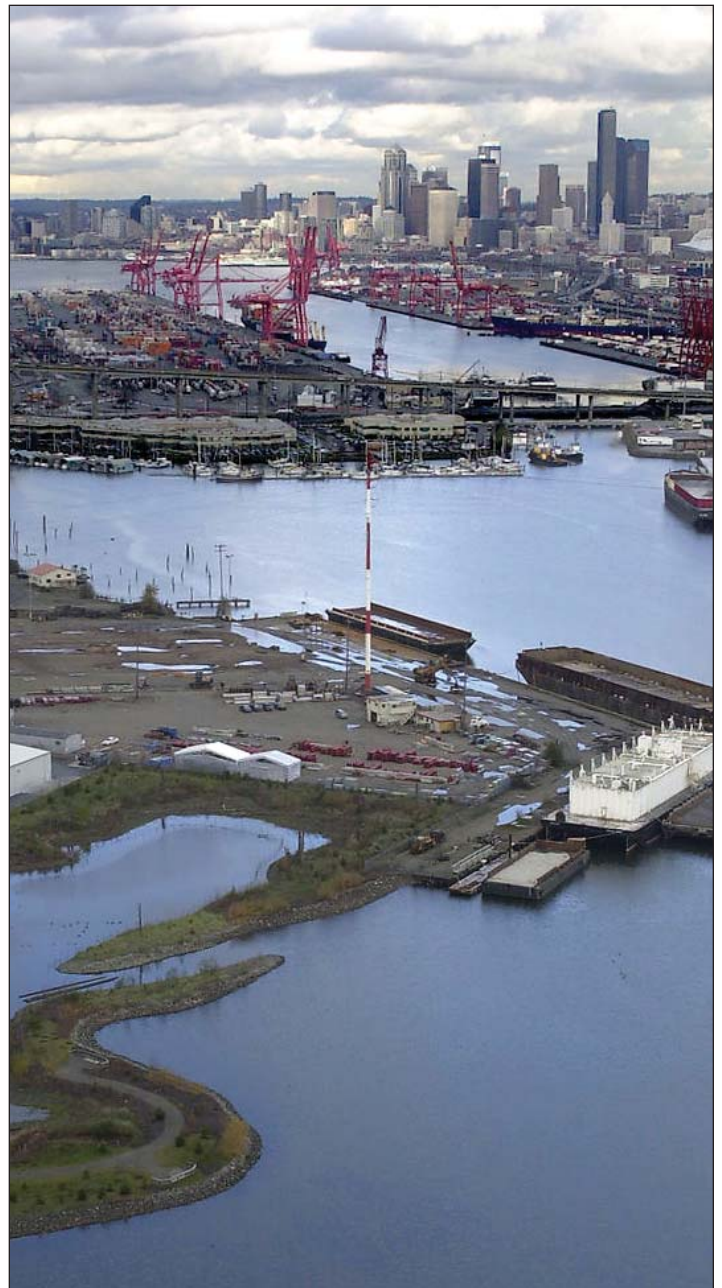


SEATTLE'S INDUSTRIAL LANDS

Regulatory Tools



**City of Seattle
Department of Planning and Development
May 2009**

City of Seattle
Department of Planning and Development

Diane Sugimura, Director

Project Staff

Tom Hauger

Andrea Petzel

Susan McLain

Jennifer Pettyjohn

Jaclyn Gault

CJ Klocow



TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	2
INTRODUCTION.....	4
OVERVIEW OF SEATTLE’S INDUSTRIAL LANDS	5
BACKGROUND	6
INDUSTRIAL LANDS INVENTORY.....	7
REGULATORY TOOLS	16
DEFINITIONS	16
FAR LIMITS.....	18
TRANSFER OF DEVELOPMENT RIGHTS	20
ADAPTIVE REUSE	21
ZONE BOUNDARIES.....	23

APPENDICES

- A. LAND USES OBSERVED AND MAPPED IN 2008 DPD INVENTORY
- B. BACKGROUND PAPER: INDUSTRIAL DEFINITIONS
- C. BACKGROUND PAPER: DEFINITION OF RESEARCH AND DEVELOPMENT
- D. BACKGROUND PAPER ON FLOOR AREA RATIO (FAR)
- E. BACKGROUND PAPER ON TRANSFER OF DEVELOPMENT RIGHTS (TDR)
- F. DPD PUBLIC OUTREACH FOR INDUSTRIAL LAND STUDY

SEATTLE'S INDUSTRIAL LANDS REGULATORY TOOLS

EXECUTIVE SUMMARY

This report explores the issues outlined in City Resolution 31026 related to collecting further information about the current uses on industrially zoned land in Seattle and about the potential usefulness of certain regulatory tools for advancing the City's overall goals for its industrial areas.

Land Use Inventory

- DPD staff conducted a field survey to document the existing uses on all parcels in the city that are zoned industrial and made adjustments based on comments from interested stakeholder groups who were asked to review the initial findings.
- The results found many parcels that have multiple uses and identified many different uses of industrial land.
- The study found that parcels where an industrial activity is the primary use on the site account for about three-fourths of the industrially zoned land, in all of the industrial subareas across the city.

Zone Boundaries

- Resolution 31026 called on DPD to review boundaries of the City's Manufacturing/Industrial Centers to determine whether those boundaries should be adjusted to reflect existing land uses, proximity to urban centers, urban villages and transit.
- Recommend change from IG2 to IC zoning along south boundary of the Duwamish M/IC.
- Will be recommending changes along the north boundary of the Duwamish M/IC, as part of the South Downtown Plan that will be sent to Council in summer 2009.
- Anticipate recommendations related to analysis of Ballard Interbay Northend Manu-

facturing/Industrial Center (BINMIC), especially where that M/IC abuts the Ballard and Fremont urban villages.

- Will also review industrial zoning within the Eastlake urban village and in Duwamish M/IC surrounding the Georgetown community.

Land Use Code Definitions

- The Resolution asked whether the City's current definitions of "manufacturing" and "research and development laboratory" are consistent with current and emerging industry practices and best practices in other cities.
- Seattle's definitions of these terms are consistent with industry practice and with definitions used in other cities. They are also consistent with the City's adopted policy guidance regarding these uses.
- Recommend no changes to the current definitions of these terms.

Floor Area Ratio (FAR)

- FAR is a measurement of building density that is used to regulate structure size. For most of Seattle's industrial zones the current FAR limit is 2.5, although there are higher limits in some Industrial/Commercial zones.
- Considered whether the City's current FAR limits in industrial zones are appropriate for current and projected industrial users and whether increasing those limits would give Seattle an advantage in attracting industrial businesses.
- Research into the actual FAR used by existing industrial businesses indicated that these firms on average use less than 1/3 of the current FAR limit.
- Seattle's FAR limits are in line with limits imposed by other comparable cities.
- Recommend no changes to the current FAR limits.

Transfer of Development Rights (TDR)

- TDR programs allow a property owner to convey unused development potential from his property to be used on a different property.
- There is a very large amount of unused development potential on Seattle's industrial land.
- Before considering whether to adopt a TDR program, the City would need to identify a clear goal for that program, such as restricting development in certain locations or enhancing development elsewhere.
- Recommend no TDR in industrial zones at this time.

Adaptive Reuse

- Adaptive Reuse is the process of making an existing structure available for an activity different from the one for which it was originally designed, or currently used; conversion of buildings in industrial zones to non-industrial uses would be governed by the Land Use Code's size-of-use limits for certain commercial uses.
- Given the relatively small number of vacant buildings in the industrial zones, there is no perceived need to allow widespread conversion to non-industrial uses.
- However, certain multi-story buildings are much less suitable for industrial activities than they were when they were first constructed.
- Recommend allowing an exception to the size-of-use limitations for existing structures four or more stories in height and include standards that limit the impacts on the surrounding industrial uses.

New Tools

- Resolution called on Executive to look at promising actions that may lead to new industrial business opportunities and stronger job creation.
- Executive is working with Port of Seattle on a SEPA planned action (using Port's previous EIS) to facilitate development at Terminal 91.
- Port has decided to pursue development under current industrial zoning.
- City staff is identifying mitigating measures and thresholds for when those measures will need to be implemented.
- Ordinance will be sent to Council this year.

INTRODUCTION

In December 2007, City Council adopted two pieces of legislation related to supporting industrial uses. Ordinance 122601 reduced the allowable size of certain non-industrial uses, including office and retail, in the General Industrial 1 and General Industrial 2 (IG1 and IG2) zones. Somewhat paradoxically, this ordinance also increased the allowable floor area ratio (FAR) from 1.0 to 2.5.

Resolution 31026 directed the Department of Planning and Development (DPD) to analyze and report on several regulatory approaches and land use related data affecting or describing the vitality of industrial activity in the city. The work requested of DPD included:

- Conduct an inventory of the existing uses on industrial zoned land, in consultation with property owners, business owners and tenants in and around the study areas.
- Examine the boundaries of the manufacturing and industrial centers (M/ICs) to reflect existing use, proximity of urban centers, and transit service.
- Review the current Land Use Code definitions of key industrial terms (manufacturing, industrial, research and development, accessory use) to see whether they are consistent with current and emerging industry and best practices in other cities.
- Explore whether the 2.5 FAR limits is appropriate in industrial zones.
- Research the potential for a transfer of development rights (TDR) program that would ease development pressure in industrial zones.
- Analyze incentives to encourage adaptive

reuse of obsolete industrial buildings for non-industrial businesses.

- Analyze industrial land capacity for each M/IC
- Identify promising strategies which may lead to new industrial business opportunities and job creation within the M/ICs.

The City's Office of Economic Development (OED), and the Seattle Department of Transportation (SDOT) have prepared separate reports in response to this resolution on industry clusters, employment concentrations, and improvements to freight mobility. This report focuses on the DPD work related to land use and the regulatory environment.

OVERVIEW OF SEATTLE'S INDUSTRIAL LANDS

Seattle's industrial lands fall within four industrial zones – General Industrial 1 (IG1), General Industrial 2 (IG2), Industrial Commercial (IC) and Industrial Buffer (IB). Most industrial zoned land is found in the two designated manufacturing/industrial centers: the Ballard Interbay Northend Manufacturing/Industrial Center (BINMIC) and the Duwamish Manufacturing/Industrial Center. Map 1 shows the location of the zones and the M/ICs.

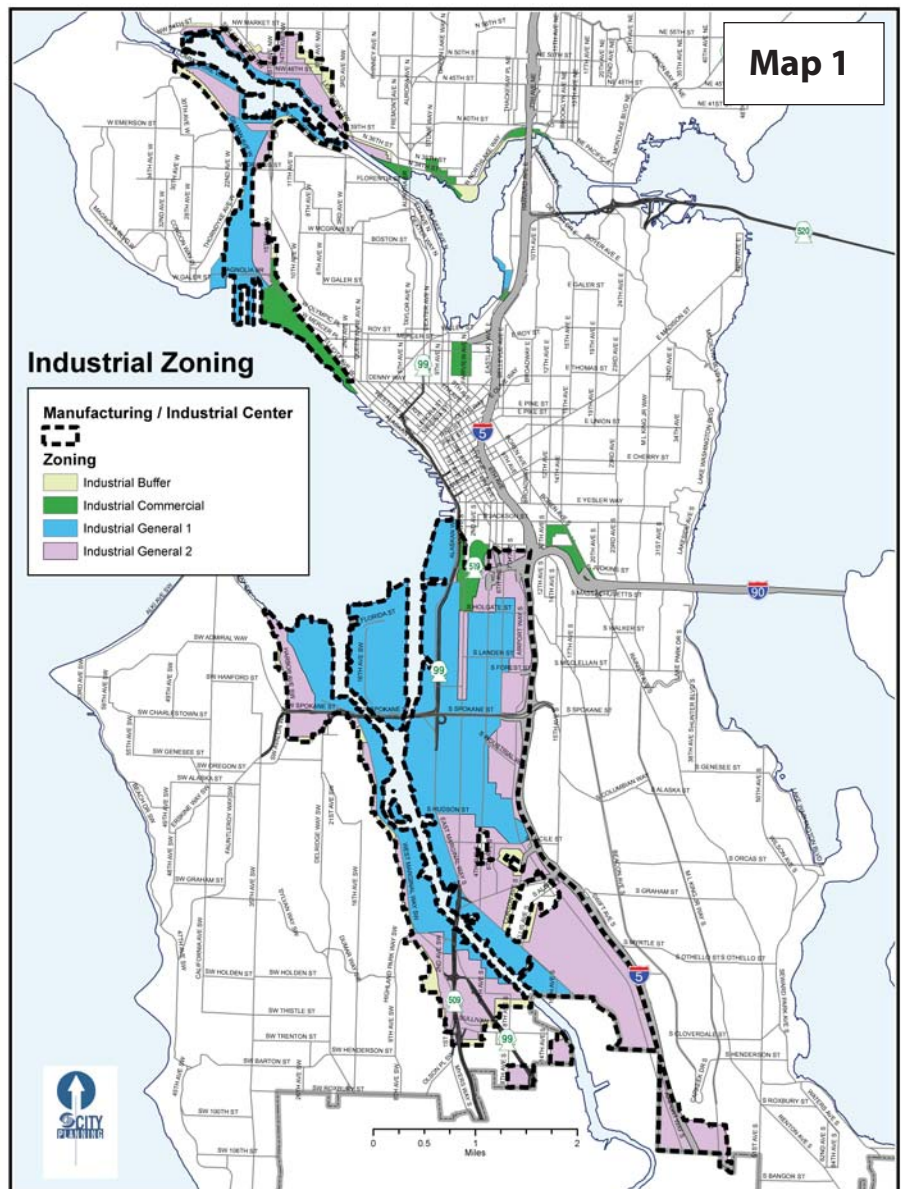
Seattle's industrial lands are an important part of a diverse local economy. The industrial sector of the economy encompasses a wide range of manufacturing, maritime, wholesale, transportation and other related businesses in the city. The industrial sector also contributes significantly to the City's tax base.

