

# Literature Review:

## External Forces Impacting Long-term Industrial Land Use and Demand in the Metro Vancouver Region

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*Prepared for Metro Vancouver and  
UBC Sustainability Scholars Program  
September, 2016*

## Disclaimer

This report was produced as part of the Sustainability Scholars Program, a partnership between Metro Vancouver and The University of British Columbia (UBC). The Sustainability Scholars research project was conducted under the mentorship of Metro Vancouver staff member Eric Aderneck. The opinions and recommendations in this report, and any errors, are those of the author, and do not necessarily reflect the views of the Metro Vancouver, The University of British Columbia, the UBC Sustainability Scholars Program, and/or the UBC School of Community and Regional Planning.

## Acknowledgements

The author would like to acknowledge the contributions of Metro Vancouver in the preparation of this report. This includes project supervisor Eric Aderneck, as well as Bob Denboer, Gabriel Mastico and Heather McNell.

## Executive Summary

This study examines a number of external forces that have the potential to affect the industry uses and the demands of industrial lands in the Metro Vancouver region. Overall, the literature highlights that industrial uses are rapidly changing globally, and without a deliberate policy in place, industrial lands will likely be converted to other uses. The topics explored in this study shed light on a number of these emerging issues, as well as potential opportunities and challenges. These topics include:

1. The Impact of Emerging Technologies on Industry
2. Impacts of Transportation Congestion and Goods Movement Costs on Industry
3. Impact of High Housing Costs on Recruiting and Retaining Industrial Employees
4. Impact of Land Speculation on Industrial Lands Uses
5. Communicating the Contribution of Industrial Activity to the Public and Policy Makers

The main purpose of this paper is to provide an overarching examination of each topic based on available publications, and examine the potential long term affects they may have in Metro Vancouver. Although the topics discussed range widely, they all have the potential to directly affect ‘industry,’ and industrial land in Metro Vancouver. By examining industry trends, and current research, this study identifies how the trends may affect Metro Vancouver.

Research was done by conducting a literature review that included sources from academic research, government planning documents, consultation research, industry blogs, and news media. The literature helps outline the considerations and implications stakeholders face in dealing with land use issues. As well, this report highlights how ‘industry’ is currently going through a period of fast change, and outlines different technological trends that will have an increasing impact moving forward.

In the 21st century, emerging technologies continually play an increasingly influential role. Robotics, autonomous vehicles, and 3D printing all have the potential to transform the nature of the industrial sector in Metro Vancouver. As the presence of robotics increase, employers and employees will have to adjust to the shifting nature of work. Although there are some who feel robots will put many people out of work, a more nuanced examination shows that robotics and humans will be able to complement each other within the industrial sector. Autonomous trucks are presently being tested around the world, and it is vital that Metro Vancouver and Canada facilitate these technologies, otherwise they risk falling behind in transportation and trade relations. If the United States allows the use of Autonomous trucks, and AVs are not allowed in Metro Vancouver, then these vehicles will not be able to transport goods over the border, which may have a negative effect on cross border trade.

Although the geography of Metro Vancouver may present issues for autonomous trucks, they will still have an increasing role in the region, and may affect the number of people employed as truck drivers. 3D printing, like robotics and autonomous trucks, has the potential to change the production industry profoundly. At an increasing rate, they are able to produce more products and have the potential to move the production of goods closer to market. Overall these emerging technologies will play an increasing role in North America and in Metro Vancouver.

Metro Vancouver faces a number of challenges regarding transportation, including transit investments and goods movement, which impact the industrial sector. Road pricing has generally been accepted as the

best course of action to mitigate congestion in urban regions. Non-governmental organizations and local governments with responsibility for transportation have outlined various scenarios, and TransLink is currently conducting a number of studies. Generally, the industrial sector is accepting of road pricing, as they feel the benefits will outweigh the costs.

Although there are few publications that directly address the correlation between housing costs and ability to recruit and retain industrial workers, inferences can be made. Industrial work generally offers a higher wage than average, yet at the same time, middle-wage workers continue to find it difficult to secure housing in Metro Vancouver. As well, moving further away from work is not seen as a solution, as the costs associated with transportation are an influential factor in where people want to live and work. Metro Vancouver's current concerns regarding housing affordability extends beyond industrial workers, yet at the same time industrial workers make up a significant portion of the population and the ability to house them, alongside all residents of Metro Vancouver, will continue to be a complex issue.

