• Planning helps avoid disasters
• Disasters are one type of crisis
• Recovery policy has parallels to development policy
Planning for Post-Disaster Recovery and Reconstruction
Hazard Mitigation: Integrating Best Practices into Planning

James C. Schwab, Editor
Planning for the Unexpected: Land-Use Development and Risk
Planning for Wildfires

James Schwab and Stuart Meck

With Jamie Simone

American Planning Association
Planning Advisory Report No. 9
You are here?
- Planning helps avoid disasters
- Disasters are one type of crisis
- Recovery policy has parallels to development policy
Planning helps avoid disasters

- Anticipation of natural disasters is the first step in hazard mitigation.
- Mitigation is a central premise of planning, whether the hazard be natural or man-made.
- Recovery planning after a disaster ideally seeks mitigation against future loss.
- An optimum and thoughtful plan is also a safe plan.
- All communities are given federal and state incentives to engage in hazard mitigation planning.
Disasters are one type of crisis

- Natural disasters are similar to other unexpected events that occasionally affect nearly all communities.
- From a management perspective, the approaches are similar, organizing resources to tackle new challenges.
- This is the domain of managers, broader than any one department of local government, typically with input from the planning department, the finance department and others.
Recovery policy has parallels to development policy

- The dynamics of a community are affected by change.
- The rapidity of change is greatest in disaster circumstances, measured in minutes or hours.
- Blight, employment decline, business stagnation, commercial revitalization, housing construction and green initiatives are slow processes over many years.
- The ingredients are the same, however. In some instances the disruption and destruction of a disaster unveils opportunities for reversing decline, taking advantage of a catalyst.
Where does disaster recovery planning fit? Who does it?

- Recovery planning is a form of change management.
- It has parallels to non-disaster events that routinely affect cities, counties and states.
- While some communities experience natural or man-made disasters very rarely, the experience of community disruption is not uncommon.
- Economic turmoil is an example, such as loss of a major employer or the decline of a whole industry.
- Some downturns are catalysts for negative change, causes of ongoing decline.
- To varying degrees, each is a crisis, often forcing local governments and states to alter programs and plans.
- Similarly, each kind of crisis can lead not only to hardship but to new opportunities.
Defining Resilience

1. “Resilience” in emergency management terms refers to the ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies.

2. Instead of repeated damage and continual demands for federal disaster assistance, resilient communities proactively protect themselves against hazards, build self-sufficiency and become more sustainable. Resilience is the capacity to absorb severe shock and return to a desired state following a disaster. It involves technical, organizational, social and economic dimensions. . . It is fostered not only by government, but also by individual, organization and business actions. (Godchalk et al, 2009)
What is a Resilient Community?

- Communities and the people who live therein can, however, increase their resilience and be even better able to anticipate threats, limit their impacts, and recover more rapidly through adaptation and growth in the face of turbulent change.

- Building community resilience encompasses the entire community, including its physical infrastructure, its economic and social capital, its natural environment, and its systems providing essential services.

- Add to these the community’s ability to resist or recover rapidly from natural or man-caused events.

*ICMA 2011, related to CARRI*
Planners traditionally seek designs that embody resilience.

- In the layout of new residential neighborhoods or industrial parks, it is common to configure streets so there is more than one way to enter or exit the development.
- Such design is governed by regulation, typically by standards in the subdivision ordinance.
- In this instance, the design is resilient because it can maintain access even if one street is temporarily blocked by an accident, utility work or other construction.

Finance managers likewise diversify the community’s investment assets to lower risk.
Resiliency and Systems Management

Well managed communities invest in **self-assessments and risk analysis, crime analysis, infrastructure inventories, organizational development and capacity building**—all of which cause both local government and the community itself to be more resourceful when a crisis develops, whether a natural disaster or other disruptive event.
Context for Recovery Planning

- Comprehensive Plan including resiliency goal and hazard mitigation in the Safety Element
- Community Conditions such as blight, neighborhood instability, commercial decline.
- Planning Processes with federal/state influences: HUD, USDOT, State DOT
- Community's Intervention Programs such as land assembly, redevelopment, business subsidies.