A thriving industrial sector also creates accessible, family-wage jobs. Typically, industrial jobs pay 21% higher than Seattle's average wage. Many cities, including Seattle, are learning the hard way that when industrial businesses leave an area, so do good jobs for people of all skill levels.

The industrial sector also has an important role to play in the evolving "green economy." Manufacturing and other industrial jobs contribute to a sustainable economy when jobs, materials and resources stay local, and are spared the costs, economic and otherwise of being shipped greater distances, including overseas. Green jobs, an important aspect of econom-

ic recovery and growth for both the City and King County, are rooted in the notion of merging sustainability with the industrial sector.

The State's Growth Management Act requires that development regulations be consistent with a hierarchy of policies. King County's Countywide Planning Policies (as approved by all jurisdictions in the county) and the City's Comprehensive Plan provide the basis for the City's plan for accommodating expected employment growth in industrial sectors. Both documents highlight the importance of creating and retaining manufacturing/industrial employment centers as key components of the economy.



BACKGROUND

Based on the policy direction given by City Council and the Mayor, this report gives an overview of policy recommendations for Seattle's industrial lands. DPD's research and recommendations were informed by several previous reports including documents that led to the Council's 2007 legislative action – *Seattle's Industrial Lands: Background Report, Mayor's Recommendations* and *The Future of Seattle's Industrial Lands*.

The analysis and recommendations in this report are based, in part, on a survey of all industrial zoned land in the city, from June through October 2008. This report provides an overview of the criteria and analytic frameworks used to organize and analyze the field data as well as data from other existing sources. The full technical report, *Seattle Industrial Lands Inventory of Uses*, is available on DPD's website. Based on input from stakeholders, changes to the data have been made to ensure the information is as up-to-date and accurate as possible. However, change is constant and the survey data provides a snapshot of industrial uses as of early 2009.

DPD staff also conducted extensive public outreach by attending or hosting public meetings with stakeholders. Since August, 2008 (and ongoing), DPD has met with representatives from:

- Georgetown Community Council
- North Seattle Industrial Association
- Industrial developers and real estate agents
- National Association of Industrial and Office Properties
- Manufacturing and Industrial Council
- Sodo Business Association
- Municipal League Foundation - Port Study Committee
- Research and Development firms
- Washington Biotechnology and Biomedical Association
- Shoreline Master Program Advisory Committee
- BINMIC Action Committee
- Lake Union District Council

DPD will continue to meet with community stakeholders in the Ballard, Fremont and Eastlake neighborhoods to discuss the possibility of rezoning industrial parcels that are outside of an M/IC and within the boundaries of the Urban Villages.

INDUSTRIAL LANDS INVENTORY

The industrial lands inventory includes all parcels in the city zoned with any of the four industrial zoning categories IG1, IG2, IC and IB. Parcels with an industrial use but not zoned industrial are not included in the inventory.

Methodology

Researchers collected data on all 3,460 industrial parcels in Seattle over a period of three months in the summer of 2008. This required physically visiting and viewing the uses on each parcel. King County Assessor's use designation was used as a base-line, verified and corrected when applicable.

The principal task of the inventory was gathering and organizing information about each parcel of land with the data collection tools described below. Data gathering was based on visual observation of the buildings, activities and uses. In some cases, staff conducted further research on particular parcels when uncertainty arose. Follow-up with constituent groups in the neighborhoods, including meetings with M/IC groups and business owners was conducted to provide additional verification.

For each parcel, staff attempted to identify all of the uses present. In some cases, the same business operated several distinct uses, such as manufacturing, warehouse and retail. In other cases, there were multiple businesses operating similar or very different uses on the same parcel. On large parcels, or parcels with large structures, there are sometimes multiple users, and not all of them were easily seen or identified. For each parcel, staff made a judgment as to which was the primary use of the site. Those primary uses form the basis for much of the analysis contained in this report.

The detailed use descriptions in the Land Use Code and Primary Parcel Use data cannot be mapped due to the inability to distinguish such a large number of categories on a map. Therefore, a more general grouping of uses was used in mapping the inventory results.

Land Use Categories

The 'present use' recorded in the King County Assessor's records does not correspond to uses regulated

by the City's Land Use Code. One goal of this inventory was to depict uses in a standardized way consistent with the City's regulatory regime. To allow for detailed analysis, the inventory categorizes the uses on each parcel at multiple levels of detail, including more distinctions among uses than are found in the City's Land Use Code. There are 90 land uses listed in the Code's table governing uses for Seattle's industrial zoned land, some permitted in all industrial zones, some not permitted in any industrial zone and some permitted in only some industrial zones. The table lists uses in an organized hierarchy under general headings. For example, under "Manufacturing Uses" are "Manufacturing, light," "Manufacturing, general," and "Manufacturing, heavy." The Code includes a definition of each use.

For simplicity in map presentation, researchers consolidated the uses found in the Code into fewer categories. At the same time, they developed a more detailed list of uses than appears in the Code in order to allow for further analysis, as shown in the table in the Appendix. The levels of detail, from general to specific, are:

Industrial vs. Non-Industrial: To determine the amount of actual industrial use occurring on industrial lands, uses were grouped according to three general categories: industrial, non-industrial and other. For example, Light Manufacturing is identified as "industrial" while Office is identified as "non-industrial" and Parking is identified as "other".

General Use Categories: Seventeen general categories were created for mapping and data presentation by combining categories of use found in the Land Use Code. For example, Light Manufacturing and General Manufacturing are both included in the "Manufacturing/Processing" general use category.

Land Use Code categories: This is taken from Chart A in Section 23.50.012 depicting the permitted and prohibited uses in industrial zones.

Specific Use Sub-categories: To provide greater detail than the Land Use Code, an expanded set of uses was developed to provide more specificity than the Code list offers. For example, Light Manufacturing is broken out into sub-categories including: "Light Manufacturing-Metal," "Light Manufacturing-Wood,"

“Light Manufacturing-Glass” and “Light Manufacturing-Other.”

Researchers gathered additional information to broaden the overall knowledge about each parcel, including edge uses, the presence of loading docks, outdoor storage, onsite parking and general building condition.

Data Verification

DPD provided copies of the maps of the primary uses, combined into the “general use categories” described above, to community groups familiar with the various subareas of industrial land, who were asked to point out parcels where they believed the characterization of primary use was incorrect. DPD received numerous comments about possible errors on the maps from the BINMIC Action Committee, SoDo Business Association, Georgetown Community Council and the Lake Union District Council. Staff followed up on these comments with additional field work or by contacting business on the identified sites. In some cases, the discrepancy was a disagreement over which of several uses on the site should be considered the primary one; in others, the initial survey simply missed or mischaracterized a use on the parcel. DPD corrected its database where follow-up research indicated an error.

Analysis

The following analyses were conducted to create summary tables and/or maps at the citywide and sub-area scales.

- **Land Use Categories:** Counts, percentages and maps based on land use and acreage of parcels in each land use area were prepared. The land use analysis was based on three levels of detail: Land Use Code designation, use groupings and industrial vs. non-industrial, as described above.
- **Floor Area Ratio:** Floor area ratio (FAR) is a measurement of building density. It is the ratio of building square footage to the square footage of the lot on which the building sits (e.g., a 25,000 square foot building on a 10,000 square foot lot has an FAR of 2.5). To determine the current FAR in industrial areas, analysis relied on building floor area and parcel area found in the Assessor’s records. The field visits confirmed the presence of

buildings identified by the assessor, or identified where buildings had been demolished or new ones built. Relying on the Assessor’s total square footage, we calculated the FAR for each parcel, as well as averages for geographic areas and by use type.

- **Vacant Lands:** In order to understand developable and developing industrial land, parcels currently not in an identifiable productive use were classified to represent the following conditions:
 - Vacant buildings
 - Vacant lots
 - Undeveloped parcels
 - Lots with buildings under construction
 - Sites with a pending application for a proposed land use action
- **Other:** A number of other analyses have been completed or have yet to be conducted to fully understand all aspects of the industrial lands inventory. Some of the additional analyses that were completed are as follows:
 - Uses by zone (IC, IB, IG1, and IG2).
 - Uses abutting industrial zones.
 - Uses in each sub-area

The database containing the land use survey data will enable additional analyses to be conducted, combining or comparing different attributes that can help illuminate specific characteristics, or distinguish certain geographic areas.

Findings

Citywide, most industrially zoned land is in industrial use. This may seem obvious, but given the strong concern expressed by some regarding the industrial users leaving Seattle and the need to recognize a growing trend of more commercial uses moving into the industrial areas, it is worth noting that nearly 4 of every five acres zoned industrial contain industrial uses, as shown in Table 1. Only 11% of the land contains non-industrial uses – primarily retail and office activities, while an equal amount is in the “other” category, which includes land that has never been developed, vacant industrial parcels and parking lots that are not obviously associated with a nearby use.

Table 1: Land Uses by Land Area and Building Area for all Seattle Industrial Zones

All Seattle Industrial Zoned Land		
	Land Area (Acres)	Building Area (sq. ft.)
Industrial Zoned Area *	5,345.6	66,199,500
Total Industrial Uses	4,148.9	45,268,858
% of Industrial Zoned Land	78%	68%
Transportation	2,027.30	5,458,057
Marine	382.7	2,156,993
Warehouse	639.9	15,995,671
Manufacturing/Processing	505.8	11,276,026
Public Facilities/Utilities	154.4	1,498,379
Heavy Sales/Services	305.8	6,685,587
Outdoor Storage	107.1	53,254
Research & Development	25.9	2,144,891
Total Non-Industrial Uses	615.8	19,722,469
% of Industrial Zoned Land	11%	27%
Retail/Service	237	4,634,556
Office	233	10,068,613
Residential	37.2	442,440
Institutions	32.8	325,426
Entertainment	51.1	2,106,543
Total Other Uses	591.1	3,353,064
% of Industrial Zoned Land	11%	5%
Vacant	372.9	1,527,346
Parking	120.3	1,825,318
Open Space	113.6	400

* Does not include right-of-way

Transportation is the most common use on industrial zoned land in Seattle, primarily concentrated along the shoreline as Port of Seattle cargo terminal operations and in the three major rail yards. Warehouses account for the second most acreage, and manufacturing/processing uses account for the third most acreage.

In the Ballard/Interbay Northend Manufacturing/Industrial Center (BINMIC), the percentage of land in industrial uses is only slightly lower than the citywide average for industrial zones, as shown in Table 2. Map 2 shows the location of these uses in BINMIC.

Table 2: Land Uses by Land Area and Building Area for BINMIC

BINMIC Industrial Zoned Land		
	Land Area (Acres)	Building Area (sq. ft.)
BINMIC Area *	783.2	11,109,896
Total Industrial Uses	599.1	7,858,785
% of BINMIC	76%	71%
Transportation	206.9	890,384
Marine	188.7	1,303,097
Warehouse	86.3	2,026,515
Manufacturing/Processing	45.8	1,190,456
Public Facilities/Utilities	24.1	235,674
Heavy Sales/Services	20.2	666,423
Outdoor Storage	9.1	25,682
Research & Development	18	1,520,554
Total Non-Industrial Uses	106.6	2,937,381
% of BINMIC	14%	26%
Retail/Service	54.8	1,021,595
Office	39.6	1,724,587
Residential	7.1	75,849
Institutions	4.9	115,350
Entertainment	0.3	0
Total Other Uses	77.4	313,730
% of BINMIC	10%	3%
Vacant	54.2	290,994
Parking	17.5	22,736
Open Space	5.7	0

* Does not include right-of-way.

- The average parcel size in BINMIC is around 1 acre, which is smaller than in the Duwamish MIC. This is especially the case in the vicinity of the Ballard Urban Village.
- As is the case Seattle-wide, transportation is the largest land use category at 207 acres.
- Marine use was very high in the BINMIC at 188.7 acres, the second largest amount of

land by use category, found on both the north and south sides of the Ship Canal.

- The proportion of retail sales and service use was higher in the BINMIC than in other areas at 55 acres, the fourth largest use in the area, but still only 7% of the parcel area in BINMIC. This retail use is mostly in North BINMIC.

