

Redevelopment of Seattle's Urban Industrial Environment with Affordable Housing:

Increasing Affordable Housing on the National Guard Armory Site

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**Abstract**

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Among the attempts of solving the ever-worsening homelessness and housing crises found in most major cities across the United States, the idea of post-industrial land redevelopment has yet to set ablaze due to various reasons. The preservation of urban industrial zones in the most central locations of cities as well as the outdated practice of non-cumulative zoning, where one use is allowed per exclusive zone, are keeping developers at bay from the coveted lands. This paper reviews the need for affordable housing, barriers to development on industrial land, and design tactics for mixed-use developments to then analyze a potential site for development in Interbay, Seattle, Washington. The Interbay Project report is assessed for its approach to the development opportunity, focusing on the inclusion of affordable housing units and potential hindrances to development. An alternative development plan is proposed following the analysis of literature and case studies to capitalize on a rare development opportunity.

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## 1. INTRODUCTION

Ensuring the availability of quality affordable housing is an issue faced by most urban cities with approximately 7.8 million unassisted households with very low incomes living in either severe cost burden by their housing or inadequate housing – sometimes both.<sup>1</sup> As reported by the Joint Center for Housing Studies of Harvard University and Center on Budget and Policy Priorities, in just 2021, there were 737,000 households on waiting lists for affordable housing units across 44 different housing agencies.<sup>2</sup> Inclusionary housing is the concept of requiring developers to set aside a certain number of units to be available at below-market rates and a policy intervention that an increasing number of local governments are looking to as a response to help address the affordable housing crisis.<sup>3</sup> Cities like Seattle have implemented this through the Mandatory Housing Affordability Program in which all new commercial or multi-family residential developments either include affordable units or contribute to the MHA fund to sponsor other affordable housing efforts.<sup>4</sup> However, the expensive and scarce land in the urban landscape makes it difficult for private developers to offer units at truly affordable rates for low earning households, causing them to be cost-burdened.

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<sup>1</sup> “The State of the Nation’s Housing 2022” (Joint Center for Housing Studies of Harvard University, 2022), accessed May 18, 2023, [https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard\\_JCHS\\_State\\_Nations\\_Housing\\_2022.pdf](https://www.jchs.harvard.edu/sites/default/files/reports/files/Harvard_JCHS_State_Nations_Housing_2022.pdf), 40.

<sup>2</sup> “The State of the Nation’s Housing 2022,” 40.

<sup>3</sup> Ruoni Wang and Sowmya Balachandran, “Inclusionary Housing in the United States: Dynamics of Local Policy and Outcomes in Diverse Markets,” *Housing Studies*, June 1, 2021, 1–20, <https://doi.org/10.1080/02673037.2021.1929863>, 2.

<sup>4</sup> “Mandatory Housing Affordability - Housing | Seattle.Gov,” n.d., <https://www.seattle.gov/housing/housing-developers/mandatory-housing-affordability>.

A report by the Manhattan Institute brings to attention the existence of industrial zones in the hearts of cities that inhibit further development as local jurisdictions continue to enforce strict rules against any non-industrial uses within these zones.<sup>5</sup> The historical practice of industrial-only zoning stems from the intent of lawmakers to protect residential neighborhoods from blight and pollution, but since the migration of industrial districts outside of city centers, the main reason for keeping these urban industrial-only zones is to preserve industrial jobs although many of the industrial sites located in the core of urban areas are seeing decreasing investment and employment.<sup>6</sup> This has led to a disconnect between these industrial areas with sprawled, low-rise, concrete buildings and the dense, urban, and modern buildings that surround these areas. It is imperative for cities to identify and reduce the obsolete industrial areas to keep up with the demand for more livable space.

If we stick to the status quo, we will miss out on the opportunity to address the community's need for affordable housing by building large developments on otherwise underused land. Development on industrial lands does not result in the displacement of marginalized groups due to its vacant nature; by opposition to the displacement of minorities and low-income households in gentrifying areas.<sup>7</sup> It is a new opportunity for economic growth by introducing businesses and patrons to a neighborhood that previously did not have any foot traffic to sustain retail.

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<sup>5</sup> Connor Harris, "Industrial Rezoning in U.S. Cities" (Manhattan Institute, January 2021), accessed May 17, 2023, <https://media4.manhattan-institute.org/sites/default/files/industrial-rezoning-us-cities-CH.pdf>, 3.

<sup>6</sup> Harris, "Industrial Rezoning in U.S. Cities," 3.

<sup>7</sup> Ilse Helbrecht, "Gentrification and Displacement," in *Springer EBooks*, 2018, 1–7, [https://doi.org/10.1007/978-3-658-20388-7\\_1](https://doi.org/10.1007/978-3-658-20388-7_1), 1-2.

The main objective of this thesis is to identify ways to incorporate more truly affordable housing into new developments on formerly industrial areas and address the barriers to developing housing on industrial lands.

## 2. LITERATURE REVIEW

This literature review serves to introduce key topics to be analyzed in the latter case study of a site in Interbay, Seattle, Washington. The literature was chosen to shed light on the existence and severity of affordable housing scarcity, solutions through inclusionary housing, changes in industrial zoning, and design practices to build well-thought out mixed-use buildings.

### **Affordable and Inclusionary Housing**

#### *Need for Affordable Housing*

Compared to 2021, rents for apartments have gone up 12 percent nationally in 2022, with some metropolitan areas in the South or West exceeding 20 percent.<sup>8</sup> This escalation in housing costs have pushed the nationwide figure of cost-burdened households who pay more than 30 percent of their incomes to housing to 30 percent as of 2020, with 14 percent of all households spending more than half of their income.<sup>9</sup> The disappearance of housing units falling within the 30 percent budget of households living within major cities in the United States is largely a result of exponential increases in land costs, tight zoning regulations, and construction costs.<sup>10</sup>

Studies show that continued efforts have been made by developers to build or renovate housing for high earning households, but the disproportionate number of market-rate units targeted to high income earners has created a gap in attainable housing for low-income households. The moving chain of housing – the upward movement of households to better

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<sup>8</sup> “The State of the Nation’s Housing 2022,” 1.

<sup>9</sup> “The State of the Nation’s Housing 2022,” 6.

<sup>10</sup> Katrin B. Anacker, “Introduction: Housing Affordability and Affordable Housing,” *International Journal of Housing Policy* 19, no. 1 (March 12, 2019): 1–16, <https://doi.org/10.1080/19491247.2018.1560544>, 3-4.

homes over time to allow openings in lower priced housing – has been disrupted by this deficit in homes, causing unstable housing situations for those with housing budgets outside of the scope of newer units.<sup>11</sup> In response to this, jurisdictions have opted to initiate programs that require affordable housing to be developed alongside market-rate housing.

### *Current State of Inclusionary Housing*

The terms, ‘inclusionary housing’ and ‘inclusionary zoning’, originated in the late 1960s and refer to a program adopted by local jurisdiction that requires developers to contribute to the affordable housing market by including units in their market-rate developments or paying into a fund dedicated to creating affordable developments.<sup>12</sup> The sudden appreciation of housing prices in cities like San Francisco, Massachusetts, and Washington D.C. kickstarted the trend of adopting IH programs in highly populated cities across the U.S.<sup>13</sup>

In the most recent study into inclusionary housing programs within the U.S., 1,019 inclusionary housing programs across 734 jurisdictions were identified to exist at the end of 2019.<sup>14</sup> Of these, 258 programs provided detailed information of their efforts and reported approximately 110,000 affordable units to have been created and 123 programs reported the fees collected through their IH programs were at least \$1.76 billion.<sup>15</sup> The programs are making

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<sup>11</sup> Anacker, “Introduction: Housing Affordability and Affordable Housing,” 4.

<sup>12</sup> Wang and Balachandran, “Inclusionary Housing in the United States: Dynamics of Local Policy and Outcomes in Diverse Markets,” 2.

<sup>13</sup> Wang and Balachandran, “Inclusionary Housing in the United States: Dynamics of Local Policy and Outcomes in Diverse Markets,” 3.

<sup>14</sup> Ruoniu Wang and Sowmya Balachandran, “Inclusionary Housing in the United States : Prevalence, Practices, and Production in Local Jurisdictions as of 2019” (Grounded Solutions Network, January 2021), accessed May 20, 2023, [https://groundedsolutions.org/sites/default/files/2021-01/Inclusionary\\_Housing\\_US\\_v1\\_0.pdf](https://groundedsolutions.org/sites/default/files/2021-01/Inclusionary_Housing_US_v1_0.pdf), 5.

<sup>15</sup> Wang and Balachandran, “Inclusionary Housing in the United States : Prevalence, Practices, and Production in Local Jurisdictions as of 2019,” 5.

a difference in their local environments and providing much needed affordable and stable housing for low-income households.

### *Notable Program Features*

While there is no ‘one-size-fits-all’ program for all governing bodies, the main components of the inclusionary housing programs are similar. The purpose of these programs can be summated into increasing the affordable housing supply, promoting social and/or economic integration, and incentivizing certain types of developments that include affordable residential units. The programs are either voluntary or mandatory for new developments but often provide the option to either create on-site affordable units within market-rate developments or develop off-site affordable housing units. Developers can also make in-lieu payments to offset the housing contributions or pay impact/linkage fees associated with the new developments that are used to fund affordable housing development.<sup>16</sup> The benefits associated with partaking in these programs take the form of tax credits or density bonuses to build bigger developments. The creation of these affordable units is the first step to addressing the issue of affordable housing scarcity with another hurdle being able to ensure the longevity of affordability terms. Many programs have addressed this by requiring units to be affordable for 30 years or longer, often restarting upon resale of the development.<sup>17</sup>

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<sup>16</sup> Wang and Balachandran, “Inclusionary Housing in the United States : Prevalence, Practices, and Production in Local Jurisdictions as of 2019,” 10.

<sup>17</sup> Wang and Balachandran, “Inclusionary Housing in the United States : Prevalence, Practices, and Production in Local Jurisdictions as of 2019,” 6.

### *Deficits in Current Inclusionary Housing Programs*

While the exact criteria for the most effective inclusionary housing program have not been studied in depth, many jurisdictions are parading the number of units built in their cities to demonstrate the efficacy of their programs. However, following economic theory, the concept of inclusionary housing or inclusionary zoning is thought to actually heighten the constraints on the housing supply due to the nature of taxing new construction and setting a price ceiling on otherwise competitively priced market-rate units. This can result in decreased number of housing supplied and increased prices for market-rate units.<sup>18</sup> Inclusionary housing is also subject to fluctuating market conditions and changes in political landscapes. This means that local and state funding and support of these programs are dependent on the parties in power, changing with the end of the term of the incumbent.<sup>19</sup> The resulting uneven distribution of policies and programs diminishes efficacy of local programs and the overall competence of the effort on a national level.

It is imperative for jurisdictions to consider the local market conditions and calculate the economic impacts of the program before implementing an inclusionary housing program. While the end result of these programs may be more affordable housing units, there can be unwanted or unforeseen repercussions in the long run.

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<sup>18</sup> Emily Hamilton, "Inclusionary Zoning and Housing Market Outcomes," *Cityscape: A Journal of Policy Development and Research* 23, no. 1 (2021): 161–94, <https://doi.org/10.2307/26999944>, 161-162.

<sup>19</sup> Wang and Balachandran, "Inclusionary Housing in the United States: Dynamics of Local Policy and Outcomes in Diverse Markets," 2.

## Industrial Zoning in Urban Settings

### *History of Non-Cumulative Zoning Practices*

Most major cities throughout the U.S. will still have urban industrial zones located in ideal areas that host vacant warehouses or underutilized facilities and this is a result of non-cumulative zoning.<sup>20</sup> Non-cumulative zoning refers to when only one use or development type is allowed per exclusive zone and this was a change from previous cumulative zoning in the U.S. that ranked uses in a hierarchy and allowed for multiple uses that were seen as less nuisance-like in different zones.<sup>21</sup> Cumulative zoning authorized property owners to change the uses of their buildings to meet the market needs and build residential buildings to cater to growing populations in certain areas, including industrial zones. However, after World War II, non-cumulative zoning practices specifically for industrial zones came into effect in order protect industry from nuisance suits that resulted from residential uses existing adjacent to industrial developments. The noise, odor, and pollution from industrial facilities were deemed to be reasons to remove adjacent housing and prevent future residential neighborhoods from turning into blighted areas surrounded by heavy industrial uses.<sup>22</sup> There is also fear from remaining industrial landowners and policymakers that the integration of non-industrial uses with industrial uses will result in industrial companies being priced out of the city to the suburbs, as was the case for other industry companies.<sup>23</sup>

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<sup>20</sup> Roderick M. Hills and David G. Schleicher, "The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing," *University of Chicago Law Review* 77, no. 1 (January 1, 2010): 11, <https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=5498&context=uclrev>, 251

<sup>21</sup> Hills and Schleicher, "The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing," 251-252

<sup>22</sup> Hills and Schleicher, "The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing," 252-253.

<sup>23</sup> Hills and Schleicher, "The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing," 255.

### *Trade-offs of Non-Cumulative Zoning*

The exclusive zoning of lands for industrial uses can result in foregoing opportunities to provide much needed residential housing. Roderick M. Hills, Jr. and David Schleicher provide the example of New York City in 2005 where 22,500 acres were set aside for manufacturing uses, but if even just a fraction of that land was developed at Brooklyn's average density of 55 dwelling units per acre, thousands of units could be pumped into the housing market to address the shortage of housing.<sup>24</sup> The same can be said for any city with a housing shortage and thousands of acres of industrial land that is not being put to its highest and best use.

Industries are protected from competition with residential and commercial developers who could easily outbid for the current industrial lands given that their uses produce more economic wealth. Connor Harris describes this phenomena as city governments burdening "deadweight losses" of forgone economic productivity and tax revenue from more profitable uses, leading to increased taxes on other economic sectors or higher rents in residential and commercial buildings as a result of limited supply.<sup>25</sup> Governments need to be objective and knowledgeable about the trade-offs occurring from land use decisions that were made historically and no longer reflect the status of land.

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<sup>24</sup> Hills and Schleicher, "The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing," 256.

<sup>25</sup> Harris, "Industrial Rezoning in U.S. Cities," 4.

