



Metro Vancouver Regional Industrial Lands Strategy

June 2020

ACKNOWLEDGEMENT OF APPRECIATION

Metro Vancouver would like to thank the following for participating in the development of the Regional Industrial Lands Strategy.

The Industrial Lands Strategy Task Force provided core input and guidance. The Task Force was chaired in turn by Mayor George Harvie, City of Delta and Mayor Richard Stewart, City of Coquitlam. Task Force representatives included:

- Elected officials from within Metro Vancouver
- BC Ministry of Jobs, Trade and Technology
- Port of Vancouver
- TransLink
- BC Chamber of Commerce
- Agricultural Land Commission
- Urban Development Institute
- Beedie Group
- Value Property Group

Hemson Consulting guided much of the engagement and prepared the draft Strategy. Metro Vancouver also acknowledges the individuals who participated in stakeholder workshops and the Subject Matter Expert Panel, as well as the Greater Vancouver Urban Freight Council, Greater Vancouver Gateway Council, and NAIOP Commercial Real Estate Development Association.

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EXECUTIVE SUMMARY

Industrial lands are crucial to supporting a prosperous and sustainable regional economy. Industrial lands accommodate over one-quarter of the region's total employment, and contribute to the region's economic well-being, along with important linkages to transportation, trade, and taxation matters. Across the region, Metro Vancouver's industrial lands serve as home to a wide range of employment activities that, in turn, play a crucial role in supporting the broader regional, provincial, and national economies. From providing services to other local businesses, offering a broad range of well paying jobs, to enabling trade between Canada and the rest of the world, industrial lands are a key component to accommodating Metro Vancouver's continued growth.

The Metro Vancouver region is facing a critical shortage of industrial land. Years of steady population and economic growth in the region, ongoing conversion and non-industrial uses of industrial lands, and the constrained geography of the region, have precipitated the challenges facing Metro Vancouver's industrial land supply. It is important to align industrial land use planning with the region's economic interests. The productivity of industrial land is inherently tied and linked to the larger system of buildings, transport infrastructure, and access to labour, which all contribute to the vitality and viability of the system.

Demand for industrial land continues to increase. Land values have increased significantly over the past few years and vacancy rates are at record lows. As a result of all these factors, the limited supply of vacant industrial land across the region is anticipated to face a worsening shortage over the coming years. With continued pressure for growth, limited options for expansion and increasing competition between other land uses, these issues now threaten not only new opportunities for growth, but also existing economic and employment activities.

The Challenge

Through canvassing industrial stakeholders and users around the region, the four main challenges facing Metro Vancouver's industrial lands are:

1. A Constrained Land Supply

Bounded by the ocean, mountain ranges and an international border, the region is geographically constrained with limited options to expand the land base. As the region's population and economy continue to grow, this results in increasing demand for, and competition amongst, various land uses including residential, commercial, recreational, agricultural and industrial. With a limited supply of vacant industrial land remaining, there are fewer opportunities to accommodate both new industrial businesses and those businesses that are seeking to expand their operations, particularly for uses that require larger parcel sizes with the necessary access to services and transportation infrastructure.

2. Pressures on Industrial Lands

As other land uses also compete for the limited amount of land available in the region, industrial lands are facing increased speculation and other market pressures to convert to non-industrial uses, such as commercial and residential. These other uses typically are higher value; often pricing-out industrial land uses when a range or mix of land uses are permitted in industrial areas.

In addition, there is an increasing trend toward permitting more accessory and non-industrial uses on lands intended for industrial activities. These employment uses, although important to the regional economy, may displace and create location challenges for more traditional industrial uses.

3. Site and Adjacency Issues

In some cases, the high cost of delivering servicing to undeveloped industrial areas has proven prohibitive. Similar issues related to environmental constraints, lack of transportation and public transit infrastructure and the encroachment of nearby sensitive uses have discouraged or prevented industrial development where it might otherwise be accommodated. Similarly, the encroachment of sensitive land uses often result in conflicts with industrial operations (i.e. truck traffic, noise, odours) which can prove disruptive to existing and prospective industrial uses.

4. A Complex Jurisdictional Environment

The issues facing Metro Vancouver's industrial land supply involve multiple stakeholders, including the public sector, crown corporations, private sector, industry associations, chambers of commerce and boards of trade. In some cases, these challenges are compounded by overlapping jurisdictions amongst government agencies, leading to a fractured regulatory landscape and competing mandates. Similarly, varying approaches to industrial land use (including permitted activities and intensities) may be in conflict with the aspirations of the region and neighbouring jurisdictions.

The Response

In response to the challenges facing industrial lands and interests of industrial stakeholders in the region, the Metro Vancouver Regional District (Metro Vancouver) struck an Industrial Lands Strategy Task Force (the Task Force) comprising appointed MVRD Board Directors and representatives from other stakeholder agencies and organizations.

The Task Force's mandate was to guide the development of a Regional Industrial Lands Strategy to address the challenges noted. This has been a collaborative process involving a range of stakeholders with an interest in the current and future role that industrial lands should play in the region. This includes understanding how current industry sectors in Metro Vancouver use land for different types of industrial activities, challenges facing the development and operation of industrial lands within the region, and how the changing nature of work and industry could impact the future demand for land, along with associated transportation implications. Despite uncertain impacts on the future, all indications are that demand for industrial land will continue to grow.

Vision

The Regional Industrial Lands Strategy seeks to:

Ensure sufficient industrial lands to meet the needs of a growing and evolving regional economy to the year 2050

The vision statement speaks to both the timeframe for the Strategy as well as acknowledging the challenges posed by the changing nature of work and potential impacts on the regional economy and industrial land use and demand.

The Regional Industrial Lands Strategy supports and advances the policy objective to protect and intensify industrial lands in the region as articulated through a series of plans, including *Metro Vancouver 2040: Shaping our Future (Metro 2040)*, the regional growth strategy, TransLink's Regional Goods Movement Strategy, the Port of Vancouver's Land Use Plan, and local Official Community Plans.

The 4 'Big Moves' and 10 Priority Actions

The challenges facing Metro Vancouver's industrial lands are complex and interconnected, and no single action or stakeholder will resolve them alone. Market forces and types of industrial activity vary significantly by sub-region, such that for example, forms of densification that may be possible in certain urban locations may not be appropriate in other locations. There are a wide range of national, regional and local serving industrial activities in the region, which have different site and location needs, and which, as a result require different policy responses. Accordingly, recommended actions need to balance regional objectives, while addressing local contexts – 'one size' does not fit all.

To respond to the challenges noted above, the Strategy identifies **34 recommendations** with **10 priority actions** organized around **4 Big Moves**:

- Protect Remaining Industrial Lands
- Intensify and Optimize Industrial Lands
- Bring the Existing Land Supply to Market & Address Site Issues
- Ensure a Coordinated Approach

The priority actions are formed, in part, by packaging together related actions in the longer list of recommendations into combined shorter-term actions, to be implemented over the first few years of endorsement of the Regional Industrial Lands Strategy.

In considering the 4 'Big Moves' and the recommendations that follow, the Strategy affirms that conversion or use of agricultural lands is not a solution to the shortage of industrial lands in the region. This principle was endorsed by the Industrial Lands Strategy Task Force and Metro Vancouver Board.

Big Move 1 - Protect Remaining Industrial Lands

Given the ongoing and projected demand for industrial land in the region, it is imperative to protect the region's remaining industrial lands and curb the threats that undermine their use for industrial activities. This means lands for trade-oriented purposes as well as for small, local serving businesses; businesses that are responding to the changing nature of industry as well as more traditional industrial activities. The priority actions for this Big Move are:

1. **Define Trade-Oriented Lands:** Trade-oriented lands are large sites associated with the transportation of goods to and through the region, such as by rail and the port, which serve a national function and are crucial to the region's economy, warranting additional attention and possible protection. A clear, consistent and collaboratively developed definition and understanding of the extent and location of these important lands will support their protection. Metro Vancouver will work with member jurisdictions to establish a definition for trade-oriented lands. (Subsequent actions identified in the 34 recommendations include consideration of a regional trade-oriented land use overlay in the regional growth strategy and municipal consideration of trade-oriented zoning.)

2. **Undertake a Regional Land Use Assessment:**

Given Metro Vancouver’s constrained land base, there is significant pressure for competing, legitimate land uses across the region. Metro Vancouver will undertake a targeted or region-wide assessment of land use, looking at and beyond the existing policy framework to proactively identify the ‘best’ locations for different land uses based on a collaboratively developed set of criteria.

3. **Strengthen Regional Policy:** Through the update of the regional growth strategy, Metro Vancouver will explore implementation changes, such as a consistent definition for Industrial, higher voting thresholds to amend the regional Industrial land use designation, and exploration of ‘no net loss’ as part of the amendment criteria.

4. **Seek Greater Consistency in Local Government Zoning Definitions and Permitted Uses:**

Metro Vancouver will, in collaboration with member jurisdictions and other regional agencies, develop a consistent definition of ‘industrial’ and guidelines for permitted uses. Member jurisdictions, through regional context statement updates, will review and update their zoning bylaws using the established guidelines.



Big Move 2 - Intensify and Optimize Industrial Lands

Given the region’s constrained land base, it is critical to encourage the most efficient use of the remaining land supply for all types of industrial users, to remove barriers to the intensification of industrial land, and investigate opportunities to optimize the location of certain land uses over time. The priority action for this Big Move is:

5. **Facilitate the Intensification / Densification of Industrial Forms Where Possible:** Municipalities will review and remove unnecessary restrictions to density or height limits where appropriate; plan space to accommodate new, smaller industrial uses when older, centrally located industrial areas densify; allow mixing of industrial with other employment uses so long as the industrial component is secured as a condition of redevelopment; and explore opportunities to encourage intensification / densification in target areas. Metro Vancouver will explore allowing mixed-use with residential on Mixed Employment lands immediately proximate to Rail Rapid Transit Stations (distance to be determined, but suggest 200 metres) as long as existing industrial space is maintained or expanded and other *Metro 2040* objectives are met (e.g. affordable, rental housing).

Big Move 3 - Bring the Existing Land Supply to Market & Address Site Issues

Certain parts of the vacant industrial land supply suffer from site-specific challenges, such as limited infrastructure support, environmental concerns, and under-sized parcels. Where vacant lands have not come to the market, local municipalities may benefit from the preparation of a bring-to-market strategy. Such a strategy would identify the issues that have prevented the development of the undeveloped or under-developed industrial land, while providing a roadmap to achieve the municipality's economic goals for its remaining industrial lands. The priority actions for this Big Move are:

6. Prepare Bring-to-Market Strategies for Vacant or Under-developed Industrial Lands:

Municipalities with vacant or under-developed industrial lands will prepare a bring-to-market strategy for their industrial land that addresses strengths, weaknesses, opportunities and challenges, to encourage reinvestment and more

intensive use, considers municipal assembly and consolidation of fragmented parcels, whether environmental remediation is required, and if local servicing and infrastructure improvements are required and can be accommodated through front-ending infrastructure investment agreements.

7. **Ensure Transportation Connectivity:** The efficient movement of goods and people is critical for many industrial businesses, both local serving and trade-oriented, in terms of where they choose to locate. The maintenance and growth of a resilient and reliable transportation network, including various modes of transit, is an integral component in planning for the effective management of the region's industrial lands. TransLink, Metro Vancouver, the Port, the Airport and municipalities will continue to work together to coordinate investment in the transportation network, implement the Regional Goods Movement Strategy, enhance the regional truck route network, support efficient container drayage, and provide transit for industrial workers.



Big Move 4 - Ensure a Coordinated Approach

Improved cooperation and data tracking among governments and other agencies and organizations is necessary to ensure effective land management and accurate monitoring into the future. Coordination also guides future alignment of policy responses to issues as they arise across Metro Vancouver and southwestern British Columbia. The priority actions for this Big Move are:

- 8. Coordinate Strategies for Economic Growth and Investment:** Metro Vancouver and member jurisdictions have a shared interest in attracting new investment and supporting economic and employment activities across the region. Many municipalities have an economic development office or department that work to retain and support the expansion of local businesses. Metro Vancouver's new Regional Economic Prosperity Service provides the opportunity for a regional approach to economic development that will amplify and complement the work of member jurisdictions.
- 9. Improve Data and Monitoring:** Timely access to quality data is critical for land management and the development of effective economic policy. Metro Vancouver will update the Industrial Lands Inventory to have a better understanding of the current land uses and supply, and complete a Regional Employment Survey.

10. Develop a Framework for Coordination:

Pressures on industrial lands are not limited to Metro Vancouver. Adjacent regional districts are part of the same goods movement network and commuter-shed and they are facing similar land pressures and challenges. The Province will work collaboratively with Metro Vancouver, TransLink, and municipalities on cross-boundary economic and land use planning matters and will develop a framework for economic and land use planning coordination between neighbouring regions in the broader southwestern BC economic region to support industrial land use and protection. For example, Metro Vancouver will seek to sign a memorandum of understanding with the Fraser Valley Regional District outlining shared priorities regarding the effective and efficient management, protection, and development of industrial lands within the Lower Mainland.

Implementation

Taken together, these 10 Priority Actions will ensure Metro Vancouver's industrial lands continue to provide an attractive and viable location for industrial businesses to locate, grow and prosper, while supporting the broader regional economy and community. Further details for each action will be developed during implementation, including key stakeholder engagement. Furthermore, it is recognized that there is a logical sequencing of actions to inform subsequent work.

The Regional Industrial Lands Strategy will be periodically reviewed for effectiveness. The status of policy progress and market conditions can inform adjustments to actions as needed. Additional actions will be identified for prioritization in subsequent periods through the implementation work.

SETTING THE STAGE

Metro Vancouver is facing a shortage of industrial land. With strong demand for industrial space, many industrial businesses are finding it increasingly difficult to find suitable locations, while the prevalence of conversions to non-industrial uses in some areas further reduces the remaining supply of industrial land.

Industrial lands are crucial to supporting a prosperous, sustainable regional economy and to providing space to accommodate the industrial businesses and services needed across Metro Vancouver. These lands are home to over one-quarter of the region's jobs, and are used mainly for transportation and warehousing, wholesale trade, retail trade, manufacturing, and professional and technical services.

Some industrial activities provide critical regional services, such as infrastructure maintenance and repair, while other activities contribute to a diversified regional economy. Many activities on industrial lands provide for the day-to-day needs of Metro Vancouver's residents and businesses, providing locations for services like regional utilities, vehicle repair, hotel laundry services, catering companies, couriers, breweries, goods manufacturing, and design space. These different businesses need different types of spaces to optimize their operations.

While some industries are and will continue to be land-intensive, other forms may be accommodated in high density / intensity buildings. Modern industry needs different types of space than traditional industry, and will both impact and respond to changing business, economic, employment, and transportation conditions.

Furthermore, the type of industrial activity varies greatly across the Metro Vancouver region, from urban industrial in Vancouver to logistics facilities in locations close to port terminals, and warehouses in Surrey and Langley. Each jurisdiction has unique competitive strengths and strategies for supporting international, regional and/or local demand.

Due to a constrained land base and strong demand for all types of land use, the regional supply of industrial land is under significant pressure for conversion to permit uses that can command higher market values, such as retail, commercial and residential uses. In some parts of the region, flexible zoning has allowed non-industrial businesses to occupy industrial lands, competing for and at times displacing the industrial uses that cannot easily locate elsewhere. In other areas, the encroachment of sensitive uses, like residential, next to existing industrial operations is resulting in conflicts that threaten the continued operation of the original industrial use. These challenges, along with many others, are eroding opportunities for industrial businesses to operate and grow, which in turn threatens the economic diversity and vitality of the broader regional economy.



Metro Vancouver's Industrial Lands Strategy Task Force

In response to the challenges facing the region's industrial lands, Metro Vancouver struck an Industrial Lands Strategy Task Force in March of 2018, which continued into early 2020.

The mandate of the Task Force is to guide the development of the Regional Industrial Lands Strategy. It was intended to be a collaborative process involving a range of stakeholders with an interest in the present and future role that industrial lands play in the region. This includes developing a greater understanding of how current industry sectors use land for different types of industrial activities, the challenges facing the development and operation of industrial lands, and considering how the changing nature of work and industry could impact the demand for land in the future in the region.

The Task Force includes both voting members, comprising appointed Metro Vancouver Board Directors, and non-voting members, comprising representatives from agencies and organizations with an interest in, and specialized knowledge about industrial lands. Non-voting members included representatives of the Port of Vancouver, TransLink, the Urban Development Institute, the BC Ministry of Jobs, Trade and Technology, BC Chamber of Commerce, Agricultural Land Commission, and representatives from the industrial development community. The Task Force was responsible for guiding the development of research and stakeholder consultation to support the development of the Regional Industrial Lands Strategy, before reporting back to the Metro Vancouver Board with the recommended Strategy.

Vision

One of the first efforts of the Task Force was to confirm a vision for the Regional Industrial Lands Strategy.

