2020 Industrial Employment Lands Strategy

Halifax Regional Municipality

Final Report

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Executive Summary

Watson & Associates Economists Ltd., in association with WSP Canada Inc., was retained by HRM Corporate Real Estate Division (CRE) to prepare the Halifax Industrial Employment Lands Strategy (IELS). The goal of this assignment is to provide a comprehensive long-term review of Halifax's industrial employment land needs to inform the Regional Plan, to help HRM compete for industrial employment, and to provide data and guidance to support Regional Council's Economic Development priorities.

The IELS was developed within a market, economic and planning lens context. This study provides direction to the CRE's business strategy and model and also forms an important background document to guide Halifax Regional Municipality's (HRM's) Regional Plan Review with respect to industrial areas and industrial employment lands.

The results of this study will provide HRM with a comprehensive assessment of current industrial market conditions and trends, anticipated growth patterns, and market opportunities and disrupters that are anticipated to influence employment growth and associated industrial employment land requirements in the Municipality over the next two decades.

This study provides an analysis of short-term and longer-term industrial supply opportunities, and forecast market demand for industrial employment lands. The study also provides a comprehensive assessment of the investment readiness of Halifax's industrial areas, along with industrial employment land strategic recommendations and policy direction to guide planning and development of the Municipality's industrial areas.

Halifax's industrial areas were last examined comprehensively in 2008 through the HRM Business Parks Functional Plan study. The IELS updates and expands on the 2008 study recognizing the structural changes that have occurred in the macro economy over the past decade and HRM's economic base which has expanded and evolved over that time period requiring the need to address future long-term industrial employment land needs in the Municipality.

Industrial employment lands are an integral part of Halifax's economic development potential and accommodate a significant share of the Municipality's businesses and employment. Industrial employment lands accommodate primarily industrial uses (e.g. manufacturing, distribution/logistics, transportation services), as well as specific

commercial and institutional uses (e.g. office, service, ancillary/accessory retail) which generally support the industrial/business function of the industrial area. In contrast to other land uses (e.g. commercial and mixed-use areas), industrial employment lands accommodate export-based employment sectors that cannot be easily accommodated in other areas of the Municipality.

Development typically accommodated on industrial employment lands generates relatively strong economic multipliers. In addition, industrial employment lands development typically generates high-quality employment opportunities, which can improve local socio-economic conditions (i.e. live/work opportunities). Furthermore, achieving non-residential growth adds to a community's assessment base. Industrial development also tends to produce more positive net fiscal benefits for the community than other types of development (e.g. residential and retail).

Through development of its industrial employment land base, HRM will be better positioned to build more balanced, complete, and competitive communities. For Halifax to continue to be competitive and attractive to a broad range of industrial and commercial sectors, HRM needs to ensure that it has a sufficient supply and market choice of serviced industrial employment lands.

This review is necessary to ensure that there is an adequate supply of industrial employment lands by type and location to accommodate long-term demand and to satisfy HRM's employment and economic objectives. To ensure that Halifax's industrial areas remain competitive, this study also examines existing industrial land policies, land-use regulations and other guiding documents within the context of anticipated economic trends, sustainable development objectives and industry demand patterns.

The following provides a summary of key study findings:

Halifax's Industrial Employment Lands Profile

Halifax's industrial base is largely a combination of HRM (municipally) developed and provincially/privately developed business and industrial park areas. Halifax has 13 industrial and business parks. This includes five municipally developed parks – Aerotech Business Park, Bayers Lakes Business Park, Burnside Industrial Park, City of Lakes Business Park and Ragged Lake Business Park. Halifax also has eight private and provincially developed industrial parks. This includes five within the Urban Service Area – Atlantic Acres Industrial Park, Bedford Commons, Beechville Industrial Park,

Sackville Industrial/Business Park and Woodside Ocean Industrial Park and three within the rural area – Eastern Shore Industrial Park, Musquodoboit Industrial Park and Sheet Harbour Industrial Park.

Halifax's industrial and business parks are diverse and have wide ranging physical and economic characteristics and varying market potential. Burnside Industrial Park is by far the largest with respect to developed land area and employment and business activity and has been the most active with respect to development activity and land absorption over the past decade. Many urban industrial areas including Atlantic Acres Industrial Park, Beechville Industrial Park, City of Lakes Business Park and Woodside Ocean Industrial Park are approaching buildout. Industrial areas including Burnside Industrial Park, Bedford Commons and Bayers Lake have the majority of vacant urban industrial land supply in the Municipality. Privately held vacant industrial employment lands in Bedford Commons and Bayers Lake, however, are anticipated to accommodate non-industrial uses (i.e. commercial, institutional and mixed-use) based on recent development trends, current land use permissions, and interest of private developers with land holdings in the subject areas.

Trends in Industrial Park Land-Use Planning and Development

Halifax's developed industrial employment lands are largely located within the Regional Plan's (RP+5) Business/Industrial Park secondary designation areas, as delineated in the Plan's Generalized Future Land Use overlay. Halifax has approximately 3,370 net acres (1,364 net ha) of developed industrial employment land within Industrial Park designated areas (municipally, provincially, and privately owned). This includes 3,080 net acres (1,246 net ha) within the Urban Service Area, 110 net acres (45 net ha) within rural industrial areas and 180 net acres (73 net ha) within the Airport area. A number of lands are used for industrial purposes outside of delineated business park areas, particularly in rural areas which also permit commercial or residential options, and have not been included in this report's metrics regarding industrial employment land because the report's focus is on dedicated areas designated primarily for industrial land use. For example, Halifax also has additional industrially zoned lands with significant holdings in Eastern Passage.

Halifax accommodated an average of 539,000 sq.ft. (50,075 sq.m) of development within industrial parks annually over the 2009 to 2018 period. Over the past five years, development within Halifax's Industrial Parks has accounted for 44% of municipal-wide

non-residential development, expressed in building G.F.A. (gross floor area), comprised largely of industrial space as well as some commercial and institutional building development. Over the past decade, approximately 564 net acres (228 ha) of industrial employment lands have been absorbed in Halifax, averaging approximately 54 net acres (22 net ha) per year.

The traditional use of industrial zoning in HRM has been broad in application, permitting retail, office, commercial, service uses, as well as manufacturing. Where zoning has permitted both industrial and commercial uses, commercial uses have been outcompeting price points for industrial lands. If the zoning is too broad, the higher margin land uses will dominate and generally outcompete industrial development, particularly in areas with good transportation access. Bayer's Lake, Dartmouth Crossing and Bedford Commons illustrate this trend. Land absorption in Bedford Commons, for example, has accounted for the largest share of the privately developed industrial lands and focused solely on retail, office, institutional and recreational-related development. Industrial land policies and regulations, and other guiding documents play a key role in guiding development activity.

To help inform this study, a series of stakeholder consultations was undertaken and a review of best practices in industrial land development and land-use planning practices in other relevant North American jurisdictions was completed.

The stakeholder consultations conducted through this study identified the need for stronger and more consistent policy directions with respect to industrial employment land development in Halifax and stronger protections from conversions (i.e. industrial employment lands to non-employment uses) where warranted. These consultation sessions also highlighted the importance of proactive planning of infrastructure and service provisions to support industrial employment land development, looking for sites suitable for industrial development in proximity to the port, as well as reaffirming the role of CRE in industrial employment land development.

Key highlights from the best practices review included: the importance of protection and preservation policies at a higher government level in order to permeate into local level land-use policies; establishing monetary and non-monetary incentives to support industrial employment land development; providing services and infrastructure to industrial lands to add more shovel-ready industrial lands to the Municipality's inventory; developing a systematic approach to considering the conversion of industrial lands to

non-employment uses; and specifying the form, nature, and amount of non-industrial uses permitted on industrial lands in order to mitigate the growth of non-industrial uses in these areas.

Role of HRM in Industrial Land Development

Halifax has a strong and successful history of municipal industrial land development. HRM through CRE continues to be the primary industrial land developer in the Municipality, assembling and servicing land. The Municipality is responsible for subdivision design, infrastructure development and land sales. HRM has developed five industrial parks including Aerotech Business Park, Bayers Lake Business Park, Burnside Industrial Park, Ragged Lake Business Park and Atlantic Gateway – Halifax Logistics Park.

CRE's development efforts over the past decade have focused on the Burnside Industrial Park due to steady market demand and lack of municipal supply opportunities on the Halifax side of the harbour. HRM's current inventory of industrial parcels available for development and sale are concentrated in Burnside Industrial Park with some additional inventory available in Ragged Lake.

Based on the market analysis presented herein, the private sector is not considered sufficiently strong and economically viable to support large-scale industrial employment land development in Halifax. As such, it is expected that HRM will need to remain as the primary developer of industrial/business areas in Halifax to provide market choice in serviced industrial employment lands. Industrial land prices, however, have increased to the point where potential public-private partnerships under certain conditions may be possible.

Opportunities to Accommodate Growth within HRM Industrial Areas

The competitiveness of HRM's export-based economy is partly determined by the availability and quality of its developable industrial employment lands. One of the most important site selection criteria that can be influenced by HRM is an ample supply of suitable, vacant, serviced (and serviceable) industrial land that is available for purchase and absorption.

Halifax has approximately 2,474 net acres (1,001 net ha) of developable vacant industrial employment land. Based on a further review, it was determined that Halifax

has 363 net acres (147 net ha) of shovel-ready industrial land including 220 net acres (89 net ha) within the Urban Service Area.

Market choice of shovel-ready industrial lands and potential for future expansion are key factors in the industrial site selection process. As a general rule of thumb, in order to allow for proper market functioning, it is recommended that a minimum five-year supply of serviced industrial lands (by various sizes, zoning and locations) is available at all times throughout the forecast period. Despite the overall availability of shovel-ready vacant industrial employment land identified above, market choice is limited with respect to parcel mix and geographic location, as summarized below:

- **Limited Supply of Larger Sized Parcels** – Although HRM has a relatively healthy supply of medium-sized parcels (i.e. 2 to 5 acres), there is a limited number of small sites (i.e. less than 2 acres) and larger vacant industrial land parcels (i.e. 10 acres and greater) available for development.
- **Lack of Geographic Diversity** – The majority of shovel-ready land supply is located in Burnside Industrial Park and the Aerotech Business Park and there is a lack of urban supply of industrial lands in other geographic locations including Halifax, Bedford, and Sackville.

