

**Tom Kelly**  
Chair

**Gustavo J. Cruz, Jr.**  
Commissioner

**Mark Edlen**  
Commissioner

**Alisha Moreland-Capuia**  
Commissioner

**William Myers**  
Commissioner

**Charlie Hales**  
Mayor

**Kimberly Branam**  
Executive Director

This document represents the official meeting record of the October 12, 2016, Portland Development Commission (PDC) Board of Commissioners (Board) meeting held at 222 NW 5th Ave., Portland, OR 97209. The full video recording of this meeting can be found at <https://www.youtube.com/watch?v=fYDI53JxNkQ>

## 1. Call to Order and Roll Call

Chair Kelly called the meeting to order at approximately 3:02 p.m. Anne Crispino-Taylor, PDC Senior Administrative Coordinator, called the PDC Board roll:

Chair Tom Kelly	PRESENT
Commissioner Gustavo Cruz	PRESENT
Commissioner Mark Edlen	PRESENT
Commissioner William Myers	PRESENT
Commissioner Alisha Moreland-Capuia	PRESENT

## 2. Commissioner Reports

### Commissioner Cruz

- On September 20, 2016 attended Ecotrust's Roots at the Redd, a 20<sup>th</sup> anniversary celebration <https://ecotrust.org/event/celebrating-25-years/>
- On October 6, 2016 met with the director of Audit Services for the City of Portland to follow up on audit liaison duties

### Commissioner Edlen

- Attended the Oregon Historical Society annual dinner
- Attended the Oregon Health Science University (OHSU) and Doernbecher Foundation annual dinner
- On October 11, 2016 attended the Circus Project event <http://www.thecircusproject.org/>
- Attended the Urban Land Institute (ULI) Detroit Best Practices conference
- On September 20, 2016 attended Ecotrust's Roots at the Redd
- Attended the Portland State University (PSU) Foundation Event <http://www.psuf.org/about-event>
- Met with North De la Salle High School
- Met with The Bullitt Foundation

### Commissioner Moreland-Capuia

- Met with Kimberly Moreland regarding the North/Northeast Initiative. A public event was held on October 6, 2016 and another will be held on October 20, 2016

### Commissioner Myers

- Attended several groundbreakings this past month and more are coming up

Chair Kelly

- On September 20, 2016 attended Ecotrust's Roots at the Redd
- On September 21, 2016 attended a presentation by nine PSU Master of Real Estate Development students with their proposals for development of the U.S. Post Office site
- On October 6, 2016 attended the North/Northeast Community Development Action Plan forum
- Attended the Way Finding Academy in North Portland who are interested in receiving funding from PDC
- Met with the Auditor's Office

**3. Executive Director Report**

- Presented to Travel Portland about some of the opportunities that can be achieved with the new Convention Center hotel
- On September 20, 2016 attended Ecotrust's Roots at the Redd
- On September 21, 2016 participated as a panelist at the PSU student presentation
- On Friday September 23, 2016 attended the Latino Network's annual Dinner and Auction: Noche Bella! <http://www.latnet.org/events/nochebella2016>
- Spoke to the Columbia Corridor Association with the head of Business Oregon
- Attended the Urban Land Institute (ULI) Detroit Best Practices conference
- On October 6, 2016 attended the North/Northeast Community Development Action Plan forum
- Attended the Philippine American Chamber of Commerce event <http://www.pacco.org/>
- On October 14, 2016 the Asian Health Services will hold their annual conference and dinner focusing on the new project in the Lents Town Center Urban Renewal Area
- On October 21, 2106 will speak at the North/Northeast Community Health Center Ribbon Cutting
- On October 23, 2016 will attend the ground breaking at 9101 SE Foster
- On November 1, 2016 will attend the Portland Business Alliance leadership evening
- Recognized Serilda Summers-McGee as the PDC's new Director of Human Resources and Workforce Development
- Recognized Jillian Detweiler as the new Interim Development Manager

**4. Meeting Minutes**

Chair Kelly called for a motion to approve the June 8, 2016, July 21, 2016, August 8, 2016, August 17, 2016, and September 14, 2016 PDC Board meeting minutes. Commissioner Myers moved and Commissioner Cruz seconded the motion.

AYES: Cruz, Edlen, Kelly, Moreland-Capua, Myers  
NAYS: None

**5. Public Comment for Items Not on Agenda**

David Gwyther, Public Policy Consultants representing Peterson's Convenience Store located in the Smart Park Garage at SW 10<sup>th</sup> Avenue and Yamhill Street. Mr. Gwyther shared several documents that can be found as Attachment 1, and discussed his concerns over the seismic issues in relation to the garage structure, most notably the support pillars. He encouraged the PDC to look at the project and help solve the structural integrity of the pillars.

