



Proposed Warehouse Code Amendments

Planning Commission Workshop
July 25, 2023



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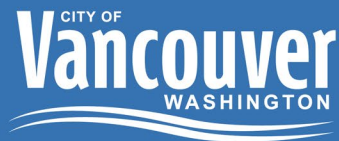
Agenda

- Problem Statement
- Warehouse Study Goals
- Land Availability
- Warehouse Types
 - Key Differences
 - Identified Impacts
- Possible Code Changes
- Next Steps



Problem Statement

Dramatic increase in applications for very large warehouses over short period of time



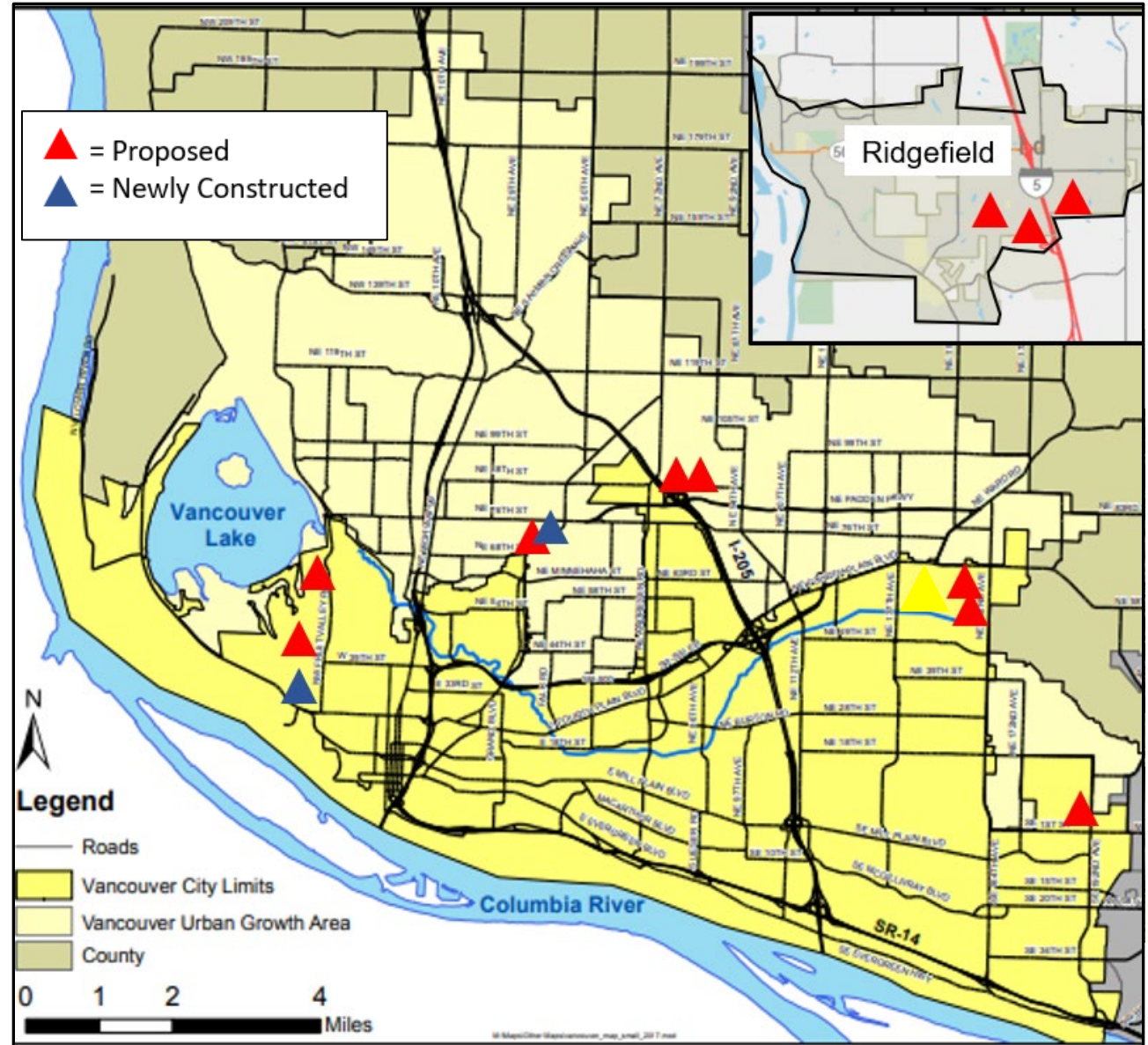
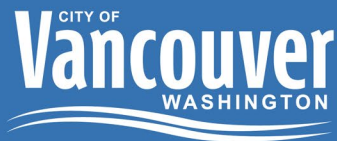
- Late 2022: Mirroring national trends 5 proposed large warehouses in Vancouver, 2.8 million square feet
- Staff concern about potentially rapid loss of industrial land for low-wage, low jobs/acre uses
- Additional concerns: traffic, pollution, visual, energy/climate, impacts to vulnerable areas; adaptive re-use
- Study needed to determine differences and impacts, possible code amendments
- December 2022: Council enacted 6-month moratorium to study impacts; extended by Council in June 2023