Further, the perceptively broad range of land uses permitted under at least some major industrial zones creates a false sense of how much land is available for, protected for, and dedicated to the industrial market.

HRM needs to provide a balanced inventory of shovel-ready and zoned developable vacant industrial employment lands that is sufficient to meet market demand in the short to medium term.

Halifax Growth Outlook and Urban Industrial Employment Land Needs

Economic growth within HRM over the long term is anticipated to be relatively strong, building on the economic expansion experienced over the past five years. There are a number of regional growth drivers that contribute to this including, but not limited to, the Municipality's growing importance as a regional centre, the presence of a skilled labour force, major infrastructure projects and federal and provincial investments, the record-breaking progress of the Halifax Stanfield International Airport (HSIA) and economic diversification initiatives of the Port of Halifax, synergy with post-secondary and government institutions, and quality of life that has been apparent in Halifax.

Future demand for industrial employment lands within Halifax is ultimately driven by forecast employment growth. A broad range of factors are anticipated to drive future employment growth in Halifax over the long-term period. These factors will not only impact the rate and magnitude of growth but will also influence the form and density of non-residential development and corresponding demand for industrial lands.

Over the 2019 to 2039 forecast period, Halifax's employment base is expected to expand by approximately 21%, increasing to 262,500 jobs in 2029, and 282,400 jobs in 2039.[1] Employment growth over the period is expected across a wide range of sectors driven by continued diversity of the regional economic base and steady local population growth. The industrial employment base is forecast to account for approximately 25% of total employment growth. HRM's industrial employment lands are anticipated to accommodate 36% of the total employment growth over the 2019 to 2039 forecast period, totalling approximately 17,500 jobs.

Building on recent and historical trends, it is anticipated that future industrial absorption in Halifax will be comprised of a broad range of industrial uses, including logistics/ distribution, warehousing, manufacturing and construction. These industrial uses are expected to place downward pressure on employment densities over the longer term.

Halifax's knowledge-based sectors will continue to expand, accommodated largely through office development and multi-tenant commercial development. Most of these sectors have relatively high employment densities which should generate relatively high average employment densities on industrial employment lands in relation to the existing municipal-wide average. Further, continued upward pressure on industrial land values, driven by the continued long-term strength of the local and regional economies, will also encourage increased land utilization and corresponding higher employment densities relative to what has been experienced in the past.

Based on a review of recent development trends and the forecast land-use mix accommodated on industrial lands, an overall average density of 15 jobs per net acre (37 jobs per net ha) is forecast over the 2019 to 2039 period for urban industrial lands within Halifax.

[1] Watson & Associates Economists Ltd.

It is recognized that a portion of forecast employment on industrial lands growth will be accommodated through intensification based on the range of underutilized industrial lands identified. Over the 2019 to 2039 period, an estimated 10% of employment growth on urban industrial employment lands is expected to be accommodated through intensification, comparable to recent trends observed in other major centres throughout Canada. Moderate infill and expansion of existing developed sites within developed industrial areas has been occurring to-date and is expected to continue as Halifax matures and industrial land prices continue to appreciate.

In accordance with the assumptions made above, industrial land demand (absorption) is forecast to total approximately 1,052 net acres (426 net ha) over the 2019 to 2039 period, representing an average of 53 net acres (21 net ha) per year.

In accordance with the existing supply of designated developable urban industrial employment lands identified versus long-term demand, HRM has an insufficient supply of designated urban industrial lands to meet long-term needs to 2039. Based on the land needs analysis, a minimum of 510 net acres (206 net ha) of additional developable urban industrial employment land is required to accommodate forecast employment growth to 2039. While HRM is expected to have sufficient vacant industrial land to meet short-term need (i.e. through 2024), the anticipated shortfall in land supply is expected to become pronounced over the longer term, with a shortfall in industrial land supply of 106 net acres (43 net ha) by 2029, which is anticipated to increase to 302 net acres (122 net ha) by 2034.

The identified net land need does not reflect site-specific takeouts, including open space, arterial roads/rail, stormwater ponds and easements. Further, it does not reflect future land vacancy. Assuming a vacancy adjustment of 15% and a 75% net to gross ratio, this translates into a minimum requirement of 802 gross acres (325 gross ha) of additional urban industrial employment land by 2039. It is important to note that this does not take into account non-developable environmental features.

Continued structural changes in the global economy and technological advancements will require municipalities to be increasingly responsive and adaptive to changing industry needs and disruptive forces. Over the forecast period, demand for Halifax's industrial employment lands will be driven by a number of key industrial sectors including manufacturing, goods movement (transportation, distribution/logistics, wholesale trade) and construction. Industrial employment lands are also expected to

accommodate some office-based employment driven by growth in knowledge-based employment sectors including business services, and professional and technical services including engineering and environmental services, and research and development. It is also expected that the share of employment-supportive uses (i.e. retail and personal service uses) will continue to account for a notable share of development demand within Halifax's Industrial Areas.

As previously mentioned, over the next 20 years, HRM has a need to expand its urban serviced industrial employment lands base to accommodate forecast employment growth on industrial employment lands. HRM has a number of potential new growth areas to accommodate future industrial lands development.

Regarding the location of future industrial lands expansion areas consideration should be given to a number of factors. Industrial/business parks require good access to regional transportation networks, on-site infrastructure including roadways and utilities, a critical mass or complementary industries, and available zoned and shovel-ready land.

Strategic Directions for Industrial Employment Land Use Planning and Development in Halifax

Building on the comprehensive technical analysis provided herein, as well as a broad review of best practices in other municipal jurisdictions, a series of policy recommendations and action items are provided below.

1. **Land-Use Policy Streamlining** – Develop a clear definition and policy hierarchy of Industrial Employment Areas according to the types of industrial employment areas HRM envisions planning for and developing in the long-term, and based on the market demand analysis undertaken in this study. The Industrial Employment Areas policy hierarchy is recommended to be independent of the type of industrial/business park (i.e. municipally developed or privately developed) and implemented through the Regional Plan. It is also understood that HRM intends to continue their Secondary Planning and Land Use By-law Simplification project by reducing the number of plan areas, and creating overarching plans for similar planning regions, such as the suburban and rural portions of the Municipality. In reviewing the existing industrial zones, definitions and provisions between land-use policy and regulations applied to similar lands

in different communities can vary widely. Consistency in naming and in the definitions of permitted uses would be particularly helpful for parties seeking to site properties for an industrial land use.

2. **Accommodating Industrial Uses** – through review of HRM's municipally developed industrial parks and market assessment, gaps were identified which have led to the subsequent recommended actions:

    a. With respect to Aerotech Business Park, expand range of permitted industrial uses within the AE-1 Zone to include warehousing uses to accommodate logistics/distribution related functions; and

    b. With respect to Bayers Lake and Ragged Lake I-3 Zone, permitted industrial uses should be limited to prestige industrial uses including advanced manufacturing, warehousing and multi-tenant industrial uses and not allow for open storage.

3. **Permissible Non-Industrial Uses** – To ensure that the integrity of Halifax's industrial employment lands base is not jeopardized over the long-term, the provision for select commercial, community and institutional uses within industrial areas should be assessed carefully. Overall, there is a need to recognize that some non-industrial uses may be needed to assist in the creation of a stimulating environment for the workers, but be careful that these non-industrial uses do not become large or start to shift land towards non-industrial activities. HRM should provide stronger direction regarding industrial employment-supportive uses in industrial employment areas by:

    a. Introducing more defined policy direction in the Regional Municipal Planning Strategy that outlines the goals and objectives related to employment-supportive uses in Industrial Employment Areas (e.g. non-industrial, non-office uses should be of limited scale, or focused on serving businesses and employees in the Employment Areas). Such uses should minimize potential land-use conflicts and support a viable mix of commercial and industrial land uses; and

    b. Considering the introduction of more defined criteria or descriptions regarding the appropriate type, size and location of complementary non-industrial uses in Industrial Employment Areas (e.g. eating

establishments, daycares, personal and health care services and smaller-scale, service-oriented businesses) at strategic and accessible locations in existing and future Industrial Employment Areas, where appropriate.

With respect to updates of specific LUB, the following is recommended:

a. Within Aerotech Business Park AE-3 zone, the permitted use of retail stores should be limited to accessory and ancillary retail uses of less than 40,000 sq.ft.;

b. The range of permitted commercial uses in I-3 (General Industrial) Zone within Bayers Lake and Ragged Lake should be narrowed to prohibit large format retail uses. Permitted commercial uses should be limited to accessory and ancillary retail uses, employment supportive uses (e.g. hotels, restaurants) and office uses; and

c. Within Burnside Expansion Area I-2 zoning, allow for standalone office uses within gateway locations.

4. **Protection of Industrial Employment Areas** – It is recognized that there is a need to preserve Halifax's industrial employment lands for employment uses. It is also recognized, however, that under some circumstances, a conversion may be justified for planning and economic reasons, but such decisions must be made using a systematic approach and methodology. It is recommended that HRM:

a. Provide policy which guides the Regional Municipal Planning Strategy with respect to the protection of industrial employment lands;

b. Through the Regional Municipal Planning Strategy provide policies to protect industrial areas from fragmentation in order to prevent the encroachment of institutional and commercial uses into industrial lands;

c. Determine which industrial parks will be serviced by transit, water, and wastewater services and plan permitted land uses accordingly. Policy needs to protect both serviced (urban) and unserviced (rural) industrial lands;

d. Create a Regional Plan policy in order to make it clear under what circumstances industrial land conversions will be considered;

e. Develop an approach to evaluating requested conversions on employment lands. This evaluation approach should introduce specific considerations to help evaluate the appropriateness of converting sites from employment to non-employment uses within the broader context of municipal-wide industrial employment land needs. Specific considerations should include location, site size, configuration, marketability, future expansion potential, etc.;

f. Develop land use, density, and transition policies in LUB to buffer and protect industrial employment lands from encroachment by other land uses;

g. Halifax should separate out the land use designations and zoning between commercial and industrial employment lands to clarify what can be counted as within the industrial land supply. Both Dartmouth Crossing and Bayer's Lake have areas that should be counted as commercial rather than industrial lands;

h. Both HRM Planning and CRE to be involved in the evaluation of and comment on industrial land conversions, and the impact of conversions on Halifax's ability to meet future industrial growth;

i. HRM's deep port is a competitive advantage that should be protected. As such, the recommendation is to maintain private sites with deep water access for marine industrial uses; and

j. HRM should create a policy to limit the encroachment of institutional uses into municipally developed industrial/business park employment lands. These lands represent a significant land holding of more affordably priced land in the region because it is developed at cost. Industrial/business parks have become an affordably priced land option for regional recreational infrastructure development. The placement of non-profit and government offices or service centres, particularly during cycles of lesser industrial demand, has placed several uses with high transit demand in industrial parks. This has eroded the ability of the region to provide a

compelling argument for transit investment and making it financially difficult to provide services overall.

