

# Economic Impact of Industrial Lands in Metro Vancouver Study

Prepared for Metro Vancouver Regional District

September 25, 2024

FINAL REPORT



## Executive Summary

Metro Vancouver, in its commitment to lead the advancement of the Regional Industrial Lands Strategy, has undertaken an analysis to quantify and describe the economic value generated by sectors operating on industrial lands within the region. The study's findings inform the implementation of the Regional Industrial Lands Strategy, a collaborative effort led by regional agencies and organizations. This study is an update to the prior study released in early 2019.

Similar to the prior study, this analysis focuses on the economic contributions made by businesses operating on industrial lands within the Vancouver region. These industrial lands are categorized based on the most recent Metro Vancouver 2020 Regional Industrial Lands Inventory.<sup>1</sup>

Industrial lands serve various purposes, such as warehousing, manufacturing, and supporting emerging technology businesses. They provide essential employment opportunities and contribute to supply chains. Over time, regional definitions of industrial lands have adapted to accommodate new technologies and non-traditional uses. In Metro Vancouver's Regional Industrial Lands Strategy, the term "industrial" includes the following uses:

- light and heavy industrial production (including manufacturing and assembly),
- distribution,
- repair,
- construction materials and equipment,
- infrastructure,
- outdoor storage activities,
- wholesale.<sup>2</sup>

It is also worth noting the importance of Trade-Oriented lands in the region, as these lands and the activities that take place on them are vitally important to support goods movement in, out, and through the Metro Vancouver region. Activities that take place on these lands keep British Columbia and Canada connected to the global supply chain. Marine terminal facilities, distribution centres, warehouses, container storage and freight forwarding activities are key components of logistics supply chains. Operations taking place on Trade-Oriented lands require large, contiguous sites to accommodate the goods movement functions of Port of Vancouver and Vancouver International Airport and associated activities. The Port of Vancouver, Canada's busiest marine port and key national supply chain partner has an economic impact of 103,000 jobs in British Columbia. The availability of industrial lands is integral to the smooth flow of goods to, through, and from Canada's busiest port. Thus, the Metro Vancouver region

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<sup>1</sup> Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

<sup>2</sup> Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

needs to protect existing industrial lands and make the best and most efficient use of the industrial lands through intensification and densification.

To assess the economic impact of industrial land, Metro Vancouver utilized custom data extracted from Statistics Canada's 2021 Census. The prior study utilized 2016 Census data extracts. This data formed the foundation for analyzing economic activity across the region. Given the timing of the 2021 Census during the COVID-19 pandemic, the custom data extracted from the 2021 Census reported a net 50,000 fewer jobs located physically on industrial land compared the 2016 Census data extract due to the following conditions at the time as well as the specific geographically defined scope of this study:

- The COVID-19 pandemic had several impacts on employment levels at the time of the 2021 Census, including heightened unemployment, business and site closures, and the relocation of certain employment to remote work (e.g. work-from-home) instead of onsite.
- Given the geographic scope of this study, which focuses only on the employment physically located on industrial lands, it does not capture work-from-home employment related to industrial activities.

(See page 15 for more detailed info on Special Considerations related to the 2021 Census.)

## Average wages are strong for industrial related activities

***Across all activities located on industrial lands, industrial jobs pay 14% higher on average than non-industrial jobs.***

Industrial jobs paid on average, \$67,900 in 2021, compared to \$59,500 for non-industrial jobs on these lands, equivalent to a premium of 14%. When inflating to 2024 dollars, the average industrial job located on industrial land equates to \$76,800. The highest paying sectors for employment on industrial land are Public Infrastructure & Administration and Trade-Oriented, both of which are industrial sectors paying over \$84,000 per job located on industrial land. This is comparable to the average wage paid throughout the region in the Research & Development, Professional & Technical Services sector.

Industrial lands generate a significant portion of the region's total Gross Domestic Product (GDP). The significant employment that takes place on the region's industrial lands also generate total GDP (direct, indirect, and induced impacts) amounting to over \$43 billion in the region, over \$48 billion in the province, and in grand total \$57 billion in Canada.

This amounts to 30% of the region's overall GDP, which demonstrates the importance of the jobs and activities that take place on the region's industrial lands. In 2023, the GDP of the region was \$142 billion (in 2021 dollars).<sup>3</sup>

Industrial activities located on industrial lands account for approximately \$30 billion or 21% of the region's total GDP. These industrial activities have demonstrated far-reaching impacts to the local, provincial and national economic growth and development, that is predominantly related to moving goods from, to and through the Vancouver region.

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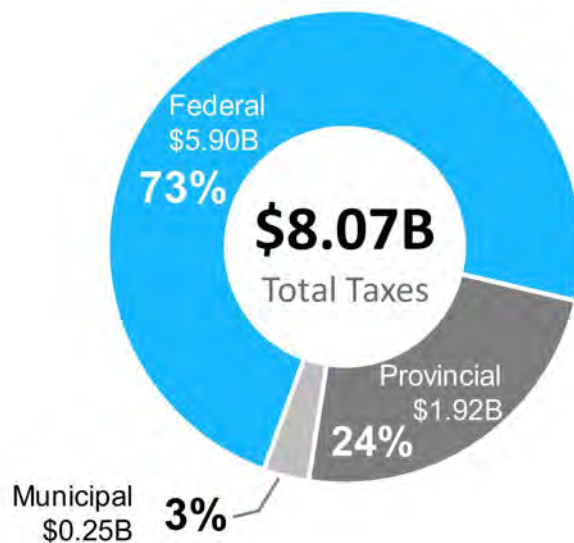
<sup>3</sup> Source: <https://vancouvereconomic.com/economic-snapshot/>. Metro Vancouver's GDP amounted to \$158 billion in 2023. To keep consistent with the presentation of impacts in terms of 2021 dollars, Metro Vancouver's GDP in 2023 of \$158 billion is deflated to \$142 billion in 2021 dollars.

## Activities on Industrial Lands Contribute Tax Revenues to All Levels of Government

The tax impacts of direct employment and business activities located on industrial lands amount to an estimated \$8 billion which are accrued to federal, provincial and municipal governments, as shown in **Figure ES-1**. This estimate includes personal and corporate income taxes, employment insurance contributions, Canada pension plan payments, and workplace safety and insurance board contributions attributable to the direct employment and activity on industrial land only.

- Municipal taxes collected through property taxes are estimated to amount to \$250 million
- Federal taxes are estimated to be \$5.9 billion
- Provincial taxes are estimated to be \$1.9 billion

**Figure ES-1: Direct Tax Impact of Industrial Lands, 2021**



## Industrial Lands in the Metro Vancouver Region Support Significant Employment in the Region

**Industrial lands account for 4% of land area, yet host 22% of jobs in Metro Vancouver.**

The Metro Vancouver region covers a land area of approximately 280,120 hectares (2,800 square kilometres), of which industrial lands account for 4% of the total land area, at 11,500 hectares.

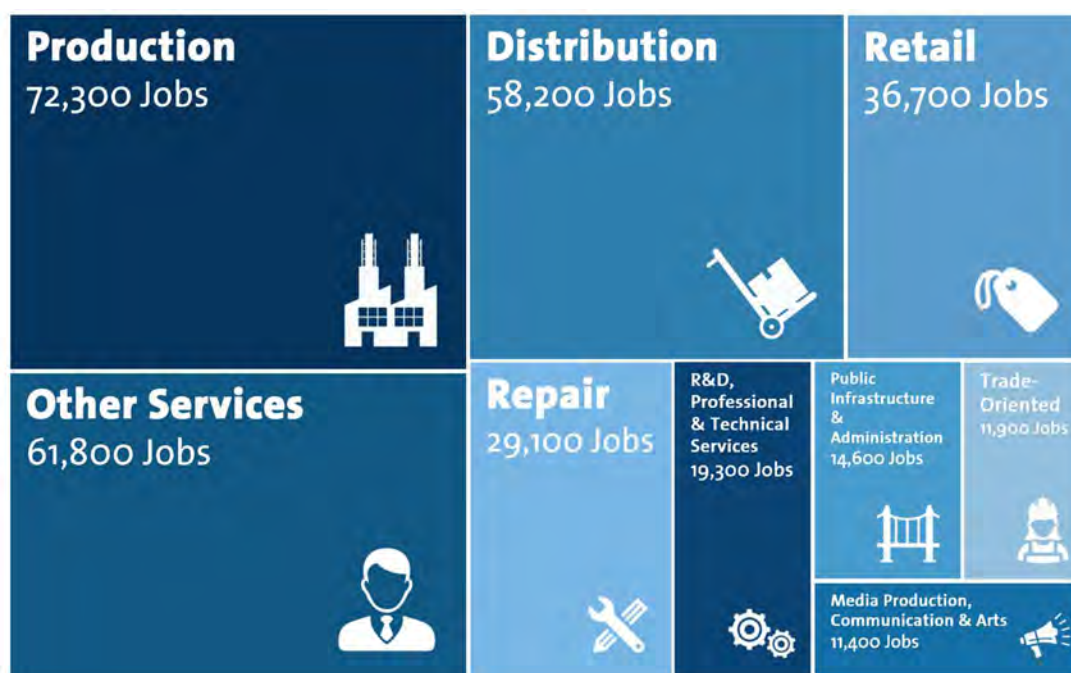
There were an estimated 1.4 million jobs in the region. According to the Census 2021 data extract, there are a total of 315,300 jobs located on industrial lands. This represents 22% of the region’s total jobs, located on 4% of the region’s land mass.

**Industrial activity (whether located on industrial lands or not) accounts for 31% of jobs in Metro Vancouver.**

Industrial activity is not limited to industrial lands. There was a total of 444,700 industrial jobs in the region – defined as employment by businesses in industrial activities based on their North American Industry Classification System (NAICS) code – of which nearly 42% or 186,100 jobs were located on industrial lands and the remaining 258,600 industrial related activity jobs were located on other lands in the region. These industrial jobs contribute significantly to the region’s economy, representing 31% of total jobs in the region, regardless of location.

**Figure ES-2** shows the jobs allocations by the different types of activities that occur on industrial lands in the region. **Figure ES-3** shows the breakdown of jobs in the region that are located both on and off industrial lands.

**Figure ES-2: Direct Employment on Industrial Land, 2021**





**Figure ES-3: Vancouver CMA Direct Employment (Jobs) by Sector and Land Use, 2021**

	Industrial Jobs	Non-Industrial Jobs	Total
<b>Industrial Lands</b>	186,100	129,200	<b>315,300</b>
<b>Non-Industrial Lands</b>	258,600	863,300	<b>1,121,900</b>
<b>Total</b>	<b>444,700</b>	<b>992,500</b>	<b>1,437,200</b>

Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations.

Notes: Employment located on industrial land as defined by Metro Vancouver based on its 2020 Industrial Land Inventory Report methodology, including a proportion of workers with no fixed workplace attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region’s workers who worked from home.

## Industrial land activities are interdependent with businesses throughout the region

The region’s industrial lands play a crucial role in supporting jobs in various sectors, making the region one of Canada’s most dynamic and deeply connected to other parts of the economy. Industrial activities like manufacturing, import/export, and warehousing operate independently, but they also rely on non-industrial sectors, especially professional services located in urban areas. Additionally, industrial activities depend on intermediate products from other businesses. For instance, the construction sector needs supplies like concrete and steel from industrial lands. Also, the e-commerce sector, including companies like Amazon, uses industrial lands for warehousing and distribution.

## Activities on the region’s industrial lands contribute to economic diversity

Activities on the region’s industrial lands boost economic diversity, making the economy more resilient to industry-specific downturns. This diversity is crucial for economic health and stability. Protecting industrial activity is key to maintaining this diversity. Manufacturing, which requires advanced skills and offers above-average wages, is vital for a vibrant local economy. Industrial lands also support new sectors like e-commerce, which rely on large distribution centres rather than numerous local retailers.

## Consequences of an insufficient supply of industrial lands in Metro Vancouver

An insufficient supply of industrial lands in Metro Vancouver can have several significant consequences:

- **Increased Land Prices and Lease Rates:** As the cost of industrial land rises, it will become more expensive for businesses to operate in Metro Vancouver. Some firms currently operating in Metro Vancouver may find it challenging to expand their operations. Other firms looking to access the Western Canada market may opt to start operation outside of Metro Vancouver.
- **Low Vacancy Rates:** The shortage leads to very low vacancy rates, which can make it difficult for new businesses to find suitable locations. Low vacancy rates put increased pressure on prices and other operating expenses.

- **Relocation of Businesses:** Companies may choose to relocate to other regions with more affordable and available industrial land, e.g., within the province, outside of Metro Vancouver or outside the provinces, such as Calgary. This can result in job losses and a decrease in local economic activity.
- **Strain on Infrastructure:** As businesses seek to find suitable land, there can be increased strain on transportation and logistics infrastructure, leading to higher costs and inefficiencies due to congestion and longer lead times to travel to transportation nodes such as the Port of Vancouver and Vancouver International Airport.
- **Diversification Challenges:** Industrial lands are crucial for a diverse economy. Diverse economies are less sensitive and more resilient to general business cycles. When a risk is spread across multiple businesses and industries, an economy becomes stronger and better able to weather challenges.

## Greater Vancouver Board of Trade Study: Economic Impact Study of the Critical Shortage of Industrial Lands in Metro Vancouver

Local companies in Metro Vancouver are relocating due to rising rent and lease costs, limited space, and a lack of expansion opportunities. Businesses aiming to establish operations in Western Canada are increasingly choosing Calgary as a viable alternative to Vancouver. Calgary offers lower overall costs, abundant land, and excellent transportation options.

In September 2023, the Greater Vancouver Board of Trade released a study on the Critical Shortage of Industrial Lands in the Metro Vancouver region.<sup>4</sup> A key finding from that study was over the preceding 5 years, the Metro Vancouver region was losing business and economic activity to the Calgary area due to the Vancouver region not being able to accommodate growth of firms already operating in the region or new entrants to the Western Canada market that opted for lower accommodation costs on offer in Calgary. The opportunity loss for the Metro Vancouver region amounted to approximately 6,300 direct jobs, \$477 million in wages, \$494 million in GDP, and \$828 million in economic output over the 5-year time frame.

Some key messages from that study commissioned by the Greater Vancouver Board of Trade and NAIOP include:

- **Long-standing Shortage:** Metro Vancouver has faced a critical shortage of industrial lands for over a decade due to escalating land prices, low vacancy rates, and rising rental costs.
- **Limited Land Mass:** Industrial lands constitute only 4% of Metro Vancouver's total area. Increasing industrial zoning could address the annual demand of 250-300 acres and the existing backlog.

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<sup>4</sup> Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver (<https://www.boardoftrade.com/news/report/2023-industrial-land-shortage>)

- **Development Barriers:** Reviewing barriers to industrial land development is essential to encourage investment and prevent companies from relocating. This requires collaboration among municipal governments and other stakeholders.
- **Economic Impact:** Industrial lands significantly impact Metro Vancouver's economy, providing high-paying, skilled jobs.

Key challenges identified in that study regarding the Regional Industrial Lands Strategy, include:

- **A constrained land supply.** Due to geographical attributes and increasing demand, additional constraints are being put on the industrial land supply. There is also an increasing need for large parcel sizes, to support trade-oriented activities.
- **Pressure on industrial lands.** As the population grows, there is an increased need for land. This provides added pressure to potentially convert industrial land for non-industrial purposes.
- **Site and adjacency issues.** Available industrial sites are lacking connectivity to services and utilities.
- **Complex jurisdictional environment.** With overlapping jurisdictions, which may create a complex regulatory environment.

From that study, potential improvements to the industrial lands program were noted as follows:

- **Revisit update schedule.** The current 5-year regional industrial lands inventory update schedule may be too long, given the level of activities taking place on industrial lands. Consider shortening to every 2-3 years in order to provide a more current snapshot.
- **Re-examine formulas for regional voting for land use changes.** Due to the differing volume of industrial land in each jurisdiction, there is a need to balance the jurisdiction's needs with that of the overall region's requirements for industrial lands.
- **Include trade-enabling land as a land use designation.** Placing a designation for trade-enabling lands would help to preserve lands that are identified as supporting the national supply-chain.
- **Enrich the Metro Vancouver industrial lands inventory with market readiness / suitability scoring.** A review of improving the information contained in the inventory can better outline suitability and market readiness for the development of industrial lands across the region.
- **Examine land uses currently permitted on industrial lands.** Current industrial zoning and land use designations are broad, allowing non-industrial activities to take place on industrial lands.
- **Consider the impacts/challenges of relative development approval timeframes across the region.** An assessment of industrial development and approval timelines should be reviewed and streamlined, if possible to increase efficiencies.