Map 2

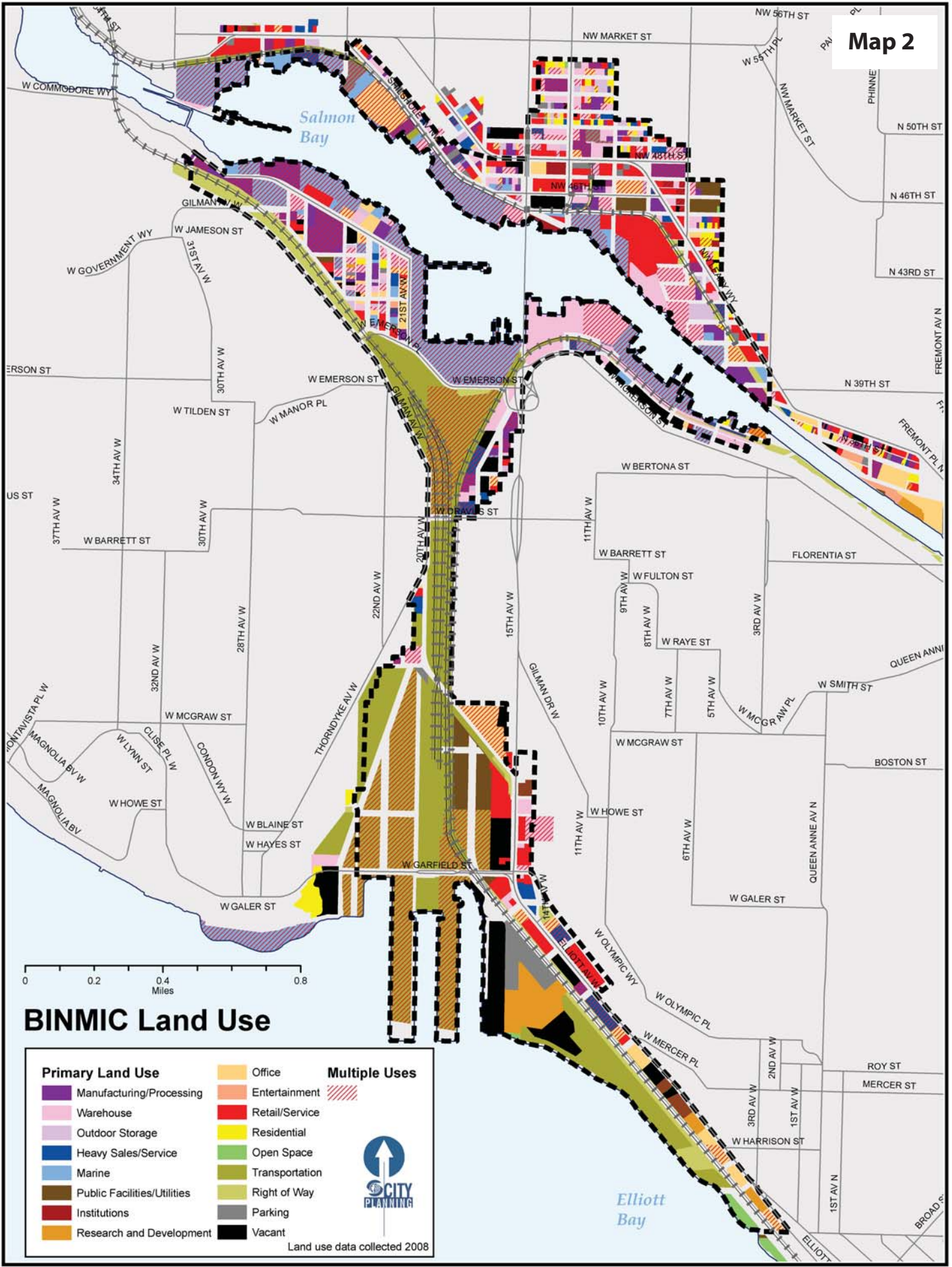


Table 3 shows that the Duwamish M/IC, which extends from downtown to the south City limits, has a higher percentage of its land in industrial uses than the citywide average for industrial zones. Map 3 shows the location of the uses in the Duwamish M/IC.

Table 3: Land Uses by Land Area and Building Area for the Duwamish M/IC

Duwamish MIC Industrial Zoned Land		
	Land Area (Acres)	Building Area (sq. ft.)
DuwaMIC Area *	4,200.4	47,466,395
Total Industrial Uses	3,371.20	35,202,821
% of Duwa MIC	80%	74%
Transportation	1,806.50	4,539,643
Marine	82.6	594,359
Warehouse	538.6	13,387,902
Manufacturing/Processing	448	9,685,496
Public Facilities/Utilities	121.2	1,186,706
Heavy Sales/Services	278.5	5,736,573
Outdoor Storage	94.8	20,030
Research & Development	1.7	39,066
Total Non-Industrial Uses	365	9,580,346
% of Duwa MIC	9%	20%
Retail/Service	151.2	2,577,899
Office	151.7	5,408,167
Residential	20.4	236,811
Institutions	24.2	130,333
Entertainment	17.5	1,227,136
Total Other Uses	463.5	2,683,228
% of DuMIC Industrial Zoned Land	11%	6%
Vacant	281.3	884,166
Parking	91.7	1,799,062
Open Space	90.5	0

* Does not include right-of-way.

- The Duwamish MIC is much larger than the BINMIC (over 4000 acres, compared to 783 acres). The Duwamish MIC also has larger parcels on average (nearly 2 acres) than the BINMIC.
- As is the case Seattle-wide, transportation makes up the largest amount of land area by

use category at about 1800 acres, with warehouse the second at around 550 acres and manufacturing/processing at 450 acres.

- Parcels with a use category of “vacant” were scattered around the Duwamish MIC, including some undeveloped parcels at the base of the steep slope west of West Marginal Way.

Map 3

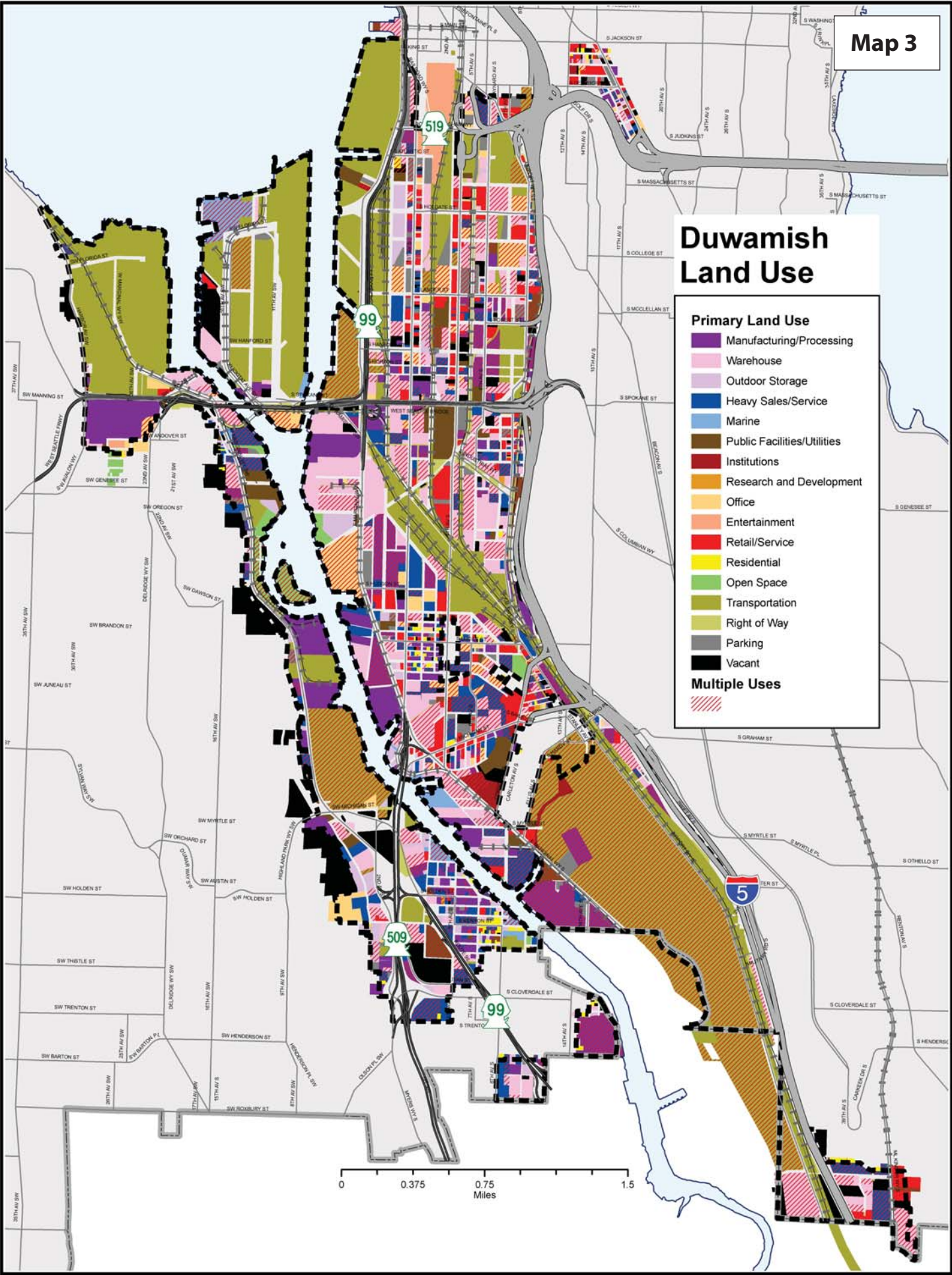
Duwamish Land Use

Primary Land Use

- Manufacturing/Processing
- Warehouse
- Outdoor Storage
- Heavy Sales/Service
- Marine
- Public Facilities/Utilities
- Institutions
- Research and Development
- Office
- Entertainment
- Retail/Service
- Residential
- Open Space
- Transportation
- Right of Way
- Parking
- Vacant

Multiple Uses

- Multiple Uses



The portion of the Duwamish M/IC north of Spokane St. and east of the waterway has drawn particular attention about its mix of uses, with the perception that this area has more land in non-industrial uses. As Table 4 shows, however, the percentage of land in this area that is in industrial uses is very similar to other industrial areas, including the entire Duwamish M/IC. Map 4 shows the specific locations of these uses.

Table 4: Land Uses by Land Area and Building Area for North Duwamish

North Duwamish M/IC Industrial Zoned Land		
	Land Area (Acres)	Building Area (sq. ft.)
North Duwamish Area *	773.5	14,926,187
Total North Duwa Industrial Uses	578	6,951,342
% of North Duwamish	75%	47%
Transportation	332.60	1,078,383
Marine	0	0
Warehouse	100.7	289,771
Manufacturing/Processing	47.9	1,459,954
Public Facilities/Utilities	32.8	413,100
Heavy Sales/Services	33.1	1,102,134
Outdoor Storage	29.9	1,302,474
Research & Development	0	0
Total North Duwa Non-Industrial Uses	114.6	5,587,207
% of North Duwamish	15%	37%
Retail/Service	56.1	1,152,936
Office	41	3,137,820
Residential	1.1	130,624
Institutions	0	0
Entertainment	16.3	1,165,827
Total Other North Duwa Uses	80.9	2,387,639
% of North Duwamish	10%	16%
Vacant	33.722	588,576
Parking	47.2	1,799,062
Open Space	0	0

* Does not include right-of-way.

Vacant Land

The survey team identified the primary use of a parcel as vacant when there was no structure on the site and no apparent use of the land, such as for parking or active storage. They also used vacant for a parcel where the structure(s) on the

site appeared to be vacant and not in use. In some cases, vacant parcels contained Master Use Permit signs indicating that a development application was under review by DPD. Several parcels, particularly on the west side of West Marginal Way, appear to have never been developed.

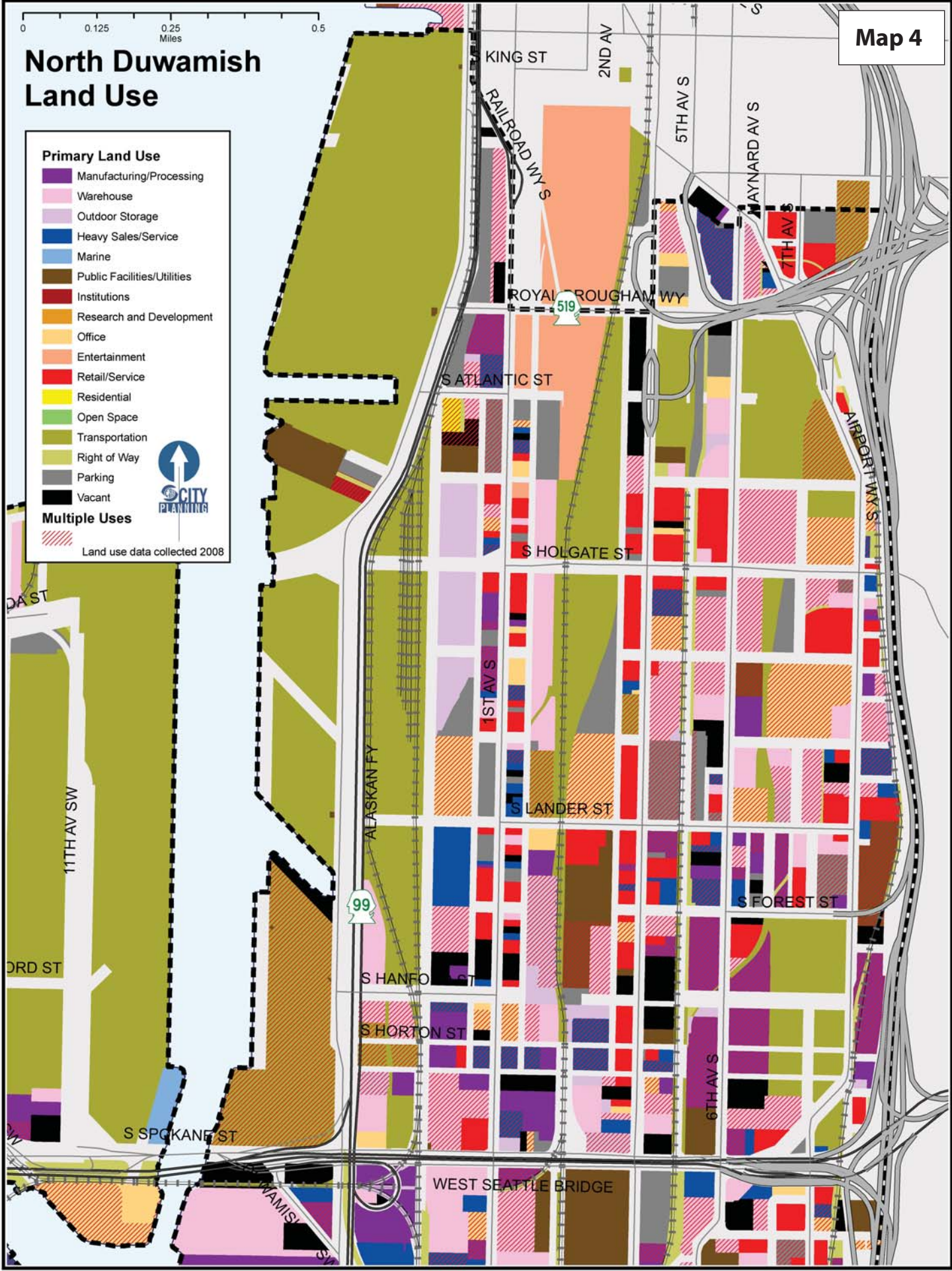
North Duwamish Land Use

Primary Land Use

- Manufacturing/Processing
- Warehouse
- Outdoor Storage
- Heavy Sales/Service
- Marine
- Public Facilities/Utilities
- Institutions
- Research and Development
- Office
- Entertainment
- Retail/Service
- Residential
- Open Space
- Transportation
- Right of Way
- Parking
- Vacant