## CONSENT AGENDA

**6. Action Item: Resolution 7211 – Modifying the Terms of a Purchase and Sale Agreement to convey 0.38 Acres of Real Property in the Lents Town Center Urban Renewal Area to Lisac Brothers Construction, Inc.**

With this action, the PDC Board will modify the terms and conditions (Term Sheet) governing a Purchase and Sale Agreement (PSA) between PDC and Lisac Brothers Construction, Inc. (Buyer), for the conveyance of two PDC-owned parcels located at the southeast corner of SE 93<sup>rd</sup> Avenue and SE Woodstock Boulevard (Property), in the Lents Town Center Urban Renewal Area (URA). The Buyer intends to construct a mixed-use building and pavilion supporting a small pod of food carts as well as a six-unit, market-rate apartment building (Project).

These actions would further multiple key objectives of the Lents Five-Year Action Plan, including stimulating development for the Lents Town Center. The Project will provide new services that increase the vitality of the Lents Town Center, complement existing businesses, align with the Lents Grown identity, and implement the Business District Development Strategy. The Project will provide temporary construction jobs and permanent commercial spaces for employment opportunities and new services in the Lents Town Center, in addition to adding residential households that support neighborhood businesses. Buyer will comply with PDC's Equity Policy requirements for participation of minority-owned, women-owned, and emerging small businesses and shall use apprentices and women, minorities and disadvantaged individuals in the construction workforce, as provided by the Business and Workforce Equity Program requirements. If applicable, Buyer will comply with PDC's Green Building Policy, which requires Leadership in Energy & Environmental Design (LEED) Gold certification.

Chair Kelly called for a motion to approve Resolution 7211; Commissioner Cruz moved and Commissioner Myers seconded the motion.

AYES: Cruz, Edlen, Kelly, Moreland-Capua, Myers  
NAYS: None

## REGULAR AGENDA

**7. Information Item: Update on A Home for Everyone.**

*Marc Jolin, Initiative Director*

Mr. Jolin shared his background, his concerns about homelessness, and the concept of A Home for Everyone. The new plan has been updated to include a government structure, and an executive committee that meets every two months. Under the executive committee there is a coordinating board comprising an appointed membership of up to 30 members. The reason for having such a large membership is to ensure the people's voices are central in the conversations and directions being taken. To see the action plans visit [www.homeforeveryone.net](http://www.homeforeveryone.net). On July 1, 2016, the organization launched the Joint Office of Homeless Services which combines the City's General Fund resources with funds that were be being contracted out, creating a total budget of \$43,000,000. The goal is to perform the work

for both the City of Portland and Multnomah County and to get those dollars to non-profit partners to monitor performance and support the larger Home for Everyone Initiative.

Commissioner Moreland-Capuia asked for clarification surrounding allocations toward shelters, transitional housing, and permanent housing. Mr. Jolin stated that out of the \$43 million budget, \$15 million per year is going toward shelter operations, including transitional housing. He explained that most of the funding for transitional housing comes from federal grants. Commissioner Moreland-Capuia also wanted clarification about who is “homeless,” and whether that was only people who are on the streets or whether it also includes people who were “couch surfing.” Mr. Jolin stated that was one of the challenges, that HUD doesn’t include people who are “doubled up.” So when talking about people who are homeless it only refers to people who are outside, in shelter or in transitional housing. Commissioner Moreland-Capuia also asked how long support continues once a person makes the transition from transitional housing to permanent housing. Mr. Jolin stated that it varied but is usually for less than three months. Lastly, Commissioner Moreland-Capuia asked what percentage of people who move to permanent housing have secured employment or educational plans. Mr. Jolin stated he did not have that information, but would do some research.

Commissioner Cruz wonder if there were any specific ways in which PDC could help. He also wanted an update on the Terminal 1 project. Mr. Jolin stated they were very focused on households earning zero to 30 percent median family income, and how to get those units into the mix in the Portland Housing Bureau (PHB) developments. So he believed the more collaboration with PHB the better. He believed PDC’s continued support of programs that assist with employment is helpful. He also felt that assistance with locating short-term winter shelter, longer-term based shelter, and open space would be beneficial.

Commissioner Edlen inquired about using space at Washington High School as a potential shelter site. Mr. Jolin stated there were complexities due to ownership but that it was on the radar. Commissioner Edlen offered information about constructing structures out of Mylar material as a potential option for shelter. Commissioner Edlen also asked about the percentage of homeless youth with no parents. Mr. Jolin stated it was about seven percent, although the population grows in the summer. But, he added, the current system is working well to transition them through school and into employment.