Surge in Large Warehouse Applications

Clark County primarily served by Portland distribution centers

Map shows proposed Warehouses >250,000 s.f. in Clark County

5 in City of Vancouver



Warehouse Study Goals



**Understand
Differences
& Impacts**



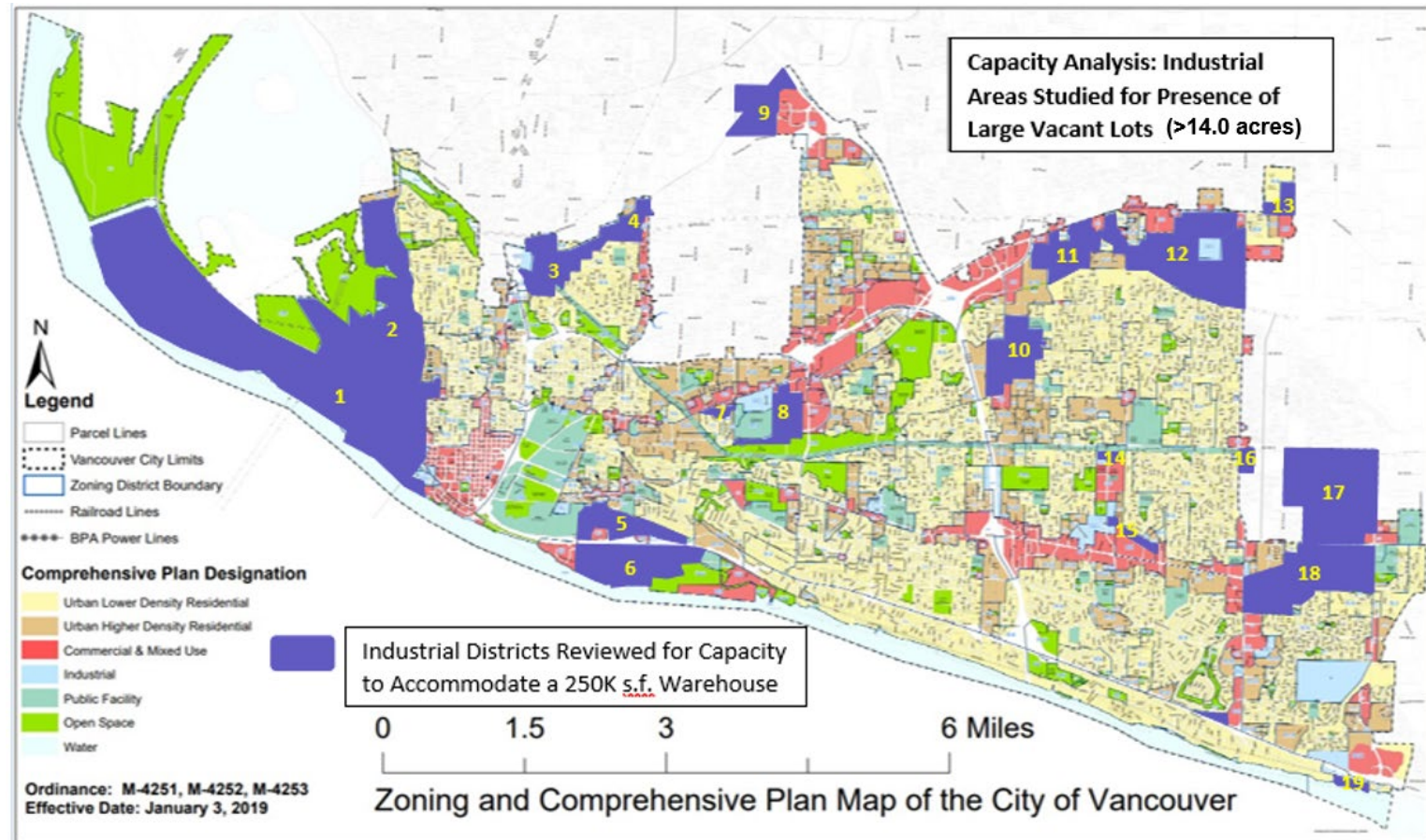
