

Memorandum

DATE: July 25, 2022

TO: Planning Commission

FROM: Chad Eiken, Director, Community Development Department
Becky Coutinho, Associate Planner, Community Development Department

RE: Proposed Warehouse Code Amendments

Problem Statement/Moratorium Background

Toward the end of 2022, city planning staff noticed a trend of very large (as large as 600,000 square feet) warehouses being submitted for development approvals. At the time, there were as many as eight warehouses larger than 100,000 square feet being proposed or under construction, with a cumulative building area of 3.34 million square feet, the equivalent of 58 football fields. Other cities were (and are) experiencing a similar surge in large warehouse projects, and staff was hearing reports of mega-warehouses elsewhere, such as a 2.5 million square foot warehouse in Tacoma.

These extremely large facilities appear to be a growing trend nationally in response to the increasing demand for online retail shopping and parcel delivery as well as supply chain logistics issues, and consume significant swaths of limited industrial land with typically lower jobs per acre ratio than many other industrial uses.

Staff became concerned that if the trend continued, limited industrial lands would be consumed by low-wage, low jobs per acre uses that could otherwise be developed for higher wage skilled manufacturing or research and development jobs. Additional concerns with large warehouses that were identified by staff included an increase in truck traffic and pollution, energy consumption/climate impacts from such large building footprints, visual impacts, and the potential for adaptive re-use of such structures if in the future they are no longer needed for storage of goods.

In December of 2022, planning and economic development staff took their concerns to City Council and recommended that an emergency six-month moratorium be adopted to prevent the submission of any new pre-applications or land use applications for warehouses larger than 100,000 square feet to allow staff time to study these new types of warehouses and understand the physical, operational, and economic differences from traditional wholesale warehouses - as well as key differences in impacts - to inform possible new use and development standards. Because state law only allows land use moratoriums for six months at a time, staff indicated that one six-month extension would be needed to ensure sufficient time to complete needed analysis, public engagement, and development of code amendments.

On December 12 following an executive session, City Council at their regular meeting adopted an emergency ordinance on new large warehouse applications, and the emergency ordinance was affirmed by City Council following a public hearing as required by state law, on January 23, 2023. Three amendments to the initial moratorium ordinance were requested by City Council, which were adopted by ordinance on February 6, 2023, including: 1) an exemption from the moratorium for the Port of Vancouver; 2) increase in the size of warehouses subject to the moratorium from 100,000 square feet to 250,000 square feet and larger; and 3) an exemption from the moratorium for any storage for a publicly-traded product, if formalized through a development agreement. (See Exhibit A)

On June 5, 2023, following a public hearing, City Council approved a six-month extension of the moratorium but also encouraged staff to propose any code amendments as soon as possible so the moratorium may be terminated sooner. The moratorium will end on December 6, 2023 unless code amendments are adopted earlier. Staff's work plan anticipates taking a set of code amendments to City Council for their approval in early October (See Exhibit B).

In April 2023, the City selected Fehr & Peers, a transportation planning and engineering consulting firm based in Seattle, to assist staff with the warehouse study. Together with GLD Partners, a logistics and supply chain consulting firm, Fehr & Peers have prepared a report that analyzes major differences between "e-commerce warehouses" and traditional warehouses to help staff understand impacts and formulate code amendments to Vancouver Municipal Code (VMC) 20, Land Use and Development Code (See Exhibit C).

Local and National Context: Increase in Need for Warehouse and Distribution Facilities

Warehousing, broadly described as the storage of bulk inventory in large facilities, has undergone substantial evolution, from the introduction of forklifts and pallets in the 1920's to automation and cloud computing today. As a result of advances in technology and proliferation of trucking, warehouses are a critical intermediate step between the supplier and consumer. Additionally, trends like e-commerce and online shopping, near-shoring and reshoring of manufacturing have increased global demand for industrial warehousing, resulting in unprecedented warehouse development in recent years.¹ Changes in shopping behavior during the global pandemic have created further demand for warehouse space.