### *Need for Changes in Industrial Zoning Practices*

When looking at cities with a heightened need for housing development, there are strong indications of a market demand for industrial redevelopment into residential or commercial uses. These barren industrial zones are often out of place, surrounded by high-rise residential or commercial buildings and generally more densely built out. The straggling industrial uses in these urban settings are often low-productivity and less robust industrial manufacturing than policymakers initially intended for with their unwavering support for urban industry and protecting industry jobs. San Francisco undoubtedly suffers from one of the worst housing crises in the nation, yet the city has approximately 1.20 square miles of traditional industrial zones and 1.74 square miles of Production, Distribution, and Repair (PDR) districts for exclusive light industrial uses in some of the most desirable areas. The districts are located in close proximity to mass transit and downtown San Francisco.<sup>26</sup> Harris notes that some of the uses in these areas consist of surface parking lots, low-rise concrete buildings as a result of low Floor Area Ratio (FAR) limits, and light manufacturing facilities – in addition to many large vacant lots amidst the mishmash of gas stations, supply stores, and automotive-oriented businesses.<sup>27</sup>

While similar examples are plentiful in cities like New York, Chicago, or Boston, the conclusion from analyzing all of the industrial areas in these cities is the same: in a time where industrial production has decreased and housing scarcity has increased, it is a critical time for local jurisdictions to make changes to their approaches to industrial zoning. Redesignation of

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<sup>26</sup> Harris, “Industrial Rezoning in U.S. Cities,” 4-5.

<sup>27</sup> Harris, “Industrial Rezoning in U.S. Cities,” 5.

these areas to introduce more dense residential, commercial, or even mixed-use developments would significantly impact the housing shortage plaguing these cities.

## **Integration Methods for Industrial and Non-Industrial Uses**

### *Barriers to Industrial and Non-Industrial Compatibility*

The spatial segregation of uses came from the practice of non-cumulative zoning mentioned in the previous section, but the chosen method to enact this was distance. Municipal codes prohibit certain industrial uses within a certain number of feet from residential buildings or zones and jurisdictions have even implemented transitional zoning, or “use buffers” to ensure adequate distance is set between uses.<sup>28</sup> Additionally, with the focus only on separation of uses, there are insufficient references to building or design interventions that can mitigate the drawbacks of industrial uses in urban spaces – noise, odor/dust, traffic/loading, light, air quality, visual/design elements, and more.<sup>29</sup> Nuisance reports were common when cumulative zoning was in effect with residential housing located next to industrial facilities. These complaints would often be for the pollution (air, noise, etc.) coming from the industrial facilities that had detrimental effects on the wellbeing of neighboring residents.<sup>30</sup>

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<sup>28</sup> Victoria Ng, “Mitigating Industrial Land Use Impact Through Building and Site Design” (Greenest City or Healthy City Scholars Program, 2021), accessed May 21, 2023, [https://sustain.ubc.ca/sites/default/files/2021-052\\_Mitigating%20Industrial%20Land%20Use%20Impacts\\_Ng\\_0.pdf](https://sustain.ubc.ca/sites/default/files/2021-052_Mitigating%20Industrial%20Land%20Use%20Impacts_Ng_0.pdf), 16.

<sup>29</sup> Ng, “Mitigating Industrial Land Use Impact Through Building and Site Design,” 24.

<sup>30</sup> Hills and Schleicher, “The Steep Costs of Using Noncumulative Zoning to Preserve Land for Urban Manufacturing,” 255.

### *Modern Methods of Industrial Mitigation*

At smaller scales, industrial uses can be integrated into different building types using various design techniques.

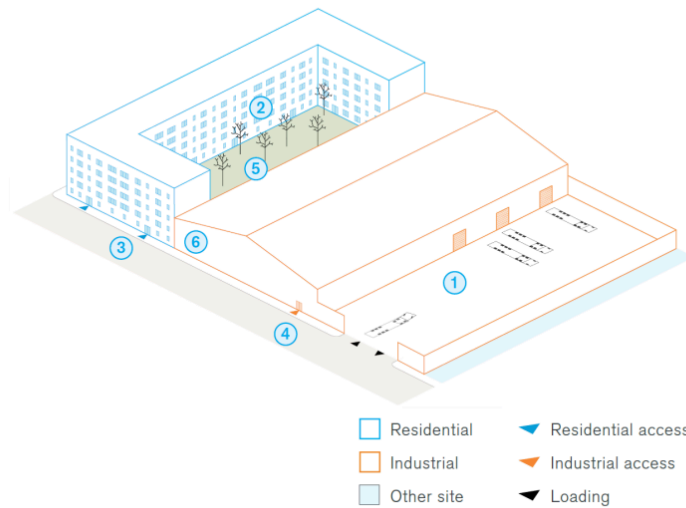
Some of the common concerns for noise or vibration from industrial uses come from compressors/pumps, fans, generators, transformers, heavy machinery, and foot and/or vehicle traffic. However, the implementation of noise/vibration control products or systems, such as sound control baffles, concrete floors, or fiberglass isolation pads, allow for a decreased volume of sounds to be transferred between different uses or units.<sup>31</sup> In addition to using sound absorptive materials, the spatial orientation of the industrial noise makers can be strategic to place them in areas with minimum windows and doors or separated from other uses.

Traffic and loading are two other items of great concern when looking to combine industrial and non-industrial uses. The building design will need to accommodate the need for more parking spaces, certain types of loading bays, specific access points, and visual implications.<sup>32</sup> The expansive loading areas and parking lots found on large industrial sites cannot be adopted into urban sites where space is limited and so the main strategy to combat heavy traffic from industrial uses would be to introduce spatial segregation between the two uses, like using an industrial building as a buffer between residential uses and parking/loading zones, as seen in Figure 1.

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<sup>31</sup> Ng, "Mitigating Industrial Land Use Impact Through Building and Site Design," 26.

<sup>32</sup> Ng, "Mitigating Industrial Land Use Impact Through Building and Site Design," 39.



*Figure 1. Industrial Parking and Loading Mitigation Strategy, Source: Ng, Mitigating Industrial Land Use Impact Through Building and Site Design*

### *Examples of Mixed-Use Industrial and Residential Development*

Light industrial uses - food/beverage manufacturing, textile production, storages, distribution centers, or brewing/distilleries – are best suited for integration with residential uses due to their low nuisance levels. The 36,600 square feet Strathcona Village in Vancouver, British Columbia, Canada offers a great example of what the combination of residential, light industrial, and retail can look like in one building.

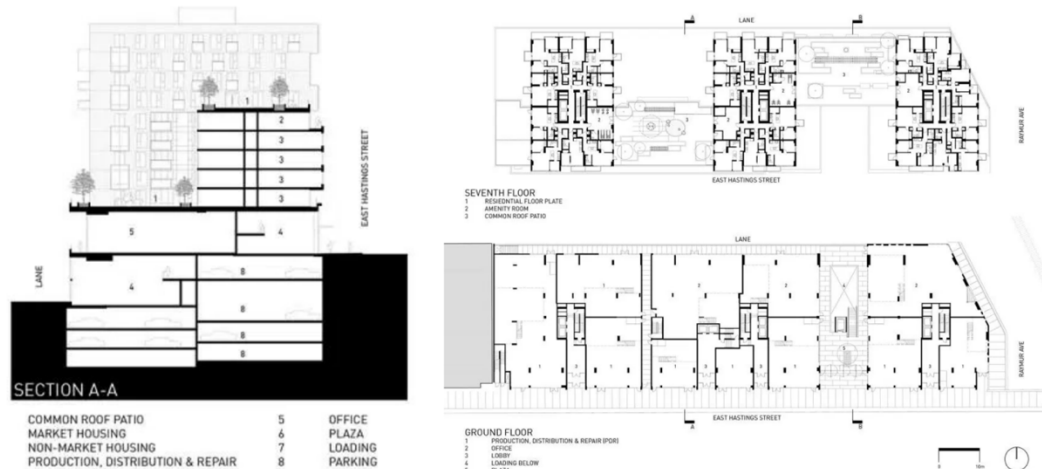


Figure 2. Strathcona Village Building and Floor Plans, Source: Ng, *Mitigating Industrial Land Use Impacts Through Building and Site Design*

The development boasts 350 residential units, with 70 dedicated affordable units, and 60,000 square feet of light industrial space in the heart of Vancouver’s Downtown Eastside District.<sup>33</sup> The building enforces strict rules on noise from both the industrial and residential uses with quiet hours past 10 P.M. and the 3,000 square foot plaza at the center of the development provides a buffer between the building and loading zones. The design of the building also takes into account the need for separate ceiling heights and glazed street-level facades for the PDR uses while also implementing strategic separation of the different uses to best utilize the space.<sup>34</sup>

The Crosstown Concourse located in Memphis, Tennessee produced a multi-mixed-used development at a much larger scale than other projects, including retail, residential, light industrial, and office spaces. The building was rehabilitated from its former use as a Sears

<sup>33</sup> Lauren Semancik, “Strathcona Village - Glotman Simpson,” Glotman Simpson - Consulting Engineers, November 24, 2018, <https://glotmansimpson.com/project/strathcona-village/>.

<sup>34</sup> Ng, “Mitigating Industrial Land Use Impact Through Building and Site Design,” 105-106.

Distribution Center into a monument in Memphis’ urban landscape. The building currently houses a charter high school, a movie theater, an art gallery, and a radio station, in addition to the 300 residential units found on upper floors. The 10 above-grade stories allow for a distinct separation of uses and catered design of each floor to the designated uses. The building was mainly constructed with concrete and brick to mitigate noise transfer between space users and installed non-operable windows on the residential units to eliminate odors from coming in from neighboring industrial uses.<sup>35</sup>

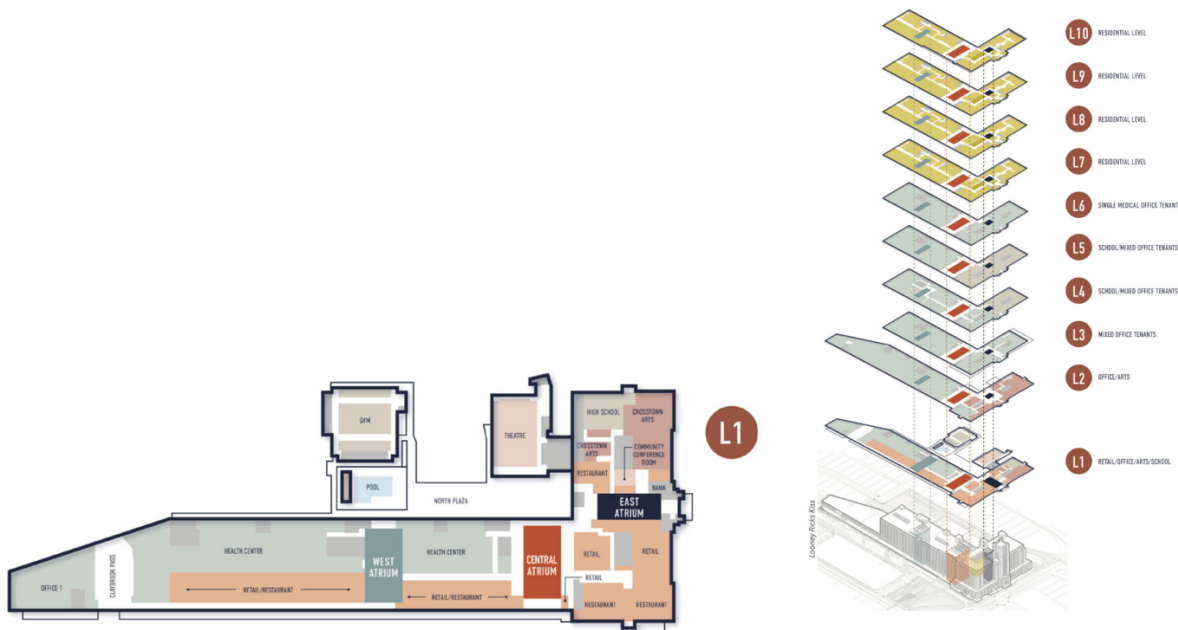


Figure 3. Crosstown Concourse Site Plan, Source: *Mitigating Industrial Land Use Impact Through Building and Site Design*

Rather than focusing solely on the need for distance between previously considered incompatible uses, practices of integrating the uses through innovative design solutions should be implemented to challenge pressing land use conflicts. Precedents have been set by projects

<sup>35</sup> Ng, “Mitigating Industrial Land Use Impact Through Building and Site Design,” 109-110.

across the world that prove mixed-use developments including affordable housing, market-rate housing, commercial, retail, and industrial uses can co-exist in an urban setting.

### 3. EXISTING CASE STUDIES

#### **Rheingold Brewery Redevelopment in Bushwick, Brooklyn, New York**

The Rheingold Brewery site in Brooklyn, New York had been abandoned for over 22 years before it was deemed fit for redevelopment. The 6.7 acre subject site is located within the Bushwick neighborhood and was previously surrounded by similarly long-term vacant parcels, visually representing one of New York City's poorest neighborhoods with a large immigrant population.<sup>36</sup> The development was ultimately made possible by the collaboration of the local government, a non-profit community group, the U.S. government, and a private developer. The two-phase project included 57 two-family townhomes, four three-family units, and 30 condominiums in the first phase to house 153 families and 93 affordable apartments in two six-story towers in the second phase.

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<sup>36</sup> Barry Hersh, "Rheingold Brewery Redevelopment in Bushwick, Brooklyn, New York," *Lincoln Institute of Land Policy*, October 2019, <https://www.lincolninst.edu/es/publications/other/case-study-rheingold-brewery-redevelopment-in-bushwick-brooklyn-new-york>, 1.