5. **Accommodating Future Growth Within Existing Industrial Employment Areas** – A significant share of Halifax's forecast employment growth is expected to be accommodated on industrial employment lands and there is a need to maximize development potential of HRM's industrial areas. Recommended actions:

    a. HRM should aim to accommodate 10% of future employment growth on urban industrial employment lands through intensification;

    b. HRM should monitor intensification development in industrial areas on a go forward basis by tracking the location of building permit activity on industrial lands;

    c. HRM should undertake an industrial intensification strategy to effectively assess and evaluate intensification potential and opportunities to ensure that HRM can meet the identified intensification target;

    d. To support the continued use of urban industrial properties, non-conforming use clauses could be examined for industrial properties. Package A of Centre Plan would require most expansions of non-conforming uses to be by development agreement. This is likely an unnecessarily restrictive approach to the continued operations of urban industrial properties under Package A lands. Light industrial uses could have provisions to be able to expand their zoning provisions by an as-of-right approach;

    e. With respect to water and transportation, ensure that serviced lands are provided the appropriate level of servicing. Costs to maintain the pipes can be lost to businesses that are not generating revenue to pay for this; and

    f. Work with landowners of large infill or redevelopment sites to assess interest in developing the lands and assessing feasibility of development.

6. **Market Choice in Industrial Employment Lands** – One of the most important site selection criteria that can be influenced by HRM is an ample supply of suitable, vacant, serviced (and serviceable) industrial land that is available for purchase and absorption. This inventory must provide a balanced market choice of sites, by site size and zoning across all the Municipality's industrial areas. Recommended actions:

    a. In order to allow for proper market functioning, HRM should work to ensure that a minimum five-year supply of serviced industrial employment lands (by various sizes, zoning, and location) is available at all times throughout the forecast period;

    b. Ensure that permitted uses within the applicable LUBs reflect the nature and intended use within HRM's industrial areas; and

    c. With planning of future growth areas including Burnside Phase 14 and Ragged Lake Industrial Expansion, encouraging the development of smaller and larger (less than two acres and five acres and above) parcels, to broaden market choice for industry sectors.

7. **Plan for Long-Term Industrial Employment Land Growth** – The industrial land demand forecast identifies a need for an additional minimum of 802 gross acres (325 gross ha) of industrial employment land in the urban service area by 2039, with industrial land supply in the urban area reaching a shortfall between 2024 and 2029. As a result, HRM needs to plan for additional industrial employment lands, beyond those currently designated within the urban service area. Recommended actions:

    a. HRM will need to strategically plan for the development of new industrial expansion areas to accommodate the medium- to longer-term industrial land needs:

        i. Over the short term (1 to 5 years) it is recommended that HRM service and develop Phase 13 of the Burnside Industrial Park (400 gross acres or 162 gross ha);

        ii. Over the medium term (5 to 10 years), Ragged Lake Industrial Reserve be designated and serviced for a broad range of Industrial,

office and employment-supportive uses. Ragged Lake Industrial Reserve offers an opportunity for HRM to provide a greater market choice of parcel sizes including sites for larger industrial development; and

iii. Over the longer term (10+ years), it is recommended that Phase 14 of Burnside Industrial Park (425 gross acres or 172 gross ha) be designated for Industrial use and serviced by HRM. It is recommended that HRM designate, service and develop the lands for industrial employment uses to accommodate industrial, office and employment-supportive uses.

b. Based on preliminary directions provided herein and background work completed for this study, undertake a more comprehensive land use and growth management study over the medium term to assess likely candidate sites for consideration of HRM to accommodate longer term industrial land needs;

c. Halifax needs to be able to take a proactive approach to identify and acquire properties suitable as future industrial employment lands. CRE should be informed with internal reviews of new highway extensions to examine industrial potential/consideration of acquisitions. In the near term, the extension of Highway 107 offers lands that may be suitable for this purpose;

d. Halifax should consider having an approach to connecting potential buyers with brownfield sites for land areas that could support a major industrial relocation (on the scale of +/- 300 acres). Stakeholder interviews indicated that there is interest; and

e. Once potential industrial employment land is identified to accommodate future growth, master planning is relevant and desirable.

8. **Role of Municipality in Industrial Employment Land Development** – HRM has a strong tradition of successful municipal industrial/business park development. Historically, industrial land prices in Halifax have been too low to facilitate broad private-sector development of industrial lands, requiring HRM through the CRE to act as a land developer. CRE has been responsible for the

majority of industrial employment land development in Halifax, and has accounted for the majority of industrial, office and employment supportive development on industrial land in the Municipality yielding strong assessment and employment growth for Halifax. Though industrial employment land prices are expected to continue to appreciate over time, it is not expected that land prices will reach levels to permit wide-scale private-sector development of industrial employment lands over the forecast period. From a market demand perspective, HRM through CRE will need to be involved in industrial land development for the foreseeable future, though there may be opportunities to partner with external parties on select projects through public-private partnerships. Recommended actions:

a. HRM through the CRE continue its role as a municipal developer of industrial employment lands in Halifax for the foreseeable future focusing longer term development efforts in Burnside Industrial Park (Phase 13 and 14), Ragged Lake and Aerotech Business Park;

b. CRE is the primary developer of industrial/business parks and as such, should acknowledge their role in planning and designing for industrial, office and employment-supportive uses through the planning permissions framework and plan for development beyond industrial uses to include a broader range of development opportunities; and

c. Establish minimum building to lot coverage requirements and require reasonable full development of the site for all industrial employment land parcels sold by CRE.

9. **Monitoring Industrial Employment Land Development Activity and Needs** – Effectively accommodating employment land development over the longer term requires the implementation of programs and mechanisms to accurately receive, catalogue and assess industrial development information, as well as to assess the available supply of employment lands within Halifax. The data collected and presented in this study offers HRM with a base from which to work, but the HRM will need to continue to update and monitor the information on a regular basis. Recommended actions:

a. HRM needs to regularly monitor Industrial Employment Land development against the demand analyses set in this Study, to facilitate market trend analysis. It is recommended that CRE in collaboration with the Planning Division develop a technical database of industrial employment land development in HRM. This database should monitor the current supply of industrial employment land, recent development activity (e.g. inquiries and pre-consultations, applications under review, and application approved, and industrial employment land building permits. This would be able to provide HRM Planning and CRE the ability to, for example, track its supply and make decisions on whether it should be increased, understand where industrial employment land inquiries and pre-consultations are concentrated to anticipate future industrial employment land development or planning policy amendment needs, and use the building permits as a way to understand where industrial employment land development is most feasible and/or desirable;

b. Building on baseline data provided in this study, develop a system for tracking and monitoring Industrial Employment Land supply and demand data, to assist with longer-term planning and land needs forecasting;

c. HRM needs some mechanisms to get feedback from the market. HRM should adopt a formal communication approach to engage with private industrial developers on a regular basis and as development opportunities arise. HRM should also consider administering short surveys to prospective industrial developers during the inquiry and site selection phase and at the point of deciding to and to not select a site. The purpose of the surveys is to collect qualitative data for future planning processes for HRM's industrial employment areas. This would compliment establishing a formal communication approach and provide a formal way for HRM Planning and CRE to document the needs of industrial developers, trends in industrial employment land development, and challenges to development.

10. **Marketing Initiatives to Promote HRM Industrial Land Development** – Building on the recommendations and findings of the IELS, HRM, in collaboration with other Economic Development stakeholders, should undertake a more comprehensive approach to marketing existing municipally developed shovel-

ready industrial lands in Halifax. This would include highlighting the competitive advantage of Halifax as a location for industrial investment in a targeted manner. Marketing efforts should be geared towards the broader strengths and opportunities of Halifax, as well as specific target sector investment attraction efforts. Recommended actions:

a. An effective place-branding for HRM's industrial/business parks to raise their profile and impact regionally, nationally and internationally. The branding will help create a unique identity for Halifax's industrial employment lands and differentiate them from offerings in competitor municipalities. The branding component should incorporate the strengths/ opportunities that Halifax offers and be oriented to target industry sectors;

b. A business attraction package which would include a municipal-wide investment profile and profiles for each of Halifax's key industrial/business parks, including Burnside Business Park, Aerotech Business Park and Bayers Lake. The profiles would contain information on location, parcel availability and pricing, sector information and planning and servicing;

c. Development of sector-based initiatives with specific focus on key growth sectors, as identified in the Halifax Strategic Plan 2016-2021; and

d. Continue supporting and encouraging collaboration of the Atlantic Gateway Committee to assist in playing to the strengths of the various landholders in the region.

11. **Protecting Halifax's Marine Industrial Uses** – Around Halifax Harbour and throughout Halifax, waterfront lands that have suitable frontage and depth for cargo vessels are rare and are increasingly in demand for residential and recreational development. Given the small amount of strategically located industrial lands with this waterfront access, it is important to protect existing and suitable marine industrial areas, particularly where these lands have easy access to existing rail or port facilities. Recommended actions:

    a. Use land use protections for key industrial employment lands in the Centre Plan Area, particularly for marine industrial properties. HRM needs a clear policy on maintaining key ocean based industrial land resources from development speculation, particularly in the Centre Plan area. Our

understanding is that under Centre Plan Package B changes, the larger zoning for the Regional Centre will be revised. The Harbour Employment Area sub-designation could specify that these uses are particularly important to protect; and

b. Halifax's Secondary Plan and By-law Simplification project will likely result in new zones as Community Plan Areas are consolidated. This has sometimes resulted in underutilized industrial lands becoming rezoned to commercial or residential uses during the community planning processes. It is recommended that HRM be cautious during these projects to ensure that areas suitable for marine industrial uses remain zoned as such in order to prevent the encroachment of non-compatible land uses.

1. Introduction

1.1 Study Goal and Objectives

Watson & Associates Economists Ltd., in association with WSP Canada Inc., was retained by HRM Corporate Real Estate Division (CRE) to prepare the Halifax Industrial Employment Lands Strategy (IELS). The goal of this assignment is to provide a comprehensive long-term review of Halifax's industrial employment land needs to inform the Regional Plan, to help HRM compete for industrial employment, and to provide data and guidance to support Regional Council's Economic Development priorities.