Ensure sufficient industrial lands to meet the needs of a growing and evolving regional economy to the year 2050

The vision statement speaks to both the timeframe for the Strategy as well as acknowledging the challenges posed by the changing nature of work and potential impacts on the regional economy and land demand.

Definition of 'Industrial'

If the objective of the Regional Industrial Lands Strategy is to ensure the sufficient supply of industrial lands, the first step is to develop a greater understanding of what the Strategy is seeking to protect lands for – i.e. how is 'industrial' defined.

Across the region, municipal policies and bylaws vary in terms of what uses are permitted within industrial and employment zoning. For example, some municipal bylaws limit permitted uses to more traditional industrial activities, such as manufacturing, warehousing and distribution logistics, while others provide more flexibility to accommodate a range of uses, such as commercial, places of worship, and indoor recreation. This flexibility of use can be beneficial towards realizing opportunities associated with the changing nature of industry and the emerging innovation economy, but it can also result in the displacement of more traditional industrial activities and increasing space and land supply challenges for industrial activities.

This is of particular concern in the context of the region's constrained land supply as it relates to the infiltration of industrial areas by non-industrial uses that could potentially locate elsewhere. The challenge is striking the right balance of narrowing the permitted uses to protect the needs of region-serving and trade-oriented activities, while remaining sufficiently flexible to allow for innovation in appropriate locations and ensure sufficient space for non-industrial and employment uses (e.g. in Urban Centres, which generally have better transit infrastructure and more amenities).

'Industrial' represents a wide spectrum of uses and intensities, ranging from large distribution and transportation lands, warehouses, manufacturing and processing facilities, to small local-serving production and suppliers, and new technology-driven businesses with integrated work spaces, which all need different types of accommodations to optimize their operations. Many regional jobs and businesses are also connected to national trade and the port, which require industrial lands for handling goods – e.g. for container storage, freight forwarding, warehouses, and other distribution functions. Towards this end, the Task Force, through consultation with regional stakeholders, developed a working definition for 'industrial' uses for the purpose of the Regional Industrial Lands Strategy.

Industrial is defined as:

- Light and heavy industrial production (e.g. cement manufacturing, food and beverage manufacturing, furniture manufacturing, metalwork and fabrication, sawmills)
- Distribution (e.g. warehousing, industrial storage, freight trucking, intermodal couriers)
- Repair (e.g. autobody shops, truck and trailer repair, consumer goods repair)
- Construction materials and equipment (e.g. building supplies and specialty trade contractors, heavy equipment rental and leasing)
- Infrastructure (e.g. public utilities such as wastewater treatment facilities and pumping stations, works yards, rail / port terminals)
- Outdoor storage activities (e.g. container storage)
- Wholesale (e.g. merchant and logistics wholesalers)

In addition to the more traditional industrial uses, the Strategy also recognizes other non-traditional industrial uses that may be compatible with industrial uses based on a number of criteria, best dealt with at the local and site levels (Tables 1 and 2).



TABLE 1: CRITERIA TO ASSIST IN DEFINING INDUSTRIAL USE & COMPATIBILITY

CRITERIA	DESCRIPTION
Compatibility with adjacent uses	Whether a business is an emitter of noise, vibration, odour or visual nuisances that make occupying areas proximate to other land uses (e.g. residential, commercial institutional) challenging
Access (to site and goods movement network)	Whether the business requires access to particular infrastructure or modes of transportation such as water, rail, airport, and highway
Space requirements and scale of business	Whether the business requires large / unique site or building characteristics
Product produced	Whether the business manufactures, distributes or repairs a physical product
Trip generation	Whether the business generates or handles relatively large amounts of truck or client traffic
Client type	Whether the business is geared toward other business or the public
Ancillary/hybrid use	Percentage of the business that is office if a hybrid use (e.g. bio-tech)

SOURCE: DEFINING INDUSTRIAL FOR THE REGIONAL INDUSTRIAL LANDS STRATEGY, METRO VANCOUVER, SEPTEMBER 2018

Through consultation with stakeholders, these criteria were used to categorize a spectrum of uses into four land use categories that align with *Metro 2040's* land use designations. These include traditional industrial activities that are appropriate for lands designated or zoned Industrial; flexible uses considered appropriate for lands designated or zoned Employment;

non-industrial uses that should not be permitted on Industrial lands; and context-specific uses that could be appropriate for Industrial or Employment lands depending on the criteria listed in Table 1. The spectrum of uses by applicable land use category are summarized in Table 2.

TABLE 2: APPLICABLE USES BY LAND USE CATEGORY

INDUSTRIAL	<ul style="list-style-type: none"> • Light and heavy industrial production • Distribution • Repair • Construction materials and equipment • Infrastructure • Outdoor storage • Wholesale
EMPLOYMENT	<ul style="list-style-type: none"> • Indoor Storage (e.g. self-storage) • Stand-alone office (e.g. law and financial offices) • Stand-alone recreation (e.g. karate studios, theatres, crossfit and climbing gyms, badminton/tennis facilities) • Retail / wholesale (e.g. big box, car dealerships, furniture, automotive parts) • High tech software development • Consulting services (e.g. engineering, architecture, environmental)
NON-INDUSTRIAL	<ul style="list-style-type: none"> • Residential and supportive housing • Artist studios and live / work space • Agriculture (soil based growing) • Places of worship • Institutional uses (e.g. schools, day cares, hospitals)
CONTEXT SPECIFIC	<ul style="list-style-type: none"> • Restaurants (i.e. serving adjacent industrial activities versus being a draw for the public) • Retail (i.e. micro-breweries depends on scale and percent retail) • Services (i.e. commercial laundry, bakery, catering depends on scale) • Research and development (i.e. high-tech, bio-tech that require 'industrial' space) • Media production studios (i.e. movie, recording, television and radio)

SOURCE: DEFINING INDUSTRIAL FOR THE REGIONAL INDUSTRIAL LANDS STRATEGY, METRO VANCOUVER, SEPTEMBER 2018

The Changing Nature of Industrial Activities

The changing nature of the economy means that business and industrial activities are evolving, as are desired space needs and location preferences, and associated employment and transportation implications. This may include new types of manufacturing, advanced technology, and integrated work spaces. In some cases, these uses may be less impactful in terms of external nuisances, and different levels of employment density.

The new types of business models may not neatly fit within the traditional paradigm of 'heavy' or 'light' industrial. The types and definitions of industrial activities are evolving and becoming more diverse. Notable new forms of industrial activity include:

- Clustering together or co-locating of related operations can support eco-industrial networks and circular economy systems, where companies collaborate to utilize each other's by-products (material loops) and share resources (peer-to-peer lending) to increase overall efficiencies. These sectors can include: innovative R&D, green / clean-tech, and smart technologies.
- Local artistry 'maker movement' craftsmanship.
- High tech and other newer forms of industry such as: e-commerce, direct-to-consumer deliveries, co-facilities, advanced technology, on-demand manufacturing, and creative / media / design.
- Significant industrial land intensification as a result of market forces, specifically new industrial uses, growth in logistics, smart warehouses, and e-commerce. The reasons are that new industrial capital investments often leverage existing and emerging technologies to either scale their output or increase value-added production.

- Logistics, distribution, global supply chains, and new forms of industrial or manufacturing activity are driving demand for industrial property.
- New forms of intense industrial development such as mega-distribution facilities and e-commerce logistics facilities have become dominant features of the major industrial real estate markets in the world. The availability of a sufficient number of large-sized land parcels to support this activity, along with labour availability, influences site selection for these activities worldwide. In certain cases, the shortage of large parcels of industrially zoned land may be an obstacle to attracting such developments of a certain size.
- Evolving business models in response to e-commerce and technology are placing increasing importance on the need for integrated space where design, manufacturing, distribution, and showroom / retail activities can occur within a single building.

Findings - Role of Industrial Lands

In setting the stage for the Regional Industrial Lands Strategy, a significant body of research was undertaken. The following findings provide an overarching summary of that work, and set the stage for the Strategy's recommendations:

1. Industrial lands play a critical role in supporting both local employment and the broader regional and national economies.
2. A broad spectrum of employment activities take place on industrial lands, many of which are unlikely or unable to locate elsewhere within the region.

3. Industrial land uses have specific spatial and infrastructural needs that must be planned and protected to ensure their efficient operation and continued growth.
4. Many industrial businesses rely on dependable access to the goods movement network to ensure the timely movement of product to and from suppliers and their clients, along with transit services to link businesses with a broader range of the region's workforce.
5. While industrial areas can benefit from a mix of complementary and secondary uses, many industrial uses struggle to compete when non-industrial uses are allowed to encroach upon and develop within industrial lands:
 - there is limited alignment on what constitutes an 'industrial' use and some local zoning have permitted distinctly non-industrial uses to locate and occupy a significant amount of industrial land.
 - the encroachment of sensitive uses, such as residential, often creates conflicts with abutting industrial activities. Without sufficient buffering to separate these uses, or mitigation measures to limit conflict, encroachment may threaten the operation and growth outlook for existing industrial operations.
6. The market for industrial land and how it is used varies across the region, with differing land values, rents, and spatial characteristics in different sub-markets.
7. There are a number of ways in which industrial uses can make more efficient use of a limited land supply, including intensification of built form where local development restrictions, geotechnical / soil conditions, and market factors permit. However, not all market areas or industrial operations are well suited to multi-level industrial buildings.
8. Innovation and the changing nature of work in industrial areas requires a careful balance between protecting for certain uses and enabling flexibility to realize emerging economic opportunities:
 - the limited supply of available industrial land, coupled with speculation and competition amongst other land uses, is resulting in rising costs and fewer options for new and existing industrial businesses.
 - without careful management of the region's remaining industrial land supply, there is a real risk that industrial activities may be displaced or may choose to (re)locate elsewhere outside of the region.
 - mismanagement of the region's industrial land supply has the potential to impact not only industrial employment and economic activity, but also the broader economic outlook for Metro Vancouver.
9. Given the diverse characteristics of Metro Vancouver's industrial sub-markets and geographies, policy options that work well in one jurisdiction or area may not apply to another. As such, policy recommendations in the Regional Industrial Lands Strategy must not be implemented in a blanket manner but instead must recognize local context and applicability.

THE ROLE OF INDUSTRIAL LANDS BY SECTOR IN THE METRO VANCOUVER ECONOMY

The Metro Vancouver regional industrial market stretches from the North Shore and Vancouver area to the Fraser Valley. The Metro Vancouver region is experiencing an acute shortage of industrial land supply, which manifests as very low vacancy rates, increasing land prices, and higher lease rates. These factors impact the industrial real estate market, spurring more development of industrial projects (within the limitations of land supply) and more intense / dense forms of industrial development.

Demand for industrial space continues to set new records as both owner-operator and investor interest in industrial assets strengthen amid low vacancy, constrained land supply, and rising rental rates throughout Metro Vancouver.

According to market reports, demand is driven by distribution of consumer goods (warehouses), food / beverage (processing), building supplies, technology users, and film production. Logistics associated with last-mile delivery and e-commerce are also in strong demand, requiring well-located urban premises. In core locations, increasing prices force a transition to more specialized light manufacturing, tech, office and showroom-type uses.

Also identified as new users of industrial space are small scale, artisanal businesses, such as custom manufacturing, small batch production, and food processing, some relating to the sharing economy, such as facilities with common kitchens. Many of these businesses require small space, and are local serving, benefiting from close proximity to the consumer population.

In recent years the rapidly growing film industry has been turning to warehouse sites to convert the structures into large production studios. As such, modern warehouse space is now becoming more attractive to both the logistics and film industry.

The anticipated growth trajectory of the Port of Vancouver's containerized cargo volumes will remain a structural driver of demand for industrial real estate in the region. The Port and associated operations require trade-oriented lands, which are large and close to transportation infrastructure.

Growth is also occurring in tech firms in urban light industrial areas, noting the diverse types: high tech, bio-tech, software, and digital. These businesses often need high ceiling, studios, labs, storage, and power, with various activities including, R&D, packaging, and distribution on site -- industrial space that meets their needs. Furthermore, different types of tech companies have different abilities to pay, in terms of both wages and accommodations; most small and young companies cannot afford high lease rents or to purchase strata space.

Economic Contribution of Industrial Lands

Industrial lands are the foundation for a significant component of the Metro Vancouver region's economic activity, representing a large amount of employment and economic activity:

- Comprising only 4% of the region's land base, industrial lands are home to nearly 27% (364,000) of the region's 1.3 million jobs, while also supporting an additional 163,000 jobs through indirect and induced impacts.
- Jobs located in industrial areas tend to be high paying, offering an average wage of \$61,100 per worker, which is roughly 10% higher than the regional average wage of \$55,000 per worker.
- In 2016, business activities on industrial lands generated \$27 billion in direct Gross Domestic Product (GDP), equating to 30% of the region's total GDP. These activities also accounted for an additional \$30 billion in indirect and induced GDP, of which \$16 billion is within the region, \$5 billion is accrued elsewhere in the province, and \$9 billion accrues elsewhere in Canada.



The Metro Vancouver industrial market continues to experience very strong demand for space and a limited supply of land. As described by one brokerage firm, "with record-low vacancy, escalating rental rates, an expensive and constrained industrial land supply and an insufficient volume of new development" there is a "ravenous appetite for industrial real estate among tenants, owner-occupiers, developers as well as private and institutional investors".

The demand is based on a growing regional population and economy, Metro Vancouver's geographic role as a transportation gateway for the nation, and evolving and emerging forms of industrial. Notable drivers of demand are: e-commerce, logistics and distribution, light manufacturing, food processing, advanced technologies, and creative and media production sectors, many of which desire urban locations to be close to their customers and workforce.

On the supply side, the quantity of available land is essentially fixed, and the amount of new industrial building floor area being built cannot keep up with absorption:

- Metro Vancouver had, as of 2015, approximately 11,300 hectares (28,000 acres) of industrial land, about 80% of which is already developed. Within this supply, local brokerages estimate there to be 210 million square feet of industrial building floor space.

- Because the development of new space has not kept pace with demand, the industrial vacancy rate of 1.4% is a record low for the region, and counts amongst the lowest in North America’s major markets.
- Competition for space is resulting in increasing rental rates across the region, ranging from \$10.50 per square foot in Surrey and Delta to \$14.50 per square foot in Vancouver and North Vancouver.
- Values for vacant industrial land are also up significantly in recent years, past the \$2 million per acre mark in many areas, and much higher in the City of Vancouver.
- Purchase prices for strata industrial space have followed similar trends ranging from \$300 to \$500 per square foot depending on the sub-market, with Vancouver representing the higher end.
- Despite the development of new supply being at an all time high, with some 6 million square feet of building space under construction, absorption levels have yet to abate, indicating demand is outpacing the market’s ability to provide space.

Within this market, industrial tenants are facing limited space options to accommodate their new and expanding businesses, while also experiencing increased pressure from rising market rents, maintenance costs and property taxes. Businesses are faced with either renewing their lease at notably higher rates, or relocating further away from the region’s core markets, driven – or indeed, pushed – by availability and costs rather than location preferences.

Employment and Economic Activity

Of the 364,100 jobs located on the region’s industrial lands, 200,400 (55%) are associated with industrial activities, involving production, distribution, repair, public infrastructure, and trade-oriented uses (employment activity located on lands associated with the Port of Vancouver and Vancouver Airport Authority). Industrial activities are significant contributors to the local economy, contributing proportionally more GDP per job than the regional average. These jobs generated an estimated \$17.3 billion in direct GDP in 2016.

Non-industrial activities, that is those jobs in sectors related to media, film and art production, research and development in professional and technical services, retail and other services, also play a significant role on the region’s industrial lands. These sectors account for 163,700 direct jobs and approximately \$9.5 billion in direct GDP (Table 3), though their impact is proportionally lower on a per jobs basis than the industrial sectors. This is primarily on account of the higher economic multipliers (linkages and spending with other sectors) and higher average wages associated with activity in the industrial sectors.

TABLE 3: ECONOMIC IMPACTS OF EMPLOYMENT LOCATED ON INDUSTRIAL LANDS, BY SECTOR, 2016

ECONOMIC IMPACT		IMPACTS:	REGION	BRITISH COLUMBIA	CANADA
EMPLOYMENT (JOBS)	Industrial Sectors	Direct	200,400	200,400	200,400
		Indirect	59,200	78,100	111,400
		Induced	48,000	62,900	87,900
		Total	307,600	341,400	399,600
	Non-Industrial Sectors	Direct	163,700	163,700	163,700
		Indirect	28,900	36,000	50,400
		Induced	28,900	33,600	45,800
		Total	219,400	233,200	259,900
All Sectors	Total	527,100	574,600	659,500	
GDP (\$ BILLIONS)	Industrial Sectors	Direct	\$ 17.3	\$ 17.3	\$ 17.3
		Indirect	\$ 5.5	\$ 7.3	\$ 11.2
		Induced	\$ 5.2	\$ 6.8	\$ 9.5
		Total	\$ 28.0	\$ 31.4	\$ 38.0
	Non-Industrial Sectors	Direct	\$ 9.5	\$ 9.5	\$ 9.5
		Indirect	\$ 2.5	\$ 3.2	\$ 4.6
		Induced	\$ 2.9	\$ 3.6	\$ 4.9
		Total	\$ 15.0	\$ 16.3	\$ 19.1
All Sectors	Total	\$ 43.0	\$ 47.7	\$ 57.1	

SOURCE: STATISTICS CANADA CENSUS 2016, METRO VANCOUVER AND INTERVISTAS ANALYSIS AND CALCULATIONS.

