

WHY SUSTAINABILITY?

Implementing a Local Sustainability Program

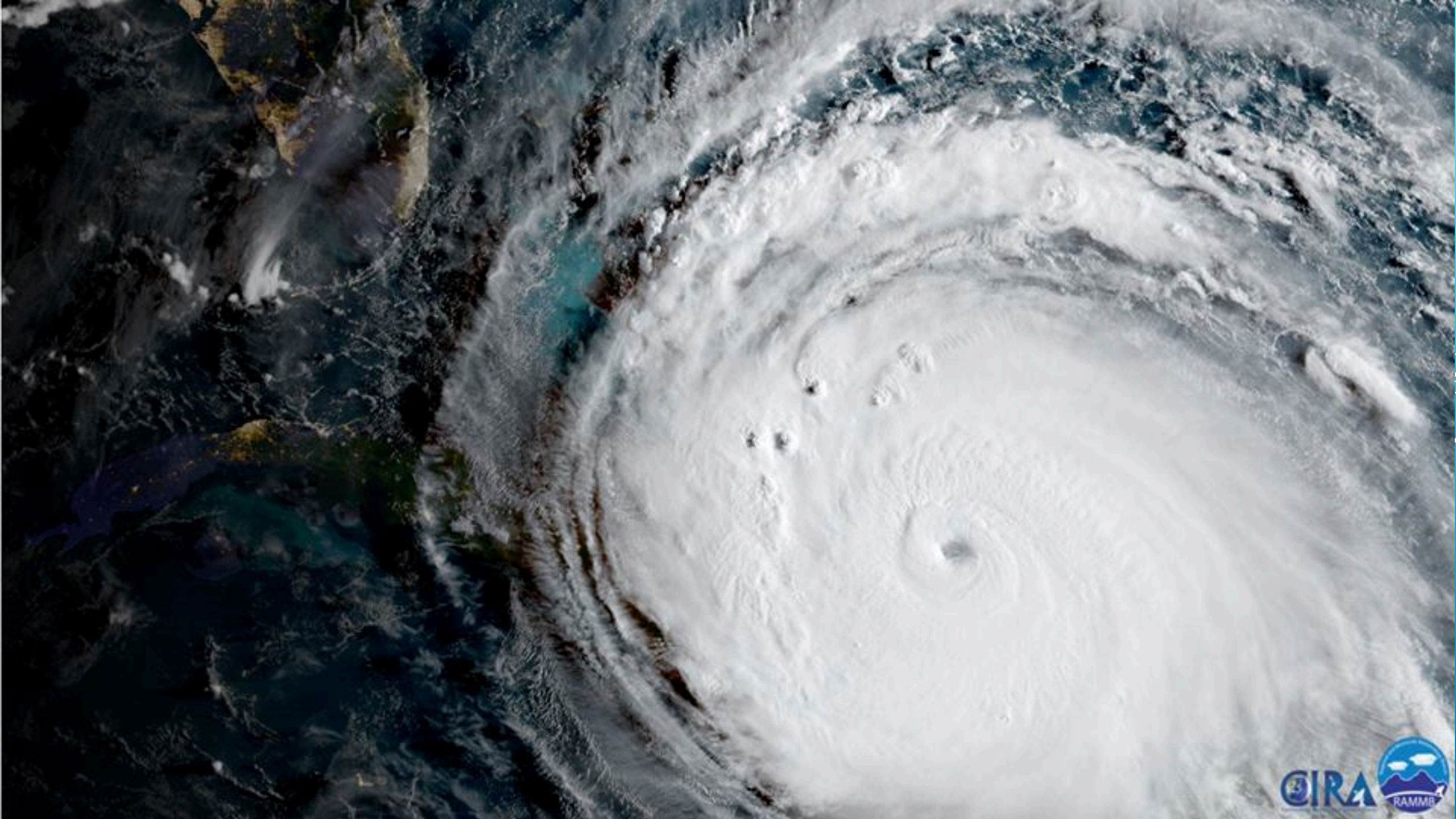
Presented by: Courtney Barker and Zach Eichholz

“Sustainable development requires human ingenuity. People are the most important resource.”

