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
Why Sustainability?

- Brevard's increasing population
- Natural disasters (hurricanes, severe rain events, etc.)
- Aging infrastructure
- Indian River Lagoon health
- Climate change
- Sea level rise
- Human health and wellbeing
- Resiliency in the face of system shocks
- Financial savings
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?
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?”
WHAT DID WE DO?

- 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 IS HAPPENING NOW?

- 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.
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

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-Categories</th>
<th># Of Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built Environment</td>
<td>5</td>
<td>28</td>
</tr>
<tr>
<td>Land and Water Systems</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Energy and Transportation</td>
<td>8</td>
<td>32</td>
</tr>
<tr>
<td>Community Outreach</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>7</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>121</strong></td>
</tr>
</tbody>
</table>
• 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

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

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

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

- Dan Shechtman