



THE PEARL DISTRICT

AN URBAN DEVELOPMENT CASE STUDY OF THE PEARL
DISTRICT AND BREWERY BLOCKS IN PORTLAND, OREGON

CDBC'S GREEN AND SMART URBAN DEVELOPMENT GUIDELINES

OCTOBER 2015

DRAFT FOR COMMENT



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FOREWORD

At the United Nations General Assembly session in September 2015, President Xi Jinping committed China to being a global leader in tackling climate change. Green, low-carbon, and smart new-type urban development will play an important role in alleviating climate change. This development strategy has also been the core objective of China Development Bank Capital's (CDBC) efforts towards new-type urbanization in the past few years.

As urban development practices have evolved, we profoundly feel that the ideals behind green and smart development have already become common belief. Everyone wants to realize these ideals, but there is still the question of how it can be done. Not only are there no successful case studies in China, there are few internationally, and many of these experiences have been limited and dispersed in scope. We need to integrate existing domestic and international experience with the conditions of China's new-type urban development to create a comprehensive and working model. Only then can we rapidly expand this model and achieve significant progress.

Hence, two years ago, CDBC's International Advisory Group for Green and Smart Urbanization began work on *CDBC's Green and Smart Urban Development Guidelines* with the intent to create a benchmark for green and smart urban development to be used in China and internationally. In these two years, we have gathered input from over a hundred urban planners, mayors, developers, experts, and other industry players. We also surveyed international best practices in the context of China's unique economic, environmental, and social conditions. With this foundation, we created the *12 Green Guidelines* and the *Six Smart Guidelines*. We were careful not to create a long list of desirable options, but instead focused on the most critical and foundational design elements of green, smart, livable, and economically successful urban development. The design elements featured in the *Green and Smart Urban Development Guidelines* are already in practice in a number of cities in both developed and developing countries. A well-designed city can reduce congestion, improve air quality, reduce noise pollution, and decrease energy use. It can create enjoyable spaces for everyone, from children to the elderly, and increases options for daily life. It makes neighborhoods more attractive and livable, and creates cities with more vitality and economic prosperity.

These guidelines include two case studies, one on the Pearl District and Brewery Blocks in Portland, Oregon and the other on Hammarby Sjöstad in Stockholm, Sweden. These two cases show that our guidelines can achieve both economic and environmental benefits. The case studies detail the process to success, including the regulatory, financing, and technical mechanisms that were part of each urban area's development strategy.

12 GREEN GUIDELINES

The *12 Green Guidelines* fall into three key categories: urban form, transportation, and energy and resources. These guidelines are measurable and practical, and they concisely describe the foundations of sustainable urban development:

- **Urban Form:** Urban growth boundary, Transit-Oriented Development, Mixed-Use, Small Blocks, Public Green Space
- **Transportation:** Non-motorized Transit, Public Transit, Car Control

- **Energy and Resources:** Green Buildings, Renewable and Distributed Energy, Waste Management, Water Efficiency

SIX SMART GUIDELINES

The *Six Smart Guidelines* are designed to optimize the green guidelines. “Smart” provides for more optimal ways to achieve green results. When done in addition to the *12 Green Guidelines*, smart technologies can capture additional economic, environmental, and social benefits. The *Smart Guidelines* fall into six key categories:

- Smart Telecommunications
- Smart Mobility
- Smart Energy Management
- Smart Governance
- Smart Public Services
- Smart Safety

The *Six Smart Guidelines* emphasize the importance data analysis and optimization. We focus on case studies with returns on investment to demonstrate the application of these smart technologies.

As our time and experience is limited, this edition of *CDBC’s Green and Smart Urban Development Guidelines* is still in development. Particularly as global green and smart practices evolve, these guidelines will need to be added to and improved on. CDDBC is an important player in China’s urbanization, and we hope to collaborate with other players in China and internationally to put these guidelines into practice and advance, for the long-term, the sustainable urban development of China. Moreover, we hope that Chinese and international partners will continue to introduce us to global best practices and potential collaborators. We hope to expand the perspective of Chinese urban developers and involve world-class international developers in China’s urbanization process to create opportunities and achieve mutual benefits.

Zuo Kun

Vice-President, China Development Bank Capital

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CONTENTS

FOREWORD..... iii

List of Acronyms..... 1

1. EXECUTIVE SUMMARY 2

1.1. Major Environmental Achievements 2

1.2 Major Social and Economic Achievements..... 7

1.3 Major Lessons..... 7

2. INTRODUCTION..... 11

2.1. General Introduction 11

2.2. General History..... 16

2.3. Why the Pearl District? Why the Brewery Blocks? 20

3. GOALS AND PERFORMANCE MONITORING 21

3.1. Major Goals 21

3.2 Monitoring..... 27

4. DEVELOPMENT PROCESS 29

4.1. Overview of Planning Process 29

4.2. Master Planning 33

4.3 Existing Plans 35

4.4 Zoning..... 37

4.5 Phase 1: Development..... 44

4.6 Phase 2: Property Development..... 46

5. FINANCING..... 51

5.1 Financing Model 1: Urban Renewal and Tax-Increment Financing (TIF) 51

5.2 Financing Model 2: Local Improvement Districts 63

5.3 Financing Model 3: Private Land and Property Development 64

6. KEY ACHIEVEMENTS..... 66

6.1 Land-use/Urban Form 66

6.2 Transportation..... 86

6.3 Green Buildings and Water Efficiency	94
6.4 District Energy	110
7. MAJOR LESSONS	112
REFERENCES	1
APPENDICES.....	3
Appendix I: Relevant Plans and Policies Influencing Pearl District.....	3
Appendix II: New Development Projects in the Pearl District	14

LIST OF ACRONYMS

BPS: Bureau of Planning and Sustainability

BRT: Bus Rapid Transit

CDBC: China Development Bank Capital

CHP: Combined Heat and Power

DEQ: Department of Environmental Quality (Oregon)

FAR: Floor Area Ratio

HSP: Hoyt Street Properties

LEED: Leadership in Energy & Environmental Design

LID: Local Improvement Districts

MFI: Median Family Income

MPR: Maximum Parking Ratio

MOHURD: Ministry of Housing and Urban-Rural Development (China)

NMT: Non-motorized Transit

NMTC: New Market Tax Credits

PBOT: Portland Bureau of Transportation

PCS: Portland Center Stage

PDC: Portland Development Commission

PDDP: Pearl District Development Plan

PDNA: Portland District Neighborhood Association

PPP: Private Public Partnership

TIF: Tax Increment Financing

TOD: Transit-Oriented Development

TSP: Transportation System Plan

UGB: Urban Growth Boundary

URA: Urban Renewal Area

USGBC: United States Green Building Council

USPS: United States Postal Service

VMT: Vehicle Miles Traveled

1. EXECUTIVE SUMMARY

The Pearl District in Portland, Oregon is a model for why China Development Bank Capital’s Green and Smart Urban Development Guidelines are key to economically prosperous and sustainable urban development. This case study reveals the regulatory, technical, and financial elements that bolster the guidelines.

The Pearl District in Portland is a world-renowned urban redevelopment project. Its development strategy is consistent with the Green and Smart Urban Development Guidelines.

The major environmental, social, and economic achievements of the Pearl District and Brewery Blocks are discussed below. A summary on the major lessons for future development in China follows the sections on achievements. The rest of the report provides an in-depth examination of how these achievements were accomplished, including the development, planning and implementation process, and financing schemes.

1.1. MAJOR ENVIRONMENTAL ACHIEVEMENTS

The major environmental achievements of the Pearl District include reduced automobile use and associated pollution, lower energy use in buildings, renewable energy generation, preservation of existing historic buildings, open space preservation, brownfield remediation and redevelopment, infill development, and ecological restoration. The major environmental achievements are consistent with China Development Bank Capital’s 12 Green Guidelines. These achievements in the Pearl District also reveal that the 12 Green Guidelines are key for developing successful urban areas.

Table 1: Summary of Pearl District Environmental Achievements

Description	Benchmark in Green Guidelines	Metric	Result in Pearl District/Brewery Blocks
1. Urban Growth Boundary	Every city should establish an enforced urban growth boundary (UGB). The UGB should be set based upon a rigorous analysis of ecological sensitivities, environmental capacity, and the efficiency and productivities of various land uses. The boundary can expand beyond the existing urban footprint only if there are no suitable infill locations as indicated by an intensity of urban land use of at least 10,000 residents km ² .	Existing system and regulations	<ul style="list-style-type: none"> Portland’s UGB was established and implemented in 1979. Statewide land use planning in Oregon has been a guide for sustainable urban development.

<p>2. Transit Oriented Development</p>	<p>Cities should be built around their public transit systems. The area within 500-800 m of major transit stations, such as the metro or bus rapid transit (BRT), or within 500 m of major bus corridors (in case BRT or Metro is not available) should have FAR at least 50% higher than the average of the district. For big cities, at least 70% of residents should live in TOD areas characterized by convenient mass transit service. Great accessibility (pleasant walking accessibilities to transit system within 500-m radius) must also be offered.</p>	<p>% residents within TOD (within 500 m of transit stop)</p>	<ul style="list-style-type: none"> • All areas of the Pearl are within at least 500 m (~8 blocks) of a transit stop.¹
<p>3. Mixed Use</p>	<p>All residential units should be close to at least six kinds of amenities within a 500-m radius of building entrance (amenities include schools, post offices, banks, retails, clinics, activity centers, restaurants, etc.). The job-resident ratio (the number of people employed divided by the number of residents) should be between 0.5 and 0.7 over every commuting district, which should have a spatial area that is no more than 15 km². Normally, these commuting districts are bounded by physical barriers for pedestrians.</p>	<p>Six kinds of amenities within 500-m radius of building entrance</p>	<ul style="list-style-type: none"> • Most of the buildings in the Pearl District are mixed use, with retail or office space on the ground floor, and residential or commercial space above. • Approximately 26% of ground floor uses are for retail.
		<p>FAR in district overall</p>	<ul style="list-style-type: none"> • The FAR in the Pearl varies from 9:1 to 2:1. The FAR decreases slowly as development approaches the riverfront. The average FAR in the Pearl is approximately 5:1. FAR bonuses are available for residential buildings, buildings with eco-roofs, through transfers, or many other options.²

¹ Pearl District Access and Circulation Plan Existing Conditions Report, 2012. Accessed at <http://www.portlandoregon.gov/transportation/article/306707>

² Citywide Height Limits and FAR, 2012. Accessed at <https://www.portlandoregon.gov/bps/article/150480>. A study was recently commissioned on the value of height bonuses for the City of Portland illustrating that affordable housing could be financed through profits gained through greater building density. That study is available here: <https://www.portlandoregon.gov/bps/67939>.

		Job-housing ratio	<ul style="list-style-type: none"> There are approximately 6,934 residents and approximately 11,932 jobs. This yields a job-housing ratio of 1.72.³
4. Small blocks	Blocks should be less than or equal to 2 hectares and 70% of the blocks should comply with this standard. Exceptions made for industrial areas.	% of blocks 2 hectare or less in area	<ul style="list-style-type: none"> All blocks are 200 ft by 200 ft. This is roughly equivalent to 0.37 hectares. The total area of the Pearl District is roughly 1.21 km² or 0.47 m².
5. Public Green Space	Publicly accessible and usable green space should comprise 20-40% of the construction areas (residential area should have more coverage). All residences should have accessible public space within 500 m.	% of residents within 500 m of publicly accessible green space	<ul style="list-style-type: none"> Any area within the Pearl district is within approximately 500 m of an open space zone or public park.
		% of land area devoted to publicly accessible green space	<ul style="list-style-type: none"> North Park Blocks = 3.11 acres Jamison Square = 0.94 acres Tanner Springs Park = 0.92 acres The Fields Park = 3.2 acres Total park space = 8.17 acres Open space zones are approximately 5% of total area.
6. Prioritizing Non-Motorized Transit	There should be walking paths of at least 10 km in length per km ² , and biking paths of at least 10 km in length per km ² .	Density of walking paths (km/km ²)	<ul style="list-style-type: none"> Approximately 5.12 km of sidewalk per km² Sidewalks are between 12 and 15 feet wide by regulation.⁴ As of 2009, 84% of blockfaces in the Pearl have complete sidewalks.⁵
7. Public Transit	All new developments must be within a 500-m radius of a mass transit station. For the city as a whole, at least 90% of developments should be within a 800-m radius of a public transit station.	Mode Split	<ul style="list-style-type: none"> Numerous transit options are available in the Pearl. In 2005, the mode split was 69.5% auto, 11.2% transit, 1.7% bike, 17.6% walking. By 2035, this is projected to be 57.3% auto, 18.9% transit, 2.3% bike, and 21.5% walking. In 2008, a survey of Pearl residents was performed, and

³ Data accessed via the Bureau of Planning and Sustainability memo report for the Pearl District Business Association. Available at http://explorethepearl.com/downloads/PDBA_market_analysis_memo_7-8-2015.pdf. The employment to population ratio of a single district may be slightly less useful than a larger geographic area. However, what this metric shows is the growth in economic development in the Pearl.

⁴ This is mandatory in the River District Right of Way Standards, updated August 2012. Report accessed at <http://www.portlandoregon.gov/transportation/article/195434>

⁵ This data is available in the Pearl District Access and Circulation Plan Existing Conditions Report, 2012. Accessed at <http://www.portlandoregon.gov/transportation/article/306707>

			58% of respondents indicated that they usually walk, bike, or take transit to work. Three out of four residents stated that they drove less since moving to the Pearl. ⁶
8. Car Control	Every city should have a strategy to cap car use. Where high-quality transit exists, there should be limits on parking.	Maximum parking ratios	<ul style="list-style-type: none"> In the Central City District: residential parking ratio is 1 stall per unit; commercial/office ratio in areas with maximums are 1.5 stalls per 1,000 ft² and in areas without maximums is 2.5 stalls per 1,000 ft².⁷
9. Green Buildings	At least 70% of buildings should be MOHURD One-Star, 20-40% of buildings should be MOHURD Two-Star, and 5-15% of buildings should be MOHURD Three-Star within any development.	# of buildings with USGBC LEED Certification	<ul style="list-style-type: none"> Block 1: Whole Foods LEED Silver Block 2: Brewhouse and Cellar Building LEED Gold Block 3: Gerding Theater LEED Platinum Block 3: The Henry LEED Gold Block 4: M Financial LEED Gold Block 5: The Louisa LEED Gold
		% construction waste recycled or reused	<ul style="list-style-type: none"> In the Brewery Blocks, 94% of construction waste was sorted, salvaged, and recycled through a program and tracking system set up prior to construction.
10. Renewable and District Energy	Every project should analyze the potential for district energy, such as combined heat and power (CHP), waste to energy, and waste heat re-use. There should be 5-15% local renewable energy generation for residential areas and 2-5% for commercial areas.	District energy systems present, and percentage of local renewable energy generation	<ul style="list-style-type: none"> The Brewery Blocks utilizes a district cooling system to meet all cooling needs. The 4,000 cooling tons system is managed and operated by Portland District Cooling Company, a subsidiary of Veolia. The system helped each of the Brewery Blocks buildings meet energy efficiency goals to reduce energy usage by 25% in office/commercial spaces and 40% in residential spaces. Photovoltaics are integrated into the façade of Brewery Block 4. There is one 4-square array

⁶ “Pearl District Access and Circulation Plan.” Accessed at: <http://www.portlandoregon.gov/transportation/article/306707>

⁷ City of Portland “Off-street Parking: Management & Guiding Policies”. Accessed at <http://www.portlandoregon.gov/transportation/article/509796>

			<p>located at each spandrel with a total of 192 individual modules (2 of which are inactive) that are expected to generate an annual output of 8,200 kWh, or 43.1 kWh per active module. The extensions create the ability to increase the angle of the arrays greater than 90 degrees and hence generate more power.</p> <ul style="list-style-type: none"> • The rooftop array on Brewery Block 4 includes 77 polycrystalline modules (BP Solar BP3160) powering a grid-connected inverter (Trace PV15208) and is expected to generate an annual output of 13,400 kWh at 174 kWh per module. • Total annual system output is expected to be 21,600 kWh.
12. Water Efficiency	All buildings must have 100% adoption of water saving appliances, and green spaces surrounding buildings must adopt low water-use plants. All water consumption should be metered and at least 20-30% of water supply must be recycled from either wastewater or rainwater.	% of water reused or recycled	<ul style="list-style-type: none"> • The Henry Condominiums achieved a 35% water use reduction, saving 1,233,294 gallons of potable water per year through low-flow fixtures.⁸ • Brewery Block 4 was designed to use 30% less water through low-flow fixtures. Water efficient landscaping was also used to reduce the use of potable water for landscaping. Reductions of greater than 50% were achieved through use of captured rainwater, species selection, and irrigation efficiency. • Other buildings in the Brewery Blocks are also good examples, please see Section XI.C. for more information.

⁸ This is reported based on LEED Certification process:
http://www.pdc.us/Libraries/Document_Library/The_Henry_building_profile_pdf.sflb.ashx .

1.2 MAJOR SOCIAL AND ECONOMIC ACHIEVEMENTS

In addition to the environmental achievements, the Pearl District had social and economic co-benefits. These include:

- **Employment growth:** The Pearl District is increasingly attracting the growth of “second-level” professional service businesses in addition to arts, recreation, and entertainment. Growth in employment of high-paying jobs leads to increases in cash flows in the local economy. Between 2006 and 2013, employment in the Pearl District grew by an annual average rate of 4.6%, and total employment jumped from 8,717 to 11,932.⁹
- **Growth in human capital:** The Pearl District is a destination for young, college-educated residents. This group of migrants to Portland creates a demand for residential spaces, and there have been approximately 6,500 new housing units built in the Pearl since 1990. The per capita income of the Pearl District residents is well above the City average.
- **Value of real estate/property:** The office market in the Pearl District is performing exceptionally well in a post-recession economy. Lease rates are currently around \$27 per square foot, which is the top of the range for the office market in the Central City. Pearl District retail lease rates have remained relatively flat over the last ten years at around \$20 per square foot. Vacancy rates are decreasing which indicates a possible increase in lease rates if demand stays strong.¹⁰
- **Increased Tax Assessment Values:** The Pearl District is located within a larger urban renewal area called the River District. When the River District was formed in 1998, the value of property was assessed at \$446 million, and in 2014 it was assessed at \$2.2 billion.

1.3 MAJOR LESSONS

The Pearl District and Brewery Blocks provide developers and city governments with four major lessons:

1. *The 12 Green Guidelines should be the foundation of a successful and sustainable economic development strategy.*
2. *A financing mechanism is well-designed if it encourages private investment with a view towards long-term returns.*
3. *Long-term growth must prioritize building high-quality human capital, which means putting livability and sustainability at the forefront.*
4. *Involving all key stakeholders can help the local government and developers understand the nuances of the local market, which ensures economic success.*

1. The 12 Green Guidelines form the foundation of a successful and sustainable economic development strategy.

The 12 Green Guidelines cover the key categories of urban form, transportation, and energy and resources. As the environmental achievements above indicate, the Pearl District and the Brewery Blocks

⁹ Please see complete business analysis of Pearl at:

http://explorethepearl.com/downloads/PDBA_market_analysis_memo_7-8-2015.pdf

¹⁰ Ibid.

placed a heavy emphasis on these 12 criteria. The Pearl District and the Brewery Blocks show that, combined, the 12 are a powerful framework to increase livability, urban resilience, and economic growth.

An anchor of the 12 Green Guidelines is transit-oriented development. In the Central City of Portland, transit-oriented development has been a catalyst for further private development. The fixity of rail public transit ensures developers that their properties will have good access to public transit for a long period of time. In Portland, between 1997 and 2008, former Mayor Sam Adams noted that within three blocks of the streetcar, more than \$3.5 billion in private investment occurred. The original cost of the streetcar system was approximately \$100 million. Similarly, Trimet notes that nearly \$10 billion worth of investment has occurred alongside or near the light rail system.

Transit-oriented development also encourages infill development – development within existing urban areas. Proximity to transit and downtown amenities made the Pearl District a key site for redevelopment. Infill development benefits from the existing population of businesses, residents, and consumer bases. In addition, the extra linkage of new bus lines and the Central City Streetcar project provided the district with transit service to meet the growing demand. These factors signal growth in demand for commercial and retail properties giving developers more of an incentive to develop new projects. Developers can rely on the steady and existing base of customers while also encouraging new residents and commercial clients.

2. A well-designed financing mechanism encourages private investment with a view towards long-term returns.

The Pearl District benefited from a mixture of public and private investment. In the 1990s, local community members, residents, and artists revitalized the area. Building on this community-driven growth, the City and Portland Development Commission (PDC) worked together with local developers and business owners to create a vision for redevelopment. This eventually influenced the creation of the River District Urban Renewal Area. PDC was then able to provide tax increment financing (TIF) for development of infrastructure, parks, and streetscapes among other uses. Tax incentives and credits, loans, and grants were also used to encourage private development in the Pearl.

- **Public amenities, such as parks and other necessary infrastructure, can spur private investment:** Public expenditures on infrastructure can often initiate tremendous private investment, providing the City with increased tax revenues, while developers get favorable returns on investments in property through increased market value. Parks, for example, help enliven depressed areas and bring economic development in the form of new jobs and businesses, which leads to further residential and commercial development.
- **Tax incentives and credits can be used to offset capital costs of new developments:** For example, excellent tax benefits are provided to developers that restore and renovate historic properties. The developer receives benefits for preserving important historical buildings while also creating a neighborhood with character that draws more pedestrians and residents. This is important for both retail providers and for increasing the ridership of public transit. In Portland, economic development has dramatically increased in the Pearl where historic resources are valued.
- **These strategies work for both the City and private developers by offering long-term benefits:** The City gains tax revenues over the long term through increases in property tax revenues in the redeveloped district. The developer gains from the same increases in assessed and market values of their property. State law limits the lifetime of TIF funding: usually approximately 20 years. This means that any bonds taken on projected future tax revenues over the frozen base must be paid in

approximately 20 years (i.e. lifespan of the TIF district). This method of financing and encouraging development in the TIF district requires long-term vision and development.

3. Long-term growth must prioritize building high-quality human capital, which means putting livability and sustainability at the forefront.

In the late 1980s and early 1990s, the Pearl District was as an underutilized warehouse district that provided inexpensive spaces for artists and entrepreneurs to start galleries and businesses with low lease rates. The loft spaces were transformed into residential spaces to accommodate the growth in demand for the area. As a budding district, the City and large-scale developers wanted to capitalize on the growing popularity of the district and its proximity to transit and the City Center.

The success of the Pearl District, however, was based upon the ability to attract and retain highly skilled, creative, and talented labor. Entrepreneurial and “creative” industries are often drawn to places with character and distinctiveness, such as the Pearl District, serving as Portland’s arts and cultural district with a gritty industrial edge. Therefore, the City and developers wanted to preserve this character while allowing growth. This was key to the District’s success. New development brought new housing units, retail and office space, and new cultural amenities that attracted high-income, young, and middle age populations who wanted to invest in the area.

Portland economist Joe Cortright explains that the single most important factor driving urban economic success is the educational attainment of a city’s population. The Pearl District, for example, attracts young, college-educated adults who have greater incomes and are able to invest in the local economy. These factors have contributed to the success of the district and its long-term strategy for growth.

4. Involving all key stakeholders can help the local government and developers understand the nuances of the local market, which ensures economic success.

The processes of collaboration between the City, local developers, and residents were a key to the success of the Pearl District. Including the local community not only helps the local government and developers grasp the nuances of the local market, it also ensures that both private and public interests are taken into consideration in the planning process.

Local community members – property owners, businesses, and residents created the Pearl District Development Plan (2001) and earlier plans and visions for urban renewal. They desired certain things for their neighborhood including livability, walkability, new public amenities, social services, affordable housing, historic transportation, and economic development. Through a community planning process, supported by the City, they were able to integrate their visions into the plans for future development early on. This was important for both investors and developers, who valued good urban spaces and favorable returns on investment, and local residents who valued livable and sustainable neighborhoods.

Engaging key stakeholders helps developers build alliances in districts with the local community and other businesses. This ensures that developments meet the needs, desires, and demands of the consumers of these spaces, whether it be future tenants, future owners, retail customers, or the general public. This ensures that long-term growth can be sustained.

In addition, consulting with key stakeholders ensured that the neighborhood would retain its character, a commonly cited success of the Pearl District. The physical characteristics of the Pearl, such as block size, surface area of streets, variation in building height and design, density, and mixed-use provide an inviting

atmosphere. The desirability of a neighborhood with good pedestrian access, a mixture of working, living, retail, and recreational uses is very high for residents who value walkability, and businesses who value high foot traffic and pedestrian activity. Retail anchors, such as Powell's Books, provided a base of retail activity on which the Brewery Blocks could expand. By maintaining the historic character of the area and creating a diversity of uses, the Brewery Blocks in particular, and the Pearl District in general, were able to attract some of the highest commercial and residential rents in the city.

2. INTRODUCTION

This section discusses the Pearl District's history and provides basic socio-economic data. A brief history of the Brewery Blocks is also provided. A short section explains the significance of these development projects for learning about urban sustainability and economic development.

2.1. GENERAL INTRODUCTION

The Pearl District is an urban redevelopment project in inner northwest Portland, Oregon. Stemming from a disinvested, deindustrialized area, the Pearl was transformed into one of Portland's premier residential, commercial, and entertainment areas. The combined efforts of private investors, local businesses, the City of Portland, Metro (the regional government), the state and federal governments, and local communities made this transformation of the former warehouse and industrial district possible.



Figure 1: Aerial view of the Pearl District in 1988 before redevelopment.¹¹ The railyards, warehouses, and industrial facilities pictured here were largely abandoned by the 1980s. The Lovejoy Viaduct is also pictured. It was later demolished to make space for development of parks,

¹¹Photographs accessed at: http://www.oregonlive.com/portland/index.ssf/2014/11/river_district_-_a_look_at_ho.html#0

condos, retail spaces, and offices. However, many of the original columns still remain as a historical relic. The smaller red bridge on the left is the Broadway Bridge for reference.



Figure 2: Aerial view of the Pearl District in 2012. This view is closer in than the previous to show detail of the new Fields Park and several development projects on the site of the old railyards. In the middle left of the picture is the Broadway bridge for reference and comparison to the previous picture.

Much of the redevelopment of the Pearl District was the result of collaboration between the city and private sectors. In the early 1980s, the Pearl District became the focus of planning efforts by the Portland Development Commission. Work that ensued included an urban design study, followed by the 1988 Central City Plan, the 1992 River District Vision Plan, and 1994 River District Development Plan. Those efforts culminated in the River District Urban Renewal Plan, which was adopted in 1998 and provided tax increment financing for improvements within the district. In 2000, a 26-member steering committee, comprised of city officials, developers, community leaders, planners, designers, and others representing a wide range of viewpoints, met monthly over the course of a year to discuss the future of the Pearl District, to re-evaluate current plans and policies, and to focus on the development priorities for the neighborhood. As a result, the ultimate vision for the Pearl was espoused in a 105-page document dubbed the “Pearl District Development Plan, A Future Vision for a Neighborhood in Transition,” and the plan was adopted in October of 2001 by the City Council.¹²

¹² “History of the Pearl District | Explore The Pearl.” This paragraph is an excerpt from the online article which provides a good, concise overview of the planning efforts that shaped the Pearl District.

The Pearl District is bordered by W Burnside Street on the south, NW Naito Parkway (and the Willamette River) in the north, NW 15th Avenue on the west, and NW Broadway Avenue on the east (Figure 3). For some, these boundaries are sometimes expanded to include the Old Town – Chinatown neighborhood directly east of the Pearl. In this report, the boundaries shown in Figure 3 are used to comply with the City’s definitions.

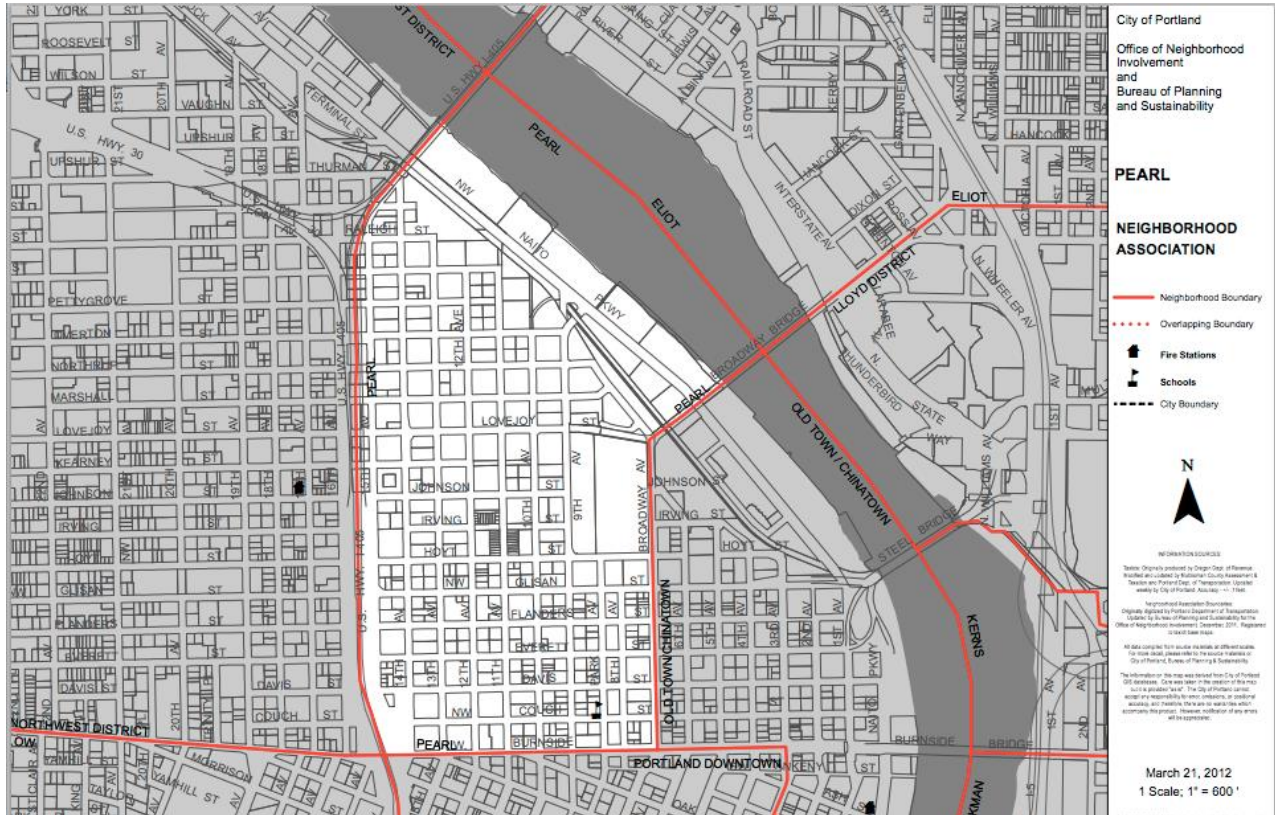


Figure 3: Pearl District Boundary

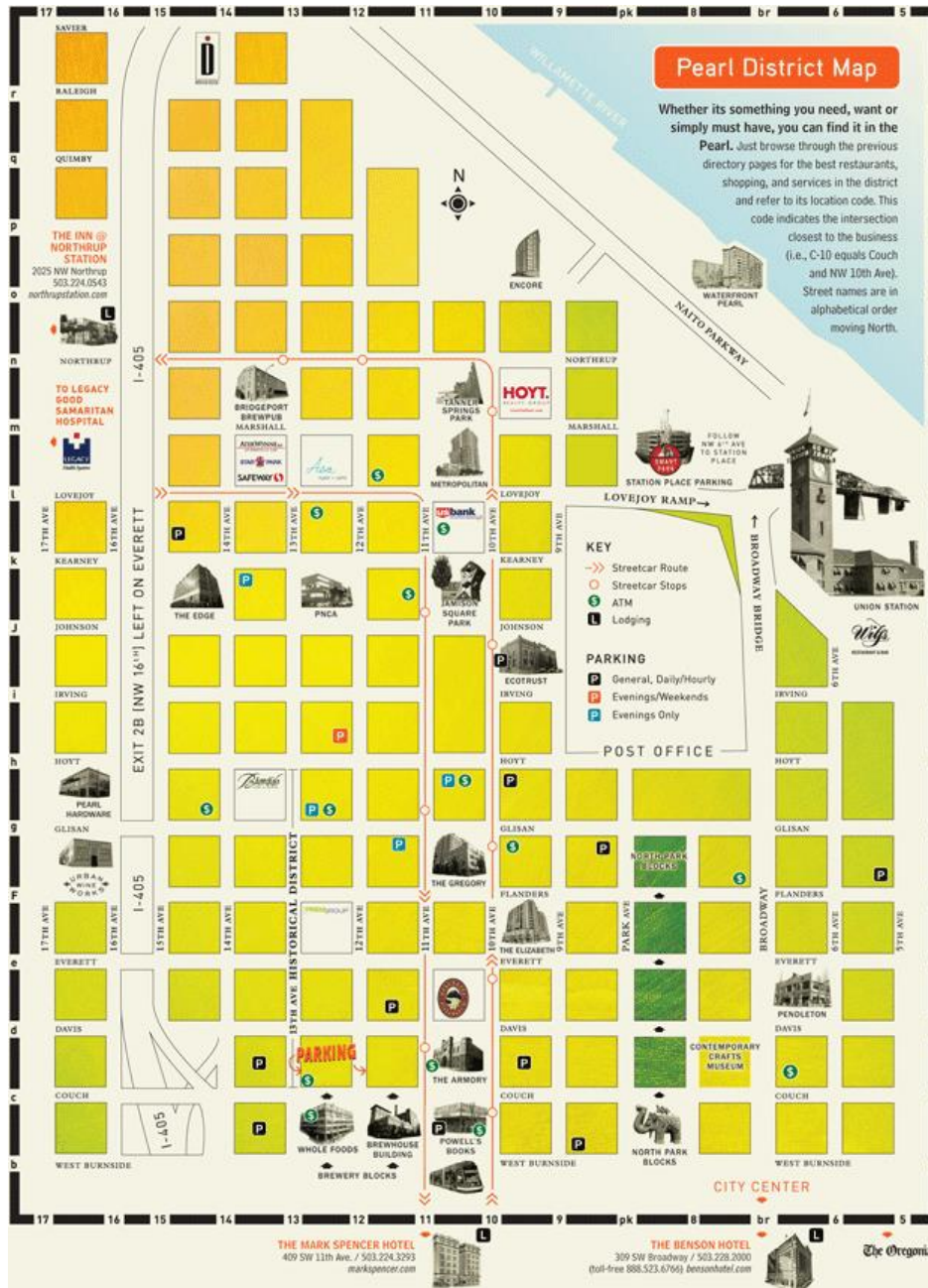


Figure 4: Pearl District Business Association’s Map of the Pearl’s Landmarks

Density and Population Growth

The Pearl District is one of the densest areas in the Portland metro region. The redevelopment of the area created over 7,000 new housing units and quadrupled the density of the district within a decade (Table 3). With population growing in Portland, places like the Pearl are becoming more and more popular as destinations to live, work, shop, and recreate (Table 2).