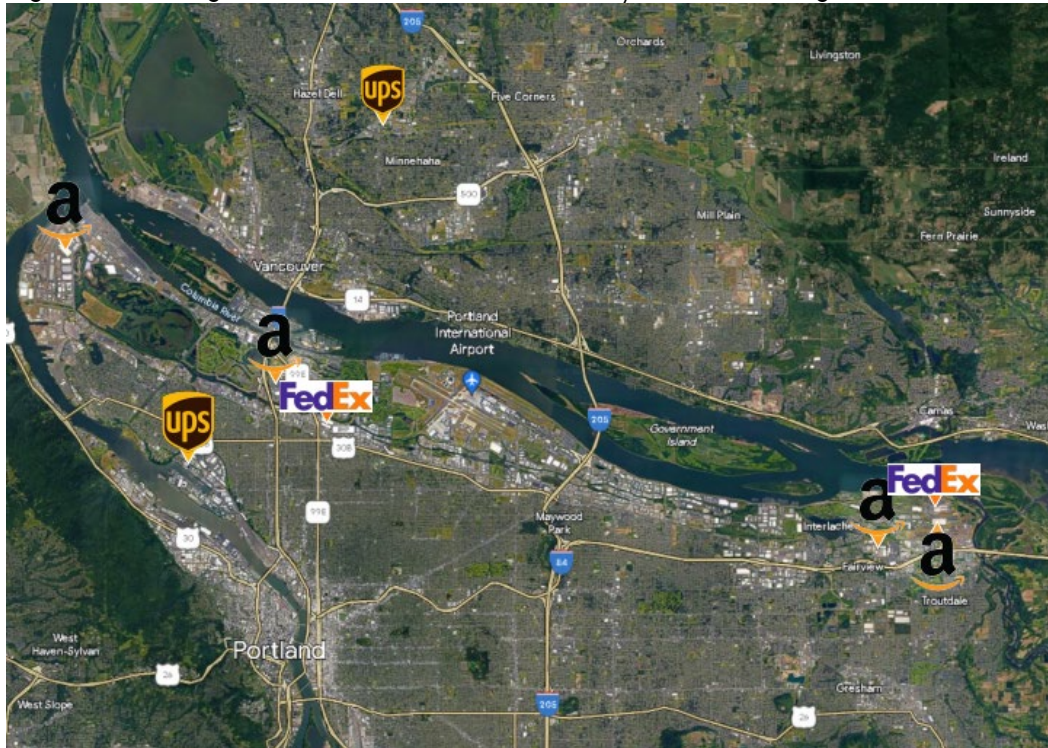
Nationally, warehouse capacity is reportedly at a premium, with almost 96 percent of existing warehouse space in use. E-commerce, with its direct shipments to consumers, represents a fundamental shift in warehouse logistics. CBRE estimates that the U.S. alone needs 330 million more square feet of warehouse space to meet e-commerce demand into 2025; to meet total demand, another firm, JLL, put that number at one billion square feet.² CBRE further indicates that every \$1 billion in new e-commerce sales requires one million square feet of new warehouse space.

In addition to these national trends, one reason for the surge locally in large warehouses is, aside from a single UPS facility, there is no warehouse/distribution facility in Clark County that specifically stores and repackages individual goods intended for direct delivery to residential or business customers. Home deliveries of goods from Amazon and FedEx to Clark County, for example, originate from the Portland side of the river. (See Figure 1)

¹Fehr & Peers, 'Traditional Warehouse Developments vs. Modern E-commerce Facilities,' 2023