The IELS was developed within a market, economic and planning lens context. The objectives of this study are intended to guide decision-making and policy development specifically related to planning and growth management, master planning and municipal finance. This study provides direction to the CRE's business strategy and model and also forms an important background document to guide Halifax Regional Municipality's (HRM's) Regional Plan Review with respect to industrial areas and industrial employment lands.

Structural changes and growth trends in the macro economy are altering the type and character of economic activities occurring within Industrial Areas and impacting the built form and land-use structure. The evolving economy is also changing the factors that make Industrial Areas successful and impacting municipal competitiveness.

Halifax's industrial areas were last examined comprehensively in 2008 through the HRM Industrial Park Functional Plan study. The IELS updates and expands on the 2008 study recognizing the structural changes that have occurred in the macro economy over the past decade and HRM's economic base which has expanded and evolved over that time period requiring the need to address future long-term industrial employment land needs in the Municipality.

Industrial land-use planning in Halifax is addressed through the Regional Plan and the Business Parks Functional Plan. HRM has prepared Regional Plan Reviews on approximately a five-year cycle, with the last major update occurring in 2014. HRM is currently in the process of updating its Regional Municipal Plan and is anticipated to consider revisions and updates to industrial areas and industrial employment lands

planning. The current industrial planning and policy framework in HRM is discussed in detail in section 2.

To ensure long-term economic and fiscal sustainability, there is an increasing need for municipalities to maximize opportunities to accommodate growth as well as strengthen industry and labour force attraction and retention. HRM faces a number of opportunities and challenges with respect to the management and growth of its existing and future Industrial Areas in light of the evolving structural changes in the economy and disruptive factors that continue to influence the nature of the economy.

A major factor for the future competitiveness of HRM's economic base relates to the structure, quality and "investment readiness" of its industrial employment lands. HRM has considerable control and ability to position itself in a positive manner when considering Halifax's regional competitive ranking through its municipal industrial land development program.

It is also important to recognize the critical role that municipal land-use planning and industrial policy framework serves in supporting and accommodating industrial development and economic activities in Halifax. Land-use planning policies must consider the evolving nature of the local economy and reflect the diverse needs of established and emerging industries. Further, land-use policies must offer a degree of flexibility and nimbleness that allows for relatively rapid responses to disruptive factors, which can be a critical competitive advantage.

1.2 What are Industrial Employment Lands and Why Are They Important?

Industrial employment lands are an integral part of Halifax's economic development potential and accommodate a significant share of the Municipality's businesses and employment. Halifax's industrial employment lands are organized into 13 delineated industrial parks. These are discussed in further detail in section 3.4. Halifax also has industrial zoned lands outside of industrial park designated areas including Irving Oil lands, Valero lands and Halifax Port Authority lands, which are discussed in more detail in section 2.3.

Industrial employment lands accommodate primarily export-based employment, including a wide range of industrial uses (e.g. manufacturing, distribution/logistics,

transportation services), as well as specific commercial and institutional uses (e.g. office, service, ancillary/accessory retail) which generally support the industrial/business function of the industrial area. In contrast to other urban land uses (e.g. commercial and mixed-use areas), industrial employment lands provide the opportunity to accommodate export-based employment sectors that cannot be easily accommodated in other areas of the Municipality.

Development typically accommodated on industrial employment lands generates relatively strong economic multipliers (i.e. spin-off effects) that benefit the community directly and indirectly. In addition, industrial employment lands development typically generates high-quality employment opportunities, which can improve local socio-economic conditions (i.e. live/work opportunities). Furthermore, achieving non-residential growth adds to a community's assessment base, which can help support competitive property taxes and stronger municipal service levels. Industrial development also tends to produce more positive net fiscal benefits for the community than other types of development (e.g. residential and retail).

Through development of its industrial employment land base, HRM will be better positioned to build more balanced, complete, and competitive communities. In order for Halifax to continue to be competitive and attractive to a broad range of industrial and commercial sectors, HRM needs to ensure that it has a sufficient supply and market choice of serviced industrial employment lands.

1.3 Role of HRM in Industrial Land Development

Halifax has a strong and successful history of municipal industrial land development. The CRE continues to be the primary industrial land developer in the Municipality, assembling and servicing land. The Municipality is responsible for subdivision design, infrastructure development and land sales. HRM has developed five industrial parks including Aerotech Business Park, Bayers Lake Business Park, Burnside Industrial Park, Ragged Lake Business Park and Atlantic Gateway – Halifax Logistics Park. HRM's current inventory of industrial parcels available for development and sale are concentrated in Burnside Industrial Park with some additional inventory available in Ragged Lake.

The role of the CRE in industrial lands development is explored further in this study.

2. Research Scan and Literature Review

2.1 Planning Policy Review

Industrial land policies and regulations, and other guiding documents play a key role in guiding development activity. The following provides a summary of the relevant provincial and local regulatory and policy framework that relates to industrial areas and industrial lands. The purpose of this review is to identify policy gaps or potential refinements that would need to be addressed through the Regional Plan Review with respect to industrial employment lands. Findings from this analysis have informed the strategic and policy recommendations presented in section 5.

2.1.1 Provincial Planning Framework

The Province of Nova Scotia enables HRM to undertake land-use planning under the Halifax Regional Municipality Charter. The Charter enables the Municipality to adopt planning documents, including a Municipal Planning Strategy and Land Use By-Laws. The Province directs municipalities in the Province to consider several statements of provincial interest when undertaking planning. These six statements include: Drinking Water, Flood Risk Areas, Agricultural Land, Infrastructure, Housing, and the Nova Centre. All development needs to be "reasonably consistent" with the general language expressed in these statements, and compliance is assessed by the Province as part of the adoption process for new planning standards. While none of the statements of provincial interest focus directly on industrial land creation, the statements of provincial interest regarding Drinking Water and Infrastructure can have implications on the appropriate siting of industrial lands.

Note that CRE's work regarding the development of industrial lands is enabled under s. 71 of the Charter.

2.1.2 HRM Planning Framework

Figure 1 summarizes the HRM planning framework and the hierarchy of planning policy documents and tools. As illustrated, Regional Planning takes place through a Regional Municipal Planning Strategy (RMPS), Priorities Plans, as well as through a Regional Subdivision By-law, which is the regulatory tool for the Municipality's subdivision process.

Figure 1
Hierarchy of Planning Policy Documents and Tools in HRM

Source: Adapted from the Regional Municipal Planning Strategy by WSP and Watson & Associates Economists Ltd.

First adopted in 2006 and subsequently amended in a five-year review process, the RMPS provides direction on a range of items including:

- Growth targets;
- Overall trends in order to promote land-use planning and development in Halifax;
- Designation of growth centres to direct development; and
- Designation of the proposed boundaries for servicing.

The 2006 Regional Plan identified principles that were readopted as part of the 2014 Regional Plan process and remain integral, as presented in the 2020 Regional Plan Review Initiation Report.[1] The principles state that the Regional Plan:

- Provides a framework which leads to predictable, fair, cost-effective and timely decision-making;

[1] Halifax Regional Municipality, Case 22257: Regional Plan Review Regional Council Report, February 25, 2020.

- Supports development patterns that promote a vigorous regional economy;
- Preserves and promote sustainability of cultural, historical, and natural assets;
- Supports the Regional Centre as the focus for economic, cultural, and residential activities;
- Manages development to make the most effective use of land, energy, infrastructure, public services and facilities and to foster healthy lifestyles;
- Ensures opportunities for the protection of open space, wilderness, natural beauty, and sensitive environmental areas; and
- Develops integrated transportation systems in conjunction with the above principles.

The RMPS consists of a Business/Industrial Sub-Designation which includes priority areas for an integrated mix of industrial, commercial, service and support uses. This Sub-Designation applies to existing business parks and proposed expansion areas, and their intended uses, to ensure that these lands remain available for industrial and supportive uses, while minimizing conflicts with existing or future incompatible uses.

The RMPS presents the priorities of different business parks and industrial areas within this Sub-Designation, and is applied to all existing business/industrial parks, including Halifax International Airport, and proposed expansion areas. The RMPS indicates important regions for business and industrial park development throughout the Municipality including:

- **Municipal Parks:** This policy speaks to establishing a new Business/Industrial Sub-Designation within the Generalized Future Land Use designations. This new sub-designation is applied to all existing business/industrial parks, as well as proposed expansion areas. It also allows for priority development areas to contain a mix of industrial, commercial, service and support uses. Policy supports the acquisition of land by HRM to develop lands identified as suitable for future industrial uses (Policy EC-5 to EC-7). Policy EC-5 enables required amendments to secondary planning strategies and Land Use By-laws (LUB) to allow for the intended industrial uses. Policy EC-6 specifies that the Burnside Business Park Expansion lands be reserved for general, light industrial and logistics uses only, and permitting retail and commercial uses as accessory uses;
- **Private Business Parks:** This policy (EC-8 and EC-9) permits Private Business Parks in areas appropriate for industrial use and adjacent to designated growth

centres. Private business parks tend to be primarily built out with supported non-industrial permitted uses such as retail, office and service sector uses. Policies support the use of medium- to high-density residential uses within Private Business Parks through a development agreement if deemed appropriate and compatible for both the development and future residents. One provision of such development agreements is to ensure that adequate services and infrastructure can or are provided;

- **Halifax Stanfield International Airport (HSIA) and Aerotech Business Park:** This policy restricts residential uses within the vicinity of the airport as they are considered incompatible by virtue of noise. The policy does indicate that HRM shall cooperate with the Halifax International Airport Authority (HIAA) to ensure that all future expansion plans related to the airport use have adequate infrastructure;
- **Halifax Harbour Designation:** Similar to the HSIA and Aerotech Business Park, this policy focuses on uses related to shipping, ship building, naval operations and other port related industries. This designation, however, supports a mixed-use development integration of commercial uses, residential uses, recreational uses, and institutional uses. The RMPS protects existing harbour-related industrial uses and lands or water lots that are suitable for these uses in the future through a Municipal Planning Strategy (MPS) and LUB; and
- **Rural HRM:** This policy allows for the opportunity for many to work in a vibrant rural economy. The policy encourages HRM to ensure that these uses are not only included, but implemented in future growth strategies. The policy supports that adequate telecommunications, road networks/improvements, zoning, and transit are considered and implemented.