Commissioner Edlen asked Executive Director Branam how much PDC invests in job training. Executive Director Branam stated roughly \$3,000,000 with over half of that going to youth programs. Commissioner Edlen stated he would like to see an increase in funding around job training and for it to be more targeted. Mr. Jolin added that it would be helpful to put money toward youth employment as well.

Chair Kelly asked if, as a region, we were investing at an adequate level. Mr. Jolin stated it probably needs to be more. He believes that every major city is going to struggle if federal partners don’t reinvest in housing. He also stated that because the housing crisis was regional it will require more focus on social services and partnering with surrounding counties.

Chair Kelly thanked Mr. Jolin for his thorough and informative presentation.

**8. Action Item: Resolution 7212 – Authorizing a Commercial Property Redevelopment Loan and Special Authority Grant to Self Enhancement, Inc.**

PDC Staff Presenting this item:

*Kate Deane, Community Economic Development Manager*

With this action, the PDC Board will authorize the Executive Director to execute i.) a Commercial Property Redevelopment Loan (Loan) for \$495,000 to Self Enhancement Inc. (SEI) for the purpose of purchasing and converting a residential home (Property) into an African American Cultural Center, and ii.) a Special Authority Grant (Grant) to SEI in the amount of \$82,000 for post-acquisition support during a two-year holding period, including expenses (taxes, maintenance, security, utilities, etc.) and pre-development work. The Property, which is located at 4511 N. Williams Avenue within the Interstate Corridor Urban Renewal Area, is a 1,400 square foot home built in 1903. If the Loan and Grant are approved, SEI will act as interim owner and financial sponsor for the Portland African American Leadership Forum (PAALF), which will ultimately become the long-term owner/operator of a community resource center that honors, preserves, and celebrates Oregon's African-American heritage and culture (Cultural Center).

In July 2015, Senator Avel Gordly and Faye Burch (Sellers) approached the Mayor's Office and PDC to consider the purchase of their Property for the purpose of establishing a Cultural Center commemorating African-American heritage and history in Portland. Over the course of late 2015 and early 2016, PDC negotiated the terms of a transaction with the SEI and PAALF (Buyers) that allow the Cultural Center concept to move forward. Neither SEI nor PAALF has financial resources available for the transaction; therefore, PDC offered to provide a Loan to cover costs of acquisition. The Loan will become due if, after two years, a business plan for operation of the Cultural Center is not created or a conditional use permit is not obtained. The Loan will also become due if, after four years or any time thereafter, the Property is not used as a Cultural Center or a PAALF-approved use serving the African-American community or if PAALF has not generated operational capacity to continue operation of the Cultural Center.

Chair Kelly called forward public testimony

Dr. T. Allen Bethel, Co-Chair of the Executive Committee of PAALF. Dr. Bethel explained this was a collaborative project to create a vibrant and culturally relevant space aimed at strengthening the African-American community's capacity to support cultural and community assets.

Jesse Beason, volunteer with PAALF. Mr. Beason is the lead on the project. He shared the project's next step and supported moving the resolution forward.

Kerry Tymchuk, Executive Director of the Oregon Historical Society (OHS). Mr. Tymchuk shared the mission of the historical society and his role on the project. He stated that OHS would sponsor exhibits and programs that recognize Multnomah County's diverse population.

Ethan Johnson, Associate Professor Black Studies Portland State University. Professor Johnson shared his support of the project. He believed by supporting the Cultural Center the City will be demonstrating that it values the contributions of its black citizens.

Commissioner Cruz wondered how they envisioned it working as a space, what types of improvements needed to be made, and whether the space will need to be expanded. Mr. Beason stated they first need to determine what's needed and comfortable for the Gordly family. First they will need to determine what is and isn't feasible on the property. However, they hope to lift the house to create more space in the basement and they also have a vision for connecting to new structures.

Commissioner Edlen requested periodic updates as the project progresses and also shared his concern about leaving the property vacant during the interim. He hopes there will be safeguards in place to protect the property from vandalism.

Chair Kelly inquired what funding sources will be secured for both capital and operations. Mr. Beason stated they didn't know enough about the capital side and what the property will qualify for. As for the programmatic and operating side he stated they have had conversions with OHS and PAALF. Mr. Tymchuk explained that OHS is operating as a junior partner and would likely be providing funding for exhibits and programming.

Commissioner Moreland-Capuia commented that the project was timely will serve a great purpose, and believed there was value in the pursuit. She also supported Commissioner Edlen's request for periodic updates.

Chair Kelly called for a motion to approve Resolution 7212; Commissioner Edlen moved and Commissioner Moreland-Capuia seconded the motion.

