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August 12, 2013

City of Seattle Department of Planning & Development
Attn: Sandy Howard
700 Fifth Avenue
Suite 2000
Seattle, Washington 98101

Seattle, WA 98101

Re: URM Outreach Pilot Task 1 – CA Outreach Research

Dear Sandy,

Below is research summary of outreach best practices from the research on URM retrofit programs in California started by TD Wang in the Phase 1 URM Research Report, as requested on the DPD team review call.

Per the FEMA Publication P-774: URM Buildings & Earthquakes, "Many factors are critical to the successful advancement of seismic safety at local and state levels. These include public advancement of the problem; persistent, skillful, and credible advocates; repeated interaction and communication among participants; availability of staff resources; linkage to other issues; occurrence of a disaster that leads to a ''window of opportunity'' for change; community wealth and resources; assistance from higher levels of government; and previous experience with hazards (Berke and Beatley, 1992; Olshansky and Kartez, 1998). Of these, advocacy stands out because it represents a way that individuals can make a difference."

Some of the big lessons learned in the California URM retrofit outreach programs overall include:

Outreach Best Practice	**Pilot Status/Applicability**
Lead by example	Seattle has also put into place a "lead by example" process, through retrofit of Fire Facilities that included modernization and seismic retrofit.
Prioritize high occupancy and critical service buildings	Yes, in draft policy
Set definitive deadlines	Yes, in draft policy
Advocacy/Assemble local community organizations	Pending – POEL outreach with small group meetings; community workshop
Carrot + stick vs just the stick	Pending, as City reviews incentives options
Financing alternatives	Pending, CW Study Phase 2 -bonds, tax rebates, etc.)

Reference other's success	LA could be applicable example
Link to City economic development programs	TBD

We will take these outreach "best practices" into consideration as we create an outline for the Toolkit.

Sincerely,

Teresa Burrelsman-Stern
Principal
SBA, LEED AP BD&C

URM Messaging Considerations

The following messaging tables are based on the URM survey data collected. The tables can be utilized to develop additional collateral materials to distribute to target groups.

	PRIMARY AUDIENCE	SECONDARY AUDIENCE	TERTIARY AUDIENCE	SPECIAL AUDIENCE FOR INCLUSION
	Building Owners / Business Managers / Property Owners	**Residents / Commercial Tenants / Workers**	**Visitors / General Public**	**Non-English Speakers**
What is important to them?	• Knowing that The City will provide some level of "support," e.g., financial support, tax incentives, education and professional support • Property value • Don't want business to be affected by retrofit • Retaining tenants	• Tenant safety • Community assets • Preserving community character • Building maintenance to minimize neighborhood crime	• Life safety • Preserving community character • Economic development	• Life safety • "The American Dream"
What may grab their attention?	• "Retrofit now and save for the future of your investment." • "You're not just retrofitting your building, you're a responsible leader in preserving our community" • "Support community resilience and your safety by retrofitting your building today."	• "You can withstand the next earthquake by preparing today." • "Living in a URM building? Know what you can do." • "What if you lost all your possessions in the next earthquake?" • When the next earthquake happens, what if you can never got back to your home or business?	• "The risk of an earthquake in Seattle is high." (Seattle is in a high earthquake activity zone • "Do you understand the risks/are you prepared?"	• In-language/in-culture communication that speaks to them
What may be surprising	• If retrofitting a URM	• That they live in a URM	• There are a lot of URM's	• URM buildings are not

for them to know?	increases their building's long-term property value • If the longer they wait, they more costly it will be in the future to retrofit	that's due for a retrofit • Earthquakes can be devastating • URM retrofits actually preserves community character rather than destroying it	in Seattle	safe (contrary to some ethnic beliefs that brick buildings are better than wood buildings)
What may potentially upset them?	• Mandating language that retrofitting a URM is required by the law • Understanding the costs.	• If their landlords don't care about their safety • If landlord's decision is only tied to costs	• Disasters and causalities	• Prejudice (survey comment) • Casualties from an earthquake in their home country
What questions would they have?	• Why Columbia City? • How does retrofitting affect my business? • How much does it cost? • How long is the retrofit?	• What is a URM? • Do I live, work, or socialize in a URM? • How does URM affect my family? • Magnitude of disruption post-quake		
What are their preferred communication methods?	• E-mail • Mail • Public meeting	• Mail • E-mail • Public meeting • Website	• Website • Public meeting • Small workshop	In-language: • Mail • E-mail • Public meeting
Recommended communication channels	• Community based organization outreach (neighborhood associations, chambers of commerce) • Media outreach	• Door-to-door • Flyering • Media outreach • Community based organization outreach	• Posters • Flyering • Street team outreach • Media outreach	• In-language media outreach • Community based organization outreach
What may be a potential challenge in reaching and educating this group?	• Limited City data • Limited time availability	• Changing the perceptions of people who have non-negative earthquake experience	• Raising overall awareness and concern for earthquake safety	• Language barriers

Potential Messaging Taglines

	Building Owners / Business Managers / Property Owners	**Residents / Commercial Tenants / Workers**	**Visitors / General Public**	**Non-English Speakers**
Overall theme	• "Keeping our community resilient and safe is everyone's responsibility." • "What if earthquake hits your building tomorrow?"			
Customized messaging to each group	• "Retrofitting your URM building? The City is here for you" • "Ensure the resilience and safety of your investment. Retrofit your building today."	• "You are the voice of your community when it comes to safety" • "Do you know if you live, work, or socialize in a URM?"	"What if an earthquake hits your neighborhood tomorrow?"	To be translated and trans-created in-language and/or in-culture depending on cultural groups

Messaging Copy

Audience	Building Owners / Business Managers / Property Owners	Residents / Commercial Tenants / Workers	Visitors / General Public	Non-English Speakers
Approach	Preventative and protecting your investment	Empowerment and preparation	Highlights URM risks and informative.	Empowerment and preparation
Header	Get ahead of the next earthquake.	You can withstand the next earthquake by taking charge today.	Earthquakes affect everyone.	You can withstand the next earthquake by taking charge today.
Sub-header	Ensure the safety and resilience of your investment. Retrofit your building today.	Be the voice of your community when it comes to safety.	What if an earthquake hits your neighborhood tomorrow?	Be the voice of your community when it comes to safety.
Body of Content	The City of Seattle is developing new policies and standards for Unreinforced Masonry Buildings (URM) that may affect your property. Retrofitting your URM protects tenants and personal safety during an earthquake. Investing in retrofitting your building now will add to the long-term value of your property and helps maintain community character. Come join us for an informative workshop on retrofit options, benefits, and updates on City of Seattle's policy development.	Earthquakes can be devastating, but taking action today will help preserve your home, workplace, and community. Join us to learn more about steps you can take to prepare your home, family, and community for an earthquake.	Risk of an earthquake is high in Seattle. In addition, Seattle has many Unreinforced Masonry Buildings (URMs), which can be damaged and even collapse during an earthquake. You can make a difference in preserving community character and ensuring safer buildings by supporting policies to retrofit these vulnerable buildings.	Earthquakes can be devastating, but taking action today will help preserve your home and community. Join us to learn more about steps you can take to prepare your home, family, and community for an earthquake.
Contact information	Workshop time, address, website, contact information		DPD contact, URL, email to get more information	Workshop time, address, website, contact information
Tagline (Overall Theme)	"Keeping our community resilient and safe is everyone's responsibility."			