Multiple Uses

- Land use data collected 2008

REGULATORY TOOLS

DPD has reviewed current City policy, practices in other cities, and the viewpoints of interested stakeholders related to the following issues:

- Are the definitions of key industrial terms (manufacturing, industrial, research and development, accessory use) and the regulations for those uses consistent with current and emerging industry and best practices in other cities?
- Is a 2.5 floor area ratio (FAR) limit sufficient for current and projected industrial users? Would an increase in FAR provide a relative advantage for industrial businesses seeking to locate in Seattle?
- Is there any potential for a transfer of development rights (TDR) program to ease development pressure in industrial zones?
- What opportunities exist to adaptively reuse industrial buildings for non-industrial businesses, while still promoting the City's policy of maintaining industrial land for industrial uses?
- Do the boundaries of the manufacturing and industrial centers (M/ICs) continue to reflect existing use, proximity of urban centers, and transit service?

Definitions

The City Council's December 2007 resolution directed DPD to review and possibly update definitions of a couple of terms that are used in the Land Use Code: "manufacturing" and "research and development." In particular, the review was to examine how the City defines manufacturing and to determine whether the definition and regulations are consistent with current and emerging industry and with best practices in other cities. Often the two words – "industrial" and "manufacturing" – are used interchangeably, although manufacturing is a subset of the larger category of industrial use.

Industrial is a more general term used to capture a set of uses that are employment-based, generally land-intensive and often involving processes, materials, noise, light, and hours of operation that are incompatible in residential or mixed-use environments. "Industrial" can include uses such as warehouse, freight terminals, railroad yards, outdoor stor-

age, transit bases, shipping, utility uses and heavy sales and service, in addition to all types of manufacturing. The Seattle Land Use Code's use chart, which lists all the permitted and prohibited uses, does not include a category of "industrial," but it does include many of the uses cited in the previous sentence.

A review of several other cities found that where those cities use "industrial" in any official way it is to describe a general class of uses or a broad zoning category as is the case in Seattle. For instance, San Diego refers to an Industrial Use Category that includes heavy and light manufacturing, marine industrial, research and development, transportation and trucking terminals. Chicago has an Industrial Use Category that includes junk/salvage yards and various levels of manufacturing (from artisan to general and intensive).

Based on conversations with several focus groups, and comparison with current practices in other cities, it does not seem necessary or practical to further define the term "industrial," since in Seattle, it is a term of art to generically capture a wide array of uses, rather than a term that leads to specific development regulations. Because the primary use of the word "industrial" in Seattle's Land Use Code is in the names of four zoning designations, and the Code itself provides very specific lists of uses allowed for each of these zones, defining the word separately will not add clarity to the current regulatory structure.

Manufacturing: The Seattle Land Use Code currently includes separate definitions for "manufacturing use," as well as for three different levels of manufacturing intensity – light, general and heavy. According to the definition, a "manufacturing use" means "a business establishment in which articles are produced by hand or by machinery from raw or prepared products, by giving those materials new forms, qualities or properties, or combinations, in a process frequently characterized by the repetitive production of items made to the same or similar specifications." The definitions for each of the three levels of manufacturing intensity describe the typical processes or materials used at that level.

Other cities follow similar systems for defining manufacturing by establishing levels of intensity, such as Austin's "major industrial," "limited industrial,"

and “industrial park.” Vancouver, B.C. lists nearly 50 different categories of manufacturing, based on the products being made, such as animal products, batteries, clothing, food and beverage, furniture, and jewelry, but most cities we reviewed used a relatively small number of categories to identify a broad set of characteristics or impacts attributable to the firms within those categories.

One concern we heard from industrial business owners about the definition of “manufacturing” was the need to recognize in the definition that manufacturing operations produce impacts, particularly noise, that are not compatible with nearby commercial or residential uses. However, each of Seattle’s current definitions for the three levels of manufacturing intensity already include a description for the types of impacts that are expected at that level. For instance, “Heavy manufacturing means a manufacturing use, typically having the potential of creating substantial noise, smoke, dust, vibration and other environmental impacts or pollution...” Definitions for general and light manufacturing describe their potential for impacts as “moderate” and “little or no” potential, respectively.

We also heard came from representatives of the National Association of Industrial and Office Parks the concern that the current definitions do not specifically acknowledge high-tech uses or other “clean” technologies as industrial uses. To evaluate this concern, we need to consider the types of uses that fall into the categories of high-tech. These uses could include activities such as assembly of electronic parts, pharmaceutical development, pharmaceutical production and software development. The Land Use Code currently permits some of these activities in industrial zones, either explicitly, or because the activities are similar enough to other permitted uses to be governed by the same regulations. For instance, the Code would allow the assembly of electronic parts as either a light or general manufacturing use. The Code also permits the development of pharmaceuticals as a research and development laboratory use, which is permitted in industrial zones (see discussion below). Producing pharmaceuticals would be a manufacturing use.

However, interpretations of Seattle’s Land Use Code consider software development an office use because its impacts are more similar to the uses of an

office, and because the layout of a software developer’s space is indistinguishable from an office use. In fact, many software developers occupy spaces formerly occupied by other office uses, and if a software firm were to leave its space, a traditional office use could move into that space without substantial alterations. Software activities generally have a greater number of employees per floor area, and consequently more parking and more car trips. In addition, software development poses the same type of problems for industrial areas as do office uses, by increasing the expected land prices and rents in an industrial neighborhood and making it more difficult for industrial businesses to compete for space.

Research and Development: The Land Use Code defines “research and development laboratory (as) a use in which research and experiments leading to the development of new products are conducted. This use may be associated with an institutional, clinical or commercial use. Space designed for this use typically includes features such as floor to floor heights generally 14 feet in height or greater to accommodate mechanical equipment and laboratory benches plumbed for water service.”

In contrast to their relatively similar treatment of “manufacturing,” other cities we reviewed have widely different approaches to research and development uses. Portland cites R&D as an example of an “Industrial Service,” which it defines as firms that are engaged in the repair or servicing of industrial, business or consumer machinery, equipment, products or by-products.” Chicago and Vancouver, B.C. do not have separate definitions of R&D, although they both have definitions of “laboratory” that are similar to Seattle’s definition of “research and development laboratory,” with Chicago’s definition focusing on research that is “...for the purpose of providing information for the diagnosis, prevention or treatment of any disease or impairment of, or the assessment of the health of, human beings...” Of the cities we reviewed, Minneapolis has the definition that is most similar to Seattle’s; it defines a “research, development and testing laboratory” as “an establishment in which facilities for scientific research, investigation, testing or experimentation are located, but not facilities for the manufacture of products, except as incidental to the main purpose of the laboratory.”

Seattle's Land Use Code permits research and development laboratories in all industrial zones as well in NC3, C1, C2 and most downtown zones with no limits on the size of the use other than the floor area ratio (FAR) limit that applies generally in each zone. For most of Seattle's industrial land, that FAR is 2.5.

Contemporary categories of R&D operations such as medical, biotech and alternative energy have characteristics that are similar to, and some that are different from, more traditional industrial users. Like other industrial uses, these R&D uses tend to have lower employment densities than most office uses because in some cases workers require both laboratory and office space. Laboratories also work more efficiently in shorter buildings; although they are not usually limited to the single-story model of other industrial uses, laboratories tend to be in relatively low buildings due to the weight of the structures they require and to reduce the potential for lateral movement that could interfere with experiments. Also like industrial uses, R&D labs require adjacency to administrative office space for functions that support the main non-office work of the space. Other site characteristics that can be similar between R&D uses and industrial activities include the needs for:

- Access for delivery trucks to receive raw materials.
- Space to stage materials, indoor and outdoor storage of piping and metals.
- Avoiding conflicting uses because, even with well-constructed R&D buildings, vibrations from heavier industrial activities can interfere with delicate equipment used in experiments and testing.
- Space to grow. Representatives of bio-tech firms we interviewed want to remain in Seattle where a large part of their workforce resides, even when the same firm has other operations in more suburban locations.
- Proximity to similar operations for the synergy that can occur among researchers (manufacturers look for proximity to suppliers and customers)

Other forms of research and development may be more directly tied to industrial processes, such as material testing or prototype development related to various manufacturing processes. In many cases, these R&D activities may be indistinguishable from

the manufacturing processes themselves. If they are connected to a manufacturing firm, this activity would be considered part of that manufacturing. However, we heard from R&D firms that they are reluctant to locate in more traditional industrial areas because of potential vibration from trucks, trains and industrial processes can interrupt some experiments.

Recommendations about Definitions

DPD recommends that no changes be made to the definitions for "manufacturing" or "research and development laboratory." The current definitions for both of these terms accurately reflect the City's policies for encouraging these uses in industrial zones, and both are in the mainstream of best practices among peer cities. In particular, the research and development activities permitted under both of these definitions enables the City to accommodate a wide range of existing and emerging industries.

FAR Limits

Floor area ratio (FAR) is a measurement of density that compares the total square feet in a building to the square feet of the site on which the building sits. For instance, if a building contains 20,000 square feet and it is on a 10,000 square foot lot, that building has an FAR of 2.0. The maximum FAR the City permits in the IG1, IG2 and IB zones, which together comprise about 94% of the City's industrial land, is 2.5. The permitted FAR in the IC zone is 2.5, except in South Lake Union and in the Stadium Transition Zone, where the FAR limit is 3.0. There are two blocks in South Lake Union zoned IC where the maximum FAR is 7.0.

The field work and other research associated with the land use inventory afforded an opportunity to examine whether the structures identified in the Assessor's records were all still present on each site, as a way to verify the total building square footage. This data, in turn, allowed a calculation of the FAR on each site, which could also be aggregated by different uses or geographic areas.

Data from the 2008 Industrial Land Survey indicates that there are very few industrial parcels that use all of the 2.5 FAR allowed. The average FAR for industrial uses across all industrial zones is 0.33, with the highest average FAR (2.05) occurring in research and development laboratory uses. There are several other older multi-story manufacturing or warehouse

spaces with a higher than average FAR, and some of these buildings have been converted to non-industrial uses such as artist studio-dwellings, or to a variety of office and retail uses. Generally, multi-story buildings have limited utility for warehouse or heavy manufacturing uses.

With the exception of the few multi-story warehouses that are used for storage or light manufacturing,

there are very few traditional industrial uses with an FAR as high as 1.0. The average FAR for these uses is 0.32, well below the allowable 2.5 FAR. In contrast, the average FAR for the non-industrial uses, which account for 11% of all industrial-zoned land, is 0.79. Tables 5 and 6 offer a breakdown of FAR for general categories of industrial and non-industrial uses, based on DPD's 2008 Industrial Lands Inventory.

Table 5. FAR for Industrial Uses¹

Use	Land Area (Acres)	Building Square Feet	Total FAR
Transportation	1,339.2	5,458,057	0.09
Warehouse	613	15,995,671	0.60
Manufacturing/Processing	495	11,276,026	0.52
Marine	285.8	2,156,993	0.17
Heavy Sales and Services	266.8	6,685,587	0.58
Public Facilities/Utilities	128.5	1,498,379	0.27
Outdoor Storage	8.5	53,254	0.14
Research & Development	24	2,144,891	2.05
Total Industrial Uses	3,160.8	45,268,858	.33

Table 6. FAR for Non-Industrial Uses²

Use	Land Area (Acres)	Building Square Feet	Total FAR
Retail/Service	210	4,634,556	0.51
Office	224.6	10,086,613	1.03
Entertainment	48.5	2,106,543	1.0
Residential	12	442,440	0.85
Institutions	17.9	325,426	0.42
Total Non-Industrial Uses	513	17,595,578	.79

Other cities we reviewed vary in their approach to the FAR allowed in industrial zones. Chicago FAR limits for industrial zones range from 1.2 to 3.0, depending on the particular zoning designation. Minneapolis applies an FAR of 2.7 in all of its industrial zones. In Austin, the Research and Development zone has an FAR limit of 0.25, while its three other industrial zones have a limit of 1.0. Vancouver BC has FAR limits ranging from 1.0 to 5.0, but all non-industrial uses in these zones are limited to 1.0. Portland has a limit of 3.0, while Atlanta's

1 Data in Tables 5 and 6 include only parcels with buildings.
 2 Data in Tables 5 and 6 include only parcels with buildings.

limit in all industrial zones is 2.0, and San Diego's limit is 4.0.