- Dan Shechtman



- Florida's population is now over 20 million people
- Most live on the coast
- Could exceed 26 million by 2030
- Brevard County could exceed 1 million by 2025



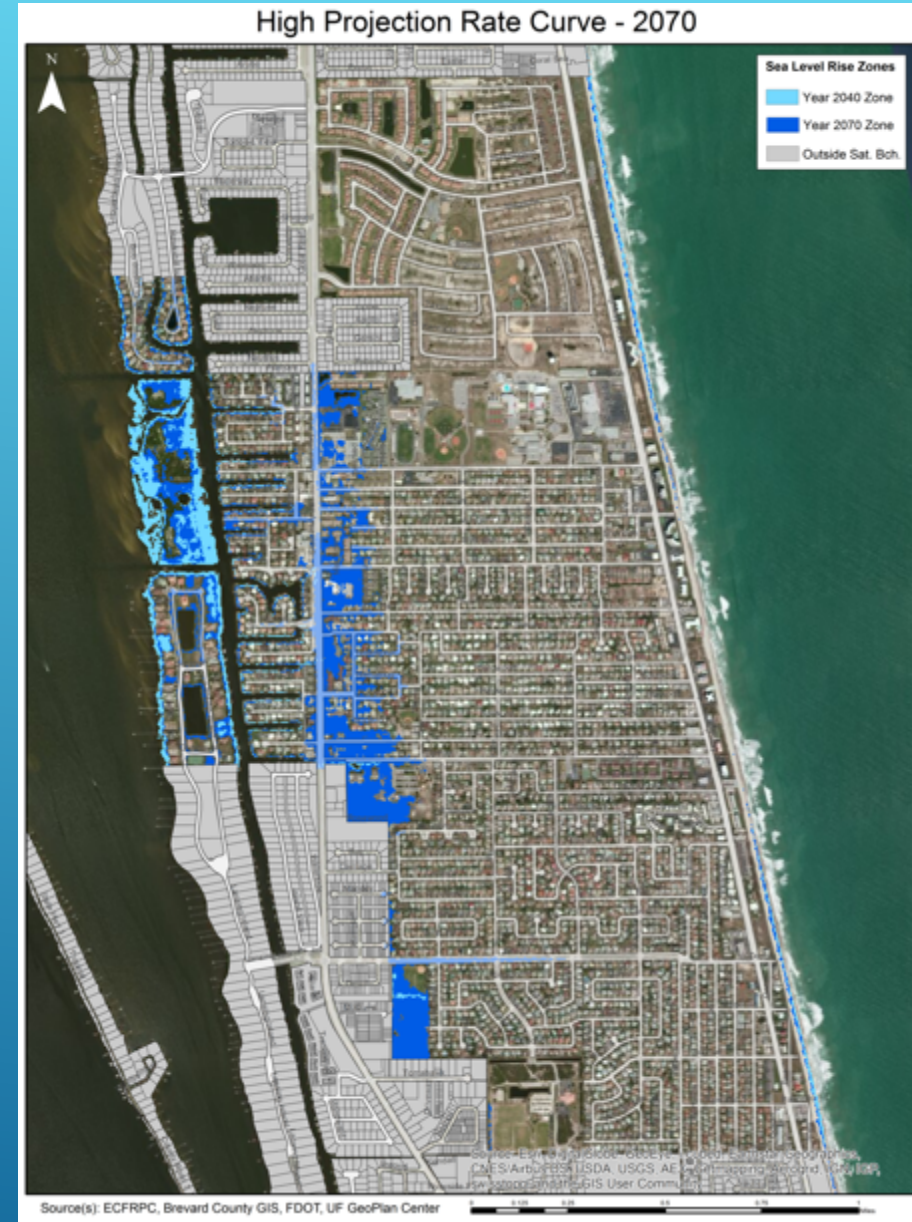
- ▶ The City has numerous parks and recreational opportunities and 16 beach accesses.
- ▶ The City began acquiring beachfront property in 1990s.
- ▶ We own 40% of our oceanfront.
- ▶ The City was the first City in Brevard County to implement baffle boxes.
- ▶ We are ahead on our state nutrient reduction requirements for stormwater discharge.