**Gather Public
and
Stakeholder Input**



**Propose Code
Amendments**

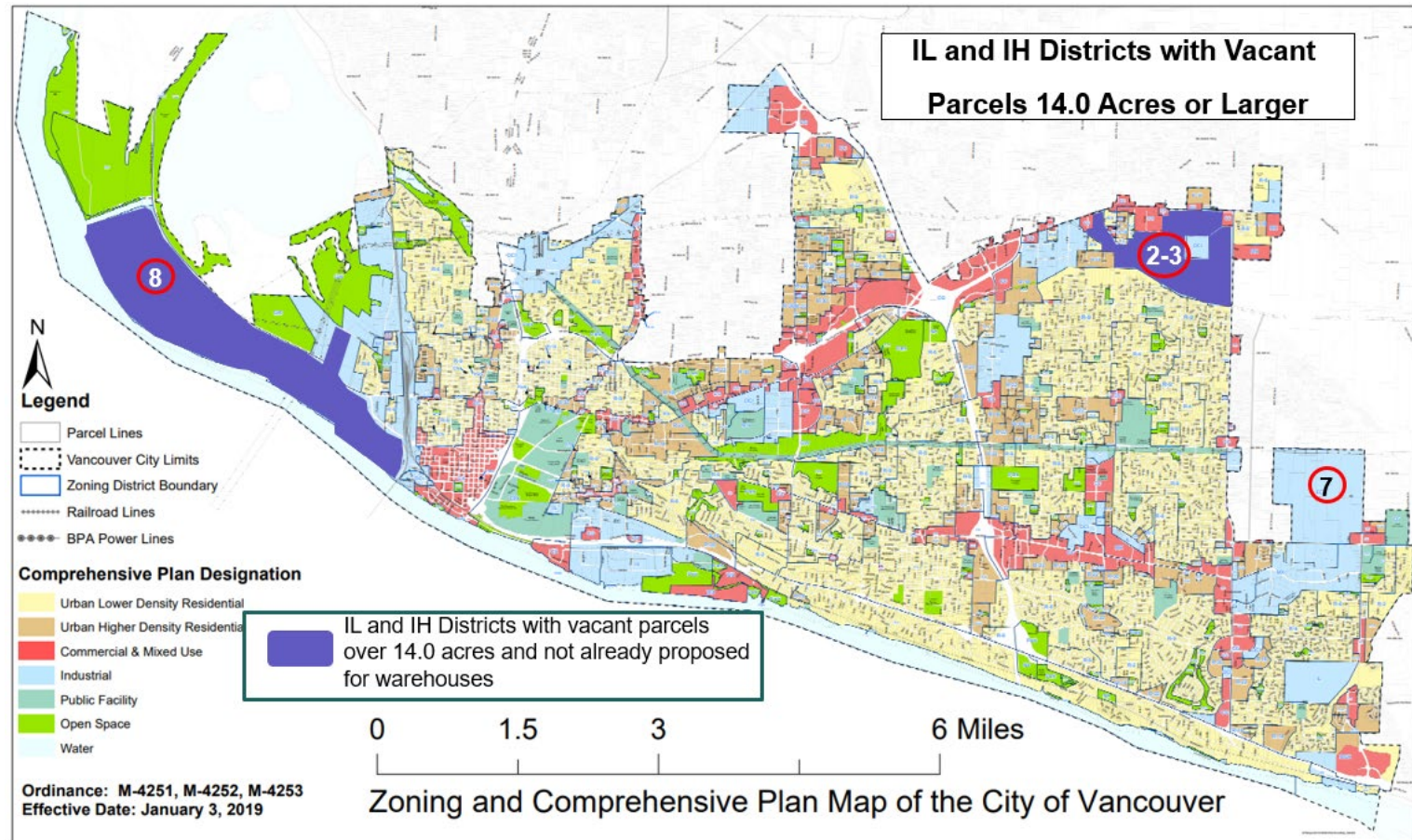
Land Availability Analysis

- 14 acres needed to support 250,000 s.f. warehouse
- 19 industrial areas studied for vacant/underdeveloped parcels > 14 acres



