Unreinforced Masonry Buildings (URMs) and Retrofit Policy Development

November 8, 2012

Department of Planning and Development

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What is a URM?
What is a URM?

Header/Tie Course

FLOOR

WALL
What is a URM?
Earthquake (Mis)Behavior
Earthquake (Mis)Behavior
Retrofits – Brace Parapets
Retrofits – Bolt Wall to Floor/Roof
Retrofits – Bolt Wall to Floor/Roof
Retrofits – Add Braces/Walls
Retrofits – Strengthen Walls
Performance of Retrofitted URM’s

- Less damage in Nisqually EQ
- Saved lives, did not always save buildings in Northridge EQ
- Preserved some buildings in multiple Darfield/Canterbury (Christchurch) EQ’s
Current City Policy

Un-braced parapets required to be abated

Triggered when doing work requiring permit:

- Limited strengthening if minor to moderate damage from event

- Seismic report, retrofit when trigger “substantial repair/alteration”
  - Substantial increase in occupant load
  - Extending useful or economic life of building
  - Major damage from event
Previous Efforts

- Dangerous buildings ordinances (1974-1978)
- 2008-2009
  **Technical Committee**
  - Goal – establish least costly but effective retrofit to reduce likelihood of collapse of URM’s during an earthquake
  - Developed recommended retrofit standard (“bolts-plus”)
  - Intended to protect lives of building inhabitants and those nearby – not expected to prevent damage to the building in moderate-to-large earthquakes

**Policy Committee**
- Project mothballed in 2010 for lack of resources
- Biggest issue = cost of retrofit
Current 2012-13 Efforts

- URM Survey Report
- Report Summarizing State of California Retrofit Laws
- URM “Appeal” Process
- URM Retrofit Policy Committee and program development
2012 URM Survey Report

Prepared by Department of Planning and Development (DPD)
URM Survey Information

- Intended as the starting point for identifying URM buildings
- Information about specific buildings has not been verified, and may not be accurate
- Some of the buildings on the list may already be retrofitted to an extent that they meet the proposed technical standard
- Some buildings will require a fairly modest effort to bring them into compliance with the proposed standard; some will likely require extensive work
List of Potential URMss identified by DPD

Information about specific buildings has not been verified, and may not be accurate.

<table>
<thead>
<tr>
<th>NEIGHBORHOOD</th>
<th>ADDRESS</th>
<th>YEAR BUILT</th>
<th>NO. STORY</th>
<th>OCCUPANCY</th>
<th>Appears to Meet Proposed Retrofit Standard</th>
<th>Retrofit to Some Degree</th>
<th>No External Evidence of Retrofit</th>
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</thead>
<tbody>
<tr>
<td>Ballard</td>
<td>1100 NW Leary Way</td>
<td>1905</td>
<td>1</td>
<td>C</td>
<td></td>
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<tr>
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<td>C</td>
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<tr>
<td>Ballard</td>
<td>2418 28th Ave W</td>
<td>1900</td>
<td>2</td>
<td>S-Pub</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ballard</td>
<td>3208 15th Ave W</td>
<td>1900</td>
<td>2</td>
<td>S-Pub</td>
<td></td>
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<tr>
<td>Ballard</td>
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<td>1900</td>
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<td>Ballard</td>
<td>5135 Ballard Ave NW</td>
<td>1900</td>
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<td>Ballard</td>
<td>5140 Ballard Ave NW</td>
<td>1902</td>
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</table>

- DPD notified URM owners of the scope and schedule for the policy development, and how they can participate in the process.
- DPD has a procedure for working with DPD engineers to correct any inconsistencies in URM building designations.
- DPD is currently evaluating/investigating buildings with no external evidence of retrofits and will update as information becomes available.
- DPD will only remove buildings if there are no URM bearing walls.
- DPD will add URMss to the list as new potential buildings are identified.
Of the 819 identified URM buildings in the survey, the majority of these are less than 3 stories, with an average of 2 stories.
The majority of the occupancies observed in the URM survey are commercial, office and residential use.

The majority of commercial uses are in one-story buildings and the majority of residential uses are in 3 story buildings.
There are a total of 50 schools on the URM survey list; 30 of them are public schools including colleges.