2" The Warehouse Space Race," www.Prospect.org

Figure 1: Existing Distribution Centers in Portland/Vancouver Region

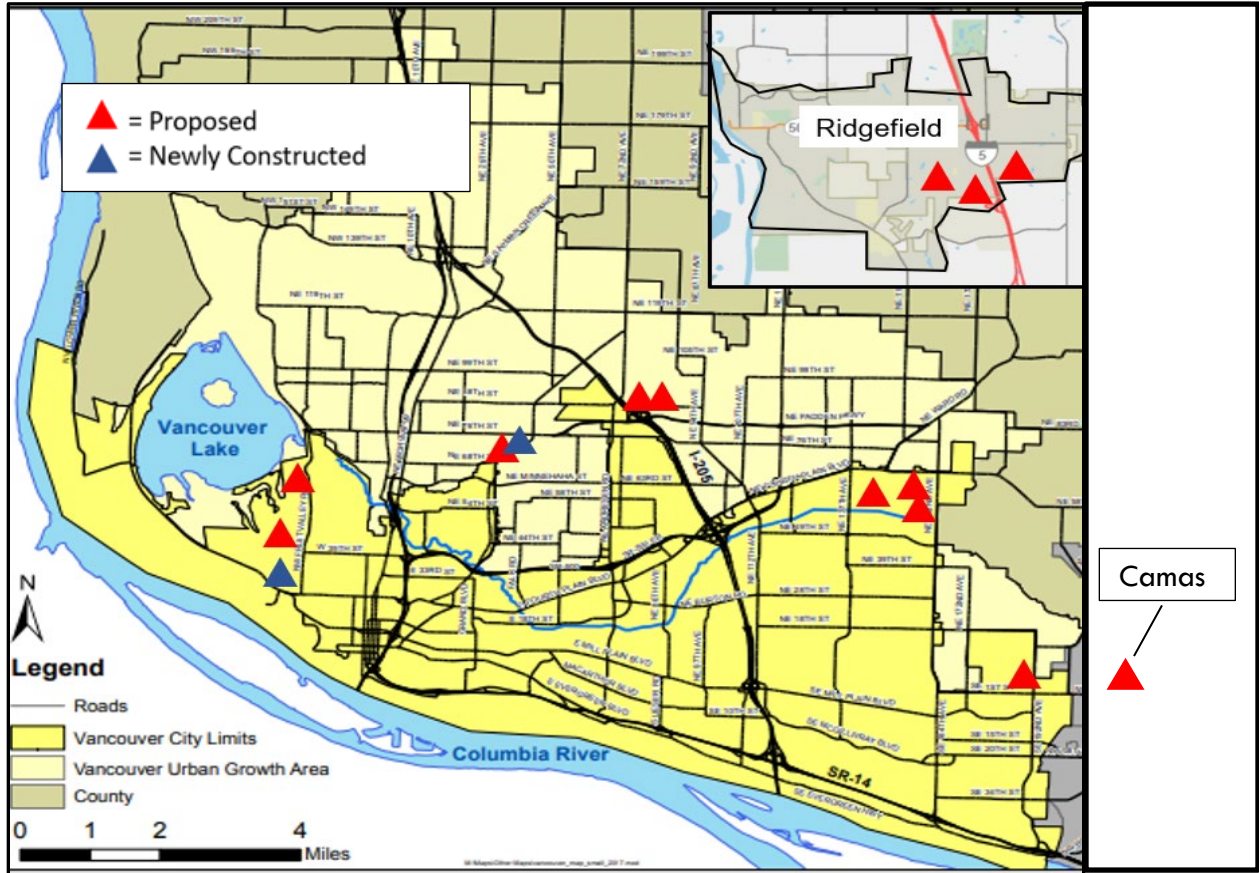


As documented in a [Columbian article](#) last year, there has been a surge of significant recent development of large scale warehouses and distribution centers in Vancouver and elsewhere in Clark County. Planning staff gathered data from Clark County, Ridgefield, Camas, and Vancouver, all of which have one or more large (>250,000 s.f.) warehouses in their development review process or under construction. While initially staff identified eight warehouse pre-applications or applications of concern in Vancouver alone, this was subsequently reduced to five active projects as one that was under construction was completed, one was only 80,000 square feet, and a third required a comprehensive plan amendment and zone change and was therefore not vested to existing use and development standards. The five warehouses, which are vested to current use and development standards, total 2.8 million square feet and will utilize 156 acres of industrial land. (See Figures 2 and 3)

Figure 2: Current Large Warehouse Applications in Vancouver

Project Name	Location	Owner/Applicant	Building SF	Acres
Prologis Park	Tax lot 152382000 (Fruit Valley)	Wellons Group	560,000	30.22
Harmon Logistics Center	NW corner of SE 1 st /192 nd Ave	DIRG LLC	450,000	24.2
Bridge Development	5500 NE 162 nd Avenue	Bridge Dvpmt Partners LLC	640,000	36.45
Burnt Bridge Creek Logistics	5920 NE 162 nd Avenue	Defenbaugh LLC	681,000	38.48
Fruit Valley Logistics	6112 NW Fruit Valley Road	Wilson Oil	365,000	26.74
TOTAL / AVG			2,776,000	156