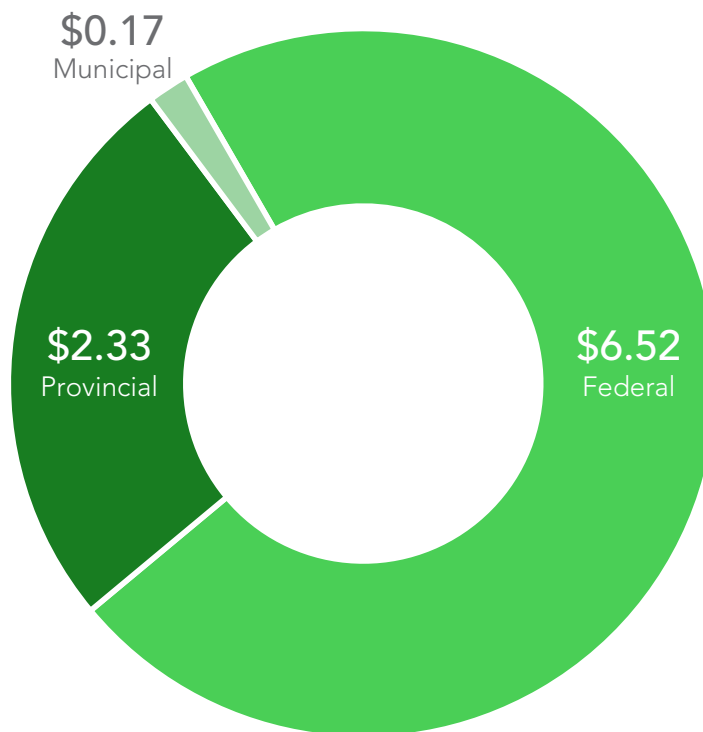
NOTE: DATA ARE ROUNDED AND MAY NOT SUM. PRICES ARE 2016 DOLLARS.

Tax Impacts

Metro Vancouver's industrial lands are estimated to generate \$6.5 billion in tax revenues and fees for the Federal government and \$2.3 billion for the Provincial government (Figure 1). Industrial sector jobs make a

greater contribution to Federal and Provincial revenues when compared to non-industrial sector jobs located in the industrial areas, primarily on account of their higher average wages for industrial related jobs.

FIGURE 1: ESTIMATED FEDERAL, PROVINCIAL AND MUNICIPAL TAX REVENUES GENERATED BY INDUSTRIAL LANDS (\$BILLIONS)



SOURCE: INTERVISTAS' TAX MODEL AND CALCULATIONS, AND ANALYSIS OF BRITISH COLUMBIA GOVERNMENT TAX BURDEN SCHEDULE 707 2016 ASSESSMENTS, TAX RATES, MUNICIPAL TAXES AND CLASS PROPORTIONS OF TAXES AND ASSESSMENTS.

METRO VANCOUVER INDUSTRIAL LANDS - ISSUES AND TRENDS

Industrial lands are crucial to supporting a prosperous and sustainable regional economy and to providing space to accommodate the industrial businesses and services needed across Metro Vancouver. Industrial lands serve both an important regional role in the economy and employment, and, as a facilitator of trade-oriented activities, a critical national role to the wider economy. Industrial lands, while only comprising 4% of the land base, accommodate over one-quarter of the region's total employment, and contribute to the region's economic well-being, along with the associated linkages to transportation, trade, and taxation matters, supporting the broader regional, provincial, and national economies.

'Industrial' represents a wide spectrum of uses and intensities, ranging from large distribution and transportation lands, warehouses, manufacturing and processing facilities, to small local-serving production and suppliers, and new technology-driven businesses with integrated work spaces. These businesses all have different needs in terms of accommodations to optimize their operations, as well as location, property and building size requirements.

Industrial lands accommodate many businesses that serve the wider economy, and provide employment opportunities close to home for residents, as well as taxation benefits to the respective local municipality. Industrial lands provide for the day-to-day needs of the population, locations for services like vehicle repair, hotel laundry, catering companies, breweries and couriers, etc., that serve and provide employment opportunities for both the region and the surrounding communities. Many regional businesses and jobs are also connected to national trade through the Port of Vancouver, which requires industrial lands for the handling of goods including: container storage, rail shunting, freight forwarding, warehouses, and other distribution functions.

The Metro Vancouver market conditions are a function of a very tight supply of industrial lands in the region, and strong demand from multiple business sectors. Strong economic fundamentals are driving demand for industrial space in the region, while a shortage of developable space (especially larger size land parcels) has kept available supply constrained. The price to lease industrial space in Metro Vancouver has increased greatly. In response, some new industrial developments are built to more intense / dense levels, while some industrial tenants are rationing space or being displaced, and in other cases are leaving the region.

This section assesses the current state of industrial lands in Metro Vancouver and provides information on trends, issues, context, opportunities and challenges for the Strategy's recommendations. Research was compiled through a comprehensive review of various market and academic sources, including a series of studies and white papers prepared for the Task Force. These studies include:

- Regional Industrial Lands Strategy – Issues and Initiatives Summary (June 2018);
- Industrial Lands and the Innovation Economy (June 2018);
- Defining Industrial for the Regional Industrial Lands Strategy (September 2018);
- Stratification of Industrial Land in Metro Vancouver (September 2018);
- Industrial Edges: Compatibility and Interface Issues in Metro Vancouver (September 2018);
- Agri-Industrial Activities in Metro Vancouver (February 2019);

- Regional Industrial Lands Strategy – Survey of Industrial Users (February 2019);
- Economic Value of Industrial Lands to the Metro Vancouver Region (February 2019); and
- The Changing Nature of Industry and Industrial Land Demand in Metro Vancouver (July 2019).

Regional plans should guide market forces in ways that respond to industrial needs while considering other community objectives. The complexity lies in balancing industrial trends, development viability, business needs, responsive regulations, and other community interests. The challenge and opportunity is how to best use and intensify industrial uses without losing the industrial function of the lands.

Challenges Facing Metro Vancouver Industrial Lands

With regional population and employment growth, and a constrained land base, the region faces a number of challenges related to the protection, management and promotion of industrial and employment lands. These challenges have been categorized into four themes:

- A. Constrained Land Supply
- B. Pressure on Industrial Lands
- C. Site and Adjacency Issues
- D. Complex Jurisdictional Environment

The challenges are complex and interconnected, and addressing them will require creative responses and collaboration among all stakeholders in the region.



A. Constrained Land Supply

The challenges facing Metro Vancouver and its industrial land supply are somewhat unique, at least in the North American context. Unlike most other North American markets, where continued demand can often be accommodated via development and growth into outer areas, Metro Vancouver is bounded both physically and politically between mountains, an ocean and an international border. While there is some potential for industrial development in the neighbouring Fraser Valley Regional District to the east, it too has a limited supply of vacant industrial land available, leaving the land supply within the Lower Mainland predominantly capped.

Between the limited supply of vacant industrial lands and high demand for new space, there is a scarcity of lands in general. This is of particular concern as it relates to larger parcel sizes (20+ acres / 8+ hectares), that are typically required for major industrial and logistical uses. This problem is further exacerbated by the fragmented nature of much of the region's remaining vacant land parcels, which results in lands that are suitable for some industrial activities, but insufficient for large-scale development, in terms of size, location, or other attributes.

With limited options through traditional expansion-based methods, Metro Vancouver will need to embrace creative options for increasing both the supply and capacity of its industrial lands. These alternative approaches are not without their own challenges, as discussed in the following examples.

In the past, it was common to expand industrial and port areas into shorelines by using fill. However, the environmental and economic costs and necessary approvals and mitigation measures can be prohibitive, resulting in the practice being used much more sparingly in recent years. The Port of Vancouver is

currently undertaking a comprehensive study to expand the Roberts Bank container terminal using this approach; though beyond that project there are few prospects for this approach to be applied elsewhere in the region.

B. Pressure on Industrial Lands

Not only are the region's industrial lands in short supply, they are also under threat of being further diminished due to a number of factors, including allowance of non-industrial uses and being out-priced due to high land values and property taxation. At the same time, industrial uses seeking other locations to suit their needs are putting pressure on the region's agricultural land.

Competition and encroachment from non-employment uses are putting considerable pressure on industrial lands. The encroachment of these sensitive land uses often result in conflicts with industrial operations (i.e. truck traffic, noise, odours) which can prove disruptive to existing and prospective industrial uses. Mixing non-industrial uses in industrial areas or converting the lands entirely runs the risk of encouraging speculation, which in turn may drive up land values and prevent industrial growth or displace existing industrial users.

Industrial areas can benefit from the presence of a number of complementary non-industrial uses, including restaurants and amenities to serve local workers, and ancillary retail and office components that are related to the primary industrial use. However, these and many other non-industrial uses can also compete for space in the industrial area. Many non-industrial uses are able to locate in other parts of the urban land supply, but given the comparatively lower cost of land and space, may prefer to locate in industrial areas if permitted to do so.

C. Site and Adjacency Issues

In addition to the macro-level challenges facing industrial lands, various site-specific issues are creating barriers to the effective development and redevelopment of the region's industrial lands:

- In the case of unserviced industrial lands, the high cost of delivering necessary servicing and infrastructure may be preventing the establishment of new industrial activity;
- A number of industrial areas have limited access to the Regional Truck Route Network and other infrastructure intended for the movement of goods and materials, including access to railways and navigable waterways;
- Recognizing that some industrial lands are located in areas that are challenging to serve efficiently with transit, limitations to transportation and transit infrastructure, coupled with a lack of local amenities, can make it difficult for some industrial businesses to attract and retain workers; and
- Regulations and policies related to industrial impacts on sensitive environmental features are limiting the development capacity of certain sites, requiring setbacks / buffers that can reduce building footprints to unusable sizes. Similar requirements for the remediation of previously occupied industrial sites have proven cost-prohibitive for some industrial developments.

D. Complex Jurisdictional Environment

Industrial lands and industrial activities play a crucial role in the region and its economy. While land use is primarily managed at the municipal level, decisions related to the effective management of industrial lands have the potential to affect neighbouring municipalities, the broader region, and even aspects of the economy at the provincial and national level.

At the same time, the issues facing industrial lands involve multiple stakeholders and overlapping jurisdictions of government, which may have their own organizational mandates. The result is a fractured regulatory landscape which can occasionally result in redundancies or competing policy objectives that stifle the effective utilization of the region's remaining industrial lands for various purposes. For example, the Port of Vancouver, with its federal mandate to accommodate and grow trade-related economic activity, is not subject to provincial or regional policy. As the Port has acquired lands to support this objective, critics have raised concern that the Port is overriding local, regional and provincial land use policies and objectives, including the protection of agricultural land or other local priorities.

In other regards, competition between neighbouring municipalities to attract business and grow their respective property tax bases may result in decisions that undermine the resiliency of the broader regional economy. This is best exemplified by the continued conversion of industrial areas to higher value land uses, despite the limited amount of industrial land remaining in the region.

Lack of collaboration and coordination between government agencies is also resulting in insufficient data sharing, and policy alignment between organizations. These gaps have resulted in policy misalignment (such as overly permissive zoning in industrial areas) and blind spots (such as infrequent reporting on industrial land take up) which make it difficult to track and respond to issues facing industrial lands in a timely manner.

Taking Stock: Finding Opportunities

Trade-Oriented Uses

Industrial businesses cover a range of activities, locational preferences and site needs. For example, a manufacturer of specialized computer components may require a far different type of space than that of a distribution and logistics warehouse operation. Much like the competition between industrial and non-industrial space users, industrial uses with different operational needs may also be able to support different values for land and space.

This disparity is of particular note when it comes to trade-oriented uses, such as the logistics, warehousing and distribution of goods. These uses tend to require specific locations with good access to port, rail or highway infrastructure, often in the form of large warehouses with ample space for the loading and unloading of trucks. However, smaller specialized industrial users can also compete for these types of sites, and may be a more financially viable form of development on high value lands, particularly if developing multi-storey and / or stratified sites. This can prove a challenge given the limited number of large sites in the region that have the characteristics needed by trade-oriented businesses.

In some cases, there can be a real or perceived tension between stratification (including small lot subdivision) and trade-oriented lands (requiring large, flat sites near the goods movement network). Nevertheless, creative solutions are possible, and a variety of uses and tenures are not mutually exclusive for large sites.

Stratification of Industrial

Another way in which Metro Vancouver is unique in the North American context is the popularity of owner-operated strata industrial space. Whereas most commercial and industrial users in North American markets tend to operate in leased space, the limited land supply and high land prices in the Metro Vancouver market, coupled with sustained periods of low interest rates, have resulted in significant demand for owner-occupied strata units.

The benefit of strata-ownership is that it allows smaller industrial users to have security of tenure over their space, providing stability while also enabling the owner-occupier to experience capital appreciation. The upfront nature (i.e. pre-sales) and high sales prices for strata property sales also enable developers to de-risk the development of more capital-intensive built forms, including multi-storey industrial projects, and can prove beneficial for users seeking space in denser inner-city locations.

However, stratified space is not conducive to all industrial users. The high cost may be prohibitive to smaller businesses and may limit the flexibility of firms looking to expand. The subdivision of individual units within buildings may also prove problematic for larger firms seeking large, cohesive spaces. This also poses a potential long-term issue for the redevelopment of existing space, requiring the consolidation of fragmented ownership within buildings. Speculation for strata may also price-out larger traditional and trade-oriented industrial land users from being able to acquire properties.

Increasing Industrial Capacity Through Intensification / Densification

With limited options to increase the land base, many industrial projects are now considering building upwards; modern warehouse distribution centres are developed to be significantly more volumetrically intensive than traditional warehousing operations. Multi-storey industrial buildings are rare in North American due to the high capital costs associated with constructing space that meets the needs of modern industrial businesses, which in turn requires a much higher rent in order to ensure a sufficient return on investment for developers. This also includes the need for sufficient truck access to enable the movement of goods, requiring ramps, freight elevators and loading bays, making site design more complex.

Traditionally, this meant that only smaller users were likely to occupy multi-storey industrial space, specifically those that needed to be located in proximity to the urban core, and were flexible in their space needs. However, as market pressures have increased, interest in multi-storey industrial projects is beginning to grow more broadly, with a number of new multi-storey projects in Metro Vancouver and similar North American markets in recent years. Some of these projects have involved a mix of uses and tenures, most commonly strata industrial space with office uses on upper floors.

Allowing for, and potentially incentivizing, the creation of multi-storey industrial space has the potential to modestly increase the supply of industrial space within the region, so long as the market conditions are sufficient to support it. It is important to recognize that such an option will be contextual within the region, as factors such as local rents, site size, industry activity, and geotechnical conditions will determine where such projects are feasible.

Other Forms of Industrial Intensification

In addition to increasing the amount of built space, there are a number of other ways to measure industrial intensity or density on the land base. These methods may not be as directly tied to land use policy, but can still accommodate increased employment and economic activity. Examples of utilization measures of industrial activity include:

- Labour activity (employees per land acre / hectare or per building sq. ft. / m²)
- Business revenue per unit (value generated per unit of land, or building floor area)
- Volume of goods produced / processed / stored per unit (per floor space, land area, employee)
- Vehicle or equipment movement per hour (trucks, loading, crane lifts)
- Quality and pay of jobs (education and pay levels)
- Value or level of equipment / technology investment (e.g. automation, racking warehouses)
- Transportation infrastructure utilization rates (goods / trips per unit)
- Building lease absorption period, vacancy rates, rental rates
- Longer hours of operation (shift work)

Industrial users are not the only ones constrained by the region's limited amount of available land, as the region's commercial, office, retail and other employment sectors also compete for space. While some of these uses are compatible with industrial activities, the market economics of these other uses may potentially undermine existing and potential industrial activity. These other employment uses typically tend to offer a higher return on investment

and higher rents on a per square foot basis, often pricing-out industrial land uses for floor space. Similarly, the rising popularity of industrial stratification, while providing the option of occupant-ownership, poses a potential disruptor to large scale industrial and trade-oriented activities, as the latter may not be able to compete with other industrial users for the remaining industrial land base.