Most of those retrofitted appear to meet the proposed technical standard.
URM Policy Committee

Invited representatives from Property Owners, Engineers, Housing Developers, Commercial Developers, UW, USGS, Architects, Planners, Non-profits, Preservation advocates:

- Bellwether
- UW Institute for Hazard Mitigation Planning Research
- Degenkolb Engineers
- Property Owner
- Preservation Green Lab
- Solid Ground
- Coughlin Porter Lundeen
- SCID Preservation and Development Authority

- Rental Housing Association of Puget
- Environmental Works/AIA Disaster Response Committee
- Collins Woerman
- MRP Engineering
- A.I.D. Development Group
- The Alliance for Pioneer Square
- USGS
- Historic Seattle
Public Process

- Policy Committee Meeting Agendas, summary notes, and background information on URM website
- Policy Committee meetings are open to the public
- An email mail-box for comments from the public
- Monthly updates to URM email list
Outreach

- Articles in DPD INFO on policy development
- DJC article covered the launch of the URM Policy committee in April 2012

- Small Group Meetings
  - Housing Development Consortium - June 27, 2012
  - Department of Neighborhoods – August 28, 2012
  - Selected Pioneer Square & ID Building Owners – November 8, 2012

- FEMA Grant for Outreach and Education
Topics

- **Threshold for retrofit requirement:** Single family homes and multifamily with 2 or fewer units are exempt

- **Timeline for retrofit:** Based on key steps in the process and Risk Categories - Critical, High and Medium

- **Incentive options:** Options such as transfer of development rights programs, waiving permit fees, city program facilitator

- **Enforcement:** Penalties for noncompliance at each step

- **Financial incentives:** Options for financing retrofits – Subcommittee worked with experts
Preliminary Risk Categories / Timelines

- **Critical-risk**: schools and critical facilities (hospitals, fire stations, etc.) – 7 years to comply with a retrofit program

- **High-risk**: buildings greater than 3 stories on poor soil or URM with more than 100 occupants in assembly – 10 years to comply with a retrofit program

- **Medium-risk**: all other URM buildings – 13 years to comply with a retrofit program

### Number of URM structures by Risk Category

<table>
<thead>
<tr>
<th>Risk Category</th>
<th># Structures</th>
<th>Percent of URM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>65</td>
<td>8%</td>
</tr>
<tr>
<td>High</td>
<td>64</td>
<td>8%</td>
</tr>
<tr>
<td>Medium</td>
<td>691</td>
<td>84%</td>
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</table>
## Process for Compliance

### Number of Years to Complete Retrofit

<table>
<thead>
<tr>
<th></th>
<th>Critical Risk</th>
<th>High Risk</th>
<th>Medium Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment</strong></td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td><strong>Permit Application</strong></td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Permit Approval</strong></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Completion of Retrofit</strong></td>
<td>4</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>10</strong></td>
<td><strong>13</strong></td>
</tr>
</tbody>
</table>
Goals for Incentives

- Encouraging retrofits beyond the policy’s minimum requirements
- Encouraging early participation
- Easy for building owners to understand and the city to implement
- Building broad-based support
- Minimizing the cost of retrofits
Encouraging Retrofits beyond Bolts-Plus

- Consider Transfer of Development Rights (TDRs) if retrofit exceed Bolts-Plus
- Consider implementation of a partnership/rebate program modeled on the City’s energy-efficiency partnership program (Community Power Works)

Potential outcomes:

- Reduced insurance costs as a result of the building’s increased seismic safety
- Increased future revenue if retrofits allow the building to be re-opened more quickly following an earthquake
Encouraging Early Participation

*Potential incentives*

Consider:

- Place an expiration date on certain funding sources or tools
- Waive permitting fees in early years of program
- Any City grant assistance sunsets
Easy for Building Owners to Understand

- Develop Program information (Client Assistance Memo) that includes
  - a description of how the Bolts Plus standard applies to buildings,
  - the cost and benefits of Bolts Plus, and
  - a description of probable maximum loss (PML) and its correlation to potential loans
- Develop a standardized assessment protocol
- Post a vetted list of contractors on the City’s website
Easy Permitting

Predictable and timely permit process

Consider:

- “Master” permit to allow retrofits to be implemented over a number of years
- Two (2) free hours of permit pre-submittal coaching
- Liaison position to navigate the retrofit policy and process
- Interdepartmental and inter-agency permit facilitator
- Expedite historic landmark or Section 106 review
- Decouple seismic retrofits from other code upgrades, such as ADA and Fire
- Waive parking requirements for URM retrofits
- Guidelines for permit reviewers and inspectors for consistent decision-making