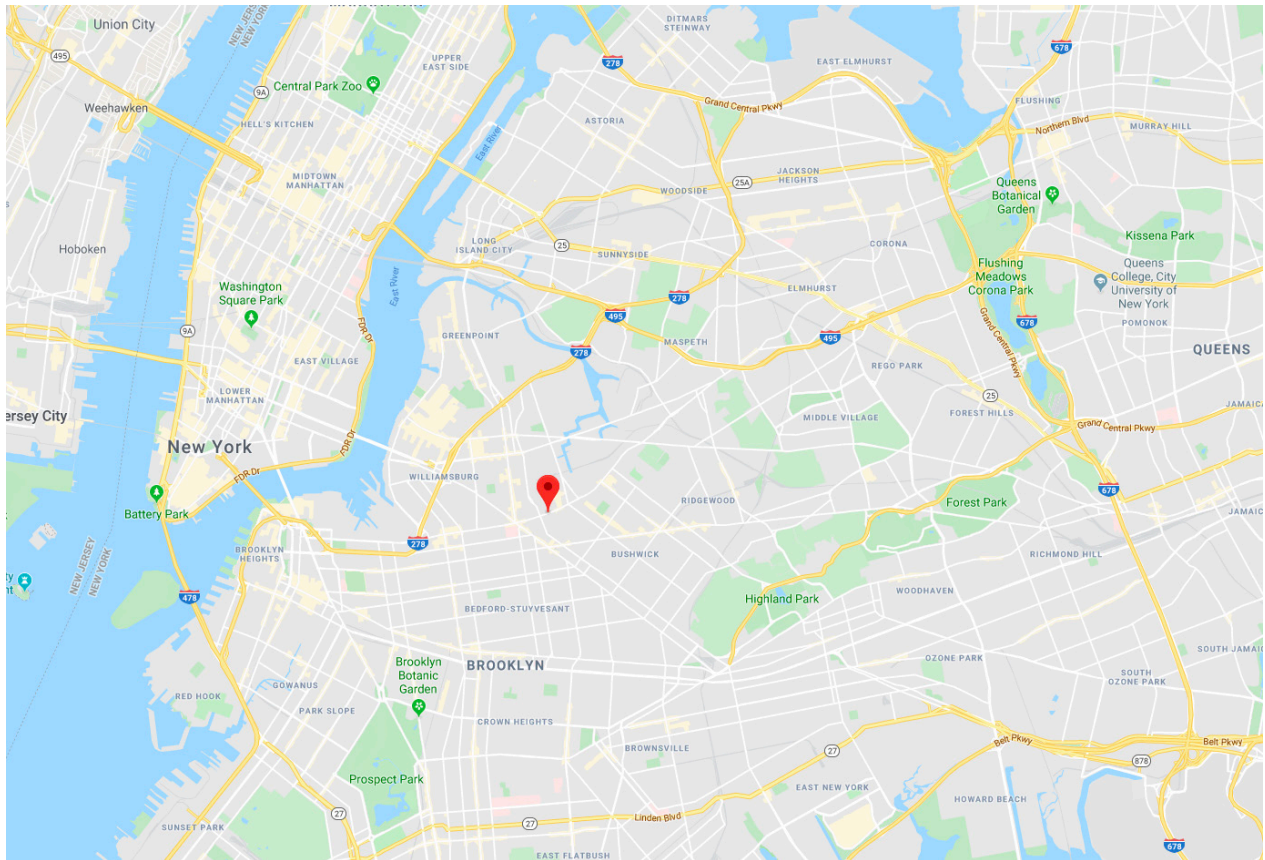


Figure 4. Location of Rheingold Brewery. Source: Rheingold Brewery Redevelopment in Bushwick, Brooklyn, New York

### Funding Sources

The final plan for the site consisted of building over 2,000 units of mixed-income housing that would be introduced to the market in two phases. The first phase of the project was made possible by \$22 million in funding from government agencies. The team utilized a variety of federal, state, and city housing programs to fund the project, taking advantage of mortgage subsidies, tax credits, among other incentives from the New York City Department of Housing Preservation and New York City Housing Development Corporation.<sup>37</sup>

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<sup>37</sup> Hersh, "Rheingold Brewery Redevelopment in Bushwick, Brooklyn, New York," 10.

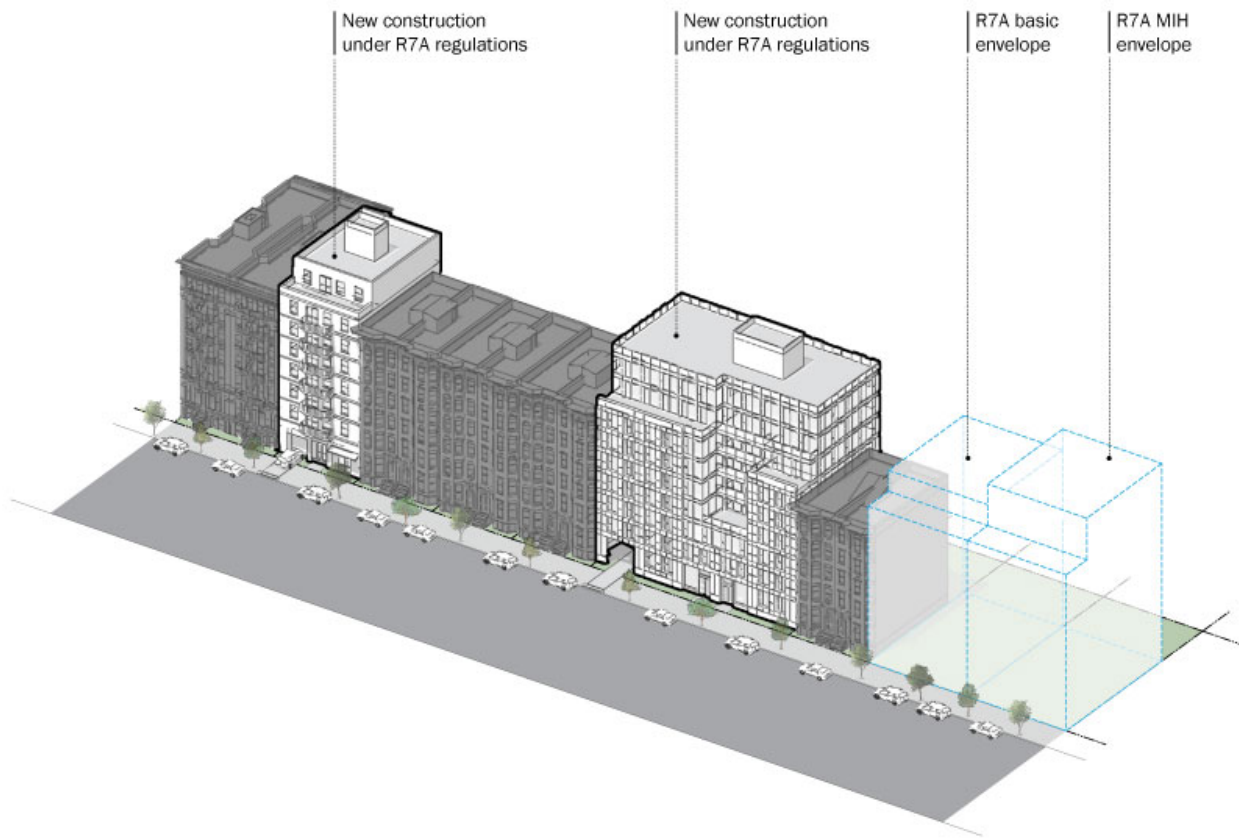


Figure 5. R7A Zone Building Types. Source: NYC Department of Planning

### Remediation Needs

As is the case with most industrial site redevelopment, remediation requires a substantial block of overall time and capital. The Rheingold project received a \$200,000 Brownfield Assessment grant in 1998 after the U.S. EPA conducted an environmental assessment of the parcels and designated the property as a brownfield. The former uses of the parcels for a brewery, auto repair, and other industrial facilities led to Polycyclic Aromatic Hydrocarbons from coal tar and lead to be found in the soil. This required removal of the contamination and implementing paving, layers of soil, and woven fiber layers to prevent volatilization, or transfer of contaminants

from the soil to the air, before construction could begin.<sup>38</sup> The less contaminated areas of the site were cleaned up through New York City's Office of Environmental Remediation Voluntary Brownfield Remediation Program, that offered a faster process for remediation. The developers of the project were able to synchronously remediate and construct on the site to obtain a certificate of completion for remediation as quickly as possible.

### *Analysis*

The work conducted by the Rheingold project team was catalytic in spurring development in Williamsburg. The neighborhood's proximity and accessibility to Manhattan caused private developers to begin developing market-rate housing throughout Bushwick and Williamsburg, targeting younger tenants and diversifying the area. Due to progress made in legislation over the years, all of the new developments included 20 to 30 percent affordable housing units to partially mitigate the effects of gentrification even though the developed lots were primarily vacant.

The challenge of a similar venture boils down to the need for good timing, knowledgeable public and private partners, and a firm vision for the project. The inclusion of various parties from both the public and private sectors allowed the project to move forward in a novel, non-traditional way. The first phase of the Rheingold project was highly successful with 500 units at 100 percent affordability, full occupancy, and a resulting rise in the real estate market. Even the remaining 1,500 units that were developed after 2010 incorporate affordable units that created a truly mixed-income community that benefitted residents and the overall community. The

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<sup>38</sup> Hersh, "Rheingold Brewery Redevelopment in Bushwick, Brooklyn, New York," 5.

collective and conscious effort to address gentrification by focusing on affordable housing showed a holistic approach to development that should be replicated in new development, fully understanding the needs of the neighborhood over solely maximizing profit.

However, the project did not have the financial luxury or continued support needed to overcome the push for more market-rate housing over affordable. The change in collaborators that happened mid-way through the project led to development's shift to become a modern mixed-income residential community with asking rents similar to Brooklyn or other gentrified neighborhoods. The affordable housing included in the project was determined by the City's minimum requirements rather than pushing the norm and offering a higher ratio of affordable units; the end result was synonymous to all of the other market-rate developments being erected in adjacent properties. This decision was a missed opportunity to introduce more affordable housing to low-income households struggling to find attainable housing options around Brooklyn.

### **Portland's Post-Industrial Neighborhoods**

Closest in proximity to Seattle, Portland shares in many of the same historic waterfront industrial uses and trends in redevelopment of the areas. In the 1970s and 1980s, 8.7 percent of Portland's total land area was comprised of industrial land, mainly located around the Willamette and Columbia Rivers.<sup>39</sup> Despite the decrease in manufacturing jobs and establishments, as of 2020, 16.7 percent of Portland is zoned for industrial use, however most of the industrial area

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<sup>39</sup> Mark D. Bjelland and Madelyn Vander Veen, "Portland's Post-Industrial Neighborhoods," *Yearbook of the Association of Pacific Coast Geographers* 84, no. 1 (January 1, 2022): 101–24, <https://doi.org/10.1353/pcg.2022.0009>, 107.

has since migrated to south of the Columbia River.<sup>40</sup> The post-industrial land along the Willamette River cutting through Portland's Central Business District (CBD) has since been converted to new uses, such as mixed-use commercial and residential. Despite the opportune location, these industrial parcels were deemed undesirable for a long time before community efforts led to the revitalization of two of the poorest neighborhoods in central Portland.

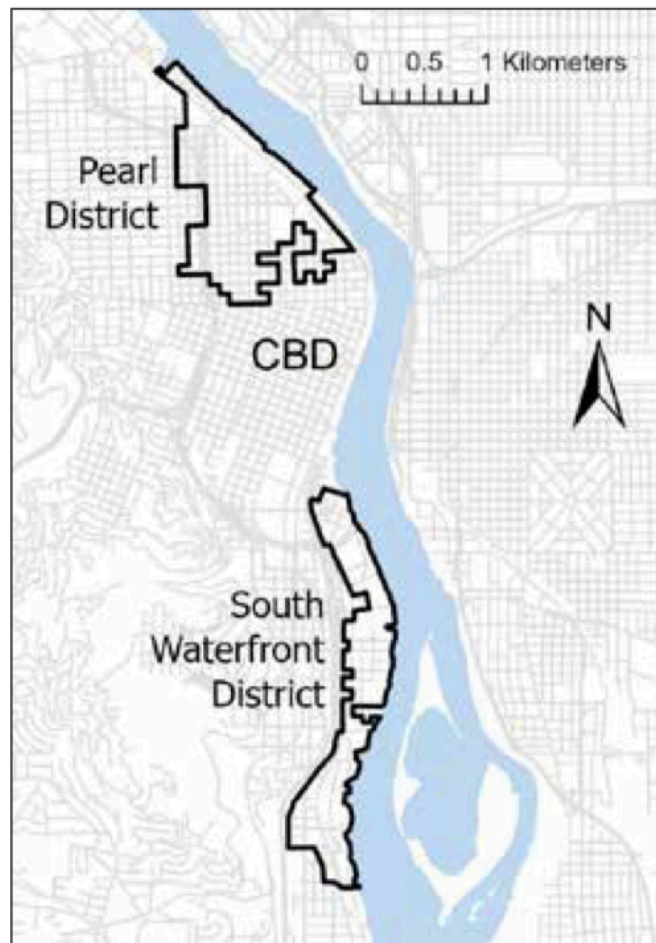


Figure 6. Location of Pearl District and South Waterfront District. Source: *Portland's Post-Industrial Neighborhoods*, Bjelland &

Vander Veen 2022

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<sup>40</sup> Bjelland and Veen, "Portland's Post-Industrial Neighborhoods," 107-108

### *Pearl District*

The Pearl District is located north of Portland's CBD and right along the Willamette River. Intentional decision making for the neighborhood created a thriving hub of local businesses, public open space, increased density, and accessible transit.<sup>41</sup> Prior to redevelopment, the Pearl District was formerly known as the Northwest Industrial Triangle and home to warehouses and furniture manufacturing plants. Once the national decline in industrial presence within cities affected Portland in the mid-1900s, the former Pearl District was also abandoned and littered with empty lots and dilapidated buildings. This remained the status quo of the area until the 1980s when local artists moved in to take advantage of cheap living spaces and studios for rent. The influx of people drew attention to the potential for redevelopment and development picked up in the 1990s and became known as the Pearl District, referring to the jewel emerging from its shell.<sup>42</sup> Adaptive reuse and historic preservation became a priority for residents, wanting to protect the area's industrial past.<sup>43</sup> Remediation was required for the railyard sites located in the area before full-scale development could happen. Today, the neighborhood's demographics have changed to meet the prevalent upscale businesses and artisanal shops located in the area with housing options catered towards young individuals or couples.

### *South Waterfront District*

The South Waterfront District followed a similar path to the Pearl District but the base materials used in the area's buildings were wood and not built to last. Redevelopment of the

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<sup>41</sup> Bjelland and Veen, "Portland's Post-Industrial Neighborhoods," 110-111.

<sup>42</sup> Mark Hinshaw, "Pearl of Wisdom on JSTOR," *Landscape Architecture Magazine*, April 2002, 34-40.

<sup>43</sup> Bjelland and Veen, "Portland's Post-Industrial Neighborhoods," 112-113.

South Waterfront District happened at the start of the 1970s with condominiums and office buildings slowly being introduced to the previously industrial landscape. Since the 2000s, the development has taken a more modern turn with glass residential high-rises spread throughout the neighborhood and a variety of Oregon Health and Sciences University's South Waterfront campus buildings. The high-density development of the area has made it possible to incorporate contemporary planning practices like extensive public transportation, bicycle infrastructure, public parks, while still maintaining the natural surroundings in close proximity to the city. Environmental impacts were also deeply considered when developing the city, as seen with the curb-cut rain gardens, reduced stormwater runoff, and naturalized riverbanks.<sup>44</sup> The South Waterfront District is still in the process of redeveloping, with authors describing the development sites as "essentially blank slates (though perhaps with some toxic residue)," giving the city and developers the freedom to make unprecedented decisions to shape the urban makeup of buildings in the neighborhood.<sup>45</sup>

### *Analysis*

The change in Portland's waterfront neighborhoods from industrial warehouses to mixed-income and high-density urban living is testament to the power of intentional and community-involved development. As stated by Bjelland and Vander Veen, urban renewal was originally a method for the removal of "blighted" neighborhoods in favor of new, modern development, oftentimes disproportionately affecting low-income or racially diverse neighborhoods.<sup>46</sup>

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<sup>44</sup> Bjelland and Veen, "Portland's Post-Industrial Neighborhoods," 115-116.