CITY OF SATELLITE BEACH
A long history of environmental stewardship

- ▶ The City began Resiliency Planning in 2009 through our Comprehensive Planning Advisory Board.
- ▶ Currently working with FIT, Stetson University, UF, and Florida Sea Grant on a GIS mapping project to map critical infrastructure and to ground truth flood elevations.
- ▶ Comprehensive Plan Amendments
- ▶ Data is driving decisions on stormwater infrastructure and development regulations.
- ▶ On-going questions from the community: How do we prevent further climate change impacts?

RESILIENCY PLANNING



- ▶ We created an Ad-Hoc Green Committee in 2015.
- ▶ Evolved into the permanent Sustainability Board in 2016.
- ▶ The Board has evolved into having 10 members with a waiting list.
- ▶ One original board member now on City Council.



“HAS THE CITY CONSIDERED
CREATING A GREEN COMMITTEE?”

- ▶ Tapped the creative minds of students.
- ▶ Gave our Board a budget for projects.
- ▶ Staffed the Board with a decision maker, someone with the authority to make decisions.
- ▶ Started with a small list of easy to accomplish (kind of) tasks.
- ▶ Partnered with regional agencies (Brevard Zoo, Keep Brevard Beautiful, Brevard IRL Coalition, IRL NEP).
- ▶ Continuing to ensure that the message and goals of Sustainability permeate every aspect of the City operations.



WHAT DID WE DO?



- ▶ Implementing our plan and projects.
- ▶ State and federal lobbying efforts for sustainable legislation.
- ▶ Consistently working on moving to sustainable operations.
- ▶ Created a Climate Ambassador Team to begin resilient changes to our development regulations.
- ▶ **WE NEED TO DISCUSS LAND USE AND DEVELOPMENT ON A COUNTY AND STATEWIDE LEVEL.**



WHAT IS HAPPENING NOW?



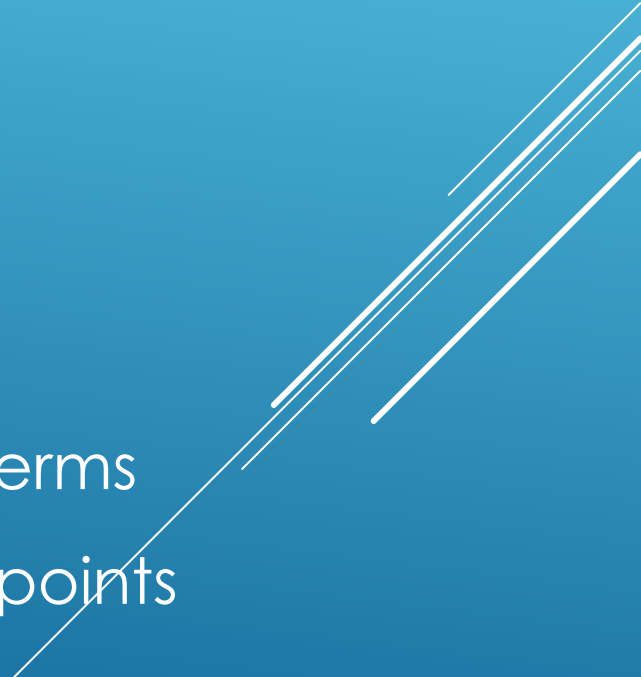
1. Create a city sustainability board ✓
2. Create a city sustainability assessment report
3. Create a city sustainability action plan



Creating a Sustainability Assessment Report (SAR)

- Identified city areas needing sustainability based efficiency and resilience improvements relating to a number of topics (climate change, sea level rise, IRL health, etc.) using indicators/measurements
- SAR serves as the empirical foundation for city sustainability plan
- Indicators grouped into 5 categories and 33 subcategories

Categories	Sub-Categories	# Of Indicators
Built Environment	5	28
Land and Water Systems	8	22
Energy and Transportation	8	32
Community Outreach	5	17
Quality of Life	7	22
Total	33	121