Secondary Plans and LUBs are other aspects of HRM's planning framework. They are established throughout HRM and are implemented through policies and zoning regulations of their respective MPS and LUB. A MPS regulates the use of land through creating policy to enable zoning and development standards such as allowable heights and densities to landscaping requirements. A LUB contains the regulatory zoning documents for the region for "as-of-right" development, meaning development that is approved by planning staff rather than Council or a committee. All land in the Municipality is subject to a governing MPS and zoning contained in a LUB specific to a Community Planning Area (CPA) that it is within. CPA boundaries are a result of MPS and LUB plan area geographies being remaining largely unchanged since the 1996

municipal amalgamation that created HRM.[1] There have been routine challenges with the interpretation, application, and implementation of a MPS and LUB in order to implement the CPA. Appendix A further describes these challenges with the CPA and the inconsistent application of a LUB across them. HRM is currently actively seeking to amalgamate these areas where possible, with the Regional Centre Plan (2019) reflecting the first step in this process.

The final aspect of the HRM planning framework are priorities plans (formerly functional plans) and they contain some of the most important studies of the RMPS. Priorities plans are intended as management plans with detailed actions to carry out the policy directives of the RMPS. They are not a legal part of the planning framework and may include proposed regulations, programs, facilities, or partnerships and associated budgetary requirements. The 2008 HRM Business Parks Functional Plan, 2017 Integrated Mobility Plan (IMP), and 2018 Green Network (GNP) Plan are examples of these types of plans. This study details updates and added analyses to the 2008 HRM Business Parks Functional Plan,[2] while Appendix A further describes the IMP and GNP and how the recommended policies and actions in these plans relate to industrial/ business park planning and development.

2.1.3 Business Parks and Land Use By-Law Permissions

Development within HRM's business parks are subject to the MPS and LUB of the Community Planning Areas within which they are geographically located, as illustrated in Figure 2.

[1] Prior to municipal amalgamation, the County was divided into the City of Halifax, the City of Dartmouth, the Town of Bedford, and the Municipality of the County of Halifax.
[2] A number of Council directed by-law changes as part of the 2008 Functional Plan have not been realized to date. For example, Council directed re-zoning of Bayer's Lake Business Park to remove industrial land uses from being developed on the remaining vacant lands intended for retail use, and of Aerotech Business Park, despite resolving servicing constraints, have not yet occurred.

Figure 2
Community Planning Area Jurisdiction of Business Parks in HRM

Communtiy Planning Areas with Industrial-Specific Zones[1]	Aerotech Business Park	Bayers Lake Business Park	Burnside Industrial Park	City of Lakes Business Park	Atlantic Gateway Halifax Logistics Park	Ragged Lake Business Park	Atlantic Acres Industrial Park	Beechville Industrial Park	Bedford Commons	Eastern Shore Industrial Park	Musquo-doboit Industrial Park	Sackville Industrial/ Business Park	Sheet Harbour Industrial Park	Woodside Industries Park
Bedford							X		X					
Chebucto Peninsula														
Cole Harbour/ Westphal														
Dartmouth			X	X	X									X
Downtown Dartmouth														
Eastern Passage/Cow Bay														
Eastern Shore (East)													X	
Eastern Shore (West)														
Halifax Mainland		X				X								
Halifax Peninsula														
Lake Echo/ Porters Lake										X				
Beaver Bank, Hammonds Plains and Upper Sackville														
Lawrencetown														
Musquodoboit Valley/Dutch Settlement											X			
Prospect														
Sackville												X		
Shubenacadie Lakes	X													
St. Margaret's Bay														
Timberlea/ Lakeside/ Beechville								X						

[1] Includes corresponding Municipal Planning Strategy and Land Use By-Law

Within the broader context of this study, it is important to understand whether the LUB permissions of each business park are:

- Reflective of the employment sectors that the respective business park is and could be attracting (i.e. are the permissions improving the potential of the business park to meet its demand of particular employment sectors?);
- Conducive to supporting the development trends of the respective business park (i.e. are the permissions reflective of current development trends like siting, configuration, setbacks, built-form, etc., of the employment sectors that they are attracting?);
- Enabling the functionality and marketability of the respective business park (i.e. are the permissions too restrictive such that it makes it challenging for the business park to improve its attractiveness towards businesses?); and
- In keeping with the recommendations of the 2008 Functional Plan that municipally developed business parks should focus on general and light industrial development (i.e. are the permissions supportive of industrial development? Do they provide clear and consistent direction for industrial development? Are the permissions more supportive of retail and office space development?).

As such, the subsequent sections describe the range and nature of the LUB permissions within each municipally developed park. Based on market considerations explored in Sections 3 and 4, observations of whether gaps exist between the nature and demand of each business park, and the policy permissions are discussed in section 5.

2.1.3.1 Aerotech Business Park

Aerotech Business Park is located within the Planning Districts 14 and 17 (Shubenacadie Lakes) Plan Area and is comprised of approximately 2,400 acres of land. Two industrial zones can be found within the Aerotech Business Park: AE-1 (Aerotech Core) Zone and AE-H (Holding) Zone. The Aerotech Business Park was envisioned as a specialty park, focusing on targeting the aerospace industry and related manufacturing.

The AE-1 Zone allows for a range of industrial uses in relation to aircraft and aerospace industries research and development facilities, related manufacturing, scientific,

professional equipment, products manufacturing, electrical and electronic products manufacturing, communications and information products manufacturing, and industrial malls. Business uses are also permitted, such as information processing and storage facilities, communication facilities, educational and training centres, and all AE-3 (Aerotech Commercial) Zone uses. The AE-3 Zone authorizes a variety of accommodation uses (i.e. hotels), business uses (i.e. retail stores, restaurants, offices and service stations, and institutional uses (i.e. hospitals and medicals clinics, parks, and recreational uses).

The AE-H Zone offers a relatively narrow range of permitted uses including government facilities, educational establishments, training centres, and utilities. No maximum lot coverage or floor area ratio are identified for either zone.

Specific lot requirements for development in the Aerotech Business Park can be found in Appendix A.

2.1.3.2 Bayers Lake Business Park

Bayers Lake Business Park is located within the Halifax Mainland Plan Area. While originally developed by the City of Halifax (pre- dating amalgamation), it was sold and further built out by a private developer due to relatively high development costs. The I-3 (General Industrial) Zone entirely covers the park. All industrial, including cannabis production facilities, and commercial uses are permitted as long they do not represent a nuisance or a hazard to the public. Due to commercial uses, including office uses being permitted, the park has accommodated primarily non-industrial uses. Public parks are also authorized. Billboards, adult entertainment uses and amusement centres are prohibited. No maximum lot coverage or floor area ratio is identified for this zone.

Specific lot requirements for development in the Bayers Lake Business Park can be found in Appendix A.

2.1.3.3 Burnside Industrial Park

Burnside Industrial Park is located within the Dartmouth Plan Area and is comprised of approximately 3,400 acres. It is the largest industrial park north of Boston and east of Montreal. The I-2 (General Industrial) Zone entirely covers the area. The City of Lakes Business Park and the Atlantic Gateway – Halifax Logistics Park, located within the Burnside Industrial Park, are presented subsequently.

The I-2 Zone permits all commercial C-3 (General Business) Zone uses, including office uses. Adult entertainment uses, industrial enterprises that represent a nuisance or a hazard to the public, cabarets, pawn shops and cannabis production facilities are prohibited. The Burnside Park Expansion Area is restricted to the following businesses: industrial enterprises (including cannabis production facilities except for operations seen as a nuisance or hazard to the public), warehousing, distribution as well as office and retail uses accessory to the industrial and logistics uses. Full lot coverage (100%) is permitted. If lot coverage is less than 100%, side and rear yard setbacks are applied as specified within the Regional Subdivision By-law. Additional side and rear yard setbacks apply if the property abuts a residential, park or institutional zone.

Staff have initiated a series of policy and zoning changes in the Burnside Business Park with the intent to protect existing business and uses as well as industrial lands for future growth (HRM Case #21808). Enabling policy for Phase 13 of the Burnside Business Park Expansion Area has been added to the RMPS already, and a General Industrial (I-2) Zone has been applied to the area. The zoning for all of Burnside is proposed to be changed to two zones (note the City of Lakes section is not included in this):

- Commercial Industrial (CI) Zone: for light industrial and commercial uses on Burnside's main streets that have high visibility and access to transit.
- General Industrial (GI) Zone: for light and heavy industrial uses in Burnside away from main streets, separated from commercial and residential areas.

Halifax Regional Municipality staff are working to finalize the proposed zones for the Burnside and City of Lakes Business Parks to present to Regional Council for approval. Landscaping and building material requirements are proposed as part of the zone changes.

Specific lot requirements for development in the Burnside Industrial Park can be found in Appendix A.

2.1.3.4 City of Lakes Business Park

The City of Lakes Business Park is located within the Burnside Industrial Park, and was designed and developed as a suburban office park. Requirements follow the same LUB requirements as described above under the Burnside Industrial Park section. In addition to the LUB requirements for a I-2 (General Industrial) Zone development, the City of Lakes Business Park is also subject to Restricted Covenants and Building

Standards documents to reflect its intended development goal as an office park. Any development, existing or future, within the City of Lakes must adhere to these additional requirements.

Any development within the park is required to go through a Site Development Proposal process seeking approval from the Municipality prior to the commencement or maintenance of work on any site. Upon approval of the Site Development Proposal, construction shall commence within twelve months of the date of closing and shall be completed within twelve months from the date of commencement. Submission requirements are specified within the City of Lakes Restricted Covenants document.

Examples of buildings not permitted within the City of Lakes Business Park are, office buildings over five storeys in height; hotels with fewer than 125 guest rooms; or light manufacturing uses. Outdoor storage, outdoor display of products, goods, wares or articles are permitted within the City of Lakes area. It should be noted that uses indicated as not permitted may be approved at the sole discretion of the CRE. The City of Lakes has a minimum lot coverage of 20% applied to all developments. Additional requirements are specified within the Building Standards document, for example, permitted building material types; minimum setback of 40 feet (12.2 metres) from the front property boundary; parking requirements; and signage requirements.

As part of the zoning review for Burnside, staff are preparing a series of policy and zoning changes in the City of Lakes Business Park (HRM Case #21808). The zoning for all of Burnside is proposed to be changed to a Business Park (BP) Zone designed to accommodate campus-style suburban office space in the City of Lakes Business Park. Landscaping and building material requirements are proposed as part of the zone changes.