Table 2: City of Portland Population and Percent Change 2010-2014¹³

	2010	2011	2012	2013	2014
Population	585,261	593,859	602,954	609,520	619,360
Percent Change		1.47	1.53	1.09	1.61

Table 3: Pearl District Population and Percent Change, 2000-2010¹⁴

Year	Population	Percent Change	Density (persons per acre)
2000	1,113	-	4
2010	5,997	438.8%	21

¹³ Please see <http://www.portlandmaps.com/detail.cfm?action=Census&x=7643159.605&y=686914.544>

¹⁴ Please see <https://www.portlandoregon.gov/oni/article/376008>

2.2. GENERAL HISTORY

Portland's Pearl District was part of a strategy to "bring back the city center" after an era of suburbanization and urban sprawl. The bipartisan efforts across the State to restrict the impacts of urbanization on natural landscapes and resources were a landmark in Oregon's history. Oregonians worked together to develop the statewide land use planning system in the early 1970s.

Connecting urban planning with land preservation was an important step to making Portland a successful city. The urban growth boundary mandated urban development take place within specified areas. This helped to not only preserve farmland, but also to spur infill development and redevelopment within the city. The Pearl District can be seen as one of the best examples of infill development, revitalization, and historic preservation in Portland.

Furthermore, Portland focused on public transportation instead of highway construction. Federal funds were used to fund Tri-Met's study into light rail systems in the 1970s. By the mid-1980s, the first phase of light rail construction was completed along the Banfield Expressway, east of the city, funded almost entirely (83%) by federal funds. Continued expansion of the light rail has occurred since this period.

Public transit in the Pearl District got a boost in the 1990s with plans for a streetcar system in response to the Central City Plan of 1988. Studies were conducted by the city for the original line to connect NW Portland to Portland State University crossing through the Pearl District. The project cost \$57 million, well over the predicted \$30 million, and was funded primarily by local sources. In many ways, the Portland Streetcar was a force of economic development for Portland. Former mayor Sam Adams dubbed the Pearl District's strategy "development-oriented transit," a play on words for the well-known transit-oriented development strategy. This was witnessed by the growth surrounding the streetcar since its inception. Between 1997 and 2008, \$3.5 billion has been invested within two blocks of the streetcar.

This valorization of public transit corresponds to the ethos of Portland's walkability, as Mayor Charlie Hales notes, "the pedestrian is the first class passenger."¹⁵ Detailed design and planning considerations that prioritized non-motorized transit were vital to the development of the Pearl District and Brewery Blocks. Portland's history of focusing on the pedestrian shaped much of the social and environmental benefits of the development.

Social and Economic Transformations

Portland also underwent a series of social and economic changes during the twentieth century that transformed the urban landscape. From the 1970s, the number of jobs in Portland's downtown core has increased substantially, and new sectors of the economy have flourished. In addition to retail, finance, and business services, sectors such as software production, multimedia, printing, broadcasting, advertising, and academic research have grown. The largest economic sectors are still management, legal, and engineering services.

¹⁵ In the film *Portland: A Sense of Place* by e2 transport.

From 1990 to 2015, employment in the Portland Metropolitan Area increased from 792,652 to 1,138,236.¹⁶ The total population increased from 1,083,977 in 1970 to 1,849,898 in 2010. In the Pearl District, the primary sectors of growth have been in retail and professional services.

Table 4: Employment data in thousands annual average for Portland Metropolitan Area

Data Series	1990	2000	2010	2015 (Jan)
Total (Not Including Agriculture)	737.4	981.5	979.2	1081.1
Mining and Logging	2.1	1.9	1.1	1.1
Construction	38.0	54.3	45.6	52.8
Manufacturing	125.1	143.4	107.1	119.6
Trade, Transport, and Utilities	158.0	200.7	184.7	204.3
Information	16.4	26.3	22.7	23.9
Financial Activities	50.2	65.1	62.2	64.8
Professional and Business Services	79.6	135.6	136.1	163.5
Education and Health Services	74.1	104.3	143.1	158.1
Leisure and Hospitality	63.9	85.9	94.6	105.3
Other services	25.9	33.5	34.8	37.6
Government	104.3	130.5	147.4	150.1

Portland’s reputation as a sustainable city stems from all of this history. The Pearl District serves as an iconic example of Portland’s success in revitalization through sustainable city planning. In this report, key strategies and lessons relate primarily to the Pearl District development, but the context of Portland’s history, its commitment to community participation, environmental protection, and its multi-level governance structure are important to consider.

The Brewery Blocks

At the site of a former brewery on the edge of the Pearl District, developers teamed with the City in 1999 to create an active, mixed-use micro-neighborhood. Today, the Brewery Blocks is a celebrated example of historic preservation and modern urban design. As the *We Build Green Cities* Initiative explains, “The Brewery Blocks is Portland’s premier example of how our firms’ collaboration, expertise and innovation can deliver integrated sustainable solutions in the form of a vibrant new neighborhood with long-term economic return.”¹⁷

¹⁶ US Bureau of Labor Statistics: <http://data.bls.gov/pdq/SurveyOutputServlet>

¹⁷ The We Build Green Cities initiative is a partnership convened by the Portland Development Commission on behalf of the City of Portland and local industry. The initiative works globally with cities on issues of urban sustainability, economic development, and innovation. More information is available at their website, as well as

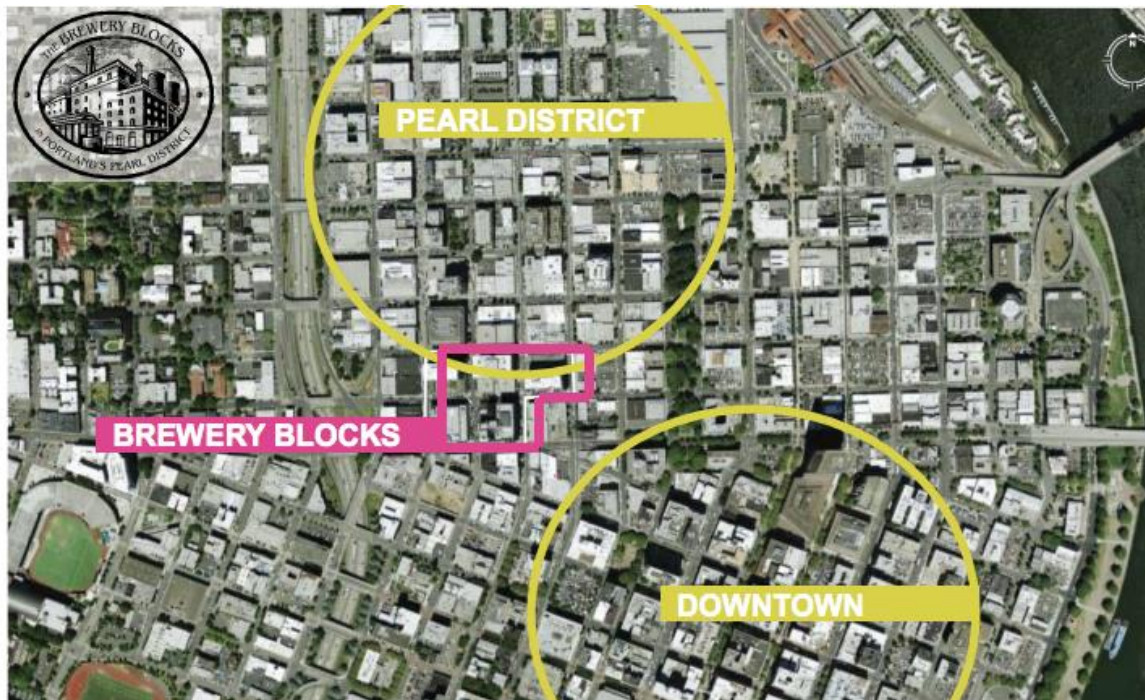


Figure 5: Aerial view showing Brewery Blocks in relation to the Pearl

The Brewery Blocks is a pedestrian-friendly, mixed-use neighborhood on the site of the former Henry Winehard's brewery in Portland's Pearl District. The project brings together commercial, residential, and retail space in a highly livable environment. The primary land uses are for office buildings, retail, apartments, condominiums, transit stations, and underground parking, all suited by the Central Employment Zone (Ex) designation in the City of Portland's comprehensive plan. The site is approximately 6.04 acres or five blocks.

The development includes seven buildings on five connected city blocks, with over 1.7 million square feet of space. Gerding Edlen, the primary developer, used an innovative mixed-use approach, leveraging public-private partnerships.

The master plan for the Brewery Blocks was guided by principles of environmental sustainability, place-making, financial viability, and historic preservation. This is showcased by the design of the new buildings and the restoration and renovation of the old buildings to meet the U.S. Green Building Council's LEED standards.

According to the Urban Land Institute, and numerous other institutions, the project has become a symbol of successful redevelopment and place-making in Portland. This has been accompanied by economic gains as well. Evidence for the success of the Brewery Blocks is found in the positive financial returns for investors; and in the dividends that continue to be paid to the community in the form of a walkable, livable, and sustainable neighborhood. For example, the commercial rents at the Brewery Blocks are

some minor case studies of Portland development successes: <http://www.webuildgreencities.com/case-studies/brewery-blocks/>

above the city average and the project’s environmentally friendly Henry condominiums sold out nine months before construction was completed. 3,500 people now live and work in an urban neighborhood that prior to 1999 only had several hundred residents.



Figure 6: Site plan for the Brewery Blocks

The development was a winner of the Urban Land Institute’s 2014 Global Awards for Excellence. This competition recognizes and honors real estate projects that achieve a high standard of excellence in design, construction, economics, planning, and management.

2.3. WHY THE PEARL DISTRICT? WHY THE BREWERY BLOCKS?

A Model for Urban Redevelopment

The Pearl District (“the Pearl”) is regarded as one of the most successful urban redevelopment projects in the industrialized world.¹⁸ It boasts numerous modes of transit, urban parks, eco-roofs, and green buildings all densely packed into an area of about 245 acres.¹⁹

Developed out of an underutilized industrial district with warehouses and abandoned factories, the Pearl District has become one of Portland’s premier economic, entertainment, and residential areas. Several factors and projects were central to this transformation. First, the initial Portland Streetcar system was built in and through the Pearl. Second, numerous other sustainable infrastructures, including parks developed on former brownfield sites, LEED certified and other green buildings, and pedestrian pathways were designed into the existing tight block and dense street networks. Lastly, numerous policy and planning measures made the Pearl a favorable location for investment, provided affordable housing, and mandated developments meet stormwater management goals.

Only 20 years ago the Pearl was run-down and dilapidated. Today it is an archetype of urban renaissance. Its exemplar mix of architectural styles originated from active historical preservation coupled with new, innovative, and sustainable building designs. The highly dense, compact, and diverse mix of restaurants, shops, galleries, and parks are coupled with residential and commercial spaces making a vibrant urban space. This dense mixture is a key aspect of the Pearl’s achievement of high livability.

¹⁸ Dujon, Dillard, and Brennan, *Social Sustainability*.

¹⁹ Eco-roofs replace conventional roofing with a living, breathing vegetated roof system. An eco-roof consists of a layer of vegetation over a growing medium on top of a synthetic, waterproof membrane. An eco-roof significantly decreases stormwater runoff, saves energy, reduces pollution and erosion, and helps preserve bird habitats. Eco-roofs also absorb carbon dioxide, cool urban heat islands, and filter air pollutants. Eco-roofs increase habitat for birds and insects and provide much needed green space for urban dwellers. More information about Portland’s Eco-roof Program is available at <https://www.portlandoregon.gov/bes/44422>.

3. GOALS AND PERFORMANCE MONITORING

“We envisioned a mixed-use development featuring abundant commercial space, housing and smart transportation; a neighborhood that would be dynamic, walkable and sustainable—environmentally, socially, and economically.”

- Bob Gerding, Gerding-Edlen Development

This section provides an overview of the goals for the Pearl District and the Brewery Blocks. These are situated within the goal-setting frameworks of the larger planning processes in Portland. Urban renewal goals and city level goals all impacted the development.

3.1. MAJOR GOALS

The Pearl District Development Plan (PDDP) was developed in 1999-2001. The PDDP was a culmination of a series of planning processes and plans starting with the Central City Plan of 1988 leading to the River District Urban Renewal Plan of 1994, ending with the City Council approving the PDDP in October 2001. A draft vision statement and an initial set of goals and objectives were presented and reviewed at a public open house on December 6, 2000. The open house format of the meeting allowed participants to comment on a series of display stations for the vision statement and each category of goals and objectives (i.e. Built Environment, Housing, Transportation, etc.). This influenced the final versions of the plan.

The major goals for the Pearl District were organized around several categories, and each had several objectives, as listed below:²⁰

Built Environment: New development will be urban in character that reflects the Pearl District’s heritage and seeks bold and adventurous designs that enhance the district’s distinctiveness.

- Preserve the character of existing buildings and/or architectural features as a connection to its historic industry/warehouse roots and as a means to assure a variety of styles.
- Maintain high standards for design to ensure that new development contributes to the unique character and diverse richness of the Pearl District.
- Encourage a mix of housing, employment, retail, and cultural uses that create a truly mixed-use community.
- Ensure that new and evolving uses (e.g. telecom hotels) are integrated into and enhance the vitality of the Pearl District.

²⁰ Goals and objectives are taken from the document, “Pearl District Development Plan – A Future Vision for a Neighborhood in Transit: Appendix ”

- Ensure that new development supports and reinforces public infrastructure investments, such as the Portland Streetcar and Jamison Square.
- Encourage the relocation of the main Post Office. Until then, work to reduce the dominance of the main Post Office site and integrate it into the fabric of the community.

Neighborhood Amenities: The Pearl District will be a vibrant neighborhood as part of the Central City with a range of amenities that support people who live and work in the community.

- Encourage the establishment of services and facilities that are appropriate to the community.
- Create community spaces, both indoors and outdoors, which serve as gathering places for the neighborhood.
- Maintain and enhance public open spaces as neighborhood amenities.

Housing: The Pearl District will have a diverse inventory of housing available to different types of households and income levels.

- Encourage a diverse mix of housing types that is affordable to a range of households.
- Promote the development of live/work lofts as a means of enhancing the mixed-use character of the neighborhood.
- Provide for a variety of services to support a diverse range of residents.

Arts and Culture: Artists and art institutions are important and will continue to play a prominent role in the identity and character of the Pearl District.

- Foster partnerships within the community to create and support cultural spaces and activities
- Support cultural institutions, such as PNCA, PICA, and others, in the neighborhood.
- Support the Pearl District’s identity as an artistic community.

Edges/Barriers: New development will help to strengthen connections between the Pearl District and its neighbors and to develop a relationship to the Willamette River.

- Strengthen the connection to the Willamette River.
- Improve connections across Burnside Street to the West End and Downtown.
- Enhance the north Park Blocks and Broadway Avenue as a connection between the Pearl District and Old Town/Chinatown.
- Enhance connections over and under I-405.
- Explore the feasibility of capping the I-405 freeway and providing a gateway to the community.
- Integrate the redevelopment of Terminal 1 into the Pearl District and the riverfront.

Economic Opportunities: The Pearl District will offer a wide range of employment opportunities to help maintain diversity and enable people to live, work, shop and play within the neighborhood.

- Encourage new employment opportunities that capitalize on the Pearl District’s location within the Central City.

- Support independent, long-time businesses that are an important part of the character and diversity of the neighborhood.

Transportation/Parking: The Pearl District will become a showcase for a compact, high density, urban neighborhood that reduces reliance on the automobile.

- Recognize that there will be congestion and conflicts between different types of users, but solutions should balance the needs of all users and should not seek to exclude specific modes of transportation.
- Ensure that new development supports the streetcar as a major component of the community’s accessibility and mobility.
- Create a transportation system that offers alternatives (i.e. walking, biking, transit) for traveling to, from, and within the Pearl District.
- Create pedestrian-friendly streets that provide for an active, interesting, and safe environment.
- Preserve the historic character and richness of the neighborhood by protecting and maintaining streetscape features such as cobblestones and old rails in the streets.
- Ensure an adequate amount of parking without detracting from the vitality of the neighborhood.

These goals have changed slightly as the district has developed. The focus has shifted towards affordable housing and traffic management, and also towards the less developed northern portion of the district. In November 2008, the City approved amendments to the River District Design Guidelines (Ordinance 182319). These design goals included the following:

1. Extend the river into the community to develop a functional and symbolic relationship with the Willamette River.
2. Create a community of distinct neighborhoods that accommodates a significant part of the region’s residential growth.
3. Enhance the District’s character and livability by fostering attractive design and activities that give comfort, convenience, safety and pleasure to all its residents and visitors.
4. Strengthen connections within the River District, and to adjacent areas.

Brewery Blocks Goals

Within the Pearl District, the Brewery Blocks project had its own set of goals and objectives. The developer, Gerding Edlen, summarized the major goal for the Brewery Blocks as simply “building a great neighborhood.” This entailed:

- **Adaptive Reuse:** Maintaining a sense of place and history
- **Mixed-Uses:** The project was envisioned as a “city within a city where people shop, live, and work”
- **Improved Parking:** Gerding Edlen wanted to ensure that parking would be placed under the streets to maintain the compact character of the neighborhood. The small 200-foot blocks of Portland make below-grade parking for large projects economically difficult, but with support from PDC, the Brewery Blocks implemented it.

- **Sustainability:** Each building is designed to achieve LEED certification.²¹

Urban Renewal Goals

The Pearl District is a large portion of an urban renewal area known as the River District. The River District and numerous other urban renewal areas (URAs) in Portland are managed by the Portland Development Commission (PDC). The primary goals for the River District URA are to:

- Generate new private investment and improve the tax base on vacant and underutilized land by developing a wide range of new housing units, new commercial opportunities, and open space
- Foster a "24-hour" city environment for residents, visitors, and employees

The River District Urban Renewal Plan (1998) details several other goals, guided by the River District Vision and Development Plan (1994). The Plan has goals for housing, transportation, utilities, job creation, parks, open spaces, and other public amenities.

City and County Level Goals

Portland has numerous plans that guide development. The most important plan for the Pearl District was the Central City Plan and the associated Plan District. In addition, the River District Plan played an important role, modifying and amending the Central City Plan in 2008 and 2009.

Central City Plan Goals

The Central City Plan is also an important guiding plan for development in the Pearl District. The Pearl District is situated within the West Quadrant of the plan areas. The Central City Plan caters towards the historic core of the city, highlighting Portland's regional center for the economy, arts and cultural activities, retail, entertainment, tourism, higher education, urban living and the multimodal transportation network.

As noted in the 1988 plan, the focus of the plan was "implementing provisions which go beyond regulations. Actions are identified that link specific projects and programs to form strategies for economic development, transportation improvements, recreation opportunities, cultural growth, human services, public safety, and urban design. These strategies aim at the creation of a 24-hour city which is safe, humane, and prosperous."²² The 1988 plan laid the foundation for the subsequent planning efforts in the Pearl District. These principles influenced the Pearl District Development Plan of 2001.

The Central City Plan was recently updated from its 1988 version. The new plan is called Central City 2035 to indicate its 20-year lifespan. The Concept Plan to guide the planning process was adopted by City Council in 2012. The West Quadrant Plan was adopted by City Council on March 5, 2015. However, the entire Central City Plan has yet to be approved. It is expected that the entire plan will be approved by 2016, and then specific recommendations will be implemented.

²¹ Please See Appendix II.

²² Portland Central City Plan 1988, p.6.

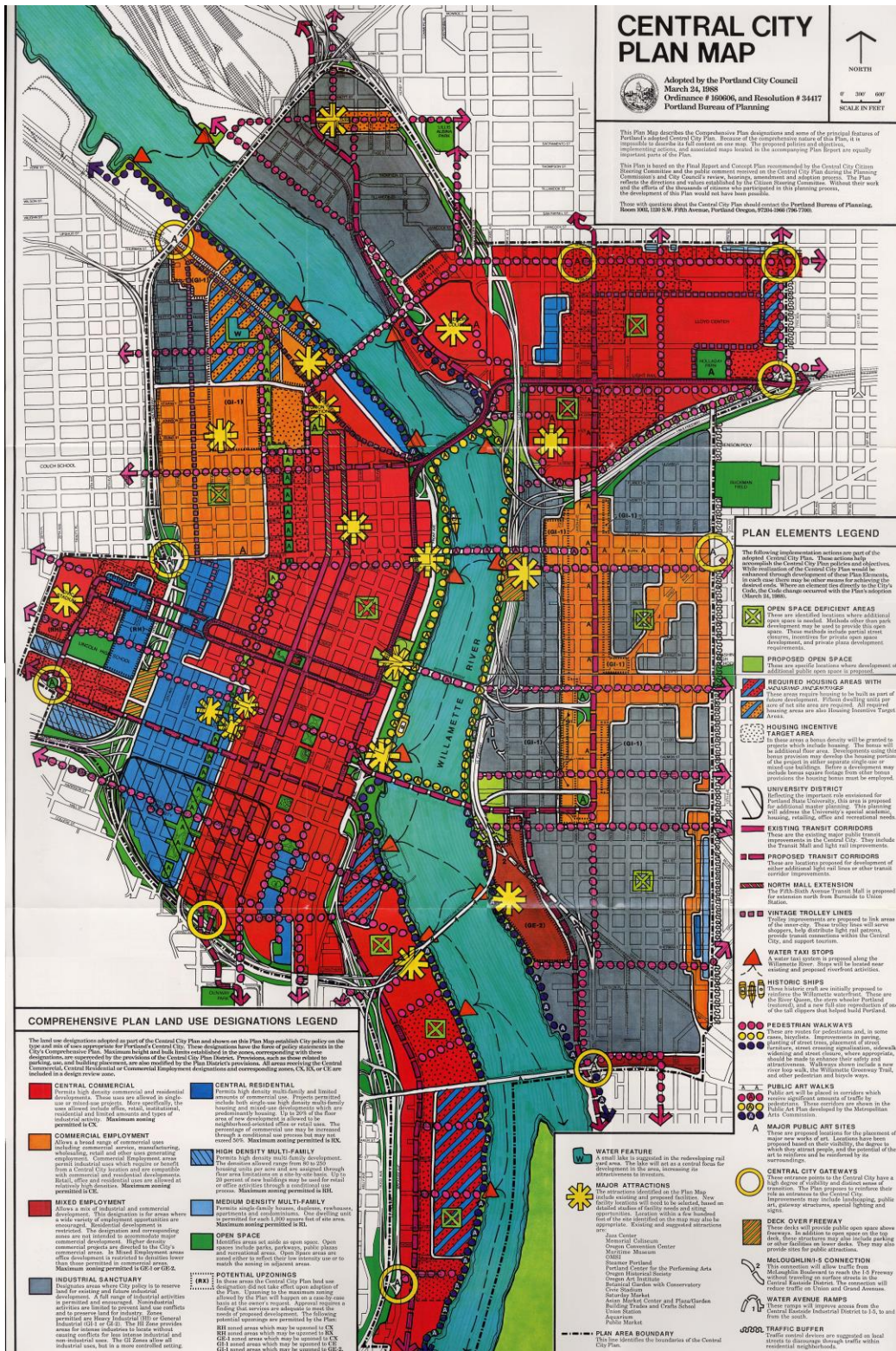


Figure 7: 1988 Central City Plan Map with Zoning. The Pearl District is zoned for commercial employment, central commercial, and an industrial sanctuary. The space is noted to have open space deficiencies.

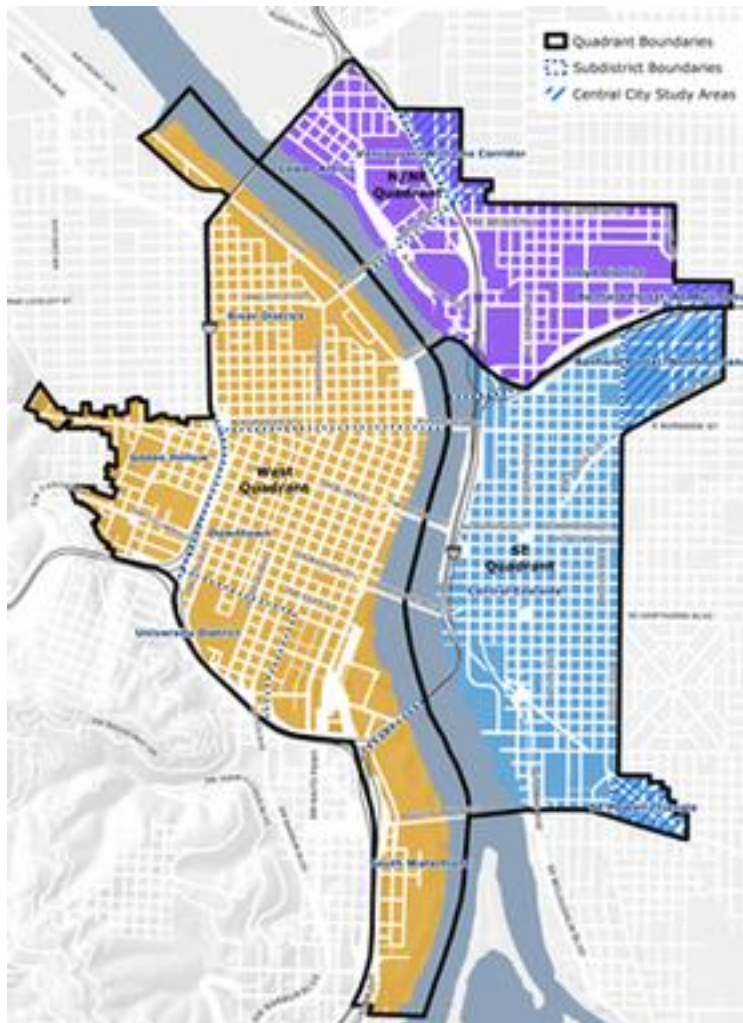


Figure 8: Central City 2035 Plan Areas. The Peal District is situated in the northern portion of the West Quadrant. It is zoned almost entirely for Central Employment (Ex) uses.

3.2 MONITORING

To maintain progress on achieving the various social and environmental goals for the Pearl District, monitoring and oversight were necessary. Two main modes of monitoring took place: design reviews and development agreements. A key component of review and monitoring is public comment on project proposals. These are important because they highlight the interests and concerns of residents in the neighborhood.

Design Review

The Design Review mandated that development maintained the character of the Pearl District neighborhood. This meant historic preservation, low building heights, and street-level retail uses would be maintained in the neighborhood. Design Review involves consultation with the Pearl District Neighborhood Association. The Planning and Transportation Committee is concerned with the built environment and regulations that impact it: code, design guidelines, general design, and transportation infrastructure plans. The committee also tracks the River District Urban Renewal District and advocates on behalf of the neighborhood with the Portland Development Commission.

Design Review is used to ensure the conservation, enhancement, and continued vitality of the identified scenic, architectural, and cultural values of each design district or area and to promote quality development near transit facilities. Design Review is required for certain development proposals located within the Design Overlay Zone, such as the Pearl District. The Design Overlay Zone is shown on the Official Zoning Maps with a letter 'd' map symbol. Some project proposals can choose to meet the objective standards of Community Design Standards instead of going through the Design Review process set out in the Municipal Code, Chapter 33.825: Design Review.

As part of the Design Review application, a Modification or Adjustment may be required if the proposal does not meet certain development standards. Design Modifications may be requested as part of the design review for standards that are not met. Adjustments may be requested concurrent with the design review for use-related standards that are not met (such as floor-area ratios, intensity of use, size of use, number of uses, or concentration of uses).

Applicable approval criteria depends on the location of the project site within the 'd' overlay zone.

- The approval criteria for sites within designated design districts are the design guidelines adopted for that area. View the maps at the end of Chapter 33.420 to see if the site is located within a design district. View the adopted design guidelines and Community Design Guidelines.
- The approval criteria for sites not within designated design districts are the Community Design Guidelines.²³

²³ Text excerpted from the Bureau of Development Services website accessed at: <https://www.portlandoregon.gov/bds/article/74223>

Development Agreements

Development agreements were established in the urban renewal area to mandate that particular goals would be met by developers who benefitted from the PDC's urban renewal projects. Development agreements are contracts that solidify the terms of public-private partnerships. They state the actions required of developers and the city government.

For example, the Portland Development Commission developed an agreement with Hoyt Street Properties, LLC., an Oregon limited liability company and developer, and several other parties to ensure that the required number of affordable housing units were created. However, this has been an issue because several reports indicate fewer affordable units were developed than called for in the development agreements.²⁴

Overall, development agreements provide incentives for private and public partners. In the aforementioned agreement, the intent was "to provide for timely private development and public investments on the Property and in the vicinity so that they occur in a manner generally consistent with the River District Development Plan endorsed by City Council on May 11, 1994. In adopting the Plan, the City affirmed its vision to extend the downtown northward and to create within the River District a "community of neighborhoods.... a community which is unique because of its image, its diversity, and most important, its embrace of the Willamette River."²⁵

Therefore, monitoring in this case was mutual. The agreement created expectations for each party that would need to be met in a "timely" manner.

²⁴ Oregonian/OregonLive, "Portland Housing Bureau Responds to River District Affordable Housing Shortfall."

²⁵ "Amended and Restated Agreement for Development between the City of Portland and Hoyt Street Properties, LLC. " (1999), accessed at http://www.pdc.us/Libraries/Document_Library/Hoyt_St_Property_Agreement_pdf.sflb.ashx

4. DEVELOPMENT PROCESS

This section details the planning and development process for the Pearl District and the Brewery Blocks. Portland has numerous agencies involved with planning, and there have been numerous plans that have impacted the development of the Pearl and River Districts. Gerding Edlen and GBD Architects carried out the planning and design for the Brewery Blocks in accordance with the district plans and regulations.

4.1. OVERVIEW OF PLANNING PROCESS

The planning process for the Pearl initiated from several larger plans that applied to the area. However, in the late 1990s, the Pearl District was recognized as having unique needs as the emerging arts and culture district of the Central City. The additional planning process was necessary to cater to the needs of the growing Pearl District community, especially with respect to housing and residential uses, historic preservation, and other arts and urban amenities. The Pearl District itself is a redevelopment project that was the outcome of numerous stakeholders' involvement.

Governmental Agencies involved included:

- **Portland Bureau of Planning (and later Bureau of Planning and Sustainability or BPS):** BPS's mission is to "develop creative and practical solutions to enhance Portland's livability, preserve distinct places, and plan for a resilient future." BPS is responsible for comprehensive land use; neighborhood, district, economic, historic, and environmental planning; and urban design in conjunction with local communities. BPS is also responsible for permitting, zone changes, and other more commonplace planning activities.
- **Portland Development Commission (PDC):** Established in 1958, PDC is responsible for urban renewal projects in specific urban renewal areas (URAs) within Portland. PDC is the City's urban renewal agency. PDC is controlled by a five-member board of commissioners who are local citizens appointed by the Mayor and approved by City Council. PDC is quasi-governmental in nature. The executive director reports to the board of commissioners rather than directly to the Mayor or other City Commissioners. The intent of this structure is to allow independent program implementation and resource allocation as opposed to direction focused on any one City Commissioner. PDC is a department of the City and employs over 200 staff. PDC is nationally unique as compared to urban renewal agencies in other major cities because it has a greater degree of coordination between urban renewal, housing, economic development, and redevelopment functions.²⁶ The PDC may control no more than 15% of Portland's acreage and is steadily approaching this limit.²⁷ The Pearl District is in the largest River District URA. PDC's mission is "to create one of the world's most desirable and equitable cities by investing in job creation, innovation, and economic opportunity throughout Portland." In PDC's strategic plan, they explain they are focus on growing Portland's sustainable economy by focusing on five interrelated goals: strong economic growth and competitiveness, social equity, healthy neighborhoods, vibrant central city, effective stewardship of resources and operations, and employee investment. These five goals help shape actions and

²⁶ Portland Development Commission website: <http://www.pdc.us>

²⁷ Jensen-Classen, Jolene. Strategic Partnership Coordinator in Public Affairs at the PDC. Personal interview. 23 Feb. 2007.

investments taken by PDC. In the River District, PDC has numerous projects underway. These are shown in Figure 22 below.

Smaller supportive roles were carried by:

- **TriMet:** TriMet provides bus, light rail, and commuter rail service in the Portland region. TriMet has been deeply involved with light rail, commuter rail, and bus transportation development projects in Portland. Their mission is to “provide valued transit service that is safe, dependable, and easy to use.”²⁸
- **Metro Regional Government:** Metro is responsible for regional land use, growth management, and transportation planning in the metro area. Metro is further responsible for region’s solid waste disposal system; regional convention, visitor, and performance spaces; management and further development of a regional green spaces system; and ongoing maintenance of regional GIS data.²⁹
- **Portland Bureau of Transportation:** The Portland Bureau of Transportation (PBOT) plans, builds, manages and maintains an effective and safe transportation system that provides people and businesses access and mobility. PBOT maintains \$8.4 billion of investments in infrastructure facilities from streets and structures to traffic signals and streetlights. As the state’s largest urban area, protection of Portland’s way of life requires creativity in order to balance the competing uses, complexity, age, and size of the transportation system. PBOT owns the Portland Streetcar and Aerial Tram.

Local Business and Community Stakeholders involved included:

- **Pearl District Neighborhood Association:** The PDNA is a local group of volunteers who represent the local community in an official capacity. The PDNA is one of 95 neighborhood associations in Portland coordinated through the Office of Neighborhood Involvement at the City level. PDNA has committees that participate in planning and development issues in the Pearl District. Community engagement is a valued and required part of any development process in Portland.
- **Local business owners (e.g. Powell’s Books):** Many of the local business owners are invested in the neighborhood. They realize the potential for increasing retail exposure through design choices that encourage pedestrian accessibility and simply attract people at all hours of the day. Local businesses are represented by PDNA and often participate in planning meetings.
- **Development companies (Gerding Edlen, Hoyt St. Properties):** Development companies implementing projects in the Pearl District are involved directly with the planning process. They offer designs, plans, and models for developments that meet their needs as well as those of the city and community. Developers must stay within regulations and codes, but they must also take into account citizen input.
- **Local residents:** Local residents and artists have participated extensively in the Pearl District development process. As people who live and often work in the Pearl District, their livelihoods are directly affected by changes in their neighborhood. Many are often involved through the PDNA, but some also attend meetings and participate as individuals.

²⁸ Please see: <https://trimet.org/about/mission.htm>

²⁹ Ozawa, *The Portland Edge*.

The Pearl District Development Plan Planning Process

Although this is just one planning process, it shows the general process for Portland's style of planning. Development of the Central City Plan (1988) and the River District Urban Renewal Plan (1998) were longer processes that applied to a larger area than the Pearl District itself. It is also important to note that this was a community planning process, initiated by local neighborhood residents, developers, and business owners. The PDC supported the community planning process, providing resources and expert advice through consultants and members of the Bureau of Planning. City of Portland Planning processes, which were used for the Central City Plan, for example, would be run by and through the City rather than through community groups.

