Integrate smart technologies that are responsive to every day scenarios throughout the City, streamlining operations and response.

·Waste management sensors- These devices signal when waste collection is needed.

·Street light communication sensors- Updated street lights can measure air quality, ‘hear’ gunshots, record humidity levels and can be activated by motion sensors.

·Water quality sensors- Automatic sensors measure oxygen levels, turbidity and can signal when there is point-source pollution.

·Responsive HVAC systems- Respond to numerous factors such as time of day, time of year, occupancy, and other issues to reduce overall operating costs.

·Responsive lighting systems- Motion sensors can be adjusted through cloud-based technology to accurately interpret the amount of light needed on fields and other green spaces.

·Water Metering Sensors- These sensors can recognize extreme use scenarios and alert when maintenance is required, in addition to providing accurate readings electronically.

·**Centralized Work Management Systems-** Include as many divisions as possible in an Enterprise Asset Management (EAM) system allowing for efficient use of personnel and asset usage.

·**Data Warehousing-** This increases data integration and organizational knowledge while reducing data silos and disparate systems.

·**Public Data Sharing-** Open data systems (where applicable) foster local and community growth across all economic sectors and have the ability to better validate data.

·**Wireless Infrastructure-** Sustainable wireless networks are multi-functional and have the ability to quickly adapt to external pressures and developments. They can provide additional security methods while reducing the need for hardwired systems that greatly impact local environments.

C. City Policies

·Develop policies that encourage the use of shared technology resources to reduce operations costs.

Topic: Workforce
Focus Area: Technologies
Indicator 28: Project Data Standards
Current: No Ubiquitous System Exists
Goal: Develop Standards for Internal and External CIP Projects

Background

Project stakeholders need practical tools and data that can be shared ubiquitously across platforms in order to accurately develop project designs, increasing operational efficiencies and environmental impacts. These tools and data standards should be developed with the needs of stakeholders across project levels and integrate comprehensive asset class life cycles.

Potential Action Items

A. Community & Staff Outreach and Education

·Hold training sessions for all key personnel on updated standards

B. City Operations

- Organizational Computer Aided-Design (CAD) Standards-** Use VUEWorks Asset Type/Class hierarchy as the basis for creating an organizational CAD standard that supports all asset classes and project types, augmenting or replacing existing CAD standards in use throughout the City.
- Tool Utilization-** Leverage tools in desktop CAD applications to enable connections to spatial databases and the Largo Enterprise Geodatabase.
- Validation Tool-** Create a validation tool using FME Server to ingest CAD data from all project types; the tool would validate incoming CAD data against the City's organizational CAD standard and then perform an automated feature extraction of data into intelligent GIS features.
- GIS Driven-** Create a GIS-driven data discovery/download tool for the public to use in acquiring GIS datasets.
- External Services-** Publish Web services that allow consultants to access City geospatial data directly within their desktop CAD or GIS applications.
- Maintenance-** Maintain a list of supported data formats across both CAD and GIS applications.
- Technical Standards-** Provide these standards for how the data should be structured and represented, including a copy of the City's enterprise GIS data model and enterprise asset class/type hierarchy.

C. City Policies

·Provide these standards as part of all RFPs and CIPs.

Topic: People & Services
Focus Area: Workforce
Indicator 29: Staff Engagement in Sustainable Practices
Current: 35%
Goal: 100%

Background

In order to be a community leader in sustainability, Largo staff should be actively participating in sustainable practices such as recycling, waste reduction and park cleanups. Outreach should be conducted continuously to promote the various aspects of sustainability and engage staff with current trends and topics. Expanding the number of staff engaged with sustainable practices annually improves the overall efficiency of our organization.

Potential Action Items

A. Community & Staff Outreach and Education

·Utilize Employee Orientations as a standard outreach effort.

B. City Operations

·**Sustainability Team-** Further develop the team of core staff who engage coworkers in sustainable practices. Continue to develop annual projects or challenges for City-wide staff engagement.

·**Sustainable Events and Meetings-** Develop standards for all internal City events and meetings to meet or work towards zero waste policies.

·**Incentivize Sustainable Practices-** Create workforce incentives such as time-off, awards and recognition for sustainable staff members.

·**Sustainability Workshop-** Conduct an annual workshop for staff and the public to educate on sustainability topics. This can be done with the partnership of outside organizations from the community to further support regional sustainability and may include IFAS, USF, TBRPC and NOAA.

C. City Policies

·Require that all internal meetings work towards being zero waste.

Topic: People & Services

Focus Area: Workforce

Indicator 30: Staff Enrollment in Emergency Notification System

Current: 100%

Goal: 100%

Background

Emergency Notification Systems (ENS) are a critical aspect of sustainability as they facilitate a safe and healthy workforce while increasing an organizations resilience. Largo's ReadyOp system is a comprehensive communication system for staff that has aggressively worked to include all employees. This successful effort has proven it's efficacy during recent events and encourages our organization to provide further notification efforts to staff and the community.