Mixing Residential with Light Industrial Redevelopment in Specific Areas

With increasing competition for land and an overlap in regional and local land use policy objectives, some proponents are advocating for changes to zoning to allow for the development of mixed-residential uses in existing industrial areas, specifically for those in close proximity to rail rapid transit station areas. Advocates of this kind of zoning suggest that it will encourage the redevelopment of industrial space to modern standards while also addressing non-industrial policy objectives such as providing affordable housing and transit-oriented development. By mixing in higher-value residential uses, there is also the potential to cross-subsidize the redevelopment of new industrial space in an expensive urban context.

Given the conflicts that can occur between industrial and residential activities, the successful integration of these two uses is quite challenging. Generally speaking, only certain light industrial activities are compatible with sensitive residential uses in such close proximity, and even then, site design that ensures both livability and functionality for both uses can be difficult and expensive. Even with strict covenants on what uses are permitted, allowing higher value uses like residential also creates the risk of encouraging speculation on neighbouring industrial properties, and could result in the loss or displacement of the intended industrial uses over time.

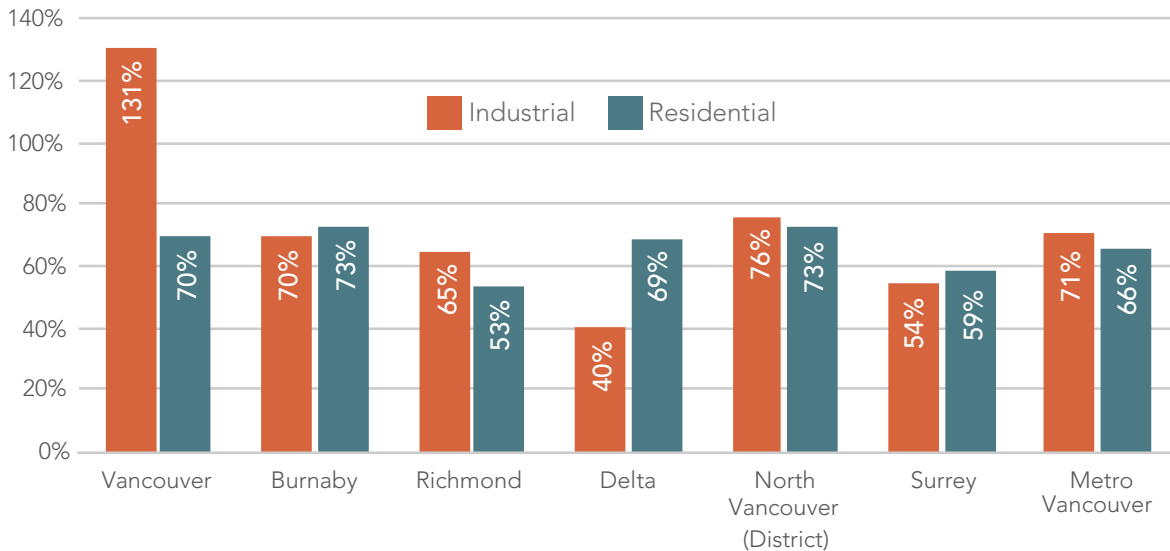
Accommodating Innovation and the Changing Nature of Work

When seeking to protect industrial lands for industrial uses, it is important to recognize that industrial activity can cover a broad range of businesses and involve the production of various types of goods. Not all industrial businesses produce goods one might otherwise associate with traditional industrial activities, such as concrete, construction goods or chemicals. As new technologies have emerged in recent decades, Metro Vancouver has benefited from the growth of numerous high-skill tech and innovation clusters. While these jobs are commonly associated with office-related employment, they also spur demand for space to accommodate the production of goods related to bio-tech, green tech, and other innovative products.

Demand for these types of spaces tends to focus on certain industrial sub-markets, most commonly found in proximity to post-secondary institutions and amenities, which in turn provide linkages to emerging high-skilled labour opportunities. These businesses often seek well-located and well-equipped facilities, which means they are often able to afford more expensive and urban industrial areas.



FIGURE 2: ASSESSMENT VALUE INCREASE, BY MUNICIPALITY, 2012-2017



SOURCE: ADAPTED FROM ANDY YAN, CITY PROGRAM, SFU, USING DATA FROM BC ASSESSMENT, 2019

Rising Land Values and the Impact of Taxation

As industrial areas continue to experience rising land values (Figure 2), this not only increases rental rates, but also taxation. Property tax in British Columbia is based on assessed land value; not just on its use as it is today, but as the ‘highest and best’ use of the land. As industrial areas begin to permit a broader mix of densities and uses, this means that the value of the land can rise sharply, in some cases well beyond the value being generated by the existing industrial users. For example, a small automotive repair business in an area that permits multi-storey office uses would be assessed as if it were a multi-storey office. In a five-year period between 2012 and 2017, the rate of industrial assessment growth outpaced residential assessment growth in the region, with the greatest impacts being observed in more urban municipalities.

This increase has the potential to put pressure on both landowners and leaseholders, as many leases are “triple net”, meaning that the leaseholder is responsible for paying rent, along with building maintenance and property tax. As land prices and the associated assessment values rise across the region, so too can the tax payment – leading to an increase in costs that many businesses, particularly smaller ones, may not be able to absorb. These rising taxes may push businesses to relocate elsewhere in the region, or shut down entirely. As a result, this also creates pressure to convert industrial land to non-industrial use.

Industrial Edges and Buffers – Tools for Mitigating Conflict

Industrial land edges and buffers are a common means to mitigate conflict between industrial and adjacent sensitive uses, such as residential. Establishing these measures helps to ensure, for example, that residents are not negatively impacted by industrial activities, while also providing industrial users with a degree of certainty that they will be able to conduct their business without disruption.

There is no single approach among Metro Vancouver member jurisdictions in how to manage the interface between industrial and sensitive uses, though there are some common elements. These include design guidelines to manage noise, odour and light, and minimum setbacks to ensure a reasonable degree of physical separation from other uses. Most commonly these are established in a municipality's Official Community Plan (OCP) or zoning bylaw, requiring on-site mitigation measures at time of site development, but may also include more broad buffers, including transitional land uses (such as light industry or office parks) or other physical separation be located in between industrial and sensitive uses.

Depending on the approach and standard required, these measures can restrict the development of some industrial uses, or may require site plan elements that add additional cost to the design.

Addressing the Interplay between Industrial and Agricultural Land Uses

In much the same fashion of how speculation for other land uses is driving up real estate prices on industrial lands, so too is speculation impacting lands designated for agricultural uses across the region. While most of these lands are subject to provincial regulation as part of the Agricultural Land Reserve (ALR), which prevents non-agricultural uses, speculation from various land

uses is raising land prices, undermining the feasibility of using these lands for their intended agricultural use and driving pressure for conversion.

While both industrial and agricultural land bases are under pressure to convert from other land uses, there is also pressure between the two. Industrial and agricultural land uses are often posited against one another, with agricultural interests advocating that agri-industrial uses be located on industrial lands, and industrial interests advocating agri-industrial uses be allowed on agricultural lands.

Currently, ALR regulations limit industrial and commercial uses from locating on industrial land, requiring that 50% of the product involved in these activities be grown / raised on site. This "50/50 rule" plays a critical role in determining what agri-industrial activities are permitted on ALR land, barring approval from the Agricultural Land Commission. Limits to infrastructure, servicing, and transportation in both *Metro 2040* and ALR regulations also direct many agri-industrial uses to industrial areas instead. Given the comparatively high cost of industrial land, agri-industrial activities that qualify as farm use (or successfully apply to the Agricultural Land Commission for an exception) will usually locate on agricultural land instead. In a general sense, agri-industrial uses are not a significant component or threat to either land base. However, given the limited land supply and similarities between site profiles (large, flat sites) there is some pressure to convert agricultural lands to industrial uses, particularly in the case of sites that are considered under-performing or poorly located for their designated use.

The Importance of Transportation and Goods Movement

Metro Vancouver's network of trucking routes, highways, railways, and ports support both local serving businesses and the region's broader role as a gateway city between Canada and the world. From local deliveries, to the movement of materials and components for production, to importing and exporting goods to marketplaces beyond the region, having access to reliable and efficient methods of goods movement is an integral consideration for many industrial businesses.

Land use and transportation planning are complementary, although there are sometimes tensions between different types of uses and transportation implications. For example, large low-density industrial sites are typically cost ineffective to service via transit, whereas uses with greater densities of employees are more appropriately located by transit service. Furthermore, non-industrial uses in industrial areas can have negative traffic implications, such as increased transit demand that is difficult to efficiently serve and truck trips interaction with pedestrians. Accordingly, the following should be determined for appropriate locations for different types of industrial uses:

- Identifying industrial uses that benefit most from transit proximity (e.g. high employment density and person trips generation) and those that benefit least (e.g. low employment density, reliance on truck route access) to facilitate better alignment of use with transit service;
- Goods movement uses with higher goods movement needs should be located with access to the Major Road Network and Truck Route Network. This may in general apply to the more traditional heavy industrial uses; and

- More job intensive uses that generate significant person-trips are best located with access to the Frequent Transit Network (FTN), and likewise those uses that do not generate significant person trips are generally not the best use of land within closer proximity to the FTN.

Much as growth in the context of a finite land base is putting pressure on the region's industrial land base, so too does it put pressure on the region's transportation infrastructure network for moving goods and people. Concerns related to congestion, aging infrastructure, road safety, pollution and other externalities like truck parking all affect the outlook for lands throughout the region. Towards this end, planning for the effective management of industrial land is intertwined with planning for the effective management of the transportation network.

A number of organizations and agencies in the region have made strides towards supporting the effective management of the transportation network, including initiatives such as:

- TransLink's Regional Goods Movement Strategy and Regional Transportation Strategy;
- The BC Ministry of Transportation and Infrastructure's innovations and improvements in commercial vehicle monitoring and emissions standards;
- The Greater Vancouver Gateway Council's work to coordinate investment on regional infrastructure projects; and
- The Greater Vancouver Urban Freight Council's work to coordinate and champion initiatives related to goods movement.

Climate Change Vulnerability

Another issue of note impacting the long-term functionality of the industrial land supply is the risk posed by climate change. Detailed climate change projections have been completed for the Metro Vancouver region, and significant work is underway to understand the impacts, including increased flood risk.

A significant portion of the region's industrial land supply, including most major port and airport facilities, are located within low-lying areas. Many of these areas would be vulnerable to major coastal flood events in the absence of considerable adaptation measures. Should sea level rise continue as projected, significant portions of the industrial land supply may no longer be considered viable for long-term development, further reducing opportunities for growth and economic resiliency. While certain measures can be engineered to adapt to this risk, including diking and improved site design, these measures may be cost prohibitive for many industrial users to implement.

In addition to responding to the impacts of a changing climate, industrial activities also have a role to play with regards reducing regional greenhouse gas (GHG) emissions. Metro Vancouver is currently developing Climate 2050, which reflect climate issues specific to the region by addressing ten key issue areas, one of which is industrial activities. Metro Vancouver's manufacturing sector (including cement production, food processing, metal fabrication, chemical manufacturing, forest products, and petroleum refining) and construction industry contribute approximately 23% of the region's total GHG emissions combined.

As part of developing Climate 2050, the region is preparing "roadmaps" for each issue area, providing a summary analysis of current conditions and challenges facing each issue area. These roadmaps will identify regional and corporate goals and actions necessary to achieve a carbon neutral, resilient region. In the case of industrial activities, this is likely to include targeted approaches to reduce emissions by encouraging or requiring switching to low carbon fuels and adopting new technologies where appropriate.



The Future of Industry and Changing Space Needs

Like many other industrial markets around the world, the region's industrial lands have undergone a long-term transition in the nature and form of their use. A steady shift away from heavy manufacturing and natural resource sectors, particularly amongst forestry-related businesses, coupled with increasing competition with other markets in an increasingly globalized economy, have changed the balance and character of the region's industrial lands. Throughout this transition, the region has evolved a diverse sectoral mix, while also retaining its role as a leading global port and economic gateway.

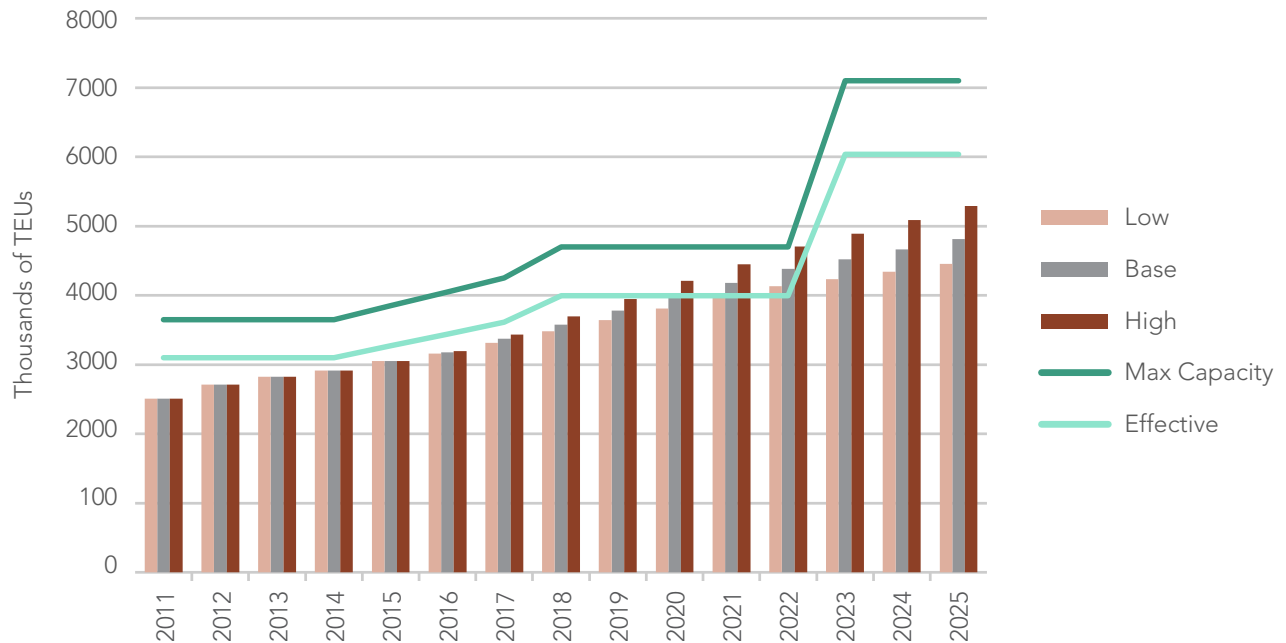
For example, locations including Granville Island, shores of False Creek, Fraser River and Burrard Inlet were once dominated by heavy industry, sawmills, large scale manufacturing, and rail operation. While a few of these uses still exist today, many industrial businesses have moved eastward or have ceased operation altogether, being replaced by predominantly commercial and residential development. In instances where employment uses have been retained, they tend to be in the form of light industrial, office and mixed commercial space.

Though some traditional waterfront-oriented industrial activities have relocated or dissipated, the core 'gateway' functions of the Port of Vancouver and Airport have continued to thrive. Continued growth in global trade have driven demand for additional space, including the need for additional container terminals, warehousing space, and logistical facilities.

In terms of growth, the Port of Vancouver has consistently outperformed other North American ports since 1990, with growth in container traffic forecasted to outpace all other ports in the Pacific Northwest for the foreseeable future. Even with the establishment of a second provincial port in Prince Rupert and improvements and expansions to local port facilities, demand is forecast to drive the need for additional port-related facilities on Metro Vancouver's industrial lands, as shown in Figure 3.

Trade-oriented uses associated with the Port and Airport represent only one part of the demand for industrial lands. Despite the changing nature of industrial activities in the region, industrial lands continue to also serve a fundamental role in facilitating city-serving activities, such as vehicle repair, food production, commercial laundry, utilities, light manufacturing and local distribution. These activities are crucial to the continued function of a range of economic activities across the region, including tourism (tour bus repair, restocking cruise ships), major office employment (printing, couriers, transit infrastructure management), and local retail businesses (food production and distribution, wholesales). At the same time, continued population growth has increased the in-region demand for goods and related services, such as e-commerce, transportation, warehousing and distribution space, particularly last mile and fulfillment centres in close proximity to major population centres.