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# 1 Introduction

Metro Vancouver commissioned InterVISTAS Consulting Inc. (InterVISTAS) in 2024 to conduct an update to the economic impact study of the activities on zoned and/or designated industrial lands in the region based on latest data available, including the 2021 Census and the Metro Vancouver 2020 Regional Industrial Lands Inventory. The prior 2019 study utilized similar data from the Census 2016 and the 2015 Inventory. This new study uses updated data from the Statistics Canada Census 2021 database and other available sources to provide information to inform strategic planning of industrial lands at both the regional and local levels. Given the timing of the Census 2021, which was conducted during the COVID-19 pandemic, caution is advised when comparing this data and study to prior work.

Throughout this study, reference is made to the 'region' which refers to the geographic scope covering the Vancouver CMA. Industrial lands are used for industrial purposes, including warehousing, distribution, manufacturing, processing, local production, and new emerging technology-driven businesses. Industrial lands support diverse employment opportunities and key commercial activities that are vital to supply chains. Regional definitions of industrial lands have evolved over the years as new technologies have been introduced and some jurisdictions have permitted some non-traditional uses on industrial lands.

In Metro Vancouver's Regional Industrial Lands Strategy, the term "industrial" includes the following uses:

- light and heavy industrial production (including manufacturing and assembly),
- distribution,
- repair,
- construction materials and equipment,
- infrastructure,
- outdoor storage activities,
- wholesale.<sup>5</sup>

Overall, industrial land users are a diverse group representing a varied collection of economic sectors including manufacturing, distribution, e-commerce, and film production. In addition to supporting trade between Canada and the rest of the world through the Port of Vancouver, the Metro Vancouver region's industrial lands also provide services to businesses, create jobs across a variety of sectors, and enable regional prosperity.

Trade-oriented lands are a critical subset of industrial lands which support trade flows between Canada and its international trading partners.<sup>6</sup> These lands can have different land use requirements than other

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<sup>5</sup> Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

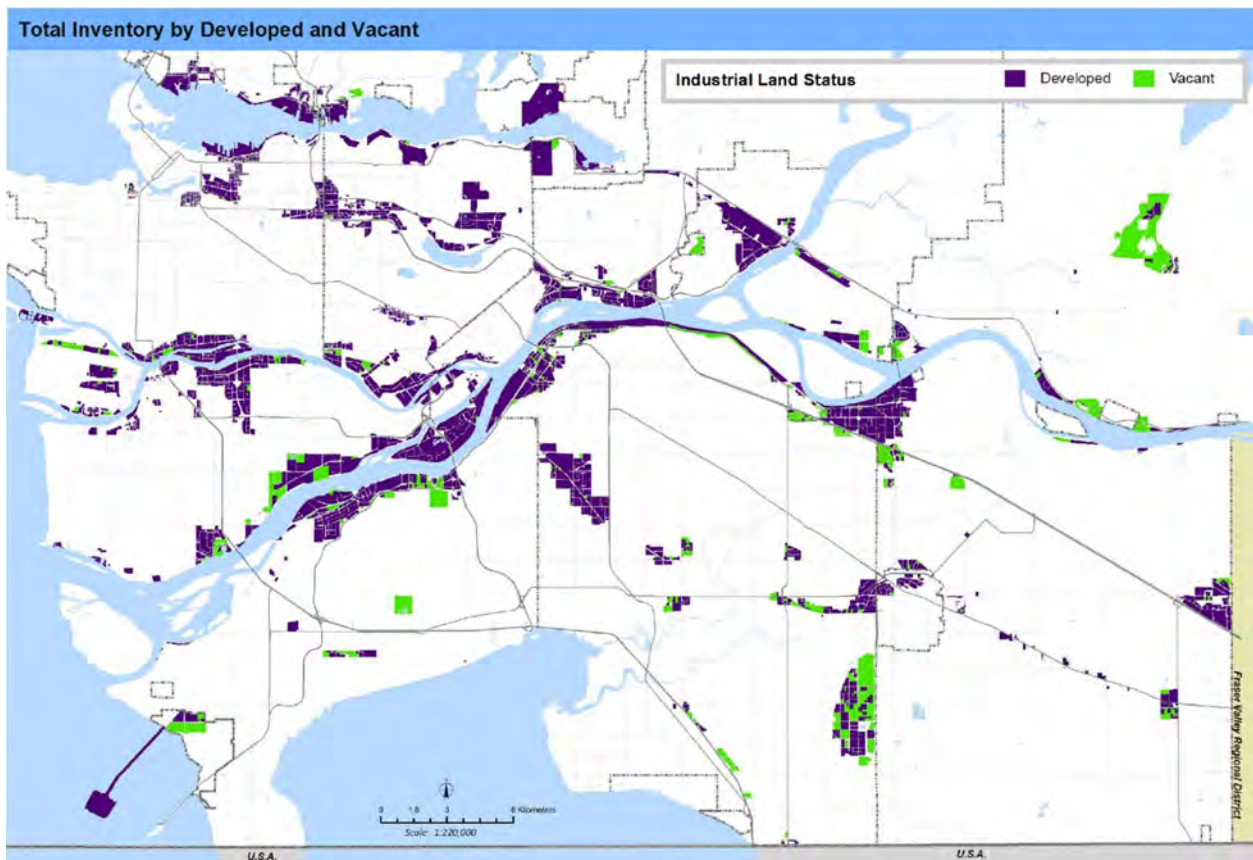
<sup>6</sup> Definition of Trade Oriented ([Metro 2050 Implementation Guideline Industrial and Employment Lands](#)): *The Trade-Oriented Lands Overlay is intended for Industrial lands that are required to support goods movement in, out, and through the Metro Vancouver region, and that keep British Columbia and Canada connected to the global supply chain. These important areas are occupied by such uses as: terminal facilities, distribution centres, warehouses, container storage, and freight forwarding activities that serve a*

industrial lands, including the size of the land and access to the waterfront and/or major transportation corridors.

## 1.1 Importance of Industrial Lands to Metro Vancouver

The Metro Vancouver region covers a land area of approximately 280,120 hectares (2,800 square kilometres). Of this, industrial lands account for 4% of the total land area, at 11,500 hectares, according to the Metro Vancouver 2020 Regional Industrial Lands Inventory (see inventory report for greater detail). See **Figure 1-1**.

**Figure 1-1: Map of Metro Vancouver 2020 Regional Industrial Lands Inventory<sup>7</sup>**



In 2023, the total population of the Metro Vancouver region was estimated at 2.97 million.<sup>8</sup> The region accounts for 54% of B.C.'s total population and 57% of the provincial economy, underscoring its role as

*national trade function and contribute to the provincial and regional economies. These operations generally require large sites and are located near major transportation infrastructure corridors and terminals. Industrial lands with a Trade-Oriented Lands Overlay are not intended for stratification tenure or small lot subdivision.*

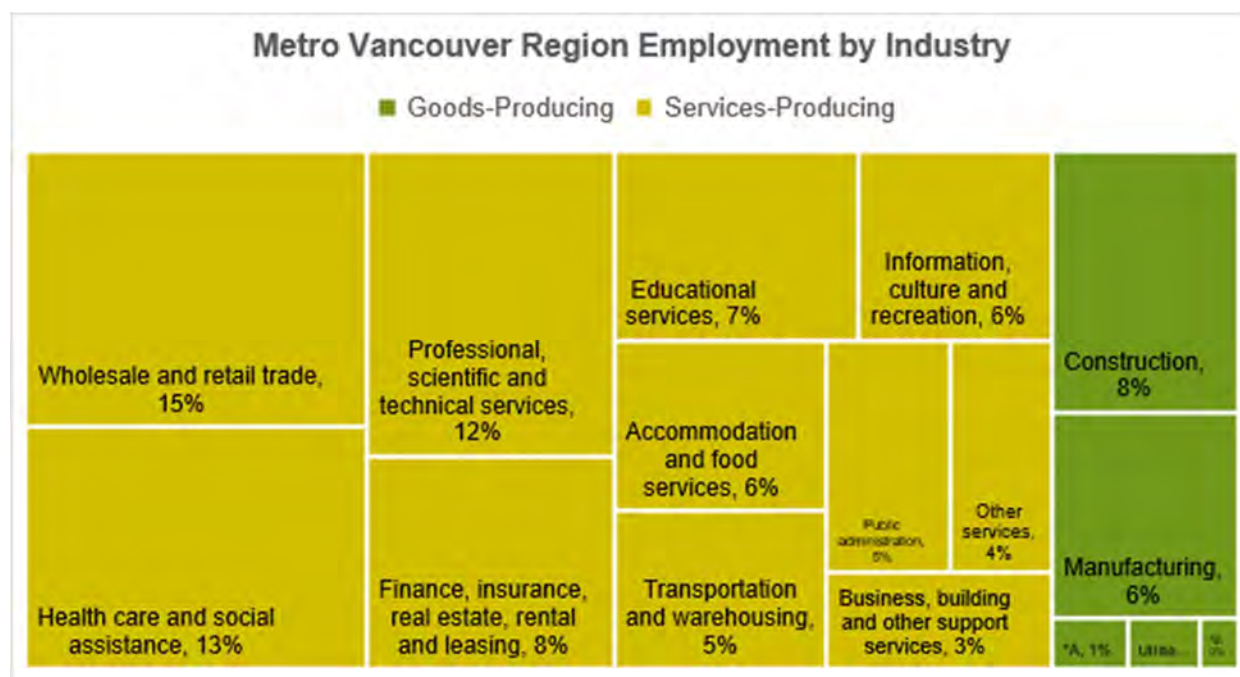
<sup>7</sup> Metro 2050. Metro Vancouver, 2022. <https://metrovancover.org/services/regional-planning/Documents/metro-2050-map-7.pdf>

<sup>8</sup> 2023 Population Estimates. BC Stats. <https://bcstats.shinyapps.io/popApp/>

an economic generator and as a facilitator of economic activity throughout the province.<sup>910</sup> The Metro Vancouver region’s significant and growing population and high number of employed residents are positive indicators of industrial land needs. The region’s industrial lands are home to a range of employment activities that are essential for the regional, provincial, and national economies.

The regional economy comprises a variety of sectors, with 85% of the population in a service-producing sector and 15% in a goods-producing sector.<sup>11</sup> As of 2024, the largest sectors in the regional economy are Wholesale and Retail Trade, Health Care and Social Assistance, and Professional, Scientific, and Technical Services. Education, Finance, Construction, and Manufacturing also feature as prominent sectors in the region.<sup>12</sup> Many of these sectors either directly use industrial lands for their activities or rely on supply chains including national trade that require the use of industrial lands.

**Figure 1-2: Employment Categorization by Industry – July 2024 Three Month Moving Average, Vancouver Census Metropolitan Area<sup>13</sup>**



Notes: \*A = Forestry, Fishing, Mining, Quarrying, Oil and Gas. \*B = Agriculture

<sup>9</sup> Ibid.

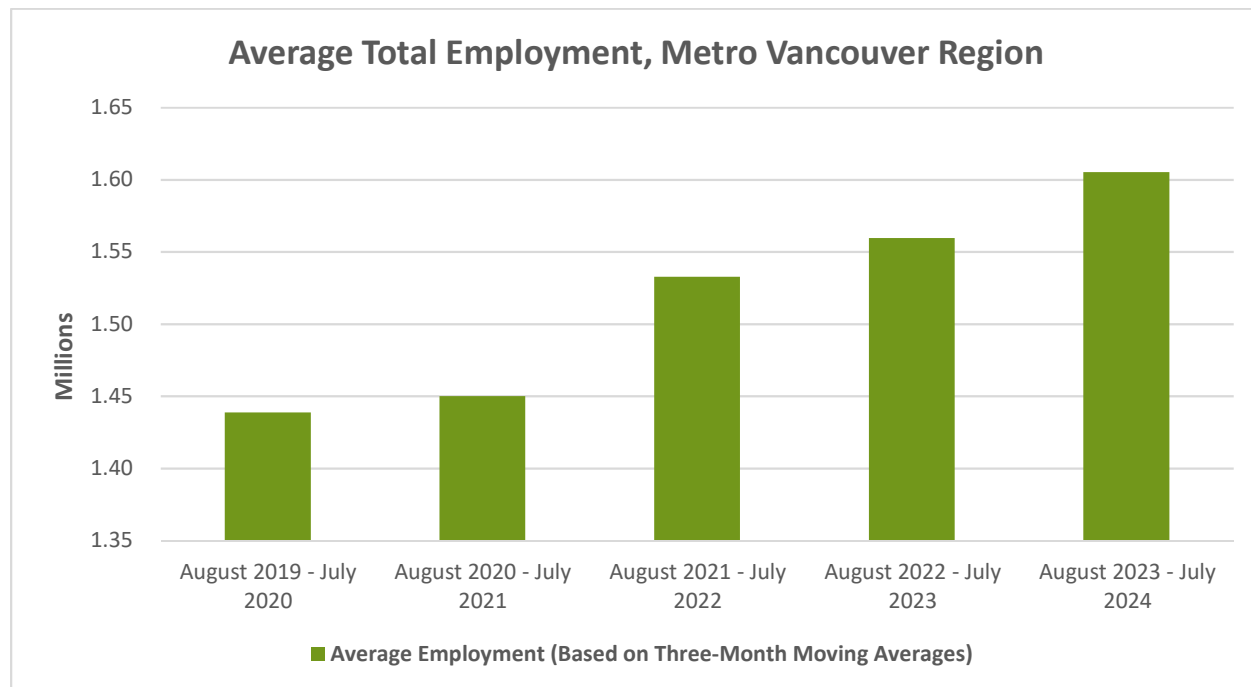
<sup>10</sup> Statistics Canada. Table 36-10-0468-01 Gross domestic product (GDP) at basic prices, by census metropolitan area (CMA) (x 1,000,000). <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610046801>

<sup>11</sup> Employment by industry, three-month moving average, unadjusted for seasonality (x 1,000). Statistics Canada, 2024. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410037901&pickMembers%5B0%5D=1.34&cubeTimeFrame.startMonth=11&cubeTimeFrame.startYear=2023&cubeTimeFrame.endMonth=03&cubeTimeFrame.endYear=2024&referencePeriods=20231101%2C20240301>

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

**Figure 1-3: Average Monthly Employment – August 2019 to July 2024, Vancouver Census Metropolitan Area<sup>14</sup>**



The above figure shows a steady increase in the average employment in the Metro Vancouver region over the five years ended July 2024, highlighting that the regional economy has remained in a state of continued growth and has had a stable labour market over the last half-decade. A high and increasing number of employed residents is a positive indicator of the need for industrial lands in the region.

Industrial lands are a crucial piece of the Metro Vancouver regional economy and the economies of British Columbia and Canada. However, the direct economic activity taking place on industrial lands does not alone demonstrate the importance of this resource. Wages for workers are higher for many industrial jobs compared to service jobs, providing for greater positive economic impacts. Moreover, there are indirect and induced impacts in the economy from industrial activities because of their connections across several sectors and the amount of spending conducted by the people they employ. Only a portion of the activities which support the operations and output of industrial lands takes place directly on industrial lands themselves. There are significant interdependencies between industrial and non-industrial activities that support supply chains and the needs of industrial activities themselves. Industrial activity makes a strong contribution to the diversity and resilience of the regional economy, acting as a steady generator of economic activity.

The Port of Vancouver is by far the largest port in Canada and the second largest in North America (by tonnes of cargo throughput). Finding new industrial lands to support logistics, warehousing, storage, and distribution uses is critical to the region’s health as a port city and international gateway. The Metro Vancouver region offers the best location for most logistics’ operations connected to the port’s operations;

<sup>14</sup> Ibid.



however, this is dependent on the availability of spatially and infrastructurally optimized industrial lands to support them.

For trade-oriented activities, industrial lands supporting logistics operations need to be large, flat, located near truck and rail infrastructure and corridors, on or close to the waterfront, and/or close to major container terminals. These activities also require large contiguous pieces of land to support efficient volume throughput. Beyond the trade-oriented dimension, with strong logistics operations, small businesses can benefit from proximity and economies of scale.

Without industrial lands, the Port of Vancouver would not be able to provide and sustain a full suite of efficient services and would lose its competitive edge to other ports and other regional transportation hubs. Moreover, a lack of industrial lands would make the Metro Vancouver region less competitive for both trade and non-trade related growth. The Metro Vancouver region needs to protect existing industrial lands and make the best and most efficient use of the industrial lands through intensification and densification.

