Business Impacts

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Intent of Chapter

• Overall business/economy effects: Lessons from other quakes

• Preparing: Vivid scenarios for some highly vulnerable spots

• Preparing: Business’ priority concerns
Lessons from Past EQs: Nisqually

1949 Olympia
M 6.8, 33 mi deep $0.2 billion

2001 Nisqually
M 6.8, 36 mi deep $2-4 billion

??? Seattle Fault
M 6.7, Shallow $33 billion

Nisqually most damaged businesses:
- Poor soil
- Older, unretrofit buildings

Nisqually’s most vulnerable businesses:
- Marginal or leveraged
- Long traffic disruptions
Lessons from Past EQs: Northridge

2001 Nisqually
M 6.8, 36 mi deep  $2-4 billion

1994 Northridge
M 6.7, 10 mi deep  $40 billion

??? Seattle Fault
M 6.7, Shallow  $33 billion

Insured losses $12.5 b = $1300/person in LA County

Northridge’s most vulnerable businesses:
small businesses in areas with lots of damage,
particularly lifeline damage
Lessons from Past Disasters: Kobe

1994 Northridge
M 6.7, 10 mi deep $ 40 billion

1995 Kobe
M 6.9, 8.7 mi deep $100 billion

??? Seattle Fault
M 6.7, Shallow $ 33 billion

Business disruption widespread due to lifeline failure and overall destruction/debris
Business disruption losses $100 billion
Port of Kobe never recovered competitiveness
3 Specimen Neighborhoods
Issaquah, Renton, Pioneer Sq.

- Ist-order challenges
  - People
  - Building
  - Contents
  - Lifelines

- 2nd-order challenges
  - Employee disruption
  - Downstream disruption
  - Upstream disruption
  - Neighbors
3 Specimen Neighborhoods

Issaquah, 1970s era shopping center

1st-order
• Buildings stand but damaged; roads OK
• Phones and traffic lights out
• Employees/customers want to leave
• Closed for days for inspection, lifelines

2nd-order
• Slow repair, competitive disadvantage
• Small businesses most vulnerable
3 Specimen Neighborhoods

Old Downtown Renton

1st-order
- Collapse of old, unretrofit buildings
- Lives lost; many buildings seriously damaged

2nd-order
- Debris and damage persist
- Few merchants have funds to recover/rebuild
- Historic downtown in danger
3 Specimen Neighborhoods
Seattle, Pioneer Square

1st-order
- Some collapse but most retrofit buildings will stand
- Terrifying shake and building noise
- Tons of contents damage
- Alaska Way viaduct partial collapses

2nd-order
- 2/3 buildings and roads closed for months for repair
- Far more expensive to restore than to rebuild
- Historic and cultural qualities will not be recovered
Priority Business Concerns

• People.
• Loss of power.
• Surface transportation.
• Communication with customers.
• Physical loss.
• Just-in-time inventories.
• Permanent loss of business.