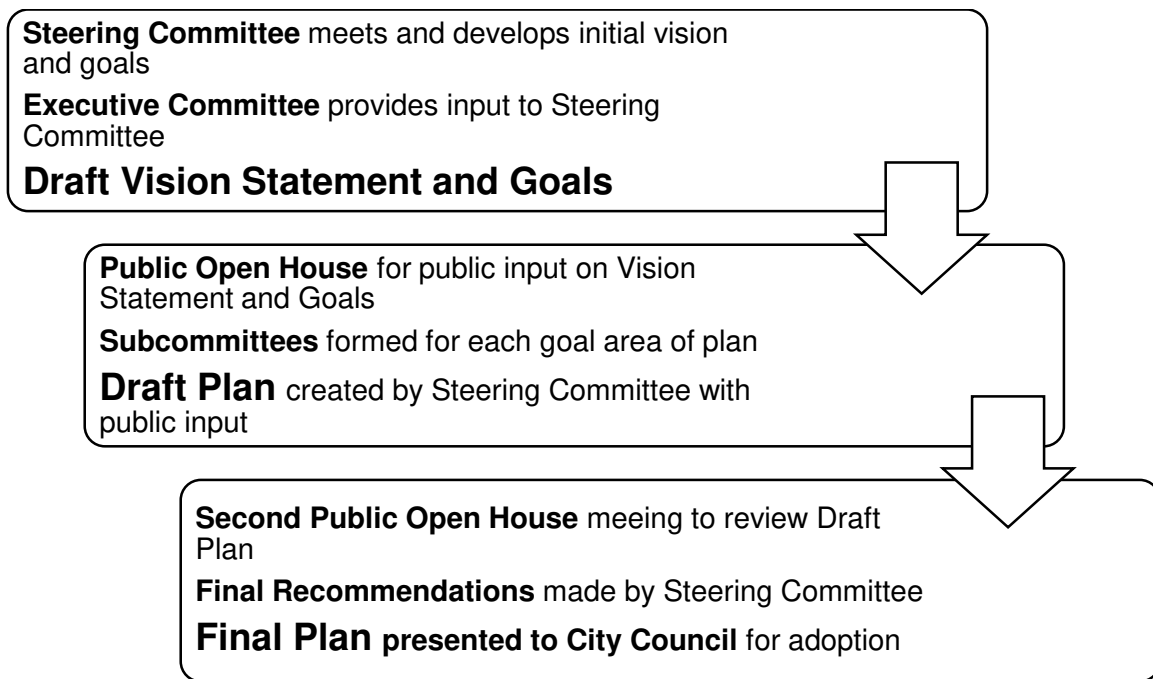


Figure 9: Pearl District Development Plan Process

The Pearl District Development Plan (PDDP) was created by a 26-member steering committee from 1999-2001. The steering committee members included: Investors, developers, representatives of the neighborhood association, local business owners, representatives of schools, the Housing Authority of Portland, community centers, and the US Post Office. Notably, Gerding Edlen, developer of the Brewery Blocks project was represented on the steering committee. The steering committee met monthly over the course of a year to discuss the future of the Pearl District, to re-evaluate current plans and policies, and to focus on the development priorities for the neighborhood.

In addition to the steering committee, an executive committee met in between the steering committee meetings to provide advice on the planning process and to make initial recommendations to the steering committee. The executive committee included members of the PDC, the Bureau of Planning (later BPS), Traffic Management, Parks and Recreation, and several local planning and architecture consultants and firms.

A draft vision statement and an initial set of goals and objectives were presented and reviewed at a public open house on December 6, 2000. The open house format of the meeting allowed participants to

comment on a series of display stations for the vision statement and each category of goals and objectives. The steering committee made changes to the vision statement and goals and objectives based on the open house comments.

Each category or section was then sent to an ad-hoc subcommittee, which included other community members. An intensive series of meetings was held to refine each set of goals and objectives and to identify specific action items. The subcommittee recommendations for each category were reviewed by the steering committee before being assembled into a draft plan.

The draft plan was presented for review and comment at a second public open house on May 23, 2001. With a format similar to the first open house, participants were asked to comment on each section and indicate their priorities for the action items. During this time, additional meetings were held with other affected city bureaus and other agencies to solicit comments on the draft plan. The steering committee made final recommendations based on the comments received from the public open house and interagency meetings.³⁰

³⁰ This description of the planning process was detailed in the document, "Pearl District Development Plan – A Future Vision for a Neighborhood in Transit: Appendix "

4.2. MASTER PLANNING

Developers and the local community created master plans for the Pearl District. These planning documents provided a guiding vision and several goals for new development in the Pearl that would be supported by public and private investment.

Role of the Local Government

In the development of the Pearl District, governmental organizations worked jointly on the project. The PDC was responsible for the revitalization of the Pearl District under its power to manage and fund urban renewal projects in Portland. The PDC worked with local communities, the City of Portland, and Metro to meet all zoning, urban growth boundary, housing, and transportation requirements.

- The Bureau of Planning (at the time, before BPS was created) facilitated community engagement processes for the plan developments.
- BPS and the City Council made sure that development met goals and regulations laid out in the Central City Plan, River District Urban Renewal Plan, and the Pearl District Development Plan. Zoning and Comprehensive goals and regulations were also monitored through permitting and design review processes.
- PDC provided development financing and incentives via public infrastructure projects and grants.
- The Bureau of Transportation helped make sure the transit needs were met according to the Central City Plan.

Role of Developers

Developers propose projects for different commercial, retail, and residential uses. Working in conjunction with the PDC and the BPS, developers work with property owners, or are themselves property owners, and build urban spaces conducive to Pearl District's development goals and regulations that support the implementation of the plans.

For example, in the Brewery Blocks, Gerding Edlen purchased the property at the site of the defunct Weinhard Brewery complex with the intention of redeveloping it into a mixed-use project. They proposed plans for the site that would meet the regulations given in the zoning code and all overlay and plan district regulations. Then, they were able to acquire permits for development after they received permission from the Design Review Commission.

Role of the Public Sector

The primary public sector actors include both PDC and the Pearl District Neighborhood Association.

PDC's role was to put in place the appropriate infrastructure that would allow private development to go forward. In the final analysis, 90% of the funding for River District development has come from private sources. Since the inception of the district in FY 1999-2000, its assessed value has grown by \$1.7 billion.

Oregon law requires citizens be consulted throughout the urban renewal process, and PDC is both proactive in seeking community input and responsive to community desires. Urban renewal areas, their principles, and the specific projects funded by them are conceived in consultation with citizen committees who represent a broad spectrum of community interests. In addition, three public bodies

must approve any new urban renewal area: the Portland Development Commission, the Portland Planning Commission, and City Council. Other jurisdictions impacted by the urban renewal area—such as the county and the local school board—are asked to issue a recommendation on the plan. Public comment is solicited and accepted throughout the process. Spending in each new urban renewal area is overseen by a citizen advisory committee. The decision to allocate money for specific projects that meet the goals of the urban renewal plan are made each year through PDC’s budgeting process.³¹

PDNA has played an important role in identifying buildings of historic character that should be preserved within the Pearl District. These buildings are considered landmarks and are generally of smaller scale. These are valued because they break up the skyline and scale of district.

Collaboration and Cooperation

Much of the Pearl District’s development has been profoundly successful. This stems from a structure of planning that directly involves the local stakeholders. These include mandatory consultations with the Pearl District Neighborhood Association, public comment and charrettes, and continuous updating of plans to meet development needs in accordance with broader goals.³²

Some of the major concerns over the Pearl District have arisen from an affordability perspective. In the Hoyt Properties development agreement, a requirement was created to mandate 35% of the 2,000 units built be designated for affordable housing. However, this goal has not been met. Hoyt Street Properties achieved nearly 30%, a laudable achievement, but the public has voiced concern. Further new developments will only decrease the percentage, according to the Portland Housing Bureau.³³

³¹ This text is excerpted from the Council of Development Finance Agencies (CDFA) “Urban Renewal Primer” accessed at <https://www.cdfa.net/cdfa/cdfaweb.nsf/ordredirect.html?open&id=UrbanRenewal.html>

³² The Pearl District Neighborhood Association (PDNA) is a volunteer group of local citizens who participate in development and planning processes in the Pearl District. They provide the voice and opinions of the local citizens and residents on various issues relating to development. The PDNA has a Board that governs the organization. The Board Members include a President, Vice-President, Treasurer, Secretary, and other members involved in decision-making processes and public outreach. PDNA has several committees to address specific issues: Planning, Transportation, and Design Review, Livability and Safety, Communications, Finance, and Emergency Preparedness.

³³ “Hoyt Street Properties.”

4.3 EXISTING PLANS

The policy and regulatory context for the Pearl District was shaped by the plans and policies shown in the table below. Appendix II discusses each of these plans, policies, and studies in detail.

Table 5: Plans Relevant to the Pearl District

Major Plans	<ul style="list-style-type: none"> • Central City Plan (1988, amended 1995) • River District Development Plan (1994) • Central City Transportation Management Plan (1995) • River District Urban Renewal Plan (1998, amended 2008 and 2009) • River District Design Guidelines (1998) • City of Portland/Hoyt Street Properties Development Agreement (1998)
Minor Plans	<ul style="list-style-type: none"> • A Vision for Portland’s North Downtown: The River District (1992) • Pearl District Parking Development Plan (2000) • Pearl District Development Plan (2001) • Guild’s Lake Industrial Sanctuary Plan (2001) • Northwest District Plan (2003) • North Pearl District Plan (2008)
Supporting Studies	<ul style="list-style-type: none"> • Union Station Clock Tower-Related FAR and Height Study (2000) • Northwest Transition Area Project (2001) • Portland River District Park System Urban Design Framework Study (2001) • North of Lovejoy Project Study (2005)

The various goals discussed in the previous section relate to the many planning processes and plans that guide development in Portland and the Pearl District specifically. The following table explains the major goals and strategies used in these plans to create an economically prosperous Pearl District based around the 12 Guidelines.

Table 6: Summary of Existing Plans and Suggested Implementation Items

Goal	Design Guideline/Action	Plan and Year
Mixed-use development with supportive industrial economic sector	<ul style="list-style-type: none"> • Rezoning of areas to allow multiple uses while preserving industrial space in an “industrial sanctuary” 	<i>Downtown Plan (1972)</i>
Transition away from industrial use	<ul style="list-style-type: none"> • Preserve open and public space and ensure access to the river • Specific zoning to maintain character with small FAR (2:1) and maximum heights of 100 feet 	<i>Northwest Triangle Study (1985)</i>
Mixed-uses with high flexibility in use	<ul style="list-style-type: none"> • Change most of district zoning to Central Employment (Ex) 	<i>Central City Plan (1988)</i>
Encourage residential functions	<ul style="list-style-type: none"> • FAR bonuses • Building height bonuses 	<i>Central City Plan (1988)</i>

Maintain neighborhood character and preserve historic sites	<ul style="list-style-type: none"> • Creation of new sub-district with design guidelines and committee 	<i>River District Plan (1995)</i> <i>River District Design Guidelines (1996)</i>
Encourage private development and investment in less developed areas	<ul style="list-style-type: none"> • Urban renewal area created to provide public capital for projects through tax increment financing 	<i>River District Urban Renewal Plan (1998)</i>
	<ul style="list-style-type: none"> • Public provision of infrastructure for private development in exchange for development regulations 	<i>Development Agreement Between Hoyt St. Properties and City of Portland (1998)</i>
Increase density	<ul style="list-style-type: none"> • Specific density requirements for private developers 	<i>Development Agreement Between Hoyt St. Properties and City of Portland (1998)</i>
Add affordable housing	<ul style="list-style-type: none"> • Specific percentages of affordable housing based on maximum family incomes 	<i>Development Agreement Between Hoyt St. Properties and City of Portland (1998)</i>
Foster community development	<ul style="list-style-type: none"> • Provide community spaces and public amenities • Encourage a diversity of housing types and costs • New design guidelines that emphasize walkability and pedestrian travel 	<i>Pearl District Development Plan (2001)</i> <i>North Pearl District Plan (2008)</i>
Increase public spaces and green spaces	<ul style="list-style-type: none"> • Open spaces zones and design plans that integrate parks 	<i>Portland River District Park System Urban Design Framework Study (2001)</i>
Maximize NMT options and accessibility	<ul style="list-style-type: none"> • Maximum off-street parking ratios • Add streetcar and transit stops • Increase pedestrian accessibility 	<i>Pearl District Development Plan (2001)</i>

4.4 ZONING

The Pearl District is primarily zoned for mixed uses to encourage multiple uses that generate employment, residential development, and public services and amenities. This section details the zoning code and land uses of the Pearl District to illustrate the strategy taken by the City of Portland to make the Pearl District a transit-oriented development. The zoning strategy places maximums on parking for new developments and rewards developers with development bonuses for catering to pedestrians and cyclists.

Zoning creates a system of certainty for developers, as former Planning Director and current Metro Councilor Bob Stacey explains, because it ensures entitlements to developers for their property. When a developer approaches a property, they can consult the zoning code to know their development rights and opportunities for bonuses. These are guaranteed entitlements that change only in the long-term.

There are three types of zones that are used by the City of Portland.

- *The first is the **Base Zone**: Base Zones state what uses are allowed on property, and they state required development standards that apply (such as maximum height and required setbacks).*
- *The second is the **Overlay Zone**: Overlay zones consist of regulations that address specific subjects in particular areas in the City. Overlay zone regulations are in addition to regulations in the base zone and modify the regulations of the base zone.*
- *The third is the **Plan District**: Plan Districts have additional regulations that can impact a project. Plan district regulations are applied in conjunction with a base zone. The Plan District provisions may modify any portion of the regulations of the base zone, overlay zone, or other regulations of the zoning code. The regulations of a Plan District may also apply additional requirements or allow exceptions to general regulations. Where there is a conflict between the Plan District regulations and the base zone, overlay zone, or other regulations of the zoning code, the Plan District regulations are authoritative.*

Base Zones

The map above shows the Base Zones for the Pearl District: Central Commercial zones in red, Central Employment zones in purple, and Open Space zones in green. A small section of the Pearl District has been zoned for exclusive residential use (RXdg) shown in blue above. Generally, the Pearl District is zoned for mixed use—the Central Employment zone.

Base Zone	Description
Central Employment (EX)	<ul style="list-style-type: none"> • Allows mixed-uses: industrial, business, and service uses which benefit from being centrally located • Residential uses allowed, but should not predominate • Focused on center city development • Development standards allow new development that is similar to character of existing development
Central Commercial (CX)	<ul style="list-style-type: none"> • Intended for commercial development • Broad range of uses: commercial, cultural, government • Reflects Portland’s most urban and high-density areas • Development is to be intense - dense, large buildings, and buildings placed close together • Development is to be pedestrian-oriented • Emphasis on safe and attractive streetscape
Open Space (OS)	<ul style="list-style-type: none"> • Intended to preserve and enhance public and private open, natural, and improved park and recreational areas
Central Residential (RX)	<ul style="list-style-type: none"> • High-density, multi-dwelling zone • Density is not regulated by number of units per acre, but rather, maximum size and intensity of use are regulated by FAR and development standards • Density should be 100 units or more per acre

Although the Pearl is not zoned for extensive residential development, there are many condos, apartments and other multifamily buildings that provide over 4,000 residences in the small urban footprint. The Pearl had a density of 21 persons per acre in 2010. Since then, population has increased in Portland significantly.³⁴ In the Pearl District, several new high-rise buildings have also been under construction, or have been completed since 2010. These have added and will continue to add significant new residential space, only increasing the population density of the area. An estimate of the number of new units under construction is in Table 32 in the Appendix of this report. The majority of these new units are being built in the northern portion of the Pearl District, known as North Pearl.

³⁴ For more data and information on population growth please see the US Census website. Accessed at <http://www.census.gov/popest/data/cities/totals/2014/SUB-EST2014-3.html>

Overlay Zones

Overlay zones consist of regulations that address specific subjects in particular areas in the City. Overlay zone regulations are in addition to regulations in the base zone and modify the regulations of the base zone. In addition to the base zones, two overlays are used in the Pearl District.

Design Overlay

The Design Overlay (marked as a lowercase “d” next to base zone code) indicates that design and neighborhood character are of special concern to the area. Design Overlay applies to design districts and subdistricts that are specified as part of the planning process. The entire Pearl District is a design overlay zone. Design Review processes are required for new developments, exterior alterations, nonstandard improvements, and numerous other changes.

The Design Overlay Zone promotes the conservation, enhancement, and continued vitality of areas of the City with special scenic, architectural, or cultural value. The Design Overlay Zone also promotes quality high-density development adjacent to transit facilities. This is achieved through the creation of design districts and the application of the Design Overlay Zone as part of community planning projects, development of design guidelines for each district, and by requiring Design Review or compliance with the Community Design Standards. In addition, Design Review or compliance with the Community Design Standards ensures that certain types of infill development will be compatible with the neighborhood and enhance the area.

Greenway Overlay: River General

The purpose of the Greenway Overlay Zones is to implement the land use pattern identified in the Willamette Greenway Plan and the water quality requirements of Metro Code 3.07.340.B (Title 3). There are five greenway overlay zones, each with its own focus and purpose. For the Pearl District waterfront area, the River General overlay zone applies. The River General zone allows for uses and development which are consistent with the base zoning, which allow for public use and enjoyment of the waterfront, and which enhance the river's natural and scenic qualities.

The larger Willamette Greenway regulations are intended to:

- Protect, conserve, enhance, and maintain the natural, scenic, historical, economic, and recreational qualities of lands along Portland's rivers;
- Establish criteria, standards, and procedures for the development of land, change of uses, and the intensification of uses within the greenway;
- Increase public access to and along the Willamette River for the purpose of increasing recreational opportunities, providing emergency vehicle access, assisting in flood protection and control, providing connections to other transportation systems, and helping to create a pleasant, aesthetically pleasing urban environment;
- Implement the City's Willamette Greenway responsibilities as required by ORS 390.310 to 390.368;
- Implement the water quality performance standards of Metro's Title 3, which are intended to protect and improve water quality to support designated beneficial water uses, and to protect the functional values of the water quality resource area which include: providing a vegetated corridor to separate protected water features from development; maintaining or reducing stream temperatures; maintaining natural stream corridors; minimizing erosion, nutrient and pollutant

loading into water; filtering, infiltration and natural water purification; and stabilizing slopes to prevent landslides contributing to sedimentation of water features.

Plan Districts

Plan Districts address concerns unique to an area when other zoning mechanisms cannot achieve the desired results. An area may be unique based on natural, economic or historic attributes; be subject to problems from rapid or severe transitions of land use; or contain public facilities which require specific land use regulations for their efficient operation. Plan Districts provide a means to modify zoning regulations for specific areas defined in special plans or studies. Each plan district has its own nontransferable set of regulations. This contrasts with base zone and overlay zone provisions which are intended to be applicable in large areas or in more than one area. However, Plan Districts are not intended for small areas or individual properties.

Plan District regulations are applied in conjunction with a base zone. The Plan District provisions may modify any portion of the regulations of the base zone, overlay zone, or other regulations of this Title. The provisions may apply additional requirements or allow exceptions to general regulations.

When there is a conflict between the plan district regulations and base zone, overlay zone, or other regulations of this Title, the Plan District regulations are authoritative. The specific regulations of the base zone, overlay zones, or other regulations of the Title apply unless the Plan District provides other regulations for the same specific topic.

The Pearl District is located within the Central City Plan District. This district contains Use Regulations, Development Standards, and Parking and Access rules. The Table below shows some of the main features of this Plan District that enhance sustainability of the Pearl District. The Central City Plan District implements portions of the existing plans discussed above by adding code provisions that address special circumstances existing in the Central City area.

There are three Plan District elements:

- **Use Regulation:** These regulate the uses allowed on the property (such as limits on Vehicle Repair Facilities within downtown area).
- **Development Standards:** These regulate the character, size, and density of development projects through tools such as floor-area ratios.
- **Parking and Access:** These regulations implement the Central City Transportation Management Plan by managing the supply of off-street parking to improve mobility, promoting the use of alternative modes, supporting existing and new economic development, maintaining air quality, and enhancing the urban form of the Central City.

The table below provides information on the regulations that each of these elements mandates.

Table 7: Plan District Code Provisions³⁵

Plan District Element	Category	Regulation
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³⁵ Please see the Portland zoning code available at <https://www.portlandoregon.gov/bps/article/53363>

Use Regulation	Mixed Use Waterfront Development	<ul style="list-style-type: none"> • Minimum residential density of one dwelling unit per 2,000 SF of site area
	Retail Sales and Services Uses in CX, EX or RX zones	<ul style="list-style-type: none"> • To promote neighborhoods serving commercial development and help reduce traffic congestion • CX: 60,000 SF net building area maximum • EX: 50,000 SF net building area maximum • RX: 40% of area on ground floor and 20% above
Development Standards	Floor Area Ratios	<ul style="list-style-type: none"> • FAR increases up to 9:1 from 3:1 for North Pearl Subarea • Generally, 3:1 • Floor-area transfers from existing residential uses and historic resources • Neighborhood facilities exemption for North Pearl Subarea
	Height	<ul style="list-style-type: none"> • Open space adjacent sites maximum heights based on shadow size • Performance standard for sites adjacent to historic districts • Open space height transfers allow higher maximums for space donated to the City for public use (at least 1 block)
	FAR and Height Bonus	<ul style="list-style-type: none"> • Bonus FAR or Heights for provision of amenities and features that implement the Central City Plan, such as, residential uses, day care, retail uses, rooftop gardens, theatre, arts, water features, locker rooms, eco-roofs, middle-income housing, affordable housing, below-grade parking, open space, efficient family size dwelling units. These all encourage more sustainable development by awarding developers with more development space.
	Ground Floor Windows	<ul style="list-style-type: none"> • Limits on blank walls to encourage pleasant, rich, and diverse pedestrian experience by connecting activities within structures to the adjacent sidewalks.
	Ground Floor Active Uses	<ul style="list-style-type: none"> • Windows and doors on street-facing facade • Parking restrictions near streetcar alignments to encourage transit-supportive, pedestrian oriented environment
	Required Residential Development Areas	<ul style="list-style-type: none"> • To promote new housing in suitable areas, requires at least 1 dwelling unit per 2,900 SF of net site area (15 units per acre)

	Additional Standards for North Pearl	<ul style="list-style-type: none"> • Special building height restrictions along historic NW 13th Avenue Area • Open area requirement for large sites (40,000 SF /1 block or larger)
	Mechanical Equipment along Streetcar	<ul style="list-style-type: none"> • Requires equipment located along the Streetcar to be screened in or enclosed to reduce negative visual and noise impacts
Parking and Access	Parking in River District	<ul style="list-style-type: none"> • Maximum Parking Ratio (MPR) of 1.5 or 2 spaces per 1,000 SF (depending on area) for growth parking • MPR of 1.5 spaces per dwelling unit for residential • MPR of 1 space per hotel room for hotel uses

Interactions between zoning codes

The regulations of Central Employment zone (EX) in the Base Zone Codes address floor area ratio (FAR), height, building setback rules and other basic design requirements. The Base Zone Codes also addresses more detailed design requirements, such as FAR transfer and bonus, ground floor window design, pedestrian circulation, and transit street main entrance design.

Compared to the Base Zone Codes, the Central City Plan District Codes provide localized and flexible design rules. For example, they provide a FAR bonus, height bonus, and more FAR transfer opportunities for the North Pearl District.

In the Central City Plan District Codes rules for noise, odor and light, and transportation issues, the Codes require developers to generate two documents:

- **Good Neighborhood Agreement:** This agreement is a written document that contains terms agreed upon by two or more parties, including a neighborhood association and a business, and defines how to resolve problems that may arise from development, such as impacts on liveability and safety.
- **Comprehensive Transportation Management Plan:** Provides an opportunity to consider the impacts of traffic and parking on nearby residents and businesses. This is achieved by requiring owners or operators to complete an analysis of traffic issues, suggest mitigation measures, and make the draft report available to the neighbors of the site.

In these two documents, developers may measure their impacts to the surrounding neighborhood and provide some solution to mitigate the impacts. Public engagement and stakeholder involvement is mandatory for both, and City Council hearings are included to inform the neighborhood of the local development plans.

In addition to the Base Zone and the District Plan, the Pearl District is also regulated by the codes for Design Overlay. The overlay zone allows for specific subjects to be addressed through zoning. For example, in the Pearl, there are Design Overlay Zones, Historic Land Mark Overlay Zones, and River Industrial Overlay Zones.

A Design Review is required for all new development, exterior alteration, and other design related alteration/construction in the area located within the Overlay; unless the applicant chooses to meet the objective standards of the Community Design Standards in the Title 33 Codes. The reference materials of the Design Review for the Pearl District are Central City Fundamental Guidelines and River District Design Guidelines. These Design Guidelines address design rules for neighborhood strategies, and are much different from the Base Zone Codes and Plan District Codes which provide restrictive rules with non-negotiable requirements.

In the Pearl District, the maximum height for most of the area is 100 feet except the lots on the south and west corner of open spaces. The basic maximum FAR is around 4.5:1 in the EX zone (Central Employment) and 2:1 in the RX zone (Central Residential, along the riverfront). Their FARs can be up to 9:1 when bonus FAR is added.³⁶

4.5 PHASE 1: DEVELOPMENT

The Pearl District emerged from an underdeveloped area of Portland, north of Downtown, adjacent to the waterfront. The low costs of renting space in the decaying industrial area attracted various artists and other to the area, creating an eclectic urban environment. As the industrial spaces were transformed into art galleries, the Pearl District was formed. Railyards and warehouses, however, still influenced the overall character of the budding neighborhood. Developers began to approach the area as a blank slate for a new district that could serve as Portland's art and retail district. However, the area was also attractive because of its industrial roots. The 1972 Downtown Plan and the 1988 Central City Plan began to characterize the Pearl District as a center of mixed-use activities, not just industrial warehousing or railyards. Burlington Northern Railroad's development team developed master plans, but the developers who purchased the land from Burlington Northern had their own plans for development. Private developers and property owners spurred development in the Pearl with a vision for transformation of the industrial area.

Private developers and citizens led planning efforts that the City acknowledged and incorporated into local policy. These planning efforts identified the River District, an area originally encompassing an area mostly within the boundaries of today's Pearl District, as a priority area for urban development. While portions of the new River District were to be developed, substantial opportunities for new development were identified. Recognizing this potential in 1992, the North Downtown Consortium, a group of north downtown property owners, business interests, and citizens presented to City Council a River District Vision, which provided an overall context for new development in the District. Central to the Vision were the notions of a new community of residential neighborhoods and a reorientation of the District to the Willamette River. City Council acknowledged the Vision and directed activities which led to the formation of the River District Steering Committee and a process to recommend a River District Development Plan. On May 11, 1994 City Council endorsed the River District Development Plan by Resolution (No. 35274) as proposed by the River District Steering Committee. In that Resolution, the Bureau of Planning was

³⁶ City of Portland, *Municipal Code*, "Title 33 Planning and Zoning, Chapter 33.510 Central City Plan District " (Portland: 2010)

directed to incorporate the River District vision into the Central City Plan. The River District Plan was made effective in July 1995 via Ordinance No. 168702.³⁷

Policy 17 of the Central City Plan was created to encourage development north of downtown into the River District Area (today's Pearl District). The Policy placed emphasis on utilizing the River District Urban Design and Development Plans drafted by the consortium of private developers.

The overall goals of the Policy included:

- Historic preservation
- Provide social services
- Provide housing for variety of income levels and family structures
- Provide neighborhood amenities
- Accommodate industrial growth
- Foster the development of artists residential and work spaces and galleries
- Incorporate strategic public investments in infrastructure to stimulate private sector development
- Restore the existing Tanner Creek to create a focal point of the district
- Create development density, diversity of land uses, and quality of design resulting in reduced infrastructure costs for transport, water, sewer, electricity, communications and natural gas.³⁸

The planning and visioning processes identified city-directed infrastructure projects for private developers in exchange for helping the City meet broader planning goals of the Central City Plan. For example, Hoyt Street Properties entered a development partnership that involved the purchase and development of the former railyards agreeing to increase densities in their development if the viaduct, which elevated the main street above the grade through the neighborhood, was removed.

Funding for this infrastructure project and many others were funded by the Portland Development Commission through creation of the River District Urban Renewal Area in 1998, which at first had a maximum indebtedness of roughly \$234 million.³⁹ The Lovejoy ramp was demolished in the summer of 2000. This allowed Lovejoy Street to become a central arterial that maintains good pedestrian accessibility and walkability, and it further opened up North Portland (North of Lovejoy) to redevelopment.

Urban Renewal: Phase 1 Financing and Developer Incentives

Urban renewal is a state-authorized, redevelopment and finance program designed to help communities improve and redevelop areas that are physically deteriorated, economically depressed, unsafe, or poorly planned. In Portland, urban renewal has been a key factor in rebuilding the central city area. This is discussed further in *Section V. Financing*.

³⁷ Please see the River District Plan at <https://www.pdx.edu/planning-sustainability/sites/www.pdx.edu.planning-sustainability/files/University%20District%20and%20River%20District%20Plans.pdf>

³⁸ Please see "The Policies of Portland's Central City Plan" (1996). Accessed at <https://www.portlandoregon.gov/bps/article/135955>

³⁹ Indebtedness refers to the amount of money borrowed to finance redevelopment projects. Debts would be paid off over the lifespan of the TIF district.

4.6 PHASE 2: PROPERTY DEVELOPMENT

This section focuses on the development of one 5-block area of the Pearl District, the Brewery Blocks. Development of this area was different from other parts of the Pearl. The Brewery Blocks Phase 1 Development was completely a private sale transaction between two private parties, Gerding Edlen (a local development firm) and The Stroh Brewing Company, the Detroit based company who owned the Brewery. After Gerding Edlen acquired the property, PDC provided some financing for infrastructure improvements and property development.

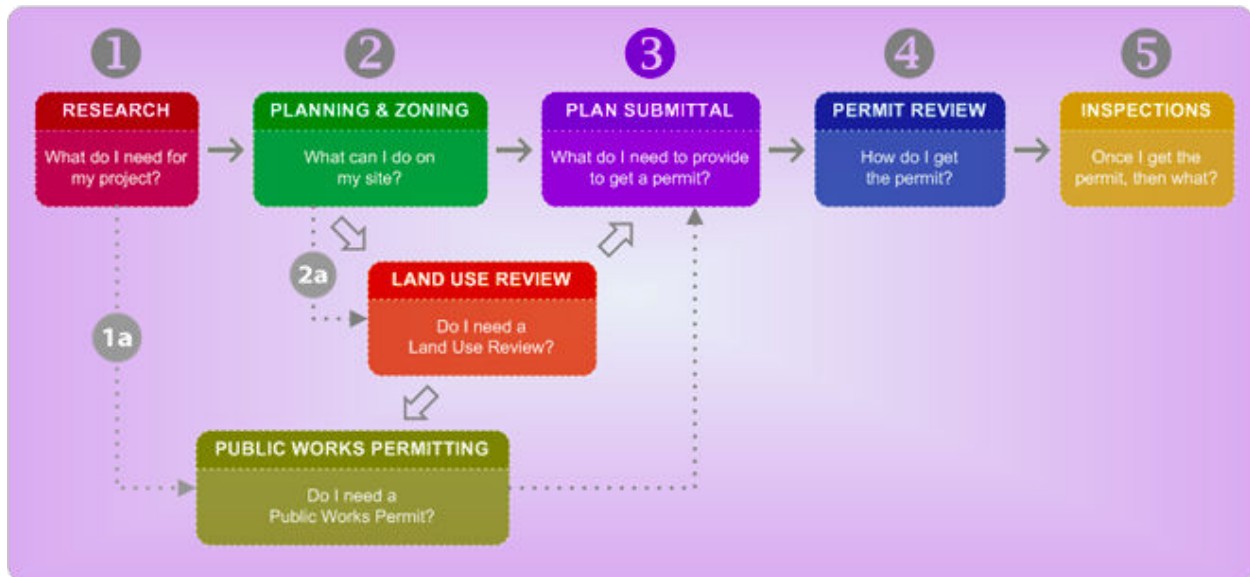


Figure 11: Generalized development process after property acquisition ⁴⁰

Brewery Blocks Acquisition

Arguably, the Brewery Blocks served as the initiator of the immense development that has occurred in the Pearl. On the southernmost portion of the Pearl District, the Brewery Blocks acted as a gateway to development further north in the less developed sections of the district. The Brewery Blocks benefited from the overall increase in investment in the Pearl District, some from public sources, but much from private sources.

The Brewery Blocks became a central element of the Pearl District revitalization. Developer Bob Ames explained in the early stages of the project that the Brewery Blocks were a gateway to this district and its most visible large-scale project, and as such the Brewery Blocks needed to succeed for the Pearl to succeed. He explained that Gerding Edlen took a large risk

"They put that thing together when everybody said it would fail, including me," said Craig Sweitzer of Urban Works Real Estate.

⁴⁰ Figure retrieved from the City of Portland Development Services Website: <https://www.portlandoregon.gov/bds/article/329903>

The Brewery Blocks project was initiated around the same time that the Pearl District Neighborhood Plan was being created, 2000-2001. The land and historic buildings (a five-block brewery complex) were purchased by Gerding Edlen Development Company, LLC in January 2000 from the Stroh Brewing Co. for \$19.75 million.

Choosing Historic Preservation

Gerding Edlen acquired the former Blitz Weinhard brewery blocks next to the city's most popular bookstore, Powell's. Ignoring advice from investors to level the blocks, build a larger parking garage on one block and office on the others, Gerding Edlen chose to incorporate the Blitz brewhouse into a mixed-use project that would retain the area's former character.

Three historically significant buildings were to be preserved and renovated by Gerding Edlen: Portland Armory, Weinhard Brewhouse, and Chevrolet Auto Dealership. The historic resources and preservation programs managed by BPS protected these buildings. The PDNA had significant input into selection of historic resources.

Jill Sherman, a partner at Gerding Edlen explained that the cost of maintaining historic components of the Brewery, such as the smokestack, required tremendous engineering and financial investment, but this created a focal point for the project. The project didn't make economic sense, at first, but the value of the history that was preserved was important to the developers, and in the end, the economic value of these architectural design considerations was realized.⁴¹

Plans for Development

The Development Team included Gerding Edlen Development and GBD Architects, Inc. Gerding Edlen and GBD worked together on plans for each block.⁴²

The parking garage was a central element of the project. By removing above ground parking and putting it below ground, Gerding Edlen was able to preserve the dense urban structure needed for non-motorized transit and at the same time was able to accommodate parking for residential and commercial uses. Gerding Edlen realized the need for mode flexibility while ensuring and privileging public transit and non-motorized transit. Their smart design decision provided the best of both worlds by focusing primarily on non-motorized transit and public transit, and then adding parking for additional flexibility. Gerding Edlen designed a multi-block, below-grade parking garage to serve the entire build-out of the Brewery Blocks and add some public parking to the growing district. The garage contains 1,300 spaces over a 3-block area. The multi-block underground parking offers major space efficiencies in floorplate size, layouts, ramp design, and retaining wall length and costs. Parking fees provides additional revenues for the Brewery Blocks

The total costs of the project, including the buildings, garage, and other improvements were approximately \$300 million.

⁴¹ Author interview with Jill Sherman, partner at Gerding Edlen, on Friday, August 14th, 2015.

⁴² "Project at Former Brewery Site Links City." Descriptions of blocks excerpted from this article to provide reference to initial plans for each block.

Public Involvement in Brewery Blocks Project

The City of Portland and PDC provided significant benefits to Gerding Edlen for the Brewery Blocks project.

PDC invested in infrastructure and parking to support the Brewery Blocks. PDC loaned \$6 million to make parking spaces open to the public and priced at city-owned garage rates for 10 years. The agency also granted \$2 million to pay for ornamental streetlights and sidewalk extensions to enhance the blocks.

Ordinance No. 177581 granted a ten-year tax exemption to the group of investors (namely Gerding Edlen and others) Brewery Blocks Investors LLC, a limited liability company, for the property of Block 5. However, the company will have to update the city on Brewery Block Five’s earnings during the 10-year property tax abatement. If the project earns over the 10-percent return limit, the abatement will be decreased or revoked. The developer could also be asked to pay retroactive taxes if the project exceeds the revenue limit. The property tax abatement program is intended to provide incentives to encourage developers to build housing in the central city area. It was originally only available for rental housing, but the statute was updated in 1995 to include condominiums and housing located within a quarter-mile of light rail.