Industrial lands are essential in retaining the Metro Vancouver region's competitive advantage compared to peer regions around the world. Moreover, the region's competitive advantage as a business hub and as one of the most livable and economically prosperous metropolitan areas in the world is dependent on its ability to enhance productivity, attract investment, and build infrastructure.<sup>15</sup> Industrial lands are essential places to support innovation and creativity for businesses and entrepreneurs that drive regional growth. However, businesses may be squeezed out of the Metro Vancouver region's industrial lands because of low vacancy and high rent that has resulted from supply constraints. Effective land management is challenging the Metro Vancouver region's competitive advantage and ability to retain, attract, and grow businesses and investment.

## 1.2 Overview of Metro Vancouver Regional Industrial Lands Strategy and Metro 2050

Given the crucial need to preserve and effectively utilize industrial lands in the region, Metro Vancouver approved a Regional Industrial Lands Strategy in 2020. It summarized the challenge facing the Metro Vancouver region's industrial lands as a constrained land supply, pressures on industrial lands to convert them to other uses, site and adjacency issues, and a complex jurisdictional environment.<sup>16</sup> The Strategy was developed by a Task Force comprising representatives from around the region including Metro Vancouver Board Directors and key non-voting organisations such as the Port of Vancouver, TransLink, BC Chamber of Commerce, Urban Development Institute, BC Ministry of Jobs Economic Development and Innovation, and Agricultural Land Commission.<sup>17</sup>

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<sup>15</sup> Benchmarking Greater Vancouver Report. The Greater Vancouver Board of Trade and the Business of Cities, 2024. <https://www.boardoftrade.com/files/advocacy/2024-benchmarking-vancouver-report/benchmarking-vancouver-report-2024.pdf>

<sup>16</sup> Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

<sup>17</sup> Ibid.

The Regional Industrial Lands Strategy was created with a purpose to “ensure sufficient industrial lands to meet the needs of a growing and evolving regional economy to the year 2050.”<sup>18</sup> The Strategy proposes a number of recommendations organized around “4 big moves” which are to protect the region’s remaining industrial lands, intensify and optimize industrial lands, bring the existing land supply to market and address site issues, and ensure a coordinated approach.<sup>19</sup> Protecting industrial lands is of critical importance in this land-constrained region given that long-term demand continues to increase while lands face increased speculation and pressures to convert to commercial and residential uses.<sup>20</sup> As noted in the Strategy, it is also critical that the utility of industrial lands be maximized by ensuring that barriers to intensification / densification are reduced and industrial lands are optimized. Locations of industrial parcels have significant implications for their utility as there are often site-specific challenges for industrial lands such as limited infrastructure and environmental concerns.<sup>21</sup>

The Strategy points out that resolving the Metro Vancouver region’s industrial lands problem requires coordination across a diverse range of stakeholders including the province, municipalities, and transportation authorities. This is especially important to avoid the risk of displacement of existing industrial activities which may be forced to relocate outside of the Metro Vancouver region.

Metro 2050, the Regional Growth Strategy (adopted in February 2023), includes policies and land use designations to protect industrial lands for industrial uses, as well as consideration of other related transportation and employment matters. Metro Vancouver has also published implementation guidelines for Industrial and Employment Lands in support of Metro 2050.

The implementation guidelines, released in November 2023, provide guidance on protecting, efficiently developing, and using industrial lands in line with the strategies and actions of Metro 2050. Metro 2050 takes several steps to further protect industrial lands including by encouraging the densification and intensification of industrial uses on industrial lands. This means enhancing the infrastructure and increasing the amount of activity on industrial lands.

Metro 2050 also creates a trade-oriented lands overlay to identify lands that are required to support goods movement that are critical to the region’s role in international trade and better protect them.<sup>22</sup> (Note: The Port of Vancouver has a ‘trade-enabling’ industrial land concept.)

Overall, the guidance established for member jurisdictions in the Implementation Guidelines is to achieve specific actions or deliverables to meet the policy directions in Metro 2050. These deliverables vary based on each policy. Notable deliverables include parcel-based designations for Industrial and Employment lands, ensuring the alignment of zoning bylaws with the industrial lands protection policy, supporting related and appropriate accessory uses on industrial lands, removing restrictions to intensification and densification, enabling co-location spaces, and connecting industrial lands with the region’s transportation network.<sup>23</sup>

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<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Metro 2050 Implementation Guidelines - Industrial and Employment Lands. <https://metrovancover.org/services/regional-planning/Documents/metro-2050-implementation-guideline-industrial-and-employment-lands.pdf>

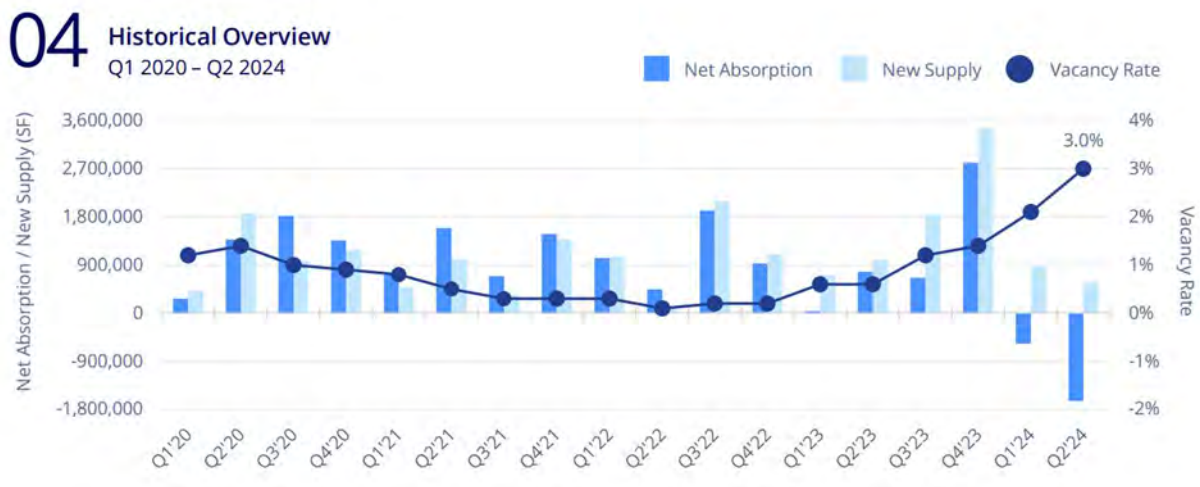
<sup>23</sup> Ibid.

### 1.3 The Future for Industrial Lands

Demand for industrial space in the Metro Vancouver region has continued to grow at a fast pace due to a growing population, economy, and trade, and the rapid adoption of e-commerce, among other factors, which have created a need for more warehouse space for the distribution of goods and just-in-time products. The supply of industrial space, on the other hand, has not kept pace with demand, even as more than 36 million sq ft of industrial building floor space has been added to the region between 2013 and 2023.<sup>24</sup>

Up until 2023, a decreasing vacancy rate and upward pressure on rental rates have been the consequence of this challenging interaction of supply and demand trends. However, as of Q2 2024, the vacancy rate has risen to 3% (which is still considered very low) as demand has moderately softened for industrial space in a high-interest rate environment with significant economic uncertainty and high building costs. Rental rates also declined 5.2% year over year in line with this moderation, reaching \$20.91 per square foot in Q2 2024.<sup>25</sup> This slowdown in activity has created additional time for the market to absorb available space. The five year quarterly average net absorption rate was 897,000 sq ft.<sup>26</sup>

**Figure 1-4: 2020-2024 Historical Overview of Net Absorption/New Supply and Vacancy Rates for Industrial Lands, Metro Vancouver Region – Colliers Canada<sup>27</sup>**



Despite the slowdown of demand in the immediate term, demand for industrial space will continue to be driven by long-term population, trade, and employment growth in the Metro Vancouver region. The demand for industrial lands is expected to continue growing in the years ahead, outpacing supply. It is projected that the total supply of industrial lands will be absorbed between 2035 and 2047 (effective

<sup>24</sup> Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver. The Greater Vancouver Board of Trade and NAIOP Vancouver – Prepared by InterVISTAS with Urban Systems, 2023. <https://www.boardoftrade.com/files/news/2023/EIS%20of%20the%20Critical%20Shortage%20of%20Industrial%20Land%20in%20Metro%20Vancouver%20Sept%2012.pdf>

<sup>25</sup> Vancouver Industrial Market Report. Colliers Macaulay Nicolls Inc, 2024. <https://www.collierscanada.com/en-ca/research/vancouver-industrial-market-report-2024-q2>

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

supply reached in approximately 2025),<sup>28</sup> posing a significant challenge for the Metro Vancouver region's existing and prospective industrial businesses. Businesses will be faced with fewer options for their accommodations, and higher rent levels. Some businesses may be required to relocate outside of the region, negatively impacting economic development and leading to supply chain impacts and affordability issues. This threatens to exacerbate the existing challenges posed for businesses by a lack of available industrial land, including growth limitations, and constraints on production and employment.

Several barriers exist to industrial development in the Metro Vancouver region in addition to the lack of available industrial lands.<sup>29</sup> These barriers or challenges include:

- **Land Use Priorities and Allocations:** Shortages of land across the region are challenged by several competing priorities including the need for more residential space. Some industrial lands are currently being used for non-industrial purposes.
- **Re-Zoning Processes:** The re-zoning process from one type of industrial uses to another type of industrial use can be complex and time-consuming for developers.<sup>30</sup>
- **Protection of Industrial Lands:** Some industrial lands in the inventory could be re-developed for non-industrial use as they are not fully protected by policy and/or zoning, thus at risk of loss.
- **Location of Available Lands:** Some lands that could be used for industrial purposes lack access to key transportation corridors and infrastructure services which makes development challenging and operations less efficient.
- **Size of Land Parcels:** Many land parcels are too small for trade-oriented purposes or are subject to strata tenure, which compounds the existing barrier of access to transportation infrastructure. Larger sites are needed for operational scale and optimal efficiency.

Many industrial activities themselves are also undergoing a transformation that will change how and when industrial lands are used. The Regional Industrial Lands Strategy highlights several new forms of industrial activity that are emerging, including the following:<sup>31</sup>

- Clustering or co-location of related operations to support eco-industrial networks and circular economy systems where companies can share resources and use each other's by-products.
- High-tech and new industry forms including e-commerce, direct-to-consumer delivery, and on-demand manufacturing.
- Mega-distribution and e-commerce logistics facilities.
- Automation and robotics.
- Integrated spaces where design, manufacturing, distribution and retail can occur together.

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<sup>28</sup> Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver. The Greater Vancouver Board of Trade and NAIOP Vancouver – Prepared by InterVISTAS with Urban Systems. <https://www.boardoftrade.com/files/news/2023/EIS%20of%20the%20Critical%20Shortage%20of%20Industrial%20Land%20in%20Metro%20Vancouver%20Sept%2012.pdf>

<sup>29</sup> Ibid.

<sup>30</sup> Burnaby Employment Land Study Concludes Need For 22M Sq. Ft of Commercial Space. Storeys, 2024. <https://storeys.com/burnaby-2050-commercial-real-estate/>

<sup>31</sup> Metro Vancouver Regional Industrial Lands Strategy. Metro Vancouver, 2020. <https://metrovancover.org/services/regional-planning/Documents/regional-industrial-lands-strategy-report.pdf>

## 2 Economic Impact Analysis Approach and Methodology

### 2.1 Introduction

Economic activity on industrial lands contributes directly to employment in the region, as well as the provincial and national Gross Domestic Product (GDP) at large.<sup>32</sup> More importantly, it also acts as an economic catalyst, facilitating the growth of regional businesses and industrial sectors. This takes place through supply chain linkages and inputs to other sectors, such as materials for the local construction sector and national trade, for example. The economic contribution of industrial lands, as well as the port, international airport, rail, and related trade-facilitating services is termed the *economic impact* of industrial lands.<sup>33</sup>

*Economic impact* is a measure of the spending and employment associated with a sector of the economy, a specific project (such as the construction of a new facility), or a change in government policy or regulation. Economic impact can be measured in various ways. Two of the most common ways to assess economic impact are in terms of the dollar value of industrial output produced, or in terms of employment generated. Other measures are GDP and wages. All of these are used to express the gross level of activity or expenditure from a sector of the economy, a specific project or development, or a change in policy or regulation. These measures can be useful in developing an understanding of projects, investments and economic sectors.<sup>34</sup> The different measurements of economic impact, including employment, wages, GDP and economic output are explained in **Figure 2-1**.

This study examines the economic impact of the region's industrial lands on the regional, provincial, and national economies. One of the most important components of the economic impact is given particular attention here: *Employment Impact*. Other economic impact measures such as wages, GDP, and economic output are also considered and presented.

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<sup>32</sup> GDP is a measure of the value added by labour and capital services used to produce final goods and services, as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

<sup>33</sup> This includes all port and airport terminal/building tenants, land tenants, subtenants, and also relevant employment of firms that are located off port/airport and industrial lands.

<sup>34</sup> Economic impact is different from a cost-benefit analysis that weighs benefits against costs.



Figure 2-1: Measurements of Economic Impact

<p><b>Employment (Jobs)</b></p>	<p>The number of people employed by a particular source. Because certain jobs may only be part-time or seasonal, the number of jobs is generally greater than the number of full-time equivalent positions.</p>
<p><b>Wages</b></p>	<p>The wages, salaries, bonuses, benefits and other remuneration earned by the associated workforce.</p>
<p><b>Gross Domestic Product (GDP)</b></p>	<p>A measure of the value added by labour and capital services used to produce final goods and services, as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.</p>
<p><b>Economic Output</b></p>	<p>The dollar value of industrial output produced. Sometimes referred to as “economic activity,” it reflects the spending (i.e., capital improvement plus revenue) by firms, organisations and individuals.</p>

## 2.2 Categories of Economic Impact

The three major components of economic impact are *direct, indirect, and induced impacts*, as described below. These distinctions are used as a base for the estimation of the total economic impact of the Metro Vancouver region’s industrial lands. Each of these three components requires different tools of analysis. Employment impact analysis determines the economic impact in terms of jobs created and salaries / wages paid.

## Direct Impact



Direct impacts account for the economic activity of the target sector itself. For instance, all employment that is directly related to work taking place on industrial lands.

## Indirect Impact



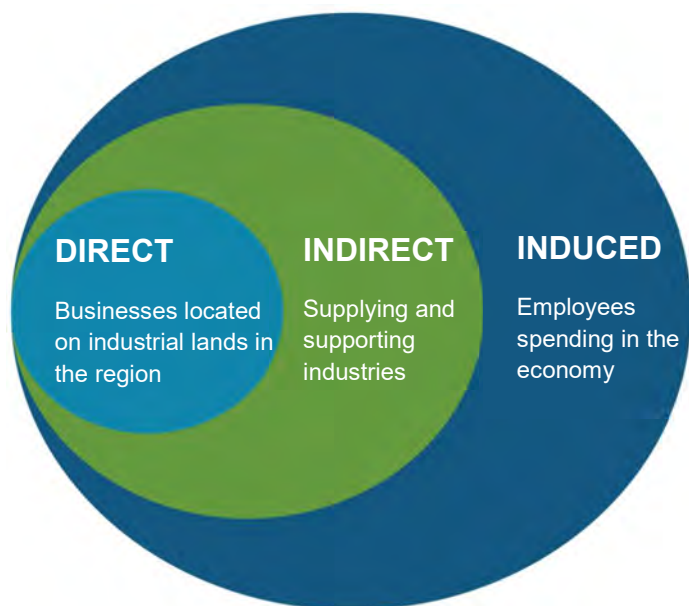
Indirect impacts are those that result because of the direct impacts. This involves employment in upstream industries that supply or provide goods and services to the businesses on industrial lands. For instance, indirect employment includes the portion of employment in input or supplier industries which are dependent on sales to the manufacturing sector, e.g. parts suppliers for heavy machinery.

## Induced Impact



Induced employment is generated from expenditures by individuals employed directly or indirectly. For instance, if a manager at a manufacturing business decides to renovate her home, this would result in induced employment hours in the general economy as the renovation would support hours of employment in the construction industry, the construction materials industry, etc. Induced impact is often called the “household-spending effect”. Induced impacts are not limited to or within a specific sector.

**Figure 2-2: Categories of Economic Impact Generated and Facilitated by the Region’s Industrial Lands**



## Total Impacts

Total impacts are the sum of direct, indirect, and induced effects, using established multipliers. These three categories of impacts are illustrated in **Figure 2-2**. Combined, the indirect plus induced impacts are referred to as “secondary effects” or “multiplier impacts”, as they reflect the broader ripple effect (using calculated ratios) from the study sector (industrial lands) rather than just the economic activity associated with that sector directly.