URM Policy Committee Draft Recommendations
Build Broad-based Support

Consider:

- Education and outreach campaign to URM owners and neighborhood representatives about the policy and its requirements
- Comprehensive information on City’s website specifically directed at industry and trade association members
- Post information about buildings that have been successfully retrofitted
- Economic impact analysis that includes benefits both to life safety and increased resiliency to earthquakes
Enforcement Concepts

Consider:

- Penalties should have teeth – don’t be wimpy
- Increase the severity of fines if no compliance in previous process steps
- Use standard DPD Notice of Violation (NOV) Process
- Include notice to tenants when owner has NOV
- Post signs on retrofitted buildings and on internet
- Fair and consistent process
Minimizing the cost of retrofits

- Provide funding support options that property owners can access
- Met with a Financing Subcommittee to develop a short list
  - Economist
  - Planner
  - Historic Preservation/Renovation expert
  - Office of Economic Development
  - Office of Emergency management
  - Developer
## 21 Potential Financial Incentive Options

<table>
<thead>
<tr>
<th>Property tax abatement</th>
<th>Real estate investment trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levy &amp; general obligation bond</td>
<td>Waiving or capping permit fees</td>
</tr>
<tr>
<td>Transfer Development Rights</td>
<td>Real estate excise tax</td>
</tr>
<tr>
<td>Grants for AE fees</td>
<td>Historic Landmark tax credits (20%)</td>
</tr>
<tr>
<td>Community Development Block Grants</td>
<td>Low interest loans</td>
</tr>
<tr>
<td>Revolving loan fund</td>
<td>Frontloading payments by utility</td>
</tr>
<tr>
<td>Historic buildings tax credits (10%)</td>
<td>Tax Increment Financing</td>
</tr>
<tr>
<td>FEMA grants for construction</td>
<td>City grants to private owners</td>
</tr>
<tr>
<td>City-backed bond funds for 501(c)3</td>
<td>City-backed bond funds</td>
</tr>
<tr>
<td>Reduced insurance costs</td>
<td>Local Improvement District</td>
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<tr>
<td>New market tax credits</td>
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### Funding Options Matrix

<table>
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</thead>
<tbody>
<tr>
<td>Property tax abatement</td>
<td>Legal</td>
<td>Yes</td>
<td>Redirection of existing money</td>
<td>Easy</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No, if building value is low</td>
<td>Private owners only</td>
<td>Private only</td>
<td>Fluctuates with real estate market</td>
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<td>New source</td>
<td>Easy to use</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Subject to program distribution</td>
<td>Subject to program distribution</td>
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<td>No, subject to elimination in federal budget</td>
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<tr>
<td>Transfer Development WOTs</td>
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<td>New source</td>
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<td>No</td>
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<td>Redirecting money away from other projects</td>
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<td>Any building built before 1936</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
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<td>n/a</td>
<td>Any building built before 1936</td>
<td>Non-profit for URM, only non-profits</td>
<td>Only non-profits</td>
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<td>New source</td>
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<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>Any building built before 1936</td>
<td>No, if building is subject to elimination in federal budget</td>
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<td>Not specific to URMs</td>
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<td>New source</td>
<td>Require match from City</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
<td>Applied to buildings with a higher PMI rating; need more info from insurance industry to evaluate; perhaps used for education and incentives</td>
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<td>New source</td>
<td>Require match from City</td>
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<td>No city or tax exempt buildings</td>
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<td>Tax exempt</td>
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<td>Real estate investment</td>
<td>Legal, with limits</td>
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<td>New market tax credits</td>
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<td>n/a</td>
<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
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<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
<td>Applied to buildings with a higher PMI rating; need more info from insurance industry to evaluate; perhaps used for education and incentives</td>
<td>YES</td>
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<tr>
<td>Waiving or capping permit fees</td>
<td>Legal</td>
<td>Yes</td>
<td>Redirection of existing money in the general fund</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Could subsidize the waiving of permitting fees for seismic improvements; subject to elimination in federal budget</td>
<td>No</td>
<td>Could fund an educational campaign for URM owners</td>
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<tr>
<td>Real estate excise tax</td>
<td>Legal</td>
<td>Yes</td>
<td>REDIRECTION OF EXISTING MONEY TO URM</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Could subsidize the waiving of permitting fees for seismic improvements; subject to elimination in federal budget</td>
<td>No</td>
<td>Could fund an educational campaign for URM owners</td>
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<tr>
<td>Historic buildings tax credits (20%)</td>
<td>Legal</td>
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<td>New source</td>
<td>Difficult to use, very competitive</td>
<td>Difficult to implement</td>
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<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
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<td>Low interest loans</td>
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<td>Difficult to implement</td>
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<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
<td>Applied to buildings with a higher PMI rating; need more info from insurance industry to evaluate; perhaps used for education and incentives</td>
<td>YES</td>
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<tr>
<td>Frontloading payments by utility</td>
<td>Legal</td>
<td>Yes</td>
<td>New source</td>
<td>Difficult to use, very competitive</td>
<td>Difficult to implement</td>
<td>n/a</td>
<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
<td>Applied to buildings with a higher PMI rating; need more info from insurance industry to evaluate; perhaps used for education and incentives</td>
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<tr>
<td>Tax Increment Financing</td>
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<td>New source</td>
<td>Difficult to use, very competitive</td>
<td>Difficult to implement</td>
<td>n/a</td>
<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
<td>Applied to buildings with a higher PMI rating; need more info from insurance industry to evaluate; perhaps used for education and incentives</td>
<td>YES</td>
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<tr>
<td>City grants to private owners</td>
<td>Not legal</td>
<td>No</td>
<td>New source</td>
<td>Difficult to use, very competitive</td>
<td>Difficult to implement</td>
<td>n/a</td>
<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
<td>Applied to buildings with a higher PMI rating; need more info from insurance industry to evaluate; perhaps used for education and incentives</td>
<td>YES</td>
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<tr>
<td>City-backed bond funds</td>
<td>Not legal, except for low-income housing</td>
<td>No</td>
<td>New source</td>
<td>Difficult to use, very competitive</td>
<td>Difficult to implement</td>
<td>n/a</td>
<td>n/a</td>
<td>No city or tax exempt buildings</td>
<td>Public or nonprofit only</td>
<td>Tax exempt</td>
<td>Applied to buildings with a higher PMI rating; need more info from insurance industry to evaluate; perhaps used for education and incentives</td>
<td>YES</td>
</tr>
</tbody>
</table>