Figure 3: Proposed Large Warehouse Projects in Clark County



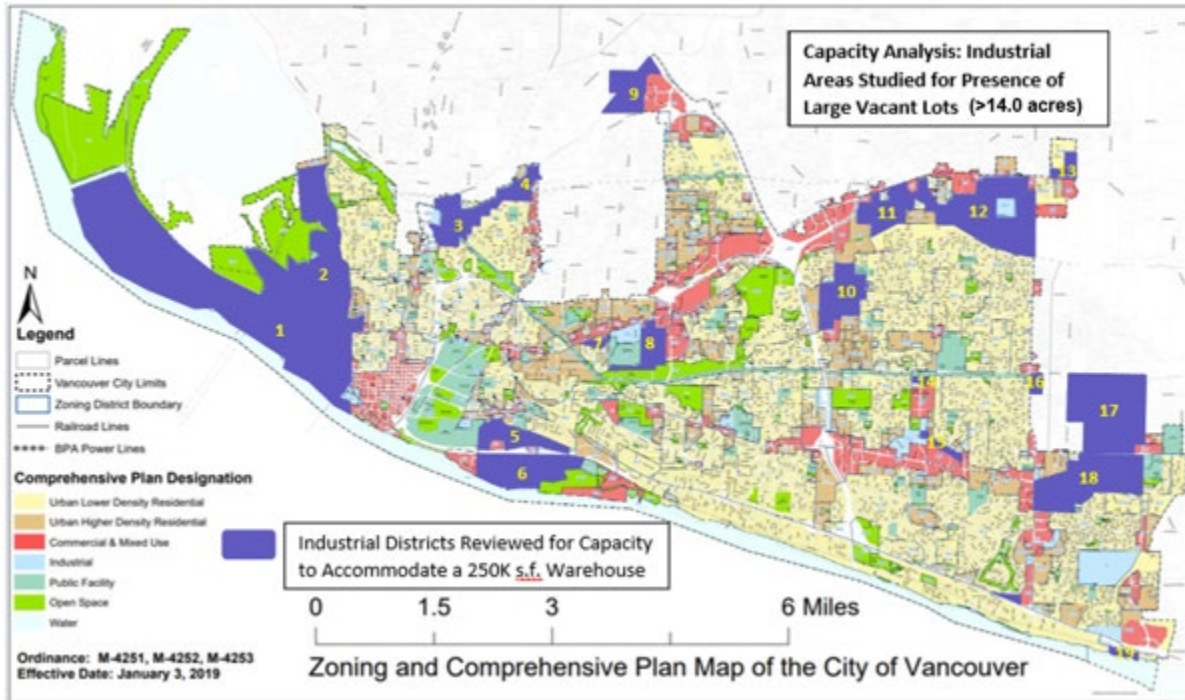
Current Zoning and Land Availability Analysis

Warehouses are classified as “Warehouse/Freight Movement” in the City’s Land Use and Development Code, VMC Title 20. This use is allowed as a permitted use in the Heavy Industrial (IH) zoning district, and as a limited use in the Light Industrial (IL) zoning district so long as all activities, except outdoor storage of materials, are wholly contained within building(s). Pre-existing development agreements apply to certain properties, such as in the Section 30 area of the City, and these agreements would allow new warehouse facilities to be built even though the current zoning would not otherwise allow such uses (vesting to regulations in effect at the time of the agreement). Development rights established by such development agreements would similarly not be superseded by any new use or development regulations that are adopted.

In order to estimate the minimum parcel size needed for a 250,000 square foot building, staff reviewed twelve proposed warehouse projects in Clark County and divided the parcel size by the stated building footprint for each to determine the approximate lot coverage, which were then totaled and averaged. The result of this calculation is that, on average, warehouse buildings occupy about 40% of the parcel that they occupy and so a 14-acre parcel would typically be needed to accommodate a 250,000 square foot building.

Planning staff analyzed every parcel within the IL and IH Districts using aerial photos and Clark County Assessor’s property records to determine how many parcels that are vacant or mostly vacant would be large enough to accommodate a 250,000 square foot warehouse, which is the threshold for a large warehouse that Council established in the moratorium (See Figure 4 below). Additionally, staff looked at parcel data in the Employment Center Mixed Use District (ECX) (Section 30) to see how many parcels might feasibly be converted to large warehouse uses if developed under existing development agreement allowances. Note that the numbers shown in yellow in Figure 4 were merely for staff’s purposes, to differentiate the various districts studied.