In conversations with industrial business owners in Seattle and with representatives from other cities, we heard repeatedly that an FAR of 2.5 provides more building potential and more flexibility than industrial activities can use. Most local business owners were surprised to hear that the Council action in 2007 actually raised the FAR in the IG1 zone from 1.0 to 2.5. None of them could cite an industrial use (manufacturing, warehouse, transportation, maritime) that would use an FAR of 2.5, except the rare case where an industrial site also is home to the firm's corporate headquarters and the accessory office needed to support that. Some industrial business representatives in Seattle suggested that industrial FARs should be lowered to around 1.5 to more accurately reflect the types of businesses that City policy is trying to retain in these areas.

The suggestion to allow higher FARs in industrial areas is sometimes described as necessary to allow "new industries" to locate there. These new industries include various high-tech and bio-tech activities. As discussed above, high-tech research and development laboratories are currently permitted in industrial zones, up to 2.5 FAR in IG zones and 3.0 in IC zones. As Table 5 shows the average FAR for existing research and development uses in the city is now 2.05. The current FAR limits in industrial zones are consistent with buildings in use by major research and development laboratories currently operating in the city. For instance, the FAR of SBRI bio-tech facility in South Lake Union is 2.8, and the FAR of the University of Washington's latest lab facility in that neighborhood is 2.5. Both of these buildings are located in the Seattle Mixed zone, which has no FAR limit.

Real estate professionals we met with indicated that FAR limits can have a direct impact on the assessed value of industrial land, with higher FARs increasing the value. Higher land values make it difficult for industrial businesses to compete for space.

Recommendations about FAR Limits

We recommend no change to the allowable FAR limits at this time. While the current FAR of 2.5 is higher than traditional industries can use, that limit appears to be a good match for the space that research and

development users build on even more expensive land. Increasing the allowed FAR would not benefit traditional industries, and the higher land costs could make it more difficult for them to remain or locate in Seattle. Also, higher FAR would not give the City a competitive advantage for attracting emerging industries, since the FAR the City currently allows in Industrial and other zones where emerging industries could locate is in line with what those industries are building and what other cities permit. However, the Executive is open to, and will continue to review, information concerning future FAR trends for new industrial and warehouse buildings.

Transfer of Development Rights

Transfer of development rights (TDR) is a zoning-related tool that allows the voluntary sale of development rights from one site to another. It is usually adopted where a community identifies both an area where it wants to encourage preservation of an existing use or structure and an area where it would like to focus new growth.

A TDR program enables landowners to sell the right to develop their land to another property owner. The first landowner continues to own the land, but will not be able to develop it beyond a pre-determined maximum. Selling the development rights reduces the future development potential and thus relieves development pressure and preserves the land at its current development level. The TDR also gives property owners an opportunity to get financial return for rights they are not using. The parcels selling the development rights are called "sending sites," and the parcels purchasing development rights are called "receiving sites." Landowners of sending sites receive compensation for giving up their right to develop, while developers in receiving areas pay for the right to develop at greater densities or heights than would otherwise be allowed. When development rights are removed from a sending site, a deed restriction is recorded on the site to indicate the limited development potential.

The development rights that are transferred under such a program come from the amount of development that is allowed under current zoning and not being used by existing development. As an example, take an existing industrial site, where the land area is 40,000 square feet, and it contains a building of 30,000 square feet. That equates to an FAR on the

site of .75 (30,000/40,000). The IG zoning permits an FAR of 2.5, so this site has unused FAR of 1.75 (2.5 minus .75). If the property owner were to sell 1.5 of these extra FAR, the buyer would be allowed to add 60,000 square feet (1.5 x 40,000) to the development potential on the receiving site, assuming the zoning on the receiving site permits the larger building size.

The majority of industrial-zoned parcels in Seattle have FARs well below the allowed 2.5, leaving owners with a potential excess of development rights. As reported above, the average FAR for an industrial use is 0.33, and the average FAR for non-industrial uses in an industrial zone is 0.79.

Sale of excess industrial FAR could complement zoning and development regulations to help achieve the City's goals for the industrial areas. While the City's Land Use Code limits the size and type of development that can occur on industrial lands, TDR programs could offer a private market device for controlling development in selected locations.

In evaluating a potential TDR program for Seattle's industrial land, we identified several issues:

- the large amount of unused FAR in industrial areas
- limited guidance in terms of what an industrial TDR is intended to protect
- identifying potential receiving sites

There are over 4,000 acres of land in parcels zoned IG, and the average FAR on these parcels is well under 1.0, leaving more than 1.5 FAR unused. If a TDR program were to limit the amount of development right that could be transferred to just 1.0 of that FAR, the total amount of development rights available from the IG zones would be more than 185,000,000 square feet of development space. That is equivalent to more than three times the total amount of commercial space currently built in all of Downtown Seattle. Such an enormous amount of development potential could never be fully used and would make a TDR program unworkable because such an oversupply of development rights would lower the price of those rights to the point where industrial property owners would not benefit from their sale.

More specific guidance for an industrial TDR that focuses it toward addressing a specific problem

could assist in achieving some narrow goals related to industrial areas. One way to focus the program would be by limiting it to an area where the City has an interest in maintaining existing uses, such as:

- the portion of the Duwamish M/IC north of Spokane Street because of its proximity to possible receiving sites in downtown
- a particular sector of the industrial economy, such as maritime uses that tend to be geographically clustered along the shoreline, where development is already more restricted
- land containing certain industrial uses (e.g. manufacturing)

Seattle already uses TDR programs, such as ones that protect historic properties and existing affordable housing structures downtown. These programs tend to permit rights to be transferred within the same "neighborhood" as the sending site. If part of the purpose of a TDR program in industrial zones is to control the amount of development on industrial sites, it would be counter-productive to allow another industrial site to accumulate additional development rights. On the other hand, transferring development rights from the industrial zones to urban centers or urban villages, where the City's policies call for increasing development, could undermine other TDR or incentive programs in those areas.

Recommendation about Transfer of Development Rights

At this point, we recommend not pursuing TDR in industrial zones. While TDR can be a useful tool to help preserve existing uses or structures, no uses or structures in the City's industrial zones critically requiring preservation have been identified. Without tightly focusing the values the City wants to preserve in these zones, the broad application of TDR within the industrial areas would create such an enormous amount of potentially available development rights that the market could not absorb even a fraction of them, and the system would not function.

Adaptive Reuse

Adaptive re-use is the process of using an existing building for an activity different from the one for which it was originally built. Allowing adaptive re-use is often used as a preservation strategy to maintain existing structures that would otherwise be demolished and replaced. The preserved buildings

might not necessarily be designated as landmarks or given other historic status, but they could be structures that have become less useful for industrial purposes, and that could be easily converted to other uses. Adaptive reuse has also been used in areas suffering from high vacancy rates, as a way to attract economic development through new uses of unused structures.

Allowing the productive reuse of existing buildings could help to meet the City's environmental goals and objectives, specifically the Zero Waste Strategy, by avoiding demolition of industrial buildings that are typically built with thicker walls and flooring, and thus produce more waste when demolished. An adaptive reuse policy could also help to preserve the character of historic industrial buildings and allow property owners some financially viable use of potentially obsolete buildings.

With the 2007 adoption of lower limits on office and retail uses in most of the Seattle's industrial areas, adaptive reuse has been suggested as one way to allow more productive use of existing structures without contradicting the intent of the limits. An adaptive reuse policy for Seattle's industrial zones would need to strike a balance between encouraging the reuse of existing buildings and maintaining industrial zones for industrial uses. While adaptive reuse policies provide one means to maintain existing structures, it could lead to further encroachment of non-industrial uses on scarce industrial-zoned land.

In the context of Seattle's industrial zones, allowing adaptive reuse of existing buildings implies creating exceptions to the size of use limits for office and retail uses for certain industrial structures. If the City chooses to permit adaptive reuse in industrial zones, locations where this practice would be allowed and standards to be followed should be developed in way that will control the types of impacts the size-of-use limits are intended to prevent.

Examples of adaptive reuse policies from other cities illustrate different types of policy objectives such as increasing residential use, historic preservation, and economic revitalization. Most often these policies target specific geographic areas or neighborhoods. In Seattle, there are few vacant industrial buildings,

and they are not concentrated in any specific geographic location. Adaptive reuse policies in other cities also tend to emphasize the conversion of buildings from industrial to residential use, whereas in Seattle the focus would be on allowing conversion to commercial or office use.

Policies for adaptive reuse in other cities are in place to address specific issues – for instance, a need for more residential land or to bring economic development to severely blighted areas. These conditions do not exist in Seattle to the extent they are found in cities that have adopted adaptive re-use strategies. However, there are buildings in industrial areas that may no longer be suitable for industrial uses.

As experience in other cities demonstrates, there are a number of ways to identify sites suitable for adaptive reuse: building type, character, size and location.

One approach would be to promote adaptive reuse policies in areas where industrial land is in proximity to residential uses, such as Georgetown, South Park or parts of Fremont and Ballard. Although vacant buildings are not concentrated in any one specific geographic area, an adaptive reuse policy based in a geographic area would be one way to preserve a neighborhood's character, and act as an incentive to preserve, rather than demolish historic industrial buildings. Any adaptive reuse policy would need to be crafted so as to not threaten the viability of existing industrial areas. DPD would need to do further research to identify areas where it might be appropriate to allow additional commercial density in industrial zones and allow limited flexibility to establish new uses that are consistent with neighboring industrial functions.

In our interviews and public outreach we heard that multi-story buildings have the most need for an adaptive reuse approach, since few contemporary warehousing and manufacturing practices function efficiently on multiple floors. In particular, large multi-story warehouse buildings that were built with reinforced concrete and extra structural support should be highlighted for reuse. Other structures that could be candidates for reuse are buildings in the industrial zones that were built for non-industrial purposes and therefore are not easily adapted to industrial activities.

One such structure is the Post Office garage at 4th and Lander in the Duwamish M/IC.

There are several incentives for property owners to pursue adaptive reuse: not being limited to the size-of-use limits allows owners to obtain rent for the entire structure; rent levels from retail and office users are typically higher than from industrial users; and being able to use the existing structure saves the expense of demolition and of constructing a new one.

Recommendations about Adaptive Reuse

Consider allowing adaptive reuse of multistory buildings in industrial zones. DPD will continue its analysis to determine the effects of different height thresholds for allowing the reuse and will provide development standards governing the use and design of these reused buildings to help control the potential displacement impacts commercial uses can have on industrial areas.

Zone Boundaries

Resolution 31026 directed DPD to analyze whether the boundaries of the M/ICs should be adjusted to reflect land uses, proximity to urban centers and urban villages and proximity to transit.

DPD has conducted extensive analysis of the north edge of the Duwamish M/IC, where it abuts the Downtown Urban Center as part of the ongoing South Downtown Plan. The Mayor will soon be recommending zoning changes for some of the land in the MIC, as well as for some industrially zoned land in the urban center. These recommendations recognize the opportunity for continued growth in the southern portion of the urban center and take advantage of major physical barriers (freeway ramps and stadia) to provide a separation beyond the more intense mix of uses in downtown and the industrial uses of the M/IC. The zoning changes proposed in the southern portion of the urban center allow for increased levels of development to take advantage of the major transit hub at South King Street. Recommended changes to industrial zoning include redesignating some land south of Dearborn St. from IG to IC.

DPD has also begun to look at industrial zones inside urban villages, in light of the recently adopted Comp Plan policy LU147.1 which says:

Industrial zones are generally not appropriate within urban centers or urban villages since these are places where the City encourages concentrations of residential uses. However in locations where a center or village abuts a manufacturing/industrial center, the IC zone within the center or village may provide an appropriate transition to help separate residential uses from heavier industrial uses.

Three urban villages that currently contain industrial zoning are Ballard, Fremont and Eastlake. DPD is using information collected during the land use inventory, additional site visits to these areas and discussions with community groups about the current zoning and the related Comp Plan policy. Based on staff analysis, including comparisons between conditions on the ground and adopted rezone criteria for each zone, we will be formulating recommendations about whether and how to change the zoning of these current industrial areas.

One other area where we will be conducting similar analysis is Georgetown. Georgetown is not an urban village; however, it is unique among Seattle neighborhoods in that it is an island of land zoned commercial and residential, surrounded by industrial zoning. More than most other edges of the M/IC, some of Georgetown's boundaries present land use conflicts between industrial and residential uses.

Recommendations about Zone Boundaries

The executive will forward recommendations about possible zoning changes for the urban village and Georgetown areas once the analysis and community processes are completed.

APPENDIX A.