## 2.3 Economic Impact Methodology

This section summarizes the data and modelling approach used to assess the economic impact of the region's industrial land at a regional, provincial, and national levels.

### 2.3.1 Custom 2021 Census Data Extract

Because no statistical geographies accurately capture employment taking place on the region's industrial lands, Metro Vancouver obtained a custom data extract of Statistics Canada's 2021 Census to undertake the study. The 2021 Census reflects a survey of the Canadian population as of May 2021, including residents' employment status, primary place of work, and related employment details during the week of May 2 to May 8, 2021.<sup>35</sup> Note that these results were impacted by the COVID-19 pandemic at the time and may not accurately reflect the current context.

The custom data extract was based on the Metro Vancouver 2020 Regional Industrial Lands Inventory which categorised industrial land based on municipal designation and/or zoning.<sup>36</sup> Additionally, the industrial land inventory includes the Port of Vancouver and Vancouver International Airport (YVR). Mapping the industrial lands inventory to the 2021 Census data therefore produced figures for employment whose primary place of work was located on industrial land, as well as the associated wages for that employment.

Wage information captured in the custom 2021 Census data was recorded in 2020 prices and required inflating to 2021 prices for the economic impact analysis. An annual average inflation rate of 1.034% was used based on the national Consumer Price Index as reported by Statistics Canada.<sup>37</sup> While changes to wages can vary across different sectors, regions, and provinces it is recognised that national economy-wide inflation provides a reliable means of comparing overall rates of change, and are not subject to statistical inaccuracies of small sample sizes which can often be the case with industry or location-specific wage inflation.

To allow for comparisons to be made to the rest of the region, the custom 2021 Census data extract captured employment and wage information for each municipality, electoral area and First Nation land that comprises the Metro Vancouver region. This geography is referred to as the Vancouver Census Metropolitan Area (CMA), for which data was also obtained in the custom 2021 Census data extract. Throughout the study, reference is made to the 'region' which refers to the geographic scope covering the Vancouver CMA.

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<sup>35</sup> For details, refer to the 2021 Census reference materials (<https://www12.statcan.gc.ca/census-recensement/2021/ref/index-eng.cfm>)

<sup>36</sup> <https://metrovancover.org/services/regional-planning/Documents/metro-vancouver-2020-industrial-lands-inventory-technical-report.pdf>

<sup>37</sup> Annual average rate calculated from Statistics Canada Table 18-10-0004-01: Consumer Price Index, monthly, not seasonally adjusted, Canada, All-items.

## Geographic Coverage

Given the approach taken for this analysis, whereby Census employment data is mapped to industrial lands (per the 2020 Regional Industrial Lands Inventory), the assessment of the economic impact of the region’s industrial land is based upon a specific geographic definition rather than a comprehensive assessment of all industrial related jobs and businesses in the region. **The geographic coverage excludes direct industrial related operations that do not take place on industrial land.** For example, as part of the ‘Trade-Oriented’ sector, Port of Vancouver land is considered in the analysis, but its operational employment and head offices located at Canada Place are excluded since they are not located on industrial lands. This results in an undercount of the economic impact associated with industrial activity.

This approach also means that any activity occurring on industrial land will be captured, even those that may not be industrial operations. **In turn, the geographic coverage includes non-industrial activities (such as commercial) taking place on industrial land.** For example, these may be office or retail uses that are incorporated with industrial businesses or some standalone commercial operations on industrial lands.

**Figure 2-3: Geographic Coverage of Analysis**

		Economic Activity	
		Industrial Sectors	Non-Industrial Sectors
Land Inventory	Industrial Lands	X	X
	Non-Industrial Lands	(not counted)	(not counted)

## Definition of Industrial Activities

Metro Vancouver’s custom 2021 Census data extract involved a unique definition of economic sectors to best reflect activity taking place on industrial land. To achieve this, Metro Vancouver defined a set of custom sectors using the North American Industry Classification System (NAICS) at the four-digit level.

NAICS is a classification system that allows for comparability of economic activity in Canada, the United States, and Mexico. The classification system is hierarchical and records economic activities at different levels of detail, starting at two digits for broad industries, such as: 11 Agriculture and 23 Construction. This increases to five digits to reflect more specific industries and sub-sectors, such as: 11111 Soybean farming and 23611 Residential building construction.<sup>38</sup>

<sup>38</sup> While there is an additional, sixth digit level in the NAICS codes, it refers to country specific activity and discrepancies across different countries; a zero as the sixth digit indicates that there is no further national detail.

Employment and wage data specific to the four-digit NAICS level allowed Metro Vancouver to define custom sectors that best resemble the primary activities that take place on industrial land, as well as to better distinguish between 'industrial' and 'non-industrial' activities. The 'Trade-Oriented' sector includes industrial activities taking place on port and YVR airport lands. **Figure 2-4** below summarises the custom sectors used in the analysis, with the corresponding coverage of two-digit NAICS industries. The reported shares shown are based on the region's total employment taking place both on and off industrial lands.

**Note that the geographic coverage and custom sector definition used by Metro Vancouver to understand activities on industrial land means that comparisons to other analyses cannot be made.** For example, employment in the Production sector reported in this study should not be compared to employment in Manufacturing in another study due to the different definitions of economic activity. Additionally, the geographic coverage of the data, and subsequent analysis, focuses on the industrial land inventory; industrial sector employment that does not predominantly occur on industrial land is not captured in this economic impact analysis.

**Figure 2-4: Metro Vancouver custom sector definitions**

Activity	Metro Vancouver Custom Sector Definition	2 Digit NAICS Comparison
<b>Industrial</b>	Distribution	<ul style="list-style-type: none"> <li>100% of employment within 41 Wholesale Trade</li> <li>88% of employment within 48-49 Transportation and Warehousing</li> </ul>
	Production	<ul style="list-style-type: none"> <li>100% of employment within 11 Agriculture</li> <li>100% of employment within 21 Mining, Quarrying, and Oil and Gas Extraction</li> <li>39% of employment within 23 Construction</li> <li>100% of employment within 31-33 Manufacturing</li> </ul>
	Public Infrastructure & Administration	<ul style="list-style-type: none"> <li>100% of employment within 22 Utilities</li> <li>6% of employment within 23 Construction</li> <li>7% of employment within 56 Administrative and Support, Waste Management and Remediation Services</li> <li>100% of employment within 91 Public Administration</li> </ul>
	Repair	<ul style="list-style-type: none"> <li>55% of employment within 23 Construction</li> <li>25% of employment within 81 Other Services (except Public Administration)</li> </ul>
	Trade-Oriented	<ul style="list-style-type: none"> <li>All industrial sector employment (Distribution, Production, Public Infrastructure &amp; Administration and Repair) taking place on Port of Vancouver and YVR lands. Non-industrial activities taking place on Port and YVR land, such as Retail, are excluded.</li> </ul>
<b>Non-Industrial</b>	Media Production, Communication and Arts	<ul style="list-style-type: none"> <li>100% of employment within 51 Information and Cultural Industries</li> <li>100% of employment within 71 Arts, Entertainment and Recreation</li> </ul>
	R&D, Professional and Technical Services	<ul style="list-style-type: none"> <li>77% of employment within 54 Professional, Scientific and Technical Services</li> </ul>
	Retail	<ul style="list-style-type: none"> <li>100% of employment within 44-45 Retail Trade</li> </ul>
	Other Services	<ul style="list-style-type: none"> <li>12% of employment within 48-49 Transportation and Warehousing</li> </ul>



Activity	Metro Vancouver Custom Sector Definition	2 Digit NAICS Comparison
		<ul style="list-style-type: none"> <li>▪ 100% of employment within 52 Finance and Insurance</li> <li>▪ 100% of employment within 53 Real Estate and Rental and Leasing</li> <li>▪ 23% of employment within 54 Professional, Scientific and Technical Services</li> <li>▪ 100% of employment within 55 Management of Companies and Enterprises</li> <li>▪ 93% of employment within 56 Administrative and Support, Waste Management and Remediation Services</li> <li>▪ 100% of employment within 61 Educational Services</li> <li>▪ 100% of employment within 62 Health Care and Social Assistance</li> <li>▪ 100% of employment within 72 Accommodation and Food Services</li> <li>▪ 75% of employment within 81 Other Services (except Public Administration)</li> </ul>
	<b>Total activity covered by Metro Vancouver’s custom Industrial and Non-Industrial sectors</b>	<b>All economic activity from 11 Agriculture through to 91 Public Administration is collectively counted under Metro Vancouver’s custom sector definitions</b>

### Treatment of Workers with No Fixed Workplace

The Statistics Canada 2021 Census data accounts for the component of the region’s workforce which has no fixed workplace; for example, this would include truck drivers in the logistics sectors transporting goods and materials to/from industrial lands such as warehouses and distribution centres. Information on these workers with no fixed workplace was reported by Statistics Canada as part of the 2021 Census data. Due to the impacts of the COVID-19 pandemic on economic and employment activities / patterns, the number of workers with no fixed workplace increased significantly in the 2021 Census, as compared to 2016.

Metro Vancouver developed a method to account for workers with no fixed workplace that are attributable to activity generated on the region’s industrial land. Using 2021 Census data, this method provides the estimates broken down by industry sector (2-digit NAICS codes) for all municipalities in the region. The calculation begins by allocating 50% of municipal workers with no fixed workplace to industrial land, based on the proportion of industrial land population relative to the municipal population. The remaining 50% is then attributed according to each industrial land’s share of the municipal employment.

Due to the limited availability of data on workers with no fixed workplace captured by the 2021 Census, industry information is only recorded at the two-digit NAICS level. To be accounted for in the analysis of economic activity taking place on the region’s industrial land, the employment data on workers with no fixed workplace were converted from two-digit NAICS level to the eight custom sectors defined by Metro Vancouver following the attribution set out in **Figure 2-4**.

## Adjustment for Census Undercount

Following each Census, Statistics Canada undertakes assessments to estimate the population that was not captured by that Census. Metro Vancouver, as well as other agencies such as BC Stats, incorporates a Census undercount in all population estimates and projections. To be consistent with this approach, Metro Vancouver accounted for undercount in the custom 2021 Census data extract used to assess the economic impact of the region's industrial land.

Metro Vancouver referred to the estimated 2021 Census undercount of 6.17% for the Vancouver CMA's working-age population – that is, the population aged 15 to 64. The custom data extract for employment with a usual place of work located on industrial lands, as well as Metro Vancouver's estimate for workers with no fixed workplace attributable to industrial lands, were both assumed to reflect a 6.17% Census undercount rate and were adjusted accordingly to determine the final employment figures.

## Special Considerations related to the 2021 Census

The methodology used in this 2024 study, and outlined above, replicates the approach used in the original 2019 economic impact study. Both studies used custom Census data extracts as the primary data inputs for generating employment and income estimates on the region's industrial lands. The 2019 study was based on a custom 2016 Census data extract in relation to the region's 2015 Regional Industrial Lands Inventory, while the 2024 study is based on a custom 2021 Census data extract in relation to the region's 2020 Regional Industrial Lands Inventory. While some minor changes occurred between the 2015 and 2020 Lands Inventories through the modest addition and removal of lands, these changes had no material effect on the variance in results between the two studies. Rather, the bigger contributing factor for the variance between the two studies results is an implied fewer jobs reported to be located on industrial lands between the two Census years. Specifically, the 2021 Census data extract (after adjustments for Census undercount and jobs with no fixed workplace) reports nearly 50,000 fewer jobs located on industrial land compared the 2016 Census data extract – from 364,100 jobs in the 2016 Census to 315,300 jobs in the 2021 Census.

While readers may intuitively interpret this as a loss in direct industrial-related activity over time, this conclusion cannot be definitively made from this study. In particular, the following caveats should be noted:

- **The 2021 Census was conducted during the COVID-19 pandemic** – the data from the 2021 Census reflects Canadian residents' lives during a specific point in time in Spring 2021, which was largely affected by the COVID-19 pandemic. For employment data such as work status and primary place of work, the 2021 Census reflects workers' situation during the week of May 2 to May 8, 2021, and pandemic-related circumstances which materially affected employment levels at the time. This includes:
  - The unemployment rate in Metro Vancouver was double what it was shortly prior to the pandemic.
  - Temporary business closures resulting in a reduction of employment levels.
  - Relocation of certain employment to remote work (e.g. work-from-home) instead of onsite.

For instance, workers who were either temporarily laid off or allowed to work from home during pandemic-related closures at their primary place of work would not be captured in the job counts from the custom 2021 Census data extract.

- **Work-From-Home employment grew during the 2021 Census** – the geographic coverage applied for the custom 2021 Census data extract means that only employment that was physically conducted on industrial lands, or employment associated with activity on industrial lands but with no fixed workplace, were counted. By definition, the segment of the workforce which worked from home was excluded. However, the pandemic facilitated a rise in the number and types of jobs which could be done remotely from a home workspace. The 2021 Census reported nearly 355,100 people worked from home throughout the Vancouver CMA, an increase of more than 250,200 jobs (+239%) since the 2016 Census.<sup>39</sup> This compares to approximately 201,300 fewer (-20%) jobs with a fixed workplace outside the home over the same period. While this implies, in part, some transition of jobs to a work-from-home status, no assumptions have been made in this study to allocate any portion of remote workers which may be attributable to businesses or activities on industrial lands.

Furthermore, it remains to be determined whether the employment counts at that time reflect a temporary, pandemic-driven condition or a permanent, structural change in employment and operations associated with industrial lands (pandemic-related or otherwise). In the words of Statistics Canada, “We expected Census 2021 data to reveal some extraordinary patterns, but what is currently unclear is to what extent those patterns are attributable to the pandemic.”<sup>40</sup>

As a result, the change in direct job counts located on industrial lands could be attributable to labour mobility trends toward work-from-home (in which case a meaningful share of employment by remote workers are not captured in this study), transitory effects of the pandemic (e.g. temporary layoffs, shutdowns, or moves to offsite work locations during the Census survey period), increasing productivity or technological changes which require fewer workers located on industrial lands, a genuine decline in business activity and employment associated with industrial lands, or some combination thereof.

The uncertainty of the 2021 employment counts on the region’s industrial lands likely underestimates the economic impact results estimated in this study. Caution is therefore advised when comparing this study to prior work.

## Summary of Study Limitations

As described in the preceding sections, the results from this study likely underestimate the economic impacts associated with industrial activity due to certain key limitations:

- The geographic scope of the study covers employment located on industrial lands, and therefore any industrial sector activity which does not take place on industrial lands is not counted.
- The 2021 Census data extract reports a net difference of 50,000 fewer jobs taking place on industrial lands relative to the 2016 Census data extract despite known considerable development activity and

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<sup>39</sup> Statistics Canada. Table 98-10-0470-01. Place of work status by industry sectors, work activity during the reference year, age and gender: Census metropolitan areas, tracked census agglomerations and census tracts; Statistics Canada - 2016 Census. Catalogue Number 98-400-X2016320.

<sup>40</sup> Statistics Canada presentation, “Effects of the COVID-19 Pandemic on Data Analysis and Comparability Over Time Considerations for Canada and Census 2021” (<https://unstats.un.org/unsd/statcom/52nd-session/side-events/presentations/se-20210225-Canada.pdf>).

market demand for industrial lands over that timeframe. The uncertainty of the 2021 Census job counts on the region's industrial lands is presumably impacted by several issues related to the timing of the 2021 Census. In particular, the COVID-19 pandemic affected employment rates as well as workplace locations, with much of the region's workforce shifting toward working from home and therefore not counted due to the geographic boundaries of the study.

### 2.3.2 Estimating Economic Impacts

The direct employment of industrial sector activities taking place on the region's industrial land was sourced using the custom 2021 Census data extract, following the geographic coverage and custom sector definitions set out in the previous section. This data formed the foundation for the economic impact analysis, providing direct employment and direct wage information for industrial land and the region.

Employment figures are generally more understandable by the public and decision makers than more abstract measures, such as economic output or GDP. Employment figures also have the advantage of being a more accurate measure, because there is less chance of double counting. As such, employment impacts form the focus of the analysis.

The direct GDP and economic output impacts are estimated using industry specific ratios provided by Statistics Canada's 2019 National and Provincial Input-Output Multipliers. These are the latest relevant multipliers available at the time of the study and were released in December 2022. Although 2020 multipliers have also since been released, Statistics Canada's formal recommendation is that the 2020 multipliers should only be used for analysing impacts occurring in the year 2020, and economic impact analysis for more current periods should refer to the 2019 multipliers as they are likely more reflective of current (post COVID-19 recovery) economic structures.<sup>41</sup>

#### Estimating Indirect and Induced Impacts with Economic Multipliers and Ratios

After considering direct economic impacts, the study then assessed the indirect and induced employment supported by the region's industrial land. Indirect and induced economic activity in terms of economic output and GDP were also assessed.