Figure 4. Industrial Districts Included in Capacity Analysis



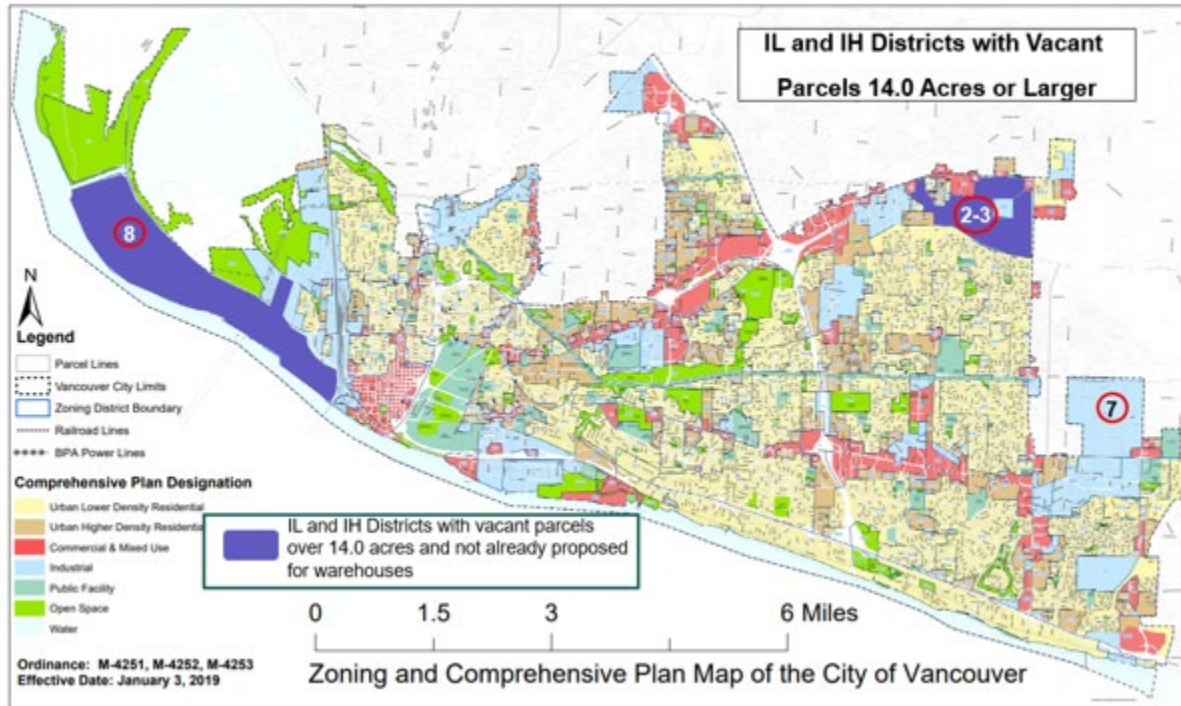
Staff then looked at every parcel in the IL, IH, and ECX Districts using Assessor’s property records and aerial photos and discovered that there are surprisingly few 14 acre or larger parcels that are not already developed.

As shown in Figure 5, only three industrial areas have vacant or underdeveloped parcels large enough to accommodate a large warehouse: 1) the Port of Vancouver, 2) ‘East Orchards,’ and 3) Section 30. The Port has eight parcels larger than 14 acres of developable industrial land, East Orchards in the northeast corner of the City (labeled as such by staff for this analysis) has 2-3 qualifying parcels (the third parcel requires a zone change to allow warehouses, but such a request is currently pending). A total of seven parcels could be developed for large warehouses in Section 30, where warehouses are allowed only if previously vested under a development agreement. While warehouses could be developed elsewhere in the City, no warehouse larger than 250,000 square feet is likely to be developed in any other industrial district. Note that the circled numbers in each of the three identified areas represent the number of undeveloped parcels larger than 14 acres.

One of the key takeaways from this analysis is that the City simply does not have many large vacant industrial parcels capable of handling such large facilities, therefore unavailability of suitable land

may in some ways serve to curtail the trend of more new and very large warehouse facilities. However, this does raise a potentially larger issue: *What are the implications on the remaining capacity of Vancouver's industrial land to support future manufacturing and high tech sectors?* Unfortunately, this is a question that will need to be evaluated separately as part of the City's update to the Comprehensive Plan, which is currently underway.

