

## **Urban Planning and Public Policy Implications—Field Investigation**

### **Types of Data to Be Collected and Recorded**

Research in these fields should be directed toward gaining an overview of the earthquake damage and its impacts on land use and public policy.

The political and economic climate, and implications for recovery and rebuilding, are of primary interest. Studying both the short- and long-term planning and public policy implications of earthquakes is a complicated process and research should be viewed as a multiple phase effort.

Given the short time typically spent in the field by EERI investigation teams, researchers should not attempt to be evaluative, but try to point out what is known/observed, what topics need further study, and how and from whom more information can be obtained on return visits.

Reconnaissance activities should focus on providing a general description and preliminary analysis of damage patterns, local politics, local regulations, and land use and economic issues.

Researchers should focus as much as possible on obtaining highly perishable data through on-site observation of building damage, demolitions, and activities of local government staff, the city council, and other local

decision-makers. In-depth interviews should be conducted with local staff and decision-makers, who may play a key role in recovery and rebuilding.

Researchers should collect whatever preliminary data are available, including newspaper accounts, news videotapes, local jurisdiction plans, ordinances, and other pertinent documents, city council meeting minutes and agendas, damage survey reports, and other statistics on damage, planning, and rebuilding efforts.

Researchers should draw qualitative observations and tentative conclusions about the impacts and the issues affecting long-term recovery and rebuilding.

The following field investigation checklist contains a listing of the types of data that, ultimately, a good urban planning and public policy investigation of a major earthquake would include. It is highly unlikely that any single reconnaissance effort will provide information on all or even most of the topics listed.

### **CHECKLIST**

#### **Urban Planning and Public Policy**

##### **Urban Form**

1. What kind of community has been affected by the earthquake (urban, rural, suburban, sprawled urban, etc.)? This is important for understanding the kinds of rebuilding and recovery decisions facing the community and the amount and sophistication of resources available for the rebuilding.
2. What are the social and economic characteristics of the affected community? Does the community have resources; is it declining? Is it stable?

3. What are the linkages among neighborhoods—e.g., transportation links, communications links, presence of central business district?

### **Damage Assessment**

1. For each damaged building, describe its use. Try to be specific, as this is important in tracking the ability to rebuild—e.g., small business, low income housing, etc.
2. Describe residential, commercial, and/or industrial activities that require relocation due to damage to structures or infrastructure.
3. Were government buildings damaged? How did damage affect government's ability to respond and begin recovery operations? Which functions were disrupted?
4. How was access to the damaged area controlled? Were passes required? Time limits imposed? Were written materials developed?
5. Were transportation routes adequate for emergency response and evacuation?
6. Heavy debris removal:
  - a. Where was it taken?
  - b. Were special waivers required?
  - c. Was it handled under a master contract?
  - d. Was it handled by individual property owners?
7. Will reconstruction necessitate changes in population densities, characteristics of building stock, pattern of development, urban form (height, mass, bulk of structures; pattern or amount of open space)? For example, are large areas or neighborhoods seriously damaged? Are regional transportation routes seriously damaged?

### **Damage Patterns**

1. Obtain maps of the affected area, showing damage in relation to geologic hazards and land use patterns.
2. Is damage concentrated in pockets or spread throughout the region?
3. Develop a profile of each damaged area:
  - a. Residential damage—single family homes, multi-unit buildings. Provide totals for each type.
  - b. Commercial—stores, businesses, offices, mixed?
  - c. Industrial—light, heavy, primarily warehouses, mixed?
4. Identify location, nature, size and occupancy of socially significant structures that received damage, including high-density apartments, hospitals, clinics, fire and police departments, public utilities, transportation and communication structures and networks, military installations, government offices, schools, historic structures, jails, etc.
5. Were special policies adopted for any of the building types identified above? For example, were special policies established for historic buildings?

6. How were demolition decisions handled? What was the review process? Were the owners involved? How were other interests represented, e.g., business community, preservation community?
7. What are the demographics of the damaged areas? Who lives and works in the damaged buildings? Do they have financial reserves? Are they renters or owners? Do they have insurance? Are they small business owners?
8. Estimate the number of displaced households. How many persons were sheltered? Where are they going? How long will they be out of their buildings? What role is government playing in meeting shelter and interim housing needs?
9. Indicate where displaced residents gathered or were gathered by authorities. Note the location of staging areas or coordination points in the operations of emergency and relief organizations.
10. Describe the economic viability of the damaged area before the earthquake. Were the properties in the damaged area declining? Improving? Staying the same?
11. Identify any problems that might be magnified by the earthquake.