FIGURE 3: PORT OF VANCOUVER CAPACITY AND DEMAND DEVELOPMENT TO 2025



SOURCE: CONTAINER TRAFFIC FORECAST STUDY – PORT OF VANCOUVER, 2016

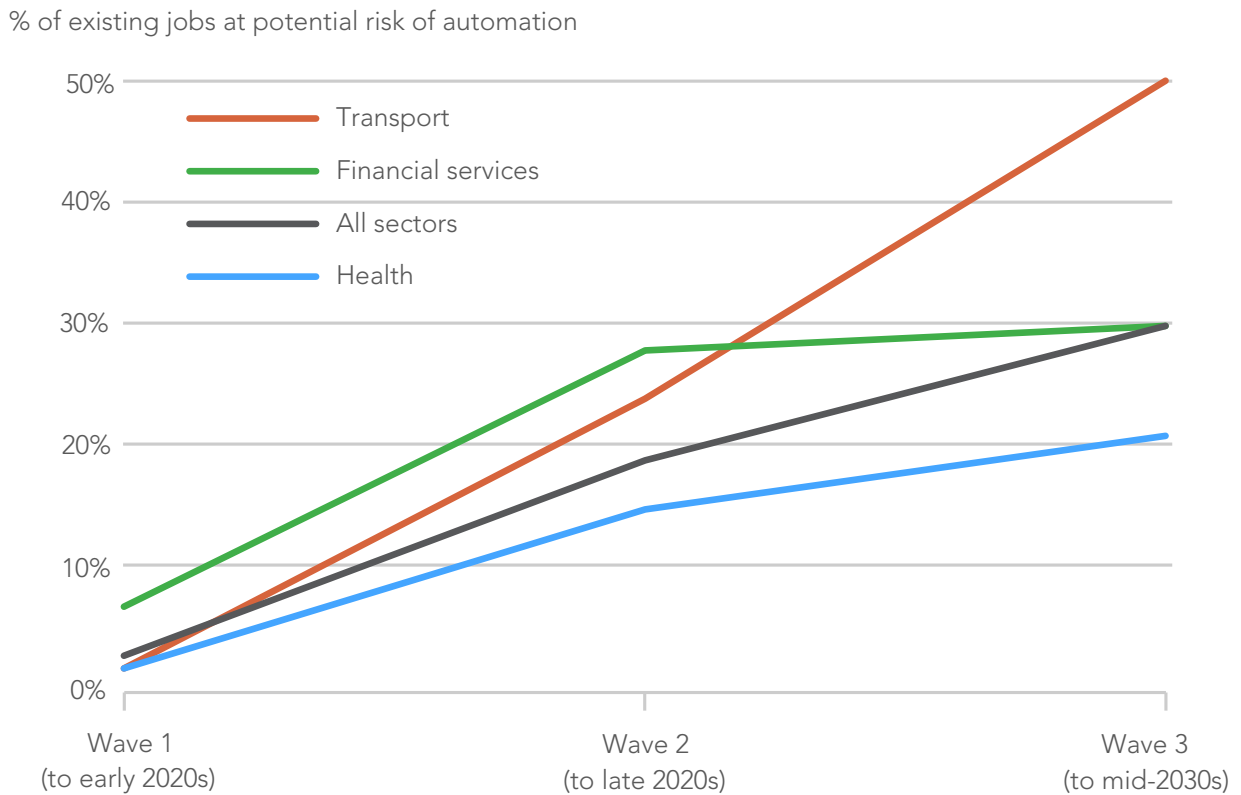
NOTE: DEMAND AND CAPACITY ARE MEASURED IN TWENTY-FOOT EQUIVALENT UNITS (TEU). DEMAND SCENARIOS PRESENT A LOW, BASE AND HIGH SCENARIO FOR EACH YEAR. THE INCREASE IN CAPACITY IN 2023 REPRESENTS THE ANTICIPATED EXPANSION OF ROBERTS BANK CONTAINER TERMINAL 2.

In addition to these city-serving functions, industrial lands are also playing a prominent role in accommodating the region’s emerging innovation economy. These businesses do not fit easily into any one classic or conventional employment sector, as the nature of their work encompasses a wide range of activities including light manufacturing, media and digital entertainment production, clean-tech and bio-tech, software and hardware design, and various other uses. The space needs of these businesses can vary, but typically require a diversity of spaces at different scales, including offices, production space, and logistical facilities, many of which are most commonly associated with industrial and employment lands.

Changing industry profiles are not the only factor resulting in different land and space needs. Technological innovations are also dramatically changing the relationship between employment, productivity, and how industrial lands are occupied and used.

Automation, which has already significantly affected the manufacturing industry, is expected to continue to change how goods are produced and tasks accomplished. With the potential advent of artificial intelligence and advanced robotics, there is a real possibility that more jobs in many more sectors could be affected by automation than ever, with 42% of the

FIGURE 4: ESTIMATED POTENTIAL JOB AUTOMATION RATES BY INDUSTRY ACROSS WAVES

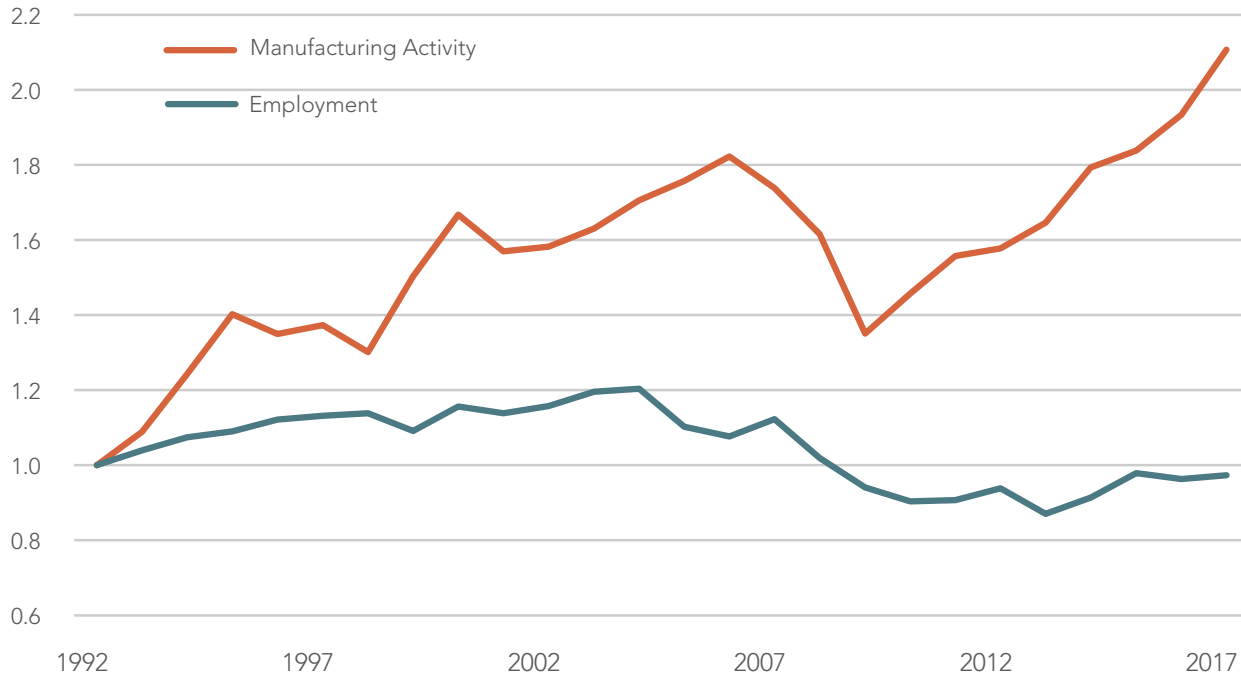


SOURCE: 'WILL ROBOTS REALLY STEAL OUR JOBS?', PWC, BASED ON OECD PIAAC DATA, 2018

Canadian labour force at high risk of being affected by automation in the next decade or two. As shown in Figure 4, artificial intelligence, advanced robotics, and automation will have a different impact on different sectors over time, with some sectors being susceptible to a significantly reduced need for labour as different waves of technological advancement occur over the next few decades.

This change has the potential to affect the demand for labour in different sectors, but it does not necessarily mean that there will be any less demand for industrial land. While automation can lead to a number of operational efficiencies, it typically still requires space to conduct the business activity (e.g. production and warehousing of goods). As shown in Figure 5, manufacturing productivity in British Columbia has continued to grow, despite declines in total manufacturing employment.

FIGURE 5: COMPARISON OF ANNUAL MANUFACTURING ACTIVITY (DOLLARS) AND EMPLOYMENT, PROVINCE OF BRITISH COLUMBIA, 1992-2017



SOURCE: HEMSON CONSULTING LTD. USING DATA FROM STATISTICS CANADA TABLES 304-0015 & 14-10-0023-01
 NOTE: FIGURES HAVE BEEN INDEXED (1992 = 1)

The separation between manufacturing activity and employment has been occurring for quite some time in North America; however, this trend began to accelerate most notably following the 2008-2009 Global Recession. While manufacturing employment has yet to recover to its pre-recession levels, manufacturing activity has continued to grow.

Over this same period (2008-2018), Metro Vancouver increased its industrial floor space by over 30 million square feet. This translates into an average growth rate of nearly 1.7% per year, significantly higher than the average annual industrial employment growth rate of 0.5% per year. While the amount of land take-up associated with this growth has declined over time (due to limited supply), suggesting denser industrial buildings are being built, the demand for space is still resulting in a net demand for land.

Industrial Land Demand Forecast to 2030 and 2050

Forecasting the longevity of the industrial land supply is a particularly challenging task in Metro Vancouver because of its unique situation as a region with a fixed land supply. While not quantifiable for the overall market, there is ample evidence that industrial development and land absorption is being limited by the availability of land for development. Some larger distribution and manufacturing facilities are already locating outside of Metro Vancouver simply because there are few large industrial sites available today or likely to be available in the future.

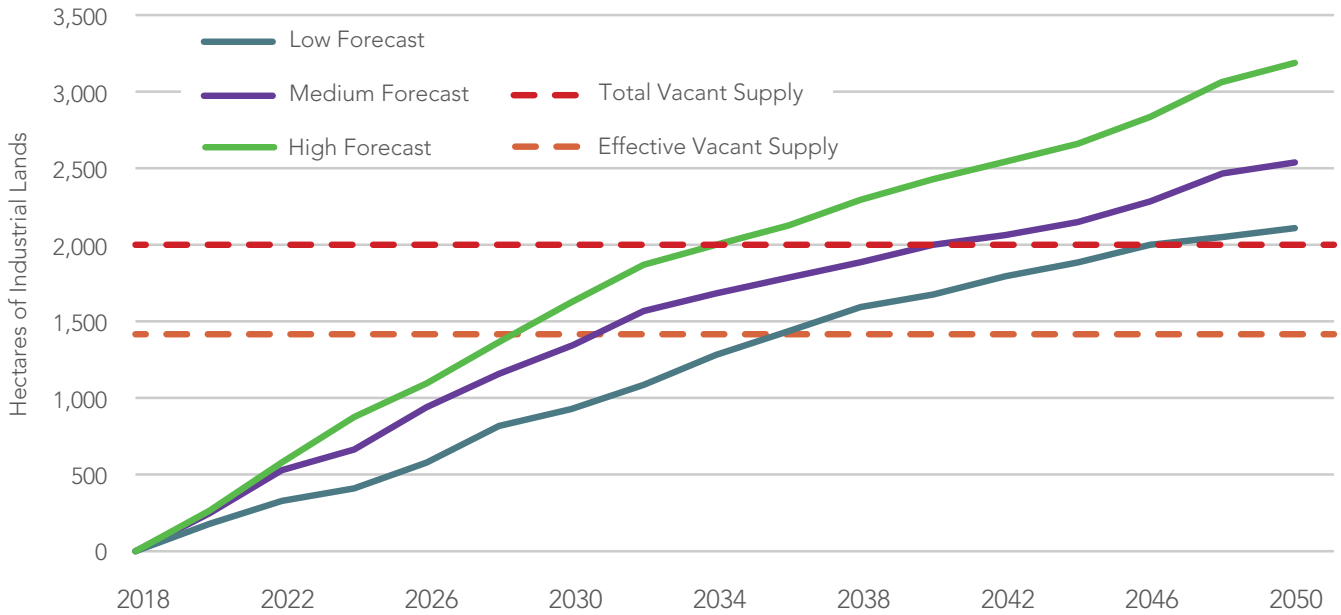
The most recently prepared forecast of regional industrial land demand used an absorption method with a range of 80 to 110 ha per year (200 to 275 acres per year). Applied to the effective supply of 1,820 ha (4,500 acres) identified in its analysis, full development would be reached between 2035 and 2045. Of course, land development does not proceed in a linear fashion until the last parcel is consumed, rather it nearly always tails off because the remaining land is of limited viability. This means that there is demand that cannot be met by the available supply well before a point of build out is reached.

These unconstrained land demand forecasts are shown in Figure 6. Depending on the scenario, the region is anticipated to absorb the last of its effective supply sometime between 2028 and 2035, with the total inventory being absorbed sometime between 2035 and 2047. However, as previously noted, absorption is likely to tail off as supply dwindles. Figure 7 demonstrates what the demand and land absorption is likely to look like when factoring in the effects of a constrained land supply.

In the absence of additional land to meet the needs of continued demand, the rate of land absorption will tail off until near full development is reached. This decline in absorption will not be due to a lack of interest, but instead will be the result of businesses and jobs having relocated to markets that are more readily able to meet their needs. The combination of a constrained land supply and steady demand will keep the price of industrial land high, likely even higher than experienced today. This will be a limiting factor for some industrial activities, but will likely also force more intensive use of land where possible.

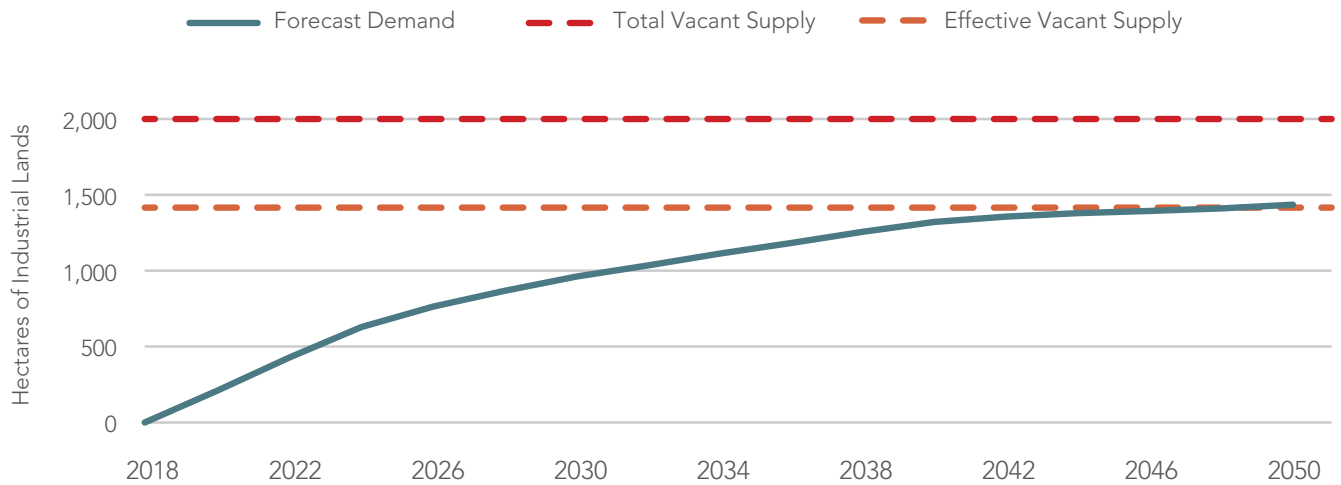


FIGURE 6: EMPLOYMENT GROWTH BASED INDUSTRIAL LAND DEMAND FORECAST, 2019 TO 2050



SOURCE: HEMSON CONSULTING LTD.

FIGURE 7: CONSTRAINT BASED FORECAST OF INDUSTRIAL LAND DEMAND, 2019 TO 2050



SOURCE: HEMSON CONSULTING LTD.

Implications for the Regional Economy

Industrial lands serve a crucial role in accommodating a diverse and resilient economy. Regions that are more economically diverse tend to experience less instability and lower unemployment rates when compared to regions with more homogeneous economies. Complex economies, that is those that feature a web of interconnected industries and business sectors, also tend to be far more resilient, experiencing less economic decline during periods of recession, and faster recoveries.

In the same regard, failing to ensure a suitable amount of industrial land could limit growth and investment, and even weaken existing sectors that rely on these lands. Even with the changing nature of work and technological innovations resulting in evolving land and space needs, industrial lands will still be necessary to ensure regional economic diversity and resiliency for the future.

The consequences of a constrained land supply are already being witnessed, with a number of large industrial businesses and activities being unable to find suitable space to locate or expand their business. For example, the Port of Vancouver has noted that, despite significant improvements to site intensification and optimization in recent years, it may be unable to accommodate future trade demand given its current land supply. As the Port approaches its capacity, it risks losing business to other ports along the western coast.

Similarly, a shortage of space for logistics terminals is seeing demand grow for inland distribution ports as far away as Calgary. These inland ports serve as staging areas for containers that are unloaded in Vancouver, transported by rail to the distribution hub to be unpacked and sorted, and then (for some of the cargo) transported back to Vancouver to be delivered to end users and points of sale. Ashcroft offers an inland terminal focused on processing exports, such as lumber in containers. In other cases, larger manufacturers are choosing to locate, or relocate, to areas with more available and affordable land south of the border, in communities such as Blaine, Washington.