LAND USES OBSERVED AND MAPPED IN 2008 DPD INVENTORY

Mapped Use	Observed Parcel Use
Manufacturing/Processing	Light Manufacturing - glass
	Light Manufacturing – metal
	Light Manufacturing – wood
	Light Manufacturing – other
	Printing and paper products
	General Manufacturing - glass
	General Manufacturing – marine
	General Manufacturing – metal
	General Manufacturing – other
	General Manufacturing – plastics
	General Manufacturing – stone
	General Manufacturing – wood
	Food production/services
	Food production/services – beverages
	Food production/services - catering
	Food production/services – seafood
Transportation	Cargo Terminal
	Air Transportation
	Bus Transportation
	Marine Transportation
	Rail Transportation
Warehouse	Warehouse Distribution
	Warehouse – Self Storage
	Warehouse - Storage
Heavy Sales/Service	Heavy Sales/Service – business products
	Heavy Sales/Service – construction
	Heavy Sales/Service – home products
	Heavy Sales/Service – industrial products
	Heavy Sales/Service – landscaping
	Heavy Sales/Service – other
	Heavy Sales/Service – plumbing
Outdoor Storage	Outdoor Storage – industrial equipment
	Outdoor Storage – industrial materials
	Outdoor Storage – other
Marine	Marina
	Marine Sales
	Marine Services
	Marine Services – boat maintenance
	Dry Boat Storage

Mapped Use	Observed Parcel Use
Public Facilities/Utilities	Public Facilities
	Utility
	Solid Waste Transfer Station
	Recycling
Residential	Multifamily Residential
	Single Family Residential
	Art Loft
	Residential - other
Research and Development Laboratory	Research and Development Laboratory
Office	Office – architect/engineer
	Office – computer/media
	Office – distribution
	Office – law
	Office – marine
	Office – medical
	Office – real estate
	Office – other
Entertainment	Sports Facilities
	Live Theater
	Sports Arena/Stadium
	Entertainment – other
Retail/Service	Auto Sales
	Auto Services
	Financial/Employment Services
	Gas Station
	Equipment Rental
	Bicycle/Scooter Sales/Service
	Pet Boarding /Services
	Business Service
	Electronics Service
	Household Services
	Industrial Services
	Sales – business products
	Sales – electronics
	Sales – household products
	Sales – industrial
	Sales – food/grocery
	Sales – personal health
	Sales – plants
	Sales – sporting goods
	Sales – other
	Lodging
Fast Food Restaurant	
Restaurant/Bar	
Other Food/Drink Eateries	

Mapped Use	Observed Parcel Use
Institutions	Community Center
	Museum
	School – community college
	School – elementary
	School – vocational
	Religious institution
Vacant	Vacant Lot
	Vacant Building
	Partially Vacant
	Vacant – with proposed land use notice
	Vacant – under construction
Open Space	Park
	P-Patch
	Under Water
	Undeveloped
Parking	Parking Lot - Free
	Parking Lot – Paid
	Parking Lot – Private
	Parking Lot - Trucks

APPENDIX B.

BACKGROUND PAPER:

INDUSTRIAL DEFINITIONS

January 2009

Overview

As part of the 2008 Industrial Work Program, DPD staff was asked to look at the definitions of several industrial terms to determine if they are consistent with current and emerging industry and best practices in other cities. Given the City's December 2007 legislation to support industrial uses by reducing the size of use limits for office and retail uses in industrial zones, definitions need to be reviewed with our current regulations to see whether they are outdated and/or are broad enough to include newly developing industries.

One area of possible distinction is between the terms "industrial" and "manufacturing". Often the two words are used interchangeably, although often manufacturing is simply a subset of the larger category of industrial use. It is appropriate to review how the City currently defines manufacturing and ensure that regulations accommodate new industries – ranging from fabrication and assembly to new technologies and industrial support businesses.

Existing Definitions

The city has two main policy guidance documents, the Land Use Code and the Comprehensive Plan. The intent of this paper is to examine existing definitions and policy directives in both documents, to determine that they are consistent with current and emerging industry and best practices in other cities, and to establish a common understanding for specific terms. Another definition DPD was tasked to examine is "research and development," however this topic has policy implications larger than simply changing its definition, so it is discussed in a separate background paper.

Industrial

This term is not currently defined in the Land Use Code. Although the Comprehensive Plan does not address specific definitions for the term either, there are relevant goals and policies for industrial land addressed in the Land Use Element and the neighbor-

hood plan for the Greater Duwamish Manufacturing/Industrial Center:

LU141 – Consider manufacturing uses, advanced technology industries and a wide range of industrial-related commercial functions, such as warehouse and distribution activities, appropriate for industrial areas.

GD-G3 – Land in the Duwamish Manufacturing/Industrial Center is maintained for industrial uses including the manufacture, assembly, storage, repair distribution, research about or development of tangible materials and advanced technologies; as well as transportation, utilities and commercial fishing activities.

Manufacturing

The Land Use Code defines manufacturing as use in which articles are produced by hand or by machinery, from raw or prepared materials, by giving to those materials new forms, qualities, properties, or combinations, in a process characterized by the repetitive production of items made to the same or similar specifications. Items produced are generally sold directly to other businesses, or are sold at wholesale. The retail sale of items to the general public is incidental to the production of goods. For the purpose of this definition, uses listed as food processing and craft work or high-impact uses are not considered manufacturing uses. Manufacturing uses include the following:

1. "Manufacturing, light" means a manufacturing use, typically having little or no potential of creating noise, smoke, dust, vibration or other environmental impacts or pollution, and including but not limited to the following:
 - a. Production, assembly, finishing, and/or packaging of articles from parts made at another location, such as assembly of clocks, electrical appliances, or medical equipment.
 - b. Production of finished household and office goods, such as jewelry, clothing or cloth, toys, furniture, or tents, from materials that are already refined, or from raw materials that do not need refining, such as paper, fabric, leather, premilled wood; or wool, clay, cork, semiprecious or precious metals or stones, fiber, or other similar materials;

- c. Canning or bottling of food or beverages for human consumption using a mechanized assembly line or food processing for animal consumption;
- d. Printing plants with more than five thousand (5,000) square feet of gross floor area.
- 2. "Manufacturing, general" means a manufacturing use, typically having the potential of creating moderate noise, smoke, dust, vibration or other environmental impacts or pollution, and including but not limited to the following:
 - a. Production of items made from stone or concrete;
 - b. Production of items from ferrous or nonferrous metals through use of a machine shop, welding or fabrication; or from nonferrous metals through use of a foundry; or from ferrous metals through use of a foundry heated by electricity (induction melting);
 - c. Production of recreational or commercial vessels of less than one hundred twenty (120) feet in length to individual customer specifications;
 - d. Production of finished goods, that typically are not for household or office use, such as barrels, ceramic molds, or cardboard cartons, from materials that are already refined, or from raw materials that do not need refining, such as paper, fabric, leather, premilled wood; or wool, clay, cork, semiprecious or precious metals or stones, fiber, or other similar materials;
 - e. Production of finished goods, for household or non-household use, such as toys, film, pens, or linoleum from plastic, rubber, or celluloid;
 - f. Production of parts to be assembled into a finished product;
 - g. Development of film on a wholesale basis;
 - h. Production of items through biological processes, such as pharmaceuticals and industrial purifiers, manufactured by bio-engineering techniques;
 - i. Production of items such as paint and coatings, dyestuffs, fertilizer, glue, cosmetics, clay, or pharmaceuticals that require the mixing or packaging of chemicals.
- 3. "Manufacturing, heavy" means a manufacturing use, typically having the potential of cre-

ating substantial noise, smoke, dust, vibration and other environmental impacts or pollution, and including but not limited to:

- a. The extraction or mining of raw materials, such as quarrying of sand or gravel;
- b. Processing or refining of raw materials, such as but not limited to minerals, petroleum, rubber, wood or wood pulp, into other products;
- c. The milling of grain or refining of sugar, except when accessory to a use defined as food processing for human consumption or as a retail sales and service use;
- d. Poultry slaughterhouses, including packing and freezing of poultry;
- e. Refining, extruding, rolling, or drawing of ferrous or nonferrous metals, or the use of a non-induction foundry for ferrous metal;
- f. Mass production of commercial or recreational vessels of any size and the production of vessels one hundred twenty (120) feet in length constructed to individual specifications;
- g. Production of large durable goods such as motorcycles, cars, manufactured homes, airplanes, or heavy farm, industrial, or construction machinery;
- h. Manufacturing of electrical components, such as semiconductors and circuit boards, using chemical processes such as etching or metal coating;
- i. Production of industrial organic and inorganic chemicals, and soaps and detergents; and
- j. Conversion of solid waste into useful products or preparation of solid waste for disposal at another location by processing to change its physical form or chemical composition. This includes the off-site treatment or storage of hazardous waste as regulated by the State Department of Ecology. The on-site treatment and storage of hazardous waste is considered an incidental or accessory use.

Analysis

Seattle's Land Use Code defines manufacturing because it is a group of uses the City permits with specific development regulations. "Industrial" is a more general term used to capture a set of uses that

are employment-based, generally land-intensive and often involving processes, materials, noise, light, and hours of operation that are incompatible in residential or mixed-use environments.

Based on conversations with several focus groups and in comparison with current practices in other cities, it does not seem practical to further define the term industrial. Only one city that was used as a basis for comparison (see the table at the end of this background paper), Minneapolis, has a specific definition for the term industrial, which in large part describes the manufacturing process (Minneapolis also has no definition for the term manufacturing). Although the current definition of manufacturing appears to be adequate, members of the focus group meetings hosted by DPD made several suggestions to help clarify the term. This includes adding a noise component within definition of manufacturing. With Seattle's growing residential needs, encroachment on traditionally industrial lands often leads to conflicts between businesses and neighbors. Including a noise element to the manufacturing definition would help reinforce the parameters of uses that are allowed in industrial zones.

In addition, most other cities have food processing designated under their manufacturing definition; possible Seattle should consider making this change. Seattle's code allows canning or bottling of food or beverages for human consumption using a mechanized assembly line or food processing for animal consumption. Cities like Chicago allow limited food processing, which has similar needs for space, noise and inexpensive land as other more traditional manufacturing businesses.

The current definition of manufacturing also seems to lack a high tech component. For example, electronic circuit work is an emerging technology that could be considered manufacturing (or research and development), but it has a large office component. How would the City regulate uses that are manufactured elsewhere, but brought here to be tested, and have a large office to support component, and/or testing sites that look more like offices? Representatives from NAIOP expressed concern that if new "clean" technologies that don't look like traditional industrial uses are defined as office, they will be shut out of Seattle. The ability to operate in the cheaper industrial zones provides an economic cushion to allow these businesses incubate.

Definition	Vancouver, BC	Portland, OR	Chicago, IL	Minneapolis, MN
Manufacturing	<p>Manufacturing Use means and includes all of the following uses, and any one of them, but no other... and provides a detailed list of all types of uses allowed in industrial zones. Each zone has a list of what uses are permitted or require a conditional use permit.</p>	<p>Manufacturing And Production</p> <p>A. Characteristics. Manufacturing And Production firms are involved in the manufacturing, processing, fabrication, packaging, or assembly of goods. Natural, man-made, raw, secondary, or partially completed materials may be used.</p> <p>Products may be finished or semi-finished and are generally made for the wholesale market, for transfer to other plants, or to order for firms or consumers. Goods are generally not displayed or sold on site, but if so, they are a subordinate part of sales. Relatively few customers come to the manufacturing site.</p> <p>B. Accessory uses. Accessory uses may include offices, cafeterias, parking, employee recreational facilities, warehouses, storage yards, rail spur or lead lines, docks, repair facilities, or truck fleets. Living quarters for one caretaker per site in the E and I zones are allowed. Other living quarters are subject to the regulations for Residential Uses in the base zones.</p>	<p>1. Artisan. On-site production of goods by hand manufacturing, involving the use of hand tools and small-scale, light mechanical equipment. Typical uses include woodworking and cabinet shops, ceramic studios, jewelry manufacturing and similar types of arts and crafts or very small-scale manufacturing uses that have no negative external impacts on surrounding properties.</p> <p>2. Limited. Manufacturing of finished parts or products, primarily from previously prepared materials. Typical uses include: catering establishments, printing and related support activities; machinery manufacturing; food manufacturing; computer and electronic product manufacturing/assembly; electrical equipment, appliance, component manufacturing / assembly; furniture and related product manufacturing / assembly; and other manufacturing and production establishments that typically have very few, if any, negative external impacts on surrounding properties.</p> <p>3. General. (a) Manufacturing of finished or unfinished products, primarily from extracted or raw materials, or recycled or secondary materials, or bulk storage and handling of such products and materials. Typical uses include: textile mills; textile product mills; apparel manufacturing; leather and allied product manufacturing; wood product manufacturing; paper manufacturing; chemical manufacturing; plastics and rubber products manufacturing; nonmetallic mineral product manufacturing; transportation equipment manufacturing; primary metal manufacturing; and fabricated metal product manufacturing.</p> <p>(b) Industrial service firms engaged in the repair or servicing of industrial or commercial machinery, equipment, products or by-products. Typical uses include: welding shops; machine shops; industrial tool repair; fuel oil distributors; solid fuel yards; laundry, dry-cleaning, and carpet cleaning plants; and photofinishing laboratories. Excludes uses classified as "consumer repair or laundry services".</p> <p>4. Intensive. Manufacturing of acetylene, cement, lime, gypsum or plaster-of-Paris, chlorine, corrosive acid or fertilizer, insecticides, disinfectants, poisons, explosives, paint, lacquer, varnish, petroleum products, coal products, plastic and synthetic resins and radioactive materials. This group also includes smelting, animal slaughtering and oil refining.</p>	None

Definition	Vancouver, BC	Portland, OR	Chicago, IL	Minneapolis, MN
Industrial	No specific definition for this term.	No specific definition for this term.	No specific definition for this term.	<p>(1) Light industrial uses. Light industrial uses are low impact uses which produce little or no noise, odor, vibration, glare or other objectionable influences and which have little or no adverse effect on surrounding properties. Light industrial uses generally do not include processing of raw materials or production of primary materials. Light industrial uses include, but are not limited to, the production or processing of the following...</p> <p>(2) Medium industrial uses. Medium industrial uses include metal working, glass and other uses which have the potential to produce greater amounts of noise, odor, vibration, glare or other objectionable influences than light industrial uses and which may have an adverse effect on surrounding properties. Medium industrial uses may include processing of raw materials or production of primary materials. Medium industrial uses include, but are not limited to, the production or processing of the following...</p> <p>(3) General industrial uses. General industrial uses include high impact and outdoor uses which are likely to have a substantial adverse effect on the environment or on surrounding properties and which require special measures and careful site selection to ensure compatibility with the surrounding area. General industrial uses often include processing of raw materials and production of primary materials. General industrial uses include, but are not limited to, the production or processing of the following...</p>

APPENDIX C: BACKGROUND PAPER: DEFINITION OF RESEARCH AND DEVELOPMENT

January 2009

As part of the 2008 work plan, Seattle City Council requested that DPD examine the current definition of research and development laboratories (R&D), to ensure that it is consistent with current and emerging industry and best practices in other cities.