Specific lot requirements for development in the City of Lakes Business Park can be found in Appendix A.

2.1.3.5 Atlantic Gateway – Halifax Logistics Park

The Atlantic Gateway – Halifax Logistics Park, similar to the City of Lakes Business Park, is located within the Burnside Industrial Park and follows the same LUB requirements as described above under the Burnside Industrial Park section. In addition to the I-2 (General Industrial) Zone requirements, the I-3 (Harbour-Orientated Industrial) Zone is located in small pockets throughout the park.

The I-3 Zone permits the following uses: industrial uses requiring direct access to the salt water; construction, maintenance and repair of marine vessels; marine research; handling and storage of bulk container and general cargo; recreational uses; and accessory uses to the above noted. No maximum lot coverage or floor area ratio is identified for I-3 or the I-2 zones. Where an I-3 Zone abuts a zone other than industrial, commercial, or existing residential, a 30-foot (9.1-metre) yard shall be provided. As discussed in the Burnside section, the Atlantic Gateway – Halifax Logistics Park will also be subject to new zoning as part of Halifax's review of the area's zoning (HRM Case #21808).

Specific lot requirements for development in the Atlantic Gateway – Halifax Logistics Park can be found in Appendix A.

2.1.3.6 Ragged Lake Business Park

Ragged Lake Business Park is located within the Halifax Mainland Plan Area, in proximity to Bayers Lake Business Park. One industrial zone is found throughout the Business Park: I-3 (General Industrial) Zone.

I-3 Zone allows for all industrial and commercial uses except where the operation/ business would be seen as a nuisance or hazard to the public. The exceptions to this policy are billboards, adult entertainment uses, and amusement centres, which are prohibited within the I-3 Zone. In addition, public parks and cannabis production facilities are also permitted uses within the zone. No maximum lot coverage or floor area ratio is identified for this zone.

Specific lot requirements for development in the Ragged Lake Business Park can be found in Appendix A.

2.1.4 Observations

Both the 2008 Functional Plan and RMPS outline a clear goal of encouraging industrial land development in HRM's municipally developed business parks, however, they have not considered industrial employment land demand growth projections. The 2008 Functional Plan did, however, examine suburban office demand projections. Since the last review of the RMPS, HRM has continued to receive development enquiries to permit the change of use of industrial lands into commercial or residential land uses. These enquiries have been primarily to accommodate the retail sector for Bayers Lake,

Bedford Commons and Dartmouth Crossing. The subject lands were purchased by private developers with the intent to develop retail power centres, which could be accommodated in the permissive zoning.

Furthermore, there are challenges to implementing the 2008 Functional Plan and the RMPS intent to encourage industrial land development because the current planning documents including CPA, MPS, and LUB are still in its pre-amalgamation state. This has created inconsistency in how industrial-specific zoning permissions across HRM are interpreted, applied, and implemented, making it more challenging to foster growth.

HRM is currently in the process of modernizing its regulations, namely the CPA and subsequent MPS and LUB, and has to date partially enacted approval of the Regional Centre Plan. This process is expected to continue, consolidating, and simplifying the number of planning documents and conflicting policy statements and varied zoning regimes present in HRM's 22 CPAs.

Section 4 provides planning direction for industrial employment lands in HRM including what industrial and other employment sectors HRM needs to plan for, and where HRM should plan for the growth of industrial employment land.

2.2 Economic Studies and Strategies

To help inform the IELS, a number of background economic documents and studies were reviewed to provide context on current and past economic development and industrial growth-related initiatives in Halifax. The following provides a summary of key findings from this literature review.

2.2.1 2008 HRM Business Parks Functional Plan

As previously mentioned, the IELS updates and expands on the 2008 Business Parks Functional Plan prepared for HRM. This 2008 Plan focused on developing a strategic plan for the long-term development of HRM's commercial and industrial base, and land-use recommendations for the Greater Burnside Area and Greater Bayers Lake/Ragged Lake Business Park area. The 2008 Plan concluded by recommending:

- The private sector to lead the development of land for retail and office space focused within Dartmouth Crossing, Bedford Commons and the remaining lands of Bayers Lake;

- HRM to focus on primarily developing general and light industrial land;
- HRM partner with stakeholders such as the Halifax Port Authority and Halifax Airport Authority to focus on core economic growth segments; and
- The Greater Halifax Partnership take a lead in ensuring alignment between HRM's economic growth policies and its business park activity.

The 2020 IELS is focused on updating and expanding on the work undertaken in the 2008 HRM Business Parks Functional Plan, excluding specific land-use recommendations for the various business parks.

2.2.2 2010 Atlantic Gateway and Trade Corridor Strategy

The 2010 Atlantic Gateway and Trade Corridor Strategy was developed by the Government of Canada and Provinces of Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland and Labrador. It provides a long-term strategy to establish the vision of the Atlantic Gateway and Trade Corridor as a strategic, integrated and globally competitive transportation system that supports the movement of international commerce. Its objectives are to:

- Strengthen the nation's competitiveness in attracting a larger share of global commerce in traditional markets and emerging international economies;
- Provide for a safe, secure, efficient, and sustainable multimodal transportation system that contributes to the economic prosperity of the Atlantic Provinces and the nation; and
- Promote the Corridor's transportation system assets at home and internationally.

The Strategy outlines nine Core Elements and each have immediate measures within them. Examples of the immediate measures that do apply to HRM include, but are not limited to:

- The Burnside Connector Phase 1 which aims to connect Highway 102 and Highway 107 and a major industrial park and transshipment facility;
- The South Terminal Expansion of the Port of Halifax to accommodate the next generation of container ships;
- An international marketing program to promote the Corridor's competitive advantages and niche market strengths in order to attract new international commerce opportunities; and

- Runway extension at the HSIA to accommodate larger cargo planes and enhance safe operations.

Altogether, the Core Elements and their immediate measures aim to ensure Nova Scotia, and by extension HRM, as part of the Atlantic Gateway and Trade Corridor has a well-positioned transportation system to compete for global commerce.

2.2.3 Economic Impact Assessments for Burnside and City of Lakes Business Parks

Initially conducted in 2010 by Canmacs Economics Limited and subsequently updated in 2015, the Economic Impact Assessment for Burnside and City of Lakes Business Parks assessed the Business Parks' total economic impact in terms of employment contribution to HRM, gross domestic product (G.D.P.) contribution to HRM, commercial assessment, net sales, direct household income, direct employment of full-time equivalent positions, direct provincial G.D.P. contributions, and estimated cost of construction and repair. Key observations of the Burnside/City of Lakes Parks' impact include the following:

- It has contributed almost a quarter of HRM's employment and nearly 20% of its G.D.P.;
- It has contributed to approximately 16% of the region's commercial assessment;
- Its net sales are in the order of approximately $6 billion; and
- It has contributed directly to the Province's G.D.P. by approximately $3 billion.[1]

Given the growing importance of HRM as a regional centre, efforts to diversify its economy, multi-governmental investments to strengthen HRM's transportation system as part of the overall Canadian supply chain, it is anticipated that Burnside and City of Lakes Business Parks will continue to be economic generators within HRM.

[1] HRM Council Report. February 4, 2019 – Highway 107 Extension (Burnside Sackville Expressway) – Access to Phase 13, Burnside Industrial Park and HRM Council Report – Ragged Lake Industrial Park – Background Planning Studies.

2.3 Trends in Industrial Park Land-Use Planning and Development

As previously mentioned, industrial employment lands are an integral part of Halifax's land use structure. Halifax's industrial base is a combination of HRM (municipally) developed and provincially/privately developed business and industrial parks areas.

Halifax's developed industrial employment lands are largely located within the Regional Plan's (RP+5) Business/Industrial Park secondary designation areas, as delineated in the Plan's Generalized Future Land Use overlay. Halifax has approximately 3,370 net acres (1,364 net ha) of developed industrial employment land within Industrial Park designated areas (municipally, provincially, and privately owned). This includes 3,080 net acres (1,246 net ha) within the Urban Service Area, 110 net acres (45 net ha) within rural industrial areas and 180 net acres (73 net ha) within the Airport area (Aerotech). Halifax's industrial employment lands within the Urban Service Area accommodate approximately 12.6 million sq.ft. of industrial space G.F.A.[1] Halifax's industrial employment lands also accommodate a share of the Municipality's office, commercial service, and institutional space.

A number of lands are used for industrial purposes outside of delineated business park areas, particularly in rural areas that also permit commercial or residential options, and have not been included in this report's metrics regarding industrial employment land because the report's focus is on dedicated areas designated primarily for industrial land use. For example, Halifax also has additional industrially zoned lands with significant holdings in Eastern Passage. These include the Irving Oil lands, Autoport lands, Valero lands, the Imperial Oil/Esso lands, and the Halifax Port Authority lands as discussed below.

- **The Halifax Port Authority** administers approximately 260 acres (105 ha) of federal land, including the Fairview Cove Container Terminal, the South End Container Terminal, the Richmond Terminals, and Ocean Terminals (including the South End's Halifax Grain Elevator and the Seaport Market). The Port Authority is important in administering most of the container land in the urban

[1] CBRE Halifax Industrial Marketview, Q2 2019

area, as well as the Port of Sheet Harbour. The Port uses land leases on its landholdings with a variety of operators.

- **The Irving Oil Marine Terminal and Storage** is located nearby to the Circumferential Highway near Woodside Ocean Industries Park and is approximately 46 acres (19 ha) in size. It was renewed in 2016 and provides fuel storage, loading and handling facilities.
- **Autoport Lands** consist of approximately 290 acres (117 ha) in Eastern Passage, which are owned by Autoport and handle vehicle import processing and transshipment.
- **Valero Energy** lands, which abut the Autoport lands, comprise approximately 220 acres (89 ha). It is our understanding that these lands are currently for sale and will be redeveloped.
- **The Imperial Oil/Esso land** holdings are approximately 1,110 acres (449 ha) located in Eastern Passage and include the site of a former oil refinery. In 2013, Imperial Oil announced that the company would be converting the refinery into a marine terminal.