To receive the abatement a developer must first gain approval from the PDC, which determines whether the exemption is necessary for the financial feasibility of the project. If the PDC recommends approval, the request goes to the planning commission, which determines if the public benefits justify the property tax exemption. The final step is City Council endorsement.⁴³

Gerding Edlen Sale of Brewery Blocks

In 2007, Gerding Edlen sold its iconic Brewery Blocks projects to JPMorgan Chase & Co for \$292 million. The sale included Blocks 1 (Whole Foods), 4 (M Financial) and 5 (the Louisa apartments) and retail space in the Gerding Edlen-built Henry condominiums.⁴⁴

Table 8: Brewery Blocks Tenants at time of sale to JPMorgan Chase (2007)

Block	Description	Functions	Tenants	Occupied Square Feet
Block 1	4-story, 158,000 SF 50,395 SF ground floor retail space	Retail/Grocery	Whole Foods	50,395
		Office/Industrial	Tyco Telecom	n/a
		Office	Portland Energy Systems	n/a
Block 2	10-story, 248,000 SF Class An office Space Ground-Floor Retail	Office and Retail	n/a	n/a

⁴³ Please see <http://djcoregon.com/news/2003/05/16/audits-in-store-for-property-tax-exemptions/#ixzz3i4g9KkOY>

⁴⁴ These text descriptions of the brewery blocks comes from a news release entitled “JPMorgan Buys Brewery Blocks MXD for \$292M” by Brian K. Miller on July 26th ,2007 via globestreet.com. Accessed at <http://www.nai-nbs.com/News2007/breweryblks.pdf>

Block 3	15-story, 270,000 SF 123 condominiums Street-level retail Three levels of parking	Residential and Retail	n/a	n/a
Block 4	10-story, 270,000 SF 234,000 SF class A office space 36,000 SF street-level retail	Retail	Anthropologie	10,300
		Retail/Restaurant	PF Chang's Bistro	6,200
		Office	Art Institute of Portland	84,000
		Office	M Financial	57,000
		Office	PPM Energy	49,000
Block 5	16-story, 282,000 SF 242 apartment units 34,000 SF street-level retail Three levels of underground parking	Office	Army Corp of Engineers	33,500
		Retail	Lululemon	n/a
		Retail	North Face	n/a
		Retail	Washington Mutual	n/a
		Retail	West Elm	n/a
		Residential	The Louisa	n/a

* Blocks 2 and 3 were not included in sale to JPMorgan Chase & Co. The apartment building in Block 5, The Louisa, commands upward of \$2 per square foot. Whole Foods is on a 15-year lease and Tyco, also on a long term lease, reportedly invested \$50 million building out its space. Not including the parking, the rentable square footage in the deal is about 710,000 square feet, including 342,000 square feet of office, 250,000 square feet of residential, and 120,000 square feet of retail. That translates to a gross sale price of about \$412 per square foot. The brewhouse block (Block 2) was sold to Multi-Employer Property Trust in 2001 while it was under construction. Block 3 holds a 15-story, 270,000-square foot mixed-use building housing 123 condominiums above street-level retail and three levels of parking.

** n/a = information not available



Figure 12: Map of Brewery Blocks with blocks numbered for reference. This image was accessed at www.breweryblocks.com

5. FINANCING

This section discusses how the City and developers worked to finance different parts of land, infrastructure, and property development. Three generalized models are outlined to show how financing for each part of the project worked. Overall, the Pearl District was primarily financed through normal market transactions (Model 3) – private property owners either bought or sold their property at market values, received loans to make improvements, and may have received some incentives, credits, or grants for particular development implementation strategies. The City financed urban renewal projects in the area through tax-increment financing (TIF) to entice developers or to meet terms of the development agreement (Model 1). Property owners also came together to help finance portions of infrastructure needs, such as the Streetcar project, with local improvement districts (Model 2). Each model is discussed in detail below.

Overall, three models for financing development were used in the Pearl District. The Hoyt Street Properties Development Agreement with the City exemplifies the first, the Streetcar project exemplifies the second, and the Brewery Blocks project exemplifies the third. These financing models were used for land sales, infrastructure development, and property development.

5.1 FINANCING MODEL 1: URBAN RENEWAL AND TAX-INCREMENT FINANCING (TIF)

Urban renewal is a state-authorized, redevelopment and finance program designed to help communities improve and redevelop areas that are physically deteriorated, economically depressed, unsafe, or poorly planned. In Portland, urban renewal has been a key factor in rebuilding the central city area.

This is used for primarily for infrastructure, affordable housing, and property redevelopment purposes (both Phase 1 and Phase 2 development).

A key to the Pearl's success was the urban renewal district designation. The River District, shown in Figure 14, is managed by the PDC. The River District was created in June 1998 with an area of 309 acres. PDC uses urban renewal as a tool to focus public attention and resources to specific urban renewal districts, such as the River District where the Pearl is located. Urban renewal capital projects include parks, streetscapes, community centers, and numerous other important parts of the urban landscape that would not be funded or possible to implement without publically subsidized financing options. The PDC leads efforts for planning and implementation in the urban renewal districts focusing on an integrated mixture of revitalization strategies – commercial, residential, mixed-use, retail, streets, mass transit, and parks. Most of the infrastructure investments that the PDC makes are for public, city-owned infrastructures.

Urban renewal involves:

- (1) creation of a district outlined by an urban renewal boundary
- (2) debt funding via local taxes, known as tax increment financing or TIF
- (3) public infrastructure projects and grants that provide incentives and motivation for private sector investment (Developer Incentives)



Figure 13: Model 1 Financing for Infrastructure Development



(1) URA or TIF District Boundary

Using TIF requires a local government, typically under the authority of a redevelopment authority or commission, to define a decaying or blighted district where redevelopment is desired. The PDC is Portland's local urban renewal agency. PDC formed the River District with its specific boundaries to help stimulate development in the area.

Urban Renewal Areas (URAs), or TIF districts, have a limited lifespan, typically 20 years. PDC issues debt to finance capital projects in the district that will encourage redevelopment and leverage private investment. Capital projects within a TIF district are constructed with debt that is paid off by the increased property taxes of the district after the district is formed.

The urban renewal boundary changes periodically to meet state level requirements (cannot exceed 15 percent of city's land base). The City Council is responsible for assigning the urban renewal boundaries. Desirable improvements are identified in the planning process.

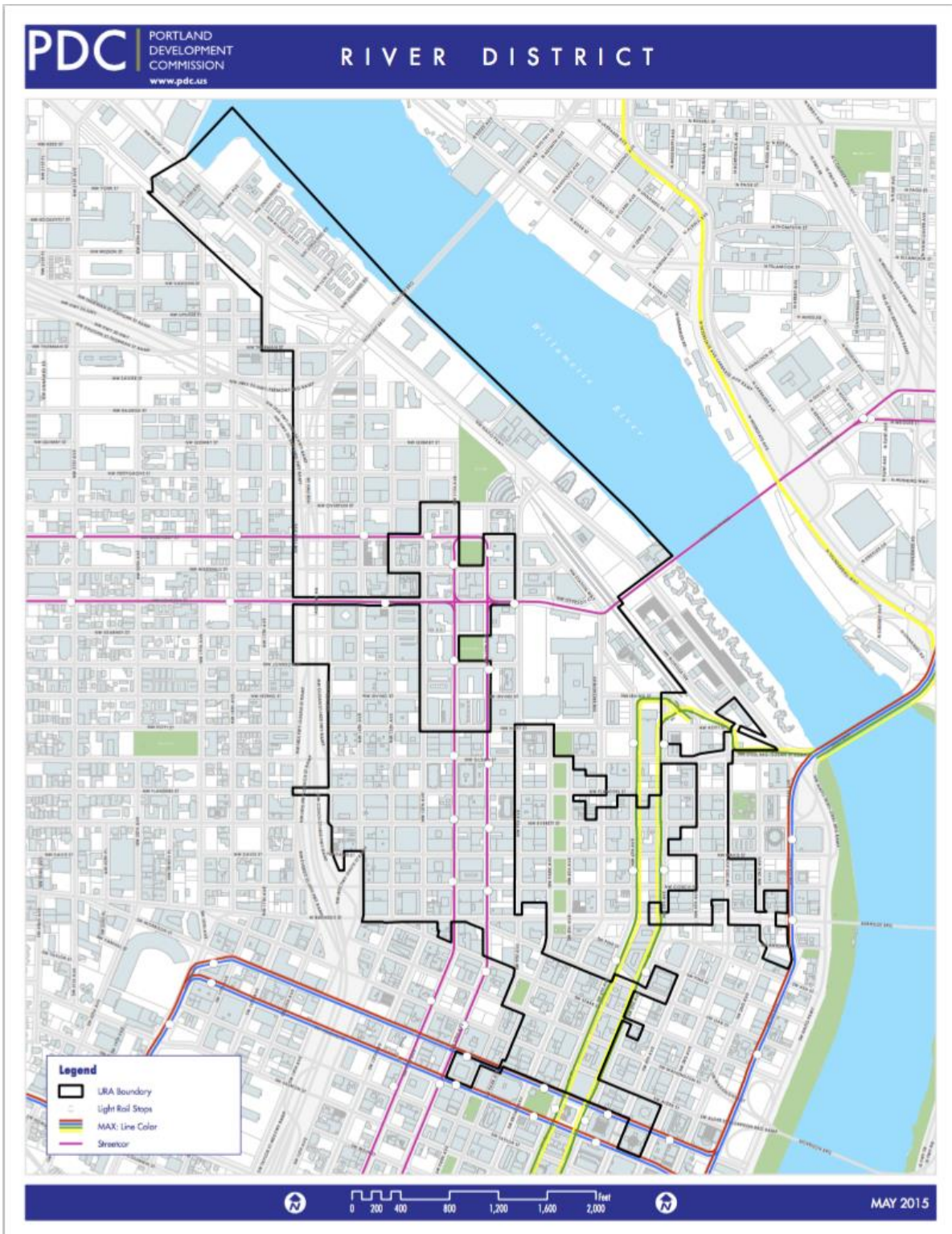


Figure 14: Map of the River District Urban Renewal Area (2015)

The boundary is important because it dictates not only the taxable properties, but also the properties that may receive the benefits of increased public investment in the area.

(2) Tax Increment Financing

The PDC uses debt funding via local taxes, known as tax-increment financing (TIF), to finance renewal projects. TIF encourages cooperation between public and private entities. Approximately 90% of PDC's resources come in tax increment debt proceeds, with additional funding coming from federal and other grants, program income earned on asset management, contracts for services, City of Portland General Fund allocations, and lending agreements.

In general, establishing the available tax increment to fund such projects first requires a determination of the existing tax base of the district. Once the existing tax base is determined, the authority must estimate the local tax revenue growth that would occur in the district as a result of the implementation of targeted capital improvements. This determination must be based on the anticipated tax revenue growth in the district that would not happen 'but-for' the implementation of the planned capital projects funded via TIF/ urban renewal. Satisfying this 'but-for' condition is critical because it makes sure funding for new projects comes from additional revenues, not existing funds.

Urban renewal via TIF works through freezing the tax base on a property in the urban renewal districts – i.e. the county assessor "freezes" the assessed value of real property within the urban renewal district. Urban renewal districts raise money by borrowing against future growth in property taxes. The city issues urban renewal bonds to pay for the improvements detailed in the plan. The city uses the borrowed money to pay for capital improvements, which spur more development. As property values increase in the area due to new investment, the rise in property tax revenues is used to pay off the bond debt. The property taxes above those that were collected when the values were "frozen" – the tax increment - are used to repay the loans used for the improvements in the urban renewal area. When the urban renewal district expires in 20-25 years, the intent is to return a much higher property tax base to the tax revenues for the City.

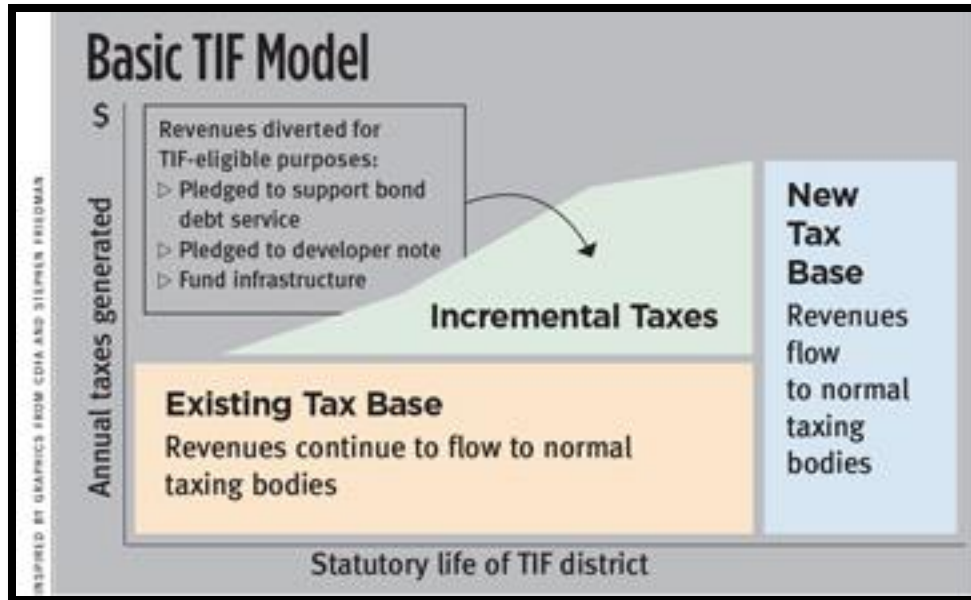


Figure 15: Tax Increment Financing model⁴⁵

Urban renewal projects, investments, and incentives are funded by issuance of bonds, as discussed above. For each URA or TIF district, a maximum indebtedness is calculated to determine how much redevelopment projects can be financed. The maximum indebtedness is the maximum amount of debt principal permitted within the district and is calculated by determining anticipated future incremental increases in assessed valuation within it. Maximum indebtedness is governed by Oregon State Law, Section 457.190: Acquisition of funds by urban renewal agency; maximum amount of indebtedness.⁴⁶ Bond holders, who are usually private investors, make a return on their investment based on the interest rates that are paid over the lifetime of the bonds by the City.

(3) Infrastructure Projects, Investments, and Incentives

PDC targets investment of public funds to stimulate private sector investment, job creation, and expansion of the tax base. Partnership between private and public organizations builds support for development, a key element of the success of urban renewal and tax increment financing. Because the success and implementation of TIF depends on the growth in tax revenues, both private and public sectors seek to maximize the market-assessed value of properties within a URA or TIF district.

Table 9: Incentives for Developers from PDC

Incentive Type	Examples of Projects in Pearl District
Public infrastructure investment	<ul style="list-style-type: none"> • Portland Central Streetcar Project • Removal of Lovejoy Viaduct • Affordable Housing

⁴⁵ "Tax Increment Financing."

⁴⁶ Please see https://www.oregonlegislature.gov/bills_laws/lawsstatutes/2013ors457.html . More information about property taxes and urban renewal available at http://www.oregon.gov/dor/ptd/pages/ic_504_623.aspx .

	<ul style="list-style-type: none"> • Parks Systems and Greenways • Brownfield Remediation • Streetscape and Lighting
Loans	<ul style="list-style-type: none"> • Below Grade Parking Garage at Brewery Blocks • Interior building improvements
Grants	<ul style="list-style-type: none"> • Public housing projects and social services • Armory restoration project into Gerding Theater
Planning	<ul style="list-style-type: none"> • Providing professional services to manage public processes and design charrettes in numerous cases

An Example: The Hoyt Street Properties and PDC Development Agreement

The development agreement between Hoyt Street Properties (HSP), the developer, and PDC is an example of public-private partnership for urban redevelopment. PDC utilized TIF for bonds to fund several projects that would benefit HSP, and HSP provided development that helped the City implement the Central City Plan. HSP purchased 40 acres from Burlington Northern Railyards in 1994, a site at the heart of the future River District URA and Pearl District. The development agreement was negotiated in 1997. By 2004, the halfway point of the venture, nine architecturally diverse, multi-level residential communities; three internationally renowned parks; and many gallery, restaurant, and retail spaces were created. This type of public-private partnership exemplifies the way that TIF-backed investments can facilitate new development.

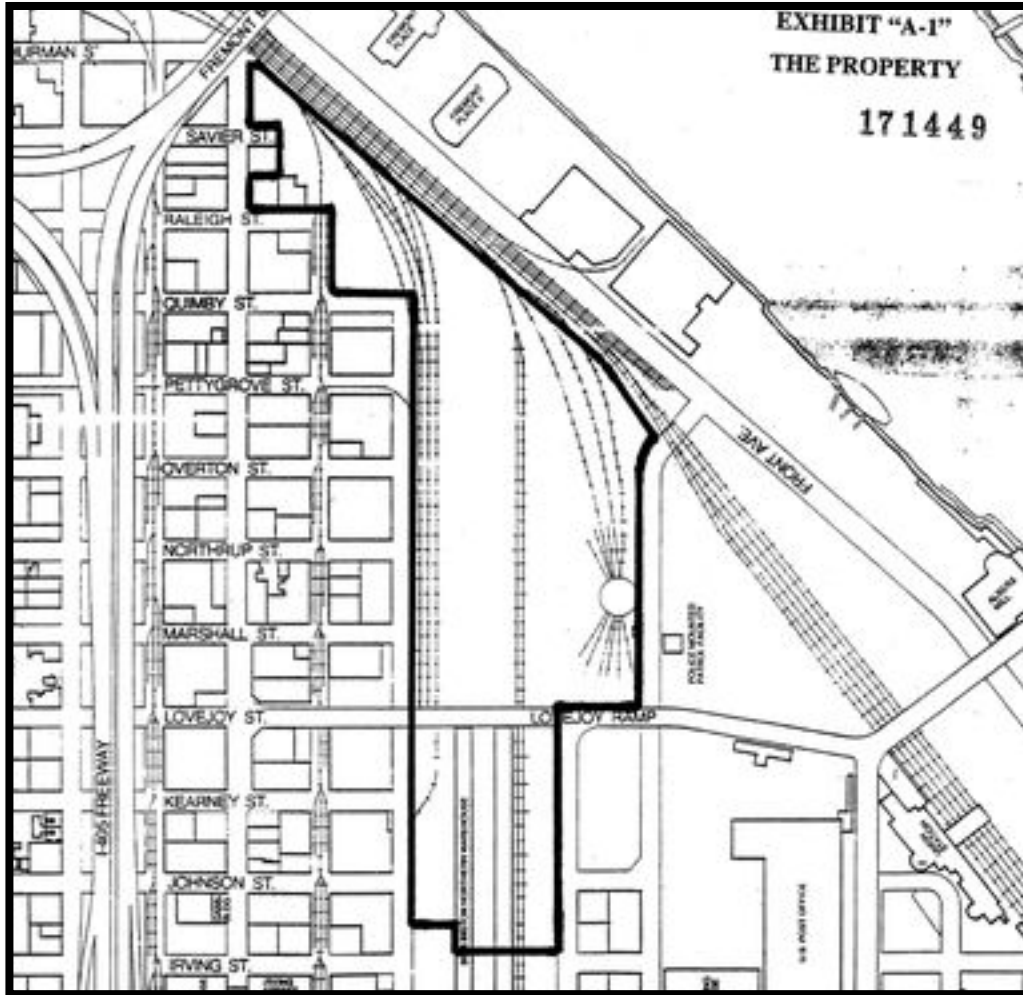


Figure 16 : This image shows the 40-acre site of the former railyard that HSP was charged with developing.⁴⁷

PDC negotiated a Master Development Agreement with HSP. The Development Agreement’s goal was to create a highly livable and vital urban community close to downtown that emphasized diversity of housing, people, incomes, transportation modes, and land uses. The new district was to provide increases in jobs, retail outlets, recreational spaces, and access to the Willamette River.

The Agreement tied development densities to public improvements with the minimum required housing density increased incrementally from 15 to 87 units per acre when the Lovejoy Viaduct was deconstructed, to 109 units/acre when the Streetcar construction commenced, and 131 units/acre when the first neighborhood park was built. HSP noted that without the Streetcar and the accessibility it provides, these densities would not have been possible. The agreement was a unique and essential piece of the public/private partnership that catalyzed development of the River District and serves as a model for the agreement established for in South Waterfront area of Portland.

⁴⁷ Please see http://www.oregonlive.com/portland/index.ssf/2014/08/hoyt_street_properties_fails_t.html

Under this public-private agreement, the City provided infrastructure to support development, and in return Hoyt Street Properties provided identified amenities. Specifically, the Development Agreement requires the following:

Housing Affordability Components:

- Fifteen percent of housing units must be affordable to those earning 0-50% of the Portland region’s median family income (MFI); and
- Twenty percent of housing units must be affordable to those earning 51-80% MFI.

Minimum Density Components:

- At the agreement’s onset, a minimum of 15 dwelling units must be built per acre;
- Upon the demolition and replacement of the Lovejoy viaduct, a minimum of 87 dwelling units must be built per acre;
- Upon completion of the Portland Streetcar, a minimum of 109 dwelling units must be built per acre; and
- Upon the completion of the area’s first park (now known as Jamison Square), a minimum of 131 dwelling units must be built per acre.

At the same time the city was required to undertake public improvement projects, such as the Lovejoy Ramp, Central City Streetcar, and creation of open spaces which will further increase HSP’s minimum density. Specifically, the City was obligated to the projects listed in Table 10, funded through urban renewal bonds based on tax increment financing and other general funds.

Table 10: City Development Agreement Projects

Project	Cost
Lovejoy Ramp Demolition and Reconstruction	\$13 million (2001) ⁴⁸
Lovejoy Columns Restoration	\$460,000 (2001)
Central City Streetcar Alignment ⁴⁹	Please see table below
Jamison Square Park	\$2.6 million (2000) ⁵⁰
Tanner Creek Restoration and Park	\$2.8 million (2001) ⁵¹
Fields Neighborhood Park	\$6.1 million (2013) ⁵²

⁴⁸ Please see <http://djcoregon.com/news/1999/08/19/tumblin-down-lovejoy-viaduct-a-casualty-of-progress/>

⁴⁹ Three different URAs funded the first Streetcar project: North Macadam, South Park Blocks, and the River District. The funding used was based on TIF-backed bonds. Local Improvement Districts (LIDs) were also used to fund the Streetcar project. New LIDs were created with each phase of Streetcar construction.

⁵⁰ Architectural services from Peter Walker and Partner were \$477,810, not included in the overall costs above. Ordinance No. 173421 and Ordinance No. 176243. Accessed at <https://efiles.portlandoregon.gov/Record/117341/File/Document>. Costs of park were calculated based on Ordinance No. 175196.

⁵¹ Please see <https://www.asla.org/lamag/lam06/april/feature3.html>

⁵² Please see [http://www.pdc.us/Libraries/Board_Reports/Board_Report_11-42 - The Fields IGA pdf.sflb.ashx](http://www.pdc.us/Libraries/Board_Reports/Board_Report_11-42_-_The_Fields_IGA_pdf.sflb.ashx) and [http://www.pdc.us/Libraries/Board_Reports/Board_Report_09-102 - The-Fields-Neighborhood-Park-IGA pdf.sflb.ashx](http://www.pdc.us/Libraries/Board_Reports/Board_Report_09-102_-_The-Fields-Neighborhood-Park-IGA_pdf.sflb.ashx)

Table 11: URA financing of Streetcar alignment⁵³

	Phase I and II: Legacy Good Samaritan Hospital to Portland State University	Phase III: PSU to RiverPlace, RiverPlace to SW Gibbs, SW Moody to SW Lowell
Length of Track	2.4 miles	1.6 miles
Service Commencement Date	July 20 th , 2001	August 17 th , 2007
Capital Budget	\$56.9 million	\$46.25 million
Funds From URA	\$7.5 million	\$14 million
Percent of capital budget from URA	13.18%	30.27%
URA involved**	South Park Blocks	North Macadam

*Please note that URA funding only supported streetcar alignments, not the rolling stock or actual rail cars.

** There are several URAs near the Streetcar. The majority of funding for the Streetcar did not come from the River District URA, but from the South Park Blocks and North Macadam URAs.

The River District URA Today

The River District Development Vision (1992) and the River District Development Plan (1995) predated the later urban renewal plan. The River District Urban Renewal Plan was initially adopted (Ordinance No. 172808) by the City Council in 1998. It was subsequently updated and amended in 2008 and again in 2009.

In 2007, a study of the River District URA conducted by the Urban Renewal Advisory Group showed that the District might reach its maximum indebtedness in the 2010-2011 fiscal year. The Advisory Group consisted of members of the Portland Development Commission, Portland City Council, Portland Planning Commission, Multnomah County Board of Commissioners, and a private citizen and met nine times through March 2008, receiving broad community input.

From this study, the Advisory Group recommended that 47.03 acres be removed from the Downtown Waterfront URA and 3.8 acres from the South Park Blocks URA to be transferred to the River District URA. They also suggested that the River District URA be extended for one year, its maximum indebtedness be increased, and its boundaries be reduced by 30.7 acres. Not all of these recommendations were implemented by City Council.

The 2008 and 2009 River District Urban Renewal Plan Amendments increased the maximum indebtedness from \$224,708,350 to \$489,500,000. This increase in allowable indebtedness for River District projects was forecast based on existing, in progress, and planned projects. The urban renewal area was expanded by 41 acres to help improve blighted or underdeveloped land in the Central City (total growth of urban renewal boundary from 309 acres to 351 acres). Expansion of the River District boundaries in 2009 included portions of Old Town/Chinatown to help meet community goals and objectives for the area. By changing the boundary to include adjacent spaces suffering from

⁵³ Table adapted from Mathur, *Innovation in Public Transport Finance*.

underdevelopment or blight, the River District URA was able to justify increasing max indebtedness to fund necessary improvements in the newly incorporated areas. This boundary change also help the City implement the Central City Plan and the Pearl District Development Plan which call for greater connection to surrounding areas, such as Chinatown/Oldtown, directly to the east of the Pearl District.

Another motivation for increasing the allowable maximum indebtedness was to fund studies of future projects on site of the United States Postal Service (USPS) located in the Pearl District. Designs have been proposed to transform the 14 acre property, which the City has yet to acquire from USPS. The City has proposed five different concept plans for the space. The property is key to the Broadway Corridor Project as well.⁵⁴



Figure 17: Aerial view of Pearl District Post Office⁵⁵

The amendments also made changes to account for the 2009 State level legislation (ORS 457) requiring revenue sharing mechanisms for urban renewal plans. The River District reached the level of financial performance required for the revenue sharing to take place.

The top ten large property taxpayer accounts make up 20% of the total assessed value in the River District. Two of these companies include SPF Brewery Blocks LLC and MEPT Brewery Block 2 LLC. In 2012,

⁵⁴ Oregonian/OregonLive, "Portland's Vision for Pearl District Post Office Could Include Skyscrapers, Union Station Plaza"; "Pearl District Post Office Site."

⁵⁵ Photo retrieved from http://www.oregonlive.com/portland/index.ssf/2015/08/portlands_vision_for_pearl_dis.html

Moody's rating agency upgraded the River District URA Bonds to an A1 rating, signaling strong tax base growth.⁵⁶

As of June 2012, the River District had used 52% of its maximum indebtedness of \$489,500,000 leaving \$237,276,967 for future projects.

More recently, the City Council has agreed to close the River District URA because of the immense success. When the district was formed in 1998, the property in the River District was valued at \$462 million. This was the frozen tax base for the tax-increment financing program implemented in the URA. Today, the property in the district is worth \$2.2 billion. Although the River District URA expires in 2021, the City is reevaluating the needs for redevelopment so that it can incorporate some of these increases in tax revenues into the City General Fund and not in the urban renewal fund.

If the city were to close down the entire River District urban renewal area in 2015, the PDC could put the property back on the tax revenues seven years earlier than planned, says Patrick Quinton, PDC executive director. But the city, county, and schools still would have to wait until 2018 to get an infusion of property taxes, he says, because that's how long the PDC expects it will take to pay off bonded debt from the River District.⁵⁷ This will help the City service its bond debt borrowed based on the TIF structure earlier than the 2021 date of expiration of the URA. The money isn't returned to general government services until a district closes and all debts are paid. But this could be hastened by government actions that shrink the River District URA boundary as Mayor Charlie Hales is now attempting.

Urban renewal is successful if it spurs new development, without public investment. Once initial development starts and property values rise, more development occurs based on increased property values. This second round of development may not need additional financing from the PDC. Instead, the initial PDC funded project will enhance development on a larger scale by creating the seeds of greater market value in the area.

Two examples illustrate this success in the Pearl District:

- The PDC found that 90% of the funding for River District development has come from private sources. Since the inception of the district in FY 1999-2000, its assessed value has grown by \$1.7 billion, as of 2013.
- Between 1996 and 2010, job growth in the River District has increased by 54%, the average salary has increased by 41%, the land market value has increase by 690%, and the building to land ratio increased by 294%.⁵⁸

⁵⁶ "Moody's Upgrades the City of Portland, Oregon's River District Urban Renewal and Redevelopment Bond Rating to A1 from A2."

⁵⁷ "Hales Wrestles Future of Renewal Districts"; Oregonian/OregonLive, "Charlie Hales 'Very Proud' as Sweeping Urban Renewal Changes OK'd."

⁵⁸ Griffin-Valade, Kahn, Gavette, (2012), "Portland Development Commission: Indicators in URAs suggest economic progress."

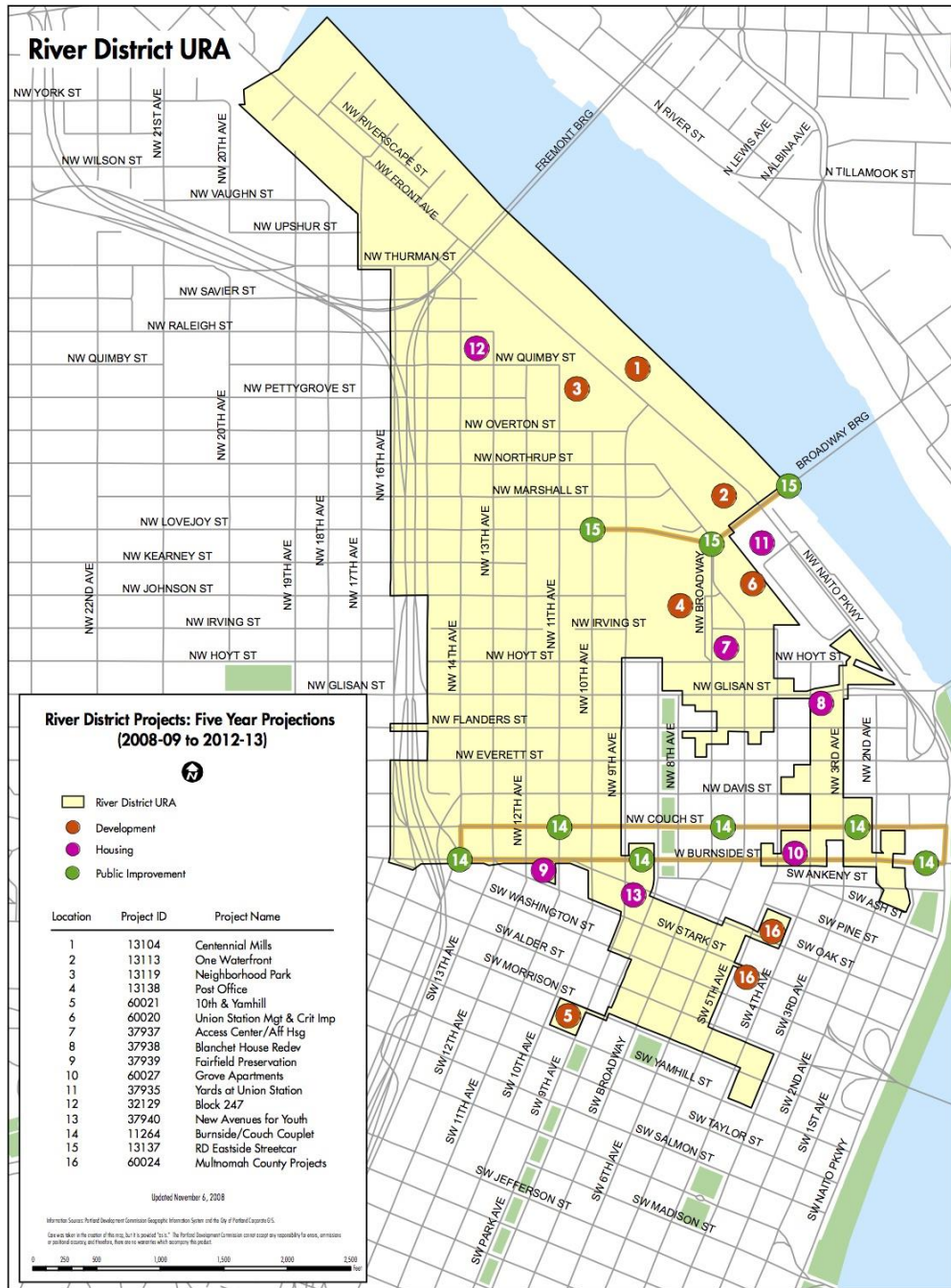


Figure 18: PDC River District Current and Completed Projects

5.2 FINANCING MODEL 2: LOCAL IMPROVEMENT DISTRICTS

Another funding mechanism used for financing the Streetcar project during Phase 1 Development included several Local Improvement Districts (LIDs). LIDs are a method by which a group of property owners can share in the cost of infrastructure improvements, most commonly for transportation and stormwater. This involves improving the street, building sidewalks, and installing a stormwater management system. A LID can also be used to install sidewalks on existing streets that previously have been accepted for maintenance by the City. Financing is offered for up to 20 years, with the first payment not due until after the project is complete. Bonds are used for larger projects with longer timelines, and loans are offered for smaller projects with shorter timelines.

If an LID is formed, the City manages the design and construction of the project, and property owners do not pay until the work is complete. Streets can also be improved under a permit job, in which case the project is privately managed and financed up front by property owners. LIDs have also been successfully used to provide sanitary sewer, water main improvements, and utility undergrounding improvements in conjunction with street improvements for economies of scale to provide comprehensive and complete infrastructure solutions to neighborhoods.⁵⁹

An assessment methodology is used to calculate how much each property owner should contribute to fund the infrastructure project. Determining the financial obligation of property owners in a LID can be based on a variety of methods, including frontage length and property size (usually the case for residential property), or trip generation (often the case for commercial property). The method can also be modified to account for the distribution of expected benefits from an improvement. For example, the financial obligations of property owners in the Portland Streetcar and transit mall improvement LIDs decline with distance from the improvements.⁶⁰

LIDs are regulated by state and city laws, and formed via a City Council resolution. LIDs for the Central Streetcar Project were approved in 2000.⁶¹

⁵⁹ This text was excerpted from the City of Portland's website accessed at <http://www.portlandoregon.gov/transportation/35715>

⁶⁰ Please see:

http://www.oregon.gov/ODOT/TD/TP_RES/docs/reports/2010/financing_mechanisms_for_capital_improvements.pdf

⁶¹ Please see the City of Portland LID Financing Policy at:

<http://www.portlandonline.com/auditor/index.cfm?a=36637&c=31327>



Figure 19: Model 2 Financing for Infrastructure Development

Table 12: Total costs of Central Streetcar Project funded by LIDs⁶²

Phase	Total Cost	LID Total	Percent LID Funded
Phase 1&2	\$56.9 million	\$9.6 million	16.9%
Phase 3	\$46.25 million	\$9.8 million	21.2%
All Phases	\$100.5 million	\$19.4 million	19.3%

*The rest of the funds for the streetcar project came from municipal bonds, Metro Regional Council transportation funds, City of Portland General Fund, the Connect Oregon state-level transportation bond program,⁶³ Trimet funds reallocated from annual budgets, and other sources.