Audience	Traditionally Under Represented Cultural Groups:	Amharic	Tagalog	Tigrinya
Header	You can withstand the next earthquake by taking charge today.	ዛሬ ሓላፊነትን በመውሰድ፣ የሚቀጥለውን የመሬት መንቀጥቀጥ መቋቋም ይችላሉ።	Makakayanan mo ang susunod na lindol sa pamamagitan ng pamamahala ngayon.	ሎሚ ሓላፍነት ብምውሳድ ነቲ ዝመጽእ መንቅጥቃጥ መሬት ክትጻወር ትኽእል።
Sub-header	Be the voice of your community when it comes to safety.	ደህንነትን በሚመለከት፣ የማሕበረሰብዎ ድምጽ አሰሚ ይሁኑ።	Maging boses ng iyong komunidad pagdating sa kaligtasan.	ብድሕንነት ዝመጸ ናይ ማሕበረሰብካ ድምጺ ኹን።
Body of Content	Earthquakes can be devastating, but taking action today will help preserve your home and community. Join us to learn more about steps you can take to prepare your home, family, and community for an earthquake.	የመሬት መንቀጥቀጥ በጣም አውዳሚ ሊሆን ይችላል፣ ቢሆንም ዛሬ እርምጃ መውሰድ ቤትዎንና ማሕበረሰብዎን ጠብቆ ለማቆየት ይረዳል። ቤትዎን፣ ቤተሰብዎንና ማሕበረሰብዎን ለመሬት መንቀጥቀጥ ለማዘጋጀት መውሰድ ስለሚችሏቸው እርምጃዎች ተጨማሪ ትምህርት እንዲቀስሙ ተጋብዘዋል።	Ang mga lindol ay mapanira, subalit ang iyong pagkilos ngayon ay makakatulong na mapanatili ang iyong tahanan at komunidad. Samahan kami upang lalong matutunan ang mga hakbang na maaari mong magawa upang maihanda ang iyong tahanan, pamilya at komunidad sa isang lindol.	ምንቅጥቃጥ መሬት ኣዕናዊ ክኸውን ይኽእል እዩ፣ ግን ሎሚ ስጉምቲ ምውሳድ ቤትካን መሕበረሰብካን ንምዕቃብ ይሕግዘካ። ኣብ ምንቅጥቃጥ መሬት ዝኸ፣ ስድራቤትካን፣ መሕበረሰብካን ንምቐራብ ክትወስዶ ዘለካ ስጉምቲታት ተወሳኺ ኣፍልጦ ንምርካብ ሕበረና።
Tagline (Overall Theme)	“Keeping our community resilient and safe is everyone’s responsibility.”	“ማሕበረሰባችን አደጋን መቋቋም እንዲችልና ከአደጋ እንዲጠበቅ ማድረግ የሁላችንም ሓላፊነት ነው።”	“Ang pagpapanatili na matatag at ligtas ng ating komunidad ay responsibilidad ng lahat.”	“ንማሕበረሰብና ተጻዋሪን ደሕንነቱ ዝሓለወ ምግባር ናይ ኩሉ ሰብ ሓላፍነት እዩ።”

Audience	Traditionally Under Represented Cultural Groups:	Khmer	Chinese	Spanish
Header	You can withstand the next earthquake by taking charge today.	លោកអ្នកអាចអត់ធ្មត់នឹងការរញ្ជួយដីលើកក្រោយដោយការដាក់បញ្ហានាថ្ងៃនេះ។	今天做好充份準備，平安度過下次地震。	Toma cargo hoy y mantente a salvo durante el siguiente terremoto.
Sub-header	Be the voice of your community when it comes to safety.	ត្រូវមានការបញ្ចេញមតិយោបល់ពីសហគមន៍លោកអ្នក នៅពេលឈានដល់សុវត្ថិភាព។	用您的聲音帶動發展社區的防災安全工作。	Sé la voz en tu comunidad cuando se trata de seguridad.
Body of Content	Earthquakes can be devastating, but taking action today will help preserve your home and community. Join us to learn more about steps you can take to prepare your home, family, and community for an earthquake.	ការរញ្ជួយដីធំនានា អាចធ្វើឱ្យខ្ទេចខ្ទី ប៉ុន្តែការចាត់វិធានការនានាថ្ងៃនេះ នឹងជួយការពារផ្ទះសម្បែង និង សហគមន៍លោកអ្នក។ ចូលរួមជាមួយយើងខ្ញុំដើម្បីសិក្សាបន្ថែមទៀតអំពីវិធានការនានាដែលលោកអ្នក អាចរៀបចំផ្ទះសម្បែង ក្រុមគ្រួសារ និងសហគមន៍លោកអ្នក សម្រាប់ការរញ្ជួយដីធំ។	地震災害，人人遭殃。為了維護您的家庭和社區，從今天起就採取行動。 與我們一起，共同了解應對地震災害的步驟，讓您的家庭和社區做好充份的準備。	Los terremotos pueden ser devastadores, pero al tomar acción hoy ayudarás a preservar tu hogar y comunidad. Acompáñanos para aprender más sobre las medidas que puedes tomar para preparar tu casa, familia y comunidad en caso de un terremoto.
Tagline (Overall Theme)	“Keeping our community resilient and safe is everyone’s responsibility.”	“ការរក្សាសហគមន៍ឱ្យរឹងមាំបង្កើបវិញនិងរក្សាសុវត្ថិភាពរបស់យើង គឺជាការទទួលខុសត្រូវរបស់មនុស្សម្នាក់ៗ”។	社區安康，人人有責。	Es la responsabilidad de todos mantener nuestra comunidad fuerte y segura.

Audience	Traditionally Under Represented Cultural Groups:	Amharic	Tagalog	Tigrinya
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Body of Content	Earthquakes can be devastating, but taking action today will help preserve your home and community. Join us to learn more about steps you can take to prepare your home, family, and community for an earthquake.	የመሬት መንቀጥቀጥ በጣም አውዳሚ ሊሆን ይችላል፣ ቢሆንም ዛሬ እርምጃ መውሰድ ቤትዎንና ማሕበረሰብዎን ጠብቆ ለማቆየት ይረዳል። ቤትዎን፣ ቤተሰብዎንና ማሕበረሰብዎን ለመሬት መንቀጥቀጥ ለማዘጋጀት መውሰድ ስለሚችሏቸው እርምጃዎች ተጨማሪ ትምህርት እንዲቀስሙ ተጋብዘዋል።	Ang mga lindol ay mapanira, subalit ang iyong pagkilos ngayon ay makakatulong na mapanatili ang iyong tahanan at komunidad. Samahan kami upang lalong matutunan ang mga hakbang na maaari mong magawa upang maihanda ang iyong tahanan, pamilya at komunidad sa isang lindol.	ምንቅጥቃጥ መሬት ኣዕናዊ ክኸውን ይኽእል እዩ፣ ግን ሎሚ ስጉምቲ ምውሳድ ቤትካን መሕበረሰብካን ንምዕቃብ ይሕግዘካ። ኣብ ምንቅጥቃጥ መሬት ዝኸ፣ ስድራቤትካን፣ መሕበረሰብካን ንምቐራብ ክትወስዶ ዘለካ ስጉምቲታት ተወሳኺ ኣፍልጦ ንምርካብ ሕበረና።
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Audience	Traditionally Under Represented Cultural Groups:	Khmer	Chinese	Spanish
Header	You can withstand the next earthquake by taking charge today.	លោកអ្នកអាចអត់ធ្មត់នឹងការរញ្ជួយដីលើកក្រោយដោយការដាក់បញ្ហានាថ្ងៃនេះ។	今天做好充份準備，平安度過下次地震。	Toma cargo hoy y mantente a salvo durante el siguiente terremoto.
Sub-header	Be the voice of your community when it comes to safety.	ត្រូវមានការបញ្ចេញមតិយោបល់ពីសហគមន៍លោកអ្នក នៅពេលឈានដល់សុវត្ថិភាព។	用您的聲音帶動發展社區的防災安全工作。	Sé la voz en tu comunidad cuando se trata de seguridad.
Body of Content	Earthquakes can be devastating, but taking action today will help preserve your home and community. Join us to learn more about steps you can take to prepare your home, family, and community for an earthquake.	ការរញ្ជួយដីធំនានា អាចធ្វើឱ្យខ្ទេចខ្ទី ប៉ុន្តែការចាត់វិធានការនានាថ្ងៃនេះ នឹងជួយការពារផ្ទះសម្បែង និង សហគមន៍លោកអ្នក។ ចូលរួមជាមួយយើងខ្ញុំដើម្បីសិក្សាបន្ថែមទៀតអំពីវិធានការនានាដែលលោកអ្នក អាចរៀបចំផ្ទះសម្បែង ក្រុមគ្រួសារ និងសហគមន៍លោកអ្នក សម្រាប់ការរញ្ជួយដីធំ។	地震災害，人人遭殃。為了維護您的家庭和社區，從今天起就採取行動。 與我們一起，共同了解應對地震災害的步驟，讓您的家庭和社區做好充份的準備。	Los terremotos pueden ser devastadores, pero al tomar acción hoy ayudarás a preservar tu hogar y comunidad. Acompáñanos para aprender más sobre las medidas que puedes tomar para preparar tu casa, familia y comunidad en caso de un terremoto.
Tagline (Overall Theme)	“Keeping our community resilient and safe is everyone’s responsibility.”	“ការរក្សាសហគមន៍ឱ្យរឹងមាំបង្កើបវិញនិងរក្សាសុវត្ថិភាពរបស់យើង គឺជាការទទួលខុសត្រូវរបស់មនុស្សម្នាក់ៗ”។	社區安康，人人有責。	Es la responsabilidad de todos mantener nuestra comunidad fuerte y segura.

City of Seattle URM Outreach & Education Pilot

URM Pilot Communications Plan

The URM Columbia City Pilot Toolkit is outlined below, and includes recommendations for items in the pilot scope of work to maximize results. The outline is based on the following key points from the contract and the messaging Phase.