2.3.1 Overview of HRM Industrial Parks Land-Use Planning Since 2005

Over the past 15 years, a series of plans, amendments, and strategies relevant to the planning of Industrial Parks in HRM have been prepared, including the following:

- 2005: Strategies for Success – Economic Development Strategy for HRM
- 2006: Burnside Comprehensive Development District (BCDD) Zone created, adding residential options for Dartmouth Crossing
- 2006: Wrights Cove Land Use and Transportation Plan
- 2006: First Regional Municipal Planning Strategy
- 2007: Building the Container Transload Sector in Halifax
- 2008: Business Parks Functional Plan
- 2010: Burnside Business Park Economic Impact Assessment
- 2011: Halifax Economic Strategy 2011-2016 (Halifax Partnership)
- 2011: Halifax International Airport Authority Industrial Expansion Project
- 2013: HRM Industrial Land Strategy – RP+5
- 2014: Major RP+5 Update to the Regional Municipal Planning Strategy
- 2016: Halifax Economic Growth Plan 2016-2021 (Halifax Partnership)

- 2016: Burnside MPS and LUB Review Commenced
- 2016: Economic Impact Burnside Business Parks
- 2019: Regional Centre Secondary Municipal Planning Strategy and Land Use By-Law adopted for Package "A" areas

The traditional use of industrial zoning in HRM has been broad in application, permitting retail, office, commercial, service uses, as well as manufacturing. Where zoning has permitted both industrial and commercial uses, commercial uses have been outcompeting price points for industrial lands. If the zoning is too broad, the higher margin land uses will dominate and generally outcompete industrial development, particularly in areas with good transportation access. Bayer's Lake, Dartmouth Crossing and Bedford Commons illustrate this trend. Enhanced development provisions under the Regional Centre Plan will likely put additional development pressure on harbour-oriented industrial as prime residential development lands.

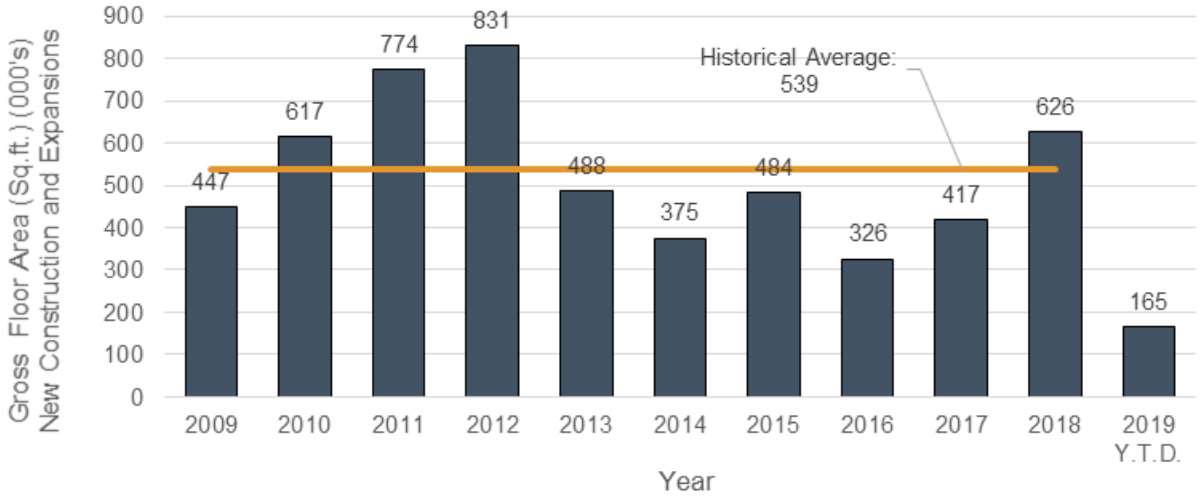
2.3.2 Recent Development Activity within Industrial Parks

Figure 3 summarizes building construction (new development and expansions) within Halifax's designated industrial parks over the 2009 to 2019 (January through July) period, expressed in building G.F.A. (gross floor area). As illustrated, Halifax accommodated an average of 539,000 sq.ft. (50,075 sq.m) of development within industrial parks annually over the past decade, comprised largely of industrial space as well as some commercial and institutional building space. The level of development activity after the 2009/2010 economic downturn experienced strong growth through 2012. Halifax experienced marginally lower levels of development activity from 2013 to 2017, with all five years yielding development below the 10-year average. Development activity in 2018 significantly rebounded to the strongest period in seven years, while 2019 (through July) has been more moderate.

Over the past five years (2014 to July 2019), new construction has accounted for 85% of development activity within industrial parks compared to 15% for additions/ expansions.[1]

[1] Derived from HRM building permit data by Watson & Associates Economists Ltd.

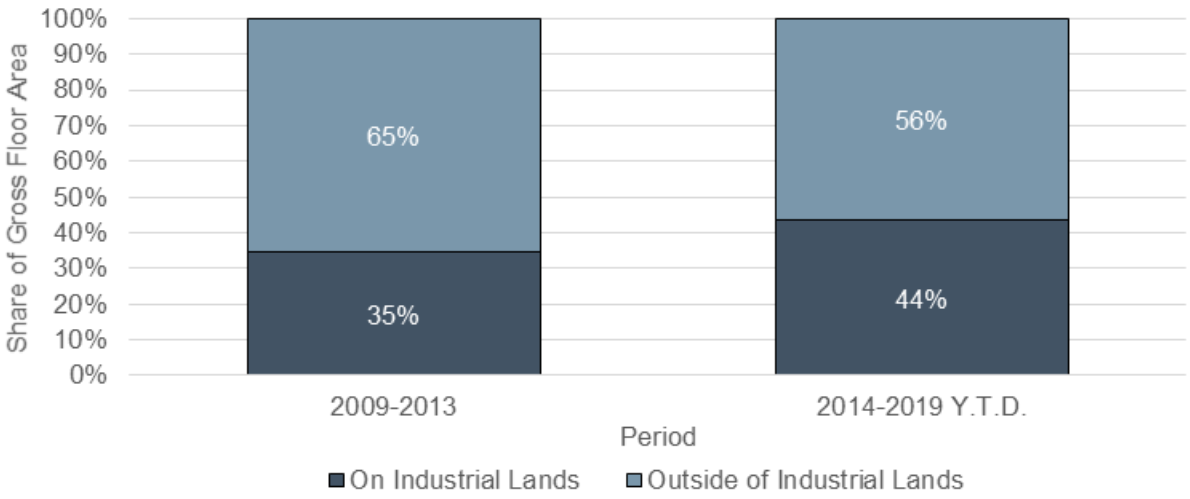
Figure 3
Halifax Industrial Park Total Annual Development Activity



Note: 2019 year-to-date includes activity from January to July.
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

Over the past five years (2014 to July 2019), development within Halifax's Industrial Parks has accounted for 44% of municipal-wide non-residential development, as illustrated in Figure 4. This is compared to 35% over the 2009 to 2013 period, which suggests that the Municipality's industrial employment lands are accommodating an increasing share of municipal-wide non-residential development activity.

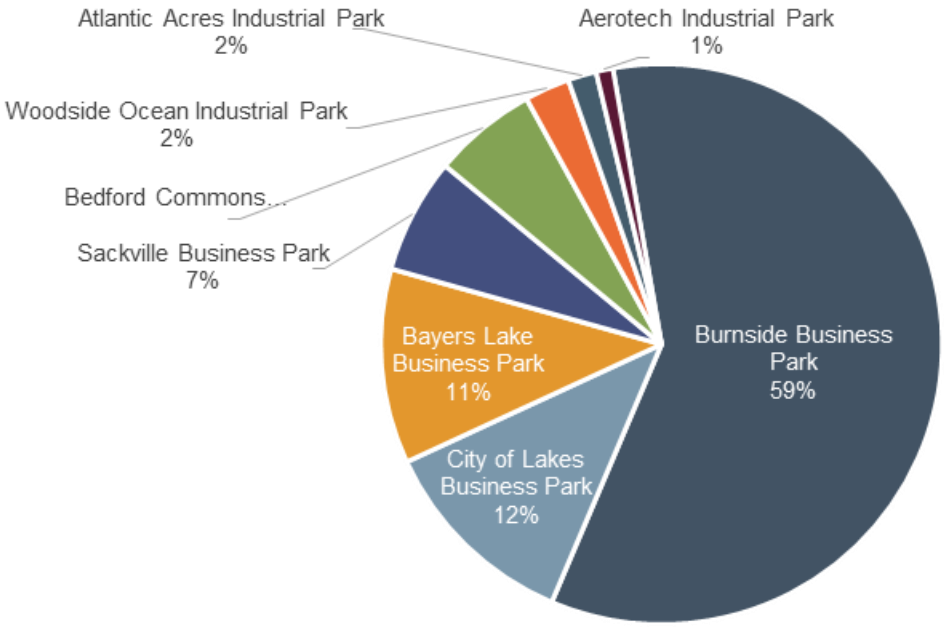
Figure 4
Halifax, Non-Residential Building Permit Activity within Halifax's Industrial Parks
– as a Share of Municipal-Wide Total



Note: 2019 is year-to-date includes activity from January to July.
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

As presented in Figure 5, over the 2014 to July 2019 period, more than half (59%) the development within Halifax's industrial parks has been accommodated within the Burnside Industrial Park. The City of Lakes Business Park has accounted for 12%, Bayers Lake Business Park 11%, Sackville Business Park 7%, Bedford Commons 6%, Woodside Ocean Industrial Park 2%, Atlantic Acres Industrial Park 2%, and Aerotech Industrial Park 1%. The focus of development activity in Burnside Industrial Park is in part due to the supply opportunities of serviced shovel-ready sites available in the park.