5.3 FINANCING MODEL 3: PRIVATE LAND AND PROPERTY DEVELOPMENT

In the case of the Brewery Blocks Development in the Pearl District, private financing was secured for the initial purchase of land and for property development. Infrastructure costs were financed through gathering investors’ capital and through loans. Once financing is in place, developers approach current owners of property for sale with an offer. The offer is accepted or negotiations occur, and then the developer acquires the property. Property development can take place after it is acquired. Property development is financed through loans acquired from banks or through the PDC’s Commercial Property Redevelopment Loan Program. Investors also often provide the upfront capital for projects to avoid massive loans and interest rates. Incentive programs that offer tax credits, such as the Historic Tax Incentive program discussed in Section VI below, or grants for renewable energy, such as used in Brewery Block 4, are options to reduce upfront costs of property development.

⁶² Table adapted from Mathur, *Innovation in Public Transport Finance*.

⁶³ Please see: <http://www.oregon.gov/odot/td/tp/pages/connector.aspx>.



Figure 20: Model 3 Financing for Infrastructure Development

6. KEY ACHIEVEMENTS

This section details the key achievements of the Pearl District and Brewery Blocks. The standout planning processes led by the State of Oregon, the regional Metro, the City of Portland, and local communities have led to great successes in sustaining growth and protecting the environment. These are manifest in the Pearl District and its first major development project, the Brewery Blocks.

Each section will cover:

1. **Background:** General information regarding the topical area, the projects discussed, and some historical references.
2. **Goals:** The planning processes generated significant social and environmental goals for the Pearl District and the Brewery Blocks. Goals were developed by Gerding Edlen with community input. These conformed and/or exceeded city-level goals.
3. **Implementation:** This section discusses the technical details of the project. Implementation considers the projects characteristics in relation to financing for the project.
4. **Achievements:** The outcomes of these projects are discussed in the achievements section. Discussion of how the project met or exceeded goals are discussed in relation to the 12 Guidelines for Green and Smart Urban Development.

6.1 LAND-USE/URBAN FORM

*This section discusses the strategies and achievements undertaken in the Pearl District and Brewery Blocks that correspond to the Urban Form Guidelines: **1. Urban Growth Boundary, 2. Transit-Oriented Development, 3. Mixed Use, 4. Small Blocks, and 5. Public Green Space.***

BACKGROUND

In 1973, the State of Oregon signed Senate Bill 100 into law initiating the implementation of land use planning laws. Under Governor Tom McCall, the Oregon Legislature was persuaded to protect the state's natural and agricultural lands from encroaching urban development and urban sprawl. Senate Bill 100 created the legal mechanisms and departments to enforce the urban growth boundary, to control and shape development for the best use of urban land, and to protect natural resources.

Oregon's Metro Regional Government is responsible for the boundary planning efforts, and for maintaining a 20-year supply of land for future residential development inside the urban growth boundary (UGB). The Portland region's UGB must be consistent with the statewide land use planning goals, approved by the Land Conservation and Development Commission in the Department of Land Conservation and Development at the state level.

The UGB in Portland is always changing to maintain the 20-year supply of land. The following changes have been made since 1980 when the first Portland UGB was approved.

- **1998:** about 3,500 acres to accommodate 23,000 housing units and 14,000 jobs.
- **1999:** 380 acres based on the concept of subregional need—when a community needs land to balance the number of homes with the number of jobs available in that area.

- **2002:** 18,867 acres to provide 38,657 housing units and 2,671 acres for additional jobs.
- **2004:** 1,956 acres to address the need for industrial lands identified as part of the 2002 planning process.
- **2005:** 345 acres of land for industrial purposes, completing the 2002 planning process.
- **2011 Growth Management Decision:** Metro Council added 1,985 acres to help address the anticipated 20-year need for new housing and jobs.⁶⁴

Although numerous changes and extensions have been made to the UGB, the policy mechanism has been useful in promoting infill development and urban redevelopment. Academic studies confirm that UGBs tend to help urban areas better develop underutilized lands within the boundaries of the city or metro area. Therefore, UGBs can trigger central-city revitalization and infill development. Benefits associated with UGBs and other containment strategies include higher density, mixed-used living, walkability, and reduced automobile dependence. Reduced use of automobiles reduces traffic congestion, pollution, and fossil fuel use.⁶⁵

⁶⁴ UGB changes by Metro: <http://www.oregonmetro.gov/urban-growth-boundary>

⁶⁵ Jun, "The Effects of Portland's Urban Growth Boundary on Housing Prices"; Weitz and Moore, "Development inside Urban Growth Boundaries"; Nelson et al., "Urban Containment and Central-City Revitalization"; Dawkins and Nelson, "State Growth Management Programs and Central-City Revitalization"; Grodach and Loukaitou-Sideris, "Cultural Development Strategies and Urban Revitalization."

Figure 21: UGB historical changes

In addition, mixed use developments have been documented to attract a diversity of people, a key to a thriving and vibrant neighborhood. When an exciting urban atmosphere is created within the city, young skilled professionals are attracted to the area, and further develop and stimulate the economy of the city. This has led to a wealth of economic development and urban planning scholarship on the “creative class,” a class of professionals, artists, entrepreneurs and others who stimulate economic development in vibrant urban neighborhoods.⁶⁶

The Portland example is iconic. Urban growth boundaries *by themselves* are not recognized as a necessarily effective means of promoting economic development. They may limit or eliminate the possibility of industry and affordable housing due to limited land supply, especially in large tracts needed for subdivisions or large industry. However, Portland’s case illustrates that UGB’s and economic development programs can be implemented in unison to catalyze urban revitalization.

Portland’s Metro Regional Council is the only elected regional body in the United States with authority to implement planning projects. The nature of this regional governance is cooperative and is better suited to mesh larger regional goals with specific area development. Portland has addressed issues of low levels of affordable housing associated with some UGBs with programs like mandated fair-share housing and the expansion of the UGB that have given more flexibility to the planning scheme.

⁶⁶ Florida, *Cities and the Creative Class*; Markusen, “Urban Development and the Politics of a Creative Class.”

The Pearl District redevelopment project itself is an excellent example of the success that revitalization strategies can achieve.

GOALS

The Pearl District was developed to be a mixed-use and dense urban district catered towards pedestrians and mass transit. As outlined in the goals section above, the Pearl District stakeholders valued the urban character of the neighborhood with low-rise buildings and a mix of uses. They also valued the proximity to other downtown areas, numerous forms of transit, parks, and the historic landmarks around them. These preferences were carried over into the new developments through the plans, regulations, zoning, design reviews and design guidelines.

Some of the primary goals of creating a sustainable urban form include design towards Transit-Oriented Development (TOD). These goals intersect with goals for transportation. There is a strong correlation and interaction between urban form and transportation and mobility.⁶⁷ Some primary goals include: reduced household driving and thus lowered regional congestion, air pollution, and greenhouse gas emissions.

IMPLEMENTATION

Density, diversity, and design interlink to provide an optimal mix of residential, commercial, and entertainment uses within a small area (approximately 0.47 m²) of approximately 108 city blocks.

⁶⁷ Cervero, *Transit-Oriented Development in the United States*. Text of bullet points is taken from the nonprofit organization Reconnecting America's website: <http://www.reconnectingamerica.org/what-we-do/what-is-tod/>

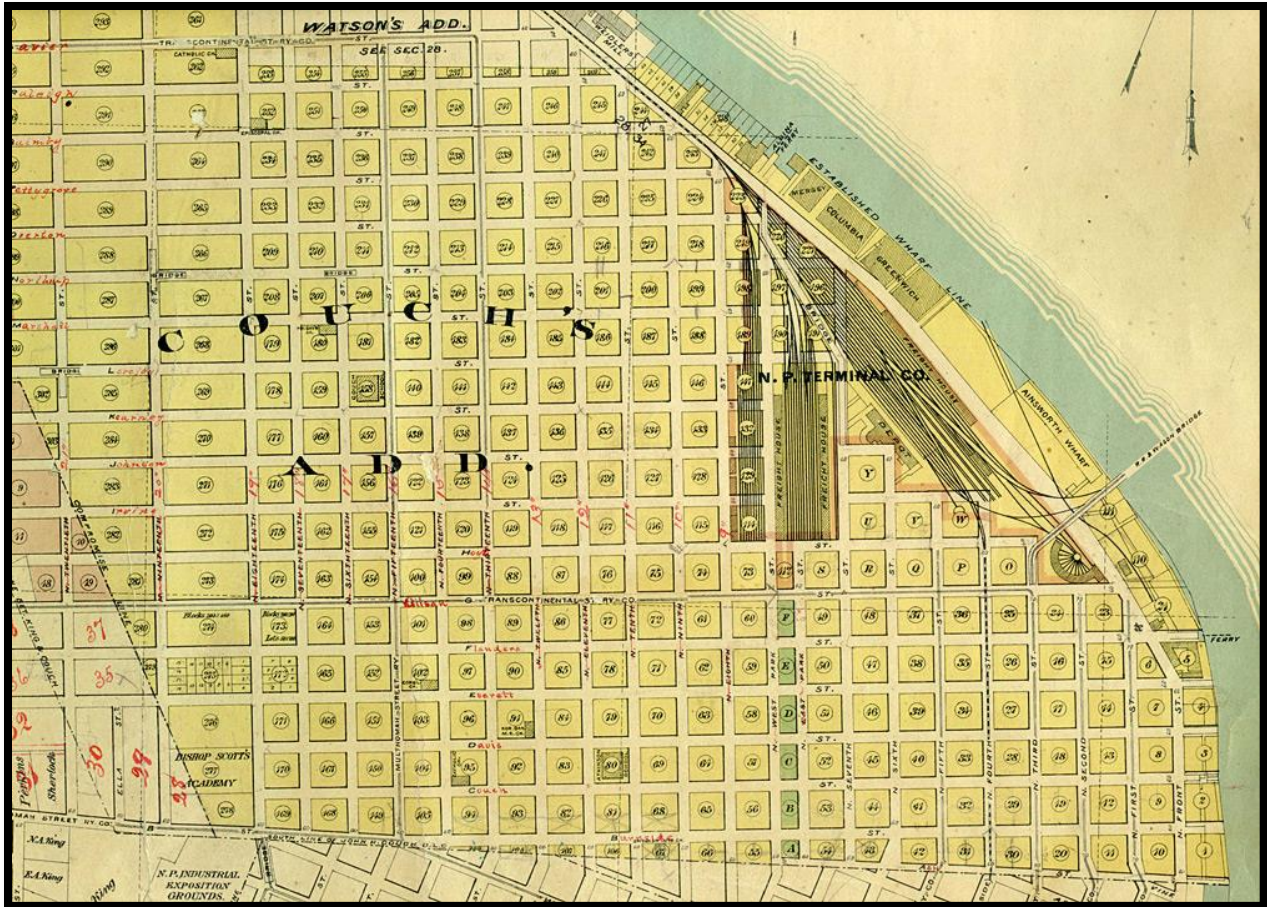


Figure 22: Grid layout of the Pearl District in 1869, platted originally as Couch's Addition

Small Blocks

Through a mixture of high-rise and low-rise residential buildings, the Pearl has the fourth highest density of any census tract in Portland or Oregon.

The Pearl's blocks are 200 feet by 200 feet, a historical remnant of early developers and city planners who wanted to increase the number of intersections and corner lots to yield higher profits on land investments. The small size of the blocks increases the surface area of storefronts, and limits building sizes and heights due both to regulation through floor to area ratio (FAR) limits and the structural limits of a small building footprint. Small blocks also create what many call "humane" architecture or "human scale" urbanism. This refers to the design elements of the urban space that create inviting atmospheres, focusing on the building facade for the "first 30 feet," building small streets with crosswalks, and increasing the walkability and access of the area overall.

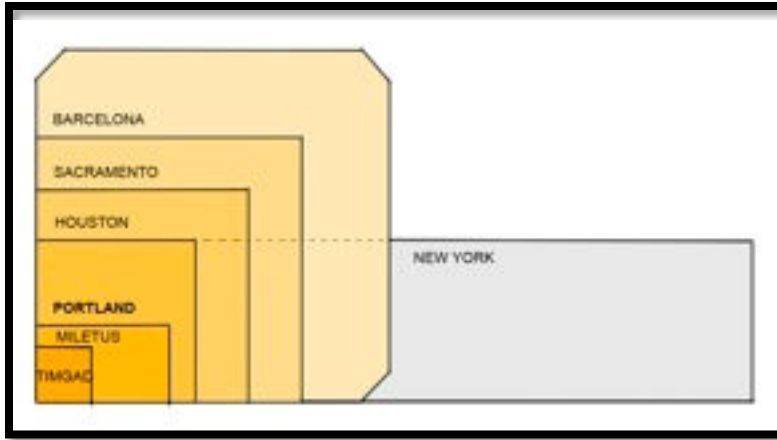


Figure 23: Comparison of Portland's block sizes to other cities⁶⁸

Mixed-Use

The redevelopment of the Pearl included a large project on the former Burlington Northern Railyards. Developer Patrick Prendergast of Prendergast & Associates purchased 40 undeveloped acres of Northwest Portland property from Burlington Northern. By 1994, Prendergast had developed eight properties on the land, including Pearl Lofts, Irving Townhouses, and Hoyt Commons, and in doing so became, along with John Carroll, Hoyt Street Properties, Homer Williams and Gerding/Edlen Development Co., one of the Pearl District's preeminent developers.

Prendergast stopped building in 1994 and sold the majority of his remaining undeveloped acreage in 1996 to friends and competitors, and the Pearl District continued to boom. Hoyt Street Properties (HSP) purchased 34 acres in the 1990s, and worked with the Portland Development Commission to move the Lovejoy ramp, opening up the northern half of HSP's property which incentivized further development in the Pearl. Developers like Prendergast took on new projects around this time.⁶⁹ As a part of the HSP development, the existing street grid was extended to maintain continuity, and create a pedestrian friendly-environment.

To ensure mixed-use development occurred with large single-owners, three mechanisms were used:

- Mixed-use zoning district (called the Central Employment zone, or EX)⁷⁰
- Overlay zone ("d" designation next to base zone code, i.e EXd)⁷¹
- Specific plans and guidelines

The local level "Plan District" overrides the basic zone and other overlay zones. The Pearl is located in the Central City Plan District, subject to Title 33. This provides more restrictive or more flexible options than the base code. Employment districts allow mixed uses, including residential, commercial and industrial

⁶⁸ Grammenos and Pollard, "Beloved and Abandoned."

⁶⁹ "The Burlington' Set for March Opening."

⁷⁰ Please find the exact definitions and more information on Zoning in Section IV.D.

⁷¹ Ibid.

uses. In the Pearl, permitted land uses are wide-ranging and very flexible. Please refer to Section IV B for more information.

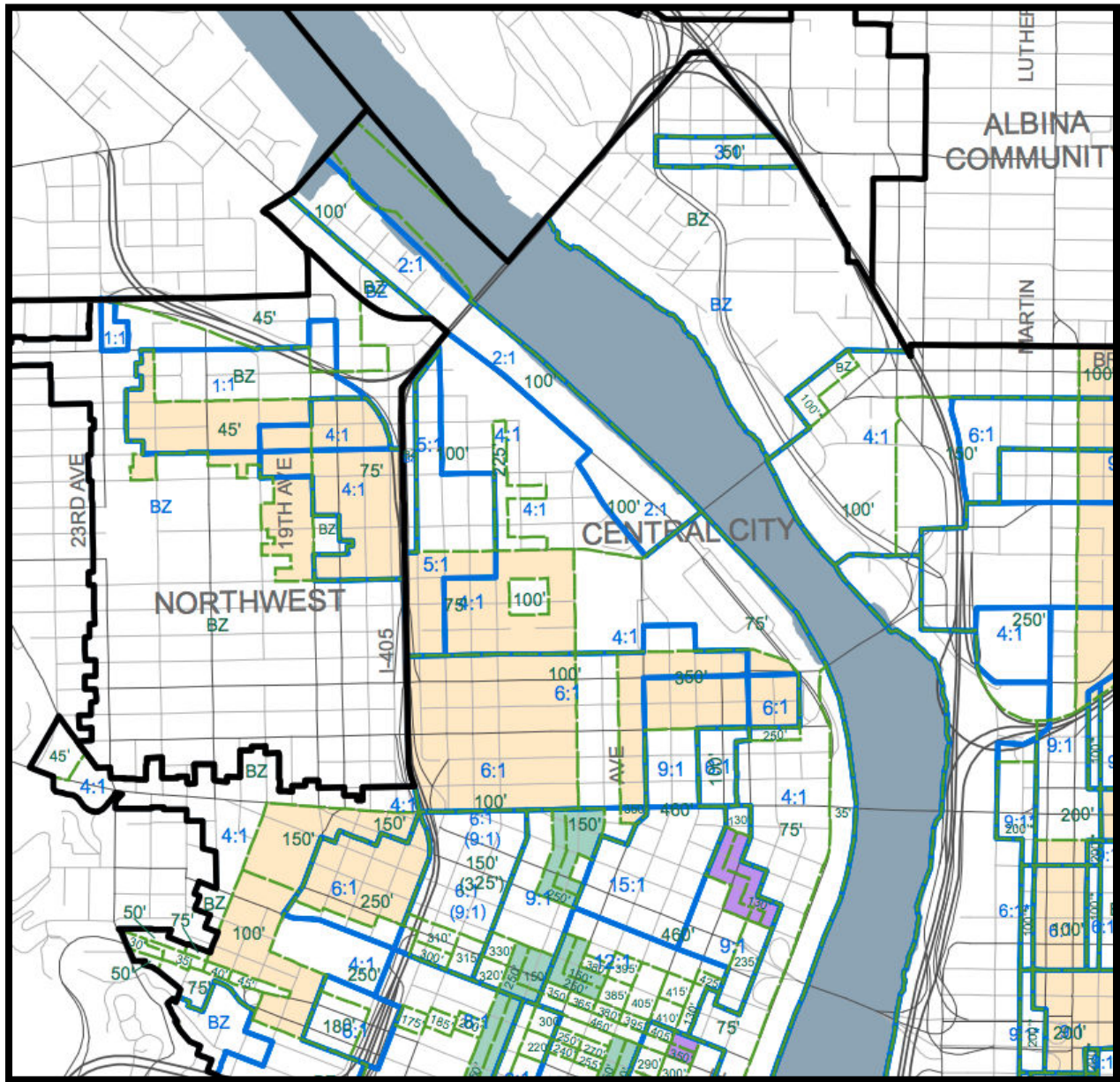


Figure 24: Maximum Building Heights and Floor Area Ratios as of April 3, 2012.⁷² The tan area indicates areas eligible for general and housing height bonuses. The blue outlined areas indicate

⁷² City of Portland. Accessed at <https://www.portlandoregon.gov/bps/article/150480>

the FAR limits. Plan Districts are outlined in black. Maximum height boundaries are shown with green dotted lines.

Public Green Spaces

As a part of the development agreement between HSP and PDC, the City of Portland was responsible for providing public green spaces in the Pearl District. The land, originally owned by HSP, was given to the City in the agreement for public green spaces. The City contracted Peter Walker to design the parks. The Portland River District Park System Urban Design Framework Study (2001) was a study used to further elaborate on the recommendations of the 1998 Tanner Creek Park and Water Feature Steering Committee. Portland Parks and Recreation teamed with the PDC to commission the River District Park System Urban Design Framework Study, which was led by consultant Peter Walker and is commonly referred to as the “Peter Walker Master Plan.” The plan was refined in 1998 due to concerns about the feasibility of some elements. The plan as revised identified:

- The locations of the North of Lovejoy area’s three parks – Jamison Square, North Park Square, and Neighborhood Park – all between 10th and 11th avenues;
- The aspiration for a Riverfront Park across NW Naito Parkway characterized by green spaces; and
- A boardwalk along the west side of NW 10th Avenue linking all of these features, including a grade-separated railroad and Naito Parkway crossing.

Jamison Square was completed in 2002. North Park Square was completed in 2005 and renamed Tanner Springs Park. The Fields Neighborhood Park was completed in 2013.

Each of the park sites required soil remediation and significant cleanup. For example, prior to redevelopment of the most recently completed park, the Fields Neighborhood Park, the site and surrounding area were used from 1911 to 1998 as a fueling and maintenance facility for Burlington Northern Railway Company. Environmental investigations performed between 1977 and 2011 identified petroleum, polycyclic aromatic hydrocarbons, and metals contamination in soil and groundwater. Remedial action for contaminated soil at The Fields site was performed between 2012 and 2013 under the terms of the Consent Decree and Record of Decision for the Hoyt Street Rail Yard site. A Certificate of Completion and Conditional No Further Action determination were proposed.

Remedial actions completed at The Fields include: excavation and disposal of approximately 6,000-tons of petroleum impacted soil, and capping of the site with a combination of hardscape and clean fill. An Easement and Equitable Servitude has been filed with the site deed restricting groundwater use, the construction of habitable structures on the property, and disturbance of the soil/hardscape site cap.⁷³

Oregon’s Department of Environmental Quality (DEQ) concluded that no further action is required at the site under Oregon Environmental Cleanup Law unless additional information becomes available in the

⁷³ An Easement and Equitable Servitude is an agreement between the property owner and the Oregon Department of Environmental quality that ensures the owner will accept and maintain institutional and engineering controls, such as, legal or administrative tools or physical measures meant to prevent exposure to hazardous substances or contamination.

future which warrants further investigation. DEQ proposed to issue a Certificate of Completion confirming satisfactory completion and was successful.

Table 13: Site Remediation at The Fields Park

	City of Portland/PDC	Developer	Consultancy / Technical Work
Investment Amount/Type	PDC provided for soil remediation in the Pearl District at a cost of \$330,000 (2011-2013)	Gave land to the city as part of the Development Agreement	Private company by public procurement
Responsibilities	Monitoring and maintenance of infrastructure to make sure pollution is minimized	To prepare the land and construct buildings on the land when remediation is finalized	Remove contaminated soil to meet regulations
Expected payback period	No payback period. Benefit to city in the long term through increased taxbase	Benefit due to rising property values associated with good neighborhood with good public spaces	N/a
Risk	Low	Medium	N/a

Transit-Oriented Development

Transit-oriented development (TOD) refers to mixed-use residential and commercial areas designed to maximize access to public transport. These developments often include active elements to encourage greater ridership. TOD is a growing trend in urban development because the associated co-benefits of vibrancy and livability. Integration of high quality public transportation in a mixed-use development is a central characteristic of TOD. This means that TOD is most successful when combined with highly walkable developments that have housing, office, retail, and other amenities in the same area.

Portland’s rail transit network includes 82 miles of light rail, 15 miles of commuter rail, and 14.7 miles of streetcar lines. According to Portland’s transit agency TriMet, the light rail alone has helped spur more than \$10 billion in investment near light rail lines and stops. TriMet explains that these mixed-use and transit-oriented developments are highly attractive to people who are trying to live without a car.⁷⁴ There are also numerous and frequent bus lines serving the entire city with a focus on downtown and inner neighborhoods.

⁷⁴ TriMet, “TriMet At-A-Glance,” 2015. Accessed at <http://trimet.org/pdfs/publications/TriMet-At-a-Glance-2015.pdf>. TriMet, “TriMet Transit Investment Plan,” 2012. Accessed at <http://trimet.org/pdfs/tip/tip.pdf>.

FINANCING

Land-use and urban form characteristics that contributed to these achievements occurred over the long evolution of Portland and Oregon’s history. Land use planning laws at the state level mandated that city and counties create comprehensive plans and determine the necessary land use changes needed to meet growing populations within a defined urban growth boundary. Policies that led to the implementation were shaped by this history. This explains the way small blocks, urban growth boundaries, and mixed uses came to fruition.

Financing of the park system, an integral component of walkability for TOD, was made possible by urban renewal funds acquired through tax increment financing (Model 1 above). The costs of the parks were paid for by the City, through PDC renewal funds.

Table 14: Costs for Public Green Spaces

Park	Costs Covered by PDC
Jamison Square Park	\$2.6 million (2000)
Tanner Creek Restoration and Park	\$2.8 million (2001)
Fields Neighborhood Park	\$6.1 million (2013)

Transit-Oriented Development implementation was shaped by zoning codes, plans, and the infrastructure investments in the Streetcar which were funded with tax increment financing (Model 1), local improvement districts (Model 2), and numerous other general funds from the City, Trimet, and the State of Oregon.

Table 15: Costs for Central City Streetcar Project

Source	Mechanism	Amount
City	PDC Tax Increment Financing (Model 1)	\$21.5 million
	General Funds	\$8.75 million
	Bonds from backed by City-Owned Parking Garage Revenues	\$28.6 million
Property Owners	Local Improvement Districts (Model 2)	\$19.4 million
TriMet	Trimet	\$5 million
State	Connect Oregon Bonds	\$2.1 million
Metro (Federal sourced)	Regional transportation funds	\$10 million

ACHEIVEMENTS

A Vibrant Mixed-use Neighborhood

In the Pearl District, the results of these zoning and design regulations have proven powerful. The majority of the ground floor uses are retail, enhancing the pedestrian environment, and the buildings above provide spaces for residential or commercial uses. Please see the figures below showing the diversity of uses at the street-level and in the buildings.



Figure 25: Ground Floor Use Map, 2009

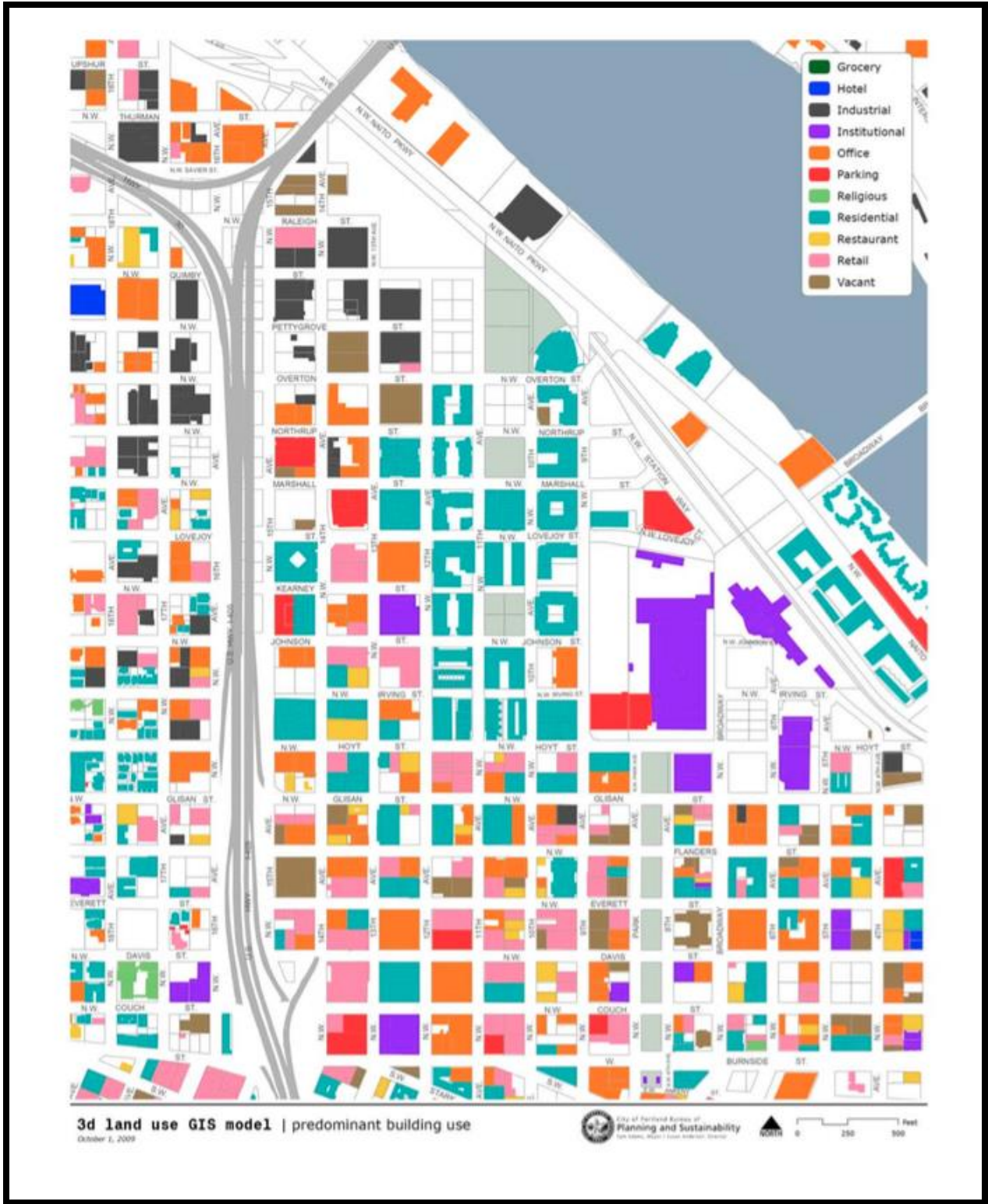


Figure 26: Building Use Map, 2009

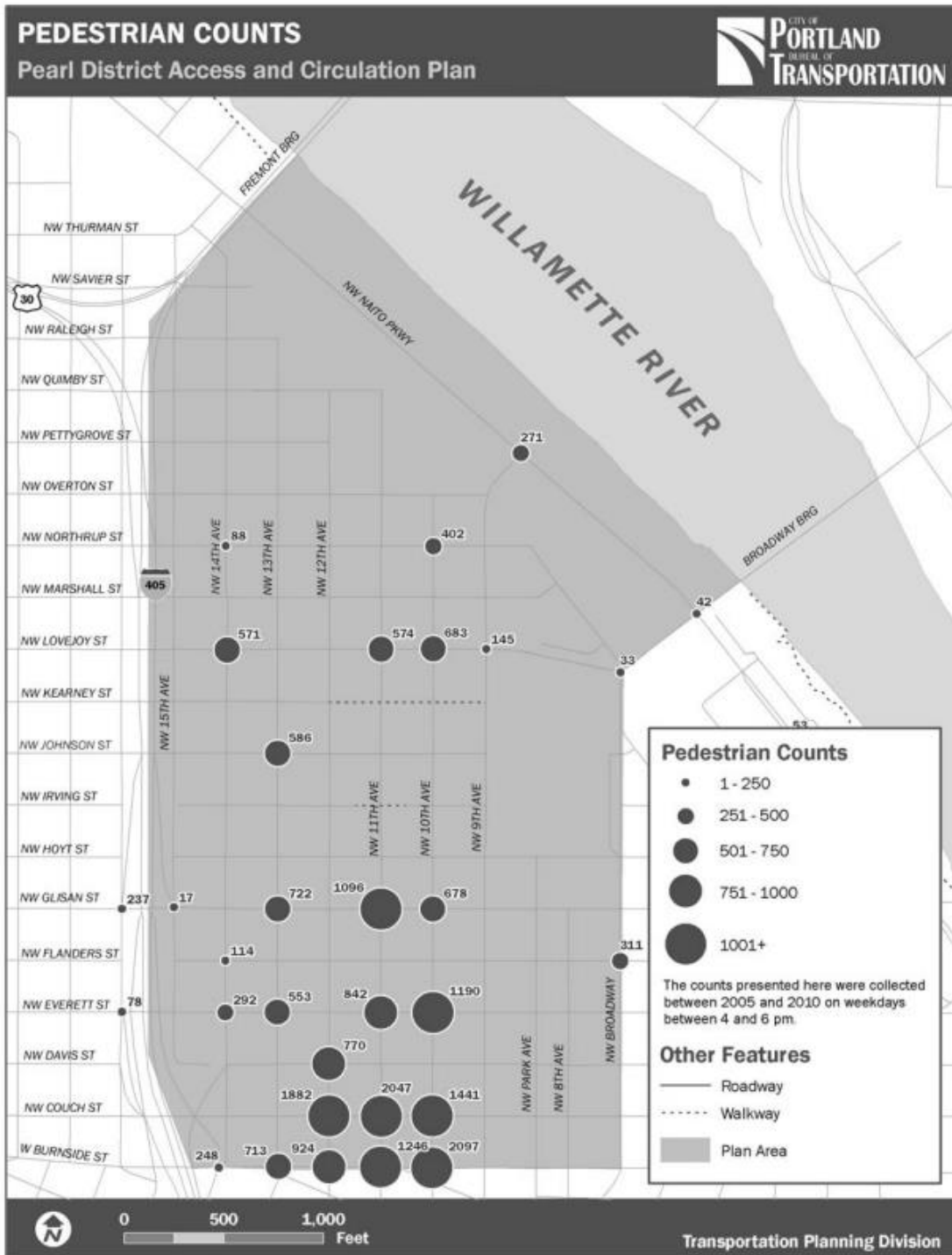


Figure 27: Pedestrian Counts in the Pearl District Access and Circulation Plan 2012

The small block sizes in the Pearl mean that a larger amount of the area of the development is dedicated to streets. Narrow streets with good connections to public transit increase the walkability and pedestrian accessibility of a neighborhood. This means storefronts and retail outlets get more foot traffic and customers.

Economic Development, Infill Growth, and High-End Retail

Retail establishments look for areas with high pedestrian traffic, urban atmospheres with a comfortable, accessible ambience when they make location decisions. Therefore, as the Pearl progressed, retail space became some of the most valued property within the city (please see

Table 16).

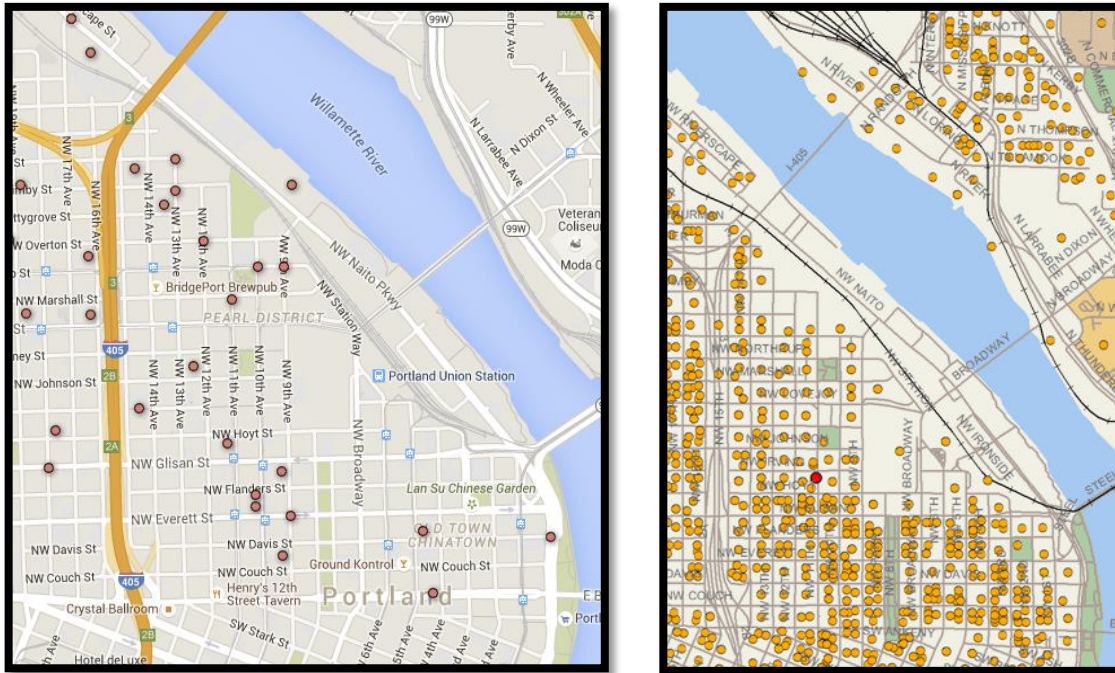


Figure 28 (Left): Placement of proposed and under construction projects and Figure 29 (right): Location of businesses⁷⁵

⁷⁵ Retrieved from: <https://www.portlandmaps.com/>

Table 16: Sample of Retail and Office Rents

Name	SF	\$ / SF	Notes
Pinnacle Pavilion	4,140	\$27	Street Retail/Restaurant
Freedom Center	112,500	\$24	Retail
916 NW Hoyt	10,000	\$19	Street Retail
Lovejoy Square North	8,482	\$20-\$24	Office
The Pinnacle	1,620	\$24	Street Retail
Brewery Blocks	3,237	Negotiable	Street Retail
506 NW Flanders	11,275	\$25.75	Office
Tisk Fire Building	9,500	\$24-35	Retail
San Francisco Average	-	\$35.99	Office
San Jose Average	-	\$25.05	Office

*These rents are comparable to some of the fastest growing rental prices in the country: **San Francisco, California**, with an average price per square foot of \$35.99, and **San Jose, California** with an average price per square foot of \$25.05.⁷⁶

⁷⁶ “The Best and Worst U.S. Cities for Renting Office Space.”