Land speculation is an ongoing concern in Metro Vancouver, and this concern extends to Industrial land. If landowners feel that there is a potential for up-zoning they will be reluctant to lease their land for long-term industrial uses or make investments in industrial improvements. To secure the existing industrial land supply, Metro Vancouver would need to continue to clearly indicate to landowners that industrial land will not be rezoned.

While affordability, and speculation remains a problem for Metro Vancouver, communicating the importance of industrial lands and activities are a very important and specific matter. Industry and industrial activities have a perception problem that has been historically cultivated. Young people are no longer pursuing industrial sector jobs, and there may be a lack of workers in the future because of this perception. At the same time, policy makers are faced with competing agendas and it can be unclear where industrial land preservation and industrial employment fits on the list of priorities. Regions generally understand the importance of industrial land, but putting plans into action continually faces a number of tradeoffs and barriers.

In Metro Vancouver, industrial land faces a number of outside forces and there are needs for sound policy to ensure its preservation and continued utilisation. All of these topics will shift over time, and reflect a current snapshot of literature available. As Metro Vancouver looks to absorb one million new residents and over half a million jobs by 2040, there will be a continued pressure on industrial land, including by forces that are not yet identified.

#### Areas for Further Study:

##### The Impact of Emerging Technologies on Industry

- Investigate what products are most likely to be produced via 3D printing technology, and what the overlap is with manufacturing / assembly and warehouse space in Metro Vancouver.
- Further investigate the potential shift in wholesale production (3D printers, robotics) and observe if companies, like Amazon, have investigated bringing their technology to Metro Vancouver.
- Explore the potential impact on industrial land demand if fewer products are transported and potentially reduced need for associated logistics facilities, although possibly increased demand for space to manufacture products.

- Obtain information from Canadian trucking organizations (BC Trucking Association, Canadian Trucking Association etc.), as well as other industry and labour groups to investigate potential barriers and opportunities to implementation autonomous trucking.

#### Goods Movement and Transportation Costs

- Examine the effect tolls could have on truck traffic, or if the costs of tolls outweigh the benefits of peak period deliveries.
- Examine whether truck parking facilities should be established to help alleviate the need for over-night truck parking locations and peak-period truck travel.
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#### Ability to Recruit and Retain Industrial Workers

- Survey local industrial employers regarding their ability to recruit and retain workers. Because this is an ongoing and wide-spread concern, businesses in the same sector may desire to work together to seek solutions. The survey may include ways in which regional agencies or other parties can better enable industrial employers to recruit and retain workers.
- Housing located outside of the urban core is generally cheaper, but it has been argued that transportation commuting costs will increase because of the costs associated with travel, including vehicle expenses, time, and strain on infrastructure. To what extent can these transportations costs be mitigated by industrial jobs being located outside of the urban core and closer to the industrial workforce.
- Explore whether building transportation routes to industrial lands will decrease worker transportation cost, or simply lead to an increase in land prices and longer trips.
- Explore whether increasing housing and/or land costs would make industrial activity uncompetitive in the region and whether a shrinking industrial base is a consequence of living in a high cost region.

#### Impact of Land Speculation on Industrial Land Uses

- Compare land speculation on industrial land with residential land and agricultural land speculation, to observe if there is a relationship between the two trends.
- Obtain information from industrial stakeholders on viable ways to protect industrial land from speculation, and understand where industrial land currently fits into real estate investment portfolios.

#### Communicating the Contribution of Industrial Activity to the Public and Policy Makers

- Review how industrial jobs and trades are promoted within the education system, and to youth considering careers. Assess why these careers are no longer considered viable/desirable.
- Compare communication and socio-economic (if available) strategies amongst leading industrial companies, educational institutions, and associations with regards to communicating the contributions and value of industrial jobs. This could include examining outreach and marketing approaches, as well as look at trends in enrollment. This will help contextualize the barriers that cause new entrants to the labour force to choose careers outside of the industrial sector.
- A common zoning language for municipalities in Metro Vancouver could clarify which types of industries could locate in certain areas, thereby reducing confusion for businesses across the region.

- Explore the key economic performance indicators such as revenue per square foot of industrial land and per worker created by industrial businesses.