Figure 5. Industrial Districts Capable of Accommodating a 250,000 SF Warehouse



Equity and Locational Considerations

Large scale warehouse facilities can pose an environmental justice risk, as these facilities often have truck traffic noise and air pollution, visual impacts and light pollution, and are located in industrial zones that are often adjacent to equity priority communities. Planning staff overlaid the three areas most able to accommodate large e-commerce warehouses (from Figure 5) onto the City's Equity Index Mapping Tool (Figure 6) to determine if the location could potentially impact vulnerable and marginalized communities. The Equity Index Mapping Tool uses Census data at the census tract level to identify priority equity areas. These are areas that have a high equity index score which means the census tract has a comparatively higher rate of people of color, renters, people ages 65+, households with children, a smaller proportion with a bachelor's degree or higher, a lower median family income, a lower percentage of English-proficient households, and a higher percent of people with disabilities.

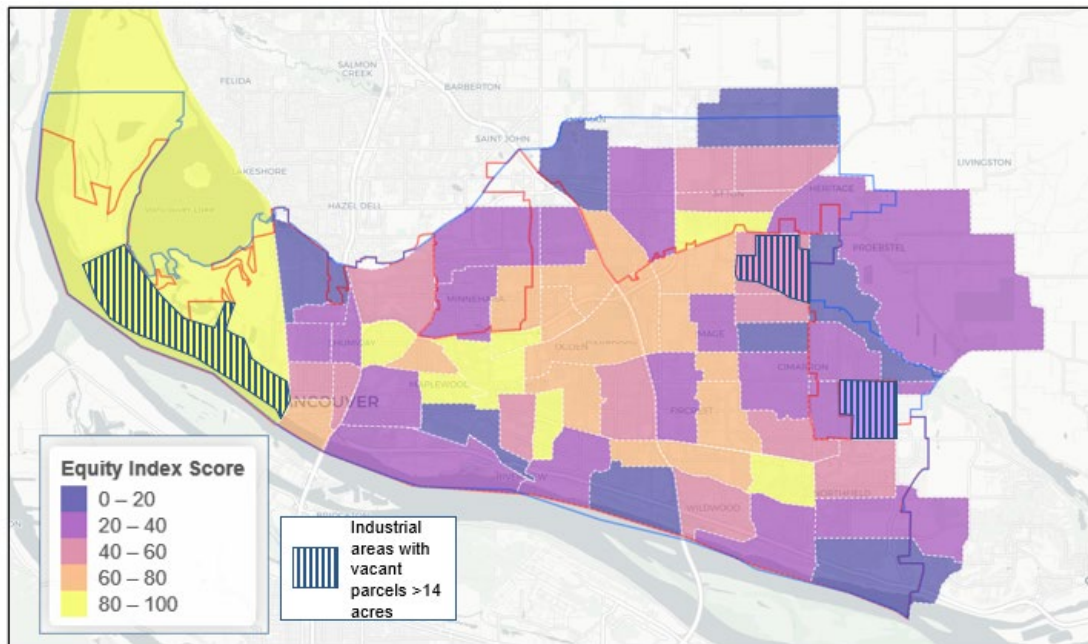
In the below figure, the Port of Vancouver is shown as being located in the Fruit Valley Neighborhood, a high priority equity area (score of 80-100), where the residential population may be more susceptible to adverse impacts (such as to health and safety) from external sources. Two warehouses are already proposed in the Fruit Valley Road corridor and there no other undeveloped parcels large enough to accommodate a 250,000 square foot or larger warehouses outside of the Port of Vancouver.

The “East Orchards” industrial cluster is mostly in the North Image and Burnt Bridge Neighborhoods and is identified as a moderate priority equity area (score of 40-60).

Section 30 is entirely within a low priority equity area (score of 20-40).

Recommended code amendments will take into account the potential for disparate impacts to high priority equity areas and any measures that may serve to minimize such impacts.

Figure 6: Vancouver’s Equity Index Mapping Tool and Areas Capable of Accommodating Large Warehouses



Key Operational, Physical, and Economic Differences between E-Commerce and Traditional Warehouses

E-commerce is, relatively speaking, a newer sector of the global economy, and detailed studies of how warehouses and associated operations may impact communities (either positively or negatively) are fairly limited. City consultants Fehr and Peers and GLD Partners prepared an analysis of the above characteristics from available data and specific projects to help decision-makers understand the differences between traditional business-to-business warehouses and larger warehouses intended for e-commerce shipping.

