

Transitioning to the New Built Environment
(Track 3)
-Regional Perspective-

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Presentation

- Regional Perspective?
- Different infrastructure, different approaches
- Common sense actions
- Other thoughts

Regional Perspective

- In New England regional governmental structures are marginal
- County level elsewhere
- Local-State-Federal where 'local' means town in New Engl., or County or both elsewhere
- Exceptions



Does this matter?

- It depends on the infrastructure
- It depends on the action: planning vs. decision-making vs. financing vs. constructing
- Infrastructure involving conveyance or distribution typically needs multi-municipal approach
- New England states may be at a disadvantage

Different Infrastructure, Different Actors (NH)

Type	Municipal	Region	State	Federal	Private
(e.g. Planning, Decision-making, Finance, Permitting, Construction)					
Critical Facilities	★★★★	★	★	★	★★
Water source	★★★★	★	★★★★	★	★
Water, Sewer	★★★★	★★	★★	★★	★
Transportation	★★	★	★★★★	★★	★
Power			★	★	★★★★
Telecomm			★	★	★★★★
Public Safety	★★★★	★★	★★★★	★★	
Green Infrastructure	★★★★	★	★★	★	★★

Regional studies

- Coastal Adaptation to Sea Level Rise Tool (COAST), 2012 (Piscataqua Region Estuaries Project / EPA Climate Ready Estuaries)
- Lamprey River Flood Risk Study (CICEET/NOAA, 2011)
- Saco Bay Sea Level Adaptation Working Group (SMRPC)
- “Tides to Storms” regional coastal vulnerability analysis & planning (RPC / NHHSEM)

Some common sense actions for the built environment

SOURCES

- *Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards*, FEMA, January 2013
- *Hurricane Sandy Recovery: Using Mitigation to Rebuild Safer and More Sustainable Communities*, Assoc. of State Floodplain Managers, December 2012
- *Policy Considerations for Climate Adaptation and Mitigation*, NH Climate Adaptation Workgroup, 2010

Some common sense actions for the built environment

- Agree on planning assumptions for climate change risk & make them regional (*e.g. future flood risk, storm events, sea level rise*)
- Identify/quantify future vulnerabilities based on those assumptions
- Incorporate new siting and construction standards to account for that risk (*e.g. freeboard stds., elevate mechanicals, floodproofing*)
- Restrict or prohibit future development in high risk areas

Some common sense actions (2)

- Use 'no-regrets' policies for new municipal infrastructure:
 - Design and build with safety margins for future risk
 - Scale the safety margin: lowest risk tolerance to high cost, long design life facilities

Structure Type	SLR Design Flood Elev.	Reconstruct. thres.
Accessory	+ 1 foot	NA
Residential	+ 2 feet	50%
Residential 5+ units	+ 3 feet	40%
Commercial	+ 3 feet	40%
Critical Facilities	+ 4 feet	33%
Major Infrastructure	+ 5 feet	25%

Some common sense actions (3)

- Use 500 year flood risk as minimum for critical facilities
- Mitigate vulnerabilities in critical facilities using FEMA pre and post disaster mitigation grants
- “Slip-stream” adaptation & mitigation measures into routine rehab./reconstruction/replacement projects

Some common sense actions (4)

- Discourage hardening of shorelines for flood protection in favor of protection from 'living' shorelines
- Use hardening measures to protect essential infrastructure, but evaluate with benefit-cost and repetitive loss analysis
- Funding
 - 'slipstream' incremental measures in regular budgets
 - Capital Improvements Program
 - Special assessment district (for risk mitigation)
 - FEMA mitigation grants (Hazard Mitigation Plan)

Final thoughts

1. We know enough about climate risk to act and must do so
2. Long risk horizon means opportunity to adapt and mitigate through redevelopment, rehabilitation, reconstruction, replacement.
3. Starting early means many adaptation costs can be slipstreamed with ordinary infrastructure project costs.
4. Regional perspective: in New England use virtual regions to establish common policies, templates and facilitate intermunicipal cooperation/collaboration