Land Availability Analysis

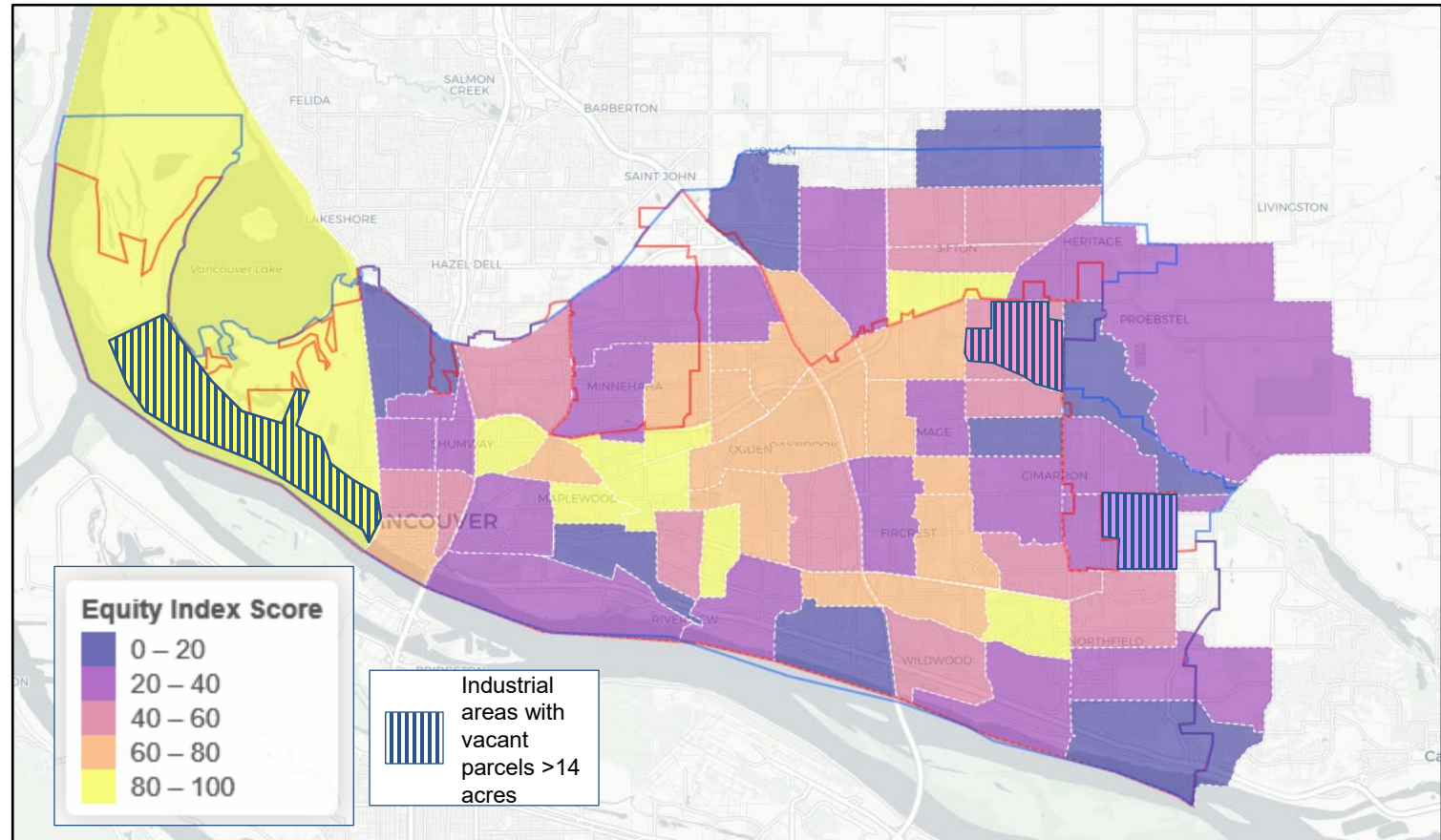
- Discovered very few parcels available to accommodate a 250,000+ square foot warehouse
- Port of Vancouver, East Orchards, Section 30
- Parcels in Sec. 30 have prior agreements that allow warehouses; would be exempt from new standards



Equity & Locational Considerations

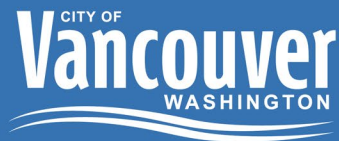
- Identifies priority areas of equity using Census data
- Port of Vancouver is in high priority equity area – increase in truck traffic on Fruit Valley Rd. possible
- East Orchards area is in area of moderate equity priority

Vancouver's Equity Index Mapping Tool



Types of Warehouses

FEHR & PEERS



Traditional Warehouse

- Long-term storage of bulk inventory or business-to-business (B2B) orders

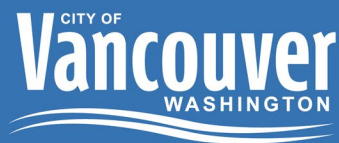
E-commerce Facilities

- Designed to provide value-added logistics services to streamline the supply chain; individualize parcel delivery
- Examples:
 - Distribution Centers
 - Fulfillment Centers
 - Receive Centers
 - Last Mile Delivery Centers

Key Physical Differences

E-commerce vs.
Traditional Warehouses

FEHR & PEERS



E-commerce Facilities

- Variation in building size/footprint
- Higher clear heights; maximize space utilization
- More loading dock doors
- Located near population centers, ports, etc.