Potential Action Items

A. Community & Staff Outreach and Education

·Educate employees on the impacts and importance of modern notification systems.

B. City Operations

·**Maintain Enrollment-** Continue to enroll all new employees into the ENS.

·**Additional Methods-** Develop additional methods of notification that account for hazard variances such as loss of cell phones, inaccessibility, flooding, etc.

·**Community Incorporation-** Develop additional methods to deliver critical information to residents using similar systems during and after hazardous events.

C. City Policies

·Require all employees with City phones to enroll in the ENS.

Topic: People & Services

Focus Area: Workforce

Indicator 31: Alternative Work Schedule Recommendation List

Current: 2 Alternative Schedules for Applicable Personnel

Goal: Research and Develop Pilot Programs

Background

Alternative work schedules are an umbrella term that refers to compressed work schedules and flexible work schedules. Compressed work schedule means a fixed work schedule (no flexible time bands) in which an employee can complete the biweekly work requirement in less than 10 working days. Having a flexible work schedule allows employers following benefits: increased employee morale, engagement, commitment to the organization, reduced absenteeism and tardiness and an increased ability to recruit outstanding employees.

Currently Largo has over 900 full time equivalents (FTE) across eleven Departments each with different needs so alternative work schedules must be developed by work group. The Strategic Plan aims to advance a flexible and resilient organization that delivers superior City services, recruit and retain an innovative workforce that is motivated to exceed customer service expectations and provide modern, evolving technology that supports collaboration, automation and a seamless user experience. Alternative work schedules would assist in accomplishing all of these while increasing operational efficiencies.

Many alternative work schedules have the ability to reduce the amount of GHG emissions in our community through telecommuting, carpooling and careful planning of environmental resources.

Potential Action Items

A. Community & Staff Outreach and Education

- Educate staff on the benefits and risks of alternative schedules.

B. City Operations

- **Telecommute**-Telecommuting allows the employee to use telecommunication links, keeping in touch with coworkers and employers via telephone and email. The worker may occasionally enter the office to attend meetings and touch base with the employer. However, with many options for distance conferencing, there may be no need to visit the office.
- **Four-10 Hour Days**- A compressed work schedule that allows an employee to work four 10-hour days as opposed to the traditional five-day work week. This could be a financial benefit to the City by reducing the overtime pay for those on stand-by or on-call.
- **Compressed Work Week**-A compressed work schedule allows an employee to work a traditional 35-40 hour workweek in less than the traditional number of workdays. Many compressed work schedule options may be negotiated. Compressed work schedules are but not limited to:
 1. 5/4/9 (also called 9/80): Work eight 9-hour days and one 8-hour day in the pay period and get an extra day off.
 2. 4/10: Work 4 10-hour days each week of the pay period and have an extra day of each week.
- **Maxiflex**- A type of flexible work schedule that contains core hours on fewer than 10 workdays in the biweekly pay period and in which a full-time employee has a basic work requirement of 80 hours for the biweekly pay period, but in which an employee may vary the number of hours worked on a given workday.
- **Gliding**- A schedule in which employee has a basic work requirement of 8 hours a day and may select an arrival time each day and may change the arrival time daily as long as it is within the flexible time band.
- **Staggering Hours**- Workers or groups of workers start and finish work at slightly different times. Staggered hours may allow workers some discretion within prescribed limits, in fixing the time when they start and finish work.

C. City Policies

- Allow management staff to determine when a group or individual is allowed to use an alternative work schedule within the constraints of the Fair Labor Standards Act (FLSA).

Topic: People & Services
Focus Area: Workforce
Indicator 32: Sustainability Review Panel
Current: No Such Review Panel Exists
Goal: Develop the Panel FY18

Background

In order to maintain the longterm sustainability of our organization, the creation of a Sustainability Review Panel (SRP) is recommended for review of specific CIPs equal to or greater than \$100,000. This team would be compromised of key stakeholders with the specific role duties of:

1. Identifying new projects for review
2. Review project for overall sustainability and assign sustainability value for CIP Validity committee review
3. Conduct Preliminary Envision and/or LEED review of project at or before 30% plan review
4. Provide recommendations for sustainable design elements within the project

The SRP would specifically look at projects focused on buildings, horizontal or vertical infrastructure and their adherence to *Envision*, *LEED*, and the *Building Environmental Scorecard*. The team would review these projects before the CIP scoring process for reasonableness and at or prior to 30% project completion. For Building and Vertical Infrastructure projects the SRP would be compromised of the Assistant Public Works Director, Sustainability Coordinator, Parks Superintendent and the Stormwater Program Administrator. For Horizontal Infrastructure projects the SRP would be compromised of the Engineering Project Manager, the Stormwater Program Administrator, the Sustainability Coordinator and a Subject Matter Expert pertaining to the project.