The relocation of these business and trade activity could have a negative impact on the region, province and even country. For example:

- Should a business relocate to another port in the province, such as Prince Rupert, the impact might be neutral for British Columbia and Canada, but negative for the Metro Vancouver region;
- Should a business relocate to Alberta, the net impact might be neutral for Canada, but negative to the Metro Vancouver region and British Columbia; and
- Should a business relocate south of the border (such as Washington, Oregon or California), the net impact would be negative to the Metro Vancouver region, British Columbia, and Canada.

The potential impacts of losing industrial activity due to lack of available land are threefold:

- The loss of local businesses could negatively affect the economy due to the loss of potential or existing jobs and tax revenues for governments.
- The further abroad these businesses locate, the greater the distance goods must be transported, resulting in increased fuel consumption, GHG emissions, traffic congestion and cost to consumers.
- The loss of industrial activity could weaken the region's economic diversity and resiliency, potentially exposing the economy to greater fluctuations in market cycles and broader economic shifts.

It is worth noting that adding new industrial uses in Metro Vancouver could result in its own set of costs and challenges, including increased competition for land and the potential to increase traffic, business related emissions, and possible conflicts with other uses. However, on the whole, these costs and challenges are unlikely to be greater than the net loss and environmental impact that is likely to occur if these businesses relocate elsewhere.



RECOMMENDATIONS

To achieve the Strategy's Vision, and to address the Challenges facing industrial lands in the region, 4 'Big Moves' have been identified:

1. Protect Remaining Industrial Lands
2. Intensify and Optimize Industrial Lands
3. Bring the Existing Land Supply to Market & Address Site Issues
4. Ensure a Coordinated Approach

The 4 'Big Moves' are used to frame and organize the Strategy's 34 recommendations and 10 priority actions.

In considering the 4 'Big Moves' and the recommendations that follow, the Strategy affirms that conversion or use of agricultural lands is not a solution to the shortage of industrial lands in the region. This principle was endorsed by the Industrial Lands Strategy Task Force and Metro Vancouver Board.

Protect Remaining Industrial Lands

Given the ongoing and projected demand for industrial land in the region, it is imperative to protect the region's remaining industrial lands and curb the threats that undermine their use for industrial activities. This means lands for trade-oriented purposes as well as for small, local serving businesses; businesses that are responding to the changing nature of industry as well as more traditional industrial activities.

RECOMMENDATION 1:

That Metro Vancouver, in collaboration with member jurisdictions, First Nations, regional agencies, and other relevant stakeholders, conduct a comprehensive regional land use assessment.

In the context of Metro Vancouver's finite and constrained land base, there is significant pressure for competing, legitimate land uses across the region. There is an opportunity to undertake either a targeted or region-wide assessment of land use, seeking not to reflect what is already in existing policy frameworks, but rather to proactively identify the 'best' locations for different land uses depending on a developed set of criteria (e.g. location, adjacent land uses, lot size, proximity to the goods movement network). Such an assessment could potentially identify areas where a swap of existing land uses may be reasonable, including opportunities to optimize the remaining supply of industrial land.

This assessment will identify, based on a defined set of criteria and cross-jurisdictional considerations, opportunities for more optimized locations and uses of land in order to support regional and local policy objectives and to inform policy changes.

The regional land use assessment will include:

- Metro Vancouver and member jurisdictions work with the Provincial and Federal governments, the Port of Vancouver, and Vancouver Airport Authority, to identify if industrial functions can be integrated or co-located on public industrial lands. This includes examining the potential for joint use for large non-intensive land uses such as extractive activities, public rights-of-way, and others;
- where existing designated land uses are determined to be under-utilized, Metro Vancouver, in consultation with the owners of the subject lands, the member jurisdiction in which they are located, and other relevant stakeholders, may consider the potential for swaps with other land uses. The proposed swap should be considered between lands that are identified as being under-utilized through the land use assessment, located within the same jurisdiction or elsewhere within the region, and improve the potential for the intended uses per the land use assessment criteria; and
- Metro Vancouver assess whether or not there are sufficient supplies of suitable land to reasonably accommodate retail, service or recreational uses that may be restricted from otherwise locating within Industrial areas.

RECOMMENDATION 2:

That Metro Vancouver endeavour to strengthen regional policy to protect industrial lands as part of the update to the regional growth strategy, *Metro 2040*.

Examples of ways to strengthen the regional growth strategy to be considered are:

- increase the voting threshold required for a minor amendment of the Industrial and / or Mixed Employment regional land use designation to General Urban;
- explore 'no net loss of land' as part of the amendment criteria for Industrial lands, recognizing the regional benefit of conversions that are offset by land-swaps in suitable locations within the municipality or elsewhere in the region;
- clarify the definitions and permitted uses on the Industrial and Mixed Employment regional land use designations, including appropriate principal and accessory uses by type and scale; and
- explore permission of mixed-use including residential on Mixed Employment lands immediately proximate to Rail Rapid Transit Stations (distance to be determined, suggest 200 metres) as long as existing industrial space is maintained or expanded and other *Metro 2040* objectives are met (e.g. affordable, rental housing).

RECOMMENDATION 3:

That Metro Vancouver, in collaboration with member jurisdictions and other regional agencies, develop a consistent definition of 'industrial' and guidelines for which primary and secondary (or ancillary) land uses should be permitted in Industrial and Mixed Employment designated areas, respectively.

Member municipalities, as part of their regional context statement updates, would commit to review and update their zoning bylaws using the guidelines as a resource to amend the permitted uses in their local industrial and employment lands.

The definition of 'industrial' in zoning bylaws and associated permitted uses (and scale of accessory uses) varies significantly across the region. Different zoning bylaws permit accessory and non-industrial uses, such as recreation, big-box retail, and places of worship, on industrially zoned lands, creating additional competition for industrial land from uses that should be located elsewhere. The bylaw review and update should remove non-industrial uses from the industrial zoning while adding new types of industrial uses, and limit the scale or size of accessory uses. Definition consistency would limit non-industrial, commercial and institutional uses in certain industrial locations across the region, and would create a clearer understanding and more consistent permissible uses while aligning with the regional growth strategy.

Protecting Trade-Oriented Lands

The following three recommendations have to do with protecting trade-oriented lands in the region. It is important to recognize that trade-oriented industrial uses (e.g. logistics, warehouses, distribution centres, transportation terminals) are a crucial part of the region's role as an economic gateway between the

Asia-Pacific and the rest of the country. These uses typically have a very specific set of location and site needs, such as large, flat sites that allow for movement and storage of goods, with proximate access to highway, port, or rail infrastructure. Amongst the region's industrial land supply, sites that offer these characteristics are limited.

Because these sites also tend to offer attractive characteristics for other types of industrial (and other) uses, trade-oriented uses often compete with other industrial uses when looking to purchase and develop these lands. The low-density nature of many trade-oriented industrial uses means that they often struggle to compete, particularly when increased development densities are permitted under more broad industrial zoning. This is of particular concern when stratification of industrial is permitted, which tends to both significantly increase the price competing users can offer for the land, while also fragmenting ownership of the property, which can be an issue for operators that require large sites. To ensure these strategically located sites are protected, a coordinated approach is required between the region and member jurisdictions.

That is not to say that smaller lots and stratification do not play a critical role in the region. On the contrary, the importance of stratification is recognized in enabling small businesses to own their space, have security of tenure, and opportunity for capital appreciation. Other recommendations are focused on different types of industrial businesses.

Based on feedback from stakeholders, there is a desire when looking for solutions to address conversion of industrial lands to other uses, to first consider local government and regional policy options, rather than a provincial industrial land reserve.

RECOMMENDATION 4:

That Metro Vancouver conduct a collaborative process to develop a clear definition of Trade-Oriented Lands, and subsequently, as part of the *Metro 2040* update, develop a Trade-Oriented land use overlay.

A clear, consistent and collaboratively developed definition and understanding of the extent and location of these lands will support their protection as well as the protection of other types of important industrial lands. A regional overlay identified in the regional growth strategy would distinguish trade-oriented lands within the Industrial land use designation based on confirmed criteria (i.e. site size, proximity to transportation infrastructure linkages) and provide additional guidance to member jurisdictions regarding permitted land uses to protect trade-oriented industrial activities.

RECOMMENDATION 5:

That municipalities identify appropriate areas through Trade-Oriented zoning.

Subsequent to participating in the development of a consistent and collaboratively developed definition for trade-oriented lands, municipalities, through the regional context statement process, would be asked to identify trade-oriented lands within their jurisdiction, and to consider zoning that would limit or restrict non-industrial uses and the fragmentation of parcels with an aim to protecting these strategically located lands for trade-oriented activity. This would be a judiciously applied approach, recognizing the potential limits to flexibility and future use that this zoning would place on these lands.

RECOMMENDATION 6:

That the Province grant municipalities the legislative powers to define permitted forms of tenure (i.e. leasehold versus stratified freehold) on industrial land through local zoning bylaws.

Given the limited control municipalities have over tenure of non-residential land uses through zoning, the province would be requested to grant additional powers under the Local Government Act to ensure these sites are reserved for their intended use. Member jurisdictions may seek to limit stratification of ownership to a minimum size to prevent the fragmentation of large trade-oriented parcels.

Intensify and Optimize Industrial Lands

Given the region's constrained land base, it is critical to encourage the most efficient use of the remaining industrial land supply for all types of industrial users, to remove barriers to the intensification of industrial land, and to investigate opportunities to optimize the location of certain land uses over time. Currently multi-storey industrial buildings are rare in most North American markets because, for most uses, multi-storey space is much more expensive than single storey buildings. However, as the remaining industrial land supply is diminished, it may become feasible for more of this type of development to occur in the future. To encourage more efficient use, it would be beneficial to industrial users to be able to locate in more intensive / dense built forms not restricted by policy or regulation. In addition to removing height and density restrictions in areas that have the opportune market and physical characteristics necessary to support intensive development, municipalities may also seek to offer incentives to attract and realize this form of development in strategic locations.

RECOMMENDATION 7:

That municipalities facilitate the intensification / densification of industrial forms where possible.

Actions to support industrial intensification include:

- removing any unnecessary restrictions to density or height limits, where contextually appropriate;
- planning the space to accommodate new, smaller industrial uses when older, centrally located industrial areas densify;
- allowing mixing of industrial with other employment uses so long as the industrial component is secured as a condition of redevelopment; and
- exploring opportunities to encourage intensification in target areas (i.e. proper geotechnical conditions, access to infrastructure and transit) via incentives. These could include pre-zoning, density bonuses, financial incentives, and/or others.

RECOMMENDATION 8:

That Metro Vancouver conduct a study of the financial factors and other issues that prevent the development of multi-storey industrial spaces in various regional market areas.

The study should identify the gap between development costs and market rents or sales prices in different municipalities to assess if there are ways that Metro Vancouver and member jurisdictions could improve the feasibility of delivering higher-density industrial spaces.

RECOMMENDATION 9:

That the Province review the current approach to property tax assessment and tax rates based on the highest and best use of a property with regard to its impact on industrial businesses.

Growth in assessment values on the region's industrial lands have risen rapidly in recent years. The associated rise in property taxes is putting increasing pressure on industrial businesses, particularly in high growth and high value urban areas where assessing property is based on the highest and best use. These costs can displace industrial users and undermine the intended use for the land. This review should identify if there are reasonable approaches to mitigate the destabilizing effect of rapidly rising assessments and taxes on industrial businesses.

Provide Greater Clarity on Agri-Industrial Uses in the Agricultural Land Reserve

While both industrial and agricultural lands are under pressure to convert to other land uses, these two types of land uses are often posited against one another, particularly as it relates to agri-industrial businesses. While there are some permissible agri-industrial uses within the Agricultural Land Reserve, there is some uncertainty over the scope and scale of activity that can be permitted before these uses would have to relocate to industrial areas.

RECOMMENDATION 10:

That the Ministry of Agriculture, in consultation with the Agricultural Land Commission, amend legislation to define under what conditions, if any, large-scale organic waste processing facilities are permitted in the Agricultural Land Reserve.

RECOMMENDATION 11:

That the Ministry of Agriculture produce guidelines or amend legislation to: define the metrics used to measure the 50/50 rule (i.e. volume, weight, value, etc.) to facilitate consistent application; and clarify the permitted value-added infrastructure of an approved use on an agricultural parcel and define a cap on building infrastructure footprint.

Ensure Consideration of Industrial Lands in a Regional Flood Management Strategy

Climate change and the impacts of rising sea levels are likely to be one of the greatest challenges of our time, and their potential impact on the industrial land supply cannot be ignored. A significant portion of the region's industrial land supply, including most major port and airport facilities, are located within low-lying areas that are anticipated to be at risk in the face of rising sea levels and more frequent flooding events. As the Fraser Basin Council develops a flood management strategy for the region, it is critical that that industrial lands be given proper consideration to ensure the continued economic resiliency of the region, while also recognizing the cost that adaptation measures may have on industrial development in the future.

RECOMMENDATION 12:

That in developing a Regional Flood Management Strategy, the Fraser Basin Council recognize industrial lands and their economic contributions to the broader region when identifying and prioritizing measures to adapt to rising sea levels and flood events.

Bring the Existing Supply to Market & Address Site Issues

To ensure the region's remaining vacant industrial land supply gets to market, identify the local issues facing these lands and the linkages between them, and map out the necessary policy updates and strategic investments in response.

Manage Land Use Conflicts through Buffering Policies

Managing the interface between industrial uses and other sensitive land uses, particularly residential, is a significant issue when it comes to preserving the functionality of existing industrial uses, while also protecting for future economic activity. A broad range of planning tools exist that may contribute to the mitigation of potential, existing or perceived nuisances, offering varying degrees of flexibility or conversely, prescriptiveness. Member jurisdictions across Metro Vancouver incorporate a range of approaches to managing this interface. However, while there are common elements amongst these approaches, there is no single approach that meets the context and needs of each community. While there is little appetite for a "one-size-fits-all" approach to interface management, there are certain leading practices that could be formally recognized through regional guidance to encourage more effective management of industrial edges and conflict prevention.

RECOMMENDATION 13:

That Metro Vancouver, in consultation with member jurisdictions, develop guidelines for land use policies along the edge of planned or developing Industrial areas where no natural or other physical buffer already exists.

These guidelines will serve as reference for member jurisdictions on how to mitigate the potential for conflict with other sensitive uses depending on the context:

- Where the industrial area is already established, direct employment uses, including light industrial, commercial, and office, or other non-sensitive uses to the area abutting the Industrial lands to serve as a transitional land use.
- Where the industrial use is encroaching upon an established sensitive use, direct light industrial and ancillary components of the primary industrial use to the edge of the industrial area where the sensitive use is located to serve as a transitional / buffer land use.
- In cases where the abuttal of industrial and sensitive uses cannot be separated by other land uses, the guidelines should also provide direction towards:
 - Site design best practices including recommended minimum setbacks for different industrial uses, on-site migration measures such as visual screening of mechanical equipment, requirements for enclosing industrial activities, lighting fixtures, and recommended performance standards, where appropriate.
 - Mitigation requirements for residential and other sensitive uses that are encroaching upon areas of existing or planned industrial activity and associated vehicle traffic, including consideration for the potential for future intensification of industrial uses.

RECOMMENDATION 14:

That the Province enable municipalities the discretion to place a warning of anticipated nuisance effects on the title of the lands with sensitive uses that are being developed within a defined proximity of an established or planned industrial use or goods movement corridor.

The notification warning could be included in any offers of purchase and sale, notifying current and prospective owners and tenants that they are within the potential area of influence of the industrial use, and may experience adverse effects as a result.

RECOMMENDATION 15:

That municipalities consider adopting the Railway Association of Canada and Federation of Canadian Municipalities Guidelines for New Development in Proximity to Railway Operations when considering development permissions and changes of use in proximity to active railway corridors and other major goods movement corridors.

Develop Local Bring-To-Market Strategies

Certain parts of the vacant industrial land supply suffer from site-specific challenges, such as limited infrastructure support, environmental concerns, and under-sized parcels. Where vacant lands have not come to the market, municipalities may benefit from the preparation of a bring-to-market strategy. Such a strategy would identify the issues that prevent the development of undeveloped or under-developed industrial land, while providing a roadmap to achieve the municipality's economic goals for its remaining industrial lands.

RECOMMENDATION 16:

That municipalities with vacant or under-developed industrial lands prepare a bring-to-market strategy for their industrial land supply.

The strategy should address:

- assessing the strengths, weaknesses, opportunities and challenges facing the development of vacant industrial land;
- identifying opportunities to encourage reinvestment and more intensive use of existing industrial lands;
- whether municipal assembly and consolidation of fragmented parcels may be required, or is feasible, in order to bring the lands to market;
- if environmental remediation is required and if current programs are sufficient to facilitate the required degree of site remediation; and
- if local servicing and infrastructure improvements are required and can be accommodated through front-ending infrastructure investments or cost-sharing agreements.