<sup>45</sup> Bjelland and Veen, "Portland's Post-Industrial Neighborhoods," 116.

<sup>46</sup> Bjelland and Veen, "Portland's Post-Industrial Neighborhoods," 116-117.

However, urban renewal today is related more to environmental remediation, adaptive reuse, and conservation of historical landmarks rather than building anew from ground up. Portland has designated urban renewal areas to guide public and private developments, the Pearl District is within the River District Urban Renewal area and the South Waterfront District is within the North Macadam Urban Renewal area. Both urban renewal areas have prioritized and incentivized affordable housing with tax-increment financing and created accessible hubs of transportation.

While Portland does have public funds available for brownfield cleanup, the Pearl District and South Waterfront District utilized private investments and tax-increment financing for remediation, allowing for the limited public funds to be utilized in other parts of the city. The remediation of both areas included removing the environmental contamination of soil and past railyards. The result of these initiatives has been an increase assessed value of these neighborhoods, \$1.7 billion in the last 20 years for the River District in Portland.<sup>47</sup>

The change in demographic profile of the neighborhood, however, is something that cannot be ignored. Despite the intentions of the government, the affordable housing made available in both districts has not been enough to combat the pressing homelessness issue facing Portland. Additionally, the per capita incomes of both neighborhoods are some of the highest in the region, suggesting that areas are providing more space for single high-income earners than low-income individuals and families.

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<sup>47</sup> Bjelland and Veen, "Portland's Post-Industrial Neighborhoods," 117.

## **Barriers to affordable housing on brownfield sites**

Brownfield development is often a hard sell for developers due to the high risks and costs associated with remediation before development can begin. Additionally, the limited resources available to incentivize development on contaminated land also paints brownfields as undesirable locations. The authors explore existing literature to identify the most important barriers to include in conceptual models for affordable developments in brownfields and utilize case studies to verify and propose mitigation strategies to the barriers.<sup>48</sup> The case studies are of Trans Bay, Mission Bay, and Hunters Point Shipyard – all sites located in San Francisco.

### *Conceptual Model of Barriers*

When planning for industrial redevelopment with affordable housing components, a balance needs to be struck to reduce barriers for private developers while addressing the community needs in order to construct a strong blueprint for subsequent projects. The relationship between economic value and location is derived from the desirability felt by residents towards the areas. This is made evident by the high cost-per-square-footage of cities that are deemed to be desirable places to live, such as Atlanta, Boston, Chicago, New York, and San Francisco.<sup>49</sup> The same idea applies to the concept of brownfield development where if the remaining buildings in abandoned industrial lands are seen to be of sufficient quality and worth renewing, efforts will steer to rehab the land, and if not, large-scale demolition will decimate all

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<sup>48</sup> Graham Squires and Norman E. Hutchison, “Barriers to Affordable Housing on Brownfield Sites,” *Land Use Policy* 102 (March 1, 2021): 105276, <https://doi.org/10.1016/j.landusepol.2020.105276>, 2.

<sup>49</sup> Squires and Hutchison, “Barriers to Affordable Housing on Brownfield Sites,” 2.

existing building stocks to make way for renewal of the land.<sup>50</sup> The next item to consider is the environmental safety and economic viability of rehabilitation. Brownfields are required to follow stringent regulations in proper clean up and assessment before development can begin, but the processes involved in the remediation is often too costly to allow for affordable, below-market housing to be built on land with high initial investments. Sustainable brownfield developments require developers to partner with multiple institutions in order to maximize changes of viability and success.<sup>51</sup> The third theme to consider is the quality of affordable housing made available on the developed brownfields. Various studies have shown that intended affordable housing units are still ways out from being at affordable levels for residents, especially in high-rent cities and the result is still the shortfall of housing for extremely low-income households.<sup>52</sup> The essence of these three ideas combined can be found in the brownfield redevelopment projects in San Francisco and techniques to overcome the barriers have been highlighted in the text.

### *Trans Bay*

Trans Bay is located close to downtown with the San Francisco Bay to its northeast and was formerly a transportation hub for buses, underground trains, and motor vehicles. The development plans for Trans Bay included expanding the rail line and developing 1,050 units of affordable housing of the proposed 3,000 new residential units being introduced into the neighborhood. These affordable developments were funded by a variety of federal, state, and local sources, such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) loan

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<sup>50</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 2.

<sup>51</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 2.

<sup>52</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 3.

from the U.S. Department of Transportation, to evade the financial burden on a single party and increase the success rate of the development.<sup>53</sup> The area is also set to sell parcels containing the former freeway and former terminal and use land sale proceeds and net tax increment revenue to fund parts of the neighborhood development and further increasing the affordable housing stock.<sup>54</sup>

### *Mission Bay*

Mission Bay is located in mid-town and is in the process of turning a 303 acre former industrial site into a mixed-use, transit-orientated development with a substantial number of affordable units planned for.<sup>55</sup> The development is concurrently introducing other commercial, retail, and educational uses to support the growing neighborhood, demonstrating the future economic value and rising desirability of the area. Official development began in 2000 and is set to take between 20 to 30 years with approximately \$9 billion spent on development costs, accounting for necessary remediation.<sup>56</sup> The development of the anticipated total 6,350 affordable units with 1,850 dedicated to low- and very low-income residents will mainly be spearheaded by non-profit developers with approximately 250 of the affordable units being privately developed as inclusionary housing.<sup>57</sup>

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<sup>53</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 5-7.

<sup>54</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 7.

<sup>55</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 7.

<sup>56</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 7.

<sup>57</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 7.

### *Hunter's Point Shipyard*

Hunter's Point Shipyard is the largest of the three industrial redevelopment sites at 500 acres located along the Bay. The site was a former naval base and required the Navy to remediate the site prior to handing over the site to the City for reuse. In 1997, the Redevelopment Plan for the site was modified to include approximately 280 acres of land adjacent to Hunter's Point – Candlestick Point. The combination of both sites has led to the development of over 300 acres of parks and open space for the public and include commercial space for large organizations such as the United Nations.<sup>58</sup> Hunter's Point was known previously for having a significant amount of affordable and subsidized housing to address the needs of the community and the proposed development plan did well to incorporate ways to maintain this provision. The extensive amount of developable land called for phased development in order to overcome some of the economic barriers to creating mixed-income residential housing. The first phase of the development includes building 1,600 units in the Hunter's Point Shipyard site, with 27 to 40 percent of the homes to be affordable, in addition to 26 acres of open space.<sup>59</sup> The second phase adds 10,500 new housing units across Hunter's Point Shipyard and Candlestick Point with 32 percent to be affordable in addition to the improvement of a public housing development found within the project sites. The developers of the project are not only planning for new developments to be erected in the area, but also finding ways to assist with rebuilding and rehabilitating existing housing options using federal tax credits to finance these ventures.

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<sup>58</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 7-8.

<sup>59</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 8.

## *Analysis*

Housing adequacy is a prevalent problem for the targeted low- or very-low income households that are taking a risk when moving from their old homes to redeveloped brownfields. The authors provide an example of if people moving from low-quality homes in other disadvantaged neighborhoods move into high-quality homes in unsafe environments, they will have done a disservice to themselves and their families while trying to improve their living conditions.<sup>60</sup> The three development projects analyzed in this paper showed a variety of previous uses before redevelopment plans and ample thought into the composition of the areas to maximize impact on the surrounding neighborhood and incumbent residents. The remediation of the sites as well as the associated costs are secured through partnerships between public and private organizations to chase both community benefit and profit, respectively. The convenient location of each of the sites as well as the planned transit connections stimulates other developers to follow suit and revitalize previous brownfield lands into economically prosperous neighborhoods. The affordable housing offered at these sites, while unable to cater to the extremely low-income households making less than 50 percent of the average median income, were not an afterthought in the development process and instead created a mixed-income community that allows low earners to experience the benefits of the imminent growth of these areas with their high earning counterparts.

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<sup>60</sup> Squires and Hutchison, "Barriers to Affordable Housing on Brownfield Sites," 10-11.

## **Literature Takeaways**

As seen through the previous examples, industrial redevelopment across the U.S. has taken a variety of forms. The inclusion of affordable housing in these ventures provides outlook into the consideration and partnerships needed to create successful developments that not only supply much needed housing units, but also creates opportunities for prosperity in the surrounding neighborhood. The quantity of housing aside, housing adequacy is another challenge facing affordable developments, especially those built on previous brownfields. Proper attention to both quantity and quality of housing units will need to be paid during these developments. The coming renaissance of underutilized urban industrial properties will bring forth partnerships in development and finances to allay the existing challenges with brownfield remediation and proliferation of affordable housing within reach of lower income households.

## 4. METHODOLOGY

The following case study of The Interbay Project: The Interbay Public Development Advisory Committee's Recommendations and Implementation Plan includes a detailed qualitative analysis of the plans proposed throughout the report. An analysis will be conducted through a lens of affordable housing, assessing the ability for individuals and families of various Area Median Income (AMI) levels to live in the neighborhood without displacement. Potential barriers and alternatives to developing housing on the site will also be discussed.

Interbay was chosen as the study area for its opportune location within the city and its decreased industrial activity over the years. The surrounding Magnolia and Queen Anne neighborhoods are both heavily residential areas and the disconnect between Interbay and its abutting neighborhoods is starkly recognizable when moving through the area. Additionally, with Seattle's deficit in housing options for the growing population, it is imperative to identify underutilized land within the city and implement well-considered solutions for the continued improvement of Seattle's urban living.

## 5. CASE STUDY

This section presents contextual information on the state of affordable housing in Seattle and its industrial environment, as well as the proposed changes to industrial zoning in the city. Subsequent analysis of the Interbay Report and its suggestions for the National Guard Armory site development dive into identifying areas of improvement to apply to the ensuing Proposed Alterations section.

### **Affordable Housing Need in Seattle**

#### *Homelessness in Seattle*

There is a clear need for housing in Seattle, especially affordable housing. From the 2022 Point in Time (PIT) Count, the King County Regional Homelessness Authority (RHA) accounted for 13,368 individuals experiencing homelessness with a growth of 10 percent in unsheltered individuals compared to 2020.<sup>61</sup> The escaping affordability of housing for Seattle residents is largely pinned to the influx of high-earning workers and companies, such as the big technological companies like Amazon, Meta, Microsoft, and Google, but there are few academic studies conducted to solidify the correlation. What can definitively be seen on the streets of Seattle are tent cities, referring to homeless encampments located on the sides of highways, sidewalks, and buildings that offer temporary respite from being unsheltered.<sup>62</sup>

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<sup>61</sup> King County Regional Homelessness Authority, “2022 Point in Time Count” (King County Regional Homelessness Authority, June 2022), accessed May 21, 2023, <https://kcrha.org/wp-content/uploads/2022/06/PIT-2022-Infograph-v7.pdf>.

<sup>62</sup> Rebecca Finkes, “City Sanctioned Homeless Encampments: A Case Study Analysis of Seattle’s City-Permitted Villages” (2019), <https://kb.osu.edu/handle/1811/87627>.

## Mandatory Housing Affordability Program

The implementation of the Mandatory Housing Affordability (MHA) Program in 2019 in Seattle was the city’s response to the need for more affordable units. The MHA Program is Seattle’s version of inclusionary housing that requires developers to either contribute to a fund dedicated for affordable housing developments (payment option) or include a number of affordable units to be set aside in new developments (performance option).<sup>63</sup>

*Table 1. Affordable Units Available in Seattle, Source: City of Seattle Office of Housing*

	Studio Units						1 Bedroom Units					2 Bedroom Units					3 Bedroom + Units			
AMI (%)	40	50	60	65	70	80	50	60	70	75	80	50	60	70	80	85	90	80	85	90
<b>Total Units Available</b>	22	24	29	1,596	2	350	16	5	16	2,511	677	4	1	0	57	602	153	1	7	11

The data available on the rental apartment buildings participating in the Multifamily Tax Exemption (MFTE), Mandatory Housing Affordability (MHA), and Incentive Zoning (IZ) Programs, last updated in January 2022, shows a total of 6,084 affordable units available in Seattle with Table 1 breaking down the units per unit type and at different AMI levels. The table shows that the overwhelming majority of studio units are offered at 65 percent AMI, one bedroom units at 75 percent AMI, and two bedroom units at 85 percent AMI; \$1,472, \$1,819, and \$2,474, respectively, based on the 2022 Income and Rent Limits published by the City of Seattle Office of Housing.<sup>64</sup> The breakdown of affordable units offered in the city also shows only 66 units offered

<sup>63</sup> “Mandatory Housing Affordability - Housing | Seattle.Gov.”