Key differences between the two types of warehouses are outlined in the consultant’s report (See also Exhibit D), as follows:

Various types of warehouse support retail, commercial, and industrial supply chains. Virtually all industries rely directly or indirectly on warehousing services. Directly related to e-commerce, distribution and fulfillment centers typically provide value-added logistics services, allowing operators to efficiently meet varying customer

demands and streamlining supply chains. These facilities differ from traditional warehouses from a physical, operational, and economic standpoint.

1. Key Physical Differences

Physical characteristics of warehouses include warehousing design (building size, lot coverage, loading bays, and parking spaces) and siting. Key physical differences that distinguish e-commerce facilities from traditional warehouses include:

More varied building sizes/footprints. While traditional warehouses are typically less than 100,000 square feet, e-commerce facilities range from about 100,000 square feet to over 1 million square feet.

- *E-commerce warehouses tend to be taller.* Building clear height, defined as the height of a building from the floor to the bottom of the lowest hanging item on the ceiling, is typically less than 32 feet for traditional warehouses, but often greater than 36 feet for e-commerce facilities.
- *More loading dock doors.* Operations at e-commerce facilities require more loading docks.
- *Different siting locations.* Traditional warehouses are typically situated close to other industrial uses, whereas e-commerce facilities tend to be proposed near population centers and ports.

2. Key Operational Differences

Recent technological improvements have resulted in increasingly efficient use of warehouse space and consolidation of facilities. Modern warehouses operate differently than traditional warehouses, particularly regarding hours of operation and the flow of goods:

- *24-7 operations.* Typical hours of operation for e-commerce facilities span 24 hours a day, seven days per week. The non-stop activity in modern warehouses is made possible by shift workers and automation. In contrast, traditional warehouses with slower inventory turnover are typically limited to normal business hours, i.e., 8-hour shifts, five days per week.
- *More constant flow of goods.* E-commerce facilities typically focus less on long-term storage and more on the flow of goods and services. Modern industrial warehouse facilities are often driven by demand, compared to traditional warehouses, where operations are related to storing the largest amount of goods possible.

3. Traffic Impacts

Warehouses generate some level of traffic (passenger cars and trucks), but this varies significantly based on the operations of the facilities. In addition, the type of trucks (medium- vs. heavy-duty trucks⁴) also varies. Traffic impacts differ between e-commerce and traditional warehouses in the following ways:

- *Much higher vehicle activity.* Based on data from the Institute of Transportation Engineers (ITE) Trip Generation Manual, e-commerce facilities generate up to four times more daily vehicle trips than traditional warehouses, particularly for fulfillment centers that require extensive sorting.

- *Smaller delivery vehicles are more common.* Whereas traditional warehouses generate mostly medium-duty and heavy-duty truck trips, light-duty trucks and vans play a substantial role in the transport of goods from today's e-commerce facilities.

4. Key Economic Differences

Industrial warehouses generate jobs and tax revenue (property, sales and use, and utility taxes). Warehousing jobs provide two important community benefits: 1) pay rates that start above minimum wage, and 2) on-the-job-training for career advancement. Warehouses also generate indirect jobs⁵ that benefit local and regional economies. Regionally, the U.S. Bureau of Economic Analysis (BEA) estimates that 10 new warehouse jobs create about 14 jobs in other industries.⁶ For every \$1.00 of earnings paid to the new warehouse workers, an additional \$1.50 in earnings is generated throughout the economy. Key distinctions in the economic impact of e-commerce versus traditional warehouses include:

- *Higher-skilled labor.* While traditional warehouses rely on unskilled labor and managerial jobs, highly automated e-commerce facilities offer high-paying jobs such as automation engineers with average salaries over \$100,000 annually. With companies such as Amazon investing more in warehouse automation and on-the-job training for skilled labor, the prominence of these high-paying jobs is likely to grow.
- *More ripple effects on the local economy.* Based on building size/footprint and warehouse jobs created, e-commerce facilities typically entail more local and regional economic impacts (tax revenue, indirect jobs, and new dollars circulating in the economy) than traditional warehouses.