Measurement of indirect and induced economic activity is difficult. While it may be possible to conduct a survey of downstream employers, the survey would need to cover thousands of firms in order to completely include indirect employment. For induced employment, the entire economy would need to be scrutinised. In addition to the time and financial resources needed to conduct such surveys, the quality of responses would be suspect.

As an alternative to costly and inaccurate surveys, indirect and induced effects are typically measured using *economic multipliers and ratios*. Multipliers are derived from models of the general economy. They come in a variety of forms and differ greatly in definition and

*Statistics Canada economic multipliers and ratios (2019) for the Province of British Columbia were used for the analysis.*

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<sup>41</sup> Footnote 4, Statistics Canada Table: 36-10-0595-01 Input-output multipliers, provincial and territorial, detail level, accessed June 2024.

application. Thus, great care must be exercised in choosing the appropriate set of multipliers to use. In addition, the use of multiplier analysis is limited by a number of factors, these being:

- the accuracy of the structure and parameters of the underlying model;
- the level of unemployment in the economy;
- the assumption of constant returns to scale in production;
- the assumption that the economy's structure is static over time; and
- the assumption that there are no displacement effects.

Multiplier impacts must be interpreted with caution since they may be illusory when the economy experiences high employment and output near industry capacity. When they are reported, it is recommended that the reader be reminded of the limitations of the use of multipliers. Mindful of these limitations, this study has undertaken multiplier analysis to estimate indirect and induced employment. Emphasis is nonetheless placed on the direct economic impacts as these are based on data captured by the 2021 Census using the specific methodology outlined above to best reflect the activities taking place on industrial land.

For this study, InterVISTAS applied economic multipliers and ratios for the Province of British Columbia based on Statistics Canada's 2019 Provincial Input-Output model. While 2020 multipliers were also available at the time of this study, Statistics Canada notes that the ratios and multipliers for 2020 reflect the unique conditions caused by the global pandemic in that specific year, and therefore recommends using the 2019 Input-Output multiplier dataset as the most suitable for assessing impacts related to more current economic conditions including those in 2021.

The multipliers and ratios are based on a highly detailed accounting of provincial economic structures or relationships. The model tracks how the goods and services produced by industry are used by other industries and final users. The provincial multipliers for dollar figure impacts were updated to 2021 dollars using Consumer Price Index (CPI) data from Statistics Canada to account for price changes since 2019. Where noted, the report occasionally includes the dollar figure impacts in 2024 figures for current context, using the same CPI source data.

Because the study used custom sector definitions to best reflect activities taking place on industrial land, aggregate multiplier ratios had to be calculated to assess the indirect and induced impacts. This involved calculating new sector multipliers for those set out in **Figure 2-4** by weighting Statistics Canada's industry specific multiplier ratios (which are categorized using the Input-Output Industry Classification) to the corresponding employment in each industry as defined on a NAICS basis. This process created eight sets of multipliers for the custom sectors used in this study.

There is a broad range of economic activity captured within Metro Vancouver's eight custom sectors. It should therefore be recognised that the aggregate multiplier ratios calculated in this study consolidate the full range of multiplier ratios and the economic impact of specific industries.<sup>42</sup> For example, within the Production sector the 'Semiconductor and other electronic component manufacturing' sub-sector has an indirect job multiplier of 0.32 at the British Columbia level. This means that every 1 job in that industry is

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<sup>42</sup> Refer to the detailed multipliers from Statistics Canada, from which the custom sector multipliers for this study were developed. Statistics Canada Table: 36-10-0595-01 Input-output multipliers, provincial and territorial, detail level, accessed June 2024.

associated with a further 0.32 jobs in indirect industries. In comparison, the Production sector also includes the 'meat product manufacturing' sub-sector which has an indirect job multiplier of 1.81. This demonstrates how the economic impact of different specific industries can vary considerably. While the aggregate economic multipliers for the eight custom sectors used by Metro Vancouver are the best reflection of their economic impact, it is worth remembering that performance within each custom sector can vary significantly.

### **Adjustment for Regional Level Economic Multipliers**

To develop regional level multipliers to assess the economic impacts of industrial land in the region, InterVISTAS adjusted the 2019 British Columbia multipliers provided by Statistics Canada. The multipliers and ratios used to estimate employment, economic output, and GDP impacts in the region are proportional to those of British Columbia.

The proportion of provincial impacts estimated to occur within the region were estimated using a standard two-step process. First, all the direct and 50% of the indirect and induced employment in British Columbia is assumed to be realised in the Metro Vancouver region. Then, for the remaining 50% of indirect and induced provincial employment, only a portion of each is assigned to the region. These proportions were determined by calculating the ratio of employment in each of the eight custom sectors as well as for total employment in the Vancouver region compared to the whole of British Columbia, based on the 2021 Census data. The custom sector ratios were used for allocating the remaining indirect impacts, while the total employment ratio was used for allocating the remaining induced impacts as it represents the regional concentration of the overall economy through which the household spending effect is dispersed. For example, the region accounts for 66% of British Columbia's Distribution sector employment and 55% of total provincial employment. Therefore, after assuming that 50% of the indirect and induced employment impact is realised in the Vancouver region, the remaining 50% of indirect impact for the Distribution sector is proportioned by 66%, while the remaining 50% of induced impact for the Distribution sector is proportioned by 55%. This amounts to a total of 83% of the indirect impacts and 78% of the induced impacts for the Distribution sector realized in the Vancouver region.

This approximate method is used because Statistics Canada does not produce multipliers and ratios for sub-provincial regions. While some employment and income multipliers were developed for Metro Vancouver in 1986, these were not deemed appropriate for this analysis due to changes to the economy, outdated data and incomparability with Metro Vancouver's custom defined sectors.

### **2.3.3 Estimating Tax Revenue Impacts**

The tax revenue contributions to the Federal, Provincial and Municipal levels of government that are associated with the region's industrial lands are also estimated.

Tax impacts include income taxes paid by employers and employees (such as payroll taxes) for direct employment and economic activity associated with the region's industrial land. This is calculated using



InterVISTAS' tax model which considers personal and corporate income tax rates, employment insurance contributions, Canada pension plan payments, and workplace safety and insurance board contributions.<sup>43</sup>

Municipal property tax revenues generated by 'Light Industry', 'Major Industry' and 'Utilities' property Classes 5, 4, and 2 respectively, are also taken into account.<sup>44</sup> Note that this includes properties with industrial related property classes that are not necessarily located on industrial land according to Metro Vancouver's geographic definition set out in **Section 2.3.1**. Further, this does not include any relevant property tax revenues associated with the Class 6 'Business and Other' property class, which includes warehousing along with other non-industrial uses such as offices, retail, hotels, and motels.<sup>45</sup>

Federal, Provincial, and Municipal tax impacts are based upon 2021 tax rates and revenues.

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<sup>43</sup> InterVISTAS' tax model draws upon 2021 tax rates and information provided by Canada Revenue Agency, British Columbia Provincial Government and WorkSafe BC.

<sup>44</sup> British Columbia Provincial Government Tax Burden Schedule 707 – 2021 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments.

<sup>45</sup> <https://info.bcassessment.ca/Services-products/property-classes-and-exemptions/understanding-property-classes-and-exemptions>

## 3 Economic Impact of Industrial Lands in Metro Vancouver

This chapter describes the direct, indirect and induced employment, wages, GDP and output across industrial and non-industrial sectors located on the region's industrial lands. Impacts are presented for the region, British Columbia, and Canada. The economic impact of each sector on industrial land is summarised in their own sections as follows:

- Production
- Distribution
- Repair
- Public Infrastructure and Administration
- Trade-Oriented
- Non-Industrial activity, including:
  - Media Production, Communication and Arts
  - R&D, Professional and Technical Services
  - Retail
  - Other Services

Note that Metro Vancouver's custom defined sectors used in this study are not comparable with other studies or analyses of the 2021 Census. This is because Metro Vancouver developed its own industry definitions to best reflect the activities taking place on industrial land – further information is provided in **Section 2.3.1**.

### 3.1 Economic Impacts of Industrial Land

The direct employment associated with the region's industrial land, compared to the region as a whole, is summarised in **Figure 3-1** below. This is derived from a unique analysis of Census 2021 data with the following coverage:

- The direct employment *includes* workers whose regular place of work is located on industrial lands;
- The direct employment *includes* an estimated portion of the region's workers with no fixed workplace (e.g. truck drivers) but who are assumed to visit or serve the activities located on industrial lands;
- The direct employment *does not include* any potential work-from-home employment which may be attributable to businesses located on industrial lands.

Further, the findings reflect particular conditions at the time the Census 2021 was conducted during the COVID-19 pandemic. Refer to **Section 2.3.1** for further details on the methodology and limitations in comparing these findings to the prior study. An estimated 21.9% of the region's jobs are directly attributable to industrial land, and 41.8% of all jobs in industrial sectors are attributed to industrial land. A breakdown of direct employment on industrial land by sector is further illustrated in **Figure 3-2**.

**Figure 3-1: Direct Employment (Jobs) by Industrial and Non-industrial Sectors, 2021**

Sector	Industrial Land <sup>1</sup>	Not Located on Industrial Land <sup>2</sup>	Region Total <sup>3</sup>	% Located on Industrial Land
Production	72,300	73,300	145,600	49.7%
Distribution	58,200	65,600	123,800	47.0%
Repair	29,100	49,400	78,500	37.1%
Public Infrastructure and Administration	14,600	70,300	84,900	17.2%
Trade-Oriented	11,900	0	11,900	100.0%
<b>Total Industrial Activities</b>	<b>186,100</b>	<b>258,600</b>	<b>444,700</b>	<b>41.8%</b>
Media Production, Communication and Arts	11,400	70,900	82,300	13.9%
R&D, Professional and Technical Services	19,300	106,200	125,500	15.4%
Retail	36,700	123,100	159,800	23.0%
Other Services	61,800	563,100	624,900	9.9%
<b>Total Non-Industrial Activities</b>	<b>129,200</b>	<b>863,300</b>	<b>992,500</b>	<b>13.0%</b>
<b>Total Direct Employment</b>	<b>315,300</b>	<b>1,121,900</b>	<b>1,437,200</b>	<b>21.9%</b>

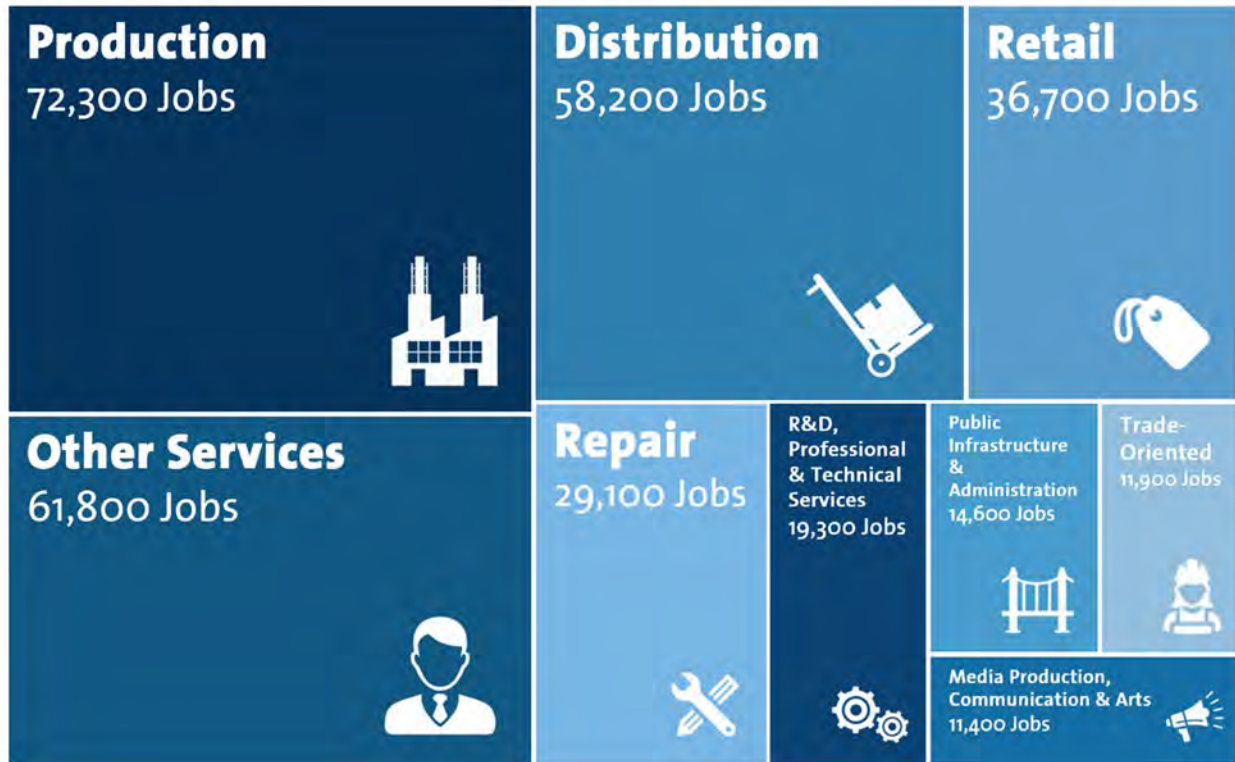
Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations. Note data are rounded and may not sum to totals shown.

1 Employment located on industrial land as defined by Metro Vancouver based on its 2020 Industrial Land Inventory Report methodology, including a proportion of workers with no fixed workplace attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include any allocation for the region's workers working from home whose employment may be attributable to businesses located on industrial land.

2 Employment in the Vancouver region, equivalent to Statistics Canada's Vancouver Census Metropolitan Area. The employment figures include workers with no fixed workplace that are not attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region's workers who worked from home.

3 Employment in the Vancouver region, equivalent to Statistics Canada's Vancouver Census Metropolitan Area. The employment figures include workers with no fixed workplace that are not attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region's workers who worked from home.

Figure 3-2: Direct Employment (Jobs) on Industrial Land, 2021



On average, industrial jobs tend to pay higher wages than non-industrial jobs, though this can vary by specific type of industrial sector. For industrial jobs located on industrial land, the average wage (all income received as wages, salaries, and commissions from paid employment) was \$67,900 as of the 2021 Census, or roughly 14% higher than the average wage of \$59,500 paid for non-industrial jobs on industrial lands, as shown below in **Figure 3-3**.<sup>46</sup> This average industrial wage of \$67,900 as of the 2021 Census equals approximately \$76,800 when inflated to 2024 dollars.

Further, average wages on industrial land are generally comparable to the average wages in the region. Across all sectors, in 2021 the average wage for employment on industrial land is estimated to be \$64,500, compared to \$66,200 across the entire region (see **Figure 3-3**). While each industrial sector will have its own nuances associated with how its workforce is distributed across the region’s land, the slightly higher average wage for industrial sector employees located on non-industrial lands might be attributable to the portion of the workforce whose jobs can be done on a commercial property or other non-industrial location. For instance, this could include corporate/executive management and administrative jobs, located in office buildings, which may pay more on average relative to technical and trades occupations whose activities must physically be done on industrial sites.

The highest paying sectors for employment on industrial land are Public Infrastructure & Administration and Trade-Oriented, both of which are industrial sectors paying over \$84,000 per job located on industrial

<sup>46</sup> For the 2021 Census, the reference period for employment income is the calendar year 2020. As such, the wage figures reported herein have been inflated into 2021 prices.

land in 2021. This is comparable to the average wage paid throughout the region in the Research & Development, Professional & Technical Services sector.

**Figure 3-3: Average Wages on Industrial Land Compared to Regional Totals, 2021**

Sector		Jobs located on Industrial Land	Jobs in the Region
<b>Industrial Sector Jobs</b>	Production	\$65,500	\$71,700
	Distribution	\$65,100	\$71,700
	Repair	\$64,400	\$60,500
	Public Infrastructure & Administration	\$84,400	\$85,400
	Trade-Oriented	\$84,300	\$84,300
	<b>Industrial Sector Average</b>	<b>\$67,900</b>	<b>\$73,900</b>
<b>Non-Industrial Sector Jobs</b>	Media Production, Communication, Arts	\$61,900	\$70,700
	R&D, Professional & Technical Services	\$78,600	\$85,000
	Retail	\$52,900	\$46,800
	Other Services	\$56,700	\$62,200
	<b>Non-Industrial Sector Average</b>	<b>\$59,500</b>	<b>\$63,300</b>
<b>Average of All jobs</b>		<b>\$64,500</b>	<b>\$66,200</b>

Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations. Note data are rounded and prices are in 2021 dollars.