- Five primary categories:
 - Built Environment
 - Land and Water Systems
 - Energy and Transportation
 - Community Outreach
 - Quality of Life
 - Indicators within each would go on to inform action plan initiatives
 - Allows for the identification of a hierarchical structure of terms from a suite of indicators/measurements to create checkpoints to ensure full compliance and quality controls
- 

Sustainability Assessment Report Matrix

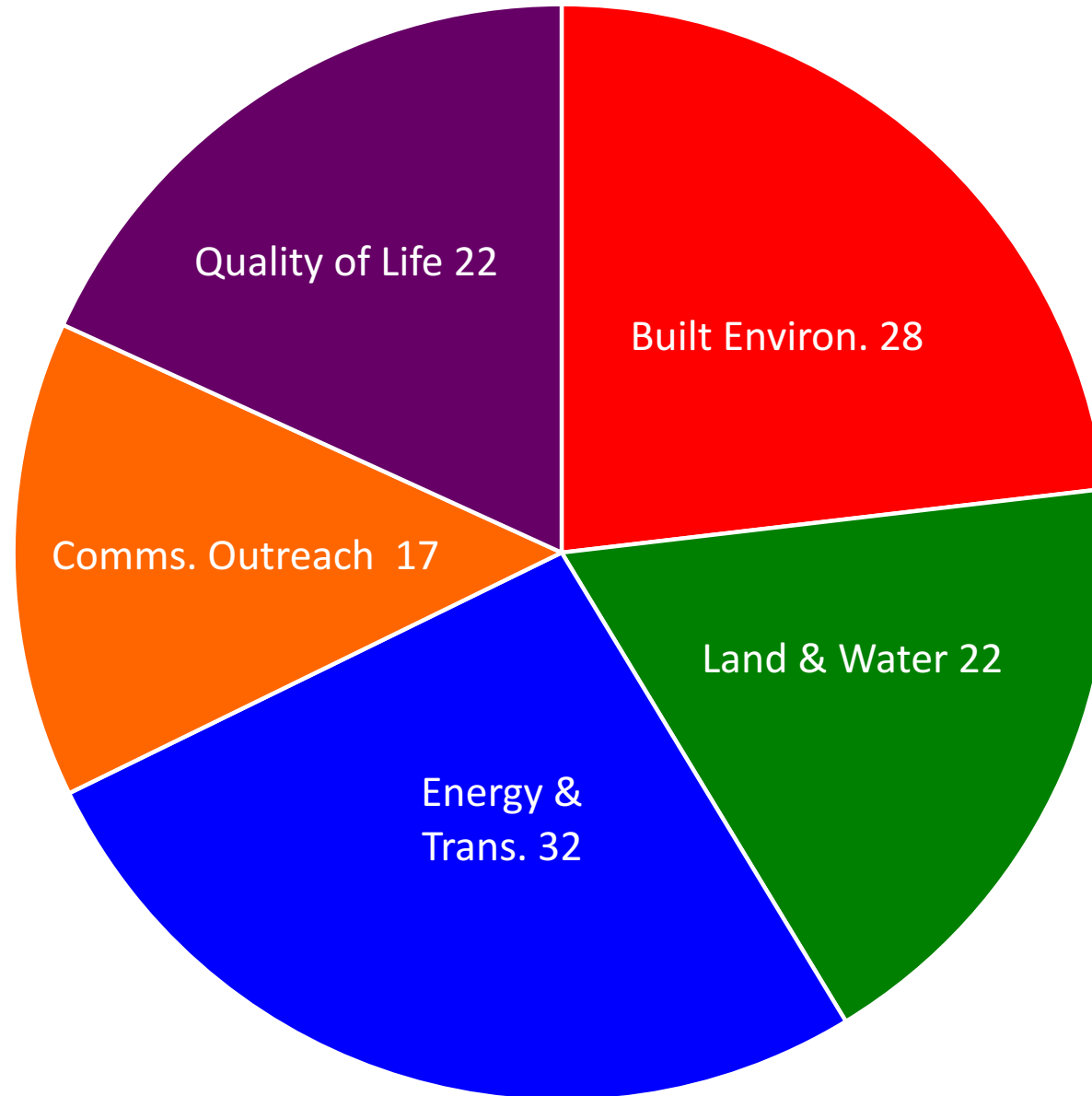
Categories	Sub-Categories	Indicators	Indicator Description and Metrics	Time Period	Import.	Ease/Cost	Priority	Point of Contact
Built Environment	Municipal Structures	Municipal buildings	Total Number of municipal buildings within the City of Satellite Beach and square footage of each; (can be represented per capita/per employee).	5 yr	Low	Low	Low	Insur. Info. Suzanne Sherman
		Building code conformity	Number of buildings conforming to current building codes.	5 yr	Low	Low	Low	Bldg Dept
		Indoor air quality	Quality of air in indoor spaces; indoor air quality/municipal structure/yr. Dust, Particulates, Mold.		Low	Med	Low	City Hall
		Low impact development	Amount of certified furnishings: lights, furniture, flooring, etc.		Low	Low	Med	Public Works
		Energy accounting	See Energy and Transportation.					
		Water resource accounting	Total amount of municipal water use.	Annual	High	Low	High	Mel. Utility
		Green building certification (e.g., LEED or STAR)	Number of certified buildings.	As needed	High	Low	High	Public Works
		Hazard vulnerability	Building elevation/SLR and Storm Surge.	Refer to docs	High	Med	High	City Hall
	Local Businesses	Local business density	Number of local businesses vs commercial chain businesses.	3-5 yr	Med	Med	Med	City Hall
		Local business diversity	Number of service/good categories (health, food, etc.) that are accessed frequently by users.	5 yr	Low	Low	Low	City Hall