Traditional Warehouses

- Smaller building size/footprint
- Lower clear heights
- Fewer loading dock doors
- Located close to other industrial uses

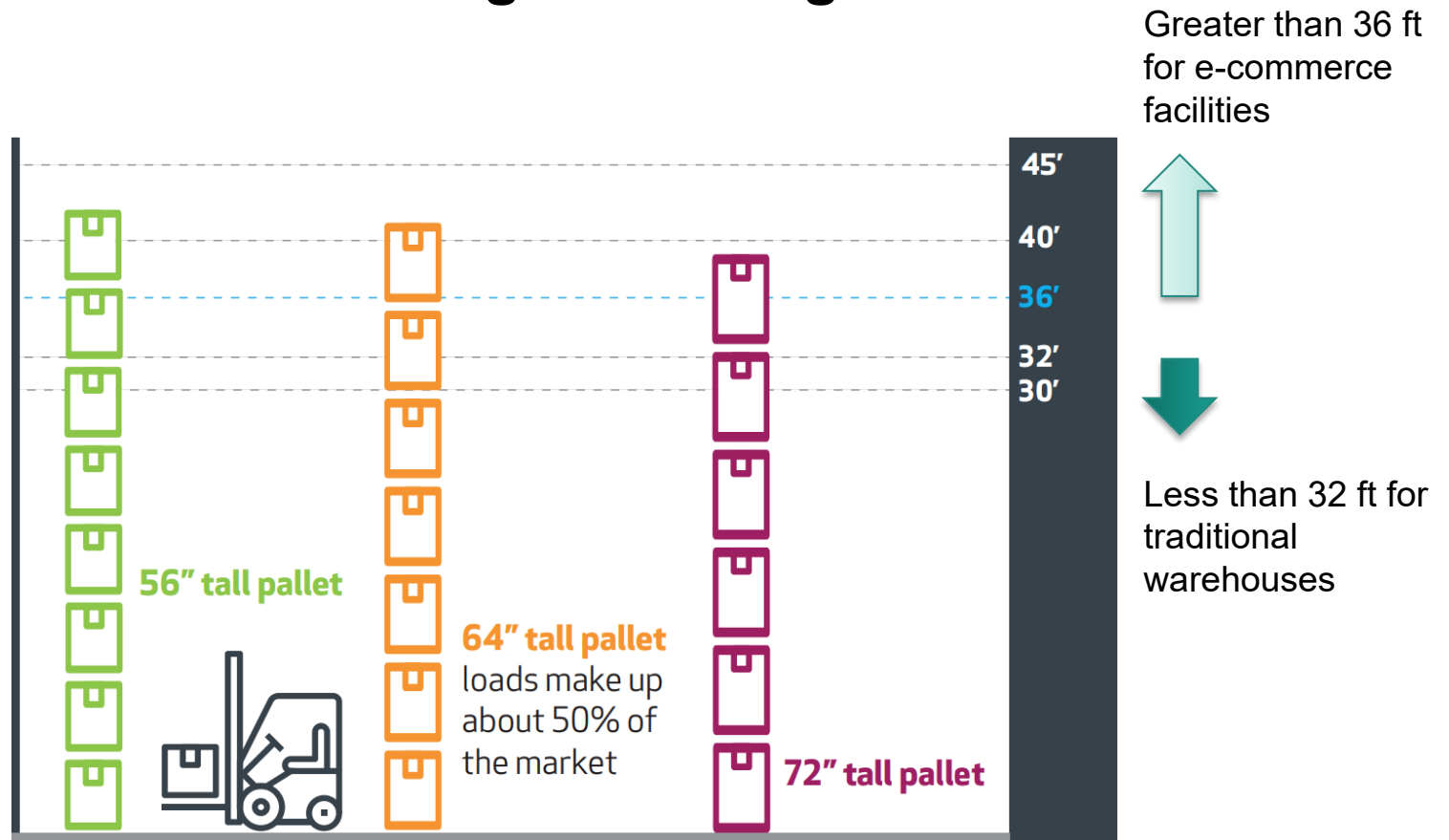
Key Physical Differences

E-commerce vs. Traditional Warehouses

FEHR & PEERS



Building Clear Height

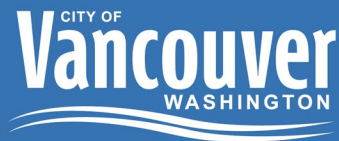


Source: Modern Architecture

Key Operational Differences

E-commerce vs.
Traditional Warehouses

FEHR & PEERS



E-commerce Facilities

- High turnover of goods
- Around-the-clock operations supported by automation
- More employees, may include a few high paying jobs
- More daily truck and van trips

Traditional Warehouses

- Slower turnover of stored goods > 1 day
- 8-hour day shifts, 5-day weeks
- Fewer employees, primarily unskilled labor
- Fewer daily truck trips