Public Green Spaces



Figure 30: Aerial map and conceptual plan map from the Urban Design Framework study for the three parks (in green in the aerial map). From south (bottom) to north: Jamison Square; Tanner Springs Park; and The Fields. The 34-acre railyard is clearly visible in the aerial photo.⁷⁷

The HSP Development Agreement guaranteed that the City would build parks on the land that HSP gave the City for this purpose. The three parks included in the River District Park System Urban Design

⁷⁷ Retrieved from: <http://plannersweb.com/2013/08/a-tale-of-three-parks/#note-8912-1>

Framework Study are Jamison Square Park, Tanner Springs Park, and the Fields Park. The following sections provide more information on each of these parks.

Jamison Square Park

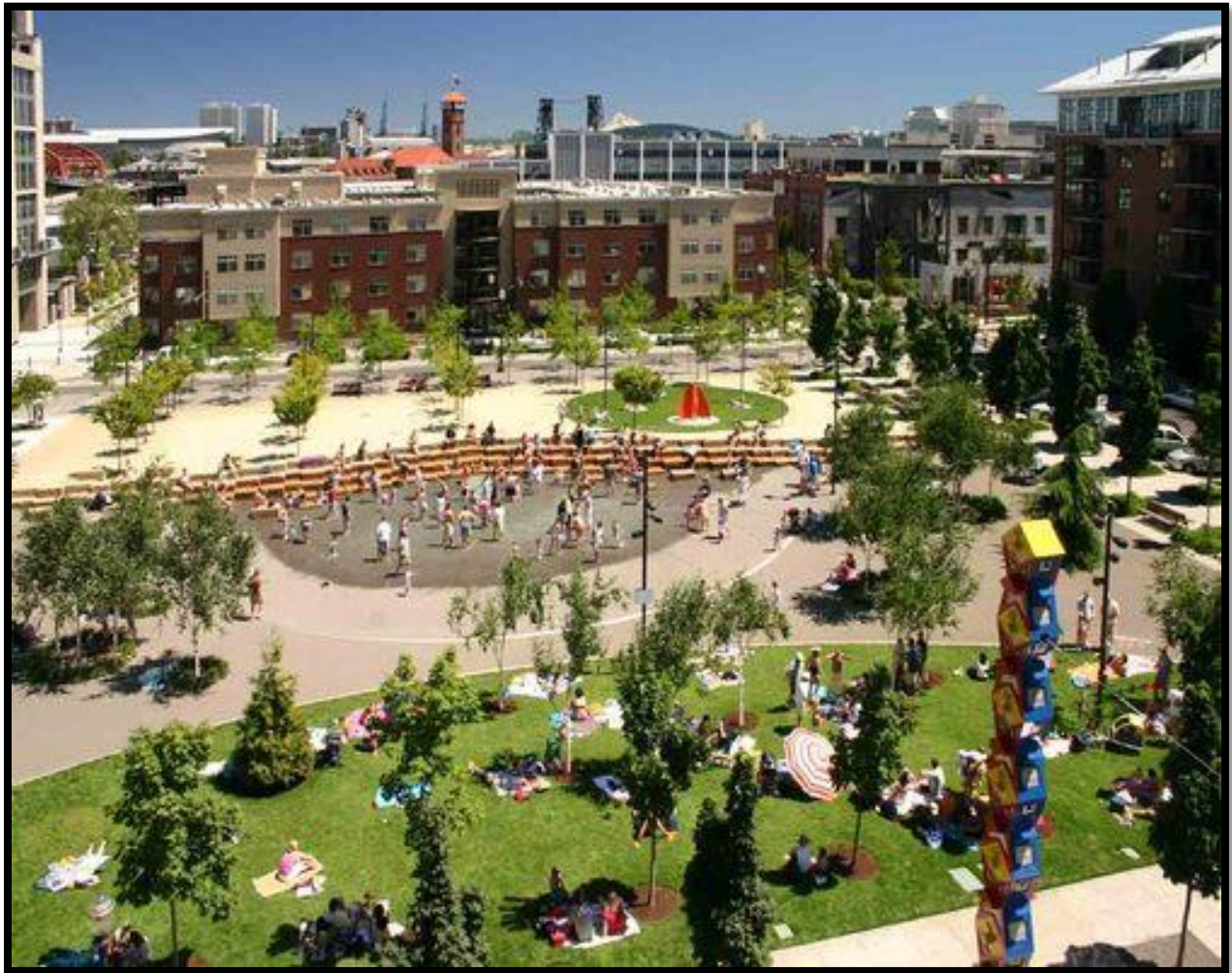


Figure 31: Jamison Square Park from west side of park. ⁷⁸

Jamison Square was the first of the three parks to be built; it was completed in 2002. The cost to build the park was \$3.6 million not including soft costs. Financing for the park came from urban renewal, TIF-backed bonds through the PDC. The park was named after William Jamison, an art gallery and Pearl District proponent.

The park has proven to be the most active and lively of the three. Initially it was intended to be an outdoor art gallery, with rocks and steps at center, but no water. Water was subsequently added to keep skateboarding away; but the water soon turned park into an urban beach, attracting children and families, and was redesigned to create a "manmade tidal pool."

⁷⁸ Retrieved from: <http://www.sapdev.net/images/blog/20080704.PortlandJamesonSq.jpg>

The park was designed by Peter Walker, with the support of developer Homer Williams. The square includes 30-foot modern totem poles (Tikitotmoniki) created by Kenny Scharf and Paige Powell in 2000. Lampooned as Portland's "Tiki park," the totem poles are functional and aesthetic; they hide support poles for streetcar wires. The park also has orange steel sculptures by Alexander Liberman. A wooden boardwalk, made of ipê, a hardwood, connects Jamison Park to Tanner Springs Park in the north.

Regular events include the Kids Marching Band, Kids in the Pearl Block Party, Movies in the Pearl, and the Portland Bastille Day festival. The park is considered a modern success like Pioneer Courthouse Square, but also a "kid magnet," attracting people from all over Portland. The popularity of park led to a 2009 request for a restroom (which was resisted by local residents), and in December of 2010 an outdoor toilet was built called the "Portland Loo."

Tanner Springs Park



Figure 32: Tanner Springs Park from northeast corner of park. 79

Tanner Springs serves as the more contemplative, peaceful, and ecologically minded park. It was part of 1999 Pearl District plan, originally called North Park Square, and renamed in 2005. The park was conceived by Peter Walker, but designed by Atelier Dreiseitl and GreenWorks PC. The project was to originally to be designed by Maya Lin, but district residents fought her large sculpture approach, called "Playground," because they thought it was too kid-friendly, and only two blocks from Jamison Square. In

⁷⁹ Retrieved from: <http://greenworkspc.com/wp-content/uploads/2012/07/south.jpg>

the end, they decided on a more naturalistic approach. The park is connected to Jamison Square by the wooden ipê boardwalk.

Contrasting the industrial history of the Pearl with its natural history, the park serves as a reminder of Portland's ethic of environmental sustainability and conservation. By removing the industrial cover, the designers helped reconnect the neighborhood with the pre-industrial wetlands, especially the real Tanner Creek, which is 20 feet underground. The site was planted with native grasses and trees, including Oregon oak, red alder, and bigleaf maple. The east wall of park is covered in rail tracks recovered from the area, which were donated by Portland Terminal Railroad, some dating from 1898.

The park also provides essential stormwater management functions. It is a central feature of the park design. As rainwater falls on the site (1.2 acres), water flows through the soil and root structures and gets filtered before it enters the lower pond. The sidewalks divert water towards the park, not away from it.

The Fields Park



Figure 33: The Field Neighborhood Park Final Design. ⁸⁰

The Fields serves as a more all purpose park for activities and recreation. There is a dedicated dog park, a playground for children, sitting areas, and a large field at the center for events and/or sports activities. It serves as a large urban green space for the local residents.

⁸⁰ Retrieved from: <http://plannersweb.com/2013/08/a-tale-of-three-parks/>

Construction of the 3.2-acre park began in 2012 and the park opened in May 2013. The total cost of the park was \$5.5 million. This park was also part of the original plan, but also strongly supported by Hoyt Street Properties, Pearl District Neighborhood Association, and the Portland Development Commission.

6.2 TRANSPORTATION

This section will cover the emphasis the Pearl District placed on (6) non-motorized transit, (7) public transit, and (8) car control.

BACKGROUND

Public transit in the Pearl District got a boost in the 1990s with plans for a streetcar system in response to the Central City Plan of 1988. Studies were conducted by the city for the original line to connect NW Portland to Portland State University crossing through the Pearl District. The project cost \$57 million, well over the predicted \$30 million, and was funded primarily by local sources. In many ways, the Portland Streetcar was a force of economic development for Portland leading former mayor Sam Adams to call the Pearl District's strategy "development-oriented transit," a play on words with the well-known "transit-oriented development" strategy.

GOALS

The Pearl District Development Plan (2001) had several goals for the Streetcar and for transportation. These included:

- Ensure that new development supports and reinforces public infrastructure investments, such as the Portland Streetcar and Jamison Square.
- Ensure that new development supports the Streetcar as a major component of the community's accessibility and mobility.
- Recognize that there will be congestion and conflicts between different types of users, but solutions should balance the needs of all users and should not seek to exclude specific modes of transportation.
- Ensure that new development supports the Streetcar as a major component of the community's accessibility and mobility.
- Create a transportation system that offers alternatives (i.e. walking, biking, transit) for traveling to, from, and within the Pearl District.
- Create pedestrian-friendly streets that provide for an active, interesting, and safe environment.
- Preserve the historic character and richness of the neighborhood by protecting and maintaining streetscape features such as cobblestones and old rails in the streets.
- Ensure an adequate amount of parking without detracting from the vitality of the neighborhood.

These specific goals are related to the general goals of Transit-Oriented Development:

- Walkable communities that accommodate healthy and active lifestyles
- Increased transit ridership and fare revenue

- Potential for added value created through increased and/or sustained property values where transit investments have occurred
- Improved access to jobs and economic opportunity for low-income people and working families
- Expanded mobility choices that reduce dependence on the automobile, reduce transportation costs and free up household income for other purposes

The City level goals for climate action also influenced development of many transportation options. These included:

- Create vibrant neighborhoods where 80% of residents can easily walk or bicycle to meet all basic daily, non-work needs and have safe pedestrian or bicycle access to transit. Reduce daily per capita vehicle miles traveled by 30% from 2008 levels.
- Improve the efficiency of freight movement within and through the Portland metropolitan area.
- Increase the fuel efficiency of passenger vehicles to 40 miles per gallon and manage the road system to minimize emissions.
- Reduce lifecycle carbon emissions of transportation fuels by 20%.

IMPLEMENTATION

Public Transit

The Portland Streetcar was the central project to enhance public transportation in the Pearl. This not only boosted access but also made the area more walkable and pedestrian friendly. The primary strategy for realizing these goals was to focus on transit-oriented development that prioritizes public transit and non-motorized transit. The Pearl District also has excellent bus service and is in close proximity to light rail in the Portland Transit Mall that runs through the adjacent Old Town/Chinatown area.

Table 17: Transit Service in the Pearl District

Line	From	To	Headways	Peak Headways	Operating Hours
Streetcar	NW 23 rd	S. Waterfront	14-21 min	12-13 min	5:30am - midnight
9	NE 27 th and Saratoga	Gresham TC	17-60 min	5-8 min (SB) 20 min (NB)	5:55am - 2am
16	Expo Center/St. Johns	City Center	30 min	30 min	5:30am – 7pm
17	Montgomery Park/ Sauvie Island	SE 134 th and Holgate	17-50 min	9-10 min	5:20am – 1am
20	Beaverton TC	Gresham TC	17-66 min	7-13 min	5:15am – 1am
77	Montgomery Park	Troutdale	30 min	15-17 min	5am – 11pm

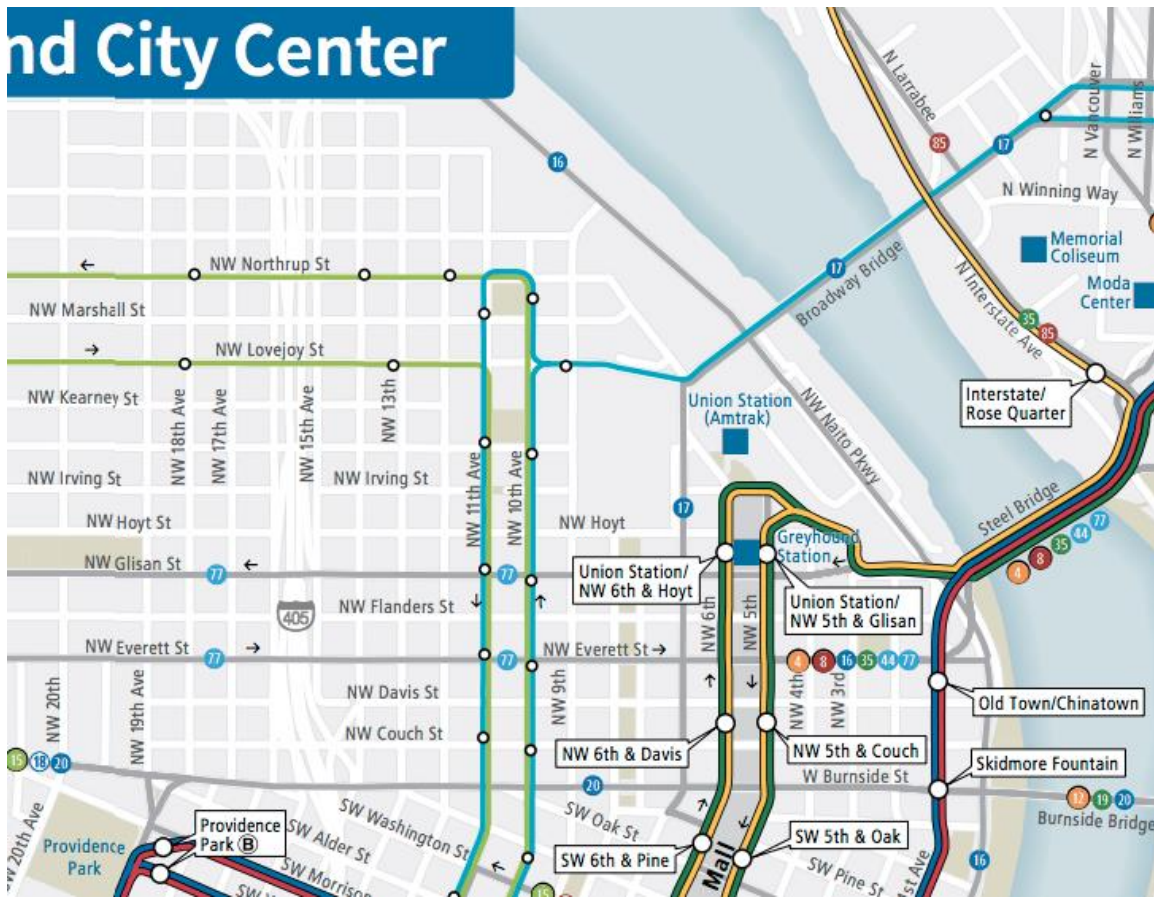


Figure 34: Transit map of Pearl District.⁸¹

Non-motorized Transit

Pearl District development emphasized non-motorized modes of transportation such as cycling and walking. The Pearl District Access and Circulation Plan explains that the Pearl District is classified a Pedestrian District in the larger Bureau of Transportation’s Transportation System Plan (TSP). The TSP stipulates “Pedestrian Districts are intended to give priority to pedestrian access in areas where high levels of pedestrian activity exist or are planned.” In addition, the Portland Bicycle Plan for 2030 proposes the creation of a new TSP classification: Bicycle Districts. The Pearl District is recommended to become a Bicycle District during the next TSP update. Bicycle activity is highest on Broadway, Lovejoy Street, and Everett Street, which act as portals into the district.

Cyclists also utilize NW Johnson Street to cross Interstate I-405. Within the Pearl District, bicycle facilities are typically striped lanes that coincide with high traffic portal streets such as Broadway, Everett, Glisan

⁸¹ Source: <http://trimet.org/pdfs/maps/citycenter.pdf>

and Lovejoy. Pedestrian activity is prevalent throughout the District, but is most concentrated in the southern portion of the District near the Brewery Blocks, along the Portland Streetcar lines on 10th, 11th, and Lovejoy Streets, near the Pacific Northwest College of Art (PNCA). Burnside is the main entryway from downtown. These corridors also generally coincide with the areas with the most intense street level retail activity and transit use.

Pedestrian improvements will be built at many intersections as part of the Burnside- Couch couplet project.

Portland’s Climate Action Plan sets an objective, calling for vibrant neighborhoods in which 90% of Portland residents can easily walk or bicycle to meet all basic, daily, non-work needs by the year 2030. A key strategy to achieve this goal has been to increase non-motorized transit.

Car Control

The main mode of car control in the Pearl District was to limit parking and provide alternative modes of transportation. Developers are building new residential and retail buildings with significantly lower parking ratios than anywhere else in the region. The City of Portland only has maximum parking ratios in the Central City District zoned for Central Employment (EX) and has no minimum requirements except for household living. This means that developers do not need to provide parking, and instead can build valuable retail or residential space.⁸²

FINANCING

As discussed above, financing for transportation was based on a mixture of TIF (Model 1), LID (Model 2), and various other funds including City Bonds and grants from federal and state level agencies. The table below shows the overview of the Portland Streetcar project, a key driver of the Pearl District’s increased walkability and public transit options.

Table 18: Portland Streetcar Overview

	City of Portland/PDC	Developers	Consultancy / Technical Work	Trimet
Investment Amount/Type	PDC provided urban renewal funds to finance streetcar alignments	HSP gave right-of-way to the city as part of the Development Agreement. Businesses within the Local Improvement District paid extra taxes to fund streetcar project.	N/a	N/a

⁸² Please see Title 33 of the Municipal Code, Portland Planning and Zoning, Chapter 33.266, Table 266-1 and 266-2. Accessed at <https://www.portlandoregon.gov/bps/article/53320>. Last updated July 24th, 2015.

Responsibilities	Management and development of streetcar system; planning	Make sure development projects conform to Streetcar stops, platforms, and infrastructure, and privilege pedestrian uses	Engineering and construction	Maintenance and Operations
Expected payback period	Benefit to city in the long term through increased taxbase	Benefit due to rising property values associated with good neighborhood with good public spaces	N/a	N/a

ACHIEVEMENTS

Public and private investments, good planning, and stricter zoning regulations in the Pearl District have led to considerable improvements for transportation and mobility. These have also increased the desirability of the neighborhood, a factor that has contributed to the increases in the market value of real estate.

Portland Streetcar

The success of the Streetcar has led to numerous recent extensions of service. In August 2009, construction began on the Streetcar Loop Project connecting the inner eastside with the downtown and Pearl District areas. A Small Starts Grant was awarded by the Federal Transit Administration to help fund the Loop Project in October 2009. The Loop Project extended service to the east side of the Willamette River, connecting downtown to inner-east Portland. By September of 2012, passenger service on the Central Loop from SW Market to Oregon Museum of Science and Industry was initiated.

The Streetcar initiated large-scale development in the Pearl and beyond. This can be seen in the growth surrounding the Streetcar since its inception. The primary engine of economic growth and investment within the Pearl District was the Portland Streetcar. After initial infrastructure expenses by the public sector, a total of \$103 million in capital costs, the Pearl gained over \$2.8 billion in private investment within 3 blocks of the streetcar between 1997 and 2005. Over 7,200 residential units were built in that same period, and more than 4.6 million square feet of commercial space were added.⁸³

Between 1997 and 2008:

- \$3.5 billion was invested within two blocks of the streetcar alignment.
- 10,212 new housing units and 5.4 million square feet of office, institutional, retail, and hotel construction were built within two blocks of the alignment.

⁸³ Gibb, "Transit Oriented Development in the Portland Metro Region." Accessed online at http://iurd.berkeley.edu/news/Urbanfutures_3_Gibb.pdf

- 55% of all CBD development between 1997 and 2008 occurred within one block of the Streetcar and properties located closest to the Streetcar line more closely approach the zoned density potential than properties situated farther away.
- Developers are building new residential buildings with significantly lower parking ratios than anywhere else in the region, largely because public transit and non-motorized transit options are available and attractive to the local and incoming residents.

Reduced VMTs

Some of the major achievements of the Pearl District’s TOD approach are walkability and reductions in vehicle miles travelled (VMTs). Vehicle-miles traveled (VMT) measures the total amount of miles driven in a given area. It is an indicator of how reliant people and businesses are on motor vehicles to meet their mobility needs. Although some residents drive more and some residents drive less than the average, all residents will need to optimize the efficiency of their driving trips and reduce their total amount of driving in order to achieve the necessary VMT reductions. The Climate Action Plan (2009) set the goal of reduced VMTs by 30% from 2008 levels.

A 2013 White Paper by Roger Geller, the Bicycle Coordinator for Portland’s Bureau of Transportation, suggests the following points indicate a drop in VMTs since 1994:

- In 1994, 19% of trips by Portlanders were either walking (12%) taking transit (5.5%) or bicycling (1.6%).
- In 2011, 28% of trips by Portlanders were either walking (15%) transit (7%) or bicycling (6%).
- There were approximately 162 million more annual trips taken by Portland residents in 2011 than in 1994, an increase of 24% , but 47 million of those additional trips were walking trips (29%), 36 million were bicycling trips (22%) and 20 million were transit trips (12%). Together, walking, bicycling and transit accounted for 64% of trips added since 1994
- Walking added the most new non-automotive trips. Bicycling increased the most per capita.
- Total annual motor vehicle miles traveled by Portland residents seems to have dropped from 2.35 billion in 1994 to 2.26 billion in 2011.
- If active transportation and transit had not advanced since 1994, then Portlanders would have made 211,000 more weekday automotive trips in 2011 than they actually did. If active transportation does not continue to advance, then by 2035 there will be more than 1,000,000 more daily automotive trips than there would otherwise be.⁸⁴

One of the key strategies that the Pearl District and the Brewery Blocks have implemented through City Zoning Code is a maximum parking ratio, which can be viewed as a car control strategy as well. The City of Portland only has maximum parking ratios in the Central City District zoned for Central Employment (EX) and has no minimum requirements except for household living. This means that developers do not need to provide parking, and instead can build valuable retail or residential space.⁸⁵

⁸⁴ Geller, “What Does the Oregon Household Activity Survey Tell Us About the Path Ahead for Active Transportation in the City of Portland.” Accessed at <http://www.portlandoregon.gov/transportation/article/452524>

⁸⁵ Please see Title 33 of the Municipal Code, Portland Planning and Zoning, Chapter 33.266, Table 266-1 and 266-2. Accessed at <https://www.portlandoregon.gov/bps/article/53320>. Last updated July 24th, 2015.

Good urban design with mixed-use development, prioritization of non-motorized transit, and reductions in parking all contributed to the reduction in overall VMT.

Walkability and the 20-minute Neighborhood

Walkability has been a key success in the Pearl District. Mayor Charlie Hales notes that downtown Portland, and the Pearl District specifically, caters development towards pedestrian uses. For example, he notes the following design components that contribute to Portland’s pedestrian accessibility:

- Automatic pedestrian signals in traffic light sequences with sufficient timing to cross
- Narrow streets allow pedestrians to cross quickly and easily, as opposed to wide streets that are hostile to pedestrians
- Sidewalks are built wide to encourage walking
- Transit-oriented development allows pedestrians to get around without an automobile
- Pedestrian and bicycle planning are considered first in alignment with public transit, then other modes of transportation are considered⁸⁶

These achievements were possible because the Pearl District has a diversity of land uses, people, businesses, and residential units, which contribute to the walkability, and overall livability of the Pearl. People are able to meet most of their daily needs within a short walking or commuting distance. One way to measure the walkability of an area is to use the open-source tool WalkScore. Figure 35 shows a heat map of walkability in the Pearl and the surrounding areas. The average overall WalkScore for the Pearl is a 95 out of a possible 100 points.

This mapping analysis highlights areas that have walkable access to commercial services and amenities. It indicates locations that have concentrations of commercial services that are within relatively short walking distance of households. The mapping analysis takes into account the availability of grocery stores and other commercial services, parks and recreation facilities, as well as elementary schools. Additionally, the analysis takes into account factors that impact access, such as sidewalks, street connectivity, bicycle routes, and transit.

The resultant “hot spot” map shows the gradient of access in different parts of the city. “Hot spots” – orange, yellow, to white (hot) reflect areas with a greater degree of access. Magenta to blue areas have less convenient pedestrian access to services.

Figure 36 shows the mapping analysis for walkability conducted as part of the Portland Plan process. This includes a similar analysis to the WalkScore mapping analysis above, however, it also considers topography as a factor impacting pedestrian access.

⁸⁶ Interview in the film *Portland: A Sense of Place* by e2 transport.

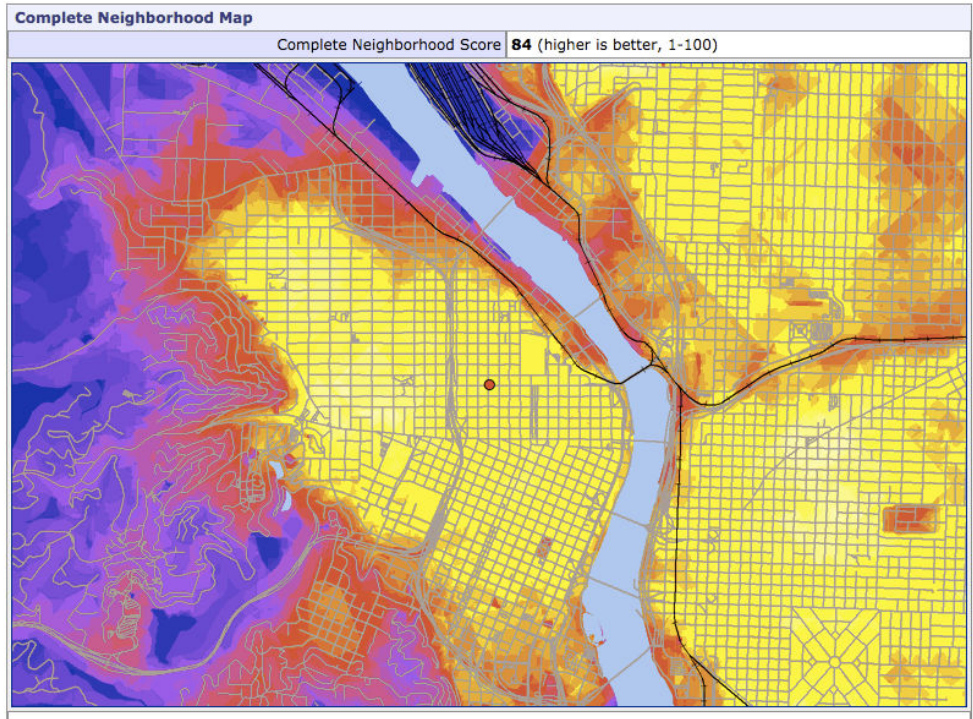


Figure 35: WalkScore heat map of Pearl District and surrounding areas

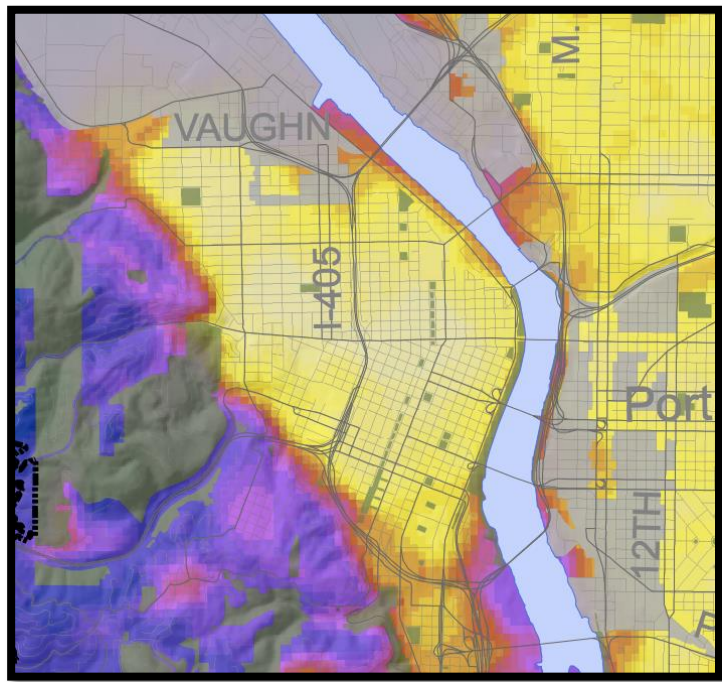


Figure 36: Portland Plan 20-Minute Neighborhood Map

6.3 GREEN BUILDINGS AND WATER EFFICIENCY

This section will cover the emphasis the Brewery Blocks placed on (9) green buildings and (12) water efficiency.

BACKGROUND

In the Pearl, the Brewery Blocks is the most celebrated example of green building development because of the combination of highly efficient systems, historic preservation, walkability, district cooling, and renewable energy.

Portland's overall reputation for sustainability is exemplified by the City's commitment to green buildings. Starting in 2001, the City of Portland's Green Building Policy mandated all new occupied city buildings meet the U.S. Green Building Council's green building standards known as the Leadership in Energy and Environmental Design Program (LEED).

This policy was amended on April 27, 2005 by Resolution Number 36310, which was adopted by the Portland City Council. This Resolution amended the Green Building Policy mandating that new buildings meet the LEED Gold standard, not just basic certification. The Resolution also required existing buildings meet the LEED Existing Buildings Operations and Maintenance (EBOM) Certification at the Silver Level. In April 2009, the Green Building Policy was amended again to incorporate the policy into city-owned and operated buildings (Resolution Number 36700).

Current requirements for new city-owned construction projects include:

- Recycle 85% of all construction and demolition (C&D) waste;
- Have 30% water savings beyond the Energy Policy Act of 1992 baseline code requirements;
- Use no potable water for building landscaping, except during first two years;
- Have 30% energy savings beyond LEED baseline requirements;
- Use building commissioning strategies required to be eligible for the Sustainable Building Business Energy Tax Credit;
- Include an eco-roof with at least 70% coverage and high reflectance and Energy Star-rated roof material on any non-eco-roof roof surface area. When an integrated eco-roof/Energy Star-rated roof is impractical, Energy Star-rated roof material must be used; and
- Incorporate renewable energy systems when possible or required by state.

Existing city-owned buildings installing a new roof must follow the guidelines specified above. All tenant improvements to city-owned facilities must be LEED for Commercial Interiors (CI) Silver and/or follow the Bureau of Planning and Sustainability's (BPS) High Performance Tenant Improvement Guide. All new commercial or mixed-use buildings over 10,000 square feet that receive financial assistance from the Portland Development Commission of \$300,000 or more that also equals 10% of the total project cost must achieve LEED Silver certification.⁸⁷

⁸⁷ More information available at:

<http://energy.gov/exit?url=http%3A//programs.dsireusa.org/system/program/detail/254> and

GOALS

For the Brewery Blocks in particular, the goals for the development included strict environmental standards. Historic preservation, recycling of building materials, and energy efficiency all influenced the design of the project. The major goals included:

- Adaptive Reuse: Maintaining a sense of place and history while saving resources by utilizing existing infrastructures and materials.
- Sustainability - Each building is designed to achieve LEED certification

The City and county goals for climate action include a section on buildings and energy:

- Reduce the total energy use of all buildings built before 2010 by 25%.
- Achieve zero-net carbon emissions in all new buildings and homes.
- Supply 50% of all energy used in buildings from renewable resources, with 10% produced within Multnomah County from on-site renewable sources, such as solar⁸⁸

IMPLEMENTATION

The five Brewery Blocks were innovative projects in different ways. Each building serves the neighborhood in a different way providing a mixture of retail, residential, and office/commercial uses.

Taking the existing site as a base, each building project necessitated a unique approach. All of the buildings achieved LEED certification, a testament to the sustainability goals of the project.⁸⁹

Table 19: Brewery Blocks Buildings and Function

Block	Description	Functions
Block 1: Whole Foods Building	<ul style="list-style-type: none"> • 4-story, 158,000 SF • 50,395 SF ground floor retail space 	Retail/Grocery Office/Industrial Office
Block 2: Brewhouse and Cellar Building	<ul style="list-style-type: none"> • 10-story, 248,000 SF • Class A office Space • Ground-Floor Retail 	Office and Retail
Block 3: The Gerding Theater and The Henry	<ul style="list-style-type: none"> • 15-story, 270,000 SF • 123 condominiums • Street-level retail • Three levels of parking 	Residential and Retail Theater

<http://programs.dsireusa.org/system/program/detail/254> and <http://www.portlandonline.com/auditor/?c=34835&a=54355>

⁸⁸ Portland is located within Multnomah County, a larger jurisdiction.

⁸⁹ The text for a large portion of this section is excerpted from Gerding Edlen’s online resources describing their projects. Descriptions of buildings below, for example, are excerpted from Gerding Edlen’s website accessed at: <http://www.gerdingedlen.com/properties>

Block 4: M Financial	<ul style="list-style-type: none"> • 10-story, 270,000 SF • 234,000 SF class A office space • 36,000 SF street-level retail 	Retail Office
Block 5: The Louisa	<ul style="list-style-type: none"> • 16-story, 282,000 SF • 242 apartment units • 34,000 SF street-level retail • Three levels of underground parking 	Retail Residential

Table 20: Brewery Blocks Overview

	City of Portland/PDC	Developers	Consultancy / Engineering	Investors
Investment Amount/Type	PDC provided urban renewal funds to finance infrastructure improvements and loaned money at market rate for parking garage	Gerding Edlen financed the entire project with backing from private and institutional investors	N/a	Backed investment in Brewery Blocks project totaling \$300 million
Responsibilities	Permitting, zoning, and regulation	Management and implementation of development	Engineering and construction	Funding
Expected payback period	Benefit to city in the long term through increased taxbase	Benefit due to rising property values associated with good neighborhood with good public spaces	Recognition for participation in sustainable, award-winning project	Short term through rents and sales or properties
Risk	Low	High	N/a	Medium

Block 1



Figure 37: Block 1 Building with ground-floor occupied by long-term tenant Whole Foods. Source: Gerding Edlen.⁹⁰

Gerding Edlen wanted to honor the history of the existing building on the site, so the design utilized preserved the historic art deco facade and reconstructed the historic concrete eagles perched on the building's walls, adding a sense of character to the block. Then, an entirely new, modern steel and glass structure was built within and extending above the historic facade walls. The 158,000 SF LEED Silver building was completed in 2002. The building is home to high-end grocer Whole Foods Market. Critical to sustainability efforts for the entire Brewery Blocks, the building is the site of the centralized chilled water plant that can accommodate 12,000 tons of cooling capacity, serving 100% of the Brewery Blocks' air conditioning needs as well as having capacity to serve the larger neighborhood. A telecommunications company also occupies 80,000 square feet with state-of-the-art telecommunications and data centers that provides tenants at the Brewery Blocks access to all of the areas' fiber optic networks and secure data storage.