Indicator Matrix

- Ten pages in length...
- Also identified were the metric(s) specific to each indicator, time periods of measurement, generic importance, ease of measurement (expenses and City staff time) and points of contact, for the 121 indicators

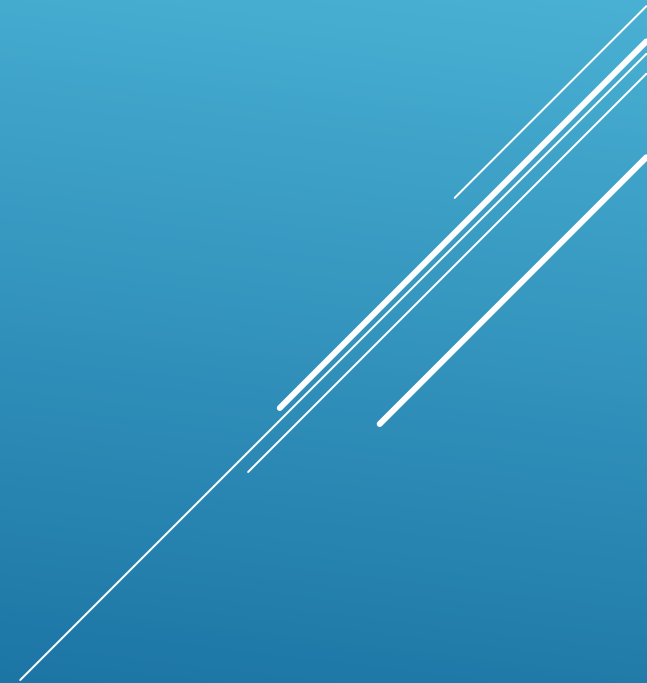
- 121 indicators
- 88 labeled as near-term high priority

- Identified via FIT interns, City staff and Sustainability Board members to be both feasible and crucial in terms of implementation and relevance




Creating a Sustainability Action Plan

- Sustainability Action Plans are vital to a sustainable, financially responsible, and resilient future
- Basic goal: create a user friendly Sustainability Action Plan that could set meaningful and attainable targets for the City to follow so as to lead by example well into the 21st century
- Use ACTION in title



- Living document
 - Reviews social, economic, and environmental opportunities to City via sustainability
 - Discusses each category in detail
 - Gives background, identifies stressors, and makes recommendations
 - Recommendations given for residents and business owners, **not** mandates
 - Makes clear city's intentions moving forward from plan adoption
- 

Green Achievement Targets (GAT's)