### Workers with No Fixed Workplace

While the majority of employment attributable to industrial lands pertains to jobs physically performed on industrial lands, the analysis in this study also accounts for a component of the workforce which has no fixed workplace, such as truck drivers in the logistics sector transporting goods and materials between construction sites or distribution centres. Information on workers with no fixed workplace was provided by Statistics Canada as a segment of the 2021 Census. This data indicates an estimated 202,400 such workers in the Vancouver CMA (after applying an uplift based on the undercount rate for the 2021 Census), or around 14% of the total region’s employment excluding work-from-home jobs.

Taking into account the distribution of population and sector employment across the region, Metro Vancouver estimated that 34,200 workers with no fixed workplace can be attributed to industrial lands. This is equivalent to nearly 11% of the estimated employment directly taking place on industrial land (see **Figure 3-5**). This estimate considers the location of industrial lands in relation to the population of the municipality in which they are located and the employment across relevant sectors. Because the Census only records the employment of workers with no fixed workplace at the two-digit NAICS level, the analysis assumed that the sector profile of such workers matched that of the wider economy. This was necessary to allocate workers with no fixed workplace to the custom defined sectors used in this analysis.

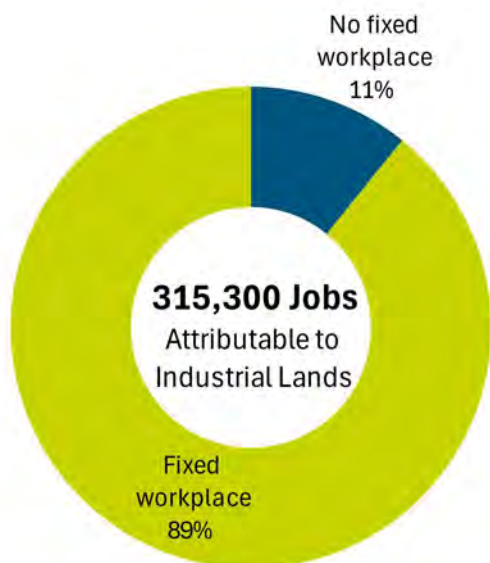
Figure 3-4 below summarises the estimate of workers with no fixed workplace allocated by sector on industrial lands and across the region overall in 2021.

Figure 3-4: Workers with No Fixed Workplace, 2021

Sector	Industrial Land	Region Total
<b>Industrial Activity</b>	<b>18,500</b>	<b>109,500</b>
Production	5,500	32,300
Distribution	4,900	29,200
Repair	6,300	37,200
Public Infrastructure & Admin	1,800	10,800
<b>Non-Industrial Activity</b>	<b>15,700</b>	<b>92,900</b>
Media Production/Comm/Art	2,000	12,000
R&D Professional/Technical	900	5,500
Retail	1,600	9,300
Other Services	11,200	66,100
<b>Total</b>	<b>34,200</b>	<b>202,400</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Figures include the uplift applied to account for the undercount rate in Census 2021. Region Total refers to the combined region total across all lands.

Figure 3-5: Workers Attributable to Industrial Land, by Location Type, 2021



Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations.



## Indirect and Induced Impacts of Industrial Activity on Industrial Lands

The previous sections discussed how *direct* employment related to economic activity on the region's industrial lands was measured.

However, the economic impact does not end there, as other sectors of the economy can be dependent on these direct businesses. Indirect impacts are generated by suppliers to the businesses located on industrial lands. In addition, there may be additional impacts to the wider economy when direct (and indirect) employees spend their wages. These effects are referred to as induced impacts. Total impacts therefore equal the sum of direct, indirect, and induced effects.

The indirect and induced impacts were estimated using Statistics Canada's economic multipliers and ratios for the Province of British Columbia and Canada.<sup>47</sup> In addition, indirect and induced impacts on the region were estimated by using weighted economic multiplier ratios. Further information on the method used to calculate economic multipliers for the region is provided in **Section 2.3.2**.

**Figure 3-6** summarises the direct, indirect, and induced economic impacts of employment located on industrial lands and specifically related to industrial activity in the Production, Distribution, Repair, Public Infrastructure and Administration and Trade-Oriented sectors. The economic impacts of Non-Industrial sectors located on industrial land are summarised in **Section 3.7**.

Industrial sectors located on the region's industrial land directly contribute 186,100 jobs, \$12.6 billion in wages, \$17.7 billion in GDP, and \$37.4 billion in output. When indirect and induced impacts are considered, the economic impact of Industrial sectors located on industrial land in the region increases further to 296,000 jobs, \$19.0 billion in wages, \$29.9 billion in GDP, and \$58.9 billion in output.

Impacts increase further from the regional level up to the British Columbia level and across Canada due to increasing economic multipliers. Economic multipliers increase as the size of economies and the connectivity between sectors increase. For example, the total jobs (direct, indirect and induced) increase from 296,000 within the region to 329,400 in British Columbia and to 381,500 across Canada.

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<sup>47</sup> The multipliers used for the analysis are based on Statistics Canada economic multipliers and ratios for British Columbia from the 2019 Interprovincial Input-Output model, the most recent data available. These multipliers were updated with Consumer Price Indices to account for inflation to 2021.

**Figure 3-6: Economic Impact of Industrial Sector Employment Located on Industrial Land, 2021**

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	186,100	186,100	186,100
	Indirect	62,800	82,700	112,600
	Induced	47,100	60,600	82,700
	<b>Total</b>	<b>296,000</b>	<b>329,400</b>	<b>381,500</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$12.6	\$12.6	\$12.6
	Indirect	\$4.0	\$5.3	\$7.5
	Induced	\$2.3	\$3.0	\$4.4
	<b>Total</b>	<b>\$19.0</b>	<b>\$20.9</b>	<b>\$24.6</b>
<b>GDP (\$ Billions)</b>	Direct	\$17.7	\$17.7	\$17.7
	Indirect	\$6.4	\$8.5	\$12.5
	Induced	\$5.8	\$7.5	\$10.2
	<b>Total</b>	<b>\$29.9</b>	<b>\$33.6</b>	<b>\$40.4</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$37.4	\$37.4	\$37.4
	Indirect	\$12.6	\$16.6	\$25.3
	Induced	\$9.0	\$11.5	\$16.8
	<b>Total</b>	<b>\$58.9</b>	<b>\$65.5</b>	<b>\$79.5</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

## 3.2 Production Sector

There are an estimated 72,300 direct jobs supported by the Production sector located on the region's industrial lands. This includes base material, mineral, or food production activities as well as manufacturing. In 2021, average annual wages for Production jobs located on industrial land amounted to \$65,500, compared to an average of \$66,200 in the region across all sectors. The industrial lands' Production sector is estimated to have a direct workforce income of \$4.7 billion, direct GDP of \$6.6 billion, and direct economic output of \$16.6 billion.

**Figure 3-7** below presents the direct, indirect and induced economic impacts of the region's industrial land related Production sector on the region, British Columbia and across Canada. The total employment impact of the industrial land's Production sector increases to 118,000 jobs for the region, 133,200 jobs in British Columbia, and 156,800 in Canada. Total job impacts include the employment directly associated with the Production sector located on the region's industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce wages associated with the Production sector located on industrial land is estimated to be \$7.4 billion, \$8.3 billion in British Columbia, and \$10.0 billion in Canada.

While the Production sector on the region’s industrial lands directly generates \$6.6 billion of GDP, this increases to a total GDP contribution of \$11.6 billion to the entire region. This further increases to a total GDP contribution of \$13.3 billion to British Columbia’s economy and \$16.4 billion to Canada’s economy. Direct economic output of the industrial land’s Production sector is \$16.6 billion. This increases to a total impact of \$25.8 billion of economic output to the region, \$28.9 billion to British Columbia, and \$35.6 billion to Canada.

**Figure 3-7: Economic Impact of the Production Sector Located on Industrial Land, 2021**

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	72,300	72,300	72,300
	Indirect	28,100	38,300	52,700
	Induced	17,600	22,600	31,800
	<b>Total</b>	<b>118,000</b>	<b>133,200</b>	<b>156,800</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$4.7	\$4.7	\$4.7
	Indirect	\$1.8	\$2.4	\$3.5
	Induced	\$0.9	\$1.1	\$1.7
	<b>Total</b>	<b>\$7.4</b>	<b>\$8.3</b>	<b>\$10.0</b>
<b>GDP (\$ Billions)</b>	Direct	\$6.6	\$6.6	\$6.6
	Indirect	\$2.8	\$3.9	\$5.9
	Induced	\$2.2	\$2.8	\$3.9
	<b>Total</b>	<b>\$11.6</b>	<b>\$13.3</b>	<b>\$16.4</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$16.6	\$16.6	\$16.6
	Indirect	\$5.9	\$8.0	\$12.5
	Induced	\$3.4	\$4.3	\$6.5
	<b>Total</b>	<b>\$25.8</b>	<b>\$28.9</b>	<b>\$35.6</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

### 3.3 Distribution Sector

There are an estimated 58,200 direct jobs in the Distribution sector located on the region’s industrial lands. This is 47.0% of the estimated 123,800 Distribution jobs in the region. Average wages for Distribution jobs on industrial land are \$65,100. While this falls just beneath the average wage of \$66,200 for all jobs in the region, it exceeds the average wage for non-industrial jobs in the region of \$63,300. The industrial lands’ Distribution sector is estimated to have a direct workforce income of \$3.8 billion, direct GDP of \$5.3 billion, and direct economic output of \$9.7 billion.

**Figure 3-8** presents the direct, indirect and induced economic impacts of the region’s industrial land related Distribution sector on the region, British Columbia and across Canada. The total employment

impact of the Distribution sector located on industrial lands increases to 89,400 jobs for the region, 97,100 in British Columbia and 111,200 in Canada. Total job impacts include the employment directly associated with the Distribution sector located on the region's industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the industrial land-dependent Distribution sector is estimated to be \$5.6 billion, \$6.0 billion in British Columbia and \$7.0 billion in Canada.

While the Distribution sector on industrial lands directly generates \$5.3 billion of GDP, this increases to a total GDP contribution of \$8.9 billion within the entire region. This further increases to a total GDP contribution of \$9.7 billion to British Columbia's economy and \$11.6 billion to Canada's economy. Direct economic output of the Distribution sector on industrial lands is \$9.7 billion. This increases to a total impact of \$15.8 billion of economic output to the region, \$17.2 billion to British Columbia, and \$20.9 billion to Canada.

**Figure 3-8: Economic Impact of the Distribution Sector Located on Industrial Land, 2021**

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	58,200	58,200	58,200
	Indirect	16,400	19,800	27,500
	Induced	14,800	19,100	25,600
	<b>Total</b>	<b>89,400</b>	<b>97,100</b>	<b>111,200</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$3.8	\$3.8	\$3.8
	Indirect	\$1.0	\$1.3	\$1.8
	Induced	\$0.7	\$0.9	\$1.4
	<b>Total</b>	<b>\$5.6</b>	<b>\$6.0</b>	<b>\$7.0</b>
<b>GDP (\$ Billions)</b>	Direct	\$5.3	\$5.3	\$5.3
	Indirect	\$1.7	\$2.1	\$3.1
	Induced	\$1.8	\$2.4	\$3.2
	<b>Total</b>	<b>\$8.9</b>	<b>\$9.7</b>	<b>\$11.6</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$9.7	\$9.7	\$9.7
	Indirect	\$3.3	\$3.9	\$6.1
	Induced	\$2.8	\$3.6	\$5.2
	<b>Total</b>	<b>\$15.8</b>	<b>\$17.2</b>	<b>\$20.9</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

### 3.4 Repair Sector

There are an estimated 29,100 direct jobs in the Repair sector located on the region's industrial lands. This primarily includes jobs associated with automotive or machinery repair and construction-related activities. Average wages for Repair sector jobs located on industrial land are \$64,400, compared to an average of \$66,200 in the region across all sectors. The industrial lands' Repair sector is estimated to have a direct workforce income of \$1.9 billion, direct GDP of \$2.6 billion, and direct economic output of \$5.5 billion.

Figure 3-9 presents the direct, indirect and induced economic impacts of the region's industrial land related Repair sector on the region, British Columbia and across Canada.

**Figure 3-9: Economic Impact of the Repair Sector Located on Industrial Land, 2021**

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	29,100	29,100	29,100
	Indirect	8,400	11,500	15,800
	Induced	6,700	8,600	11,700
	<b>Total</b>	<b>44,200</b>	<b>49,200</b>	<b>56,700</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$1.9	\$1.9	\$1.9
	Indirect	\$0.6	\$0.8	\$1.1
	Induced	\$0.3	\$0.4	\$0.6
	<b>Total</b>	<b>\$2.8</b>	<b>\$3.1</b>	<b>\$3.6</b>
<b>GDP (\$ Billions)</b>	Direct	\$2.6	\$2.6	\$2.6
	Indirect	\$0.9	\$1.2	\$1.7
	Induced	\$0.8	\$1.1	\$1.5
	<b>Total</b>	<b>\$4.3</b>	<b>\$4.8</b>	<b>\$5.8</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$5.5	\$5.5	\$5.5
	Indirect	\$1.7	\$2.3	\$3.4
	Induced	\$1.3	\$1.6	\$2.4
	<b>Total</b>	<b>\$8.4</b>	<b>\$9.4</b>	<b>\$11.3</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

The total employment impact of the Repair sector located on industrial lands increases to 44,200 jobs for the region, 49,200 in British Columbia, and 56,700 in Canada. Total job impacts include the employment directly associated with the Repair sector located on the region's industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the industrial land-dependent Repair sector is estimated to be \$2.8 billion, \$3.1 billion in British Columbia, and \$3.6 billion in Canada.

While the Repair sector on industrial lands directly generates \$2.6 billion of GDP, this increases to a total GDP contribution of \$4.3 billion within the region. This further increases to a total GDP contribution of \$4.8 billion to British Columbia's economy and \$5.8 billion to Canada's economy. Direct economic output of the Repair sector on industrial lands is \$5.5 billion. This increases to a total impact of \$8.4 billion of economic output to the region, \$9.4 billion to British Columbia, and \$11.3 billion to Canada.

### 3.5 Public Infrastructure and Administration Sector

There are an estimated 14,600 direct jobs supported by the region's Public Infrastructure and Administration sector located on industrial lands. This includes an estimated 6,200 jobs associated with critical infrastructure such as electricity generation and transmission, utilities, and waste management. The remaining 8,400 jobs are associated with public administration positions. Average wages for Public Infrastructure and Administration jobs located on industrial land are \$84,400, compared to an average of \$66,200 in the region across all sectors. The industrial lands' Public Infrastructure and Administration sector is estimated to have a direct workforce income of \$1.2 billion, direct GDP of \$2.0 billion and direct economic output of \$3.5 billion.

**Figure 3-10** presents the direct, indirect and induced economic impacts of the region's industrial land related Public Infrastructure and Administration sector on the region, British Columbia, and across Canada.

The total employment impact of the Public Infrastructure and Administration sector located on industrial lands increases to 25,800 jobs for the region, 29,600 in British Columbia and 33,400 in Canada. Total job impacts include the employment directly associated with the Public Infrastructure and Administration sector located on the region's industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the industrial land-dependent Public Infrastructure and Administration sector is estimated to be \$1.9 billion, \$2.1 billion in British Columbia, and \$2.4 billion in Canada.

While the Public Infrastructure and Administration sector on industrial lands directly generates \$2.0 billion of GDP, this increases to a total GDP contribution of \$3.3 billion within the region. This further increases to a total GDP contribution of \$3.7 billion to British Columbia's economy and \$4.2 billion to Canada's economy. Direct economic output of the Public Infrastructure and Administration sector on industrial lands is \$3.5 billion. This provides for a total impact of \$5.6 billion of economic output to the region, \$6.3 billion to British Columbia, and \$7.2 billion to Canada.