- Core outreach is the community workshop and small group meetings.
- Best outreach methods per Department of Neighborhoods data and team experience for Primary Owner Audience: In person meetings/presentation, media outreach
- Best outreach methods per Department of Neighborhoods data and team experience for non-owner audience types: Fliers & posters, media outreach

Communication Methodology

Communication Category	**Columbia City Pilot Project**
Media Placement	• Press release created by Site Story. • Issued by Seattle Communications to general media sources. • Issued by Site Story to 12 media sources, emphasizing events calendars and local newsletters including Columbia City business organizations and ethnic media
Workshop Fliers (MS Word and pdfs)	In language fliers: • Shared by Site Story with Groundtruthing contacts and local media sources and organizations. • Delivered to businesses by POELs, and at their community meetings. • Posted by Site Story in Columbia City business district.
Social Media	• Posted workshop details to Site Story LinkedIn accounts and groups. • DPD posted workshop information to DPD Facebook Page and Twitter account. • Include on DPD URM webpage(s).
Community Meetings	• Two small group meetings led by Public Outreach & Engagement Liaisons (POELS); observed by Site Story staff (additional small group meetings will be observed by City staff if desired). • One business group meeting mini presentation led by Site Story. • Community workshop; included three POEL group tables and one POEL (Chinese) observer with intention to lead subsequent small group meetings outside the Pilot. (Note Spanish group table canceled due to lack of interest in that demographic, therefore two POEL group tables implemented.)
Community Feedback	• Include small group POEL and workshop community feedback in the URM Outreach and Education Columbia City Pilot Evaluation Report.

City of Seattle
Department of Planning and Development

News

For Immediate Release: November 6, 2013 ***Contact:*** Bryan Stevens (206) 684-5045

Public open house to discuss policy for unreinforced masonry buildings & earthquake preparedness

SEATTLE-A group of community outreach specialists and structural engineers will be facilitating a public open house to provide educational information on the City's future policy for seismic upgrades to Unreinforced Masonry Buildings (URM). The City is currently considering policy options for strengthening these buildings which are vulnerable during earthquakes.

When: November 13, 5:30 – 7:30 PM

Where: Filipino Community Center
5740 Martin Luther King Jr Way S
Seattle, WA

The Columbia City area was identified as the pilot area for the first outreach efforts due to the diversity of its residents coupled with the extent of URMs in the business districts. The concentration of URMS adds critical value to the daily economic and cultural activities of the neighborhood. Interpreters will translate information in Tagalog, Spanish, Chinese, and Amharic. The target audience includes building owners, building managers, business owners, employees, customers, and tenants for both residential and commercial buildings.

The communication program will build awareness of the hazards associated with URMs, create an understanding of the benefits of a retrofit and how any future policy would take into consideration the challenges of financing and scheduling the necessary modifications for the identified structures. Based on a "sidewalk survey" of buildings in the city, the Department of Planning and Development (DPD) estimates there are at least 800 URM structures in Seattle. It is not known how many of these have been retrofitted. Approximately 45 of the identified URMs are in Columbia City.

-more-

The consultant team was hired to develop a pilot outreach project to inform the general public about URMs, discuss draft policy considerations, and gather feedback from the community. Information gathered from the pilot will be used to create a toolkit to design an effective outreach strategy to educate the community on the final policy and regulations for retrofitting URM buildings.

For questions, please contact:

Sandy Howard
Project Manager
(206) 233-7194
sandy.howard@seattle.gov

To learn more about the City of Seattle's URM Policy and how to get involved visit:
www.seattle.gov/dpd/emergency/unreinforcedmasonrybuildings/default.asp

# # #

WITHSTAND THE NEXT EARTHQUAKE BY TAKING CHARGE TODAY

Be the voice of your community when it comes to safety.

Earthquakes can be devastating, but taking action today will help preserve your home and community.

Join us to learn more about steps you can take to prepare your home, store, family, and community for an earthquake.

November 13, 2013

5:30-7:30 pm

Filipino Community Center
5740 Martin Luther King Jr Way S, Seattle, WA

For more information:
www.seattle.gov/dpd/codesrules/changestocode/unreinforcedmasonrybuildings/whatwhy/default.htm

URM Contact:
Sandy Howard at Sandy.Howard@seattle.gov

KEEPING OUR COMMUNITY RESILIENT AND SAFE IS EVERYONE'S RESONSIBILITY.

Seattle Emergency Management

Brought to you by:

City of Seattle Department of Planning & Development, and the Office of Emergency Management

GET AHEAD OF THE NEXT EARTHQUAKE

Ensure the resilience and safety of your investment. Retrofit your building today.

The City of Seattle is developing new policies and standards for Unreinforced Masonry Buildings (URM) that may affect your property. Retrofitting your URM protects tenants and personal safety during an earthquake. Investing in retrofitting your building now will add to the long-term value of your property and helps maintain community character.

Come join us for an informative workshop on retrofit options, benefits, and updates on City of Seattle's policy development.

November 13, 2013

5:30-7:30 pm

Filipino Community Center
5740 Martin Luther King Jr Way S, Seattle, WA

For more information:
www.seattle.gov/dpd/codesrules/changestocode/unreinforcedmasonrybuildings/whatwhy/default.htm

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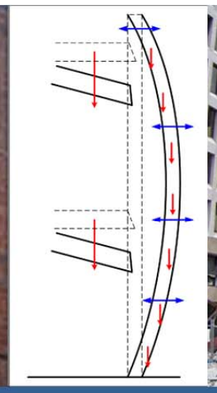
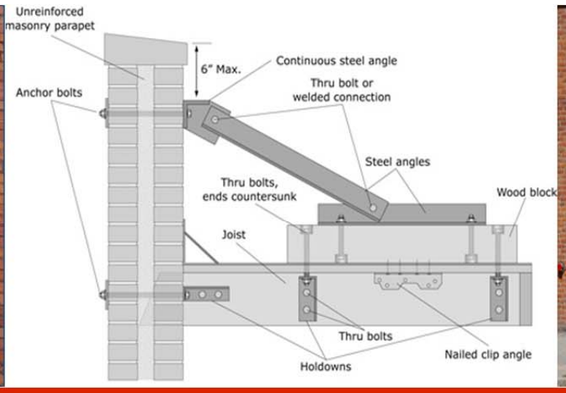
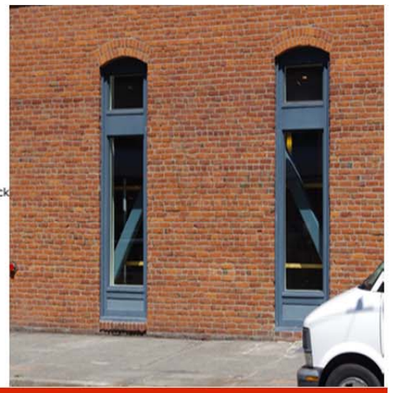




Unreinforced Masonry Retrofits [URMs]

[What is a URM?]

A brick building constructed without steel reinforcements, ties and connections in their load bearing walls. Typical Example:

- Red brick" buildings from early to mid 1900's
- Brick structure carrying the loads
- No steel grid in wall or between walls and floors/roof
- Some are built in the 1940's-60's

City of Seattle URM Contact:

Sandy Howard

(206) 233-7194 sandy.howard@seattle.gov

Visit the URM website for more information:

http://www.seattle.gov/dpd/codesrules/changestocode/unreinforcedmasonrybuildings/whatwhy/default.htm

[Why is retrofit important?]

- The Cascade Region is in a high earthquake zone
- Improves public safety
- Protect building investments
- Retain and attract tenants
- Maintain neighborhood character
- Keep services in operation
- Support the economic vitality of the neighborhood

[What does a retrofit include?]

1. Building walls that extend above the roof are braced
2. Floors and roofs are structurally connected to URM walls
3. Add connections inside framed walls, floors and roofs for added strength
4. Weak interior and exterior bearing walls are strengthened

Seattle Emergency Management

Unreinforced Masonry Retrofits [URMs]

[Impacts & Benefits]

Impacts of URM Retrofits

Owners:

- Costs of construction
- Coordinating logistics with tenants

Tenants:

- May be disruptive
- Could require short-term relocation
- Actual or perceived inconvenient for employees or customers

General Public:

- Possible inconvenience for employees or customers

Benefits of URM Retrofits

Owners:

- Improve potential for business continuance
- Protect investor value/revenue
- Improve marketability at sale
- May lower earthquake insurance/hedge against rising costs
- Hedge against future retrofit, repair and/or rebuilding costs
- Goodwill and community stewardship
- Maintain good tenant relations

Tenants:

- Increase in life safety
- Planned short-term relocation vs. emergency long-term dislocation
- Short-term dislocation during construction is likely

General Public:

- Increase in life safety
- increased likelihood of functional neighborhood post-earthquake

[Current & Future Policies]

Current

Triggered when doing work requiring permit:

- Parapets or tops of walls above roof are required to be braced
- Major renovations may trigger “substantial repair/alteration” including a seismic assessment and retrofit.

Future

- Whether or not a building is undergoing other renovations all URMs (except single family and duplex homes) that have not been retrofitted to the adopted standard will be required to do a higher standard retrofit.