Ensure Transportation Connectivity

The efficient movement of goods and people is critical for many industrial businesses, both local serving and trade-oriented, in terms of where they choose to locate. The maintenance and growth of a resilient and reliable transportation network, including various modes of transit, is an integral component in planning for the effective management of the region's industrial lands. Through the development of the Strategy, transportation issues and linkages were consistently rated one of the highest priorities. As a result, seven recommendations focus on this critical issue.

RECOMMENDATION 17:

That TransLink, Metro Vancouver, the Port of Vancouver, the Vancouver Airport Authority and municipalities continue to work together to proactively designate, manage, and regularly update the Regional Truck Route Network in line with the recommendations of the Regional Goods Movement Strategy to ensure the safety and reliability of the regional goods movement network, while also considering human health implications, such as air quality and noise.

RECOMMENDATION 18:

That TransLink, as part of the update to the Regional Transportation Strategy and implementation through Investment Plans, continue to identify viable new opportunities to create and improve transit linkages between the region's industrial areas and local workers, where such transit can operate efficiently and effectively as part of the region's transit network.

RECOMMENDATION 19:

That the Port of Vancouver, Metro Vancouver, TransLink, the Vancouver Airport Authority, and rail line operators, work together to identify policies and actions that support the optimization and safety of goods movement to and from industrial lands via roads, highways, railways, air, and access points to navigable waterways including short sea shipping.

RECOMMENDATION 20:

That the Province work with municipalities and industry partners to understand, forecast, plan for, and mitigate the impacts of the land demands for truck traffic and truck parking related to goods movement and drayage.

RECOMMENDATION 21:

That the Port of Vancouver continue to work with Metro Vancouver and TransLink to optimize port-related land uses and container drayage.

RECOMMENDATION 22:

That the Greater Vancouver Gateway Council continue its efforts to attract grants and other funding, and leverage their success towards improved infrastructure linkages and capital investments that support regional and local policy goals.

RECOMMENDATION 23:

That the Greater Vancouver Urban Freight Council continue its efforts to coordinate the implementation of the Regional Goods Movement Strategy between its member organizations.

RECOMMENDATION 24:

That regional organizations and stakeholders continue to investigate and implement options designed to reduce the environmental impacts related to the transportation of goods and people in the region, through their respective plans and policies.

This includes:

- the Province's efforts to improve standards such as the Renewable & Low Carbon Fuel Requirements Regulation and improved permitting and tracking to help reduce GHG emissions from the commercial trucking industry;
- Metro Vancouver's efforts towards protecting and improving air quality while ensuring infrastructure, ecosystems and communities are resilient to the impacts of climate change through Climate 2050;
- the Port of Vancouver's efforts to optimize and reduce the carbon impact of its operations;
- TransLink's efforts to optimize goods movement and public transit options through the Regional Goods Movement Strategy and Transport 2050; and
- local municipal efforts to expand access to charging station infrastructure for electric vehicles.

Ensure a Coordinated Approach

Improved cooperation and data tracking between governments and other organizations will be necessary to ensure accurate monitoring and effective land management into the future, while also guiding future coordination and alignment in terms of policy responses to issues as they arise in Metro Vancouver and across southwestern British Columbia.

Improve Data and Monitoring

A challenge for the effective planning and management of industrial lands is timely access to quality data. This is true for both land management and the development of effective economic policy. However, many of the data sources available to the region are prepared infrequently, such as the Census and Industrial Lands Inventory Update, or are not fine-grained enough to provide useful guidance at the local level, such as the Labour Force Survey. Through the development of more effective data collection frameworks and sharing agreements, the region and its partners would be able to greatly improve the quality of data used to inform policy decisions. The following four recommendations are focused on data provision.

RECOMMENDATION 25:

That Metro Vancouver produce an annual report that summarizes changes to the Industrial Lands Inventory, while continuing to publish a comprehensive Regional Industrial Land Inventory every five years.

RECOMMENDATION 26:

That municipalities provide a summary report of local development activity on lands in the Metro Vancouver Industrial Lands Inventory as part of their regional Development Cost Charge reporting, once per year.

RECOMMENDATION 27:

That Metro Vancouver, in collaboration with member jurisdictions, conduct a regional employment survey on a bi-annual basis.

RECOMMENDATION 28:

That major regional industrial land users and organizations, such as the Port of Vancouver, Vancouver Airport Authority, NAIOP Commercial Real Estate Development Association and other relevant stakeholders, consider expanding data sharing partnerships for the purpose of improving economic development and infrastructure investment, guiding land use and goods movement planning, and informing the development of associated policies.

Encourage Growth and Investment through Regional Economic Coordination

Both Metro Vancouver and member jurisdictions have a shared interest in attracting new investment and supporting the retention and expansion of economic activity across the region. In the past, cooperation and collaboration between the economic development initiatives of member jurisdictions has occurred on an ad hoc basis.

Metro Vancouver’s new Regional Economic Prosperity Service represents the adoption of a collaborative regional approach to attracting investment to the region. With a focus on regional collaboration to advance shared economic, livability, and sustainability goals, the new service will work closely with member jurisdictions, provincial and federal governments, and other stakeholders to attract new investment in the region - investment that will both increase the number of well-paying, high quality jobs and generate new tax revenues.

RECOMMENDATION 29:

That Metro Vancouver, in consultation with member jurisdictions, First Nations and relevant stakeholder organizations, document and promote the region’s value proposition from an industrial economy perspective.

RECOMMENDATION 30:

That Metro Vancouver seek to enhance collaboration across the region to encourage economic growth and diversity, including on industrial lands.

RECOMMENDATION 31:

That Metro Vancouver assist member jurisdictions seeking to develop and update their own local bring-to-market strategies by providing data and research support in line with its mandate.

Coordinate with Neighbouring Regions

Pressures on industrial lands are not limited to Metro Vancouver. Adjacent regional districts are part of the same goods movement network and commuter-shed and they are facing similar land pressures and challenges. However, with these challenges also comes the possibility of shared opportunity. The broader economic region of southwestern British Columbia presents opportunities for collaborative planning that reaches beyond Metro Vancouver’s borders, building on shared infrastructure linkages to expand upon the role as an economic gateway, while also creating new opportunities for growth.

RECOMMENDATION 32:

That the Province develop a framework for economic and land use planning coordination between neighbouring regions in the broader southwestern BC economic region to support industrial land use and protection.

The components and benefits of the framework could include the following:

- providing a Lower Mainland-wide view for industrial land management, infrastructure investment and other economic development opportunities between Metro Vancouver and the Fraser Valley Regional District;
- identifying options to expand the Lower Mainland’s economic linkages with trade-oriented and industrial uses along major highway and rail corridors in the Squamish-Lillooet Regional District, Thompson-Nicola Regional District, and Regional District of Okanagan-Similkameen; and
- identifying opportunities for short sea shipping and maritime linkages with other port facilities located on Vancouver Island and along the Georgia Strait.

RECOMMENDATION 33:

That the Metro Vancouver Regional District and the Fraser Valley Regional District develop and sign a memorandum of understanding that outlines their shared priorities regarding and commitment to the effective and efficient management, protection, and development of industrial lands within the Lower Mainland.

RECOMMENDATION 34:

That the federal government, in implementing the Port’s Modernization Review, take a broader provincial perspective for ports in British Columbia, in part to alleviate land pressure in the Lower Mainland.

THE 4 'BIG MOVES' AND 10 PRIORITY ACTIONS

The challenges facing Metro Vancouver's industrial lands are complex and interconnected, and no single action or stakeholder will resolve them alone. Market forces and types of industrial activity vary significantly by sub-region, such that for example, forms of densification that may be possible in certain urban locations may not be appropriate in other locations. There are a wide range of national, regional and local serving industrial activities in the region, which have different site and location needs, and which, as a result require different policy responses. As a result, recommended actions need to balance regional objectives, while addressing local contexts – 'one size' does not fit all.

Successfully achieving the vision of the Regional Industrial Lands Strategy will require a collaborative approach and sustained effort on the part of various governing bodies and stakeholders with overlapping, yet distinct areas of business and jurisdictions in the region. Each of the identified actions will take time and resources to realize their full potential, and while some recommendations can be implemented in the near term, others may take additional time to build capacity before implementation. The key to success will be to act in partnership, setting early priorities with clearly defined roles.

Success is defined as a prosperous regional economy, full workforce employment, and an efficient transportation system, achieved through an adequate supply and location, as well as use and utilization, of industrial lands that can house a wide variety of industrial functions that support both the regional as well as national economies.

From the list of 34 recommendations, a short-list of 10 priority actions is identified organized within the 4 Big Moves. These priority actions are formed, in part, by packaging together related actions in the longer list into combined shorter-term actions, to be implemented over the first few years of endorsement of the Regional Industrial Lands Strategy.

This priority list reflects the immediacy of specific pressures facing the region's industrial land supply, along with stakeholder feedback gathered through the development of the Strategy. The actions have been identified as having an optimum balance of: short term readiness, a wide level of support, a logical sequence to feed into the subsequent steps of the implementation program, and a direct relevance to inform the update of the regional growth strategy.

Due to the complexity of the issues and areas of overlapping jurisdiction among partner organizations, lead roles are identified for implementation with respect to the core mandates of each partner (see Appendix 1).

Together, these priority actions will work to ensure the region's industrial lands continue to provide an attractive and viable location for industrial businesses to locate, grow and prosper, while supporting the broader regional economy and community. Implementation is expected to be an iterative and ongoing process that will need to be monitored and adapted over time. As recommendations are implemented, new issues will emerge and new priorities may need to be adjusted and the roles of partner organizations may need to be reshuffled. As new challenges arise and new information becomes available, new actions will inevitably need to be identified and prioritized, which may augment or replace other short-listed recommendations.

The 4 Big Moves:

- Protect Remaining Industrial Lands
- Intensify and Optimize Industrial Lands
- Bring the Existing Land Supply to Market & Address Site Issues
- Ensure a Coordinated Approach

Big Move 1 - Protect Remaining Industrial Lands

Given the ongoing and projected demand for industrial land in the region, it is imperative to protect the region's remaining industrial lands and curb the threats that undermine their use for industrial activities. This means lands for trade-oriented purposes as well as for small, local serving businesses; businesses that are responding to the changing nature of industry as well as more traditional industrial activities. The priority actions for this Big Move are:

- 1. Define Trade-Oriented Lands:** Trade-oriented lands are large sites associated with the transportation of goods to and through the region, such as by rail and the port, which serve a national function and are crucial to the region's economy, warranting additional attention and possible protection. A clear, consistent and collaboratively developed definition and understanding of the extent and location of these important lands will support their protection. Metro Vancouver will work with member jurisdictions to establish a definition for trade-oriented lands. (Subsequent actions identified in the 34 recommendations include consideration of a regional trade-oriented land use overlay in the regional growth strategy and municipal consideration of trade-oriented zoning.)
- 2. Undertake a Regional Land Use Assessment:** Given Metro Vancouver's constrained land base, there is significant pressure for competing, legitimate land uses across the region. Metro Vancouver will undertake a targeted or region-wide assessment of land use, looking at and beyond the existing policy framework to proactively identify the 'best' locations for different land uses based on a collaboratively developed set of criteria.
- 3. Strengthen Regional Policy:** Through the update of the regional growth strategy, Metro Vancouver will explore implementation changes, such as a consistent definition for Industrial, higher voting thresholds to amend the regional Industrial land use designation, and exploration of 'no net loss' as part of the amendment criteria.
- 4. Seek Greater Consistency in Local Government Zoning Definitions and Permitted Uses:** Metro Vancouver will, in collaboration with member jurisdictions and other regional agencies, develop a consistent definition of 'industrial' and guidelines for permitted uses. Member jurisdictions, through regional context statement updates, will review and update their zoning bylaws using the established guidelines.



Big Move 2 - Intensify and Optimize Industrial Lands

Given the region's constrained land base, it is critical to encourage the most efficient use of the remaining land supply for all types of industrial users, to remove barriers to the intensification of industrial land, and investigate opportunities to optimize the location of certain land uses over time. The priority action for this Big Move is:

5. **Facilitate the Intensification / Densification of Industrial Forms Where Possible:** Municipalities will review and remove unnecessary restrictions to density or height limits where appropriate; plan space to accommodate new, smaller industrial uses when older, centrally located

industrial areas densify; allow mixing of industrial with other employment uses so long as the industrial component is secured as a condition of redevelopment; and explore opportunities to encourage intensification / densification in target areas. Metro Vancouver will explore allowing mixed-use with residential on Mixed Employment lands immediately proximate to Rail Rapid Transit Stations (distance to be determined, but suggest 200 metres) as long as existing industrial space is maintained or expanded and other *Metro 2040* objectives are met (e.g. affordable, rental housing).



Big Move 3 - Bring the Existing Land Supply to Market & Address Site Issues

Certain parts of the vacant industrial land supply suffer from site-specific challenges, such as limited infrastructure support, environmental concerns, and under-sized parcels. Where vacant lands have not come to the market, local municipalities may benefit from the preparation of a bring-to-market strategy. Such a strategy would identify the issues that have prevented the development of the undeveloped or under-developed industrial land, while providing a roadmap to achieve the municipality's economic goals for its remaining industrial lands. The priority actions for this Big Move are:

6. **Prepare Bring-to-Market Strategies for Vacant or Under-developed Industrial Lands:** Municipalities with vacant or under-developed industrial lands will prepare a bring-to-market strategy for their industrial land that addresses strengths, weaknesses, opportunities and challenges, to encourage reinvestment and more intensive use, considers municipal assembly and consolidation

of fragmented parcels, whether environmental remediation is required, and if local servicing and infrastructure improvements are required and can be accommodated through front-ending infrastructure investment agreements.

7. **Ensure Transportation Connectivity:** The efficient movement of goods and people is critical for many industrial businesses, both local serving and trade-oriented, in terms of where they choose to locate. The maintenance and growth of a resilient and reliable transportation network, including various modes of transit, is an integral component in planning for the effective management of the region's industrial lands. TransLink, Metro Vancouver, the Port, the Airport and municipalities will continue to work together to coordinate investments in the transportation network, implement the Regional Goods Movement Strategy, enhance the regional truck route network, support efficient container drayage and provide transit for industrial workers.



Big Move 4 - Ensure a Coordinated Approach

Improved cooperation and data tracking among governments and other agencies and organizations is necessary to ensure effective land management and accurate monitoring into the future. Coordination also guides future alignment of policy responses to issues as they arise across Metro Vancouver and southwestern British Columbia. The priority actions for this Big Move are:

- 8. Coordinate Strategies for Economic Growth and Investment:** Metro Vancouver and member jurisdictions have a shared interest in attracting new investment and supporting economic and employment activities across the region. Many municipalities have an economic development office or department that work to retain and support the expansion of local businesses. Metro Vancouver's new Regional Economic Prosperity Service provides the opportunity for a regional approach to economic development that will amplify and complement the work of member jurisdictions.
- 9. Improve Data and Monitoring:** Timely access to quality data is critical for land management and the development of effective economic policy. Metro Vancouver will update the Industrial Lands Inventory to have a better understanding of the current land uses and supply, and complete a Regional Employment Survey.

- 10. Develop a Framework for Coordination:** Pressures on industrial lands are not limited to Metro Vancouver. Adjacent regional districts are part of the same goods movement network and commuter-shed and they are facing similar land pressures and challenges. The Province will work collaboratively with Metro Vancouver, TransLink, and municipalities on cross-boundary economic and land use planning matters and will develop a framework for economic and land use planning coordination between neighbouring regions in the broader southwestern BC economic region to support industrial land use and protection. For example, Metro Vancouver will seek to sign a memorandum of understanding with the Fraser Valley Regional District outlining shared priorities regarding the effective and efficient management, protection, and development of industrial lands within the Lower Mainland.



APPENDIX 1 – REGIONAL INDUSTRIAL LANDS STAKEHOLDERS

Many different agencies and organizations play a key role in the management, development, and use of industrial lands in the Metro Vancouver region. Each stakeholder has a different role, different responsibilities, and different authority over the rules, guidelines and decision making as it relates to industrial land and its use.