<sup>64</sup> Seattle Office of Housing, “2022 Income and Rent Limits,” May 1, 2022, accessed April 20, 2023, <https://www.seattle.gov/documents/Departments/Housing/PropertyManagers/IncomeRentLimits/Income-Rent-Limits.pdf>, 6-7.

at less than 50 percent AMI – just one percent of the total affordable units available in the city. This means that households that fall well beneath the income limits set for the affordable units are forced to overextend themselves past 30 percent of their monthly income due to the lack of truly affordable units within their budgets. For Seattle specifically, approximately 56 percent of Seattle’s population makes less than \$75,000 annually, per the American Community Survey conducted in 2021.<sup>65</sup>

**INCOME LIMITS**

		Percent of Area Median Income									
Family Size		30%	40%	50%	60%	65%	70%	75%	80%	85%	90%
1		\$27,170	\$36,230	\$45,290	\$54,350	\$58,880	\$63,410	\$67,940	\$72,460	\$76,990	\$81,520
2		\$31,060	\$41,410	\$51,760	\$62,110	\$67,290	\$72,460	\$77,640	\$82,820	\$87,990	\$93,170
3		\$34,940	\$46,580	\$58,230	\$69,880	\$75,700	\$81,520	\$87,350	\$93,170	\$98,990	\$104,810
4		\$38,820	\$51,760	\$64,700	\$77,640	\$84,110	\$90,580	\$97,050	\$103,520	\$109,990	\$116,460
5		\$41,930	\$55,900	\$69,880	\$83,850	\$90,840	\$97,830	\$104,810	\$111,800	\$118,790	\$125,780
6		\$45,030	\$60,040	\$75,050	\$90,060	\$97,570	\$105,070	\$112,580	\$120,080	\$127,590	\$135,090

**MAXIMUM RENT, INCLUDING BASIC UTILITIES (30% OF MONTHLY INCOME)**

		Percent of Area Median Income									
Unit Size		30%	40%	50%	60%	65%	70%	75%	80%	85%	90%
0-BEDROOM		\$679	\$905	\$1,132	\$1,358	\$1,472	\$1,585	\$1,698	\$1,811	\$1,924	\$2,038
1-BEDROOM		\$727	\$970	\$1,213	\$1,455	\$1,577	\$1,698	\$1,819	\$1,941	\$2,062	\$2,183
2-BEDROOM		\$873	\$1,164	\$1,455	\$1,747	\$1,892	\$2,038	\$2,183	\$2,329	\$2,474	\$2,620
3-BEDROOM		\$1,009	\$1,345	\$1,682	\$2,018	\$2,186	\$2,355	\$2,523	\$2,691	\$2,859	\$3,028
4-BEDROOM		\$1,125	\$1,501	\$1,876	\$2,251	\$2,439	\$2,626	\$2,814	\$3,002	\$3,189	\$3,377

Figure 7. 2022 Rent Limits for IZ, MFTE (P3, P4, P5 only), MHA, MPC-YT, and other developer agreements, Source: City of Seattle Office of Housing

The 2022 Mandatory Housing Affordability and Incentive Zoning Report noted a collection of \$74.7 million in fees in 2022 as an overwhelming number of developers choose the payment option over performance option.<sup>66</sup> The fund has awarded various projects with diversified

<sup>65</sup> U.S. Census Bureau, “Explore Census Data,” n.d., <https://data.census.gov/table?q=seattle+income&tid=ACSST1Y2021.S1901>.

<sup>66</sup> Seattle Office of Housing, “Mandatory Housing Affordability and Incentive Zoning 2022 Report” (City of Seattle, March 2023), accessed May 21, 2023, [https://www.seattle.gov/documents/Departments/Housing/Reports/2022\\_MHA-IZ-AnnualReport\\_Final.pdf](https://www.seattle.gov/documents/Departments/Housing/Reports/2022_MHA-IZ-AnnualReport_Final.pdf), 4.

amounts to sponsor the creation of affordable units in new developments, often led by local low-income developers. In 2022, the Seattle Office of Housing awarded varied projects by DESC, Bellwether Housing, Low Income Housing Institute, among others, to create a total of approximately 1,000 new affordable units.<sup>67</sup>

### **Seattle's Industrial Environment**

There are two main Manufacturing/Industrial Centers (MICs) located within Seattle: the Ballard-Interbay Northend (BINMIC) and the Greater Duwamish (Duwamish MIC). Per the City of Seattle, as of 2022, BINMIC's industrial land use is 59.4 percent of land by area and the Greater Duwamish MIC is 80.4 percent, with the rest of the land made up with commercial and retail uses.<sup>68</sup>

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<sup>67</sup> Seattle Office of Housing, "2022 Notice of Funding Availability Awards," Slide show, n.d., [https://seattle.gov/documents/Departments/Housing/Investments/2022\\_HousingInvestments.pdf](https://seattle.gov/documents/Departments/Housing/Investments/2022_HousingInvestments.pdf).

<sup>68</sup> Puget Sound Regional Council, "City of Seattle Industrial and Maritime Strategy," (n.d.), <https://www.psrc.org/media/6812>, 3-4.



Figure 8. Manufacturing/Industrial Centers (MICs) in Seattle, Source: Author, Seattle Open Data

### Current Industrial Land Use in Seattle

Approximately 5,900 acres (932 AC BINMIC + 4,954 AC Duwamish MIC) of industrial land exists in the BINMIC and Greater Duwamish MIC. Of this, approximately 310 acres are vacant, taking the form of fenced off, empty lots or derelict buildings that remind us of the prime of industrial manufacturing in Seattle.<sup>69</sup> The industrial zones delineated in the Seattle Municipal Code are General Industrial 1 (IG1), General Industrial 2 (IG2), Industrial Buffer (IB), and Industrial Commercial (IC).

<sup>69</sup> "Parcels for King County with Address with Property Information / Parcel Address Area," n.d., <https://gis-kingcounty.opendata.arcgis.com/datasets/kingcounty::parcels-for-king-county-with-address-with-property-information-parcel-address-area/about>.

In the BINMIC area specifically, the main employers and industry drivers are Burlington Northern Santa Fe Balmer, Port of Seattle, and GM Nameplate. BNSF is still building trains out of their BINMIC facilities and GM Nameplate also actively uses their facilities for manufacturing and headquarters. The Port of Seattle is responsible for Terminal 91, a docking facility that provides moorage for fishing and commercial vessels. The Port of Seattle land facilities and Terminal 91 covers approximately 472,700 square feet of space with 10 buildings and they are continuing to grow their presence in the area.<sup>70</sup> The port released a Request for Proposals looking for two 50,000 square feet industrial buildings to be designed and an additional 700,000 square feet is expected to be added to the Port of Seattle’s portfolio specifically for me industrial space. Historically, there has been no new industrial development in the south BINMIC, south of West Dravus Street, since 1991, although north BINMIC saw eight new industrial projects in recent years totally to approximately 200,000 square feet of development.<sup>71</sup>

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<sup>70</sup> Washington Department of Commerce, “The Interbay Project: The Interbay Public Development Advisory Committee’s Recommendations and Implementation Plan” (Washington Department of Commerce, November 15, 2019), accessed February 1, 2023, <https://www.commerce.wa.gov/wp-content/uploads/2019/12/Report-LGD-Interbay.pdf>, 25.

<sup>71</sup> State of Washington, “Substitute House Bill 1102” (State of Washington, April 28, 2019), accessed March 2, 2023, <https://lawfilesexternal.wa.gov/biennium/2019-20/Pdf/Bills/House%20Passed%20Legislature/1102-S.PL.pdf#page=69>, 69.

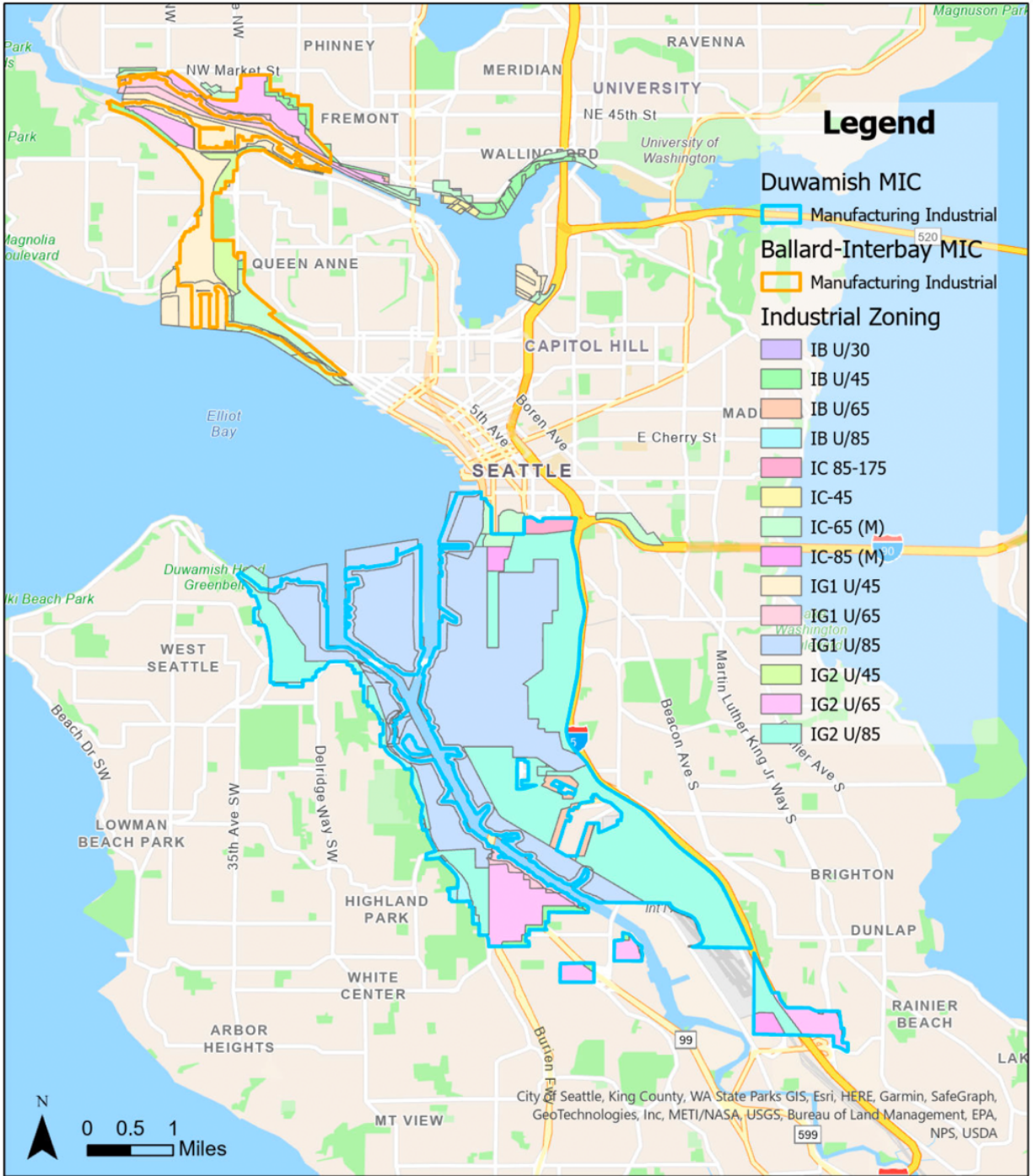


Figure 9. Seattle's Industrial Zoning in 2023, Source: Seattle Open Data

### *Upcoming Changes in Industrial Zoning*

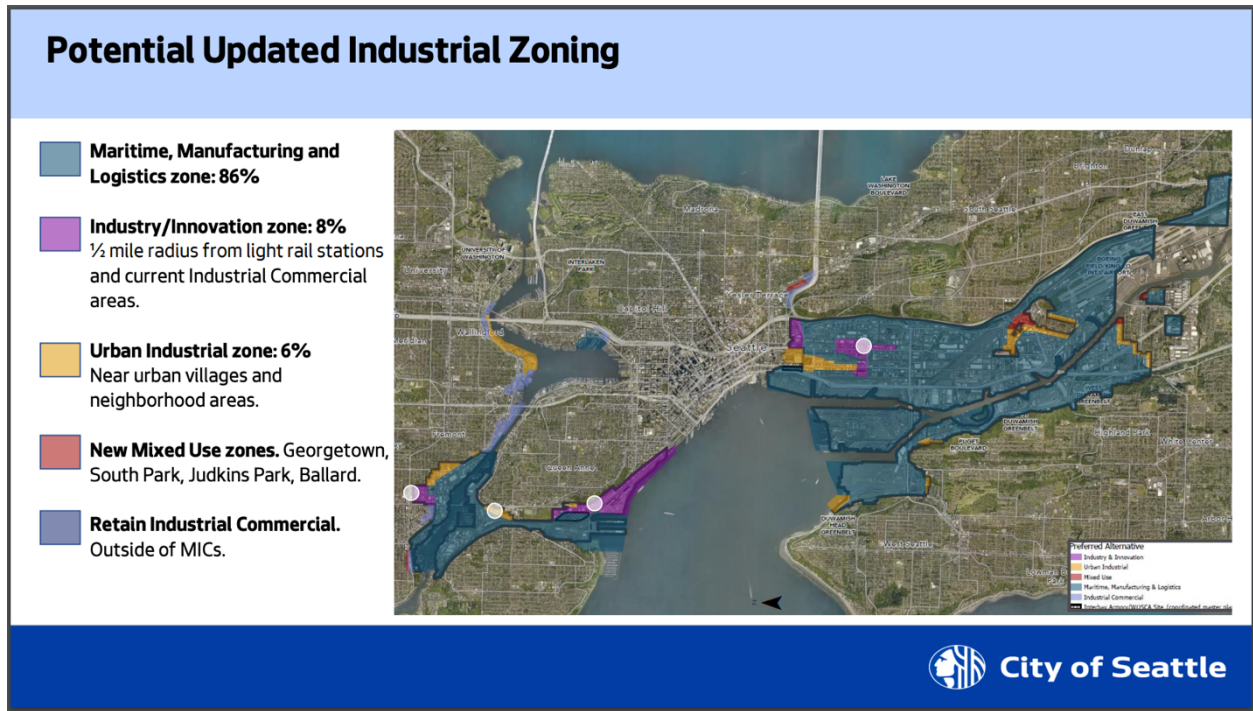
An Environmental Impact Statement was issued in September 2022 by the Office of Planning & Community Development of Seattle, looking at the proposed land use concepts by the Comprehensive Plan that centered around introducing three new industrial zones: Maritime, Manufacturing, and Logistics (MML); Industry and Innovation (II); Urban Industrial (UI).<sup>72</sup> The Director's Report and Recommendation on Seattle's Industrial and Maritime Strategy was released in March 2023 that set "Promot[ing] mutually reinforcing mixes of activities at the transitions between industrial areas and urban villages or residential neighborhoods" as an objective of the legislation and detailed the aforementioned new industrial zones.<sup>73</sup> The MML zone would consolidate the current IG1 and IG2 zones to support continued industrial activity within the city. The II zone would be a mix of the existing IC and IB zone, focusing on transit-dense areas throughout the industrial areas and with lighter industrial uses. The UI zone is meant to strengthen the transitional areas between industrial and residential areas by promoting small businesses, manufacturers, and other non-industrial uses to coincide with residential uses. Figure 10 shows the potential changes to be made to current zoning designations, but upon the implementation of the proposed legislation changes in the report, it is projected that more development of mixed-use buildings would appear in the UI zoned areas.<sup>74</sup>

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<sup>72</sup> City of Seattle, "Seattle Industrial & Maritime Strategy Final Environmental Impact Statement," September 2022, accessed March 2, 2023, <https://www.seattle.gov/documents/Departments/OPCD/OngoingInitiatives/IndustrialMaritimeStrategy/SeattleIndustrialFEISExecutiveSummary.pdf>, 2

<sup>73</sup> City of Seattle, "Seattle Industrial & Maritime Strategy Director's Report and Recommendation," March 2023, accessed April 4, 2023, <https://www.seattle.gov/documents/Departments/OPCD/OngoingInitiatives/IndustrialMaritimeStrategy/IndustrialMaritimeFinalDirectorsReport2023.pdf>, 3

<sup>74</sup> City of Seattle, "Seattle Industrial & Maritime Strategy Director's Report and Recommendation," 48



*Figure 10. Potential Updated Industrial Zoning in BINMIC, Source: PSRC*

### The Interbay Project Report

The Interbay Project Report was released on November 15, 2019 as a report to the governor and legislature to organize the findings of the Interbay Public Development Advisory Committee.