Potential Financial Incentives under review by the City of Seattle:

Public/Non Profit Building Ownership

- Various Grants
- Government Benefits

Privately Owned Buildings

- Tax Credits
- Tax Freeze
- Loans

[Time Frame & Resources]

When does this need to happen?

Buildings will be assigned a risk category, and owners will have to follow required steps in a certain number of years, or be fined.

	Risk Factor		
	Critical Risk	High Risk	Medium Risk
Step 1: Assessment	1	2	3
Step 2: Permit Application	1	2	2
Step 3: Permit Approval	1	1	1
Step 4: Completion of Retrofit	4	5	7
Step 5: Completed in years	**7 years**	**10 years**	**13 years**

Critical risk buildings include schools and critical places (fire stations, etc.).

High risk buildings are > 3 stories and on poor soil, or have 100+ people in assembly. (In Columbia &Hillman City, mainly older religious buildings).

Medium risk are all other URM buildings.

Seattle Emergency Management

URM Retrofits

Improving Safety for Community & Business Resilience in Columbia City & Hillman City

Seattle
Emergency Management


Site Story is an outside consultant contracted by the City of Seattle Department of Planning & Development. We act as a neutral third party to help the City share information on URM retrofits, life safety and potential policy development along with gathering feedback that will help the City improve its communication and outreach efforts in the future.

Tonight's Meeting

1. **Earthquake Information**
2. **URMs (Un-Reinforced Masonry Buildings)**
3. **City Strategies**
   *** Your Thoughts ***
4. **URM Retrofits**
   *** Your Thoughts ***
5. **What's Next/Concluding Remarks**

What are the Risks? How to Prepare?

[Earthquake Info]

Earthquakes

- Recent findings - Cascadia zone more hazardous than previously suggested
- 10% to 14% chance of magnitude 9 or higher event in the next 50 years
- As high as 37% for earthquakes of magnitude 8 or higher

What does this mean for Seattle?

Prepare the NW for a major earthquake, such as the “big one” that hit eastern Japan in 2011, magnitude 7.1.

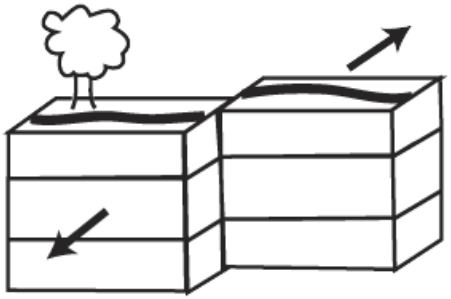
Recent Events

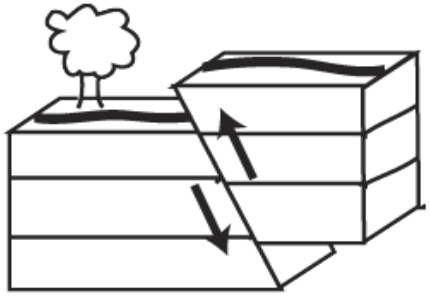
In NW & around the world, variety of quakes similar severity to predictions:

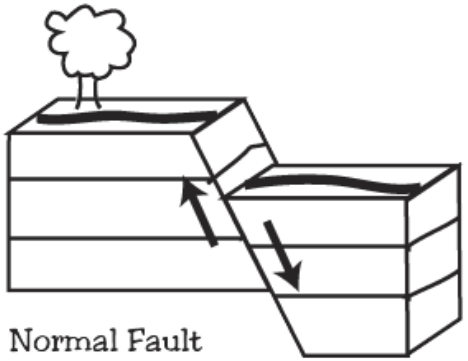
Location	Date	Magnitude	Life Safety	Damage
Christchurch	**2011**	**6.3**	**185 fatalities**	**$40 billion**
Japan - Tohoku/Fukushima	2011	9.0/7.1	20,896 fatalities	$309 billion
Haiti	2010	7.0	316,000 fatalities	$13.2 billion
Sichuan, China	2008	7.9	87,587 fatalities	Not available
Seattle, WA	2001	6.8	1 fatality 407 injured	$4 billion
Northridge, CA	1994	6.7	57 fatalities 9,000 injuries	$1 billion +

Recent Events

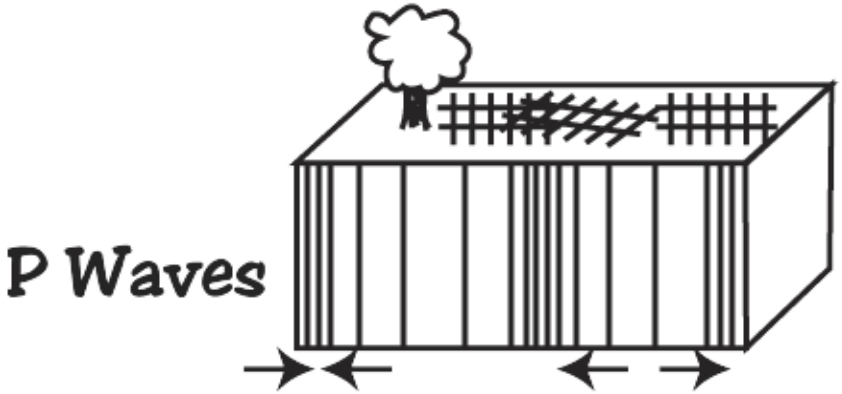
Three different types of earthquakes in NW that create different motions .

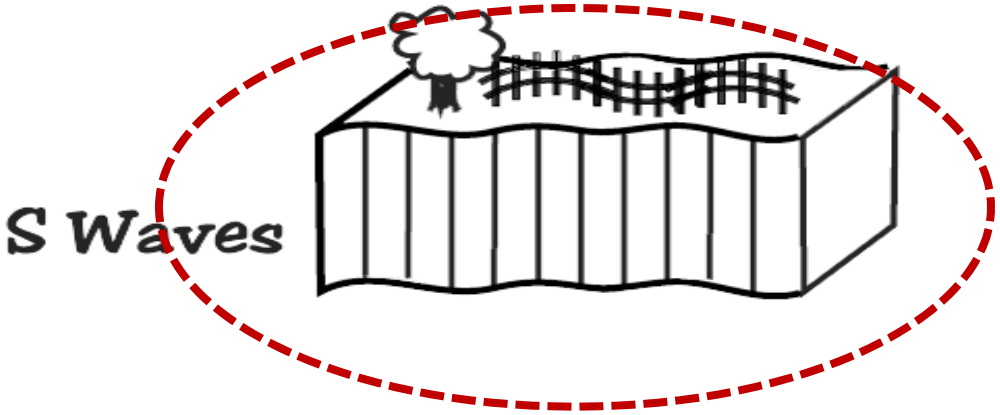






Nisqually 2001





Impacts

Christchurch 2011 - Magnitude 6.3

Seattle 2001 – Magnitude 6.8
photo FEMA, Kevin Galvin

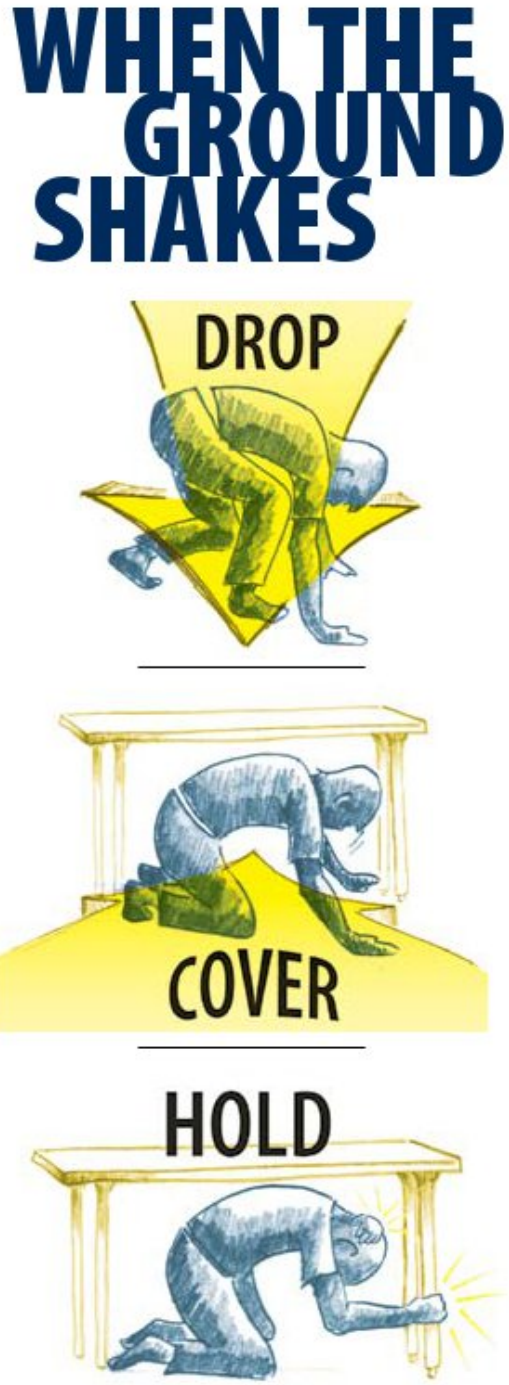
Look familiar? It could happen here…

Christchurch is one of most direct parallels to what could happen in Seattle, similar type of quake, and similar construction methods, age and extent of URM buildings in some neighborhood centers