Topic: People & Services
Focus Area: Purchasing
Indicator 33: Local & Environmental Purchasing Policy
Current: Currently No Such Policy Exists
Goal: Research Potential Policies

Background

The products and services that Largo acquires has an inherent social, fiscal and environmental impact on our community. The City can make procurement decisions that promote a commitment to sustainability and the long term resilience of our community. Creating a policy that promotes these ideals will encourage economic growth in the region and a shared environmental benefit. Local goods do not require as much shipping, reduce overall GHG emissions, landfill waste, traffic risks and fiscal costs of other goods. These benefits can also create an underlying financial savings in a product or service and foster even larger economic benefits to businesses we already support in the community.

Even small purchases made on p-cards can affect the overall sustainability of an organization or community, such as purchasing products with more recycled content, less packaging, less harmful dyes or chemicals or that are reusable or biodegradable. By promoting these items to all employees Largo can increase sustainability in all daily operations.

Largo will research potential policies that focus on the environmental and financial impact of our purchases on our local community. Consideration will be given to:

- Material Origin
- Locally Sourced Products
- Incorporation into Largo Building Scorecard
- Recyclability
- Potential hazardous or chemical components
- Energy Efficiency
- Energy Consumption

Additionally, Largo will review the impact of our Requests for Proposals (RFPs) on these items, as unique projects can potentially result in an increased environmental impact.



Do's

Paper Products

- Recycled content (50% minimum for paper)
- Sustainably Harvested
- Non-toxic dyes
- High % of post-consumer materials

Office Supplies

- Recycled content for all organizing products, folders, calendars, notebooks, etc.
- Reusable
- Refillable
- Biodegradable
- Non-toxic

Food & Event Supplies

- Locally grown or raised
- Organic
- Fair Trade
- Minimal Packaging
- Recyclable Packaging
- Reusable or Biodegradable serve-ware

Don't's

- Product bleaching
- No or low recycled content
- Single-serve packaging

- Excessive packaging
- Toxic materials
- Single use products

- Styrofoam
- Multi-layer packaging

Questions?

- Can this be recycled at the time of disposal?
- Does this conserve water, energy or other resources?
- Is there an alternative product with higher recycled content?
- Is there an alternative product with less packaging or one that is reusable?
- Is this green certified?
- Can this be bought in bulk?
- Is there a local vendor?
- Does the City already have this?
- Do I really need this product?**

Topic: People & Services

Focus Area: Purchasing

Indicator 34: Bulk & Shared Purchasing

Current: There is limited bulk or shared purchasing City-wide

Goal: Increase bulk purchasing items annually

Background

Purchasing bulk orders immediately reduces the financial burden on an organization while also reducing its environmental impact. Bulk purchasing requires less packaging, less transportation and gives consideration to end-of-life use. Bulk purchasing can be done departmentally, organizationally or between single or multiple outside organizations.

Appropriate schedules and BMPs should be created to effectively implement large-scale bulk purchasing, such as shared order forms, cooperative agreements, quarterly schedules, single-source vendors and product exceptions.

Other items can be purchased on a rotating basis for greater efficiency. This includes

Potential Action Items

A. Community & Staff Outreach and Education

- Create awareness of bulk purchasing benefits.

B. City Operations

- **Scheduled Purchases-** Uniforms, furniture, landscaping products and other Department specific items can be purchased on annual schedules with enough reserve to anticipate additional needs.

- **Order Form-** Create a City-wide order form for each division to use for general supplies and remove personalization from items such as stationaries.

- **Vendor Selection-** Utilizing single-source vendors for specific items can greatly reduce the cost and environmental impact of an item.

C. City Policies

- Require all Departments to follow bulk-ordering guidelines and encourage the use of bulk ordering where possible.

LIST OF ABBREVIATIONS

BMP	Best Management Practices
CAD	Computer Aided Design
CDC	Comprehensive Development Code
CIP	Capital Improvement Project
CMOM	Capacity Management, Operations and Maintenance
CPPAC	Central Park Performing Arts Center
CRA	Community Redevelopment Area
EAM	Enterprise Asset Management
ENS	Emergency Notification System
EPA	Environmental Protection Agency
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
FLSA	Fair Labor Standards Act
FTE	Full Time Equivalent
GHG	Green House Gas
HVAC	Heating, Ventilation and Air Conditioning
I&I	Inflow and Infiltration
IFAS	Institute of Food and Agricultural Sciences
ISR	Impervious Surface Ratio
LEAP	Largo Environmental Action Plan
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
LOS	Level of Service
NOAA	National Oceanic and Atmospheric Administration
PO	Purchase Order
RFP	Request for Proposal
ROI	Return on Investment
SRP	Sustainability Review Panel
SSO	Sanitary Sewer Overflow
TBRPC	Tampa Bay Regional Planning Committee