A preliminary analysis was conducted of a site located in Interbay, currently the site of the National Guard Armory Facility. Due to the inadequacy of current facilities for the timely deployment and training of troops, the National Guard has identified a new location in North Bend that would better serve their goals. No development can begin on the site until the complete relocation of the National Guard and proper transfer of ownership.

#### *Existing Conditions*

The site is located in close proximity to Downtown Seattle and Pier 91. With approximately 24.75 acres between two state-owned parcels, the site is one of the largest parcels in the area and ripe for redevelopment. The site is accessed via a single easement through a privately-owned parcel to the east.



Figure 11. The Interbay Project Site, Source: Washington State Department of Commerce

The site is currently zoned as Industrial General 2 (IG2) within a designated Manufacturing and Industrial Center. The surrounding zoning consists of Industrial General 1, Commercial 1, Commercial 2, Industrial Buffer, and Industrial Commercial.

### *Site Opportunities*

There are not many parcels of this size currently available in metro Seattle or even in Interbay. The size of the project site makes a larger development feasible to providing housing and necessary services to the area. Additionally, the proposed Smith Cove Station adjacent to

the site opens opportunities for more accessibility and foot traffic by people from other parts of the city.

### *Site Constraints*

While centrally located and a big opportunity for the area, certain constraints exist on the site that may affect the viability of future development efforts.

As mentioned previously, development is only possible upon the complete relocation of the National Guard and transfer of ownership. The relocation of National Guard equipment and personnel is reliant upon sufficient capital to cover expenses approximated to \$101 million. The state Legislature has allocated \$6.6 million to the acquisition of a new site but the remainder of costs will need to be burdened through a mix of federal and/or state funding. The traditional breakdown of costs is 75 percent of funding from federal and 25 percent from the state, however, federal funding allocation for projects is highly competitive and limited. In the event that the federal government is unable to assist in the Guard's relocation costs and the full financial responsibility falls on the state, the state will have to spend approximately \$108 million less the proceeds from the sale of the Interbay property. The Interbay Report identifies this solely state-sponsored project as the lowest risk due to the lack of external funding and thus a shortened timeframe to implementation without the need to wait for federal processes.

The transfer of ownership is not foreseen to be an arduous process but one that is time consuming due to the levels of review that this deal would need to go through. The initial transfer of ownership from the United States of America to the State of Washington for use as the

National Guard's Seattle Readiness Center happened in 1971, 1989, and 2009; 15 acres in the north in 1971 and 1989 and remaining 9.75 acres in 2009. A condition of transfer was included in the Quit Claim Deed and Transfer Agreement of the earlier transaction that requires the State of Washington from modifying ownership or tenancy of the site without the written authorization of the U.S. Secretary of the Army. Once permission and proper documentation is acquired, the State must then decide which entity will be responsible for overseeing the property and all related developments. The Interbay Report conducted an analysis of possible options and concluded that the formation of a Community Preservation & Development Authority would be the most appropriate given the flexibility in governance structure and alignment with state and local interests.

Another challenge around the location of the site is current zoning designations. The site is currently zoned General Industrial 2 (IG2) where the industrial function is less than neighboring IG1 zones but more commercial activity is welcomed to supplement the economic activity in the zone. The allowed uses of industrial zones, as referenced in the *Current Industrial Land Use in Seattle* section above, support existing industrial use in the area and promote the continued growth of industrial development in the city. Non-permitted or conditionally approved uses, such as residential housing, are difficult to develop without going through complex local processes, such as conditional use permits and zone changes. The latter change in zoning designation can solely be for a single site or include an area-wide rezone. A land use rezone permit application is required by the City of Seattle that includes a narrative explanation of how the proposed zone changes would support the overall area and the plans set in motion by Seattle's Comprehensive

Plan, neighborhood plans, surrounding zones, and local-level public services (water, sewer, transit, etc.). An area-wide rezone would require the City to take initiative and conduct a study of an area to assess the alignment of possible rezones with the goals set by the Comprehensive Plan. The most recent area-wide rezones include the South Lake Union Rezone, Yesler Terrace Rezone, and the introduction of Station Area Overlay Incentive Zoning.<sup>75</sup> Rezoning is both a costly and time-consuming process.

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<sup>75</sup> “Land Use / Master Use Permit - Rezone - SDCI | Seattle.Gov,” n.d., [https://www.seattle.gov/sdci/permits/permits-we-issue-\(a-z\)/land-use/-/master%20use-permit-%20rezone#2.startpreliminaryapplication](https://www.seattle.gov/sdci/permits/permits-we-issue-(a-z)/land-use/-/master%20use-permit-%20rezone#2.startpreliminaryapplication).



Figure 12. New Armory Way Bridge Plans, Source: Seattle Department of Transportation Magnolia Bridge Planning Study, 2017

Finally, the impending decisions to the adjacent Smith Cove light rail station and Magnolia Bridge both have significant effects on development opportunities. The construction of the light rail will likely require a dedicated right-of-way and buffer to be set aside for development on the western side of the parcel, an estimated 3.4 to 5.6 acres of the site's 24.75 acres - up to 23

percent of developable land.<sup>76</sup> The dilapidated state of the Magnolia Bridge also poses difficulties as the City launched a planning study in 2017 that analyzed four alternative transportation scenarios, one of which would build an Armory Way Bridge to connect Magnolia to 15<sup>th</sup> Ave West and limit access to the project site.<sup>77</sup> Another proposed location of the Smith Cove light rail station is south of the current Magnolia Bridge, which would decrease proximity to public transit and transit-oriented development benefits for the project site.

### *Methodology*

The Committee employed a variety of methods to measure and analyze the alternatives available to replace the current National Guard usage of the project site. They first established the guiding principles that would direct the committee’s approach to propositions, focusing on maximizing the public benefit, listening to the community and stakeholders, and leveraging innovating partnerships to maximize the available resources.

The content of the report began with a series of public engagement campaigns, such as open houses, research interviews, open lines of communication, among others. These avenues of feedback provided opportunities for local residents, business owners, government officials, and other interested parties to contribute to the shaping the narrative of the Committee’s work.

### *Community Outreach Outcomes*

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<sup>76</sup> Sound Transit, “Motion No. M2019-51: Identifying West Seattle and Ballard Link Extension Alternatives for Study in a Draft Environmental Impact Statement,” May 23, 2019, accessed March 15, 2023, [https://www.soundtransit.org/st\\_sharepoint/download/sites/PRDA/FinalRecords/2019/Motion%20M2019-51.pdf](https://www.soundtransit.org/st_sharepoint/download/sites/PRDA/FinalRecords/2019/Motion%20M2019-51.pdf).

<sup>77</sup> “Magnolia Bridge Planning Study - Transportation | Seattle.Gov,” n.d., <https://www.seattle.gov/transportation/magnoliabridgeplanning>.

The general consensus of the representative sample is simplified below:<sup>78</sup>

- Inclusion of affordable housing or services for growing homeless populations, particularly with light rail station development nearby
- Concerns over loss of industrial lands in the city and the associated economic impacts
- Concerns over incompatible land uses in industrial areas
- Addition of publicly available open spaces and accessibility by Seattle Animal Shelter for its rehabilitation programs

### *Proposed Future Uses*

The Committee integrated the feedback and concerns of the public discussion into three separate development options that could be introduced to the project site and surrounding neighborhood. The scenarios are categorized into industrial only uses, mixed-use commercial with residential, and mixed-use light industrial with residential.

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<sup>78</sup> Washington Department of Commerce, "The Interbay Project: The Interbay Public Development Advisory Committee's Recommendations and Implementation Plan," Appendix F

Measure	High-Rise Concept	Mid-Rise Concept	Industrial Only	Mid-Rise Housing Next to Industrial	High-Rise Housing Next to Industrial	Housing Above Industrial
Industrial area	0	0	511,200 SF	297,900 SF	297,900 SF	153,200 SF
Residential units	3,258	1,853	0	585	911	1,200
<i>Number of Market Units</i>	1,628	926		292	456	600
<i>Workforce Units at 60% to 120% of Area Median Income</i>	652	371		117	182	240
<i>Affordable Units at 60% of Area Median Income or lower</i>	978	556		176	273	360
Commercial area	108,000 SF	102,000 SF	0	22,100 SF	22,100 SF	22,100 SF
Potential community or educational use area	94,000 SF	160,000 SF	62,000 SF	63,800 SF	63,800 SF	63,800 SF
Residential density, gross	115 units/acre	75 units/acre	0	24 units/acre	30 units/acre	44 units/acre
Off-street parking spaces	1,362	1,038	398 (approx.)	689 (approx. 195 surface)	783 (approx. 195 surface)	818

Figure 13. Except of Redevelopment Concepts Program Summary Table, Source: The Interbay Report

### Industrial Only

The industrial only scenario would follow the current state, county, and city zoning regulations and intentions to reintroduce an industrial usage that could supplement existing industry, including the Port of Seattle’s Terminal 91 and the Burlington Northern Santa Fe Balmer

rail yards. The industrial development would be approximately 511,200 square feet with 62,000 square feet in potential community or educational use area and 2 acres of publicly open space at ground level.

The site falling within a designated manufacturing industrial center makes the industrial only use the best fit for current zoning practices. In addition to the well-fitting use, the industrial only option would introduce more industry-related jobs that could support economic development in Seattle. The development of the light rail close to the industrial use would also allow for easier commute from further parts of the city and create a decreased need for workforce housing to support the industry. However, this option would bypass an opportunity to introduce thousands of housing units into the market and decrease the state of the city's housing shortage.

#### *Mixed-Use – Commercial and Residential*

The second proposed use would be a mixed-use development that includes commercial and residential uses. The residential component would be mixed income, with 30 percent of units designated as affordable units at 60 percent of Area Median Income (AMI) and 20 percent available as workforce units at 60 to 120 percent of the AMI. The development could be either a mid-rise development or high-rise development over several floors of commercial space, open space, and civic space. The high-rise concept would introduce 3,258 residential units to the area, hosting 108,000 square feet of commercial area, 94,000 square feet of potential community or educational use area, and 4.2 acres of publicly open space at ground level for community usage. The mid-rise concept would introduce 1,853 residential units, 102,000 square feet in commercial

area, 160,000 square feet in potential community or educational use area, and 5.5 acres of open space at ground level.

This combined commercial and residential development would leverage the introduction of the Smith Cove Link light rail station to the neighborhood and enable the development to function as a transit-oriented development by enabling residents to utilize public transit to access different parts of the city. Additionally, the commercial, civic, and open spaces would allow for other neighborhood residents and existing workforce to benefit from the diversified land use. This development option would answer to the aforementioned concerns for affordable housing, take advantage of the light rail development, and provide open space for the public. However, the mixed-uses are not currently permitted in the zoning and would take away from the industrial land stock within Seattle's urban setting.

#### *Mixed-Use –Light Industrial and Residential*

The final alternative offered by the Committee suggested the combination of light industrial and residential development on site. This particular option allowed for three separate sub-scenarios: mid-rise housing next to light industrial, high-rise housing next to light industrial, and housing built above light industrial space. The Committee identified several potentially compatible light industrial uses that included boutique manufacturing (apparel, jewelry, pottery, leather products, etc.), small-scale food and beverage production (bakeries, coffee roasters, breweries, distilleries, etc.), advanced manufacturing (3D printing, research and development, software, etc.), and skilled trades (plumbers, electricians, carpenters, etc.). The industrial space in both scenarios where the residential development is built adjacent, there will be

approximately 297,900 square feet of space dedicated to various light industrial activity. The scenario that has residential development built above the industrial spaces will only have 153,200 square feet, per the assumptions by the Committee. The tradeoff for more industrial space in the separate buildings is that less housing units can be offered, with only 585 units made available in the mid-rise model and 911 units in the high-rise, with correlated affordable housing units and workforce housing less than the previous scenario. The housing above the industrial space would bring in more residential units as a high-rise with 1,200 units available to the market. All three sub-scenarios offer 22,100 square feet in commercial space, 63,800 square feet in potential community or education use area, and 3.4 acres in ground-level public open space.

Of the three alternatives offered, this last one satiates most of the concerns of the public and guiding goals of the Committee by keeping industrial uses on the land and associated jobs in the area while still providing much needed housing to the general public. This takes the benefits mentioned for the first two scenarios and combines them as a final, ideal solution.

### **Analysis**

As opportune as the impending vacancy of the National Guard Armory site is, its future land use comes with many stipulations and challenges before it can be developed to its fullest potential. The Committee's implementation of any of the scenarios involves multiple steps and requires legislative action in order to begin site development.

Some of the main difficulties facing this project is securing adequate funding to both relocate the National Guard and developing the site, in addition to deciding who would be responsible for ownership and/or management of the development. However, the focus of this

thesis is to look into the ways to introduce more affordable housing onto this site than is delineated in the Committee's suggestions.

The site is located at an auspicious location in Interbay to introduce residential development into the area. With the Smith Cove light rail station expected to be operational by 2035, its imminent development allows for an opportunity to work with Sound Transit and other partners to create a transit-oriented development that would benefit Seattle residents in need of attainable and affordable housing options while also supporting the surrounding industrial uses. Separate from the light rail development, the site being located in the southeast corner of Interbay, next to West Queen Anne creates a gradual transition of housing types from single-family homes in adjacent neighborhoods to multi-family housing that supports the industrial workforce. The options suggested by the Committee that are inclusive of housing elements do not fully capitalize on the chance to integrate affordable housing at higher concentrations, especially so close to the Commercial Business District of Seattle.