- 20 GAT's
 - Implemented and monitored at five year intervals
 - Municipality incitatives, not residential or business
 - Let the city lead by example
 - Stem from five assessment report categories and their indicators
 - Built Environment (6)
 - Land and Water Systems (6)
 - Energy and Transportation (4)
 - Community Outreach (3)
 - Quality of Life (1)
- 

GAT Example

- Near-term high priority indicator from SAR: Electric vehicle charging stations
 - number of charging stations within City limits; charging stations per square mile, and kilowatt-hours used

Category	Sub-category	Indicator	Indicator description and measurements	Time period	Import.	East/co st	Priority	Point of contact
Energy and Transp.	Municipal energy use and consump.	Electric vehicle charging stations	# of charging stations in City (usage)	Annual	High	Low	High	Public Works

- Derived GAT: Install at least one electric vehicle charging station at a municipal building. [Energy and Transportation]

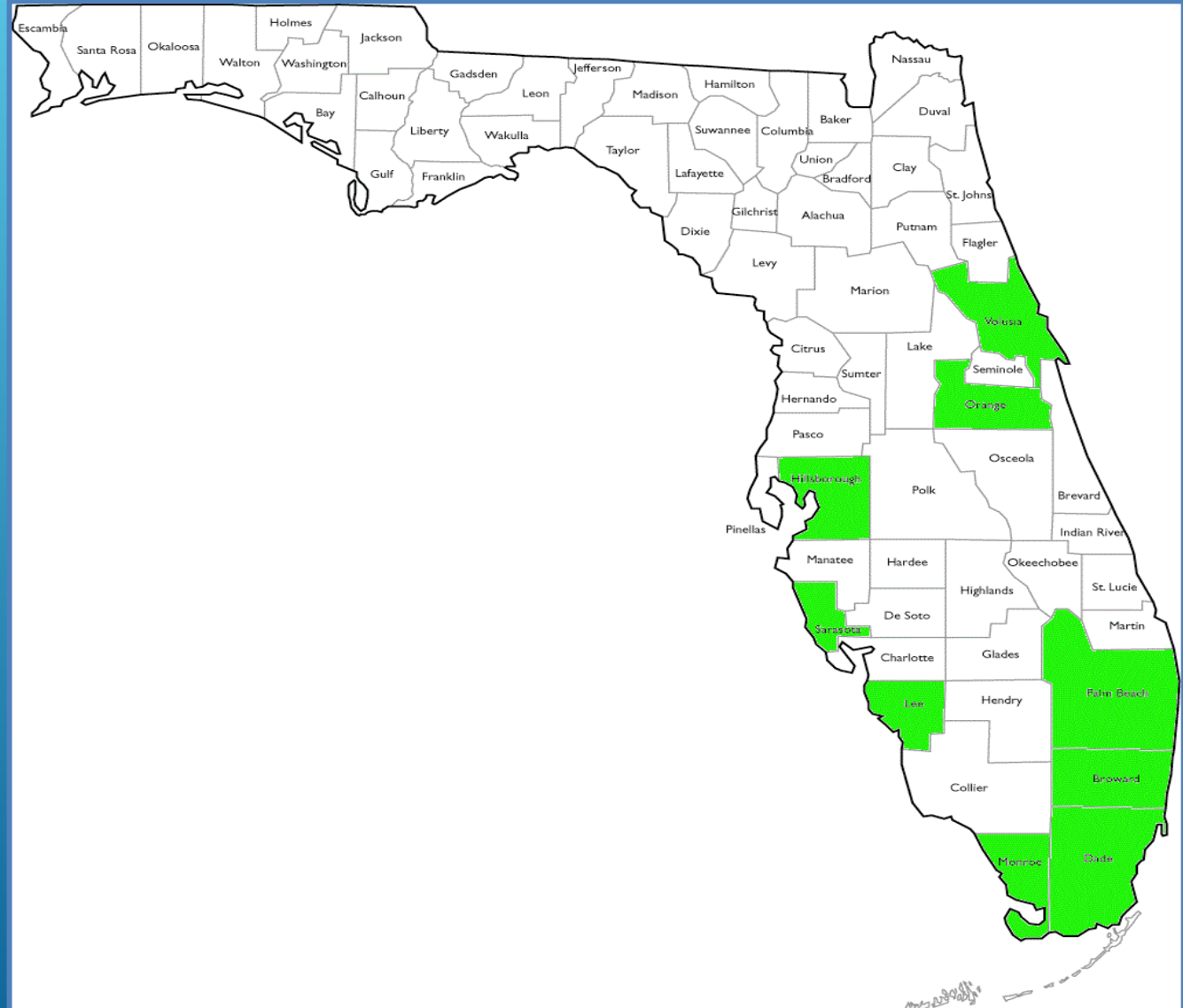
Other Florida City/County Plans

Cities with plans (19):

- Palm Bay
- Fort Lauderdale
- Coconut Creek
- Hollywood
- Davie
- Islamorada
- Tampa
- Tallahassee
- Pinecrest
- Key Biscayne
- Miami Beach
- Marathon
- Orlando
- Winter Park
- West Palm Beach
- Delray Beach
- Clearwater
- Largo
- DeLand

Counties with plans (9):


- Broward
- Miami – Dade
- Monroe
- Palm Beach
- Volusia
- Hillsborough
- Lee
- Sarasota
- Orange




Plan History

- Early 2016 – Sustainability Assessment Report (SAR) begins development and drafting via FIT interns, City staff, and Sustainability Board members
 - Indicators identified and categorized in a matrix
 - 121 indicators identified, 88 near-term high priority
 - September 2016 – SAR completed
 - October 2016 – Sustainability Action Plan (SAP) begins development and drafting via FIT interns, City staff, and Sustainability Board members
 - March 2017 – SAP drafted and ready for public comment
 - May 2017 – Plan adopted by City Council
- 

Adaptability

- SAR's provide adaptable implementation strategies
 - Target low hanging fruit particular to a city's needs
 - The right course of action can build public momentum
