South Florida Resilient Redesign

Key West

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Site Overview:

- Land Area: 5.59 sq.miles
- 4.7’ avg above sea level
- Residents: ~25,000
- Daily Tourists: ~33,000
- Economic drivers: Tourism & US Navy
- Per Capita income in past 12 months: $31,700
- Median value of owner occupied housing: $427K
Key Community Features
Problems/Challenges
Process...

**Two-Fer Approach:** Only consider solutions that meet multiple goals

**Concepts Considered:**

- **Maintain / Expand Affordable Housing**
  - Expand Housing Inventory & Density
  - Incentivize Raising Homes
  - Reduce Storm Damage and FEMA Claims

- **Resilience thru Self-Reliance**
  (Energy / Waste / Transportation)
  - Day to Day Usage
  - Hazard Preparedness

- **Balanced Water Use/Re-use**
  - Rainwater catchment
  - Stormwater Management thru Low Impact Design
  - Tidal displacement / diversion

- **Enhance Economic Development:** Tourism & US Navy
Issue #1: Natural Assets

Problems:
- Limited protection of AIA
- Constant cost of beach renourishment and seaweed removal
- No natural outflows or access to Saltponds from oceanside
- Storm surge results in erosion blowouts

Concepts:
- Move AIA inland
- Increase mangroves and dune systems
- Increase flow and recreational access to salt ponds.
- Increase tourist beach

2’ SLR
Concept #1 - Natural Assets

**Pros:**
- Increased extent and effectiveness of natural buffers
- Increased protection of inland built environment

**Cons:**
- Capital Costs
- Timing / Phasing
- Increased inner island traffic
Pros:
• Reduce operational / Renourishment efforts
• Reduce habitat impacts
• Work with the forces of nature
• Eliminate seaweed entrapment

Cons:
• Capital Costs
• Coordination with outside agencies
Concept #1 - Natural Assets

Pros:
- Increased plant and animal diversity
- Protection of emergency response access

Cons:
- Coordination with outside agencies
- Timing / Phasing
- Increased inner island traffic
Issue #2: Infrastructure

Problems:
- High water events on taxiways
- 2’ affects 94% of airport
- Cost of raising everything
- Only one “short” runway

Solutions:
- Raise Everything (Runways, Shoulders, Catchbasins)
- Increase mechanized drainage
- Or… Relocate?
Concept #2: Infrastructure

Pros:

- Shared operational costs
- Examples of joint use nationwide
- Grants for planning / implementing
- Reduced noise impacts in residential areas
- Improved aircraft / airline operations
- Remediation of Natural Assets
- Ecotourism Opportunities

Cons:

- “No Thanks” / Loooong Process
- Impact training mission of NAS-KW
- Significant Endangered Species Issues
- Increased traffic and parking pressures
- Increased frequency of airline noise
Issue #3: Housing

Problems:
- Highest concentration of repetitive loss
- Lots of roads underwater
- Old CBS housing on grade below BFE
- Multiple Barriers to Redevelop
- Suburban Character / Lack of Connectivity
- Dependency on mainland resources

Concepts
- Incentivize Raising Homes / Increase density
- Right of Way Repurposing:
  - Encourage Mixed Use
  - Connect School Infrastructure with Neighborhood and Salt Ponds
- Two-Fer thinking: Multipurpose Structures
Concept: Housing / Connectivity
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**Pros**
- Extended viability of neighborhoods
- Increased property values
- Ability to raise housing in place
- Decreased roadway maintenance / Increased stormwater management
- Improved neighborhood aesthetics

**Cons**
- Lots of Policy changes
- Still the lowest lying neighborhood
- Increasing density in AE zones
- Precedent of raising roads
- No guaranteed ROI
Big Picture: 2060
Implementation Plan:

- Salt Ponds Adaptation Action Area
  - Engage DEO (Area of Critical State Concern)
  - Stakeholder Working Groups
  - Airport Master Plan
  - Comprehensive Plan
  - Capital Improvement Plan
  - Land Development Regulations
  - FEMA / FDOT / etc....
Summary

- Resilience thru Self-Reliance
- Increase Affordable Housing & Density
- Balanced Water Use/Re-Use
- Enhance Economic Development