Prepare - Resources

- Seattle Emergency Management: www.seattle.gov/emergency/
- Make it Through: www.makeitthrough.org
- Seattle DPD: URM information www.seattle.gov/dpd/codesrules/changestocode/unreinforcedmasonrybuildings/whatwhy/default.htm

Resources available on tables…



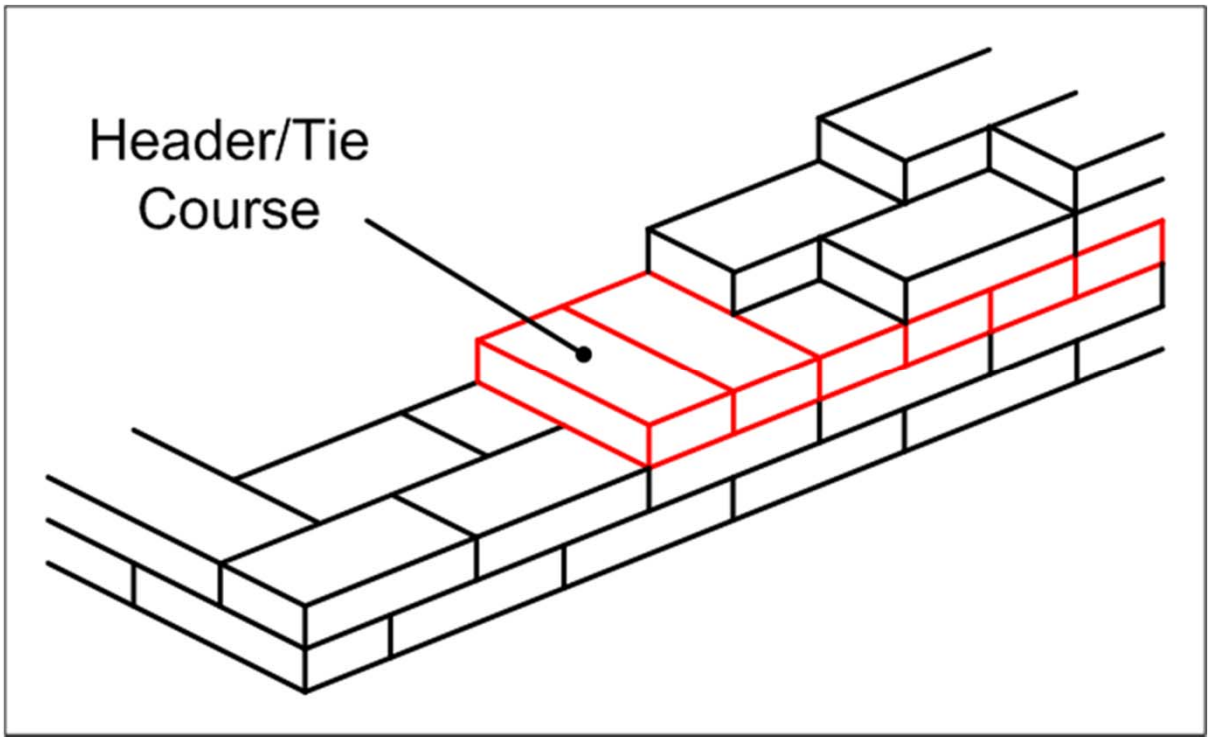
What are they? What are the risks?

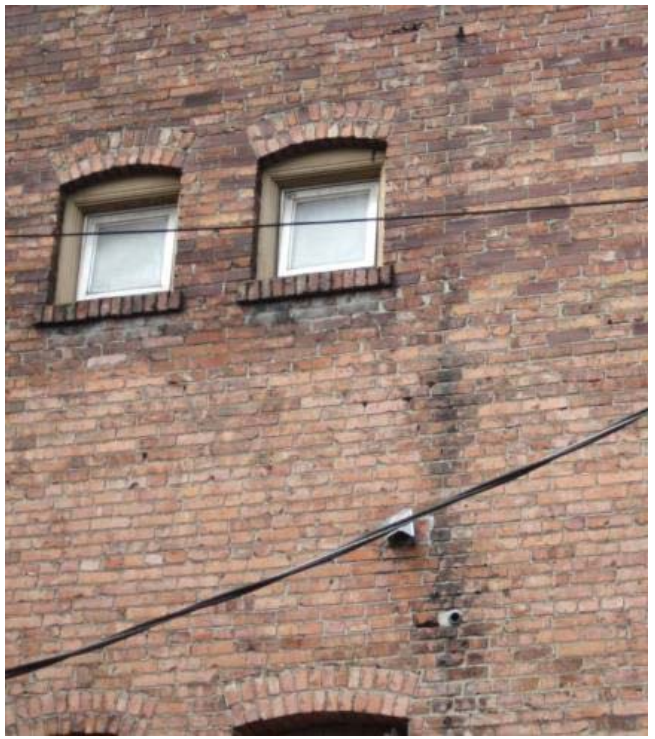
[URMs]

What is a URM?

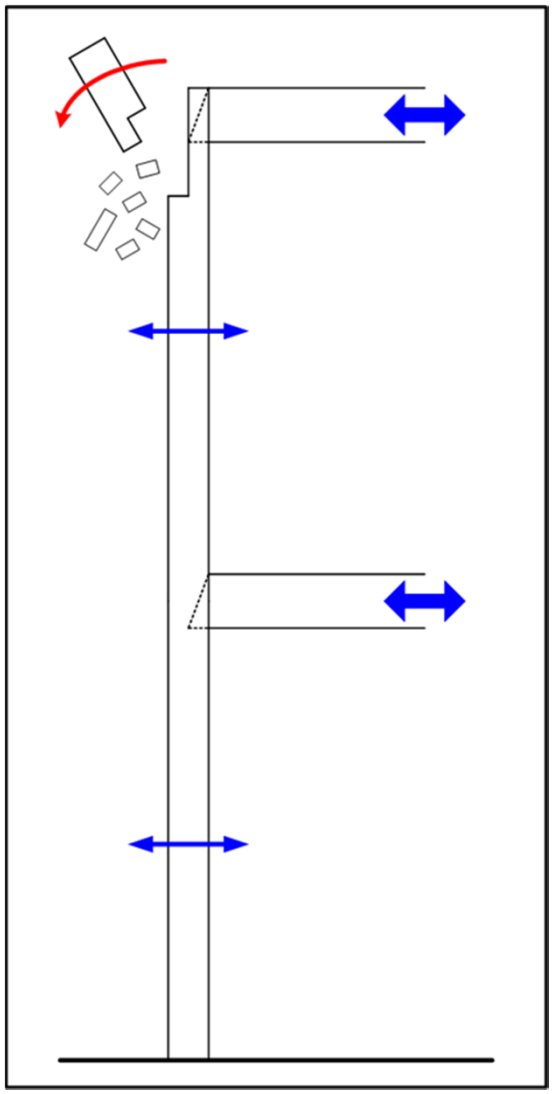
Un Reinforced Masonry Building = URM

- "Red brick" buildings from early to mid 1900's
- Brick structure carrying the loads
- No steel grid in wall or steel ties between walls and floors/roof
- Some are 1940's-60's