Key Operational Differences

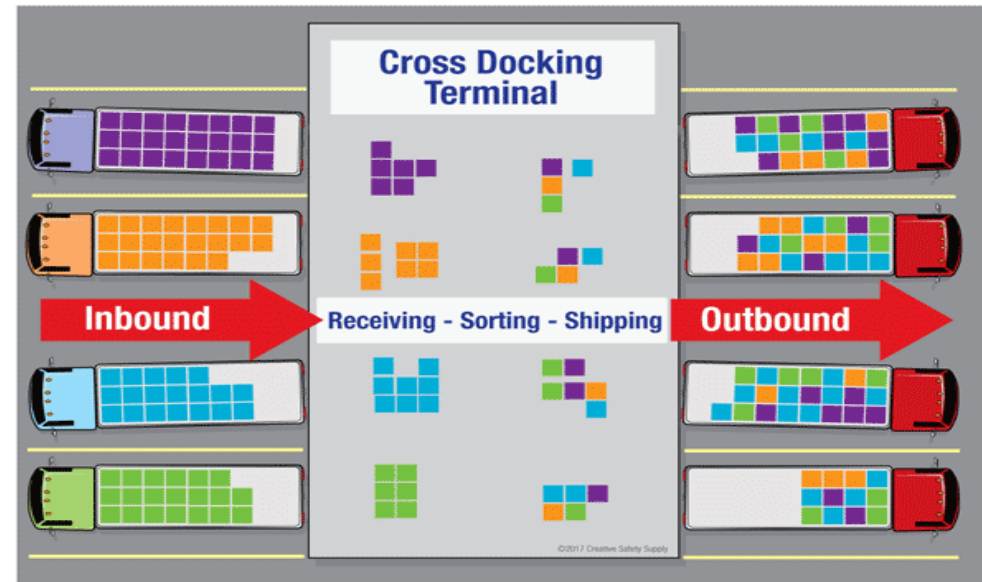
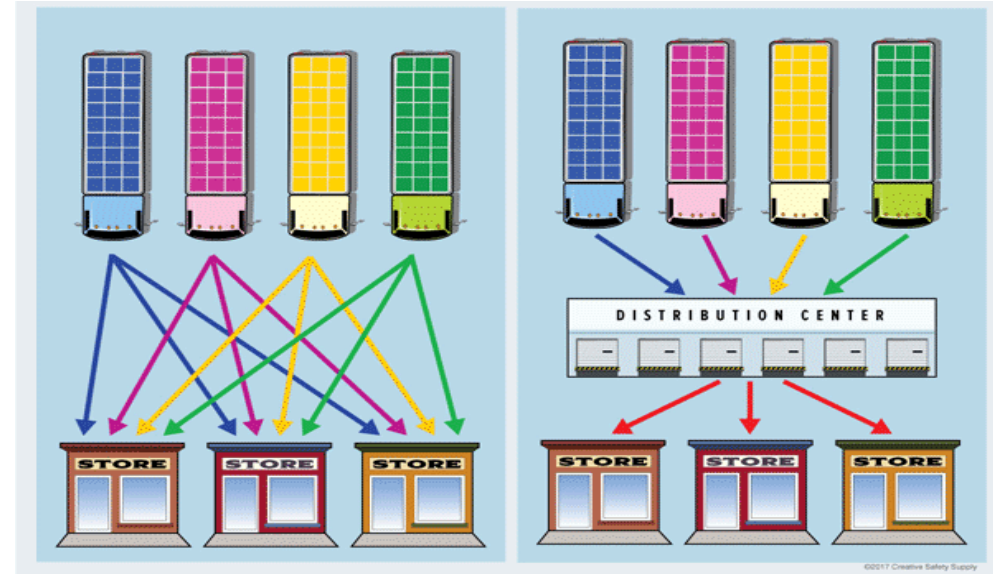
E-commerce vs. Traditional Warehouses

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CITY OF
Vancouver
WASHINGTON

Traditional

E-commerce

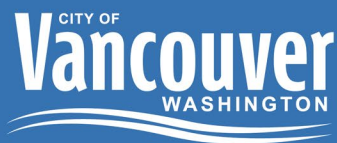


Source: Creative Safety Supply

Warehouse Code Amendments —13

Key Operational Differences

E-commerce vs. Traditional Warehouses



Traffic Impacts of a 100,000 sf Facility

Land Use	Daily Trip Rate	
	Vehicles	Trucks
Warehousing (150)	171	60
Mini-Warehouse (151)	145	4
High-Cube Transload and Short-Term Storage Warehouse (154)	140	22
High-Cube Fulfillment Center Warehouse (155)	181 (644)^	23 (19)^
High-Cube Parcel Hub Warehouse (156)	463	58
High-Cube Cold Storage Warehouse (157)	212	75

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual

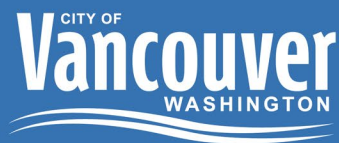
*Average daily trip rate per 1,000 sf of gross floor area on a weekday

XX(XX)^ – Non-sort facility (sort facility)

Key Economic Differences

E-commerce vs.
Traditional Warehouses

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E-commerce Facilities

- May include a few high paying jobs such as automation engineers
- Generates more indirect jobs
- More local and regional economic impacts