AYES: Cruz, Edlen, Kelly, Moreland-Capuia, Myers  
NAYS: None

**9. Action Item: Resolution 7213 – Authorizing the Execution of a Lease Amendment with Spar-Tek Industries, Inc. for the Portland Development Commission Property Located at 2221 N. Argyle Street within the Interstate Corridor Urban Renewal Area.**

PDC Staff presenting this item:  
*Steve Blank, Project Manager*  
*Sue Lewis, Project Manager*

This action by the PDC Board will authorize the execution of the Fourth Amendment to Lease Agreement (Lease Amendment) between PDC and Spar-Tek Industries, Inc. (Spar-Tek), for the PDC-owned real property located within the Interstate Corridor Urban Renewal Area (URA) located at 2221 N. Argyle Street (Property). The leased premises contains approximately 5,000 square feet of office space, 30,000 square feet of manufacturing area, and 25,000 square feet of exterior surface vehicle parking and storage areas. Spar-Tek, which employs approximately 40 individuals, engineers and fabricates high-quality machinery with the cutting edge technology for many industries including plywood, laminated veneer lumber, and rubber. Their continued presence in the Kenton neighborhood complements PDC's 2015-2020 Strategic Plan goal of ensuring business vitality and opportunities for employers that offer middle-wage jobs.

The original lease (Original Lease) term with Spar-Tek, as previously amended, will terminate on November 30, 2016 and this Lease Amendment will extend the aggregate term beyond five years and thus requires PDC Board approval. If approved, execution of the Lease Amendment will extend the term of the Original Lease for an additional seven years.

Commissioner Edlen asked for confirmation regarding who pays for the insurance on the building. Mr. Blank affirmed that the tenant pays. Commissioner Edlen asked for clarification of total investment from and to PDC. Mr. Blank stated PDC purchased all four properties for \$3.47 million in 2011. He

added that the original plan was to demolish several buildings and replace them with a mixed use structure, but the market didn't allow for that. Consequently, PDC reinvested \$5.8 million to bring the structures into alignment with safety codes. Commissioner Edlen inquired about the net operating income from the property. Mr. Blank stated he would be bringing that information back to Commission. Commissioner Edlen suggested that, as PDC heads into financial sustainability, information regarding rates of return on assets be brought back to Commission to allow for a better understanding of how real estate investment can support the long-term sustainability of the agency.

Chair Kelly called for a motion to approve Resolution 7212; Commissioner Cruz moved and Commissioner Myers seconded the motion.

AYES: Cruz, Edlen, Kelly, Moreland-Capuia, Myers  
NAYS: None

**10. Action Item: Resolution 7214 – Directing Staff to Create a Community Development Entity**

PDC Staff Presenting this item:  
*Justin Douglas, Policy Manager*  
*Alyson Schwieger, Project Manager*

This action by the PDC Board will direct staff to create a Community Development Entity (CDE) for purposes of applying to the U.S. Department of Treasury Community Development Financial Institutions (CDFI) Fund for an allocation from the New Markets Tax Credit (NMTC) Program. At the October 12, 2016 PDC Board meeting, staff will outline the issues and benefits associated with creation of the CDE and participation in the NMTC Program.

Should the PDC Board direct staff and PDC is successful in obtaining certification from the CDFI Fund for CDE status, it is anticipated that staff will return to the PDC Board in spring 2017 to approve an application to the CDFI Fund for a NMTC allocation. This application will highlight in greater detail the type, location, and public benefits of potential projects that could be funded with a NMTC allocation award. Following the application review process, the CDFI Fund would likely announce whether the CDE received an allocation award in fall/winter 2017. The PDC Board, acting as the controlling entity of the CDE, would then continue to have direct oversight and approval authority over the allocation of NMTC funds to particular projects.

If it is awarded an allocation, the CDE would be able to attract significant funding to further PDC's 2015-2020 Strategic Plan goal of creating healthy, complete neighborhoods throughout Portland.

Commissioner Edlen inquired whether this action would place the Board members into a fiduciary role, and if so asked if that would that create additional liability for members as individuals. Executive Director Branam called on Bob Betcone, Assistant General Counsel, to address this issue. Mr. Betcone stated the Board would function on behalf of the CDE. He added they would have a fiduciary duty, but would not have a duty to another member or another shareholder. Mr. Betcone stated he would ensure that PDC's insurance would be adequate to cover independent actions. Commissioner Edlen inquired about risk if a deal fails. Mr. Betcone explained that typically an investor would seek an indemnity.

Commissioner Cruz commented about being insulated by their capacity on their role as commissioners. Mr. Betcone affirmed the board would be “de facto” covered or indemnified by its public body when acting in public role. However, he stated his first action would be to ensure the existing coverage was adequate and supplement if necessary.