### **Political Context**

1. Describe the political context of the community, both before and after the earthquake. Identify local decision-making bodies, such as city councils, planning commissions, redevelopment agencies, and historic preservation commissions. What is the historic pattern of these bodies and the community on issues such as development, land use regulation, and historic preservation?
2. Identify key political factions present in the community and their influence over the political process—the business community, neighborhood associations, ethnic minorities, historic preservationists, construction trades, etc. What interests might these factions have in the recovery and rebuilding process, e.g., construction jobs, increased low-income housing, etc.?
3. Describe the groups most affected by the earthquake—e.g., property owners, displaced renters, homeowners—and their potential role or interest in the recovery and rebuilding process.
4. Describe the political issues the community is likely to confront in the recovery and rebuilding process, e.g., land use changes, replacement of residential housing units, commercial redevelopment and reconstruction, impact on the tax base, replacement of rental properties, and financial problems.

### **Rebuilding Resources**

1. Identify community resources, issues, attitudes, politics, and existing policies that may affect rebuilding. For example, can existing rents support rebuilding? Are rent control or other existing policies affecting the nature or speed of the rebuilding process? Are property owners, especially of commercial and multi-unit buildings, experienced developers? What are the financial resources available? What is the community's attitude toward expedited rebuilding decisions? What are the opportunities for change?
2. Has an organization been set up to guide the rebuilding? What kind? Where is it situated in the governmental structure? Who is represented?

### **Local Plans and Ordinances**

1. Identify emergency ordinances and other local decisions that relate to planning for recovery and rebuilding, including demolitions, repair standards, and rebuilding moratoriums. Were codes modified? Were there automatic triggers for upgrades in existing codes?
2. Identify local plans and ordinances, such as general plans, downtown or area plans, redevelopment plans, land use regulations, zoning ordinances, building codes, and other regulatory tools available to the community. Are they adequate and appropriate to current community priorities and goals?
3. Identify economic development tools available to the community, e.g., a redevelopment district, private sector investors, and local development interests.
4. What additional information should the community obtain before rebuilding? Is there a current building inventory?

### **Mitigation and Preparedness**

1. To what degree did the community implement building and zoning codes before the earthquake? Did these measures mitigate damage?
2. Analyze benefits attributable to mitigation.
3. Determine whether or not areas or buildings were exempted for some reason. Attempt to determine if factors may have been at work in the community (social, economic, political) that reduced the effectiveness of mitigation measures.
4. Describe the status of earthquake hazard mitigation and preparedness planning prior to the event.
5. Are current geologic hazard maps available?
6. What are the significant natural hazards affecting the community? Are there physical constraints to rebuilding and redevelopment? Are there opportunities for mitigating multiple hazards in the rebuilding effort?
7. What changes are recommended in rebuilding? Are there hazard mitigation opportunities for the community in the rebuilding process?
8. Note any suggestions for new mitigation and/or preparedness measures that would seem warranted in light of observed impacts.

## Field Investigation Form—Urban Planning and Public Policy Implications

Use this form for site-specific data collection to aid in making subsequent analyses. It is not meant to be substituted for the broader analysis of the earthquake's impact on the community.

Name of Investigator: \_\_\_\_\_ Date: \_\_\_\_\_

Site location:

### Urban Form

Make general notes describing the nature of the community affected:

### Damage Assessment

Describe types of buildings damaged: residential, commercial, industrial, government:

Estimate numbers of buildings in each category or % of total stock in each category

Residential:

Less than 10%    10–50%                  over 50%

Commercial:

Less than 10%    10–50%                  over 50%

Industrial:

Less than 10%    10–50%                  over 50%

Government:

Less than 10%    10–50%                  over 50%

### Damage Patterns

Where is damage in the community? Pockets or spread out?:

Note demographics of damaged areas:

Note socially significant structures damaged:

Use back of this sheet for sketches and additional notes.

## **Urban Planning and Public Policy Implications—Recommendations for Further Research**

Name of Investigator: \_\_\_\_\_ Date: \_\_\_\_\_

Should new planning and policy-related studies be undertaken? What are the long-term planning and policy issues important for reconstruction that should be monitored over time? What is your initial assessment of the important planning and policy lessons that will come out of this earthquake?