The needs and impacts of industrial uses are often incompatible with typical commercial and office uses, and for this reason, industrial uses are generally limited or prohibited in the city's commercial zones. R&D is a type of use that can have many definitions, and, depending on the type of research, can fit in either industrial or commercial categories. This makes it a difficult land use to specifically categorize.

Some R&D operating facilities, such as software development, look very similar to a traditional office use and are better suited for commercial spaces. Other R&D operations, such as medical, biotech or alternative energy research facilities, have operating requirements that are more similar to industrial uses in terms of infrastructure needs, space requirements, and potential impacts to the surrounding environment.

Existing Definition(s)

Seattle's land use code defines "Laboratory, research and development" as a use in which research and experiments leading to the development of new products are conducted. This type of use may be associated with an institutional, clinical or commercial facility. Space designed for this use typically includes features such as: floor to floor ceiling heights, generally fourteen (14) feet in height or greater to accommodate mechanical equipment and laboratory benches plumbed for water service.

In addition to the land use code, Seattle's Comprehensive Plan also provides some guidance for research and development:

LU168. Use the Industrial Commercial zones to promote a wide mix of employment ac-

tivities, including industrial and commercial activities such as light manufacturing and research and development.

Examples from Other Cities

The following examples from other cities have opted to address R&D by defining it as a specific use, or creating a specific zoning designation.

Austin, Texas (zoning designation)

Research and Development (R&D) District Designation: ...is the designation for a research use located on a site with a campus-style design. An R&D district designation may be applied to testing services, research warehousing services, or research assembly services. An R&D district use may not include fabrication, processing, manufacturing, refining, or resource extraction.

- Height: 45 feet (2) Minimum Lot: 5 acres Minimum Area: 25 acres
- Research testing services, research warehousing services, research assembly services. Subject to PDA (Planned Unit Development Area) combing district.

San Diego, California (use definition)

Research and Development — Uses engaged in scientific research and testing leading to the development of new products and processes.

- Research & Development is listed as a use and is allowed in all industrial zones.

Minneapolis, Minnesota (use definition)

Research, development and testing laboratory: An establishment in which facilities for scientific research, investigation, testing or experimentation are located, but not facilities for the manufacture of products, except as incidental to the main purpose of the laboratory.

Vancouver, BC (use definitions)

- **Information Technology** means the development or production of computer software, and the design or research of computer, electrical, electronic or communications equipment, and similar products;
- **Office Uses** means and includes all of the following uses, and any one of them, but no other:
 - **Financial Institution**, which means the use of premises by banks, credit unions and trust companies;

- **General Office**, which means the use of premises for any office use, including Information Technology and desktop publishing, but does not include Financial Institution, Health Care Office or Health Enhancement Centre;
- **Laboratory**, which means the use of premises not providing service directly to the public for the provision of analytical, research, or testing services, including biotechnologies and energy and environmental technologies, but does not include Photofinishing or Photography Laboratory;
- **Laundromat or Dry Cleaning Establishment**, which means the use of premises with a maximum floor area of 300 m² for the laundering or cleaning of clothing, draperies or related small household goods;
- **Software Manufacturing**, which means the use of premises for manufacturing computer software in bulk, and includes copying, packaging, storing, and shipping;

Uses allowed in Vancouver's industrial zones:

- MC-1 and MC-2: Laboratory (Service), General Office (Office) and Software Manufacturing (Manufacturing) outright allowed.
- M-1: Software Manufacturing, allowed outright. Laboratory and limited General Office require Conditional Use Permit (CUP).
- M-1A: Laboratory, limited Office and Software Manufacturing require CUP.
- M-1B: Software Manufacturing outright allowed. Laboratory and limited General Office require CUP.
- M-2: Software Manufacturing outright allowed. Laboratory and limited General Office require CUP.
- IC-1 and IC-2: Laboratory, General Office and Software Manufacturing outright allowed.
- IC-3: Software Manufacturing and Laboratory outright allowed. Limited General Office requires CUP.
- I-1: Software Manufacturing and Laboratory outright allowed. Limited General Office requires CUP.
- I-2: Software Manufacturing and Laboratory outright allowed. Limited General Office requires CUP.
- I-3: Software Manufacturing, General Office

limited to Information Technology, and Laboratory outright allowed.

Analysis

Contemporary categories of R&D operations such as medical, biotech, and alternative energy, have building and site requirements similar to more traditional industrial users. These types of R&D labs require adjacency to administrative office space, and have workers who need laboratory and office work space to allow experiments to run. In a meeting with representatives from biotech and medical research companies, key elements of R&D facilities were discussed and include:

- 20-30,000 sq. ft. floor plate (large enough for critical mass of research team, small enough to bear loads and accommodate infrastructure).
- 14-16' floor-ceiling height.
- IBC limits uses of certain chemicals to the lower floors.
- Extensive venting through roof.
- Redundant systems for protection.
- Control for vibrations.
- Inoperable windows to control air flow.
- High electrical needs.
- Floors that will accommodate heavy loads.
- Potentially, there are existing industrial buildings that could be adapted for reuse for purposes of R&D.

Given the needs of these types of R&D companies, they generally operate in shorter buildings. The typical high-rise typology is not feasible due to the weight of the building and overall lateral movement potential. In addition, the return on investment might not be as great due to the need for higher ceilings, which restricts the ability to have a lot of additional stories. Once a highly specialized R&D building is built, it is sometimes difficult to reoccupy, so owners are highly motivated to keep their structures from becoming vacant. Other key site elements include:

- Access by auto and/or delivery trucks. Although mostly lab/office, they need to have the ability to allow raw materials to come in, and not via rail.
- Space for staging materials, indoor and outdoor storage of piping and metals.
- Distance from other buildings to serve as a

- security buffer for intellectual property.
- Access to overall intellectual environment in Seattle.
- Avoid conflicting uses. IC zoning can work well, but surrounding IG1/2 zones can be incompatible.
- Need space and the ability to grow. Representatives weren't interested in relocating in Bothell (where they manufacture) because a large part of their workforce is in Seattle, and 70% commute in ways other than single occupancy vehicles.

These types of R&D facilities can be appropriate in industrial zones, except for the fact that some have sensitive laboratory equipment that can be impacted by noise/vibrations from adjacent industrial users.

Due to that limitation, R&D facilities may be appropriate in nearly all industrial zones, and in particular IC zones, but not within the boundaries of any Manufacturing or Industrial Center (MIC). This would help accomplish the goals of leaving the city's limited supply of industrial-zone land available for high-impact uses.

By contrast R&D uses centered on software development would be less appropriate for industrial zones. Software development as a use more closely resembles a traditional office, with a greater number of employees, and subsequent greater need for parking. Software R&D is more appropriate in commercial zones, and possibly IB or IC zones, although height restrictions in the IB/IC zones rarely allow the opportunity to maximize the allowable FAR, which is important to office building developers.

Compared to the extensive definitions of different types of R&D by the city of Vancouver, BC, Seattle's definition is much less extensive. Vancouver has separate definitions for Laboratory, Software Manufacturing, and Laboratory. It could be argued that all three of these uses could fit under Seattle's one definition for "Laboratory, research and development."

One final issue that was raised by representatives from biotech and medical research companies is whether or not the current categories of industrial uses reflect the kind of R&D operations the City

hopes to attract. Smaller startup R&D companies are becoming increasingly present in industrial lands because they need both the laboratory space and the relative inexpensiveness afforded by operating in industrial rather than commercial land. These kinds of R&D companies, largely non-software, need industrial-type space to survive and thrive. Representatives gave examples of characteristics of these kinds of startup companies:

- Need to be within walking distance to hospitals, university campus.
- Need start up lab space, it's hard to create labs and necessary infrastructure by themselves.
- Small companies need an expanded time line for success, even as much as 15 years.
- Companies need lab space of 2,000-5,000 square feet, and often have a wet lab in combination with office space.
- Flexibility is important.
- Will not spend money on tenant improvements.

APPENDIX D:

BACKGROUND PAPER ON FLOOR AREA RATIO (FAR)

January 2009

Floor area ratio (FAR) is the ratio of the total floor area of a building to the total land area of the site. Expressed as a formula, $FAR = (\text{total covered area on all floors of all buildings on a lot}) / (\text{area of the lot})$. FAR can be used as a zoning tool to limit the amount of construction in a certain area, and subsequently impact land value. By regulating height, bulk and scale through FAR, a builder is allowed some flexibility and can plan for either a single-story building consuming the entire allowable area in one floor, or a multi-story building that rises higher, but which must have a smaller footprint than would a single-story building of the same total floor area.

In Seattle's industrial zones, the City must balance the often competing goals of preserving the value of the land for the property owner and reducing the pressure to convert land to non-industrial use. Establishing FAR is one method for shaping land use patterns in the industrial zones. In 2007, the Seattle City Council passed legislation that increased FAR in the IG1 zone from 1.0 to 2.5. Along with the change to the FAR and new size of use limits, the Council requested that DPD further explore whether the 2.5¹ FAR limits is appropriate in industrial zones. Currently, development in the industrial zones are subject to an FAR of 2.5 as well as the following size of use limits, which apply to both principal and accessory uses on a lot:

- IG1 – 10,000 SF
- IG2 – 25,000 SF
- IB – 100,000 SF
- IC – no size limit

Industrial land in Seattle is relatively inexpensive and therefore appealing to investors. In addition, the current FAR limit does not correspond with height limits in industrial zones, causing some landowners to feel as if they are not able to maximize the full value of their land. However, there is concern

that raising FAR limits would encourage use of the land for non-industrial purposes, thus placing more development pressure on the already limited supply of industrial land.

Existing Definition in the Seattle Land Use Code

"Floor area Ratio" means a ratio expressing the relationship between the amount of gross floor area or chargeable floor area permitted in one or more structures and the area of the lot on which the structure is, or structures are, located.

- FAR limit in IG1, IG2, IB, and IC (with an exception in South Lake Union) is 2.5
- FAR limit in IC/South Lake Union Urban Center is 3 (where height limit is 65' or 85')

Practices in Other Cities

The following are examples of other cities that have limits on FAR for industrial zones. Most cities have lower FAR limits in their industrial zones, and several have greater restrictions than Seattle on the allowable square footage of commercial/office/retail uses allowed in industrial zones. Cities like Portland, OR and Chicago, IL have particularly protective industrial policies with a combination of low FAR limits and low size of use limits.

Portland, Oregon

FAR limit of 3 for general employment zones and no limit in industrial zones. Limits office and retail uses in the city's most intense industrial zones to 3,000 sq. ft.

San Francisco, California

- FAR limit of 9 in Heavy Commercial zone.
- FAR limit of 5 in Light Industrial and Heavy Industrial zones.

Los Angeles, California

FAR limits range from 1.5 to 13 depending on the Height District. The majority of industrial land has a 1.5 FAR. Offices accessory to the primary industrial use of the lot, and showrooms for products produced on premises are allowed, provided that the total floor area of such offices and showrooms do not exceed the floor area of the primary industrial use, and that all of the merchandise sold during each calendar month is sold at wholesale.

¹ FAR limit is 3 in IC zones with 65 foot or 85 foot height limits in the South Lake Union Urban Center.

San Diego, California

FAR limit of 4 in all four industrial zones. Industrial-Heavy (IH) zones restrict uses to industrial with some minor associated uses with the following restrictions:

- Sundries/Pharmacy/Convenient Stores – 1,000 sq. ft. and no more than 10% gross floor area of the building.
- Restaurants – 3,000 sq. ft., no live entertainment and no drive-thru service.
- Business Support – 3,500 sq. ft. and no more than 25% gross floor area of the building.

Chicago, Illinois

There are three manufacturing districts and three “bulk” districts that overlay the manufacturing districts - the lowest level limits FAR limit of 1.2, middle level limit FAR limit of 2.2, the highest level limits FAR to 3.0. Limits principal office to 9,000 sq. ft., restaurants to 4,000 sq. ft., financial services to 3,000 sq. ft., and retail to 20% of the gross floor area sealing only goods produced onsite.