Chair Kelly inquired whether the vote should be deferred until the concern about insurance was confirmed or whether the issue should be added as a condition of approval. Mr. Betcone suggested making the approval to allow for the creation of the entity, but to make any acts of the entity conditional upon the Board’s satisfactory review of liability management measures. That suggestion was satisfactory by the Board.

Chair Kelly called for a motion to approve Resolution 7212; Commissioner Cruz moved and Commissioner Edlen seconded the motion.

AYES: Cruz, Edlen, Kelly, Moreland-Capua, Myers  
NAYS: None

**11. Adjourn**

There being no further business, Chair Kelly adjourned the PDC Board meeting at approximately 4:58 p.m.



David G. Gwyther

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The Portland Tribune Thursday, August 11, 2016

# Big One could hit sooner than thought

Chances of huge quake in next 50 years bumped higher

Tribune staff

A new analysis by Oregon, Spain and British Columbia researchers suggests massive earthquakes along the Cascadia Subduction Zone could occur more frequently than was believed in the past.

The newest data changed the stakes for the northern sections of the zone, which could have major implications for Astoria, Tacoma, Seattle and Vancouver, British Columbia.

A section of the zone from Newport to Astoria was previously believed to rupture, on average, about every 400 to 500 years.

That average has been reduced to 350 years, according to a summary of the findings provided by Oregon State University. The chance of an earthquake occurring within the next 50 years is now slightly higher than previous estimates.

The findings, published last week in the *Journal of Marine Geology*, are based on measurements from 156 core samples taken from the seabed by subduction zone earthquakes. In the past, researchers had only about a dozen such samples for their research.

The work was done by researchers at Oregon State University, the University of British Columbia and Instituto Andaluz de Ciencias de la Tierra in Spain, supported by the National Science Foundation and the U.S. Geological Survey.

The researchers' confidence in findings regarding the potential for major earthquakes on the Cascadia Subduction Zone, stated by Goldfinger, a professor at OSU, is based on the "Seam and Atmospheric Sci-

ences, in a news release. He's one of the world's authorities on tectonic activity in this subduction zone.

With more detailed data, Goldfinger said, we have also changed what we project for the average recurrence interval of earthquakes on the subduction zone, especially the northern parts. The frequency of earthquakes there appears to be somewhat higher than we previously estimated."

**Last one was 316 years ago**  
The Cascadia Subduction Zone runs from Northern California to British Columbia



occurred in January 1700, almost 316 years ago. **More certainty now**  
Based on these findings, the chances of an earthquake in the next 50 years have been slightly raised. For the zone off central and northern Oregon, the chance of an event during that period has been changed to 15 to 20 percent instead of 14 to 17 percent. The study is published in the *Journal of Marine Geology* and *Geophysical Research Letters*. The study is also available on the website of the Cascadia Subduction Zone. The study is also available on the website of the Cascadia Subduction Zone. The study is also available on the website of the Cascadia Subduction Zone.

years from Coos Bay to Eureka, California. The new data shows ruptures are likely to be more frequent off the northern Oregon coast — every 350 years instead of 400 to 500 years. The section from Astoria to Vancouver Island was previously believed to rupture about every 500 to 530 years, and that average has now been reduced to 430 years. The last major earthquake in the Cascadia Subduction Zone — pinpointed in time because it caused a tsunami that raced all the way across the Pacific Ocean to Japan — occurred in January 1700, almost 316 years ago. **More certainty now**  
Based on these findings, the chances of an earthquake in the next 50 years have been slightly raised. For the zone off central and northern Oregon, the chance of an event during that period has been changed to 15 to 20 percent instead of 14 to 17 percent. The study is published in the *Journal of Marine Geology* and *Geophysical Research Letters*. The study is also available on the website of the Cascadia Subduction Zone. The study is also available on the website of the Cascadia Subduction Zone.

A map shows the Cascadia Subduction Zone off the coasts of Oregon, Washington and Northern California. An earthquake there is expected to rock the cities as well as cause a high tsunami.

Seismic Retrofit Cost Estimate for Garage Building at  
730 SW 10<sup>th</sup> Ave, Portland, Oregon

By:

Franz Rad, PhD, PE

June 22, 2016

Scope of Work

Briefly evaluate the garage building located at 730 SW 10th Ave, Portland, Oregon, and produce an estimate of seismic retrofit cost for the building. The scope of work and report are not to include structural analysis with computation, materials testing, or recommendations for specific seismic retrofit design and process. A brief report to be submitted to Mr. Doug Peterson.