Community Conditions such as blight, neighborhood instability, commercial decline.
Processes

- Guidance, Case Studies, Templates, Training, Facilitation
- Pre-Disaster Exercises of Collaborative Planning
- Identification of Planning Assets, Data, GIS
- Standard Operation Guides: Agency Roles
Future Water-oriented Community Assets

Planned Infrastructure

ASSET

Deficient Infrastructure

High Hazard Development (damaged)

Blight

Planned Infrastructure

Brownfield

ASSET

Framework for Post-Sandy Redevelopment
Disaster Recovery Operations

- **FEMA PA (Public Assistance)**
  - Admin $ (up to 8%)
  - State Emerg Agency (+ consultant)
  - Cost Based

- **406 Mitigation**
  - Cost Based

- **CDBG-DR**
  - Admin $ (up to 5%)
  - Planning $ (up to 20%)

- **404 Mitigation HMG**
  - 15% of Disaster Cost

- **IA (Individual Assistance)**

Disaster Recovery Planning

- **Executive Decision Structure**

- **Status of Planning**

- **Context of Redevelopment Initiatives**

- **Clarity of Linkages**: Land Use, Infrastructure Management, Economic Intervention Programs

- **Comprehensive Plan**

- **Safety-Hazard Element**

- **Recovery Strategy**

- **Municipal Department Roles**
You are here?

Education and Expertise
- Generalist
- URP
- URP Community Development
- URP Land Use & Zoning
- URP Housing Programs
- URP Economic Development
- URP Transportation
- URP Urban Design
- URP Sustainability
- Architecture
- Landscape Architecture
- Urban Affairs / Political Science

Program Area (employer)
- City County
  - COG
  - MPO
- Comprehensive Planning
  - & Strategic Planning
- Community Development
  - Housing Authority
  - Urban Revitalization
- Transportation Planning
  - Grants, Modeling, Zonal Data and Forecasting
  - Land Use and Employment Trend Analysis
- Economic Development
  - Workforce Development, Analysis, Strategic Planning

Disaster Recovery Planning
Event
Response
Recovery Organization
Recovery Plan
Recovery Phase 1
Recovery Phases
Recovery Management
Figure __, Municipal Disaster Recovery Planning Resources

Disaster Recovery Planning Resources

- Elected Governing Body
- Professional Management
- Planning and Development Agencies
- Advisory Commissions and Committees

Organizing Influence: Comprehensive Plan

Routine Operations

- Project Design Review, Zoning, Subdivision
- 5-Year Transportation Improvement Program
- Annual Budget: Transit/Roads, Capital Projects
- Economic Development Planning
- Business Improvement Districts, Incubators, TIF Strategy
- Commercial Revitalization
- SBDCs
- Capital Improvements Plan
- Financial Resources Strategy
- Risk Management
- Reserves for Resiliency
- Annual CDBG Action Plan
- Agency Service Contracts
- CDC and Micro Enterprise Loan Applications
- Section 8 Subsidized Rental Rehab
- Senior Housing
- Public Housing
- Public Private Partnerships
- Neighborhood Stabilization
- Stormwater and Wastewater Management Permits
- Drainage Projects
- Watershed Protection Plans for Wetlands
- Floodplain Management Permits
- 5-Year Updates to HM Plan
- Buyouts of At-Risk Properties
- Structural Resilience Grants

* = see also Table __, below
Disaster Response

Recovery & Redevelopment Preparation

REDEVELOPMENT PLANS

NDRF & FDRC

Recovery & Redevelopment Coordination
(tapering level of effort)

CDBG-DR $ HMGP $ PA $

Sandy Recovery Principle
(HUD CDBG-DR)

Grantees are required to develop plans that show: “...how the grantee will promote (a) sound, sustainable long-term recovery planning informed by a post-disaster evaluation of hazard risk, especially land-use decisions that reflect responsible flood plain management and take into account possible sea level rise (for example, by using the new FEMA floodplain maps and designs applying the new Advisory Based Flood Elevations (ABFE) or higher), and (b) how it will coordinate with other local and regional planning efforts to ensure consistency ...”