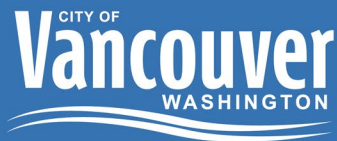
Traditional Warehouses

- Mostly unskilled labor with a few managerial jobs
- Generates fewer indirect jobs
- Less local and regional economic impacts

Key Economic Differences

E-commerce vs. Traditional Warehouses

FEHR & PEERS



Example Existing Warehouses

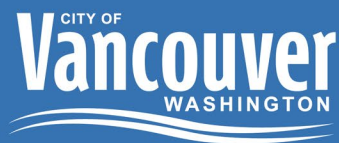
Facility	Building size (sf)	Employees	Annual Payroll	Property Tax	Regional Impact	
					Indirect Jobs	New Dollars*
Traditional warehouse	165,000	126	~ \$5M	~\$90K	177	~\$13M
E-commerce Facilities						
Sortable fulfillment center	800,000	1,500	~ \$60M	~\$290K	2,112	~\$150M
Non-sortable fulfillment center	1,000,000	675	~\$30M	~\$360K	951	~\$70M
Receive center	600,000	400	~\$16M	~\$220K	563	~\$40M
Last mile delivery center	100,000	100	~\$4M	~\$19K	141	~\$10M

*New dollars circulating in the regional economy as result of the warehouse development; this includes annual payroll of warehouse employees and indirect earnings.

Source: GLDPartners

Adaptive Re-use of Large Warehouses

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Large warehouses can be reused for:

- Commercial kitchens
- Office space
- Production or testing facilities for a range of technology
- Gyms and indoor sports space
- Community/ special events centers

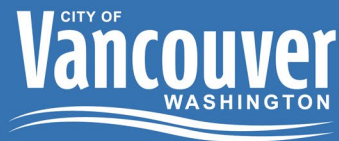
Key design considerations

- High ceilings
- Provision for power expansion
- Multi-story structures

Conclusions Regarding Key Differences

E-commerce vs.
Traditional Warehouses

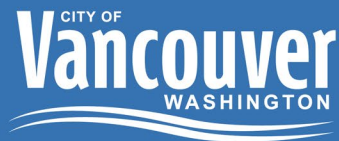
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- **Building size** | There is variation in building footprints/ sizes of e-commerce facilities compared to traditional warehouses
- **Operations** | Around-the-clock operations at e-commerce facilities entail more daily medium/heavy truck and van trips
- **Economic Impact** | E-commerce facilities have a greater economic impact than traditional warehouses (jobs and tax revenue)
- **Adaptive Reuse** | Specific design features are needed to accommodate potential reuse of large warehouse buildings

Possible Climate Action Measures

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Energy Provisions & Conservation

- Power requirements
- Auxiliary power/ electric truck charging
- Alternative energy systems
- Motion sensors, skylights and clerestory windows, high-reflectance roof membranes, climate control

Water Conservation & Waste Management

- Water conservation measures
- Dedicated area for onsite recycling
- Environmentally friendly building materials

Low emission, energy efficient HVAC

Reduce output when building is unoccupied

Cool roofs

Reflect sunlight and repel heat, lowering indoor air temperature

High efficiency roofing and wall materials

Optimize interior temperatures

20-30 percent regionally sourced building materials

Reduce transportation emissions and boost local economies. Use of bio based, circular building materials

Skylights \$

Reduce daytime electricity use

Real-time energy monitoring

Inform employees and create awareness

Solar panels \$

Turn rooftops into sources of clean energy

LED lighting with dynamic controls \$

Improve illumination and reduce energy costs

Energy saving mode of dock equipment \$

Preserve energy when not in use

Dock levers with gap sealing and dock shelters with bottom cushion

Seal interior to the elements

Access to public transportation options

Public transport, shuttles, bicycle rental and car sharing

Drought-tolerant plants and rainwater collection

Decrease water usage, reproduce local ecosystems and support biodiversity with insect hotel, bird houses, edible trees and greenery