Minneapolis, Minnesota

FAR limit of 2.7 in all industrial zones. Retail sales, service and repair are prohibited in all the industrial districts except those specifically identified in the land use code, or where such activity is accessory to the principle use. Retail uses are not allowed in heavy industrial areas, and allows office for contractors, day labor agencies, and for general offices. Land use code allows for some conditional auto service uses.

Austin, Texas

Three of the zones: Industrial Park, Limited Industrial Services, and Major Industrial limits FAR to 1. The fourth zone, Research & Development, the FAR is limited to .25.

Atlanta, Georgia

FAR limit in industrial zones is 2.

Vancouver, British Columbia

FAR limits range from .75 to 5. The 5 FAR applies to just industrial uses – non-industrial uses are limited to an FAR of 1. Limits office to 2,530 sq. ft. or 25% of the total gross floor area, whichever is greater, and retail to 10,764 sq. ft.

Analysis

In order for Seattle to have viable industrial lands now and in the future, the City must encourage both traditional uses and encourage new, innovative industrial uses, while preserving the character of industrial zones. FAR is one regulatory tool that can be used, but the question remains whether the established 2.5 FAR is an appropriate limit.

Data from the 2008 Industrial Land Survey indicates that there are very few industrial parcels that use all of the 2.5 FAR allowed. The average FAR for industrial uses is 0.32, with the highest FAR (4.02) for a warehouse-type building that is currently used for heavy sales and services. There are several other older manufacturing or warehouse spaces (mostly multi-story) with a higher than average FAR, and some of these buildings have been converted to non-industrial uses such as live-work space, or mixed-use buildings with commercial/office/retail. Currently, there isn't much of a market for multi-story buildings to house warehouses or heavy manufacturing, and the City needs to consider whether to allow the conversion of these multi-story buildings to non-industrial uses such as office or retail.

With the exception of the few multi-story warehouses that are used for storage or light manufacturing, there are very few true industrial uses with a high FAR. The average FAR for industrial use is 0.32, well below the allowable 2.5 FAR. In contrast, the average FAR for non-industrial uses, which account for 11% of all industrial-zoned areas, is 0.84. This lends credibility to the argument that in order to protect Seattle's industrial zones, the City should lower the FAR for industrial lands. Table A and Table B offer a breakdown of FAR for general categories of industrial versus non-industrial uses (data was collected from the 2008 Industrial Lands Survey).

Table A. FAR for Industrial Uses*

Use	Land Area (Acres)	Building Square Feet	Average FAR
Transportation	1339.2	5,458,057	0.09
Warehouse	613	15,995,671	0.60
Manufacturing/ Processing	495	11,276,026	0.52
Marine	285.8	2,156,993	0.17
Heavy Sales and Services	266.8	6,685,587	0.58
Public Facilities/Utilities	128.5	1,498,379	0.27
Outdoor Storage	8.5	53,254	0.14
Research & Development	24	2,144,891	2.05

Table B. FAR for Non-Industrial Uses*

Use	Land Area (Acres)	Building Square Feet	Average FAR
Retail/Service	210	4,634,556	0.51
Office	224.6	10,086,613	1.03
Entertainment	48.5	2,106,543	1.0
Residential	12	442,440	0.85
Institutions	17.9	325,426	0.42

*These average FARs include only parcels with buildings.

In general, industrial businesses fall well short of using the full extent of their 2.5 FAR, leaving a theoretical surplus of development rights in the form of unused FAR. One option for the City is to explore a transfer of development rights (TDR) program that would allow industrial land owners to receive compensation by selling their excess FAR in exchange for permanently protecting their land for industrial use. A TDR program is further discussed in another background paper.

Raising or lowering the FAR will impact the value of industrial land, and in turn influence future development in and around Seattle’s industrial zones. Raising the FAR would increase the value of the land, which is taxed by King County at its highest and best use. In turn, the increased value would mean an increase in taxes that many industrial users can ill-afford. Real estate speculation combined with higher taxes could force many to sell their land and move to other locations with more affordable industrial land.

There are some reasons to support an increase in FAR. While some traditional industrial users have left the city, a new breed of industrial users is attracted to the relatively inexpensive industrial land. These new industrial users, such as research and development (R&D) laboratories, and “clean” technology development firms, need space that can often seem to have more in common with traditional office space. R&D labs are distinguished by their high ceilings, and need for both lab and office space.

However, R&D labs can dramatically change the character of an area and pose conflicts with industrial uses. But there is some concern that if new industrial uses don’t look like traditional industrial uses, and are defined as office, they will be shut out of Seattle’s industrial zones. It is the ability to operate in the city’s cheaper industrial zones that provides an economic cushion to allow these businesses to incubate and thrive.

In a series of meetings held with representatives from industry, there were several comment/s suggestions regarding FAR. In general, the feeling is that increasing the FAR for industrial land would encourage more non-industrial development. Representatives from the Manufacturing and Industrial Council (MIC) suggested lowering the FAR if the City truly wants to protect industrial use. Other suggestions include:

- Lower the FAR to 1.5; the only reason to have a high FAR is to have multiple stories, and no industrial use needs multiple stories.
- Lower the FAR just in the IG1 zone.
- Properties are taxed for their highest and best use, so if there is a lot of unused FAR, they are paying the price in taxes.

APPENDIX E: BACKGROUND PAPER ON TRANSFER OF DEVELOPMENT RIGHTS (TDR)

January 2009

Transfer of development rights (TDR) is market-based mechanism that supports the voluntary transfer of development rights from areas where a community would like to discourage development to places where that community would like to focus new growth. Through individual transactions, development rights are transferred from one area in need of protection (*sending site*) to an area that can accommodate additional growth (*receiving site*). Landowners in sending areas receive compensation for giving up their right to develop, while developers in receiving areas pay for the right to develop at greater densities or heights than would otherwise be allowed. When development rights are removed from a sending site, an easement is placed on it, allowing for permanent protection of the parcel (unlike zoning regulations, which can be changed).

A TDR program is one option for permanent protection of Seattle's industrial lands. The majority of industrial-zoned parcels (IG1, IG2, IB and IC zones) do not use their entire allocation of 2.5 floor-area-ratio (FAR), leaving owners with a potential excess of development rights. Based on the data collected in the 2008 Industrial Lands Inventory, the average FAR for traditional industrial uses is 0.32, and the average FAR for non-industrial uses in an industrial zone is 0.79. A TDR program would enable landowners to separate and sell the right to develop land from their other property rights, thus relieving some development pressure and permanently protecting their land.

Redistribution of the excess industrial FAR could potentially ease some of the development pressure in industrial zones. The combination of real estate speculation on property that is taxed at its highest and best possible use, rather than what actually exists on site, creates intense pressure for industrial landowners to convert their property to non-industrial uses. While the city's zoning code does limit the size and

type of development that can occur on industrial lands, TDR programs can offer more permanent protection than traditional zoning regulations, and can be easier to implement than zoning changes. TDR programs allow local governments to control land use but also compensate landowners for restrictions on the development potential of their properties.

Potential Sending and Receiving Sites

Identifying potential (and appropriate) sending and receiving sites can be the trickiest part of establishing a TDR program, especially in a city like Seattle that already has several TDR programs in place. A key component of the site selection process should be the policy relationship between sending and receiving sites. As such, a new TDR program in industrial zones wouldn't necessarily affect the operations of other TDR programs the City has adopted because the established receiving sites primarily exist in the core downtown area, where there is no clear policy relationship that would make downtown a logical receiving site from an industrial sending site.

Potential Sending Sites:

1. Any industrial-zoned land, with an industrial use, that exists inside a designated Manufacturing and Industrial Centers (MIC).
2. IG1 and IG2 parcels that aren't within a designated MIC.
3. Industrial sites that support water-dependent industrial uses.

In order for an industrial TDR program to work, several pieces must be in place, the most important of which is market demand for them. Owners of potential sending sites must be properly motivated to sell their development rights rather than fully develop the land themselves. Owners of potential receiving sites must be offered the proper incentives to use the program: increased FAR, exemptions from height or lot coverage requirements, or density bonuses. Because there should be a policy relationship between the sending and receiving sites, and residential uses are not allowed in industrial zones, increased housing density would not be an appropriate incentive for an industrial TDR program.

Potential Receiving Sites:

1. IB and IC-zoned land inside Urban Village designations.
2. All IB and IC-zoned land.
3. Key manufacturing/commercial interest needing increase in FAR to retain industrial use.
4. A company with functioning industrial land, but with headquarters outside an industrial zone that needs to expand.

Challenges

- Identifying appropriate sending and receiving sites.
- Educating the public about TDR programs and encouraging them to partake.
- Administering the program – by city staff or a private TDR bank?
 - TDR programs would not allow the protected sending site the flexibility to keep up with new zoning changes, or how the way the city is changing.

In public outreach meetings with representatives from industrial users and developers, there were several comments on a possible industrial TDR program:

- Because a lot of industrial uses don't maximize their FAR, there's the potential for lots of development rights to be transferred.
- TDR programs would run into problems of land valuation, and regulating the transfer process in the private sector. It's also a complicated, lengthy process, with ample opportunity for collusion if run exclusively by the private sector. It's also very difficult to get the paperwork all done correctly.
- Right now there doesn't seem to be any market demand for TDR, and there aren't many possible receiving sites.
- There might be some possibility for a TDR program to work if a developer owned both the sending and receiving site. The same person owning both sides would have some guarantee for fairness and that it would be done correctly.
- Would a TDR program work within industrial lands? In order to meet the goal of preserving industrial land it would work best to sell the excess FAR outside the industrial zone.
- A TDR program could possibly work, if de-

velopment rights were transferred out of the industrial zones to other parts of the city. TDR programs seem like another gimmick that isn't necessary if the city wants to protect industrial lands.

- With a TDR program in place the issue of property being taxed at the highest and best use is still relevant and won't provide any financial relief unless owners take part in a TDR program. If that's in place and there aren't enough receiving sites, the problem is exacerbated.
- What property owners or businesses are likely participants in an industrial TDR program?

APPENDIX F:

DPD PUBLIC OUTREACH FOR INDUSTRIAL LAND STUDY

1.1.2008	Industrial Developers and Real Estate Representatives <ul style="list-style-type: none"> DPD hosted a meeting to discuss potential changes to definitions, the effectiveness of existing (FAR) and new (TDR) regulatory tools, and the potential for adaptive reuse of existing industrial buildings. 	1.1.2008	Georgetown Community Council (leadership) <ul style="list-style-type: none"> DPD staff described the overall process and heard initial concerns from community leaders about zone edges.
9.10.2008	Ballard-Interbay Manufacturing and Industrial Center (BINMIC) Representatives <ul style="list-style-type: none"> DPD staff attended a meeting to present the findings of the 2008 Industrial Lands survey, and solicit feedback on BINMIC use maps. 	10.20.2008	BINMIC Maritime Users <ul style="list-style-type: none"> DPD staff attended a meeting to present the findings of the 2008 Industrial Lands survey, and solicit feedback on BINMIC use maps.
9.23.2008	North Seattle Industrial Association (NSIA) <ul style="list-style-type: none"> DPD briefed NSIA about potential changes to definitions, the effectiveness of existing (FAR) and new (TDR) regulatory tools, and the potential for adaptive reuse of existing industrial buildings. 	10.20.2008	Georgetown Community Council <ul style="list-style-type: none"> DPD staff attended a meeting to present the findings of the 2008 Industrial Lands survey, and solicit feedback on Georgetown area maps.
1.1.2008	Manufacturing and Industrial Council <ul style="list-style-type: none"> DPD briefed the MIC about potential changes to definitions, the effectiveness of existing (FAR) and new (TDR) regulatory tools, and the potential for adaptive reuse of existing industrial buildings 	10.28.2008	Shoreline Master Program Advisory Committee <ul style="list-style-type: none"> DPD staff attended a meeting to answer questions on the land use inventory and how that information could relate to the Shoreline Master Program.
1.1.2008	Research & Development Users and Tenants <ul style="list-style-type: none"> DPD hosted a meeting to learn about the unique needs of R&D companies, and their compatibility with other industrial land users. 	12.10.2008	Municipal League Foundation Port Study <ul style="list-style-type: none"> Briefed committee on earlier research and process underway in 2008.
		1.5.2009	Sodo Business Association <ul style="list-style-type: none"> DPD staff presented outline of research being conducted and solicited comments on land use inventory. Discussed inventory methodology in depth.
		3.3.2009	Lake Union District Council <ul style="list-style-type: none"> DPD staff briefed the District Council about the ongoing industrial land analysis, focusing on the zoning analysis of industrial zones within the Fremont and Eastlake urban villages.

- 3.11.2009 BINMIC/Ballard Area Stakeholders
- DPD staff attended a meeting to answer questions on the land use inventory and industrial lands report, and the potential impact on industrial land in Ballard.
- 3.16.2009 Queen Anne Community Council
- Provided overview of ongoing industrial analysis, with a focus on the idea of developing a planned action at Terminal 91.
- 3.27.2009 BINMIC Action Committee
- At the request of the Committee, DPD staff met to discuss the process and time line for rezoning industrial parcels within the Ballard Urban Village boundaries.
- 4.21.2009 Magnolia Community Club
- Provided overview of ongoing industrial analysis, with a focus on the idea of developing a planned action at Terminal 91.