Mitigation Actions form basis of redevelopment plans:

- Buyouts
- Elevations
- Floodproofing, hardening
- Bulkheads, Levees, Check Valves, Pumps
- Modified PA projects (alt/imp)
- Reconfiguration via TOD & environmental systems constraints

SANDY RECOVERY PRINCIPLE

24 Month Limit, $5B + (CDBG-DR only)

HMGP & PA extend beyond 24 months

HMGP amounts and distribution by State of NY, 6 to 18 months after disaster

Recovery Planning Schematic Timeline

D (10-29-12) D +2 months D +5 months D +30 months

Disaster

Response

Redevelopment Coordination

Redevelopment Plans

Neighborhood Redevelopment Projects

Est. cost $15M – 25M

RSFs – Sustainability Partnership plus FEMA Mitigation

HUD, DOT and EPA lead the federal endeavor, joined by others such as Energy, USDA and Commerce. Integrated strategies such as transit oriented development are crucial assets to bolster smart, strong and thereby sustainable redevelopment after Hurricane Sandy, accomplished through detailed implementation plans especially in heavily damaged communities and neighborhoods. HUD’s Region 2 is expected to play a key role in this CDBG-DR work by communities and their respective consultants due to constrained schedule.
| Table __
| Disaster Recovery Planning Resources |
| 1. Transportation and Land Use Planning |
| • Integrates the comprehensive plan, ideally with a safety element and hazard mitigation features |
| • Is served by a multi-level involvement structure |
|   o Includes representatives of governing bodies on a Policy Committee |
|   o Includes major infrastructure department heads on a Technical Committee |
|   o Includes representative citizens, neighborhood organizations and individuals on a Citizens Advisory Committee. |
| • Is directly connected to the Capital Improvements Program having participation by finance and budget experts |
| • Is a depository of socioeconomic information organized by transportation analysis zones |
| • Is a depository of vast information at the real estate parcel level concerning structures, property valuation factors, land cover and land features and development suitability measures. |
| • Is an ongoing and regular decision process with annual project lists and 5-year plans |
| • Includes features of energy conservation and environmental impacts |
| • Includes promotion of economic development initiatives of the governing body |
| • Contains databases, network designs and infrastructure characteristics in a GIS form suited for modeling and scenario testing. |
| 2. Economic Development Planning |
| • Includes representatives of the business community |
| • Maintains databases and contact information about local business leadership |
| • Analyzes trends in business growth, stability or at-risk elements of the local economy |
| • Fosters relationships with financial institutions, major businesses, colleges and workforce development professionals |
| • Develops strategic plans for community initiatives to enhance economic opportunities in which businesses can thrive, provide employment and supply goods and services to the residential and commercial sectors. |
| • Prepares grant requests and other funding proposals with state and federal agencies, operates programs and fulfills grant management and audit requirements. |
| 3. Connection to local government management structure that oversees #1 and #2, above. |
| • Seeks accountability in each program area and mandates collaboration among departments |
| • Seeks effective program designs and technical capacity |
| • Evaluates local planning structures and budgets for recommendations to governing board(s). |
| • Develops justification for financial support, budgeting, and operations |
| • Amends planning structures or recommends policy changes to the governing board to improve performance or respond to changing conditions such as budget retrenchment, system failures or natural disasters |
| • Advises the governing board concerning intergovernmental relations, state and federal policy initiatives, especially concerning the community’s future, due to risks or opportunities. |
Transportation and Land Use Planning