⁹⁰ Retrieved from: <http://www.gerdingedlen.com/properties/single/c/p/name/block-1-whole-foods/>

Block 2



Figure 38: Block 2 is the site of the former brewhouse and cellar building, shown here beautifully preserved.⁹¹

The site of the former Blitz-Weinhard Brewery, Block Two features a historic smokestack, cellar building and brewhouse whose preservation was integral to the neighborhood's sense of place. With the historic preservation components in place, salvaged materials reduced landfill waste and re-enforced the building's character. A new 10-story steel framed office tower was constructed adjacent to the historic structures and a common core was created to provide both vertical transportation and seismic lateral bracing. The 248,000 SF LEED Gold building was completed in 2002. All together, the effect was undeniably successful, earning it the Oregon State Historic Preservation Adaptive Reuse Award in 2000.

Table 21: Specific Implementation Considerations of Block 2

Goal Category	Implementation Strategies
Historic Preservation	<ul style="list-style-type: none"> • Salvaged elements with historic significance—including the Brewhouse and Cellar buildings, the smokestack, weathervane, historic railings and copper flue • To meet historic preservation standards, the smokestack had to be seismically upgraded from the inside utilizing a steel plate rolled into 20' tubes that were dropped in from the top and anchored to the unreinforced brick from the inside
Energy Efficiency	<ul style="list-style-type: none"> • Operable windows and light shelves throughout are tied into a central building management system reacting to outside air and light, thereby significantly reducing energy usage • Utilizes chilled water from the central plant for cooling, eliminating need for onsite chillers and cooling towers

⁹¹ Retrieved from: <http://www.gerdingedlen.com/properties/single/c/p/name/block-2-brewhouse-cellar-building/>. Information in Table 17 also from this source.

Waste Management	<ul style="list-style-type: none"> All equipment and tanks associated with the former brewery were salvaged to reduce landfill waste
Land Use / Transportation	<ul style="list-style-type: none"> Parking was provided in a single, 3-level underground parking garage that spanned 2.5 city blocks and the intersecting public streets, resulting in an efficient design that preserves the above-grade development for active uses Created new standard for active streetscapes that included wider sidewalks, curb extensions at intersections, planters and seating areas and light and signage standards to elevate the pedestrian experience and connectivity to the project
Public Transit	<ul style="list-style-type: none"> MAX Light Rail, the Portland Streetcar and several bus stops are within a few blocks, encouraging alternative transportation

Block 3



Figure 39: The Gerding Theater transformed and preserved the existing Armory building⁹²

Transforming the historic Portland Armory, built in 1891, into a performing arts center for Portland Center Stage required a thoughtful and creative approach. The Portland Armory had been one of the defining elements of the neighborhood, but was empty and functionally obsolete. The 56,000 SF building was completed in 2006. Gerding Edlen worked closely with GBD Architects, Glumac Consulting Engineers, and other engineers and contractors to restore the building's distinctive facade while reconstructing a new, five-level, state-of-the-art theater within the existing walls and roof of the single-story structure. Gerding Theater is the First LEED Platinum performing arts center and first LEED Platinum building that is

⁹² Retrieved from: <http://www.gerdingedlen.com/properties/single/c/p/name/block-3-the-gerding-theater/>
Information in Table 17 also from this source.

also on the national historic register. The building includes a 500-seat main stage theater, 200-seat black box theater, rehearsal halls, community space, and office space.

Table 22: Specific Implementation Considerations of Gerding Theater

Goal Category	Implementation Strategies
Historic Preservation and Waste Management	<ul style="list-style-type: none"> • Innovative structural design placed the theater inside a large concrete box that was then tied into the exterior unreinforced masonry walls, allowing the brick to remain exposed in accordance with historic preservation standards • Because the exterior walls and roof structure could not be removed, the volume for the five levels was excavated from within the building and an entirely new structure was built from the inside
Energy Efficiency	<ul style="list-style-type: none"> • Energy-saving features include displacement ventilation in the office, theater, and lobby areas • Chilled beams for air conditioning in the office areas connect to the central chilled water plant, eliminating the need for onsite chillers and cooling towers • Skylights allow for daylight penetration into the office areas • Highly-efficient lighting design evokes a theatrical experience while highlighting the architectural character of the historic building
Water Efficiency	<ul style="list-style-type: none"> • Rainwater harvesting and reuse in the building for non-potable uses results in significant potable water savings, and reduces the amount of stormwater runoff from the site
Public Transit	<ul style="list-style-type: none"> • MAX Light Rail, the Portland Streetcar and several bus stops are within a few blocks, encouraging alternative transportation



Figure 40: The Henry condominiums in Block 3.⁹³

Also within Block 3, Gerding Edlen was responsible for development of The Henry. Named after Henry Wienhard, the founder of the site's original brewery, The Henry was the first building to offer traditional, divided room residential layouts in a neighborhood dominated by conversions and lofts. The 270,000 SF building was completed in 2004. The firm's research identified an unmet need for more traditional, true luxury housing in downtown Portland's trendy Pearl District. The Henry sold out nine months before completion, a testament to the demand for urban housing in Portland and the appeal of a high-quality, mixed-use neighborhood.

- 15-story mixed-use condominium with ground floor retail and 3 levels of parking
- Fulfilled need for traditional, luxury living in an urban setting
- The first high-rise residential condominium in the nation to receive LEED Gold Certification from the USGBC
- Received the Portland Office of Sustainable Development's BEST Award in Energy Efficiency in 2004

⁹³ Retrieved from: <http://www.gerdingedlen.com/properties/single/c/p/name/block-3-the-henry/>

Block 4



Figure 41: Block 4 shown with streetcar, eco-roof, and integrated photovoltaics.⁹⁴

To be socially and economically sustainable in the Brewery Blocks, Gerding Edlen needed to create a diverse mix of office and retail space, services, art and education centers and housing. The block's low-rise podium preserves the pedestrian scale along the street, and the high-rise tower is intentionally set away from adjacent towers to improve daylighting and views. Block Four won Portland General Electric's EarthAdvantage Award in 2002.

Brewery Block 4 building provides market-rate, Class-A commercial office space while boasting 23.5% electrical energy savings over ASHRAE 90.1 per year. Block 4 demonstrates the benefits of coupling sustainable design and construction with district planning. Gerding Edlen used the Natural Step principles as the framework and the LEED Rating System as the metric for determining their progress towards sustainability goals. The 464,000 SF LEED Gold building was completed in 2003. The building has 234,000 square feet of Class A office space, 36,000 square feet of ground floor retail, a 13,000 square foot eco-roof, and 3 floors of underground parking.

For the eco-roof, the cost was reduced from \$4 per SF to \$1.35 per SF through a series of design changes. Because the eco-roof retains runoff, the design team was able to cut the price by eliminating roof slope, substituting tapered insulation with cheaper batt insulation, and reducing the number of roof drains.

The project was aimed to create an active retail streetscape with a podium of flexible spaces in a range of sizes to accommodate a wide variety of potential retail tenants. Tenants were given the freedom to design their storefronts as desired. Block 4 created a focus on attracting emerging local merchants and new-to-market retailers.

⁹⁴ Retrieved from: <http://www.gerdingedlen.com/properties/single/c/p/name/block-four-m-financial/> Information in Table 17 also from this source.

Table 23: Specific Implementation Considerations of Block 4

Goal Category	Implementation Strategies
Energy Efficiency	<ul style="list-style-type: none"> • Operable windows and light shelves throughout are tied into a central building management system reacting to outside air and light, thereby significantly reducing energy usage • Eco-roof moderates heating and cooling of the roof and mitigates sudden storm water runoff • Operable windows offer tenants additional climate control and provide access to ambient breezes. • The roof has an insulation value of R-30 and the floor above unheated space is R-11. In the mechanical drawings, insulation for the non-glazed areas was prescribed to be R-19; the actual insulation value is around R-22, however, once the thermal mass of the concrete frame, the masonry panels, and, most important, the additional 2 inches or more of curtainwall insulation (required for fire safety at the spandrels in the curtainwall) are taken into account. • A garage ventilation system for the underground garage was designed to work at half of the code ventilation rate (from 1.5 CFM per sq. ft. to .75 CFM per sq. ft). This allowed for smaller fan systems and reduced energy consumption. The system was further enhanced by making its volume variable in response to actual carbon monoxide levels in the garage. • An innovative underground parking garage lighting system was installed using induction luminaries. These luminaries have a prolonged lifespan of 100,000 hours versus 2,000 hours of the more typical HID lighting and reduce the watt density from 0.30 watts per square foot to 0.13 watts per square foot. Additionally, these luminaries are capable of instant re-strike so they do not require additional circuiting or lamps to provide emergency egress illumination in the event of power failure. All of the walls, columns, and ceilings in the entire parking structure are painted white to further increase illumination efficiencies.⁹⁵
Renewable Energy	<ul style="list-style-type: none"> • Original plans for a photovoltaic system included building-integrated photovoltaics and a rooftop array. Upon arrival of the facade-destined PV panels however, it was determined that they did not suit the architectural and aesthetic character of the building, and these panels were instead mounted on the rooftop. The rooftop array includes 77 polycrystalline modules (BP Solar BP3160) powering a grid-connected inverter (Trace PV15208) and is expected to

⁹⁵ Portland Bureau of Planning and Sustainability. "Brewery Block 4." More information available at <http://www.portlandoregon.gov/bps/article/112569>.

	<p>generate an annual output of 13,400 kilowatt hours at 174 kilowatt hours per module. The southern facade arrays consist of amorphous silicon thin-film modules in arrays that are framed extensions of the spandrel panels. One 4-square array is located at each spandrel with a total of 192 individual modules (two of which are inactive) that are expected to generate an annual output of 8,200 kilowatt hours, or 43.1 kilowatt hours per active module. The extensions created the ability to increase the angle of the arrays to greater than 90 degrees and hence generate more power. Total annual system output is expected to be 21,600 kilowatt hours.⁹⁶</p> <ul style="list-style-type: none"> • A setback on the south side of the building was intentionally designed to enable solar access that provides daylighting and power-generation opportunities.
<p>Water Efficiency</p>	<ul style="list-style-type: none"> • Roughly half of the rainwater falling on the building will travel through an eco-roof located on the building's south-side setback. The eco-roof reduces the runoff rate, mitigates the volume of stormwater delivered to the municipal storm/sewer system, and reduces the urban heat-island effect.
<p>Waste Reduction</p>	<ul style="list-style-type: none"> • The project successfully recycled 96% of construction waste because an aggressive commingling recycling program and tracking system was established prior to construction. Project Manager Kevin Cady noted that putting the plan into practice required that the information trickle down to the subcontractors. "You have to inform them and pull them along. Ultimately it's up to the general contractor to ensure that objectives are realized."⁹⁷
<p>Public Transit</p>	<ul style="list-style-type: none"> • MAX Light Rail, the Portland Streetcar and several bus stops are within a few blocks, encouraging alternative transportation.

⁹⁶ Ibid.

⁹⁷ US Department of Energy Buildings Database. "Brewery Block 4". Accessed at <http://eere.buildinggreen.com/process.cfm?ProjectID=224>

Block 5



Figure 42: Block 5 showing the Louisa apartments and eco-roof⁹⁸

Named after Louisa Weinhard, wife of the founder of the original brewery after which the Brewery Blocks are named, The Louisa is a residential high-rise apartment building with 242 apartments and ground floor retail. The retail level of The Louisa is pedestrian-friendly and topped by 12 two-story townhouses. Environmentally appropriate landscaping with drought-tolerant and native species populate the roof garden and eco-roofs. This 367,000 SF LEED Gold building was completed in 2005. The building is a 16-story market-rate high-rise apartment building with 12 two-story townhouses, 34,000 SF of ground floor retail space, and 3 levels of underground parking.

Table 24: Specific Implementation Considerations of Block 5

Goal Category	Implementation Strategies
Energy Efficiency	<ul style="list-style-type: none"> • Features high-efficiency glazing and balconies on the south, east, and west sides which double as shading devices
Green Building	<ul style="list-style-type: none"> • Other features include operable windows that allow for natural ventilation, low-toxicity building materials and finishes, and an interior recycling and sorting facility • The center of the retail podium houses a rooftop garden and eco-roofs, which mitigate the urban heat-island effect
Water Efficiency	<ul style="list-style-type: none"> • Eco-roof to manage stormwater onsite and provide green space
Public Transit	<ul style="list-style-type: none"> • MAX Light Rail, the Portland Streetcar and several bus stops are within a few blocks, encouraging alternative transportation
Non-motorized Transit	<ul style="list-style-type: none"> • A bicycle-commuter locker room includes showers and holds more than 100 bike lockers with secure storage
Waste Management	<ul style="list-style-type: none"> • Preference was given to materials that contained recycled content and that were manufactured locally

⁹⁸ Retrieved from: <http://www.gerdingedlen.com/properties/single/c/p/name/block-5-the-louisa/> Information in Table 17 also from this source.

FINANCING

Two of the most celebrated developments within the Brewery Blocks included the transformation of the historic Armory into the Gerding Theater in Block 3, and the ultra-efficient Block 4. These two major successes are highlighted here to show how environmental design can be economic successes valued by a broader group of stakeholders.

Gerding Theater

Portland Center Stage (PCS), a non-profit organization, was looking for a new home better suited to intimate interactions with the audience and a financial alternative that would allow them to own their own space. The small theater company had never sought enough funds to renovate the Armory. The non-profit status of PCS means they are tax exempt. Therefore, simply put, PCS sold its tax credits to various institutional actors and investors looking for reduced taxes. In exchange, PCS received capital to invest in the renovation of the Armory building.

Three different tax credits were used, as well as loans and grants. Loans were to be paid back via the PCS Capital Campaign. New Markets and Historic Tax credits were managed by the Portland Family of Funds.

Table 25: Funding for Gerding Theater Project

Funding Source	Amount
New Markets Tax Credit, Business Energy Tax Credit, and Historic Preservation Tax Credit secured by Portland Family of Funds	\$17.5 million
US Bank Loan*	\$10.9 million
PDC Loan*	\$5.2 million
Meyer Memorial Trust	\$1.5 million
Paul G Allen Family Foundation	\$750,000
Private Donors	\$2.25 million

* To be paid by PCS Capital Campaign.

The Portland Family of Funds is a holding company and managing member of the Portland New Markets Fund I, LLC and the Portland Historic Rehabilitation Fund. Portland New Markets Fund received allocation authority for \$100 million of New Markets Tax Credits, which are federal tax credits issued by the Community Development Financial Institution Fund of the US Treasury. These tax credits are aimed to encourage private investment in underserved areas. The Portland Development Commission is the Controlling Entity for the allocation, and Portland Family of Funds is the managing member of the fund. The Portland Armory/Gerding Theater project was funded by the Portland Historic Rehabilitation Fund I.⁹⁹

⁹⁹ Please see resources on Portland Family of Funds website:
http://www.portlandfunds.com/brochures/PFF_Brochure_Overview.pdf and
http://www.portlandfunds.com/brochures/PFF_Brochure_Armory.pdf

- **New Market Tax Credits (NMTC):** Working with PDC and the Portland Family of Funds, a local financial services firm with a mission to support new financial resources that yield social and environmental improvements, the project secured financing by utilizing federal New Market Tax Credits (NMTC). This program encourages large corporations to invest in redevelopment projects in exchange for tax credits, but it required multiple legal and financial entities to create a leveraged financing structure.
- **Historic Preservation Tax Incentive:** With the support of the mayor, PDC provided an initial loan for the purchase of the building and helped secure the NMTC from Goldman Sachs in New York and tax credit investment from U.S. Bancorp Community Development Corporation in St. Louis, with local oversight by the Portland Family of Funds. The Gerding Theater was one of the earliest and largest projects to combine New Market Tax Credits with the Historic Preservation Tax Incentive program¹⁰⁰ To receive these historic tax credits, projects must be registered with the National Register of Historic Places and overseen by the National Parks Service. Federal tax credits are available to projects that follow certain rehabilitation requirements equal to 20% of the eligible construction cost.
- **Business Energy Tax Credit:** The State of Oregon offered the Business Energy Tax Credit as an income tax credit for green building and other sustainable projects in energy conservation, recycling, or renewable energy. Managed by the Oregon Department of Energy, the tax credit of 35% of eligible project costs was offered for costs of the system or equipment beyond the standards.

Financial partners and instruments included U.S. Bank, the Portland Family of Funds, the Portland Development Commission, Goldman Sachs, the Portland Historic Rehabilitation Fund, the Armory Theater Fund, Friends of the Armory, a 20% historic tax credit, the historic rehabilitation fund, and the business energy tax credit.

The total project cost was \$36 million (land excluded).

Brewery Block 4

Gerding Edlen worked to secure funding for the project through a number of diverse sources.¹⁰¹

Highly efficient mechanical systems coupled with climate-responsive design enabled Block 4 to reduce both capital and operational costs. The low-temperature air-distribution system generated cost savings in the form of a reduction in the overall size of fan systems and ductwork. The system's bulk production capacity and heightened efficiency will also garner substantial operational savings throughout the building's lifetime.

As a high-profile example of sustainable development, the Brewery Blocks project received incentive funding from a variety of local public and private nonprofit sources.

¹⁰⁰ Financing information from US Department of Energy Buildings Database. Accessed at <https://buildingdata.energy.gov/project/gerding-theater-armory>

¹⁰¹ Text excerpted from US Department of Energy Buildings Database. Accessed at <https://buildingdata.energy.gov/project/brewery-blocks-brewery-block-4>

Table 26: Funding for Block 4

Funding Source	Amount
Business Energy Tax Credit	\$312,495 for a LEED Gold rating
Portland General Electric's EarthAdvantage Program Grant	Costs of energy modeling
Northwest Energy Efficiency Alliance	Cost of the development of the tenant manual and construction waste management coordination
Energy Trust of Oregon	\$167,000 ¹⁰²

Table 27: Development Bonus for Brewery Block 4

Strategy	Development Bonus
Building podium setback design with eco-roof	3:1 FAR Bonus
Bike storage, shower and lock facilities	4:1 FAR Bonus
Historic preservation at Armory/Gerding Theater	Height transfer

ACHEIVEMENTS

Gerding Edlen focused on the principles of preservation and place making, mixed-use development, smart transportation, an active streetscape, environmental sustainability, and collaboration. They wanted to build a great neighborhood, not just green buildings. As Senior Project Manager Dennis Wilde noted, “We believe that people are an important part of sustainability. Creating great places where people can do it all – live, work, and play – is a sustainable pattern of development.”¹⁰³ Engineering, architectural design, and planning transformed a nearly vacant five-block area into a 1.5 million square foot vibrant 24-hour, mixed-use neighborhood with office, housing, and retail spaces that are sustainable – environmentally, socially and economically.

A summary of achievements for the entire Brewery Blocks are listed below.

Table 28: Achievements for the Brewery Blocks

Goal Category	Implementation Strategies
Energy Efficiency	<ul style="list-style-type: none"> Project-wide sustainability features include energy-efficient appliances, high-efficiency glazing, and heat recovery ventilators A chilled water system atop Whole Foods Market provides water for air conditioning and heating for all seven buildings in the Brewery Blocks (see District Energy System Below)
Green Building	<ul style="list-style-type: none"> 1 LEED Platinum, 4 LEED Gold and 1 LEED Silver buildings

¹⁰² Please see: http://energytrust.org/library/reports/2002_Annual_Report0.pdf

¹⁰³ LEED Case Study of the Brewery Blocks accessed at: <http://www.usgbc.org/Docs/Archive/General/Docs1207.pdf>

Water Efficiency	<ul style="list-style-type: none"> • Eco-roofs, rainwater harvesting, and low flow water fixtures
Public Transit	<ul style="list-style-type: none"> • MAX Light Rail, the Portland Streetcar and several bus stops are within a few blocks, encouraging alternative transportation
Non-motorized Transit	<ul style="list-style-type: none"> • Active streetscape features comfortable furniture and other pedestrian amenities
Waste Management	<ul style="list-style-type: none"> • Preference was given to materials that contained recycled content and that were manufactured locally • More than 94% of construction waste was recycled, including demolition
Historic Preservation	<ul style="list-style-type: none"> • The historic armory building, transformed into The Gerding Theater, was the first building on the National Register of Historic Places to achieve LEED Platinum • The historic Brewhouse and related brewery building were preserved and repurposed, most notably the smokestack at the heart of the Brewhouse and Cellar Building, reducing waste and providing an unequalled sense of place
Mixed Use	<ul style="list-style-type: none"> • The Henry, a 15-story mixed-use condominium tower, and the Louisa, a 242-unit high-rise residential building, significantly increased the concentration of housing in the area • Sustainable urban housing, office and retail space, places to experience art and culture, and smart transportation options helped to create a thriving, 24-hour neighborhood • The M Financial building and Block 2 provide mixed-use office and retail space • A diverse mix of local and national retailers and individualized storefronts that open to the street have helped make the Brewery Blocks a unique and popular shopping destination
Renewable Energy	<ul style="list-style-type: none"> • Photovoltaic array on Block 4

6.4 DISTRICT ENERGY

This section highlights the emphasis of district cooling in the Brewery Blocks.

BACKGROUND

Portland has several district energy systems. Systems have been installed at the Oregon Health and Sciences University, Portland State University, Portland Community College and the Brewery Blocks.

In the Brewery Blocks, Portland General Electric (PGE), a local electric utility, initially developed the district cooling system from 1999-2001. A new district cooling system with central chillers were installed on the roof of the renovated building on Block 1.

The Brewery Blocks district cooling system was franchised in January of 2003. It is owned and operated by an affiliate of Veolia Energy, Portland District Cooling Company. The system has a 4,000 cooling ton capacity to supply the entire Brewery Blocks site. A total of 8 buildings are served by the system and there is room for expansion.¹⁰⁴

GOALS

The primary goals were to provide comfortable indoor environments at a reduced energy cost. The environmental benefits of realizing reduced energy usage were also considered. District energy is a recognized strategy for addressing climate action goals at the City and County levels.

IMPLEMENTATION

All of the various uses within the Brewery Blocks have their chilled water needs met by a high efficiency district cooling plant located on top of Block 1. The centralized system produces chilled water in bulk via evaporative cooling and is much more efficient than individual point of use chiller plants or air conditioning units, typically used in a comparable facility. An outside air economizer and variable speed pumps on the cooling tower make the system demand-responsive, making the system highly compatible with variations in weather or comfort. This contributes to the related energy savings. The system also enables the use of a “low temperature” air distribution system that delivers colder than typical air to the building and subsequently reduces the overall size of fan systems and ductwork. All of the Brewery Blocks buildings are currently served by the plant’s two machines totaling 3,700 tons of cooling and a future build-out capacity up to 10,000 tons leaves the potential to serve a portion of downtown Portland as well.

FINANCING

The cooling system provides chilled water to the entire Brewery Blocks development. The district cooling system was originally developed and financed by Portland Energy Solutions, a subsidiary of Enron, at a cost of approximately \$7 million. Dennis Wilde of Gerding/Edlen explained, “We went through an analysis of several different options, looking at them from the standpoint of first cost, operating costs, and efficiency and environmental criteria. We get a better deal buying from (Portland Energy Solutions)

¹⁰⁴ Please see <http://www.portlandoregon.gov/bps/54886>

than building our own chiller. And from an environmental standpoint there's not as much energy consumed by a central plant as by a bunch of stand-alone plants in each building downtown."¹⁰⁵

The main interest in the project was the capacity to expand, offering services to a host of downtown Portland businesses. The project ran into financing problems due to Enron's bankruptcy and received a \$2 million loan from Portland General Electric (PGE) to complete the project and cover initial operating costs.¹⁰⁶ The system was later acquired by and is now owned and operated by Portland District Cooling Company (PDCC), an affiliate of Veolia Energy North America. The district cooling system had been privately financed without subsidies for the system infrastructure, operating losses, or building modifications. This result reflects the system's installation as part of a major development/reuse project that created a large user base in several years and involved the adaptive reuse and new construction of buildings to connect to the system. The system has excess capacity and Veolia is actively pursuing growth opportunities, which were on hold through several changes in ownership after the Enron bankruptcy.¹⁰⁷

ACHIEVEMENTS

The district cooling system had several key achievements:

- The district cooling system was a key driver for the success of the Brewery Blocks buildings LEED Certification process.
- Serves all 5 buildings with possibility and capacity for expansion.
- The cooling system provided significant saving on upfront costs of cooling equipment for each site, and also provided cooling with 30% less energy than individual systems, such as rooftop units or chillers for each building.

¹⁰⁵ "Chilled Water Plants to Cool Downtown."

¹⁰⁶ Press, "Utility Commission Backs PGE Loan Plan."

¹⁰⁷ Text excerpted from Seidman & Pierson, (2013). "Financing Urban District Energy Systems Trends and Policy Implications for Portland Final Report", Accessed at http://web.mit.edu/colab/gedi/pdf/Financing%20District%20Energy/MIT_CoLab_GEDI_Financing%20District%20Energy.pdf

7. MAJOR LESSONS

This section details the major lessons from the Pearl District. These are generalized from the detailed discussions above. They also relay insider advice from experts, developers, planners, and architects involved with the project.

The Pearl District and Brewery Blocks provide developers and city governments with four major lessons.

- 1. The 12 Green Guidelines form the foundation of a successful and sustainable economic development strategy.*
- 2. A financing mechanism is well-designed if it encourages private investment with a view towards long-term returns.*
- 3. Long-term growth must prioritize building high-quality human capital, which means putting livability and sustainability at the forefront.*
- 4. Involving all key stakeholders can help the local government and developers understand the nuances of the local market, which ensures economic success.*

1. The 12 Green Guidelines form the foundation of a successful and sustainable economic development strategy.

The 12 Green Guidelines cover the key categories of urban form, transportation, and energy and resources. As the environmental achievements above indicate, the Pearl District and the Brewery Blocks placed a heavy emphasis on these 12 criteria. The Pearl District and the Brewery Blocks show that, combined, the 12 are a powerful framework to increase livability, urban resilience, and economic growth.

An anchor of the 12 Green Guidelines is transit-oriented development. Former Portland Mayor Sam Adams remarked on the lessons from development of the Portland Streetcar and the benefits it reaped to the Pearl District. In his report, he recognized the following as the most important development lessons learned from the Pearl:

- **Public and Private Responsibilities.** The enormous success of linking transportation investments with development can be replicated in municipalities that have one or more large development sites with owners who are willing to work together to advance a common vision. The City's obligation has been to provide a stable source of funding to build public improvements. The developers' obligation has been to contribute to the infrastructure costs and commit to build high density, mixed-income housing meeting the City's housing targets. From a political standpoint, the ability to point to an agreement with joint obligations of the respective public and private partners carries substantial clout and provides dependability and flexibility that both parties can rely upon.
- **Development Agreements.** The Portland Development Commission (PDC) negotiated a Master Development Agreement with Hoyt Street Properties, owners of a 40-acre brownfield in the heart of the River District. The Agreement tied development densities to public improvements with the minimum required housing density increased incrementally from 15 to 87 units per acre when the Lovejoy Viaduct was deconstructed, to 109 units/acre when the streetcar construction commenced, and 131 units/acre when the first neighborhood park was built. The developer has stated that without the Streetcar and the accessibility it provides, these densities would not have been possible. The agreement was

a unique and essential piece of the public/private partnership that catalyzed development of the River District and serves as a model for the agreement established for in South Waterfront.

- **Local Improvement District.** The innovative \$19.4 million Streetcar Local Improvement District (LID) has been a useful tool and includes those property owners that stand to receive the greatest financial benefit from their proximity to the Streetcar. This, coupled with other public and private resources, helped fund both the Streetcar and the critical investments in the urban environment that complement the higher density vision for the area.
- **Stakeholder Involvement.** Involving stakeholders in the Streetcar project design has been absolutely critical to its success and expansion. Without public support, projects of this magnitude can get bogged down to the degree that the public investment cannot move in tandem with development. The individuals and agencies that make up Portland Streetcar, Inc. are nimble and astute individuals that make the Streetcar a development investment that stakeholders can count on. In addition, a whole new interest group is emerging composed of those devoted to high-density urban living—a perspective that did not exist before.
- **Reduced Parking.** The success of early projects in the River District demonstrated a market demand for a new type of higher density community—one that supports living with or without a car. Due in part of the high quality transit service provided by Streetcar, developers are able to construct mixed use projects with parking ratios lower than those elsewhere in the city. Reducing the amount of parking that a developer must build makes a building more financially feasible. Now, with a full understanding of the role that Streetcar can play in affecting the urban environment and market confidence in urban living, developers have begun construction on larger, higher-risk projects in South Waterfront. The first River District projects were six stories; South Waterfront has started with 21 to 35-story condominium towers.¹⁰⁸

These lessons summarize the transit oriented development benefits that were realized in the Pearl District. They highlight the role and value of pedestrian accessibility, walkability, and density. The other guidelines are also key to success, please see Section VI for details on the other guidelines.

Property Values

The greatest economic benefit of the Pearl District redevelopment has been the increase in property values. The high-end residential, boutique retail, and upscale commercial spaces command higher rents. This corresponds to attraction of talent and populations with high skills and educational attainment.

Table 29: Sample of Residential Rents and Property Values

Name	Year Built	# of Floors	# of Units	\$ per Sq. Ft.	Notes
The Henry	2004	15	123	\$525*	Condos
The Gregory	2000	12	133	\$442-\$496*	Lofts
937 Condos	2008	16	114	\$489-\$594*	Condos

¹⁰⁸ Text excerpted from Adams and Powell (2008). “Portland Streetcar Development Oriented Transit.”

Pearl Block Townhouses	1996; 2000	n/a		\$550-\$600*	Townhomes
Pearl Lofts	1994	n/a	26	\$426-\$467*	3-story Townhomes
Lovejoy Station	2001	5	181	40%-80% MFI **	Apartments
Station Place Tower	2005	14	176	30-80% MFI **	Apartments
Metropolitan	2006	19	121	\$390-\$525*	Plus 4-story live-work building
10 th & Hoyt	2004	6	178	\$2.17***	Apartments
The Parker	2014	6	177	\$2.60-\$2.70***	Apartments
The Ramona	2011	6	138	Up to 60% MFI **	Apartments
Freedom Center	2013	4	150	\$2.75-\$3.10***	Apartments
The Overton		26	285	n/a	Opening in 2016
Block 17		16	281	n/a	Opening in 2015
Cosmopolitan		28	150	n/a	Opening in 2016

Notes: * Indicates Property Value; ** Income Restricted Housing; *** Monthly rent per SF

Commercial properties in the Pearl attract high-end retailers. Similarly, the rents are much higher on average than many other parts of Portland.

The growing demand has increased development in the Pearl. Even after the financial crash of 2007-2008 and the following recession, the Pearl has experienced growth in development. Numerous new buildings are under construction or are being proposed. Please see Appendix II.

2. A well-designed financing mechanism encourages private investment with a view towards long-term returns.

The Pearl District benefited from a mixture of public and private investment. In the 1990s, local community members, residents, and artists revitalized the area. Building on this community driven growth, the City and Portland Development Commission (PDC) worked together with local developers and business owners to create a vision for redevelopment. This eventually influenced the creation of the River District Urban Renewal Area. PDC was then able to provide tax increment financing (TIF) for development of infrastructure, parks, and streetscapes, among other uses. Tax incentives and credits, loans, and grants were also used to encourage private development in the Pearl.

- TIF provides public amenities, such as parks and other necessary infrastructure, to spur investment in an area. Parks, for example, help enliven depressed areas and bring economic development in the form of new jobs and businesses, which leads to further residential and commercial development. Public expenditures on infrastructure can often initiate tremendous private investment, providing the City with increased tax revenues, while developers get favorable returns on investments in property through increased market value.
- Tax incentives and credits are used to offset capital costs of new developments. For example, excellent tax benefits are provided to developers that restore and renovate historic properties. The developer receives benefits for preserving important historical buildings while also creating a neighborhood with character that draws more pedestrians and residents. This is important for both retail providers and for increasing the ridership of public transit. In Portland, economic development has dramatically increased in the Pearl where historic resources are valued.
- These strategies work for both the City and private developers by offering long-term benefits. The City gains tax revenues over the long term through increases in property tax revenues in the

redeveloped district. The developer gains from the same increases in assessed and market values of their property. State law limits the lifetime of TIF funding: usually approximately 20 years. This means that any bonds taken on projected future tax revenues over the frozen base must be paid in approximately 20 years (i.e. lifespan of the TIF district). This method of financing and encouraging development in the TIF district requires long-term vision and development.

3. Long-term growth must prioritize building high-quality human capital, which means putting livability and sustainability at the forefront.

The social and economic benefits of development arise from the ability of a place to attract talent. Many metro areas' economic competitiveness depends on attracting and retaining young, college-educated migrants. Portland has been cited widely as a destination for young, talented populations.¹⁰⁹ Analysis on migration patterns to Portland by Portland State University Professors Jason Jurjevich and Greg Schrock show that the Portland region has consistently attracted and retained young, college-educated people even when the region's labor market conditions are inadequate. Their research further found that compared to the 50 largest US metros, only Portland and Seattle ranked in the top 15 metros for the highest rate of attracting and retaining young, college-educated migrants for each period analyzed from 1998 to 2010. This suggests that most Portland college-educated migrants appear to place greater relative value on amenity values compared to economic opportunity.

The primary social and economic benefits stem from the creation of the Pearl District as a vibrant, dense, mixed-use development. These characteristics are drivers of increased rents, entrepreneurial investment, skilled professional workers, and innovative firms. One of the single greatest factors driving urban economic success is the educational attainment of a city's population.¹¹⁰

Figure 49 below shows the average per capita income plotted against the educational attainment of urban residents for the 50 largest US cities. City Observatory, a non-profit research foundation focus on cities and the economy, conducted this analysis based on American Community Survey and Bureau of Economic Analysis data. Educational attainment, a measure of the fraction of the adult population with a four-year college degree, explains roughly 60% of the variation in per capita incomes among large U.S. metropolitan areas. This is statistically important, as no other single factor is nearly as significant. This is also important for social and economic policy in cities. High incomes follow high levels of education and skills.

Educational attainment serves as a proxy for the skill level of a population. Many urban economists and researchers have noted the correlations between education and income. This has concentrated research and policy on investing in human capital to expand and grow urban economies. For example, Harvard economist Ed Glaeser suggests that:

Human capital, far more than physical infrastructure, explains which cities succeed. Typically in the United States, the share of the population with a college degree is used to estimate the skill level of a place [...] Despite its coarseness, no other measure does better in explaining recent

¹⁰⁹ Miller, "Will Portland Always Be a Retirement Community for the Young?"; Jurjevich and Schrock, "Is Portland Really the Place Where Young People Go To Retire?"