**URM Policy Committee Draft Recommendations**

- **Is this a legal funding source?**
  - Yes
  - No
  - Limited
  - Not legal
  - Not legal, except for low-income housing

- **Does it provide a significant level of funding?**
  - Yes
  - No
  - Limited
  - Not legal
  - Not legal, except for low-income housing

- **Is this easy for property owners to use?**
  - Yes
  - No
  - Limited
  - Not legal
  - Not legal, except for low-income housing

- **Is this easy for the City to administer (if applicable)?**
  - Yes
  - No
  - Limited
  - Not legal
  - Not legal, except for low-income housing

- **Are there factors to consider that will increase or decrease the impact of this funding source (e.g., is this dependent on tax revenue or subject to federal government funding cuts)?**
  - Yes
  - No
  - Limited
  - Not legal
  - Not legal, except for low-income housing
## URM Financing Options

<table>
<thead>
<tr>
<th>Public/Non-Profit Ownership</th>
<th>Private Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEMA/CDBG/other grants</td>
<td></td>
</tr>
<tr>
<td>General obligation bonds</td>
<td></td>
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<tr>
<td>Levy</td>
<td>10% building tax credit</td>
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<tr>
<td>Tax abatement</td>
<td>Tax abatement</td>
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<tr>
<td>Revolving loan fund</td>
<td>Revolving loan fund</td>
</tr>
<tr>
<td>TDRs</td>
<td>TDRs</td>
</tr>
<tr>
<td>A/E grants &amp; resources</td>
<td>A/E grants &amp; resources</td>
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<tr>
<td>Building owner contribution</td>
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<tr>
<td>Education funding</td>
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Next Steps

**Program Development (anticipated schedule):**

- Policy Committee preliminary recommendations to DPD January 2013
- Cost Benefit Analysis of program options – 1-2 Q 2013
- Begin drafting legislation, mid-2013
- Legislation to Council, 4 Q 2013

**Program Implementation (anticipated):**

- Commence planning for implementation of mandatory retrofit program 2013
- Begin outreach and education, following adoption of ordinance.
- Program implementation will depend on effective date of ordinance.
Information on URM Policy Development

DPD website
www.seattle.gov/dpd/Emergency/UnreinforcedMasonryBuildings

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