**Figure 3-10: Economic Impact of the Public Infrastructure and Administration Sector Located on Industrial Land, 2021**

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	14,600	14,600	14,600
	Indirect	6,300	8,600	10,500
	Induced	4,900	6,300	8,300
	<b>Total</b>	<b>25,800</b>	<b>29,600</b>	<b>33,400</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$1.2	\$1.2	\$1.2
	Indirect	\$0.4	\$0.6	\$0.7
	Induced	\$0.2	\$0.3	\$0.4
	<b>Total</b>	<b>\$1.9</b>	<b>\$2.1</b>	<b>\$2.4</b>
<b>GDP (\$ Billions)</b>	Direct	\$2.0	\$2.0	\$2.0
	Indirect	\$0.7	\$0.9	\$1.1
	Induced	\$0.6	\$0.8	\$1.0
	<b>Total</b>	<b>\$3.3</b>	<b>\$3.7</b>	<b>\$4.2</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$3.5	\$3.5	\$3.5
	Indirect	\$1.1	\$1.5	\$2.0
	Induced	\$0.9	\$1.2	\$1.7
	<b>Total</b>	<b>\$5.6</b>	<b>\$6.3</b>	<b>\$7.2</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

### 3.6 Trade-Oriented Sector

The Trade-Oriented sector supports inter-provincial and international import and export markets, including activities such as the movement and storage of goods. It comprises industrial activities taking place on land supporting the mandates of the Port of Vancouver and YVR, as set out in **Section 2.3.1**. The Trade-Oriented Sector includes activities in the Production, Distribution, Repair, and Public Infrastructure and Administration sectors that specifically take place on the Port and YVR lands. As with the other sectors located on industrial lands, only the portions of Port and YVR activities that occur on industrial lands are included in the analysis. For example, the Port’s operational jobs located at Canada Place are excluded from the analysis.

There are an estimated 11,900 direct jobs supported by the region’s Trade-Oriented sector. Average wages for Trade-Oriented jobs located on industrial land are \$84,300, compared to an average of \$66,200 in the region across all sectors. The Trade-Oriented sector is estimated to have a direct workforce income of \$1.0 billion, direct GDP of \$1.1 billion and direct economic output of \$2.1 billion.

Figure 3-11 presents the direct, indirect and induced economic impacts of the industrial lands' Trade-Oriented sector on the region, British Columbia and across Canada.

**Figure 3-11: Economic Impact of the Trade-Oriented Sector Located on Industrial Land, 2021**

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	11,900	11,900	11,900
	Indirect	3,600	4,500	6,100
	Induced	3,000	3,900	5,300
	<b>Total</b>	<b>18,500</b>	<b>20,300</b>	<b>23,300</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$1.0	\$1.0	\$1.0
	Indirect	\$0.2	\$0.3	\$0.4
	Induced	\$0.2	\$0.2	\$0.3
	<b>Total</b>	<b>\$1.4</b>	<b>\$1.5</b>	<b>\$1.7</b>
<b>GDP (\$ Billions)</b>	Direct	\$1.1	\$1.1	\$1.1
	Indirect	\$0.4	\$0.5	\$0.7
	Induced	\$0.4	\$0.5	\$0.7
	<b>Total</b>	<b>\$1.9</b>	<b>\$2.1</b>	<b>\$2.5</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$2.1	\$2.1	\$2.1
	Indirect	\$0.7	\$0.9	\$1.4
	Induced	\$0.6	\$0.8	\$1.1
	<b>Total</b>	<b>\$3.4</b>	<b>\$3.8</b>	<b>\$4.5</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

The total employment impact of the Trade-Oriented sector increases to 18,500 jobs for the region, 20,300 in British Columbia, and 23,300 in Canada. Total job impacts include the employment directly associated with the Trade-Oriented sector located on industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. Catalytic impacts brought about by global connectivity from YVR are not taken into account; neither are spending impacts generated by visitors travelling through YVR. For the region total workforce income associated with the sector is estimated to be \$1.4 billion, \$1.5 billion in British Columbia and \$1.7 billion in Canada.

While the Trade-Oriented sector directly generates \$1.1 billion of GDP, this increases to a total GDP contribution of \$1.9 billion to the region. This further increases to a total GDP contribution of \$2.1 billion to British Columbia's economy and \$2.5 billion to Canada's economy. Direct economic output of the Trade-Oriented sector located on industrial land is \$2.1 billion. This increases to a total impact of \$3.4 billion of economic output to the region, \$3.8 billion to British Columbia, and \$4.5 billion to Canada.

### 3.7 Non-Industrial Activities

In addition to the industrial activities taking place on industrial lands outlined in previous sections, there is a significant amount of quasi-industrial and Non-Industrial activity taking place on industrial lands. These sectors are not the intended use for industrial lands but do in some cases operate on industrial lands nonetheless. Non-Industrial sectors include the following:

- Media Production, Communication and Arts
- R&D, Professional and Technical Services
- Retail
- Other Services

Together these sectors account for 129,200 direct jobs on industrial land, \$7.7 billion of direct income, \$8.4 of direct GDP, and \$13.5 billion of direct economic output. As previously summarised in **Figure 3-1**, the Other Services sector accounts for nearly half (48%) of all employment in Non-Industrial sectors located on industrial land. It is followed by Retail, then R&D, Professional, and Technical Services, and finally Media Production, Communication, and Arts.

**Figure 3-12** presents the direct, indirect and induced economic impacts of the region's Non-Industrial sectors located on industrial land.

The total employment impact of the Non-Industrial sectors located on industrial land increases to 172,700 jobs for the region, 184,400 in British Columbia, and 202,700 in Canada. Total job impacts include the employment directly associated with Non-Industrial sectors located on industrial land, indirect jobs supported in supply chain businesses, and induced jobs supported by wages spent by direct and indirect jobs. For the region, total workforce income associated with the Non-Industrial sectors located on industrial land is estimated to be \$10.0 billion, \$10.6 billion in British Columbia, and \$11.9 billion in Canada.

While the Non-Industrial sectors located on industrial land directly generate \$8.4 billion of GDP, this increases to a total GDP contribution of \$13.2 billion to the region. This further increases to a total GDP contribution of \$14.5 billion to British Columbia's economy and \$16.7 billion to Canada's economy. Direct economic output of the Non-Industrial sectors located on industrial land is \$13.5 billion. This increases to a total impact of \$21.3 billion of economic output to the region, \$23.4 billion to British Columbia, and \$27.7 billion to Canada.

**Figure 3-12: Economic Impact of Non-Industrial Sectors Located on Industrial Land, 2021**

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	129,200	129,200	129,200
	Indirect	22,500	28,200	37,700
	Induced	21,000	27,000	35,800
	<b>Total</b>	<b>172,700</b>	<b>184,400</b>	<b>202,700</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$7.7	\$7.7	\$7.7
	Indirect	\$1.3	\$1.6	\$2.3
	Induced	\$1.0	\$1.3	\$1.9
	<b>Total</b>	<b>\$10.0</b>	<b>\$10.6</b>	<b>\$11.9</b>
<b>GDP (\$ Billions)</b>	Direct	\$8.4	\$8.4	\$8.4
	Indirect	\$2.1	\$2.7	\$3.8
	Induced	\$2.6	\$3.3	\$4.4
	<b>Total</b>	<b>\$13.2</b>	<b>\$14.5</b>	<b>\$16.7</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$13.5	\$13.5	\$13.5
	Indirect	\$3.8	\$4.7	\$6.9
	Induced	\$4.0	\$5.1	\$7.3
	<b>Total</b>	<b>\$21.3</b>	<b>\$23.4</b>	<b>\$27.7</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

### 3.8 Tax Impact of Industrial Lands

The region’s industrial land generated an estimated \$5.9 billion in tax revenues and fees for the federal government and \$1.9 billion for the provincial government in 2021. This is based upon the direct employment in industrial and non-industrial sectors taking place on industrial land in 2021 as set out in **Figure 3-1**, with tax impacts based on 2021 rates and estimated using InterVISTAS’ tax model.<sup>48</sup> **Figure 3-13** summarises the tax revenues generated by all direct employment (both Industrial and Non-Industrial) located on industrial land.

<sup>48</sup> The InterVISTAS tax model considers personal and corporate income tax rates, employment insurance contributions, Canada pension plan payments, and workplace safety and insurance board contributions. Note that premiums for mandatory health care in BC are no longer charged to all residents but instead covered through income tax revenues for eligible brackets. As such, health care premiums are assumed to already be incorporated under the income tax estimates shown.

**Figure 3-13: Federal and Provincial Tax Impacts from Direct Employment in Industrial Sectors Located on Industrial Land, 2021**

Federal Taxes		Provincial Taxes	
Tax	Amount (\$ Billions)	Tax	Amount (\$ Billions)
Personal Income Tax	\$2.37	Personal Income Tax	\$0.94
Corporate Income Tax	\$0.90	Corporate Income Tax	\$0.57
Employment Insurance - Employer	\$0.39	WorkSafeBC	\$0.41
Employment Insurance - Employee	\$0.28		
Canada Pension Plan - Employer	\$0.98		
Canada Pension Plan - Employee	\$0.98		
<b>Grand Total</b>	<b>\$5.90</b>	<b>Grand Total</b>	<b>\$1.92</b>

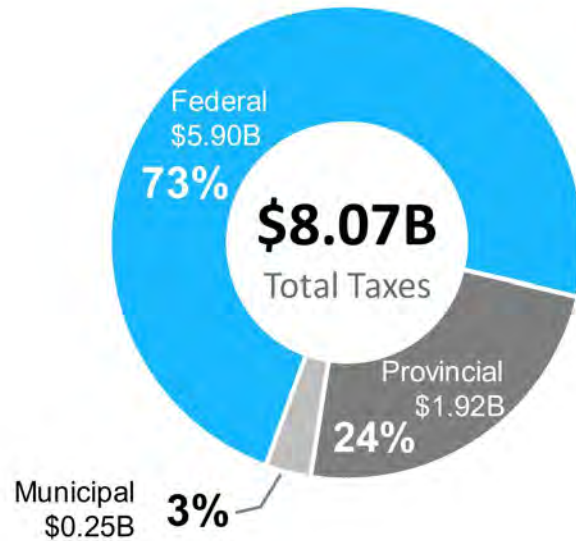
Source: InterVISTAS analysis and calculations. Prices are in 2021 dollars.

Industrial sector jobs on industrial land make a greater contribution to federal and provincial tax revenues compared to non-industrial sector jobs located on industrial land; \$4.9 billion compared to \$2.9 billion. This is largely because industrial sector jobs have higher average wages than non-industrial jobs, and WorkSafe BC rates are typically higher for industrial related jobs.

Municipal property tax revenues generated by 'Light Industry', 'Major Industry' and 'Utilities' property classes totalled \$0.25 billion in the region in 2021.<sup>49</sup> Roughly half (\$0.12 billion) of these municipal tax revenues were generated by 'Light Industry' property classes, \$0.07 billion were generated by 'Major Industry' property classes, followed by 'Utilities' generating \$0.06 billion (figures are rounded). Note that this includes properties with industrial related property classes that are not necessarily located on industrial land according to Metro Vancouver's geographic definition set out in **Section 2.3.1**. **Figure 3-14** summarizes the tax impacts, by level of government.

<sup>49</sup> British Columbia Provincial Government Tax Burden Schedule 707 – 2021 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments.

Figure 3-14: Federal, Provincial and Municipal Tax Impacts Generated by Industrial Land, 2021



Source: InterVISTAS' Tax Model based on 2021 rates, and analysis of British Columbia Provincial Government Tax Burden Schedule 707 – 2021 Assessments, Tax Rates, Municipal Taxes and Class Proportions of Taxes and Assessments.

### 3.9 Total Economic Impact

Industrial lands in the region directly contribute 315,300 jobs to the region's economy. This includes 186,100 jobs involved specifically in industrial sectors, or nearly 42% of industrial sector jobs in the region (the remainder of which are located on non-industrial lands), as summarized in **Figure 3-15**.

Figure 3-15: Vancouver CMA Direct Employment (Jobs) by Sector and Land Use, 2021

	Industrial Jobs	Non-Industrial Jobs	Total
<b>Industrial Lands</b>	186,100	129,200	<b>315,300</b>
<b>Non-Industrial Lands</b>	258,600	863,300	<b>1,121,900</b>
<b>Total</b>	<b>444,700</b>	<b>992,500</b>	<b>1,437,200</b>

Source: Metro Vancouver custom extract of Statistics Canada Census 2021 data. InterVISTAS analysis and calculations.  
 Notes: Employment located on industrial land as defined by Metro Vancouver based on its 2020 Industrial Land Inventory Report methodology, including a proportion of workers with no fixed workplace attributable to industrial land (see **Section 2.3.1**) as well as an uplift to allow for undercount rates in the 2021 Census. These figures do **not** include the region's workers who worked from home.



The activities occurring on industrial lands translate into a significant economic impact through wages, GDP and output, as well as the indirect and induced impacts, on the region, British Columbia and across Canada. This is presented in **Figure 3-16**. Together, Industrial and Non-Industrial activity located on industrial lands contribute a total of 468,600 jobs (direct, indirect, and induced) to the region's economy (equivalent to 33% of total employment in the region), 513,700 jobs in British Columbia, and 584,100 jobs in Canada. The contribution to total wages is significant at \$29.0 billion for the regional level alone in 2021.

Given the relatively high economic multipliers from Industrial sectors, the region's industrial land generated an estimated total GDP of \$43.1 billion to the region's economy (equivalent to 30% of the total GDP in the region), \$48.1 billion in British Columbia, and \$57.0 billion to Canada's economy in 2021. The total economic output from industrial land is an estimated \$80.2 billion to the region, \$88.9 billion to British Columbia, and \$107.2 billion to Canada's economy in 2021. When inflated to 2024 dollars, this amounts to \$90.7 billion in total economic output to the region alone, along with \$100.5 billion to British Columbia, and \$121.1 billion to Canada. This highlights the importance of the economic linkages and impact that the region's industrial land and its industrial sectors, has on the region and wider economy.

Non-Industrial sectors located on industrial land make an important contribution to the economy, but their impact is proportionately lower than Industrial sectors. While Non-Industrial sectors accounted for 41% of the direct jobs located on industrial land as of Census 2021,<sup>50</sup> they accounted for approximately 38% of the direct wages, 32% of the direct GDP, and 27% of the direct economic output associated with industrial lands. This is because the Industrial sectors have higher economic multipliers (greater linkages and spending with other sectors), higher average wages and a greater contribution to GDP and economic output. This is also the case for the total economic impacts across the region, British Columbia and Canada. The higher GDP and economic output of Industrial sectors compared to Non-Industrial sectors emphasises the important role that industrial lands play in supporting higher levels of productivity in Metro Vancouver and British Columbia. The detailed breakdowns of industrial land's impacts by sector are outlined further in **Figure 3-17**. These results are charted in **Figures 3-18** to **Figure 3-21**.

Beyond its economic impacts, the region's industrial land also makes an important contribution to municipal, provincial, and federal tax revenues. This is estimated to be \$5.9 billion of tax revenues for the federal government, \$1.9 billion for the provincial government and \$0.25 billion for municipal governments in the region in 2021, based on its direct jobs. When inflated to 2024 dollars, this amounts to over \$9.1 billion in tax impact including \$6.7 billion in federal tax revenues, \$2.2 billion in provincial tax revenues, and \$0.25 billion in municipal tax revenues.

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<sup>50</sup> In the study, [Economic Impact Study of the Critical Shortage of Industrial Land in Metro Vancouver](#), authored by InterVISTAS Consulting and Urban Systems, the study highlighted a number of potential improvements to current industry lands policy. One potential improvement cited was to "examine land uses currently permitted on industrial lands: Current industrial zoning and land use designations are broad, and permit uses that may not be strictly industrial. Currently, permitted land uses like tech parks, recreation (including indoor playgrounds, laser tag etc.), accessory residential units, or self-storage may be better suited to other areas. Industrial land uses, and zones, need to be re-examined to focus on employment-generating activities and core industrial uses, while mitigating conflicts between adjacent land uses."

Figure 3-16: Economic and Employment Impact of All Sectors Located on Industrial Land, 2021

Economic Impact		Impacts in the Region	Impacts in British Columbia	Impacts in Canada
<b>Employment (Jobs)</b>	Direct	315,300	315,300	315,300
	Indirect	85,300	110,900	150,300
	Induced	68,000	87,600	118,500
	<b>Total</b>	<b>468,600</b>	<b>513,700</b>	<b>584,100</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$20.3	\$20.3	\$20.3
	Indirect	\$5.3	\$6.9	\$9.8
	Induced	\$3.4	\$4.3	\$6.3
	<b>Total</b>	<b>\$29.0</b>	<b>\$31.6</b>	<b>\$36.4</b>
<b>GDP (\$ Billions)</b>	Direct	\$26.1	\$26.1	\$26.1
	Indirect	\$8.6	\$11.2	\$16.3
	Induced	\$8.4	\$10.8	\$14.7
	<b>Total</b>	<b>\$43.1</b>	<b>\$48.1</b>	<b>\$57.0</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$50.9	\$50.9	\$50.9
	Indirect	\$16.4	\$21.4	\$32.3
	Induced	\$13.0	\$16.7	\$24.0
	<b>Total</b>	<b>\$80.2</b>	<b>\$88.9</b>	<b>\$107.2</b>

Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note data are rounded and may not sum. Prices are 2021 dollars.