Secured bicycle shed with E-bike charging

Carpool/car sharing dedicated parking spots

Electric car (EV) charging stations and dedicated car sharing parking spots

Reduce emissions for daily commuters

Exterior LED lighting

Reduce light pollution and energy costs

Smart energy meters

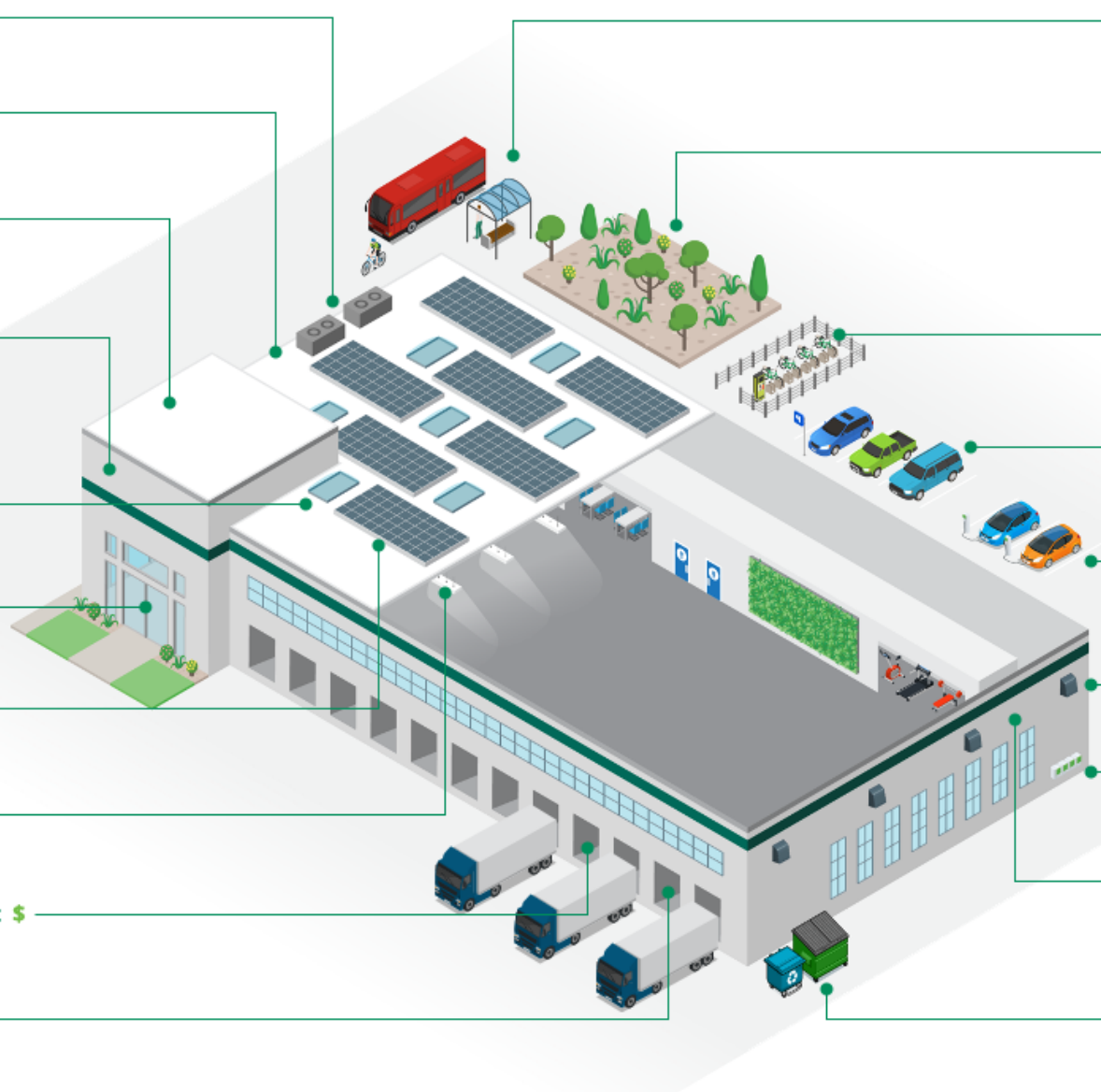
Monitor energy in real time to reduce energy expenditures

Low-emitting paint, sealants and insulation

Lower environmental impact than conventional paint products

Areas for storage and collection of recyclables

Minimize environmental impact



Source: Prologis

\$ = Direct occupational cost savings



Conclusions

- E-commerce and demand for large warehouses here to stay
- Available large industrial parcels only in 2 or 3 areas of City
- E-commerce warehouses more intensive operationally
- Jobs/economic data is mixed
- Some impacts from larger warehouses could be addressed by amendments to VMC Title 20, Land Use and Development Code

Potential Code Amendments

Issue

Proposed Fix

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; larger warehouses to be within 1.0 miles of a state or interstate highway

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

Potential Code Amendments (cont.)

Issue

Proposed Fix

Parking/Loading Min.

Decrease parking and loading minimums so surface lots are not over-sized

Loading Bays

Prohibit loading bays facing residentially-zoned property

Lot Coverage

Reduce max. 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

Potential Code Amendments (cont.)

Issue

Proposed Fix

Climate Action (Energy)

Require 75% onsite energy 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)

Ongoing Outreach

City's BeHeard Webpage

Alliance for Community
Engagement (ACE)

Identity Clark County (ICC)

Port of Vancouver

Neighborhood Associations

- Fruit Valley N.A.
- Burnt Bridge Creek N.A.
- North Image N.A.



Next Steps



**Develop Code
Changes to
Title 20 VMC**



**Additional
Public/Stakeholder
Input**



**PC/CC Workshops
Public Hearings**

Thank You

To learn more, visit: beheardvancouver.org/warehouse

