# US Resiliency Council

## USRC Building Rating System

<table>
<thead>
<tr>
<th>Safety</th>
<th>Damage</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5 Stars</strong></td>
<td>Minimal Damage (&lt;5%)</td>
<td>Immediate to Days</td>
</tr>
<tr>
<td><strong>4 Stars</strong></td>
<td>Moderate Damage (&lt;10%)</td>
<td>Within days to weeks</td>
</tr>
<tr>
<td><strong>3 Stars</strong></td>
<td>Significant Damage (&lt;20%)</td>
<td>Within weeks to months</td>
</tr>
<tr>
<td><strong>2 Stars</strong></td>
<td>Substantial Damage (&lt;40%)</td>
<td>Within months to a year</td>
</tr>
<tr>
<td><strong>1 Star</strong></td>
<td>Severe Damage (40%+)</td>
<td>More than a year</td>
</tr>
</tbody>
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<tr>
<th>Safety</th>
<th>Damage</th>
<th>Recovery</th>
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</thead>
<tbody>
<tr>
<td>Blocking exit paths unlikely</td>
<td>Minimal Damage (&lt;5%)</td>
<td>Immediate to Days</td>
</tr>
<tr>
<td>Serious injuries unlikely</td>
<td>Moderate Damage (&lt;10%)</td>
<td>Within days to weeks</td>
</tr>
<tr>
<td>Loss of life unlikely</td>
<td>Significant Damage (&lt;20%)</td>
<td>Within weeks to months</td>
</tr>
<tr>
<td>Isolated loss of life</td>
<td>Substantial Damage (&lt;40%)</td>
<td>Within months to a year</td>
</tr>
<tr>
<td>Loss of life likely</td>
<td>Severe Damage (40%+)</td>
<td>More than a year</td>
</tr>
</tbody>
</table>

## Code Based Design

- +0-5% Cost

## Resilience Based Design
Case Study: 4-Story Mixed-Use Office Building

- 4-story, +/- 82,000 sf
- Civic office building with space for community college and retail
- Code-based design

Safety ★★★★★
- Conditions unlikely to cause injuries or to keep people from exiting the building.

Damage ★★★★★
- The mean repair cost is less than 5% of building replacement cost.

Recovery ★★★★★
- The median recovery time to regain basic function is less than one week.
Case Study: 6-Story Affordable Housing

• 6-Stories
• Low income housing
• Reinforced concrete
• Rocking foundation

Safety ★★★★★
• Conditions unlikely to cause injuries

Damage ★★★★★
• The mean repair cost is less than 10% of building replacement cost.

Recovery ★★★★★
• The median recovery time to regain basic function is less than one month.
Rating Systems Used to Set Design Objectives

- 4-Story Mixed-Use Office Building
  - USRC Gold/Platinum: 0-5%

- Current Municipal Resilience-Based Design Project
  - Code Design

Community Design Guidelines
City Scale Resilience Management

Expected Loss
URM to Reinforced, Remove Deficiencies

CURRENT

POST ORDINANCE

Highlight: $100,000
Post Event Analysis

Likely Injury Concentration

Likely Debris Concentration
“Green” and Resilient Design are Two Sides of Sustainability
USRC Membership – Demonstrating Your Support

For more information on The USRC

www.usrc.org