Planning for Changing Environments

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2014 New Mexico Infrastructure Finance Conference
What changes?
Changes can be....

- All of these changes are REACTIVE
- What about PROACTIVE changes?
  - Tools used to anticipate needs
- Boy Scout Principle: Plan ahead
Presentation Overview

• Adaptive Management Techniques for Your Community
• Integrating SMART Strategies
• Tools and Analysis for Monitoring
• Risk Management
• Resources
Community Development/Project Plans

- Community Development: ICIP or Ten-Year Plans
- Water/Wastewater: PERs, Vulnerability Assessments, Sourcewater Protection Plans, Stormwater Protection Plans
- Master Plans
  - Economic Development
  - Housing
  - Transportation
  - Schools
  - Communication Services: Web, Landline, Cell Phone
- Emergency Services: EMS, Fire, Hospital, Evacuation, Shelters, Volunteers
- Preservation: Historic Properties, Main Streets, Habitat Preservation
Adaptive Management in Planning takes a longer view
  - Reviews and evaluates what is changing in our communities
    - Climate (Drought, Floods, Wildfire)
    - Development (Population, Housing, Business, Supporting Infrastructure)
  - Develops estimates and projections on needs and impacts

Objective: Plan Your Infrastructure and Assets to Accommodate Anticipated Changes in the Physical and Social Environments
  - Scaling infrastructure projects based on future needs (not budget)
  - Plan to accommodate the new reality (frequency and intensity of events)
  - Address succession planning for key resources
Integrating SMART Strategies

- **S = Specific**
  - Identify specific goals and actions in your Plans
  - These can be tied to broader or bigger goals

- **M = Measureable**
  - Identify the metrics to evaluate success (monitoring)

- **A = Attainable**
  - Establish goals and actions that your community can commit to and perform

- **R = Realistic**
  - Do-able!
  - What will you need to accomplish your goals or actions? Resources, Personnel, Training, etc.

- **T = Timely**
  - Establish a timeframe for completing your goals or actions
Tools and Analysis for Monitoring

- **SMART Evaluation**
  - Preventative versus Deferred

- **Asset Inventory and Management**
  - What do you have? and Where is it located?
  - How old is it? and What is the ROI evaluation?

- **GIS Mapping**
  - Aerial photos with overlays
  - Natural Resources/ Physical Environment
  - Development/ Population Changes
  - Location of Community Assets/Infrastructure (Current and Planned)
  - Updated every 5-10 years

- **Implement Impact Reduction Strategies into Current Operations**
  - Allows communities to try creative solutions to reduce projected impacts
GIS Aerial with Urban-Wildland Fire Risk

Other Types of GIS Maps:

• **Utilities Locations** - water, sewer, power poles, telecommunications, etc.
• **Community Resources** - schools, polling places, senior centers, recreation centers, etc.
• **Environmentally sensitive areas** - watersheds, T&E species, contamination, historic districts, etc.
• **Planning** - evacuation routes, transportation, growth, special events, emergency services, etc.
Risk Management

• Often overlooked in Program/Project Management- but we all do it!
• Enables communities to:
  – Identify risks, issues and concerns and evaluate using a standardized probability and impact analysis
  – Prioritize resources
  – Apply resources to mitigate the risk
• Engages in active management of issues/concerns by:
  – Defining Project Scope
  – Developing Realistic Cost and Schedule Estimates
  – Selecting Opportunities and Identifying Vulnerabilities
• Can improve the success of activities by maximizing the opportunities and minimizing the adverse effects
Probability and Consequence Matrices

Probability of Occurrence

Consequence of Action

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<tr>
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Results

• Integrating Adaptive Management Planning provides:
  – Issue identification and early collaboration for creative solutions
  – Implementing strategies to REDUCE impacts to resources before the issue arrives
  – Planning to accommodate changes in the physical environment
  – Utilization of existing community planning resources
  – Reduces impacts to disruption of community services and businesses

• Minimizes or avoids crisis management
  – Be Ahead of the Curve!!!!
  – Save your community in time, money and resources
Adaptive Management in Action

- Floods now affect an estimated 520 million people annually, causing global economic losses between $50 and $60 billion (5th International Conference on Flood Management). There are ways to better design cities to redirect and leverage the power of stormwaters, and even turn it into an amenity.
  - In Houston, TX they’ve made key roads, parks, and parking lots that are able to transform into giant water containers when flash flood and stormwater events occur.
  - In Austin the Waller Creek, the nearly mile-long tunnel, 26-feet in diameter, will alleviate much of the urban flood plane that has in the past led to intense and dangerous flash floods. The water will be collected and released into Lady Bird Lake which is a dammed section of the Colorado River. That water is used for drinking, agriculture, and estuary supply before eventually flowing into the Gulf of Mexico.

- Source: Turning Floodwaters Into Liquid Assets appeared first on ThinkProgress.
Q&A????

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