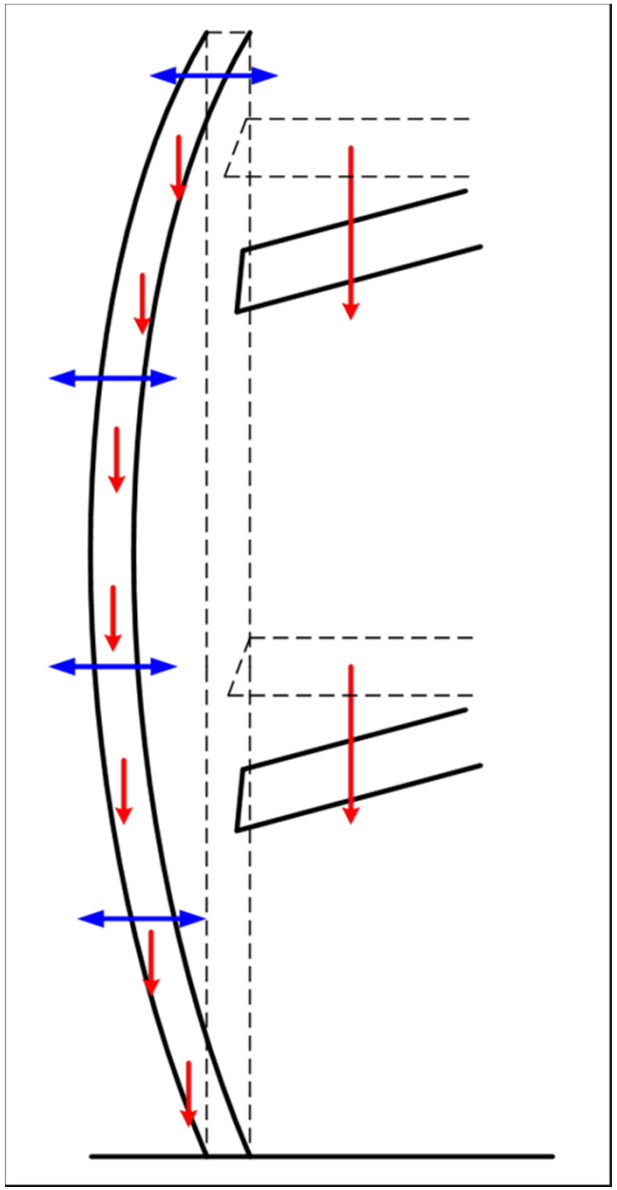




During a Earthquake



During an Earthquake



URM Dangers

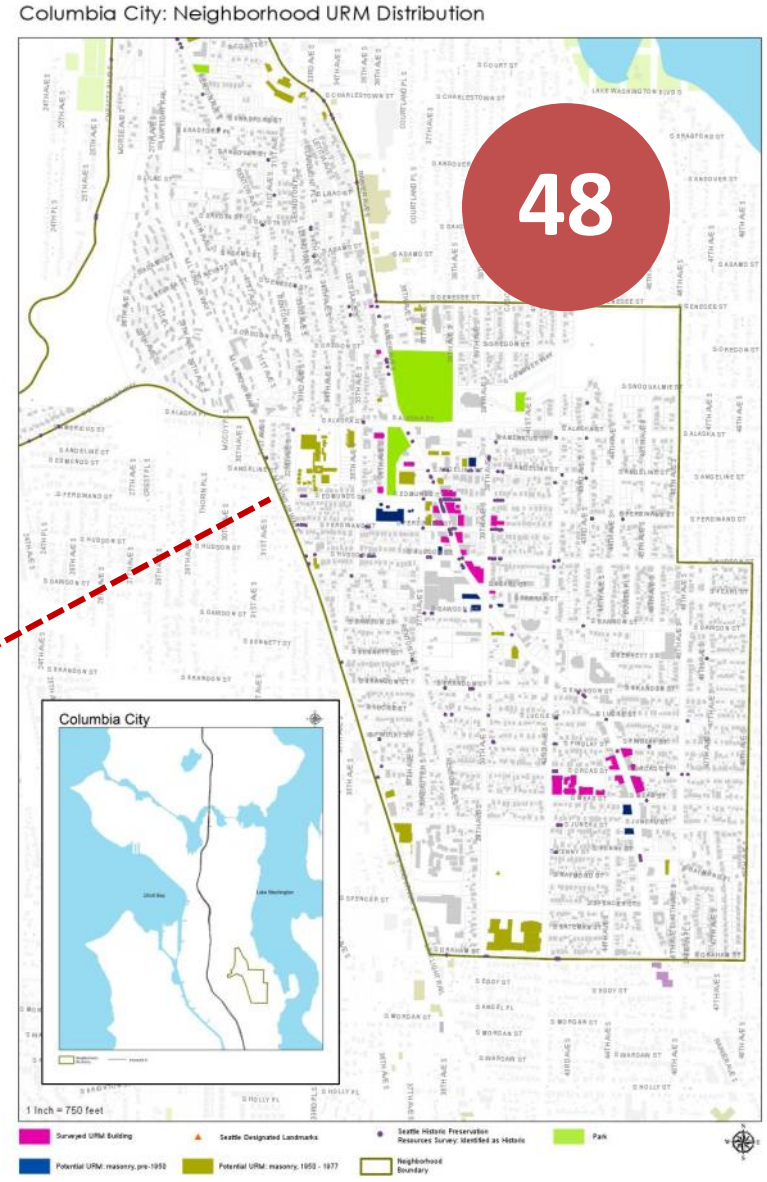
Christchurch 2011

Potential Results:

- Falling bricks
- Collapsing walls
- Injuries and loss of life
- Trapped in building
- No building access
- No access for whole blocks
- Traffic re-routes
- Disrupted services
- Disrupted businesses

URMs in Seattle & Columbia City

816



48

Columbia City Character

Most URMs are retail, office or residential use; some schools and churches.

Your Thoughts?

What would get in the way of fixing a URM building?

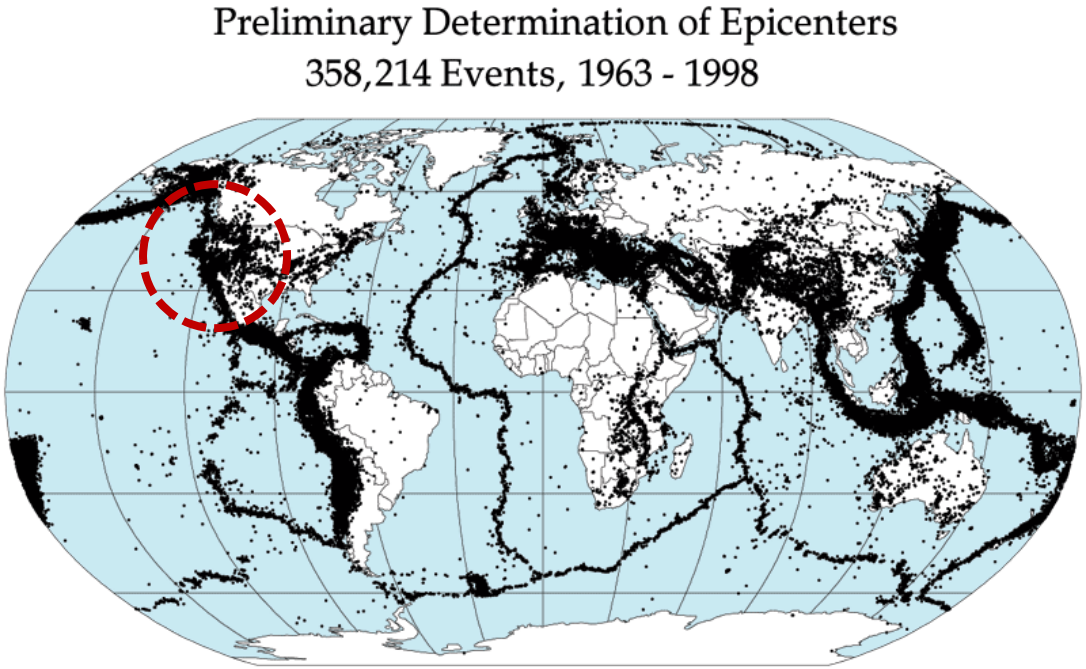
What URM policy and resources are being considered?

[City Strategies]

URM Policy Context

Seattle is not alone in URM retrofit planning:

- Seattle not alone in URM retrofit planning
- US States inventory and assess: CA, OR, WA and UT
- US Cities with retrofit policy and/or requirements: San Diego, San Francisco, Berkeley, Los Angeles, San Luis Obispo, Long Beach, Clark County (Nevada), Seattle



Seattle URM Policy

KEY POINTS

Current:

Brace wall above roof, major renovation or change in use triggers assessment and strengthening to meet existing building codes

Proposed: (2014?)