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue background.

Satellite's Progress

- EV charging station installed at Pelican Beach
 - Lagoon friendly lawn contractor program created with KBB
 - Styrofoam ban ordinance for city events
 - Reusable bag program to reduce plastic bags
 - Property Assessed Clean Energy (PACE) funding agency partnership
 - Florida Sun Co-op participation
 - Installation of six bathhouses
 - Completion of the Logos Community Garden
 - Pelican Beach Park solar canopy procurement
 - Impending installation of City Hall/Civic Center solar array
 - Seeking to obtain provisional Dark Sky's Certification at Hightower Park
 - Implementing eco-educational public workshop schedule
 - Planning city sustainability board conferences
- 

Logos Community Garden



FLORIDA TECH ETHOS COMMUNITY GARDEN

Established January 9, 2017 by the Residence Life Sustainability Committee

Zachary Eichholz
Alexis Miller
Peter Zappala
Joseph Torkaman
Natalie Shah
Izabella Maxfield
Jacqueline Hetherington
Daniel Sutton

Sarah Torkaman
Sakhee Bhure
B.J. Papazian
Brittan Steffel
Marifer Sagastume
Lindsey Isaac
Daysiry Rodriguez
Maxime Verachtart

Warren Pittorie
Jessica Widmark
Antonio Corneal
Austin Anderson
Gabrielle Leesman
Amanda Noori
Scott Berardi
Dr. Ken Lindeman

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."
- Margaret Mead

- \$50 to rent a bed
- 20 4x8 foot beds
- \$1,000 in revenue a year



- Six bathouses across the City
- Each can hold 500 bats
- Can clear a 1 kilometer radius of mosquitos

Pelican Beach Park Solar Canopies



- FPL Solar Canopy program
- Free to City
- 25 kW array
 - Supplies grid
- Provides shade and vendor power
- \$100 in revenue annually
- 25+ year design life
- Excellent education opportunity

City Hall/Civic Center Solar Array



- Brevard Solar
- 92.2 kW system
- 318 panels
- 95% reduction of historical kilowatt hours purchased each year
- Can withstand winds of 150 mph
- 30 year lifespan

The two
choice. V
beneath
rise ab
resiliency
on ability
all odds
drowni
awa

“Sustainable development requires human ingenuity. People are the most important resource.”

- Dan Shechtman