Key Takeaways

From a physical, operational, and economic standpoint, there are pronounced differences between traditional warehouses and e-commerce facilities. With the evolving warehousing industry and a market need for e-commerce facilities in Vancouver, the City may benefit from new warehouse developments targeted to store and repackage e-commerce goods intended for various purposes, including retail home delivery. The development of e-commerce facilities will support the growth of the local economy in Vancouver through job creation and tax revenue. Regulatory amendments are needed to ensure that any new development supports the City's economic growth, has adequate transportation infrastructure, and aligns with climate and equity goals and priorities.

For the full analysis, see Fehr and Peer's report, entitled "*Traditional Warehouse Developments vs. Modern E-commerce Facilities,*" dated revised July 2023, which is attached as Exhibit D.

Possible Code Amendments to Address Identified Impacts and Climate Action Policy

Planning staff has identified a number of possible code amendments that could help to mitigate impacts from very large warehouses, based on the analysis prepared by Fehr and Peers. Additionally, measures that can further the City Council's stated climate action policy goals have been identified by staff and the city's consultants. Staff will ask Planning Commission for feedback at the July 25 workshop

about the below list of possible code amendments, which will be further refined for discussion at a future workshop.

<u>Issue</u>	<u>Proposed Fix</u>
Use Limitations	Make warehouses $\geq 250,000$ s.f. conditional uses ('C' in use table) IL/IH Districts
	Make warehouses $< 250,000$ s.f. limited uses with specific standards ('L' in use table)
Locational Concerns	Require access from a primary arterial (or via an industrial street); larger warehouses to be within 1.0 mile of a state or interstate highway to reduce truck traffic through neighborhoods
Traffic impacts	Base traffic generation on ITE Manual Land Use Category 155 (high cube transload storage) unless specific type of warehouse is identified early on; use SEPA/CUP to address specific off-site impacts
	Prohibit large trucks from utilizing non-truck routes, and use conditional use permit process to attach additional restrictions on traffic (such as through areas of high equity concern)
Parking/Loading Min.	Decrease parking and loading minimums so surface lots are not oversized
Loading Bays	Prohibit loading bays facing residentially-zoned property
Lot Coverage	Reduce maximum allowed lot coverage to increase vegetative buffers
Visual Impacts	Require building elevations longer than 300' to be medium-to-dark shade (e.g. no white or light-colored building);
	Treed buffer (25-30' deep) adjacent to public street or residentially-zoned property
Climate Action (Energy)	Require 75% onsite energy to be from renewable sources, to be audited prior to occupancy permit
	EV charging ports at all loading docks
	EV charging stations at 20% of parking spaces
	Rooftop skylights for natural light; use of LEDs
	Light-colored roofing material to reduce heat absorption
Recycling of Packaging	Warehouse-specific waste-reduction measures being developed by staff (may be VMC Title 6)

Council and Public Engagement to-date

- Council Executive Session (moratorium): December 2023
- Council Workshops (moratorium): January, May 2023
- Council Public Hearings (moratorium): January, February, June 2023
- Project information posted to City's BeHeard webpage
- Environmental Roundtables with Alliance for Community Engagement (2)
- Business Roundtables with Identity Clark County and Port of Vancouver (3)

Next Steps

Following the Planning Commission workshop, planning staff will refine the set of proposed code amendments to be more specific and responsive to Commissioners' feedback. After an internal review by city planners, draft code amendments will be circulated to persons and groups that have expressed interest in or commented on the project to-date, and will be posted to the City's BeHeard webpage where the public may ask questions or leave comments for staff to follow up on.

Additional engagement which may consist of in-person or remote meetings will be scheduled with specific stakeholders such as Alliance for Citizen Engagement, Identity Clark County, Port of Vancouver, Fruit Valley Neighborhood Association, North Image Neighborhood Association, and Burnt Bridge Creek Neighborhood Association, as well as any other associations or groups that express interest in staff attending their meeting.

A City Council workshop is scheduled for August 14, at which the results of the consultant's study, public feedback, and specific code amendments will be discussed. Staff has tentatively reserved workshop time with the Planning Commission in September to review specific code amendments. Public hearings with the Planning Commission and City Council are anticipated in late September and early October.

Questions? Please contact:

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Exhibits

- A. Ord. M-4406 Temporary Moratorium on Large Warehouses
- B. Ord. M-4413 Extension of Temporary Moratorium on Large Warehouses
- C. Staff Work Plan
- D. Warehouse Analysis Report by Fehr & Peers, Inc., dated July 2023