May require strengthening for all URMs over period of 7-13 years, depending on building

Columbia City URMs

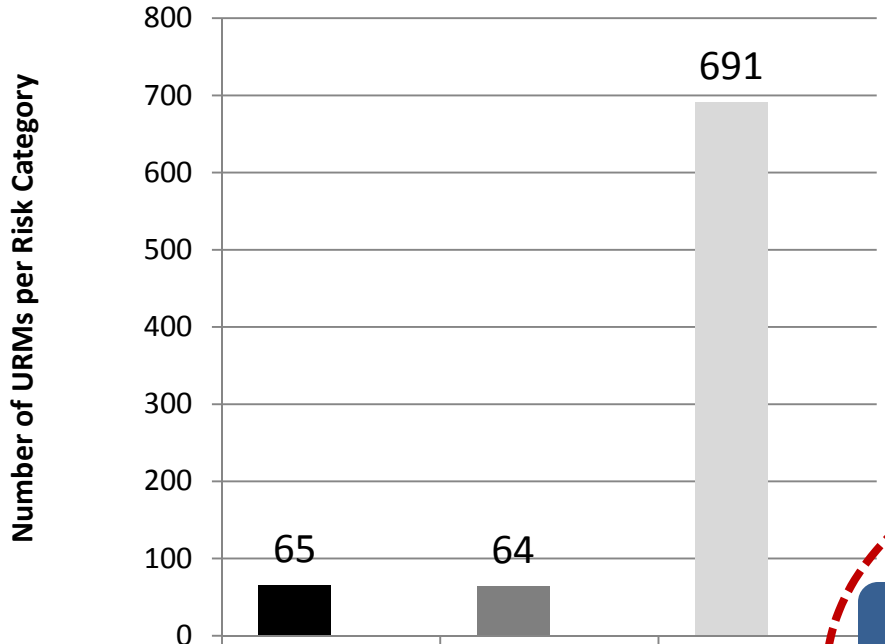
3 most common URM building types in this neighborhood:

1 Story Comm	**Single-Story Commercial Building with Wood-Framed Roof**
2+ Story Mixed Use	**Multi-Story Mixed-Use with Wood-Framed Floors & Roof**
Institutional	**Institutional Buildings (churches, temples, schools)**

Timeline

Columbia City URM Building Types

Number of URM structures by Risk Category



	CRITICAL	HIGH	MEDIUM
# Structures	65	64	691
Percent of URMs	8%	8%	84%

Institutional

- **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 URMs 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*

1 Story Comm

2+ Story Mixed Use

Most local URMs are in Medium category

Timeline

So most buildings in this neighborhood will have 13 years to complete strengthening process

Number of Years to Complete Retrofit

Columbia City URM Building Types → **Institutional**

	Critical Risk	High Risk	Medium Risk
Assessment	1	2	3
Permit Application	1	2	2
Permit Approval	1	1	1
Completion of Retrofit	4	5	7
	7	**10**	**13**

1 Story Comm

2+ Story Mixed Use

Process + Outreach

Sharing information with an involved community:

- Open URM policy meetings
- Meeting notes and other information on DPD website
- Email list with periodic updates >>> sign up at http://seattle.gov/dpd/codesrules/changestocode/unreinforcedmasonrybuildings/whatwhy/default.htm

- Articles, press releases
- Small community meetings
- Workshop – today!
- Outreach funded by State Grant

Retrofit Resources - Owner

Public/Non-Profit Ownership	Private Ownership
FEMA/CDBG/other grants	
General obligation bonds	
Levy	10% building tax credit
Tax abatement	Tax abatement
Revolving loan fund	Revolving loan fund
TDRs	TDRs
A/E grants & resources	A/E grants & resources
Building owner contribution	Building owner contribution
Education funding	Education funding

Retrofit Resources - Tenants

Residential Tenants:

- Temporary relocation assistance required by City for low-income housing tenants

Commercial Tenants:

- Depends on lease agreement

What is involved? What are the impacts and benefits?

[URM Strengthening]

URM Strengthening

Improve safety and resilience of Seattle neighborhoods through URM retrofit and other earthquake preparedness.

OWNERS: Retrofit their buildings

TENANTS: Talk to your landlords, backup documents online, off-site storage, personal preparations

OTHER: Personal preparations

URM Retrofit Standards

"Bolts Plus" is the City's selected *s*tandard for changes that improve performance of URMs in an earthquake

- Based on what's been seen to fail in these buildings in past events
- Might help building survive, but is not intended to preserve the building
- **Intended to improve building performance to save lives and reduce injuries**

Higher levels of strengthening are also recommended and encouraged.

Four Main Bolts Plus Upgrades

1 Brace the Wall above the Roof

Use steel or wood braces to tie top of wall above the roof (the parapet) to the roof

2 Connect Roof and Floor to Walls

Bolt through the brick wall to connect to steel straps nailed or screwed to roof/floor framing

Four Main Bolts Plus Upgrades

3

Connect Pieces inside Floors and inside the Roof

Use steel straps and brackets nailed or screwed to wood framing to strengthen the floors and roof

4

Strengthen Bearing Walls

New wood or steel bracing to add support during and after an earthquake

Columbia City URMs

3 most common URM building types in this neighborhood:

1 Story Comm	**Single-Story Commercial Building with Wood-Framed Roof**
2+ Story Mixed Use	**Multi-Story Mixed-Use with Wood-Framed Floors & Roof**
Institutional	**Institutional Buildings (churches, temples, schools)**

Columbia City URMs

1 Story Comm

Single Story

Standard applies to 90%

2+ Story Mixed Use

Multi-story Mixed Use

Standard applies to many

Institutional

Institutional

A more complex building, a higher retrofit standard may apply, higher use intensity, greater need to continue operations

Impacts of Retrofit

Owners:

- Costs of construction
- Scheduling and coordination with tenants

Tenants:

- May be disruptive
- Could require short-term relocation
- Actual or perceived inconvenience for employees or customers

General Public:

- Actual or perceived inconvenience for employees or customers

Retrofit – Community Benefits

URM retrofits are a key part of helping create resilient communities and improving safety:

- Less damage in Nisqually EQ
- Saved lives, did not always save buildings in Northridge EQ
- Preserved some buildings in multiple Christchurch EQ's
- Helps maintain the aesthetic character of a neighborhood
- Ensure favorite shops, restaurants and other services remain in operation
- Businesses remaining in operation saves local jobs

Retrofit – Tenant/Public Benefits

Tenants:

- Increase in life safety
- Planned short-term relocation vs. emergency long-term dislocation
- (Short-term relocation during construction is likely)

General Public:

- Increase in life safety
- Increased likelihood of functional neighborhood post-earthquake

Retrofit – Owner Benefits

URM building retrofit provide potential benefits to building owners.

- Improve potential for business continuance
- Protect investor value/revenue
- Improve marketability at sale
- May lower earthquake insurance/hedge against rising insurance costs
- Hedge against future retrofit, repair and/or rebuilding costs (construction costs only go up…)
- Goodwill and community stewardship
- Maintain good tenant relations

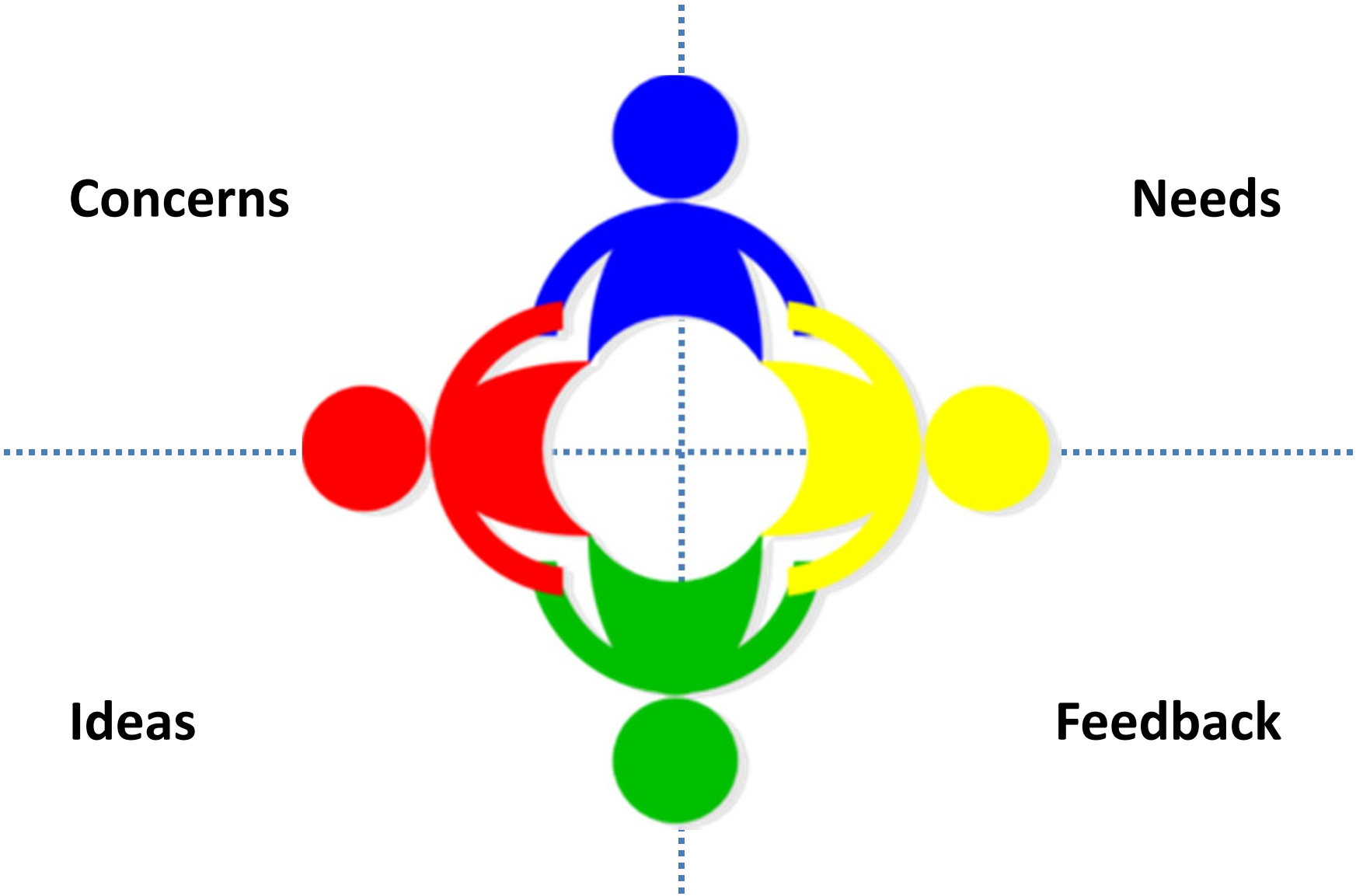
Your Thoughts

What do you think would help people get started and strengthen their buildings?