**Land Use Factors**
- Existing Land Use Patterns
- Environmental Systems
- Natural Hazards
- Public Facilities
- Trends
- Population and Employment Forecasts
- Community Initiatives
- Neighborhood Revitalization
- Socioeconomic Indicators

**Travel Demand**
- A computer model that relates land use and trips, tested with historic data

**Land Use Alternatives**
- Patterns
- Policies
- Vision

**Data available for damage assessments and recovery planning**

**Loading Trips to the street and transit network based on land use assumptions**

**Iterative process of testing land use and transportation alternatives**

**Evaluation of Tested Alternatives**

**Selection of Optimum Plan**

**PLAN MOSAIC**
- Metro Plans
- Municipal Plans
- Sub-Municipal, Area Plans
- Corridor Plans

**DATA MOSAIC**
- Study Zones
- Aggregate

Consider the effects of disaster scenarios, new patterns of streets, transit and land use, new constraints, new opportunities, mitigation.
Common Themes Among Federal Programs Supporting Communities

USDOT
- Transportation Planning
  - Highway System Planning
  - Transit System Planning
- Land Use or Comprehensive Planning

HUD
- Community Development Planning
  - Consolidated Plan
  - Annual Action Plan
  - Housing Assistance Plan
- Emergency Shelter Grants (Homeless)
- HOME and Rental Rehab Grants
- Economic Development Loans
- Disaster Grant Action Plan

Common Themes
- Sustainability
- Equity
- Economic Opportunity
- Livability

National Disaster Recovery Framework
- RSF Task Forces
  - Community Planning & Capacity Building
  - Economic Development
  - Health & Social and Community Services
  - Housing
  - Infrastructure Systems
  - Natural and Cultural Services

Federal / State / Regional / Local Collaboration

Disaster
<table>
<thead>
<tr>
<th>Department</th>
<th>Interest in Disaster Recovery Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities (water, sewer, other)</td>
<td>Infrastructure Repair Grants (FEMA), reconfiguration due to land use changes, hardening with mitigation techniques via redesign.</td>
</tr>
<tr>
<td>Streets and Highways</td>
<td>Infrastructure Repair Grants (FEMA), reconfiguration due to land use changes, hardening with mitigation techniques via redesign.</td>
</tr>
<tr>
<td>Public Transit (bus, van, rail)</td>
<td>Infrastructure Repair Grants (FEMA), reconfiguration due to land use changes, hardening with mitigation techniques via redesign.</td>
</tr>
<tr>
<td>Transportation Planning</td>
<td>Changes in travel demand, opportunities for system enhancement, support for new development goals and revised land use plans.</td>
</tr>
<tr>
<td>Community Development</td>
<td>Support for new development goals, commercial revitalization, public services, job growth,</td>
</tr>
<tr>
<td>Economic Development</td>
<td>Support for new development goals, commercial revitalization, public services, job growth,</td>
</tr>
<tr>
<td>Housing and Support Services</td>
<td>Better inventories of housing stock, strategies for immediate and long-term replacement housing.</td>
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<tr>
<td>Parks, Recreation, Libraries</td>
<td>Infrastructure Repair Grants (FEMA), reconfiguration due to land use changes, hardening with mitigation techniques via redesign.</td>
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<tr>
<td>Public Safety (Police, Fire)</td>
<td>Improved resilience to future disasters, better evacuation resources, e.g., road capacity, reduced demand for emergency services such as rescue, ambulance and property protection. Consideration of crime analysis with GIS, relation to neighborhood characteristics such as poverty, school dropout rates, unemployment pre and post-disaster.</td>
</tr>
<tr>
<td>Finance, Budget, Risk Management</td>
<td>Improved resilience to future disasters, lower direct agency costs, less disruption of the local economy.</td>
</tr>
<tr>
<td>Executive and administrative officials</td>
<td>Less turmoil for all municipal systems, higher predictability of operations, greater stability of municipal finance conditions.</td>
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