Executive Summary

- The structure contains about 240,000 ft<sup>2</sup> area.
- Seismic retrofit cost estimate is in the range of about 22 to 36 dollars per ft<sup>2</sup>, depending on the level of retrofit desired.
- Total cost of retrofit is estimated in the range of 5 to 9 million dollars.
- The range of cost estimation may be considered as “Life Safety” at the lower end to “Rapid Occupancy” at the upper end.
- Structural analysis to determine the potential level of seismic damage and to develop a plan for seismic retrofit is recommended.
- It is expected that other seismic retrofit estimates may vary from the stated values in this report.
- There is no implied judgment regarding the quality of the original structural design and construction in this report.

Evaluation Steps

The evaluation steps taken included the following:

- A brief review the structural documents available in the City of Portland, Bureau of Development Services.
- A brief site visit and conversation with Peterson's store manager.

### General Description of the Garage Building

The 730 SW 10<sup>th</sup> Garage Building (GB) is a 7-story building. City of Portland documents indicate construction of the foundation system taking place during 1977. In this building (GB), the first five floors include concrete beams and the top two floors include steel beams and a combination of steel and concrete columns, with composite steel-concrete floors.

The Garage Building (GB) structure is essentially similar to a Precast Concrete Frame (PCF). PCF construction has been widely used in the past several decades. PCFs are similar to post and beam systems where concrete columns, beams and/or slabs are prefabricated and assembled on site. This Garage Building (GB) may also be considered as mixed construction, in that the beams and/or columns are precast, but the floors and shear walls are cast-in-place concrete. Moreover, the top two floors the Garage Building (GB) include steel framing, composite floors and concrete shear walls.

The first five stories of Garage Building (GB), the vertical-load-carrying members are precast-prestressed beams of rectangular cross-sections. The beams are seated on brackets (corbels) that protrude from columns. As such, the beams are “simply supported” and their function is to carry gravity loads. They do not contribute to the lateral load carrying capacity of the building.

As for the quality, generally speaking, precast concrete elements are of higher quality as compared to cast-in-place concrete members.

### Potential Earthquake Damages

The earthquake performance of this type of structural system, as in most other systems, depends on factors such as intensity of the quake, site geology, foundation system, the code of practice used in design, detailing used to connect the structural elements together to produce sufficient strength and ductility, and construction quality.

Structures of this type often employ cast-in-place concrete shear walls for lateral-load resistance, as it is in the case of the subject building. They can experience damage similar to other shear wall buildings, including excessive cracking in the shear walls and excessive cracking and weakening of columns. Generally speaking, potential damage areas in precast frames are due to poorly designed connections between prefabricated elements, or insufficient connection between floor elements and columns.

### Recommendation for Further Study

The subject building was designed based on “older codes” (in this case the 1976 Uniform Building Code) that did not include modern provisions for the expected magnitude of the earthquake force and rules for seismic design of reinforced concrete buildings. As such, structures similar to the subject building are more prone to non-ductile types of failure when subjected to earthquakes.

The seismic force requirements of more recent codes are significantly larger than those prescribed in the 1976 UBC. Moreover, the quality and accuracy of structural analysis methodology today are significantly higher than those of the late 70s. For these reasons, it is recommended that further study be conducted to determine the potential level of seismic damage and to develop a plan for seismic retrofit to lead to a more accurate and realistic cost estimate.

### Seismic Retrofit Techniques

If seismic retrofit is deemed required and feasible, a few retrofit techniques can be considered depending on which elements need to be strengthened, as summarized below.

#### Main Lateral Load Resisting Elements

In this Garage Building (GB), it is evident that more reliance is placed on the shear walls to carry the seismic forces. The shear walls in this building were not designed based on the modern “seismic detailing” requirements of recent codes, hence will not have strength and ductility comparable to shear walls in a new structure.

If a future “Seismic Structural Analysis” for this building finds that the shear walls may be overstressed, then a structural retrofit technique such as the following may be considered.

- Add new shear walls to reduce the seismic shear forces in the existing shear walls and in the floor diaphragms.
- Add new boundary elements to existing shear walls to increase strength and ductility.
- Use CFRP overlay (wrap) to increase the shear capacity of the existing shear walls.

### Columns

In this structure, more reliance is placed on the shear walls to carry the seismic forces. However, a portion of the seismic forces will be transferred to the columns. The columns in this building were not designed based on the modern “seismic detailing” requirements of the recent ACI codes, hence will not have ductility comparable to columns in a new structure.

If a future “Seismic Structural Analysis” for this building finds that the columns may be overstressed, then a structural retrofit technique such as CFRP wrap may be considered to increase the strength and ductility of the columns.

### Beam to Column Seats (Corbels)

If a future “Seismic Structural Analysis” for this building finds that the corbels may be overstressed, a structural retrofit technique such as the following may be considered.

- Add epoxied shear dowels through the corbel to increase vertical shear and/or bending strength.
- Add structural steel bolster under the corbels.
- Add new steel column or reinforced concrete column.
- CFRP wrap.