Stay in touch.

[What's Next?]

Community Response



Future Steps - Policy

Program Development (anticipated schedule):

- Policy Committee draft recommendations to DPD January 2013
- Cost Benefit Analysis of program options –**1st Q 2014**
- Re-convene Policy Committee **1st Q 2014**
- Recommendations to Council, **2nd Q 2014**

Program Implementation (anticipated):

- Commence planning for implementation of mandatory retrofit program 2013
- Begin outreach and education based on Columbia City Pilot in 2013-4
- Program implementation timeline will depend on effective date of ordinance

Future Steps – URM Retrofits

Don't have to wait for policy, can start now.

If you have no other major renovation plans:

1. Determine if your building is a URM
2. Perform an assessment with a structural engineer
3. Talk with a contractor
4. Get a cost estimate from contractor
5. Review incentives and financing options
6. Schedule construction and communicate with tenants
7. Make plans for tenant impacts during construction
8. Complete building retrofit

If considering major renovation, these steps can be part of that planning.

URM Information

DPD website

http://www.seattle.gov/dpd/codesrules/changestocode/unreinforcedmasonrybuildings/whatwhy/default.htm

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Thank You for Your Help

Keeping Seattle Communities Resilient and Safe

Seattle
Emergency Management

[Case Study 1]

Single-Story Commercial Unreinforced Masonry Building with Wood-Framed Roof

Unreinforced Masonry (URM) Buildings, commonly red brick buildings, are often thought to be strong construction. Well-constructed brick buildings can bear a lot of weight and are durable against day to day activities, but they do not perform well when they are moving around in an earthquake.

When there is no reinforcement added to interconnect the many small pieces, the movement the walls undergo in an earthquake can loosen the joints between the individual pieces and cause the walls to fail. It is also common in this type of construction that there is very little or no connection of the floor and roof framing to the brick walls. Without these connections, when these walls are moving during an earthquake, they can move in a different direction from the floor and roof causing the floor or roof to fall. If there are no connections between the framing pieces in the floor and roof, this same situation can arise. The pieces move in different directions and sections can lose their support and fall.

Modified Bolts-Plus Retrofit Standard

Bolts-Plus is a standard of design often used to determine what parts of a URM building should be repaired to improve their performance in the event of an earthquake. The elements that require retrofit are determined based on what has been seen to fail in past earthquakes.

Although the criteria for applicability of this standard have not been finalized, this standard would likely apply to 90%+ of the single-story URM structures, as they tend to be simple buildings. This standard is not intended to preserve the building which may be substantially damaged during an earthquake. It is intended to improve the performance of the building during an earthquake to increase the likelihood that occupants and nearby pedestrians will be able to exit the area safely. It may not apply to a single-story building if there are large openings in the roof such as large skylights or an atrium, or similar complexities in the framing.

Structural Upgrades Likely Per Modified Bolts-Plus Retrofit Standard

- Bracing of parapets using diagonal steel or wood braces connected near the top of the parapet on one end and the roof at the other to prevent it from falling on pedestrians below or onto the roof and possibly caving the roof in;
- Connect the roof to the exterior walls using bolts through the brick wall connected to steel straps nailed or screwed to the roof framing either from above or below to prevent the walls falling away from the building and causing the roof to fall;
- Interconnect the primary pieces of the roof framing using steel straps and brackets nailed or screwed to the wood framing to prevent the framing from losing its support and the roof caving in;
- Strengthen weak interior and exterior bearing walls by adding new posts and beams and/or wood-framed walls to provide support for the roof following an earthquake assuming that the brick will be damaged.

Impacts of Retrofit

Owners:

- Cost of construction,
- Increased building value
- Possible reduction in insurance risk
- Possible loss of income if tenant dislocation occurs

Tenants:

- Increase in life safety
- Planned short-term relocation vs. emergency long-term dislocation
- Temporary dislocation may be avoidable with majority of work being at roof level

General Public:

- Increase in life safety
- increased likelihood of functional neighborhood post-earthquake

[Case Study 2]

Multi-Story Mixed-Use Unreinforced Masonry Building with Wood-Framed Floors & Roof

Unreinforced Masonry (URM) Buildings, commonly red brick buildings, are often thought to be strong construction. Well-constructed brick buildings can bear a lot of weight and are durable against day to day activities, but they do not perform well when they are moving around in an earthquake.

When there is no reinforcement added to interconnect the many small pieces, the movement the walls undergo in an earthquake can loosen the joints between the individual pieces and cause the walls to fail. It is also common in this type of construction that there is very little or no connection of the floor and roof framing to the brick walls. Without these connections, when these walls are moving during an earthquake, they can move in a different direction from the floor and roof causing the floor or roof to fall. If there are no connections between the framing pieces in the floor and roof, this same situation can arise. The pieces move in different directions and sections can lose their support and fall.

Modified Bolts-Plus Retrofit Standard

Bolts-Plus is a standard of design often used to determine what parts of a URM building should be repaired to improve their performance in the event of an earthquake. The elements that require retrofit are determined based on what has been seen to fail in past earthquakes.

This standard would likely apply to many of the multi-story URM structure. This standard is not intended to preserve the building which may be substantially damaged during an earthquake. It is intended to improve the performance of the building during an earthquake to increase the likelihood that occupants and nearby pedestrians will be able to exit the area safely. It may not apply if the buildings are not simple rectangular shapes, if the walls do not align between floors, or if there are large openings in the floors or roof such as large skylights or an atrium, or similar complexities in the framing.

Structural Upgrades Likely Per Modified Bolts-Plus Retrofit Standard

- Bracing of parapets using diagonal steel or wood braces connected near the top of the parapet on one end and the roof at the other to prevent it from falling on pedestrians below or onto the roof and possibly caving the roof in;
- Connect each floor and the roof to the exterior walls using bolts through the brick wall connected to steel straps nailed or screwed to the framing either from above or below to prevent the walls falling away from the building and causing the framing to fall;
- Interconnect the primary pieces of each floor and the roof framing using steel straps and brackets nailed or screwed to the wood framing to prevent the framing from losing its support and caving in;
- Strengthen weak interior and exterior bearing walls by adding new posts and beams and/or wood-framed walls to provide support for each floor and the roof following an earthquake assuming that the brick will be damaged.

Impacts of Retrofit

Owners:

- Cost of construction
- Increased building value
- Possible reduction in insurance risk
- Possible loss of income if tenant dislocation occurs

Tenants:

- Increase in life safety
- Planned short-term relocation vs. emergency long-term dislocation
- Short-term dislocation during construction is likely

General Public:

- Increase in life safety
- increased likelihood of functional neighborhood post-earthquake

[Case Study 3]

Institutional Unreinforced Masonry Buildings (Religious and Educational Buildings)

Unreinforced Masonry (URM) Buildings, commonly red brick buildings, are often thought to be strong construction. Well-constructed brick buildings can bear a lot of weight and are durable against day to day activities, but they do not perform well when they are moving around in an earthquake.

When there is no reinforcement added to interconnect the many small pieces, the movement the walls undergo in an earthquake can loosen the joints between the individual pieces and cause the walls to fail. It is also common in this type of construction that there is very little or no connection of the floor and roof framing to the brick walls. Without these connections, when these walls are moving during an earthquake, they can move in a different direction from the floor and roof causing the floor or roof to fall. If there are no connections between the framing pieces in the floor and roof, this same situation can arise. The pieces move in different directions and sections can lose their support and fall.

These types of buildings typically pose a greater risk to life safety due to the high number of occupants at a given time, as well as that the primary occupants may be children. In these cases, there may also be a greater interest or need in maintaining the functionality of the building following an earthquake. As a result, it is likely that the modified Bolts-Plus standard would not apply to this type of structure and that a higher standard would be required to be met. This standard would not only improve the performance of the building during an earthquake to increase the likelihood that its occupants and nearby pedestrians will be able to exit the area safely, but also preserve the building. It would likely still sustain damage that would need repair, but the intent would be for it to be reparable damage such that the building could be occupied again.

Examples of Retrofit Work on these types of structures:

Parapet Bracing

Connecting Floors to Walls

New Building Bracing