With the maximum number of affordable units offered at 978 units and 652 workforce units in the high-rise concept with ground floor commercial uses, both of those numbers are fractions of what can and need to be made available. The affordable units are 30 percent of the total number of units and offered at 60 percent of AMI. Per the 2022 Income and Rent Limits released by the Seattle Office of Housing for developments following the MHA requirements, the maximum rent including basic utilities at 30 percent of monthly income is between \$1,358 and

\$2,018 for studio units to three bedroom units, respectively.<sup>79</sup> This would allow individuals making no more than \$54,350 annually to have their rent capped at 30 percent of their income. For larger families, the 60 percent income limits range from \$62,110 up to \$90,060, applicable up to a family of six. The most recent American Community Survey's data on household income in 2021 showed that just 11.3 percent of households in Seattle were making \$50,000 to \$74,999 and 9.3 percent were within the bracket of \$75,000 to \$99,999.<sup>80</sup> The Rental Market Trends Report published by Apartment List reported median rents for one bedroom apartments in Seattle to \$1,568 and \$1,895 for two bedroom apartments, within the price and size range of what would be available in the Interbay development.<sup>81</sup> For the 25.4 percent of households making less than \$50,000, even when housing units are offered at 60 percent AMI, it is difficult to afford and obtain these units due to the large competition when these units become available.<sup>82</sup>

As a project that is likely to be spearheaded by a government entity - whether state, local, or quasi-municipal corporations – there is room for the owner/management of this development to go above and beyond the minimum requirements that private developers are required to follow, especially given the pressing need for more affordable housing. The government should take initiative and address the lack of truly affordable housing for households making less than

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<sup>79</sup> Seattle Office of Housing, "2022 Income and Rent Limits," 6-7.

<sup>80</sup> U.S. Census Bureau, "Explore Census Data," n.d., <https://data.census.gov/table?q=seattle+income&tid=ACSST1Y2021.S1901>.

<sup>81</sup> Apartment List, "Seattle, WA Rental Market Trends," May 2023, accessed May 1, 2023, <https://www.apartmentlist.com/rent-report/wa/seattle>.

<sup>82</sup> Seattle Office of Housing, "2022 Income and Rent Limits," 6.

50 percent of the area median income by piloting a development that would provide ample affordable units, opportunities for jobs, and community growth.

## **6. ALTERNATIVE DEVELOPMENT PLAN**

Based on the literature reviewed throughout the research process and case study of the proposed development on the National Guard Armory site in Interbay, an alternative development plan was formulated that encapsulates the needs of the community and provides an opportunity to maximize the output of available grants and funds for affordable housing.

In the original scenarios published in the Interbay Report, a proposition was made to include mixed-income residential units above commercial space. The high-rise concept would introduce 3,258 units with 978 units offered to low-income households at 60 percent AMI, 652 units offered as workforce housing at 60 to 120 percent of the AMI, and 1,628 units priced at competitive market rates. The breakdown of units in this development would be 30, 20, and 50 percent, respectively. It was identified early into the report that “[t]here is no evaluated redevelopment scenario that provides an acceptable level of public benefit and generates sufficient value to offset the entire remaining and currently unfounded cost of the future King County Readiness Center and field maintenance shop facility and the associated relocation activities.” The priority for this development should be to offer a large quantity of much needed affordable housing and related services to the residents of Seattle.

### **Development Components**

#### *High-Rise Mixed-Income Housing Units at 30 to 50 Percent AMI*

To address the missing housing market for low-income households, I propose creating a mixed-use development that provides mixed-income housing of low-income households – those making between 30 to 50 percent of the Area Median Income. The City of Seattle Office of

Housing released the 2022 income limits for households applying for units within the MHA or Multifamily Tax Exemption programs and Figure 14 breaks down the thresholds. To qualify for a unit offered at 30 percent AMI, a one-person household would need to make less than \$27,170 while a family of six would need to make below \$45,030. For units offered at 50 percent AMI, a one-person household would need to make less than \$45,290 and a six-person household would need to make less than \$75,050. The need for more units offered at lower AMI percentages was explained in a previous section, *Affordable Housing Need in Seattle*, where only one percent of the affordable units in the city are listed at less than 50 percent AMI – that is 66 units of 6,084 total units.

**INCOME LIMITS**

Family Size	Percent of Area Median Income									
	30%	40%	50%	60%	65%	70%	75%	80%	85%	90%
1	\$27,170	\$36,230	\$45,290	\$54,350	\$58,880	\$63,410	\$67,940	\$72,460	\$76,990	\$81,520
2	\$31,060	\$41,410	\$51,760	\$62,110	\$67,290	\$72,460	\$77,640	\$82,820	\$87,990	\$93,170
3	\$34,940	\$46,580	\$58,230	\$69,880	\$75,700	\$81,520	\$87,350	\$93,170	\$98,990	\$104,810
4	\$38,820	\$51,760	\$64,700	\$77,640	\$84,110	\$90,580	\$97,050	\$103,520	\$109,990	\$116,460
5	\$41,930	\$55,900	\$69,880	\$83,850	\$90,840	\$97,830	\$104,810	\$111,800	\$118,790	\$125,780
6	\$45,030	\$60,040	\$75,050	\$90,060	\$97,570	\$105,070	\$112,580	\$120,080	\$127,590	\$135,090

Figure 14. 2022 Income Limits for IZ, MFTE (P3, P4, P5 only), MHA, MPC-YT, and other developer agreements, Source: City of Seattle Office of Housing

The reasoning for limiting the mixed-income aspect of the development to low-income households is due to the lack of evidence of benefit that comes from combining market-rate and low-income housing into a single development. Robert J. Chaskin and Mark L. Joseph in their book, *Integrating the Inner City: The Promise and Perils of Mixed-Income Public Housing Transformation*, study the Plan for Transformation that was launched in Chicago in 2000 with the ambitious goal of demolishing most of the city’s public housing and replace or repair it with 25,000 units of housing over the next 10 years. They found that, “neighborhood associational

mechanisms, whether intentionally or not, marginalize low-income renters, and associations designed to promote inclusion have been largely ineffective.”<sup>83</sup> In a study conducted by the Urban Institute in 2010, the authors tracked resident outcomes and found that even though the neighborhoods looked better physically with the demolition of blighted high-rises that were prevalent in the city’s poorest neighborhoods and new mixed-income communities, a positive impact on the incumbent residents has been less visible.<sup>84</sup> Traditional mixed-income communities need to cater to the needs of a wide variety of people – in terms of health, financial status, and entertainment – and the resulting amenities and services provided on-site essentially serve no one, at least not effectively. By curating the mix of incomes to a single income level, the considerations into housing types as well as provided services can better particularized to meet the needs of the community.

#### *Transit-Oriented Development with Mixed Non-Residential Uses*

The development on site should include diversified uses aside from the residential component, such as - but not limited to - commercial offices for non-profits, restaurants, bars, bakeries, and small business goods manufacturing spaces. The non-residential portion of the development provides an opportunity for the mingling of different social and economic classes by producing a space for the neighboring communities to converge. As proven in the examples of Strathcona Village and Crosstown Concourse, it is possible to marry different uses into a single

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<sup>83</sup> Robert J. Chaskin and Mark L. Joseph, “Integrating the Inner City: The Promise and Perils of Mixed-Income Public Housing Transformation,” *Choice Reviews Online* 53, no. 10 (May 24, 2016): 53–4605, <https://doi.org/10.5860/choice.196348>, 216.

<sup>84</sup> Susan J. Popkin et al., “The CHA’s Plan for Transformation : How Have Residents Fared?” (Urban Institute, August 2010), accessed May 23, 2023, <https://www.urban.org/sites/default/files/publication/29046/412190-The-CHA-s-Plan-for-Transformation-How-Have-Residents-Fared-.PDF>, 1-2.

development and avoid environmental, design, and operation concerns. Particular concern should be put into the appropriate spatial separation of the uses and implement the necessary tactics to mitigate the noise, air quality, or traffic associated with each use.

The non-residential uses mentioned above can also benefit from the future Smith Cove light rail station coming in around the project site. This is an opportunity to work with Sound Transit and create a transit-oriented development (TOD) benefiting multiple parties. TODs facilitate access to public transportation, densify urban living into a smaller station area, and even affect the vibrancy of the community.<sup>85</sup> The proximity of the development to public transit will create less car dependency and decrease the need for related amenities, like large parking garages or surface level parking, and encourage the patronage of people from other parts of the city for increased economic activity. Various sources have commented on the ability of TODs to “address problems associated with social exclusion and [social capital] through creating proximate opportunities for access to activities and social networks.”<sup>86</sup> The synergy of combining non-residential and affordable residential into a single transit-oriented development would allow for the development residents as well as city-wide residents to benefit from an exemplary project of proper planning.

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<sup>85</sup> Anna Ibraeva et al., “Transit-Oriented Development: A Review of Research Achievements and Challenges,” *Transportation Research Part A-Policy and Practice* 132 (February 1, 2020): 110–30, <https://doi.org/10.1016/j.tra.2019.10.018>, 110-111.

<sup>86</sup> Ibraeva et al., “Transit-Oriented Development: A Review of Research Achievements and Challenges,” 121.

### *Final Product*

The envisioned final product of the proposed alternative development is based off of the specifications of the high-rise concept presented in the Interbay Project report. The high-rise concept, shown in Figure 14 below, hosts 3,258 residential units and has 108,000 square feet in dedicated commercial area. The concept also boasts 6.6 acres of total open space, 4.2 acres available at ground-level to the public in addition to the pedestrian and bike trails leading into and out of the development.<sup>87</sup> All 3,258 units would all be priced affordably between 30 and 50 percent AMI, compared to the 30 percent (978 units) at 60 percent AMI in the original concept. The commercial area would be comprised of assorted businesses and services, including some of the potentially compatible light industrial uses identified in the report, such as small boutique manufacturing, small-scale food and beverage, advanced manufacturing, and skilled trades. The public open space would prove beneficial to neighboring communities to use and the inclusion of pedestrian and bike trails, especially if seamlessly connected to the light rail station, would increase accessibility of the development and exponentially increase foot traffic for the residing businesses.

### *Ownership/Management Model*

Given the affordability parameters of the proposed development, the creation of a public development authority (PDA) is deemed most fitting. A public development authority is authorized as a quasi-municipal corporation to improve the living conditions of an area by

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<sup>87</sup> Washington Department of Commerce, "The Interbay Project: The Interbay Public Development Advisory Committee's Recommendations and Implementation Plan," 50-51.

assisting in the delivery of government services and accept federal grants for assistance.<sup>88</sup> The PDA is comprised of appointed board members and the activities of the organization are seen as independent from the jurisdictional origin. The creation of the PDA will require the adoption of a resolution or ordinance that includes a charter to define the scope and charge of the organization.<sup>89</sup>

The advantages of creating and designating a PDA to oversee the project were outlined in the Interbay Project report as follows. PDAs are able to be more focused on their work as they are not distracted by other demands of the community or land. Additionally, it can be embedded in the charter that the PDA only be in operation throughout the implementation of the project, allowing for change in management after a predetermined amount of time. Finally, the financial independence from jurisdictional oversight allows for more competitive grant and funding opportunities at different levels of government even if there is not a separate independent funding source for the PDA specifically.<sup>90</sup>

The guided agenda of a specific authority that is not responsible for any additional metrics aside from the success of their goals will allow for the surveillance needed for a precedential project of this nature. The designation as a quasi-municipal corporation allows for the

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<sup>88</sup> Washington Department of Commerce, "The Interbay Project: The Interbay Public Development Advisory Committee's Recommendations and Implementation Plan," 40-41.

<sup>89</sup> Washington Department of Commerce, "The Interbay Project: The Interbay Public Development Advisory Committee's Recommendations and Implementation Plan," 40-41.

<sup>90</sup> Washington Department of Commerce, "The Interbay Project: The Interbay Public Development Advisory Committee's Recommendations and Implementation Plan," 41.

coordination between local jurisdictions and community to bring forth the most accommodating results for the targeted group of low-income households.



*Figure 15. High-Rise Concept Image, Source: The Interbay Project*

### **Partnerships and Funding Sources**

The hesitation in introducing more affordable housing in private development projects comes from the lack of revenue generated from pricing units at less than market rate. The return on investment falls for investors and other related parties when they cannot make more money than was initially funded into the project, a majority of that depending on how much rent can be charged per unit per month less the operating costs of the development. But when the focus is not making profit but community benefit, catalytic changes are possible with appropriate synergistic public and private partnerships – as seen in cases like the Rheingold Brewery.

#### *Public Sources – Federal and State Government*

The federal government runs the HOME Investment Partnerships Program (HOME) through the U.S. Department of Housing and Urban Development (HUD). HOME provides formula grants to state and local governments to fund affordable housing projects targeted at low-income

households.<sup>91</sup> Seattle was allocated \$3,650,525.00 from HOME in 2022 and King County was awarded \$4,170,429.<sup>92</sup> The stipulation to mobilizing these funds is that participating jurisdictions are required to match 25 cents of every dollar to affordable housing initiatives, guaranteeing paralleled efforts by various levels of government.<sup>93</sup> The program allows for flexibility in how local jurisdictions disperse the funds – through grants, direct loans, credit enhancements, rental assistance or security deposits.

HUD also offers the Community Development Block Grant (CDBG) Program that is geared towards funding the development of viable urban communities with quality housing options and economic opportunities for low- and moderate-income households.<sup>94</sup> CDBG funds may be used for the “acquisition of real property, relocation and demolition,...[and] provision of assistance to profit-motivated businesses to carry out economic development and job creation/retention activities” while meeting one of the national objectives of the program, including benefitting low- and moderate-income households, preventing or eliminating slums or blight, or addressing urgent community development needs that pose serious threats to the welfare of the community.<sup>95</sup>

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<sup>91</sup> “HOME Investment Partnerships Program,” HUD.gov / U.S. Department of Housing And Urban Development (HUD), n.d., [https://www.hud.gov/program\\_offices/comm\\_planning/home](https://www.hud.gov/program_offices/comm_planning/home).

<sup>92</sup> “HUD Awards and Allocations,” n.d., <https://www.hudexchange.info/grantees/allocations-awards/?params=%7B%22limit%22%3A20%2C%22COC%22%3Afalse%2C%22sort%22%3A%22%22%2C%22newSearch%22%3Atrue%2C%22min%22%3A%22%22%2C%22years%22%3A5B%5D%2C%22dir%22%3A%22%22%2C%22multiStateAwards%22%3A0%2C%22grantees%22%3A5B%5D%2C%22state%22%3A%22%22%2C%22orgid%22%3A%22%22%2C%22orgname%22%3A%22%22%2C%22programs%22%3A5B7%5D%2C%22max%22%3A%22%22%7D&na=13500&start=676#/poc#granteeSearch>.

<sup>93</sup> “HOME Investment Partnerships Program.”

<sup>94</sup> “Community Development Block Grant Program,” HUD.gov / U.S. Department of Housing And Urban Development (HUD), n.d., [https://www.hud.gov/program\\_offices/comm\\_planning/cdbg](https://www.hud.gov/program_offices/comm_planning/cdbg).

<sup>95</sup> “Community Development Block Grant Program.”