### Floors

If a future “Seismic Structural Analysis” for this building finds that the floors may be overstressed, a structural retrofit technique such as the following may be considered.

- Add reinforced concrete topping to increase shear capacity of floor diaphragms.

### Photographs

Photographs of the various sections of the garage building are shown on the following pages (pages 5 through 11).



Figure 1, Overview of the Garage Building (Source: Google)



Figure 2, Steel framing in the upper floors

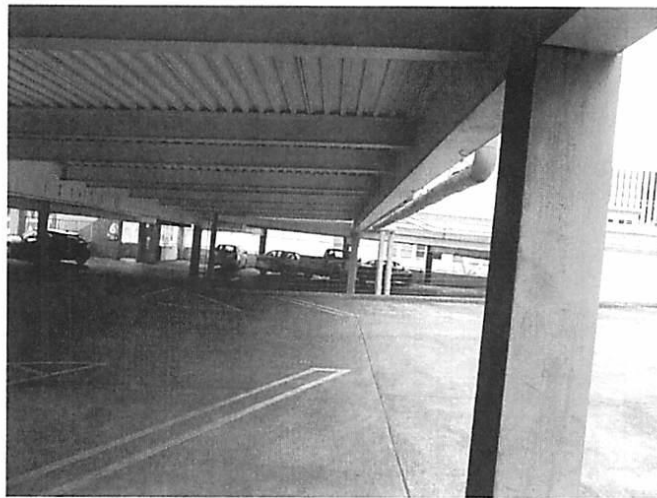


Figure 3, Composite floor construction, upper floors

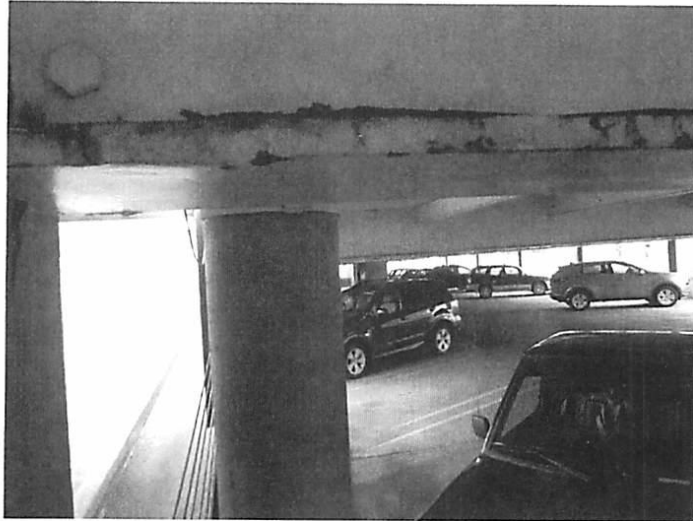


Figure 4, Evidence of rust in some steel sections

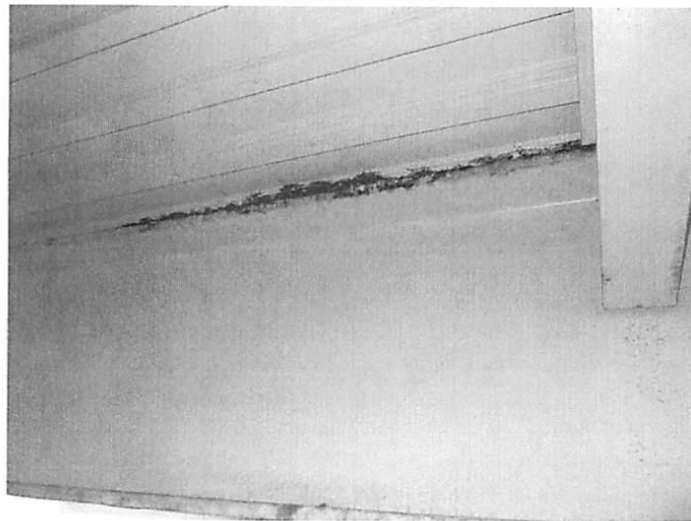


Figure 5, Evidence of rust in some steel sections



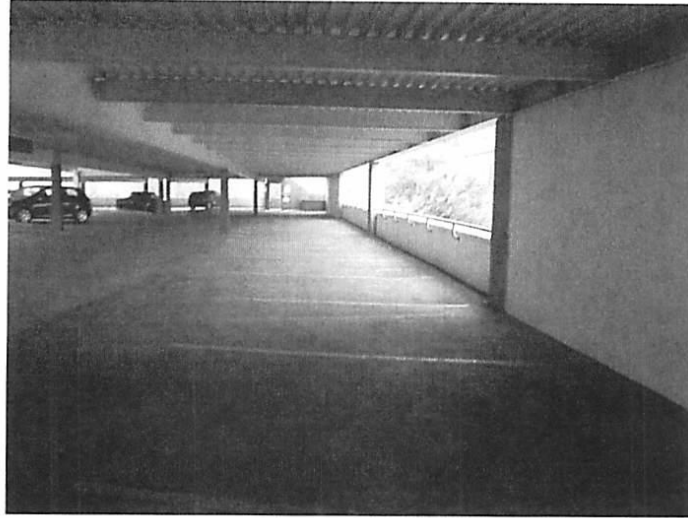


Figure 6, Shear walls in the N-S direction



Figure 7, Shear walls in the E-W direction



Figure 8, Framing system in the 5<sup>th</sup> floor



Figure 9, Concrete framing system in the 4<sup>th</sup> floor



Figure 10, Concrete framing system in the 3<sup>rd</sup> floor

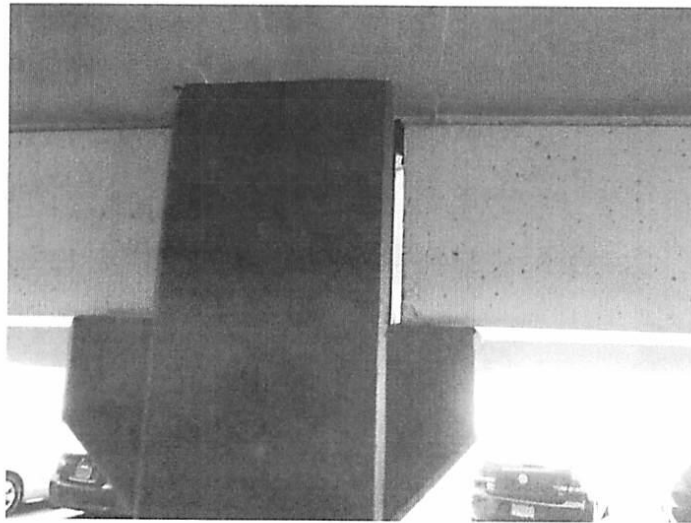


Figure 11, Beams on corbels



Figure 12, Longer Exterior Columns

### Executive Summary

The project site is a seven story parking garage with ground floor located at SW 10th and Yamhill in the retail core and River District Urban Renewal Area of downtown Portland, Oregon. It is a part of the Smart Park garage system, owned by the Portland Bureau of Transportation (PBOT). The building was constructed in 1978, and two more parking levels were added in 1984. It has a total of 799 parking stalls used primarily for short term parking. The ground floor holds 27,594 square feet of retail space and maintains five existing tenants. Currently, the garage generates over \$2.5 million in revenue, with net revenue of approximately \$1.2 million. The average weekday peak-time occupancy is between 85-90%.

In addition, the site is the epicenter for multi-modal transit including:

- MAX stations located on Morrison Street (westbound) and Yamhill Street (eastbound);
