PEER Tall Buildings Project

Task 2 – Develop Consensus Performance Objectives

Interview Process

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Approach – *Engage Stakeholders*

- Identify and interview stakeholders individually
- Hold workshop (with stakeholders and others)
- Stakeholders by discipline (approx. 20 interviewees):
  - Legal (regulatory) – city attorney
  - Legal (condo) – private practice attorney (condo development)
  - Financial (insurance) – insurance industry representative
  - Financial (lenders) – mortgage banker
  - Owners (short-term) – property development representative
  - Owners (long-term) – condo association, BOMA representative
  - Social Impacts – city planner/emergency planner
  - Economic Impacts – urban economist
  - Public Safety – fire marshal (and building official)
  - Design Professionals – architect (and structural engineer)

Background Material

- Building Code Performance Overview (Petak)
  - Traditional – Set of rules that specify the minimum acceptable level of safety of buildings based on Occupancy
  - Occupancy I an II – Safety object is to minimize risk of serious or life-threatening injury (but not to preserve function/minimize loss)
- Tall Building Damage/Loss Scenarios (Kircher/Youssef)
  - Estimated damage/loss to a hypothetical portfolio of 40 tall buildings located in a high seismic region of coastal California
    - 40 tall core-wall condominium buildings
    - 40 tall steel office buildings
  - Two scenario earthquakes: a rare, very strong (major) earthquake and an occasional (moderate) earthquake
  - Three hypothetical performance levels (Level A, B and C)

Damage and Loss Scenarios

(expected damage to 40 tall buildings due major and moderate earthquake ground motions)

Major Earthquake - One in Ten Chance of Occurring During the Life of the Structure

Hypothetical Performance	Expected No. of Bldgs in each Structural Damage State				
	None/Slight	Moderate	Extensive	Complete	Collapse
Level A	20	15	4	1	0
Level B	19	9	7	4	1
Level C	12	6	9	9	4

Moderate Earthquake - Likely to Occur at Least Once During the Life of the Structure

Hypothetical Performance	Expected No. of Bldgs in each Structural Damage State				
	None/Slight	Moderate	Extensive	Complete	Collapse
Level A	38	2	0	0	0
Level B	38	2	0	0	0
Level C	35	3	2	0	0

Interview Process and Key Questions

- Interview Outline and Response Form (Holmes):
  - Describe project background (PEER research project)
  - Discuss background material:
    - Interviewees thoughts on Code safety objectives?
    - Interviewees reaction to scenario damage and loss estimates (for Level A, B and C performance)?
  - Discuss appropriate performance of tall buildings:
    - Should tall buildings perform better than “normal” buildings (are Code objectives for normal buildings acceptable)?
    - Should tall buildings have an improved level of performance and, if so, what should that level of performance be?
    - What would it be worth (cost premium) to achieve improved performance?
  - Prepare Interview Summary