Figure 3-17: Economic Impact of Industrial Land by Sector, 2021

		Impacts in Vancouver Region							Impacts in British Columbia							Impacts in Canada						
		Production	Distribution	Repair	Public Infra. & Admin	Trade-Oriented	Non-Industrial Activities	Total	Production	Distribution	Repair	Public Infra. & Admin	Trade-Oriented	Non-Industrial Activities	Total	Production	Distribution	Repair	Public Infra. & Admin	Trade-Oriented	Non-Industrial Activities	Total
<b>Employment (Jobs)</b>	Direct	72,300	58,200	29,100	14,600	11,900	129,200	<b>315,300</b>	72,300	58,200	29,100	14,600	11,900	129,200	<b>315,300</b>	72,300	58,200	29,100	14,600	11,900	129,200	<b>315,300</b>
	Indirect	28,100	16,400	8,400	6,300	3,600	22,500	<b>85,300</b>	38,300	19,800	11,500	8,600	4,500	28,200	<b>110,900</b>	52,700	27,500	15,800	10,500	6,100	37,700	<b>150,300</b>
	Induced	17,600	14,800	6,700	4,900	3,000	21,000	<b>68,000</b>	22,600	19,100	8,600	6,300	3,900	27,000	<b>87,600</b>	31,800	25,600	11,700	8,300	5,300	35,800	<b>118,500</b>
	<b>Total</b>	<b>118,000</b>	<b>89,400</b>	<b>44,200</b>	<b>25,800</b>	<b>18,500</b>	<b>172,700</b>	<b>468,600</b>	<b>133,200</b>	<b>97,100</b>	<b>49,200</b>	<b>29,600</b>	<b>20,300</b>	<b>184,400</b>	<b>513,700</b>	<b>156,800</b>	<b>111,200</b>	<b>56,700</b>	<b>33,400</b>	<b>23,300</b>	<b>202,700</b>	<b>584,100</b>
<b>Employment Income (\$ Billions)</b>	Direct	\$4.7	\$3.8	\$1.9	\$1.2	\$1.0	\$7.7	<b>\$20.3</b>	\$4.7	\$3.8	\$1.9	\$1.2	\$1.0	\$7.7	<b>\$20.3</b>	\$4.7	\$3.8	\$1.9	\$1.2	\$1.0	\$7.7	<b>\$20.3</b>
	Indirect	\$1.8	\$1.0	\$0.6	\$0.4	\$0.2	\$1.3	<b>\$5.3</b>	\$2.4	\$1.3	\$0.8	\$0.6	\$0.3	\$1.6	<b>\$6.9</b>	\$3.5	\$1.8	\$1.1	\$0.7	\$0.4	\$2.3	<b>\$9.8</b>
	Induced	\$0.9	\$0.7	\$0.3	\$0.2	\$0.2	\$1.0	<b>\$3.4</b>	\$1.1	\$0.9	\$0.4	\$0.3	\$0.2	\$1.3	<b>\$4.3</b>	\$1.7	\$1.4	\$0.6	\$0.4	\$0.3	\$1.9	<b>\$6.3</b>
	<b>Total</b>	<b>\$7.4</b>	<b>\$5.6</b>	<b>\$2.8</b>	<b>\$1.9</b>	<b>\$1.4</b>	<b>\$10.0</b>	<b>\$29.0</b>	<b>\$8.3</b>	<b>\$6.0</b>	<b>\$3.1</b>	<b>\$2.1</b>	<b>\$1.5</b>	<b>\$10.6</b>	<b>\$31.6</b>	<b>\$10.0</b>	<b>\$7.0</b>	<b>\$3.6</b>	<b>\$2.4</b>	<b>\$1.7</b>	<b>\$11.9</b>	<b>\$36.4</b>
<b>GDP (\$ Billions)</b>	Direct	\$6.6	\$5.3	\$2.6	\$2.0	\$1.1	\$8.4	<b>\$26.1</b>	\$6.6	\$5.3	\$2.6	\$2.0	\$1.1	\$8.4	<b>\$26.1</b>	\$6.6	\$5.3	\$2.6	\$2.0	\$1.1	\$8.4	<b>\$26.1</b>
	Indirect	\$2.8	\$1.7	\$0.9	\$0.7	\$0.4	\$2.1	<b>\$8.6</b>	\$3.9	\$2.1	\$1.2	\$0.9	\$0.5	\$2.7	<b>\$11.2</b>	\$5.9	\$3.1	\$1.7	\$1.1	\$0.7	\$3.8	<b>\$16.3</b>
	Induced	\$2.2	\$1.8	\$0.8	\$0.6	\$0.4	\$2.6	<b>\$8.4</b>	\$2.8	\$2.4	\$1.1	\$0.8	\$0.5	\$3.3	<b>\$10.8</b>	\$3.9	\$3.2	\$1.5	\$1.0	\$0.7	\$4.4	<b>\$14.7</b>
	<b>Total</b>	<b>\$11.6</b>	<b>\$8.9</b>	<b>\$4.3</b>	<b>\$3.3</b>	<b>\$1.9</b>	<b>\$13.2</b>	<b>\$43.1</b>	<b>\$13.3</b>	<b>\$9.7</b>	<b>\$4.8</b>	<b>\$3.7</b>	<b>\$2.1</b>	<b>\$14.5</b>	<b>\$48.1</b>	<b>\$16.4</b>	<b>\$11.6</b>	<b>\$5.8</b>	<b>\$4.2</b>	<b>\$2.5</b>	<b>\$16.7</b>	<b>\$57.0</b>
<b>Economic Output (\$ Billions)</b>	Direct	\$16.6	\$9.7	\$5.5	\$3.5	\$2.1	\$13.5	<b>\$50.9</b>	\$16.6	\$9.7	\$5.5	\$3.5	\$2.1	\$13.5	<b>\$50.9</b>	\$16.6	\$9.7	\$5.5	\$3.5	\$2.1	\$13.5	<b>\$50.9</b>
	Indirect	\$5.9	\$3.3	\$1.7	\$1.1	\$0.7	\$3.8	<b>\$16.4</b>	\$8.0	\$3.9	\$2.3	\$1.5	\$0.9	\$4.7	<b>\$21.4</b>	\$12.5	\$6.1	\$3.4	\$2.0	\$1.4	\$6.9	<b>\$32.3</b>
	Induced	\$3.4	\$2.8	\$1.3	\$0.9	\$0.6	\$4.0	<b>\$13.0</b>	\$4.3	\$3.6	\$1.6	\$1.2	\$0.8	\$5.1	<b>\$16.7</b>	\$6.5	\$5.2	\$2.4	\$1.7	\$1.1	\$7.3	<b>\$24.0</b>
	<b>Total</b>	<b>\$25.8</b>	<b>\$15.8</b>	<b>\$8.4</b>	<b>\$5.6</b>	<b>\$3.4</b>	<b>\$21.3</b>	<b>\$80.2</b>	<b>\$28.9</b>	<b>\$17.2</b>	<b>\$9.4</b>	<b>\$6.3</b>	<b>\$3.8</b>	<b>\$23.4</b>	<b>\$88.9</b>	<b>\$35.6</b>	<b>\$20.9</b>	<b>\$11.3</b>	<b>\$7.2</b>	<b>\$4.5</b>	<b>\$27.7</b>	<b>\$107.2</b>

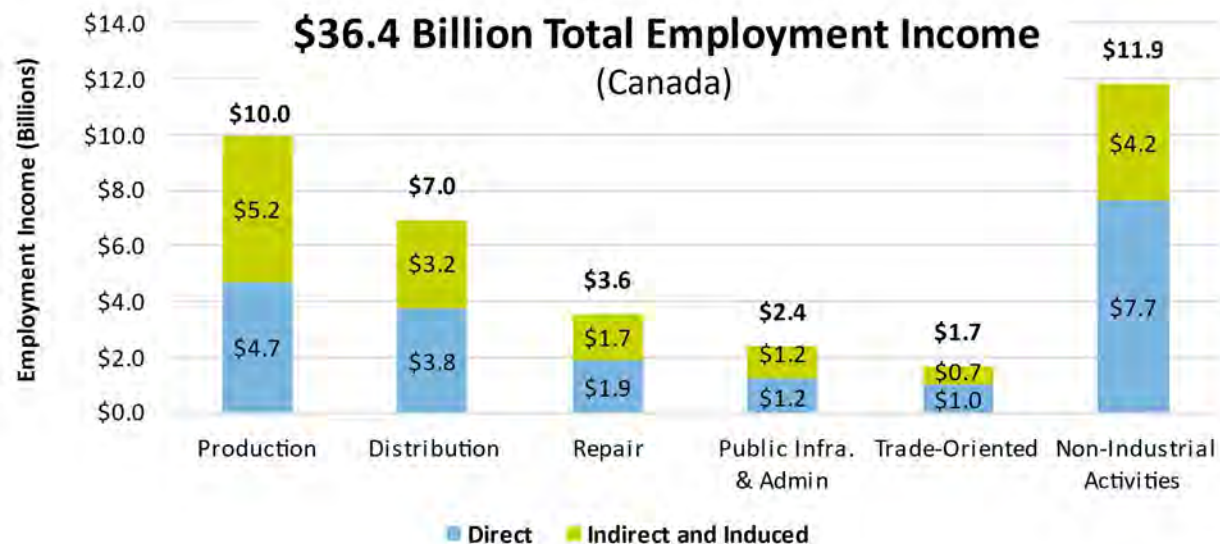
Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-18: Employment Impacts (Canada) of Industrial Land by Sector, 2021



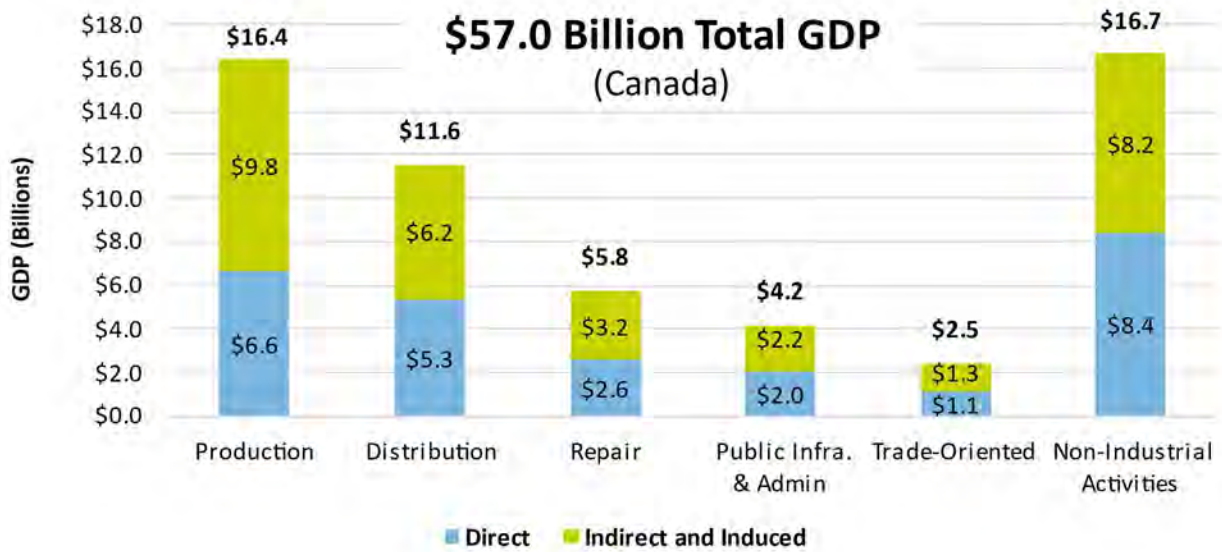
Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-19: Employment Income Impacts (Canada) of Industrial Land by Sector, 2021



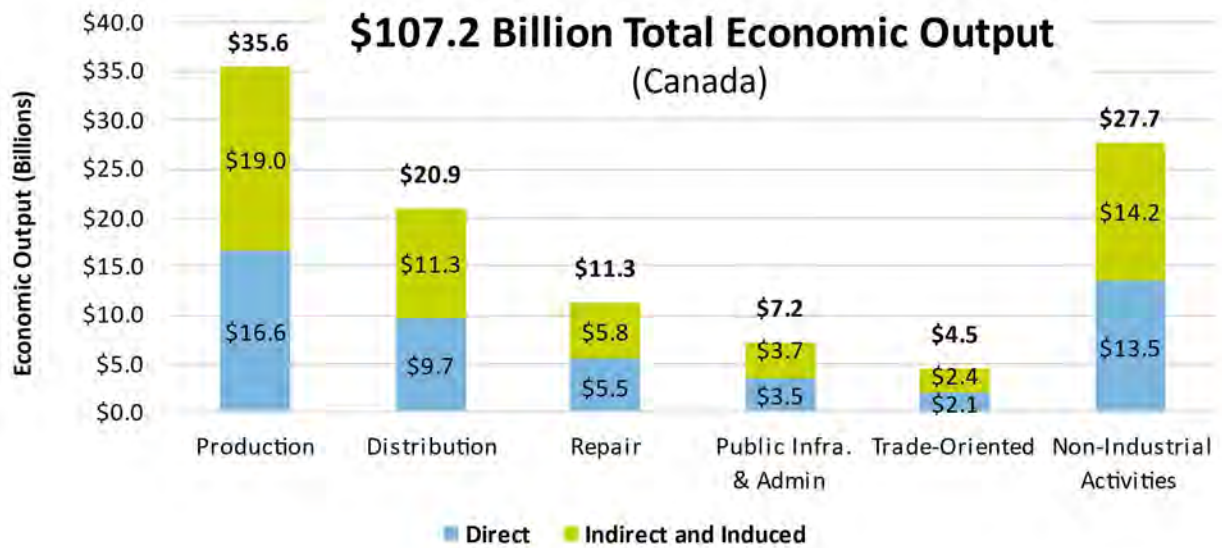
Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-20: GDP Impacts (Canada) of Industrial Land by Sector, 2021



Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

Figure 3-21: Economic Output Impacts (Canada) of Industrial Land by Sector, 2021



Source: Statistics Canada Census 2021. Metro Vancouver and InterVISTAS analysis and calculations. Note figures may not sum to totals due to rounding. Prices are 2021 dollars.

## 4 Key Messages

This study finds that the businesses operating on industrial lands in the Metro Vancouver region continue to make substantial economic contributions. Key findings include the following:

### **Employment Impact in the Metro Vancouver Region**

- Industrial lands account for 4% of land area yet host 22% of jobs located in the region.
- There is substantial employment associated with industrial activity which can be located both on and off industrial lands. Industrial activity (whether located on industrial lands or not) accounts for 444,700 jobs or 31% of all employment in the Metro Vancouver region.
- Industrial activity located on industrial lands directly employs 186,100 jobs, accounting for 42% of all industrial related jobs in the region. The remainder of industrial-related employment (258,600 jobs) is located offsite from industrial lands and can include corporate and administrative positions located in commercial-zoned offices or home offices, as well as any other positions at industrial businesses which do not need to be physically performed on an industrial site.
- There are substantial non-industrial activities taking place on industrial lands. These non-industrial activities on industrial lands directly employ 129,200 jobs in the region. This alludes to a sizable amount of industrial lands being used for purposes other than their intended use.

### **Employment Income Impact in the Metro Vancouver Region**

- Across all activities located on industrial lands, industrial jobs paid 14% higher on average than non-industrial jobs in 2021.
- The highest paying sectors for employment on industrial lands are Public Infrastructure & Administration and Trade-Oriented, both of which paying over \$84,000 per job.

### **GDP Impact in the Metro Vancouver Region**

- Combined, all activities on industrial lands generate a significant amount of Gross Domestic Product (GDP). Industrial lands supported a total (direct, indirect, and induced) GDP impact of over \$43 billion within the region alone in 2021, or approximately 30% of the total GDP generated in the region.
- Of this, industrial activities located on industrial lands accounted for approximately \$30 billion in total GDP impact within the region in 2021, or 21% of the total GDP generated in the region.
- Across the region's industrial lands, the GDP contribution made by industrial activities is proportionally higher than that of non-industrial activities. Industrial activities accounted for 59% of employment located on industrial lands but 68% of the direct GDP generated on industrial lands. This emphasizes the role that industrial activity plays in supporting productivity throughout the region's economy.

### **Direct Tax Impact**

- The region's industrial lands contribute to municipal, provincial, and federal tax revenues. This includes \$5.9 billion of tax revenues for the federal government, \$1.9 billion for the provincial government, and \$0.25 billion in property taxes for municipal governments in the region in 2021.





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