- Portland streetcar to Portland State University and NW Portland running on 10<sup>th</sup> and 11<sup>th</sup> Avenues (with a station located on the north side of the Galleria Building)
- 5 electric vehicle charging stations located on the second floors; and
- Secure bike parking on each level.

The structure is now over 30 years old and requires a series of improvements. It poses a number of design and operational challenges as its wide overhangs, dark corners and opaque stair landings attract loitering and crime. The elevators are particularly slow, the stairs regularly smell foul and the mechanical system serving the retail spaces has been plagued by mold. (its construction in the late 1970's raised doubts concerning its seismic performance); and the pronounced grade change across the block has made compliance with accessibility requirements difficult.

FFA was retained by the Portland Development Commission (PDC) and PBOT to develop a set of recommendations for improvements that will:

- Preserve the building while bringing it into compliance;
- Support the downtown retail presence and multimodal transit goals; and
- Improve the environment at the ground level retail and stairways.

The final recommendations will be used to draft of a Request for Proposal to secure a design and construction team for the renovation of the building.

The site has been subject of several redevelopment schemes over the past 12 years. Scenarios have ranged from large renovation projects to full redevelopment with new construction. As a result of the various contemplations, the building has fallen into disrepair and there are aspects that need to be addressed. However, there have been several analyses conducted on the site spanning the building's design, operational systems, seismic fitness, and elevator and stairways.

One of FFA's initial tasks was to assemble a consultant team and review the previous reports to confirm findings and update with current needs as necessary. FFA then translated the improvements into a design and operations and maintenance scope. The key areas requiring immediate attention are:

- Parking;
- *Deferred maintenance*;
- Interior and exterior in ground floor retail; and
- ADA compliance