¹¹⁰ Please see: <http://cityobservatory.org/talent-and-prosperity/>

urban prosperity. A 10 percent increase in the percentage of an area's adult population with a BA in 1980 predicts 6 percent more income growth between 1980 and 2000.¹¹¹

Many other scholars support this notion.¹¹² Therefore, cities looking to expand their economy should attempt to attract college-educated people. It is also important to acknowledge that human capital is not the only way to create development. Cities also need to consider the economic geography of production, the location of firms, the movements of labor, and connections to agglomeration economies.¹¹³

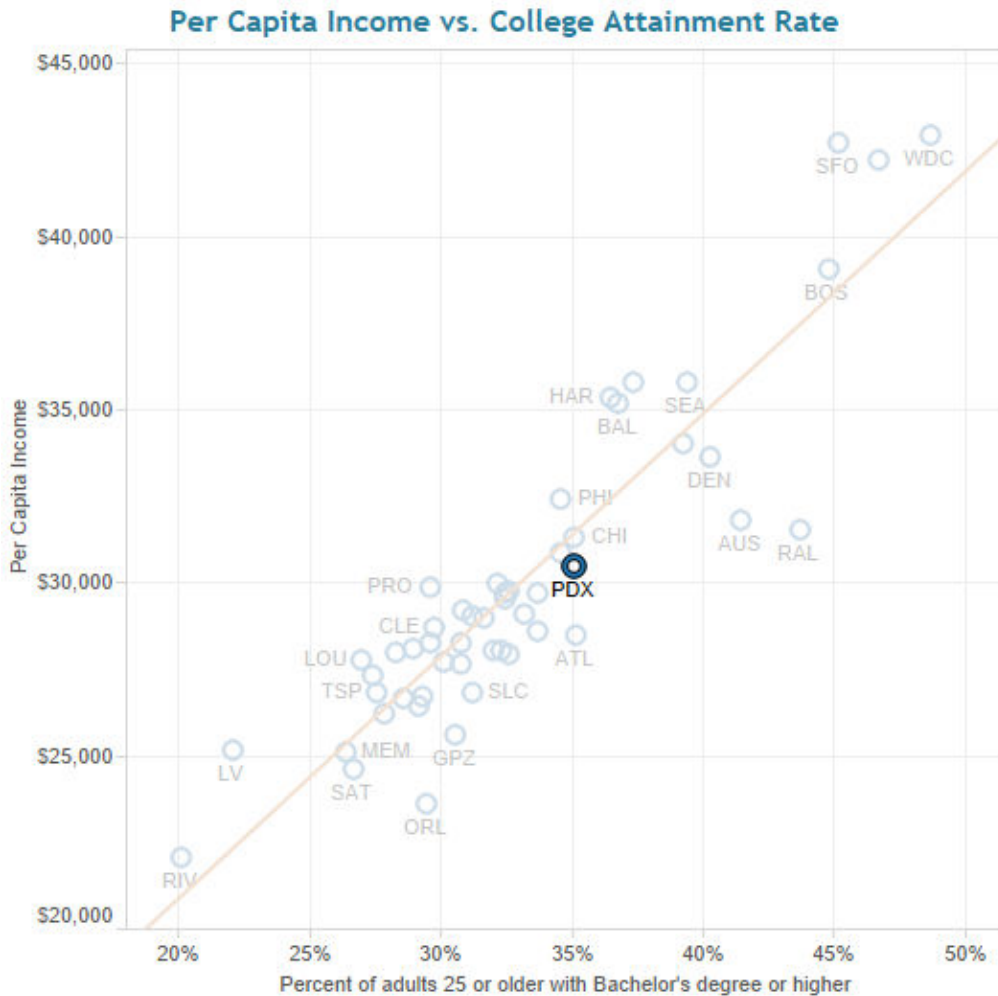


Figure 43: Plot of per capita income versus college attainment rate

As economist Joe Cortright notes, Portland's Pearl District is capitalizing on the attraction of skilled labor through building talent, connections, innovation, and distinctiveness. The ability of planners, developers, and the government to create the Pearl District has situated Portland at the forefront of innovation. Growth in professional services, health care and education, and other

¹¹¹ Glaeser, *Triumph of the City*, p.27 .

¹¹² Moretti, *The New Geography of Jobs*.

¹¹³ Storper and Scott, "Rethinking Human Capital, Creativity and Urban Growth."

“white collar” jobs indicate this regional attraction. There is growing data that talent considers location as a primary factor when choosing a job (See Figure 44 and Table 30).

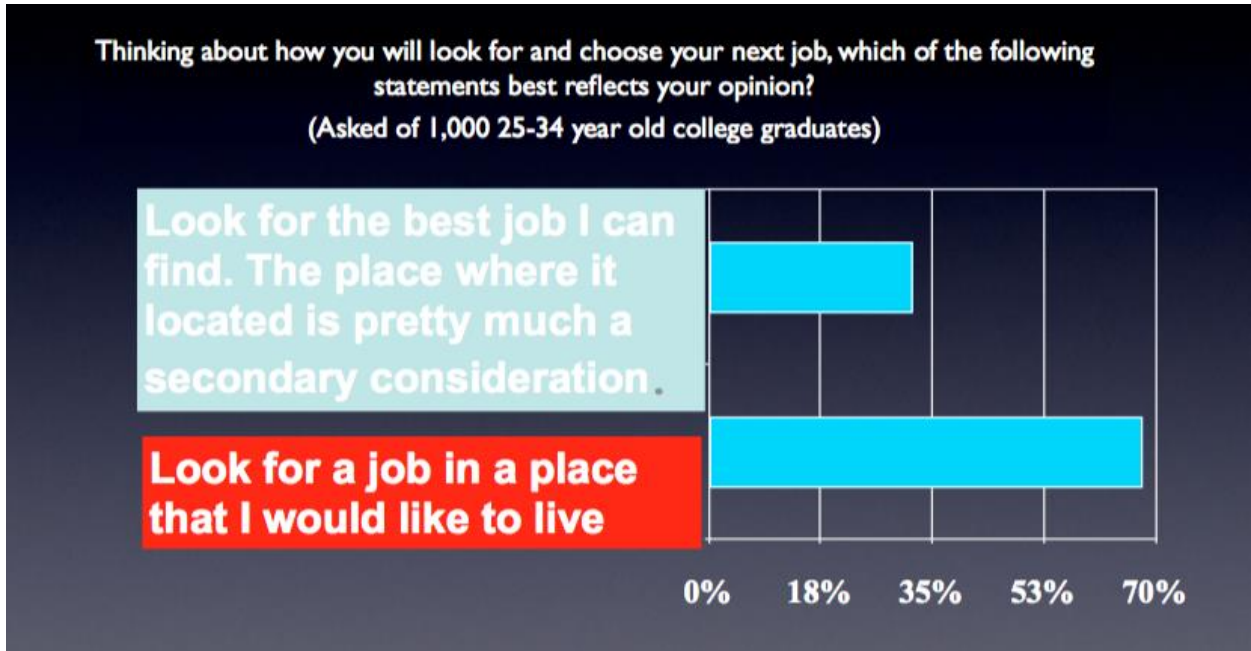


Figure 44: Results of a National Survey on economic/job choices. Courtesy of Impresa Consulting.

Table 30: Pearl District Growth since 2001. Courtesy of Impresa Consulting.

	2001	2011	Change
Businesses	1,066	1,415	349
Employment	17,651	22,671	5,020
Payroll (Millions)	668	1,255	587

Table 31: Pearl taxpayer growth since 2001. Courtesy of Impresa Consulting, based on Internal Revenue Service Data.

	2001	2011	Change
Households (Returns)	4,709	8,326	3,617
Population (Exemptions)	5,662	10,402	4,740
Income (AGI) in thousands of dollars	217,744	701,413	483,669

4. Involving all key stakeholders can help the local government and developers understand the nuances of the local market, which ensures economic success.

The processes of collaboration between the City, local developers, and residents were key to the success of the Pearl District.

Local community members – property owners, businesses, and residents – created the Pearl District Development Plan (2001) and earlier plans and visions for urban renewal. They desired certain things for their neighborhood including livability, walkability, new public amenities, social services, affordable housing, historic transportation, and economic development. Through a community planning process, supported by the city, they were able to integrate their visions into the plans for future development early on. This was important for both investors and developers, who valued good urban spaces and favorable returns on investment, and local residents who valued livable and sustainable neighborhoods.

Engaging key stakeholders helps developers build alliances in districts with the local community and other businesses. This ensures that developments meet the needs, desires, and demands of the consumers of these spaces, whether it be future tenants, future owners, retail customers, or the general public. This ensures that long-term growth can be sustained.

In addition, consulting with key stakeholders allowed each neighborhood to retain its character, a commonly cited success of the Pearl District. The physical characteristics of the Pearl, such as block size, surface area of streets, variation in building height and design, density, and mixed uses provide an inviting atmosphere. The desirability of a neighborhood with good pedestrian access, a mixture of working, living, retail, and recreational uses is very high for residents who value walkability, and businesses who value lots of foot traffic and pedestrian activity. Retail anchors, such as Powell’s Books, provided a base of retail activity from which the Brewery Blocks could expand. Maintaining the historic character of the area and creating a diversity of uses, the Brewery Blocks in particular, and the Pearl District in general, were able to attract some of the highest commercial and residential rents in the city.

In a report released by the National Trust for Historic Preservation and other partners entitled “Older, Smaller, Better: Measuring how the character of building and blocks influences urban vitality,” the authors found that:¹¹⁴

- Older, mixed-use neighborhoods are more walkable (as indicated by Walk Scores).
- The median age of residents in areas with a mix of small, old, and new buildings is lower than areas with larger, predominately new buildings.
- Nightlife is most active on streets with a diverse range of building ages.
- Older business districts provide affordable, flexible space for startups, entrepreneurs, and other innovative firms.
- The creative economy thrives in older, mixed-use neighborhoods

They also detailed several key lessons regarding historic preservation that apply very well to the Pearl District.

- The efficiencies of older buildings and blocks can be found if you look for the full-spectrum of benefits including jobs and uses.
- Scale of buildings is important for thriving atmosphere.

¹¹⁴ “Older, Smaller, Better.”

- Neighborhood evolution should involve gradual change to maintain character and community.
- Streetcars are an excellent development vehicle, and are a key mode of local transit.
- Creative and innovative sectors of the economy flourish in older, mixed-use areas.
- Create opportunities for adaptive reuse with small-scale projects and streamlined development processes.

The Pearl District embodies many of these lessons. The Pearl District Development Plan (2001) identified numerous Historic Resources that have been included in the design overlay zones mandating developers take into account preservation and rules relating to neighborhood character.

The outcomes in the Pearl have been intense development, growing jobs and incomes, growing population, and enormous growth in retail. In all, the Pearl's strategies to maintain character of the neighborhood have created a vibrant mix of old and new buildings that have attracted investment and talent.

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APPENDICES

APPENDIX I: RELEVANT PLANS AND POLICIES INFLUENCING PEARL DISTRICT

This section discusses the existing plans and policies relevant to the Pearl District.

MAJOR PLANS¹¹⁵

- *Downtown Plan (1972)*
- *Northwest Triangle Study (1985)*
- *Central City Plan (1988)*
- *River District Plan (1995) and the River District Design Guidelines (1996)*

Downtown Plan (1972)

In the *Downtown Plan*, the area of today's Pearl District was called "North Downtown." Some of the changes this plan proposed included:

- recognizing the important supportive role played by an existing industrial and distribution center in close proximity to the central business district;
- calling for relocation of some industrial uses in response to market shifts in land use and development patterns;
- promoting mixed use development in portions of the area; and
- expecting that the railyards and waterfront would remain "Transportation Terminal Facilities."

Northwest Triangle Study (1985)

The Northwest Triangle Study built upon the work of the Regional/Urban Design Assistance Team (R/UDAT) project, a joint effort by the American Institute of Architects and the City of Portland. The R/UDAT study, undertaken in 1983, documented the changing character of the area, presented alternative future scenarios, and called for the City to undertake a concerted planning effort for the northwest warehousing area. The R/UDAT team called for the area north of NW Lovejoy to be redeveloped as a business park.

The City's response, *Northwest Triangle Study*, built upon this framework. The North of Lovejoy study area was divided into two subdistricts:

¹¹⁵ The text in this section that details the contributions of major plans is excerpted from the Portland Bureau of Planning report, "North of Lovejoy Project: Recommended Zoning Changes" published in March 2005. These are the best descriptions available, and point to some of the most important changes established by each plan. These all impacted the development of the Pearl District below NW Lovejoy Street, and have considerable impacts on the North Pearl District as well.

- Railyards: redevelopment was likely, but a broad economic/market analysis was recommended to identify impacts on downtown. Study results were to be folded into the Central City Plan.
- Willamette Waterfront (south of the Fremont Bridge): the area, deemed obsolete for marine industrial uses, called for new manufacturing, distribution, office and commercial uses.

To implement the plan, specific zoning was designed to:

- guard against negative impact resulting from increased land use intensities (floor to site area ratio of 2:1, and 100 ft. building height);
- preserve open space and foster creation of new open space; and
- ensure visual and physical access to the river.

Central City Plan (1988)

The *Central City Plan* built upon the work of the *Downtown Plan*, embracing a greater geography and expanding its range of policy concerns. The *Central City Plan* encouraged changes to the River District by changing much of the district's zoning to Central Employment (EX). The EX zone is intended to foster a transition from an industrial past to a different future based on mixed-use development. Residential functions are encouraged through FAR bonuses. The plan's Urban Design Concept map illustrated a northward extension of the North Park Blocks, terminating with a water feature/public attraction at NW Front Avenue.

- Retaining 2:1 FAR and 100 foot maximum building heights but adding bonuses:
- Up to 3:1 bonus FAR, especially for housing. As much as 75 feet of additional available building height, through design review process.

River District Plan (1995)

In the early 1990s, citizens and landowners in the North Downtown area, cognizant of the challenges and opportunities presented by the changing character of the area, got together and crafted a vision for the transitioning district. The vision statement describes the newly named River District, made up of the former North of Downtown and Northwest Triangle districts, as a vital urban community of connected, diverse, and mixed-use neighborhoods.

The vision also called for the district to accommodate a significant portion of Portland's expected future population growth. Portland City Council acknowledged the *River District Vision* in March 1992 and called for the City and community to craft strategies for its implementation. City Council endorsed the resulting *River District Development Plan* in May 1994 as the framework for directed change in the district. The existing area, to be known as the Pearl District, was underdeveloped and in some instances blighted. The designation of the area as an urban renewal area allowed the city to use tax increment financing to improve infrastructure, provide affordable housing, and to assist with private development.

The Bureau of Planning led the subsequent update to the *Central City Plan* to incorporate the River District changes. Adopted by City Council in April 1995, the *River District Plan* created:

- a new River District subdistrict (incorporating the former North of Burnside and Northwest Triangle subdistricts);
- a new River District Policy with related objectives and action items
- a new urban design map for the district; and
- amendments to other *Central City Plan* policies to reflect the adoption of the River District Plan

The new River District subdistrict, which incorporated the former North of Burnside and Northwest Triangle subdistricts, included policy language that calls for the extension of "downtown development throughout the River District that is highly urban in character." The plan also calls for the district to house a substantial resident population with supporting jobs, services and recreation. This provided the surge of public investment needed to revitalize the area.

The *Central City Plan* Economic Development policy was updated to target 5,500 new housing units, 1.5 million square feet of new office space, and 500,000 square feet of new retail facilities. Housing objectives called for fostering a mix of housing types, prices and rent levels.

River District Design Guidelines (1996)

The *River District Design Guidelines*, adopted in February 1996, guide Design Commission decisions on the district's development proposals. In conjunction with the *Central City Fundamental Design Guidelines*, the River District guidelines constitute the mandatory approval criteria for new development projects subject to design review in the River District. The design guidelines recognize two distinct North of Lovejoy sub-areas:

- Tanner Creek Area: Identity for the Tanner Creek area will be established by designing Tanner Creek Park as both a neighborhood park and a key link in the cross-town park blocks corridor (Guideline B5-1)
- Waterfront Area: Identity will be reinforced with design solutions that contribute to the character of the Waterfront and acknowledge its heritage. (Guideline A5-1-8)

OTHER RELEVANT PLANS

- *Union Station Clock Tower-Related FAR and Height Study (2000)*
- *Guild's Lake Industrial Sanctuary Plan (2001)*
- *Northwest Transition Area Project (2001)*
- *Northwest District Plan (2003)*
- *North Pearl District Plan (2008)*

Guild's Lake Industrial Sanctuary Plan (2001)

In 1999, City Council provided funding for the Bureau of Planning to review the industrial plan put forth by the Northwest Industrial Neighborhood Association (NINA). NINA sought to strengthen Comprehensive Plan policies that call for the continued industrial use of land in "industrial sanctuaries." In October 2001, City Council adopted the *Guild's Lake Industrial Sanctuary Plan*. New Comprehensive Plan policies and a new Zoning Code chapter limit commercial activities and their impact on industrial areas. The plan

district's southern boundary is adjacent to that of the North of Lovejoy Project at Terminal One South/River North.

Northwest Transition Area Project (2001)

In 1999, City Council directed the Bureau of Planning to propose regulatory changes to transition industrially zoned lands south of the Guild's Lake area to employment, residential and mixed-use zoning. The transition area extended between NW Lovejoy and Vaughn streets and 12th and 23rd avenues. City Council adopted *Northwest Transition Zoning Project* changes in August 2001.

East of I-405, the Northwest Transition Area Project changes are generally summarized as follows:

- Areas north of NW Lovejoy and west of NW 12th were changed from the industrial sanctuary Comprehensive Plan designation to a Central Employment designation with a design review overlay (from IG1 to EXd);
- The maximum base height became 100 feet, with a 5:1 floor area ratio (FAR) within one block of the freeway and one block of the streetcar, and a 4:1 FAR for the remaining areas west of NW 12th Avenue;
- Active use and window requirements were adopted for sites located within one block of the streetcar alignment.

Northwest District Plan (2003)

The Northwest District Plan updated the 1977 *Northwest District Policy Plan* with a comprehensive land use, urban design, transportation, housing, and economic development framework adopted in 2003. Further studies were completed by late 2003.

Among other actions, the Northwest District Plan increased allowed land use intensities in the Northwest Transition Area, immediately west of the Pearl District. This area is expected to take advantage of Portland Streetcar service and other locational advantages to intensify as a more vibrant urban district.

The Northwest District Association challenged some of the adopted plan's provisions, taking an appeal to the Oregon Land Use Board of Appeals. LUBA remanded plan provisions that increased land use intensities, informing the City of Portland that transportation system capacity issues were not adequately addressed. On appeal from NWDA, the Oregon Court of Appeals remanded to LUBA part of the plan remanded to LUBA in March 2005.

North Pearl District Plan (2008)

In 2008, the City Council adopted the North Pearl District Plan to focus development North of Lovejoy Street. The plan was developed over 18 months. It included extensive public discussions and engagement processes yielding a focus on urban form and design; green building and community design; public realm enhancements; a need for a range of community-serving public amenities; a need for more diverse housing options; and the ability to make the public and private investments necessary to serve the growing and diversifying population in the Pearl, especially families with children.

The specific elements of the plan adopted include:

- North Pearl District Plan

- North Pearl District Plan Zoning Code Amendments
- Amended River District Guidelines
- Amendments to the Comprehensive Plan adopting new policies for the subarea

URBAN RENEWAL PLANS

- River District Urban Renewal Plan (1998)
- Development Agreement between Hoyt Street Properties and the City of Portland (1998)
- Portland River District Park System Urban Design Framework Study (2001)
- Pearl District Development Plan (2001)

River District Urban Renewal Plan (1998)

The River District Urban Renewal Area, created in 1998, provides public capital in the form of tax-increment financing. Portland has used urban renewal to provide the infrastructure necessary to “prime the pump” of the private development that follows. Within the urban renewal area’s boundary, property assessments are “frozen” at the initial year’s level. Increases in assessments during the life of the plan go to pay off the bonds that provided the capital for the infrastructure investments. The River District Urban Renewal is projected to reach maximum indebtedness (after which it could finance no more projects) in the year 2020.

Development Agreement between Hoyt Street Properties and the City of Portland (1998)

Development in the North of Lovejoy study area is also guided by a development agreement between the landowner (Hoyt Street Properties) and the City of Portland via the Portland Development Commission. Under this public-private agreement, the City to provide infrastructure to support development, and in return the Hoyt Street Properties provides identified amenities. Specifically the Development Agreement requires the following:

Housing Affordability Components:

- Fifteen percent of housing units must be affordable to those earning 0-50% of the Portland region’s median family income (MFI); and
- Twenty percent of housing units must be affordable to those earning 51-80% MFI.

Minimum Density Components:

- At the agreement’s onset, a minimum of 15 dwelling units must be built per acre;
- Upon the demolition and replacement of the Lovejoy viaduct, a minimum of 87 dwelling units must be built per acre;
- Upon completion of the Portland Streetcar, a minimum of 109 dwelling units must be built per acre; and
- Upon the completion of the area’s first park (now known as Jamison Square), a minimum of 131 dwelling units must be built per acre.

Portland River District Park System Urban Design Framework Study (2001)

To further elaborate the recommendations of the 1998 Tanner Creek Park and Water Feature Steering Committee, Portland Parks and Recreation teamed with the PDC to commission the River District Park System Urban Design Framework Study, which was led by consultant Peter Walker and is commonly referred to as the “Peter Walker Master Plan.” The plan was refined in 1998 due to concerns about the feasibility of some elements. The plan as revised identifies:

- the locations of the North of Lovejoy area’s three parks – Jamison Square, North Park Square, and Neighborhood Park – all between 10th and 11th avenues;
- the aspiration for a Riverfront Park across NW Naito Parkway characterized by green spaces; and
- a boardwalk along the west side of NW 10th Avenue linking all of these features, including a grade-separated railroad and Naito Parkway crossing.

Jamison Square was completed in 2002. North Park Square was completed in 2005 and renamed Tanner Springs Park. The Fields Neighborhood Park was completed in 2013.

Pearl District Development Plan (2001)

The Pearl District Development Plan represents a set of priorities for the Pearl District Neighborhood Association and for the Portland Development Commission as the neighborhood continues to change. The plan elaborates a vision and a series of actions that will enable the district to retain important characteristics (especially of architectural, commercial, and employment heritage) in the face of continued change and increasing land values. The plan includes goals for the built environment, neighborhood amenities, housing, arts and culture, economic opportunities, edges and gateways, and transportation/parking.

The PDDP specifically lists a reexamination of building height and bulk provisions in the area north of NW Lovejoy Street and east of NW 12th Avenue as a priority; the North of Lovejoy Project was undertaken partially in response to these desires.

Zoning and Comprehensive Planning

The Comprehensive Plan, the Planning and Zoning Code (in the Central City Plan District especially), and the official Zoning Map all regulate new development in the Pearl. Some of the important regulations include:

- Area Zoning and Comprehensive Plan Designations (Base Zone)
- Plan District Regulations (Plan Districts)
- Overlay Regulations (Overlay Zone)

Area Zoning and Comprehensive Plan Designations (Base Zone)

South of the Fremont Bridge, the study area is designated and zoned Central Employment (EX), a zone that allows a wide variety of industrial, commercial and residential uses. The EX zone is intended to foster urban, mixed-use development in central areas that are predominantly industrial in nature.

North of Lovejoy areas north of the Fremont Bridge and east of NW Front Avenue are designated and zoned Central Residential (RX), which allows the highest dwelling units density of any residential zone.

Density is not regulated by a maximum number of units per acre. Instead, the maximum size of buildings and intensity of use are regulated by floor area ratio (FAR) limits and other development standards.

North of the Fremont Bridge and west of NW Front Avenue, the area is designated Central Employment (EX) but retains Heavy Industrial (IH) zoning. Heavy Industrial zoning implements the *Comprehensive Plan's* Industrial Sanctuary policies. Though this area is outside the Guild's Lake Industrial Sanctuary, the North of Lovejoy Project does not propose amending the zoning to conform to the Comprehensive Plan designation.

All of the area was changed to Central Employment with City Ordinance No. 182319, which included the changes of the North Pearl District Plan.

Plan District Regulations (Plan Districts)

Maximum Building Bulk and Height (33.510.200 and 205)

The study area's current maximum building bulk and height limits were established by the *Central City Plan*. The maps on the following page show the existing building height limits and shows the existing building bulk limits, expressed as floor area ratio (FAR). A project's FAR is calculated as the ratio of the total floor area of all buildings on a site to the site's area. For example, a 2-story building that covers its entire site has a FAR of 2:1; a two-story building that only covers half of its site has an FAR of 1:1. Vehicle parking at or above grade is counted as FAR; below-grade parking is not. Generally, the highest FARs in the Central City are closest to concentrated transit service, especially along the Transit Mall. North of Lovejoy area's maximum building height was 100 feet and the maximum FAR was 2:1, but changed in with the North Pearl District Plan (2008).

Bonus Options for Building Height and FAR (33.510.210)

Central City plan district regulations allow additional development potential beyond the base FAR and height limitations under certain circumstances. The additional development potential is granted in exchange for providing amenities that implement the policies of the *Central City Plan*. FAR bonuses available in the North of Lovejoy study area may be awarded for providing housing, day care facilities, rooftop gardens, public art, water features, or locker rooms, among other options. Generally, bonus FAR of up to 3:1 in addition to the base allowed FAR may be awarded for the provision of these amenities. All but one of the study area's completed projects has made use of the residential bonus provision.

In some areas, bonus building height beyond the base allowed height may be awarded in conjunction with earned bonus FAR or for providing housing. Height bonuses may be awarded in the North of Lovejoy area only west of NW Naito Parkway. Area projects that exceed 100 feet have made use of this provision.

Northwest Triangle Subarea (33.510.245 and 250)

Among the outcomes of the *Northwest Triangle Study* was the requirement for new connections and sufficient open space in areas transitioning from waterfront industrial or rail yard uses. These requirements promote adequate light and air, visual relief, outdoor recreation, and a robust pedestrian network. The frequent connections requirement applies to both areas; waterfront regulations apply only east of NW Naito Parkway.

Overlay Regulations

Greenway Regulations (33.440)

The River General (g) greenway overlay zone applies to North of Lovejoy properties that border the Willamette River. The Greenway Zones chapter (33.440) contains both use restrictions and development standards and a review process. Applicable development standards include:

- setbacks;
- required landscaping;
- recreation trail/required viewpoints;
- and viewpoints and view corridors

Proposed changes are subject to greenway review, which focuses on development riverward of the greenway setback. The greenway setback extends from the top of the bank to a point 25 feet landward of the top of the bank. As part of greenway review, the Willamette Greenway design guidelines are reviewed for compliance.

Design Review (33.420)

North of Lovejoy properties generally are within the Design (d) overly zone, which indicates areas subject to design review; the exception is the area of Heavy Industrial properties west of NW Front Avenue. Design review is intended to ensure that new development conserves and enhances recognized special design values. Design review is required for all new development and certain modifications to existing development.

Depending on the type of review, the Portland Design Commission and/or the Portland Historic Landmarks Commission serve as the review body for development proposals subject to design review. Several sets of design review approval criteria apply within the study area:

- The *Central City Fundamental Design Guidelines* and Zoning Code development standards apply to all Central City areas outside the Industrial Sanctuary.
- Within the River District, except in historic districts, the River District Design Guidelines apply in addition to the Central City guidelines.
- Proposals involving a recognized historic landmark must satisfy the criteria for historic design review contained in Zoning Code chapter 33.846. Proposals for historic landmarks listed in the National Register of Historic Places must meet certain federal guidelines in addition to applicable local criteria. In the North of Lovejoy study area, only Albers Mill is a listed historic resource.
- In the eastern portion of the study area within the River General (g) overlay zone, the Willamette Greenway Design Guidelines apply in addition to both the River District and Central City guidelines.

Many updates have been made to these regulations via the North Pearl District Plan (2008).¹¹⁶These include:

¹¹⁶ This text is excerpted from the North Pearl District Plan (2008), pages 59-61.

Floor Area Ratio Provisions

Base FAR: There are a number of parcels located south of the railroad right-of-way with a base FAR of 2:1. The NPDP proposed that the base FAR be raised to 4:1 for these parcels only. This amendment raised the base entitlement to a level equal to most of the other properties located in this portion of the plan area.

No increases to the base FAR entitlements were proposed for properties located along the waterfront section of the plan area, or for properties located south of Naito Parkway but north of the railroad right-of-way. Maintaining the current level of base entitlements ensured that vehicle trips generated by development in this area could be adequately served by the existing transportation system. Further, the base entitlements combined with the potential to earn an additional 3:1 FAR through development bonus or transfer provisions already provides the opportunity to create a significant level of new development on in this area

Bonus FAR: The code previously allowed for an additional FAR of 3:1 to be earned through development bonus and transfer provisions. In the portion of the plan area located south of the railroad right-of-way, the base FAR is typically 4:1 with some parcels having a base of 5:1. Thus, when the base entitlement is combined with the ability to earn additional FAR, sites have been built to a maximum of 7:1 or 8:1 respectively.

The NPDP proposed for the portions of the plan area located south of the railroad right-of-way that a new maximum be established whereby the maximum amount of FAR that could be used on any site, through a combination of base entitlements and development bonus and transfer provisions, be set at a maximum of 9:1 FAR.

The NPDP also provided that additional FAR may be earned in excess of the 9:1 maximum proposed for the areas south of the railroad right-of-way and in excess of the 3:1 maximum affecting properties along Naito Parkway if the additional FAR is earned via Central City Master Plan provisions or newly proposed provisions that allow FAR to be transferred from historic properties located in the Pearl District.

Height Provisions

North Pearl Subarea – South of Naito: For properties located south of Naito Parkway, and with a maximum base height of 100 feet, the NPDP proposed that additional height may be granted as described below.

When buildings are between 100' and 175':

- The square footage used above the 100-foot level of the building is earned through development bonus provisions; and
- The façade of the building above 100' may be no longer than 150' in length, with lengths as long as 180' possible if approved through design review.

When buildings are taller than 175', or 225' when that is the base height of a site:

- The square footage used above the 100-foot level of the building, or 225', is earned through development bonus provisions; and
- The façade of the building above 100' may be no longer than 120' in length, with lengths as long as 150' possible if approved through design review;

- The portion of the building above the 100-foot level of the building is no greater than 12,500 square feet per floor; and,
- When these provisions are met, no maximum building height applies

Development Bonus Provisions

The development bonus provisions of the Zoning Code were amended as follows for the North Pearl subarea.

Residential Bonus Option: The code will state that this bonus can be used to earn no more than 2:1 FAR (currently 3:1 FAR can be earned)

Efficient Family Size Unit Housing Bonus Option: The code will adopt a new provision that allows additional FAR to be earned when units containing two or more bedrooms are created and the development includes exterior and interior common areas to allow residents to gather and play space for families with children. These regulations specifically provide:

- Two-bedroom units no larger than 1,000 sq. ft. earn 2:1 FAR per sq. ft. of amenity
- Three-bedroom units no larger than 1,200 sq. ft. earn 3:1 FAR per sq. ft. of amenity
- At least 20 bedrooms meeting these specifications must be created per site
- 400 sq. ft. of interior common room space must be provided
- 1,400 sq. ft. of exterior common space must be provided

Community Amenities Bonus: Floor area developed on sites in the North Pearl subarea, as stand alone or as part of mixed-used projects, to create a public school, daycare for children, a community center, or public library, is not counted against the available FAR assigned to a site.

Residential Target Areas

The FAR transfer provisions of the Zoning Code were amended as follows for the North Pearl subarea.

- **Residential Required Target Area:** Remove portions of plan area from residential target area. Within this target area the code requires that new development include at least 1 dwelling unit per 2,900 square feet of net site area (15 units per acre). Due to the success of residential development in the Pearl, this requirement is no longer necessary in the plan area
- **Residential Bonus Target Area:** Remove portions of plan area from residential bonus target area. Within the target area the first 1.5:1 FAR earned through development bonus must currently be earned by using the residential development bonus before other bonus options.

Development Transfer Provisions

Development Transfer Provisions: The FAR transfer provisions of the Zoning Code were amended as follows for the North Pearl subarea.

Buildings of Historic Character. Adopt new provision allowing FAR to be transferred to sites within a new Pearl subdistrict, as long as the sending site is a designated Landmark, contributing structure in a historic district, or on the Historic Resource Inventory.

Transfers above Maximum. In the North Pearl subarea, FAR above the 9:1 maximum may be transferred to sites if Central City Master Plan provisions or the buildings of Historic Character transfer provisions are used.

APPENDIX II: NEW DEVELOPMENT PROJECTS IN THE PEARL DISTRICT

Table 32: New projects in the Pearl¹¹⁷

Project	Address	Description	Developer/ Owner	Status
Couch 9	115 and 125 NW 9th Ave, Portland, OR	11-story building with 137 residential units and two levels of underground parking	Urban Asset Advisors	Proposed
Hampton Inn & Suites	NW 9 th Ave and Everett St, Portland, OR	243-room Hampton Inn & Suites with restaurant and retail space and 104 parking spaces	Raymond Management Co. (Middleton, WI)	Proposed
Janey II	315 NW 11 th Ave, Portland, OR	Eight-story, 62-unit apartment building	Peter Stott, Lone Wolf Investments	Under Construction
1010 Flanders Renovation	1010 NW Flanders, Portland, OR	Renovation of existing 5-story building and new penthouse	Torpet Subsidiary, LLC	Proposed
Canopy by Hilton Hotel	425 NW 9 th Ave, Portland, OR	Nine-story, 153-room hotel in the Pearl District under the Canopy by Hilton brand	The Buccini/ Pollin Group	Proposed
Eleventh and Hoyt	535 NW 11 th Ave, Portland, OR	A proposed 14-story, 98-unit apartment building with ground-level retail	Carroll Investments	Proposed
Pearl West	1455 NW Irving St, Portland, OR	Nine-story office building with ground floor retail space	BPM Real Estate	Under Construction
Block 136 Apartments	1241 NW Johnson St, Portland, OR	Redevelopment of former Pacific Northwest College of Art campus building. Two buildings are proposed: a five- story retail and office building and a 15-story apartment building. Design has been	Security Properties (Seattle, WA)	Proposed

¹¹⁷ Please see <http://projects.oregonlive.com/maps/growth-tracker/index.php>

		appealed by Preserve the Pearl LLC, which argues the apartment building is too tall.		
Block 17 Apartments	1315 NW 11 th Ave, Portland, OR	16-story high rise and a five-story low rise, totaling 281 apartments	Wood Partners with Tiffany Sweitzer and Clay Fowler.	Under Construction
Station Place Lot 5	NW 9 th and Northrup, Portland, OR	Nine-story office building with ground-floor retail and parking	Portland Development Commission, Williams & Dame Development	Proposed
The Cosmopolitan (Block 15)	NW 10 th and Northrup, Portland, OR	A 28-story, 340-foot-high condo tower under construction for \$108 million.	Hoyt Street Properties	Under Construction
NV	NW 12 th Ave and Overton St, Portland, OR	A 284-unit apartment tower with retail	Unico Properties	Under Construction
1420 Pearl	1420 NW 14 th Ave, Portland, OR	Nine-story, 290-unit apartment building including ground-level live-work units. The building would have underground parking for 223 cars. The site is occupied by Cash & Carry, which will move April 1 to 1825 N.W. 19th Ave.	Mill Creek Residential Trust	Proposed
Modera Pearl	1481 NW 13 th Ave, Portland, OR	Nine-Story, 290-unit apartment building	Mill Creek Residential Trust	Under Construction
Centennial Mills	1362 N Naito Pkwy, Portland, OR	Proposed redevelopment of a former flour mill. The Portland Development Commission applied March 27, 2015, for a permit to demolish parts of the structure.	Portland Development Commission	Proposed

1400 Raleigh	1400 NW Raleigh St, Portland, OR	Six-story, 140-unit residential building with underground parking	Alliance Realty Partners (Seattle)	Proposed
The Abigail	1650 NW 13 th Ave, Portland, OR	142-unit apartment building with 123 affordable apartments reserved for families earning 30% to 60% of median family income.	Bridge Housing (San Francisco)	Under Construction