The Low Income Housing Tax Credit (LIHTC) program operated by HUD provides tax credits to fund the acquisition, rehabilitation, and construction of rental housing for low-income households.<sup>96</sup> The program releases the equivalent of \$9 billion in annual budget authority to support local initiatives to create affordable housing options. The tax credits are allocated and based on the State's affordable housing needs, then dispersed to local housing projects. LIHTC is comprised of two different types of credits: 4 percent and 9 percent. The four percent credit is used by projects that utilize federally tax-exempt bond financing and designed to deliver up to 30 percent subsidy; usually for units that are geared towards extreme low-income households. The nine percent credit is reserved for projects that do not rely on additional federal subsidies and set to deliver up to 70 percent subsidy.<sup>97</sup>

The Housing Choice Vouchers (HCV) Program and HUD-Veterans Affairs Supportive Housing (HUD-VASH) Program are other methods to regain some of the profit deficiencies of a largely affordable development. HCV and HUD-VASH differ from the first two programs in that they are based on vouchers from households with the rental payment coming from both the renter and government. A qualified household is expected to contribute 30 percent of their annual income to their monthly rent and the difference in that amount and the actual rent payment is covered by the voucher provided by HUD.<sup>98</sup> HCVs are allocated by public housing agencies to low-income households that generally make less than 50 percent of the median

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<sup>96</sup> "An Introduction to the Low-Income Housing Tax Credit" (Congressional Research Service, April 26, 2023), accessed May 29, 2023, <https://sgp.fas.org/crs/misc/RS22389.pdf>, 1.

<sup>97</sup> "An Introduction to the Low-Income Housing Tax Credit," 1-2.

<sup>98</sup> "Housing Choice Voucher Program Section 8," HUD.gov / U.S. Department of Housing And Urban Development (HUD), January 11, 2022, [https://www.hud.gov/topics/housing\\_choice\\_voucher\\_program\\_section\\_8](https://www.hud.gov/topics/housing_choice_voucher_program_section_8).

income but specifically targeted to those making less than 30 percent of the median income. HUD-VASH is dedicated for homeless veterans and also offers various social services in addition to housing assistance.<sup>99</sup> These vouchers are administered by local authorities, such as the Seattle Housing Authority.

At a federal level, the disbursement of funds is largely to state or local governments to distribute through their own affordable housing programs. However, the CDBG, LIHTC, HCV, and HUD-VASH programs allow for projects to directly see the financial assistance, both before and after development. The CDBG and LIHTC programs could be utilized in the pre-construction and construction costs of the development while the HCV and HUD-VASH program funds would assist in the day-to-day operations of the development post-construction.

The Housing Trust Fund (HTF) is operated by the Washington State Department of Commerce and provides capital financing for affordable housing projects in the form of loans or grants. While program eligibility is for developments offering housing for households earning less than 80 percent AMI, the most competitive projects that win funding are those that offer more units at lower AMI percentages or address households with special needs.<sup>100</sup>

Given the preferences listed in Section 102 of the HTF Handbook, the proposed alternative development plan satisfies six to seven of the nine qualifications, making it very

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<sup>99</sup> “Veterans Affairs Supportive Housing (VASH) - PIH,” HUD.gov / U.S. Department of Housing And Urban Development (HUD), n.d., [https://www.hud.gov/program\\_offices/public\\_indian\\_housing/programs/hcv/vash](https://www.hud.gov/program_offices/public_indian_housing/programs/hcv/vash).

<sup>100</sup> “Housing Trust Fund (HTF),” Washington State Department of Commerce, February 8, 2023, <https://www.commerce.wa.gov/building-infrastructure/housing/housing-trust-fund/>.

competitive to receive funding.<sup>101</sup> The project would serve the defined low-income group for at least 25 years, serve the greatest needs, provide housing for persons and families with the lowest incomes, and be located and be accessible to local employment centers and public transportation services.

#### *Public Sources – Local Government*

The Mandatory Housing Affordability (MHA) Fund is part of the Mandatory Housing Affordability Program that requires developers to either include affordable housing in new development or pay into the MHA Fund. The contributions into the fund are used to support the development of more affordable housing.<sup>102</sup> In 2022, the Office of Housing awarded approximately \$77.5 million of the funds collected from the MHA to low-income housing projects, resulting in 902 affordable rental apartments and 30 for-sale homes.<sup>103</sup> The City projects \$90.8 million in future MHA payments that would be awarded in the next cycle, a 17 percent increase from 2022 and \$13.3 million more available to fund projects like this one.<sup>104</sup>

The Seattle Housing Levy is funded partially by the MHA Program, but it also funds affordable housing development and provides support for the operations of properties through maintenance and services support. Seattle’s Mayor Bruce Harrell announced on March 30, 2023 his proposal for a \$970 million Housing Levy to replace the existing one and it is in the process of

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<sup>101</sup> “HTF Handbook Version 3-4-2021.Pdf | Powered by Box,” n.d., <https://deptofcommerce.app.box.com/s/f89ytc0qtime7dl6wpqke5h2zl1jwzlm>, 102.

<sup>102</sup> “Mandatory Housing Affordability - Housing | Seattle.Gov,” n.d., <https://www.seattle.gov/housing/housing-developers/mandatory-housing-affordability>.

<sup>103</sup> Seattle Office of Housing, “Mandatory Housing Affordability and Incentive Zoning 2022 Report,” 12-13.

<sup>104</sup> Seattle Office of Housing, “Mandatory Housing Affordability and Incentive Zoning 2022 Report,” 12.

being approved.<sup>105</sup> This amount of funding would allow for even more investments to be made to the development of safe, affordable homes for marginalized and displaced communities.

### *Private Sources*

Philanthropic investments can be found locally from some of Seattle’s leading economic influences – Microsoft and Amazon.

Microsoft pledged \$750 million back in 2019 to play a part in addressing the region’s affordable housing deficiency. As of 2022, \$583 million was allocated to the preservation and creation of approximately 9,200 residential units with \$73 million that was dedicated to investments and grants into housing projects in the Puget Sound region.<sup>106</sup> In Seattle specifically, Microsoft provided assistance in three different housing developers to create 1,100 units of affordable housing.<sup>107</sup> With the Rise Together Collaborative, Microsoft pledged \$2.5 million to create 480 affordable units across five different projects. For Othello Square, Microsoft funded the creation of an additional 190 affordable units; the amount pledged was undisclosed. Microsoft’s track record for working with non-profit developers and local authorities, like the King County Housing Authority, streamlines the process of collaborating with them for project funding.

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<sup>105</sup> Seattle Office of Housing, “Seattle Housing Levy,” accessed May 6, 2023, <https://www.seattle.gov/housing/levy#whats happening now>.

<sup>106</sup> Jane Broom, “An Update on Our \$750 Million Commitment to Affordable Housing,” *Microsoft on the Issues*, September 1, 2022, <https://blogs.microsoft.com/on-the-issues/2022/01/20/affordable-housing-initiative-washington-state-2022/>.

<sup>107</sup> “Copy of Jan 2021 – Microsoft’s Commitment to Affordable Housing,” n.d., <https://news.microsoft.com/affordable-housing/phase/during-2-2-2-2/>.

The Amazon Housing Equity Fund was created with a similar purpose as Microsoft's Affordable Housing Initiative. As of 2022, Amazon committed over \$500 million in loans and grants to preserve or create 5,000 affordable homes. Amazon's initiative not only assists in the development of the units, but also focuses on the bigger picture. Amazon has teamed with Sound Transit and BRIDGE Housing, a nonprofit affordable developer, to fund projects that are transit-oriented and allow more mobility to low-income households.<sup>108</sup> The program specifically focuses on supporting affordable housing developments for households earning 30 to 80 percent of the AMI and transit-oriented developments, two criteria that the alternative development plan meets.

### **Legislative Support**

There are changes happening in Seattle and King County that are propelling the affordable housing movement, especially through legislative steps. Local jurisdictions are aware of the need for more affordable housing and is inclusive of affordable housing elements in many of its projects. However, being in a dense, urban setting, it is difficult to compromise other aspects of growth solely for the purpose of creating more housing. There is pushback from different interest groups that are against building affordable housing developments in their neighborhoods and giving up developable land that could be used for other non-residential uses that help spur Seattle's economy further.

*Seattle Industrial & Maritime Strategy Director's Report and Recommendation*

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<sup>108</sup> "Puget Sound Region," n.d., <https://www.amazonhousingequity.com/community-impact/puget-sound-region>.

As previously mentioned, the Seattle Industrial & Maritime Strategy Director's Report and Recommendation was published in March 2023 proposing five ordinances that would affect Seattle's industrial and maritime policies. The current policies were more than 35-years old and needed to be updated to reflect the many changes that have influenced the industries. As seen from the analysis of the current zoning code for industrial zones, residential uses are largely not permitted, especially new housing developments. The report lists in its strategies to prohibit further residential uses on industrial and maritime lands in order to preserve Seattle's industry. Industry-related residential uses, such as workforce housing or live-work studios for artists, will be allowed in the transitional zones like IB, but the Office of Planning and Community Development (OPCD) is firm that housing scarcity cannot be solved by building affordable multi-family or workforce housing in industrial lands. OPCD is pushing to further sectionalize the industrial zones and push the transitional areas further outside the designated MICs in order to decrease the loss of developable land.

The proposal hopes to keep the current MICs intact but acknowledges the need for housing in Seattle and around the industrial areas. The solution posed is the conversion of industrial zones found outside of the MICs into new mixed-use areas, such as Ballard and Judkins Park, or areas removed from industrial zones in close proximity to the MIC boundaries, such as Georgetown or South Park. An estimated 2,055 units can be added from all four neighborhoods and as the City's MHA requirements would apply, there would be an addition to the affordable housing index as well. The neighborhoods range from MHA low- to medium-cost areas,

determining the affordability levels of the designated units, but the report estimates a yield of \$19.8 million for affordable housing from this zoning change.<sup>109</sup>

### *City of Seattle Initiative Measure No. 135*

In the Special Election held on February 14, 2023, a measure was included on the ballot that would create a public development authority (PDA) to “develop, own, and maintain publicly financed mixed-income social housing developments.”<sup>110</sup> The proposed PDA, Seattle Social Housing Developer, would introduce housing units that are intended to be permanently affordable. The City would provide initial and ongoing support in both finances and services to assist the goals of the PDA. At the event of a public land sale or gift, the City would prioritize the PDA’s use of the land as social housing and conduct feasibility studies for the benefit of the community. The final results of the 2023 Special Election were posted on the 23<sup>rd</sup> of February with 57.09 percent voting ‘Yes’ and 42.91 percent voting ‘No’ for Initiative Measure No. 135.<sup>111</sup>

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<sup>109</sup> City of Seattle, “Seattle Industrial & Maritime Strategy Director’s Report and Recommendation,” 49-50

<sup>110</sup> King County Elections, “King County Elections Home Page,” n.d., <https://info.kingcounty.gov/kcelections/Vote/contests/ballotmeasures.aspx?lang=en-US&cid=100690&groupname=City>.

<sup>111</sup> King County VOTE, “Official Final Election Results,” February 23, 2023, accessed April 28, 2023, <https://aqua.kingcounty.gov/elections/2023/feb-special/results.pdf>, 1.

## 7. CONCLUSION

In this search for ways to introduce more affordable housing to Seattle by capitalizing on decreasing industrial activity within the urban core, it was found that more hurdles existed than opportunities in building in post-industrial lands. From the state level down, long-range planning initiatives have guarded the designated manufacturing and industrial centers by guiding local jurisdictional zoning to inhibit residential growth in approximately 5,900 acres of urban industrial land. The City's solution to the lack of housing was to impose a Mandatory Housing Affordability Program that requires all new developments to either include a number of affordable units within the development or pay into the MHA Fund that is used to support other affordable housing developments throughout the city. However, it was found that the number of affordable units available in the city as well as the high price point at which the units are offered at calls for further jurisdictional intercession to ensure that affordable housing remains attainable to low-income households.

The literature reviewed in above sections provided valuable insight on the value of public and private partnerships in order to bring long-lasting prosperity to community, mitigation techniques for developing on previously industrial land and design considerations for high-quality affordable living, and the need for governments at all levels to be open to precedential projects. Timing is pivotal in taking advantage of the changing urban landscape, as was the case in Bushwick with the Rheingold Brewery site. Once the ball was rolling for change, several different parties were able to swiftly work together to be the catalyst for revitalization of a previously undesirable area. Portland's skyline also changed dramatically after previously vacant waterfront

parcels were redeveloped into dense urban living that provided residents with housing, entertainment, work, and more. The waterfront districts maintained their characteristics as post-industrial areas through adaptive reuse and design preservation and ultimately provided economic resurgence in previously underperforming areas. Government intervention in all of the literature was made possible by their awareness of the need for change and readiness to make the hard decisions.

The National Armory site in Interbay is a wonderful opportunity to introduce a large development of mixed-uses, but the many constraints surrounding development and legislative changes make it difficult for any one entity to spearhead this project. A collective effort must be made to review potential changes in zoning designations to permit high-density multi-family housing and support transit-oriented development to capitalize on Sound Transit's Smith Cove light rail station coming in adjacent to the site. By having public and private partnerships collaborate on a mixed-income housing project with a focus on public good, the risks associated with this project that would usually deter project pursuance would be spread among different entities to make the project more feasible. There are various funding sources that decrease the financial burden from developers, providing assistance in pre-construction funding and post-construction operations. By aptly utilizing a number of different resources available at different levels of government as well as through philanthropic contributions from local businesses, the barriers to providing more affordable units at lower AMI percentages are dissipating.

The direction of legislature in the State of Washington and City of Seattle also seems to be heading in a direction of more affordable housing initiatives and changes in the old ones. The recently pushed measure on the Special Elections ballot for a social housing PDA will allow for

more intentional work to be done to provide long-term, stable housing that is affordable for generations. Even the MHA Program that was instituted in 2019 is coming into four years of operation and could benefit from an operational evaluation to see if the regulations on the program currently in place are still following its original intentions. The low number of units available at less than 60 percent AMI is indicative that efforts should be made by the Seattle Office of Housing to incentivize developers to provide more units at lower costs.

The urban landscape of Seattle has changed significantly over the years through the boom of the tech industry in Seattle, but the sudden influx of high-earners has displaced and left long-term residents faced with affordable housing scarcity. Though private developments have made required contributions to the affordable housing cache and affordable developers have worked to improve the quality of affordable housing options, there is still work to be done to find new and innovative ways to bring down the ever-growing rates of homelessness in the area. Taking advantage of the opportunities available to revitalize the urban industrial lands and their vacant sites with mixed-income, vibrant urban communities will lead to the newest chapter in urbanization for Seattle.

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