	ORGANIZATION	PURPOSE/MANDATE	ROLES AND RESPONSIBILITIES RELATED TO INDUSTRIAL LANDS
LOCAL	Member Jurisdictions (21 municipalities, 1 Treaty First Nation, 1 Electoral Area)	Represent the interests and respond to the different needs and changing circumstances of their communities, residents and businesses	<ul style="list-style-type: none"> Designates permitted land uses and regulates the density and form of development through local zoning by-laws, neighbourhood plans, and Official Community Plans Builds and maintains streets, sidewalks, and local infrastructure Regulates traffic, use of streets (including on-street parking) and the size and weight of vehicles that are permitted to travel on municipal streets Sets municipal property tax rates for industrial and commercial uses
REGIONAL	Metro Vancouver	Delivers regional services, policy and political leadership on behalf of 23 member jurisdictions	<ul style="list-style-type: none"> Supports coordinated land use planning around common framework for regional growth management Communicates value of industrial land uses and improved regional transportation network, including efficient goods movement, as components of broader economic ecosystem
	TransLink: South Coast British Columbia Transportation Authority (SCBCTA)	<p>Transportation authority for Metro Vancouver region</p> <p>Mandate to provide a regional transportation system that moves people and goods and supports the regional growth strategy and regional and provincial environmental and economic objectives</p>	<ul style="list-style-type: none"> Operates integrated regional transit system Owns and operates 5 bridges Together with municipalities, co-funds and co-manages the Major Road Network (MRN) Leads and facilitates regional goods movement research and planning

	ORGANIZATION	PURPOSE/MANDATE	ROLES AND RESPONSIBILITIES RELATED TO INDUSTRIAL LANDS
PROVINCIAL	Government of British Columbia	<p>Authority to create local governments and their governing legislation</p> <p>Authority over Provincial Highways, roads and other infrastructure</p> <p>Coordinates high level economic development issues of provincial interest</p> <p>Authority to identify and legislate use for specific lands</p>	<ul style="list-style-type: none"> • Provincial legislation, such as the Local Government Act • Provincial transportation planning and policy • Administers a number of acts related to transportation and goods movement, including the Motor Vehicle Act and the Commercial Transport Act • Highway construction and maintenance • Commercial vehicle safety and enforcement • Port and airport development • Infrastructure grants • Major capital project management • Provincial emergency management
	Agricultural Land Commission	<p>Preservation of agricultural land</p> <p>Encourage local governments, First Nations, and others to enable and accommodate farm use of agricultural land and uses compatible with agriculture in their plans, by-laws and policies</p>	<ul style="list-style-type: none"> • Sets regulations for determining which business activities are permitted within the Agricultural Land Reserve • Determines the scope and scale at which agri-industrial businesses are allowed to locate within the ALR before having to relocate to industrial lands in the urban containment boundary
FEDERAL	Government of Canada	<p>Promotes safe, secure, efficient and environmentally-responsible transportation and trade-oriented land uses in Canada</p>	<ul style="list-style-type: none"> • Administers a number of Acts related to transportation, including vehicle requirements on new equipment pursuant to the Canada Motor Vehicle Safety Standards (CMVSS), engine emission standards, and rail safety standards • Provides funding to help improve major infrastructure systems, including Asia Pacific Gateway initiatives • Works with its portfolio partners, other government departments and jurisdictions and industry to ensure that trade-related networks and transportation systems work well • 18 Port authorities fall under the federal portfolio across Canada

	ORGANIZATION	PURPOSE/MANDATE	ROLES AND RESPONSIBILITIES RELATED TO INDUSTRIAL LANDS
FEDERAL	Port of Vancouver	Responsible for the stewardship of federal port lands in and around the region	<ul style="list-style-type: none"> Oversees transportation operation in collaboration with terminal operators, railroads and shippers to ensure efficient goods movement on port lands and waters Acquires and develops lands to support current and anticipated port-related operations
	Vancouver Airport Authority	Oversees Vancouver International Airport's operations	<ul style="list-style-type: none"> Develops and maintains airport infrastructure and oversees day-to-day operations at Vancouver International Airport Plays active role in the development and growth of air cargo and the Asia Pacific Gateway
NON-PROFIT INDUSTRY AND BUSINESS ASSOCIATIONS	Greater Vancouver Gateway Council	Collaborate to establish a globally competitive Pacific Gateway in trade and travel between North America and the Asia Pacific economies	<ul style="list-style-type: none"> Advocates for members' interests Conducts and publish research studies Provides economic impact data Supports and coordinate application for infrastructure grants
	Greater Vancouver Urban Freight Council	Champion the implementation of the priority actions identified in the Regional Goods Movement Strategy (RGMS)	<ul style="list-style-type: none"> Advocates for members' interests Coordinates the implementation of policy recommendations related to goods movement in the region Monitors and assesses the progress of RGMS implementation Periodically reviews current priorities against the region's evolving goods movement needs
	BC Trucking Association (BCTA)	Province-wide, non-partisan, non-profit motor carrier association formed to advance the interests of British Columbia motor carriers and associated industrial land owners	<ul style="list-style-type: none"> Promotes prosperous, safe, efficient and responsible commercial road transportation industry Conducts research Advocates for member interests

	ORGANIZATION	PURPOSE/MANDATE	ROLES AND RESPONSIBILITIES RELATED TO INDUSTRIAL LANDS
NON-PROFIT INDUSTRY AND BUSINESS ASSOCIATIONS	NAIOP Commercial Real Estate Development Association	Non-partisan, non-profit business association formed to advance the interest of commercial land users, developers and real estate industry	<ul style="list-style-type: none"> • Conducts research • Provides education on commercial and industrial development and real estate related issues • Advocates for member interests
	Boards of Trade and Chambers of Commerce	Non-partisan, non-profit business associations formed to advance the interest of their members	<ul style="list-style-type: none"> • Conducts research • Advocates for member interests
	Fraser Basin Council	A charitable non-profit society committed to advancing sustainability in the Fraser Basin and across British Columbia	<ul style="list-style-type: none"> • Conducts and publishes research related to environmental and economic sustainability • Preparation of BC Regional Adaptation Collaborative to strengthen regional capacity and increase action to advance adaption planning and implementation related to climate change impacts, including coastal flooding
PRIVATE SECTOR	Railways	Delivers returns on investments by providing fast and reliable transportation for rail and intermodal customers	<ul style="list-style-type: none"> • Provides rail and intermodal services to customers consistent with federal Rail Transportation Acts • Coordinates with local governments on adjacent land use and road networks
	Goods Movers	Deliver returns on investments by providing fast and reliable transportation for their customers	<ul style="list-style-type: none"> • Provides road delivery services to customers consistent with federal, provincial and municipal regulations
	Business	Deliver a return on investment for shareholders or owners	<ul style="list-style-type: none"> • Consumes and produces goods and services to support customers and other businesses • Makes locational, transportation, investment, real estate, and scheduling decisions to advance business operations

APPENDIX 2 – INDUSTRIAL MARKET CONDITIONS

Industrial land values and lease rates across Metro Vancouver have increased significantly between 2014 and 2019. These changes reflect the scarcity of large, vacant, developable industrial land parcels, speculation that densities will increase on industrial lands, increased competition from other uses, or outright conversion to non-industrial uses.

METRO VANCOUVER INDUSTRIAL LAND VALUES AND LEASE RATES, 2014, 2017, 2019

	LATE 2014	LATE 2017	EARLY 2019
Average Vacant Industrial Land Value (\$million/acre)	\$1.1 million to \$1.6 million	\$1.9 million to \$3.0 million	\$2.0 million to \$4.0 million
Average Rental Rate for Industrial Space (\$/net square foot per year)	\$8	\$10	\$12

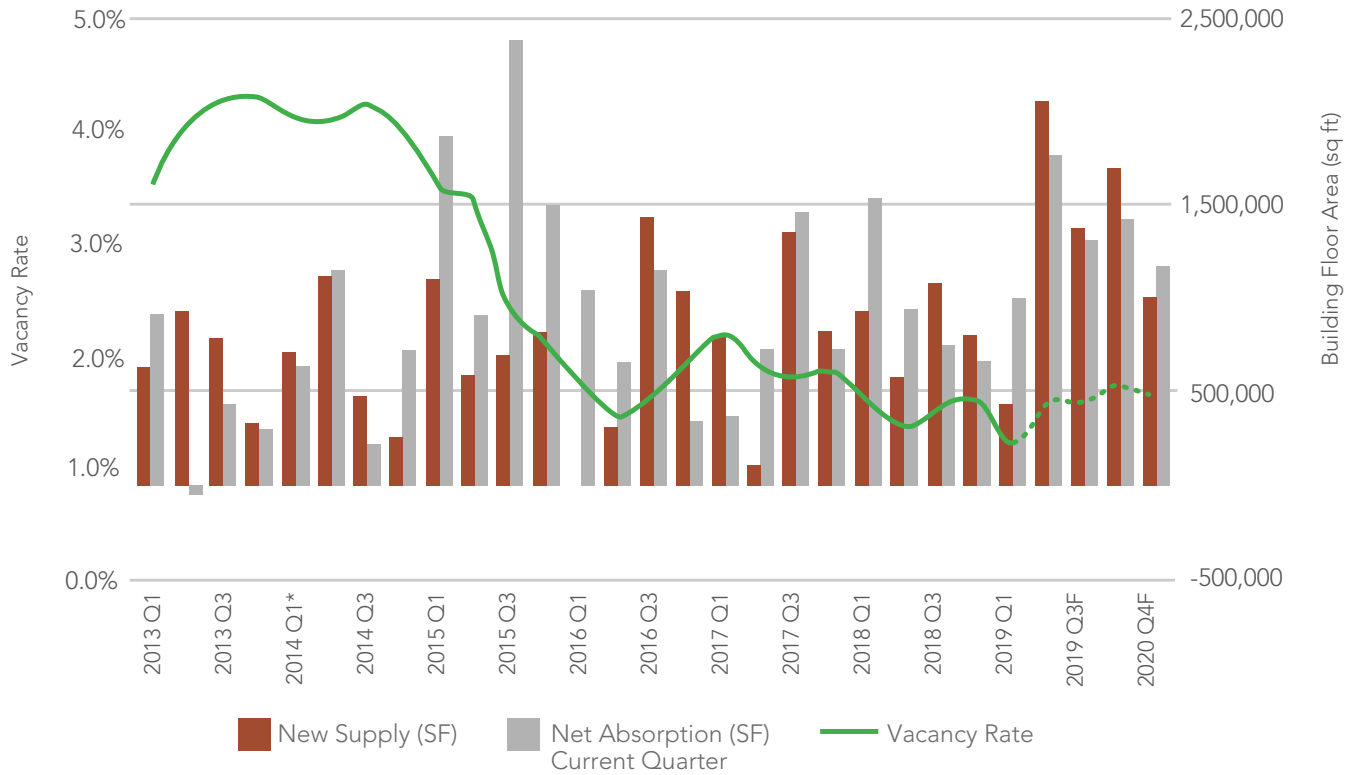
SOURCE: ADAPTED FROM THE CHANGING NATURE OF INDUSTRY AND INDUSTRIAL DEMAND IN METRO VANCOUVER: DISCUSSION PAPER, SECTION 4.7, 2019

NOTE: FIGURES REPRESENT AVERAGE VALUES FOR THE REGION AS COMPILED BY MAJOR BROKERAGES. INDUSTRIAL TRANSACTIONS IN SPECIFIC SUB-MARKETS MAY BE GREATER OR LESS THAN RANGE SHOWN.

These land price and lease rate increases are the result of changing dynamics between the supply and demand of industrial land and space availability. In the case of Metro Vancouver, demand and competition for these lands has been steadily increasing, while the supply of available industrial land has declined. Demand for industrial space has far outpaced how quickly developers have been able to bring new buildings to the market, resulting in a regional vacancy rate that has averaged below 2% for the past 4 years.

The industrial market has remained extremely tight over this period, with the lack of supply and strong demand putting upward pressure on lease rates and land values.

METRO VANCOUVER INDUSTRIAL MARKET ABSORPTION TRENDS AND FORECAST, 2013-2020



SOURCE: COLLIERS INTERNATIONAL, METRO VANCOUVER INDUSTRIAL MARKET: Q1 2019

APPENDIX 3 – INDUSTRIAL LANDS INVENTORY AND ABSORPTION

The preliminary update to Metro Vancouver’s 2015 Industrial Lands Inventory indicates significant absorption of lands since 2015, including many of the last remaining larger well-configured sites. While the remaining supply of about 1,050 hectares (2,600 acres) of truly vacant land and another 750 ha (1,860 acres) of non-industrial land uses that may eventually be developed for industrial, may seem significant, much of it is lands that are difficult to develop, fragmented and require assembly to bring to market, otherwise encumbered or whose owners are disinterested in development. As more of the unencumbered available sites are developed, an increasing proportion of that supply will be the more “difficult” or unavailable sites.

Typically, full development of an industrial land supply is about a remaining 5% long-term land vacancy or 95% development; in Metro Vancouver’s case the long-term vacancy would be about 570 ha of an 11,330 ha developed and vacant supply. Assuming there is no future conversion of industrial land to non-industrial uses, the effective available supply for future development would be about 1,430 ha.

The constrained land supply in Metro Vancouver means that there are two perspectives that can be taken to the demand forecast:

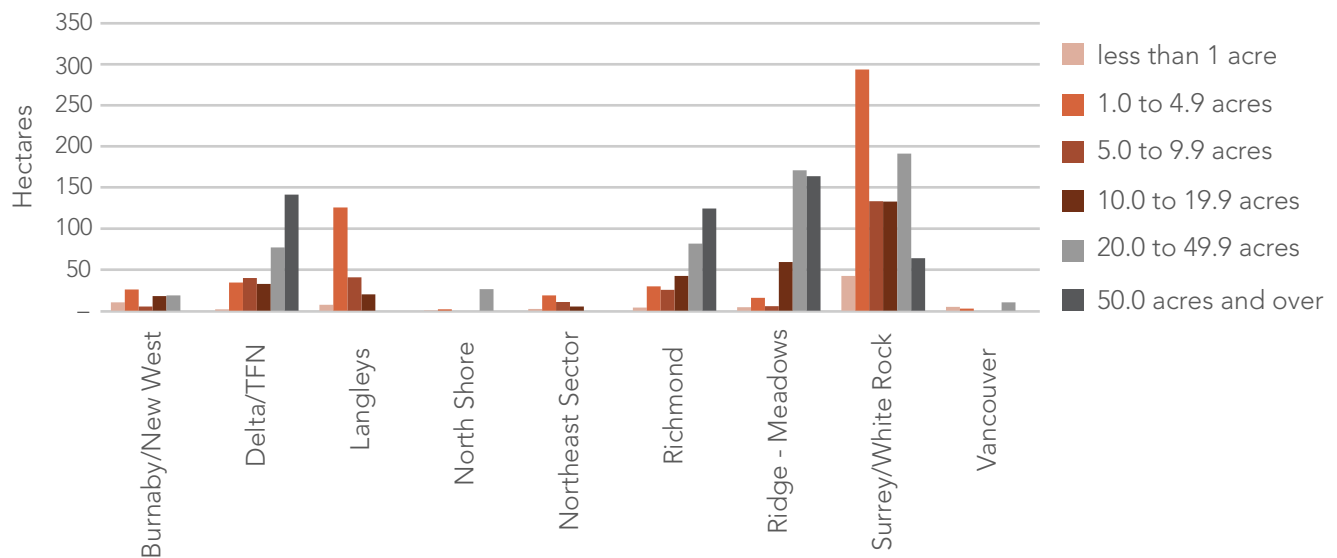
- What would the land demand be if there were no significant supply constraints in the region?
- Given the supply constraints, what is the demand for land that can be satisfied in the market and when will the available long-term supply near 95% full development?

There are two primary ways of forecasting land demand, both of which are appropriate ways to forecast and each can be used as a check on the other approach:

- The absorption method looks at the recent history of land absorption and projects the absorption forward for the forecast period. Adjustments to the forecast rate of absorption, up or down, are made to reflect expectations for a changing proportion of economic activity occurring on industrial land and higher or lower levels of overall growth expected, compared to the past.
- The employment-based method starts with a forecast of total employment and the relative growth by economic sector. The proportion of growth within sectors that may be accommodated on industrial lands provides an employment forecast for industrial areas. Applying an anticipated floor space per worker (in m² per employee) or an employment density (in employees per net ha) provides building space and land areas.

For larger sites (20+ acres / 8+ hectares) that point has already been reached in Metro Vancouver. To meet the demand forecast to 2050, an additional 800 to 1,600 ha (2,000 to 4,000 acres) would need to be added to current vacant land inventory.

VACANT LANDS BY SITE SIZE AND SUB-REGION, METRO VANCOUVER, 2015



SOURCE: METRO VANCOUVER 2015 INDUSTRIAL LANDS INVENTORY: TECHNICAL REPORT

As part of the Regional Industrial Lands Strategy work, Hemson Consulting looked at industrial land demand from an employment growth perspective. The forecast is based on a low, medium and high range of Metro Vancouver employment growth from the current base. Following a long-standing pattern of economic change, a continued shift in the employment base of Metro Vancouver away from those sectors occupying industrial land towards service sector uses is assumed to continue. Under this assumption, 20% of the region's job growth would be accommodated on industrial lands through forecast period to 2050 (from 27% of

total regional employment in the 2016 base year), with approximately 5% occurring within already developed industrial lands via intensification. Assuming an employment density of 35 jobs per net ha, the resulting industrial land demand to accommodate this growth would be 70 to 100 ha per year (175 to 250 acres per year). Similarly, an additional 650 to 1,550 ha (1,600 to 3,800 acres) of land on top of existing supply would be a reasonable estimate of the lands needed to satisfy this demand.