Figure 5
Halifax, Non-Residential Building Permit Activity on Industrial Lands by Industrial/Business Park, 2014 to 2019

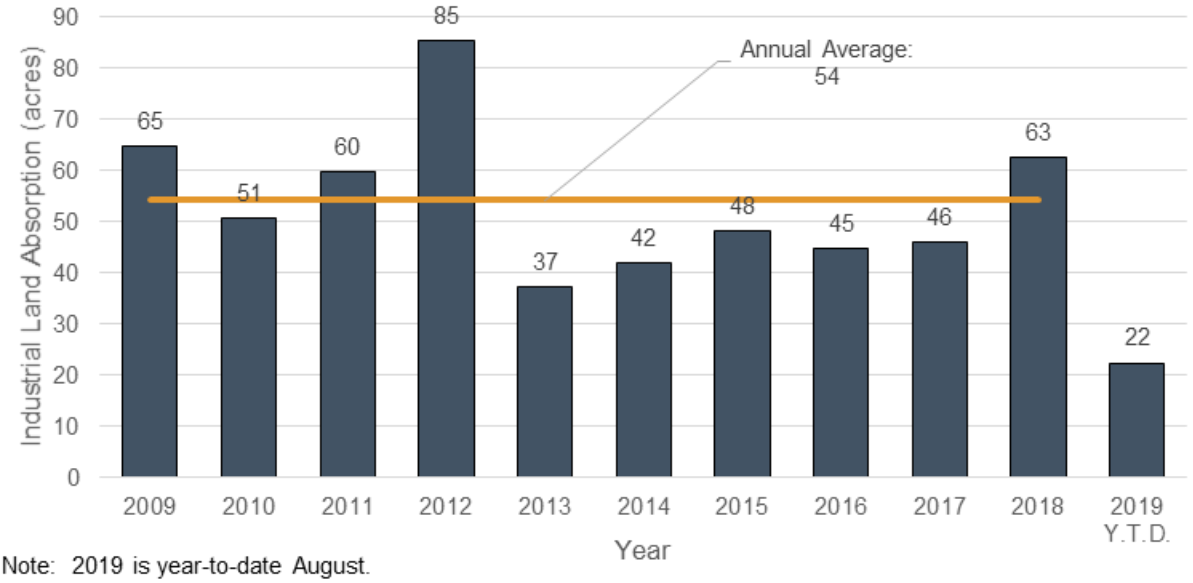


Note: 2019 year-to-date includes activity from January to July.
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

2.3.3 Industrial Employment Lands Absorption

Figure 6 summarizes annual absorption on industrial employment lands within Halifax's Industrial Parks over the 2009 to July 2019 period. Over the period, approximately 564 net acres (228 ha) of industrial lands have been absorbed in Halifax. As illustrated, industrial land absorption levels have averaged approximately 54 net acres (22 net ha) per year.

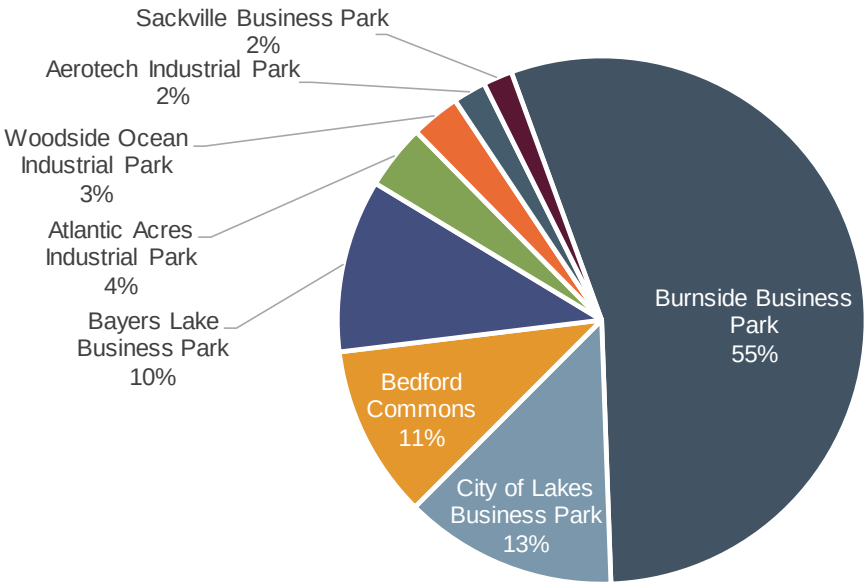
Figure 6
Halifax, Annual Industrial Land Absorption, 2009 to 2019



Note: 2019 is year-to-date August.
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

Figure 7 summarizes the share of industrial land absorption by industrial park over the 2011 to July 2019 period. Over the period, the Burnside Business Park has accounted for 55% of Halifax's industrial land absorption. In comparison, the City of Lakes Business Park, Bedford Commons and Bayers Lake Business Park have accounted for 13%, 11% and 10% of the share, respectively. The remaining one-tenth of land absorption has been largely accommodated within Atlantic Acres Business Park, Woodside Ocean Industries Park, Aerotech Industrial Park and Sackville Business Park.

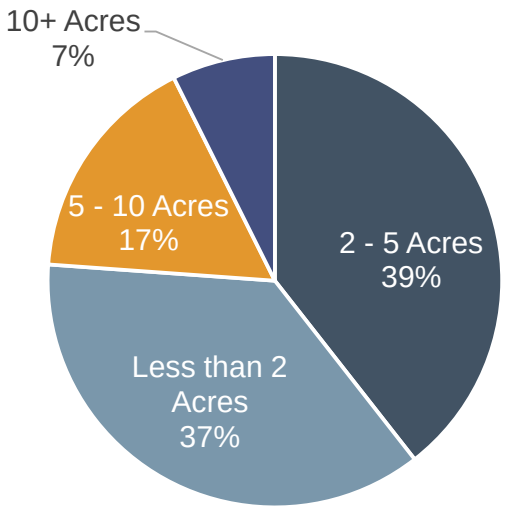
Figure 7
Halifax Industrial Land Absorption by Industrial Park, 2011 to 2019



Note: 2019 year-to-date includes activity from January to July.
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

- Figure 8 summarizes the share of municipal-wide industrial employment lands absorbed by parcel count and parcel size over the 2011 to July 2019 period. As illustrated, smaller parcels of less than 2 acres (0.8 ha) accounted for 39% the parcels absorbed over the period, while parcels of 2 to 5 acres (0.8 to 2 ha) in size have accounted for 37%. The share of larger parcels, 5 to 10 acres (2 to 4 ha) and greater than 10 acres (4 ha) have accounted for 17% and 7%, respectively, over the period.

Figure 8
Halifax Industrial Land Absorption by Parcel Size, 2011 to 2019



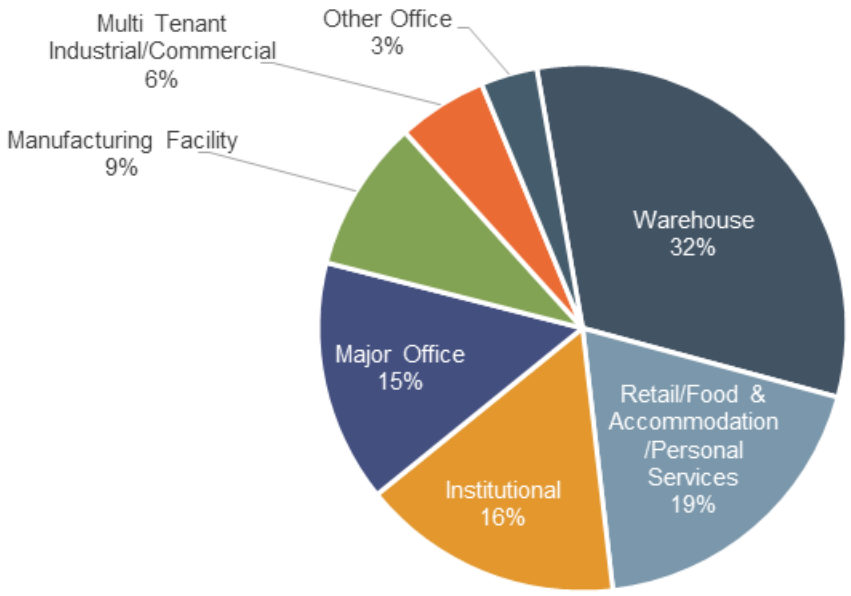
Note: 2019 is year-to-date August.
The percentage share is based on the number of industrial parcels absorbed by parcel size from 2011 to 2019 Y.T.D..
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

2.3.4 Accommodation of Non-Industrial Uses (including office and other commercial uses) on Industrial Employment Lands

Figure 9 summarizes the industry sector/built form accommodated on industrial employment lands absorbed within Halifax's industrial parks over the 2011 to 2018 period.

- Absorbed industrial employment lands have accommodated a range of industrial, commercial and institutional sectors;
- Over the period, warehouses have accounted for nearly one-third (32%) of industrial employment lands absorbed, followed by retail, food, accommodation and personal services (19%), institutional uses (16%), major office (15%), manufacturing facilities (9%), multi-tenant industrial/commercial buildings (6%) and other office uses (3%).

Figure 9
Industrial Land Absorption by Land Use/Building Type, 2011 to 2018



Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

Figure 10 illustrates the building G.F.A. associated with the absorbed industrial employment lands absorbed over the 2011 to July 2019 period. As shown, over the period, 3.9 million sq.ft. of building G.F.A. has been developed on the absorbed industrial employment lands. The following provides observations in key industry sectors accommodated.

Warehousing – Warehouse development has accounted for the largest share (27%) of G.F.A. accommodated on industrial employment lands absorbed over the 2011 to July 2019 period, totalling 1.045 million sq.ft. Warehouse development has been concentrated in the Burnside Business Park comprised largely of 10,000 to 60,000 sq.ft. buildings that are of prestige character. The warehouse buildings serve a broad range of sectors, including wholesale trade consumer markets, transportation, contractors, and self storage.

Manufacturing – Over the 2011 to July 2019 period, stand-alone manufacturing facilities have accounted for 7% (286,000 sq.ft.) of total G.F.A. accommodating a range of small to medium manufacturing including machine shops, metal fabrication, and electronics manufacturing.

Major Office – Halifax's Industrial Areas have accommodated a range of stand-alone suburban major office buildings, largely between 25,000 and 100,000 sq.ft. Major office development activity has been concentrated in Burnside Business Park, Bayers Lake Business Park, Bedford Commons, and the City of Lakes Business Park and accommodate a range of "knowledge-based" sectors including professional, scientific and technical services and corporate head office.

Retail/Food and Accommodation/Personal Services – This sector has accounted for nearly one-quarter (906,000 sq.ft.) of building G.F.A. within Halifax's Industrial Areas over the 2011 to July 2019 period. Halifax's industrial employment lands are accommodating a broad range of employment-supportive uses such as hotels, restaurants, and ancillary retail. Large format stand-alone retail development has also been prevalent in Bedford Commons and Bayers Lake catering to the broader community. These development trends reflect the diversification that is occurring both in the macro and regional economies.

Institutional/Government – Over the 2011 to July 2019 period, institutional and government uses have accounted for 11% (445,000 sq.ft.) of building G.F.A. constructed on absorbed employment lands. This includes government office buildings, medical office, private schools, and recreational facilities.

Figure 10
HRM Building G.F.A. (sq.ft.) on Absorbed Industrial Employment Land
by Building Type, 2011 to July 2019

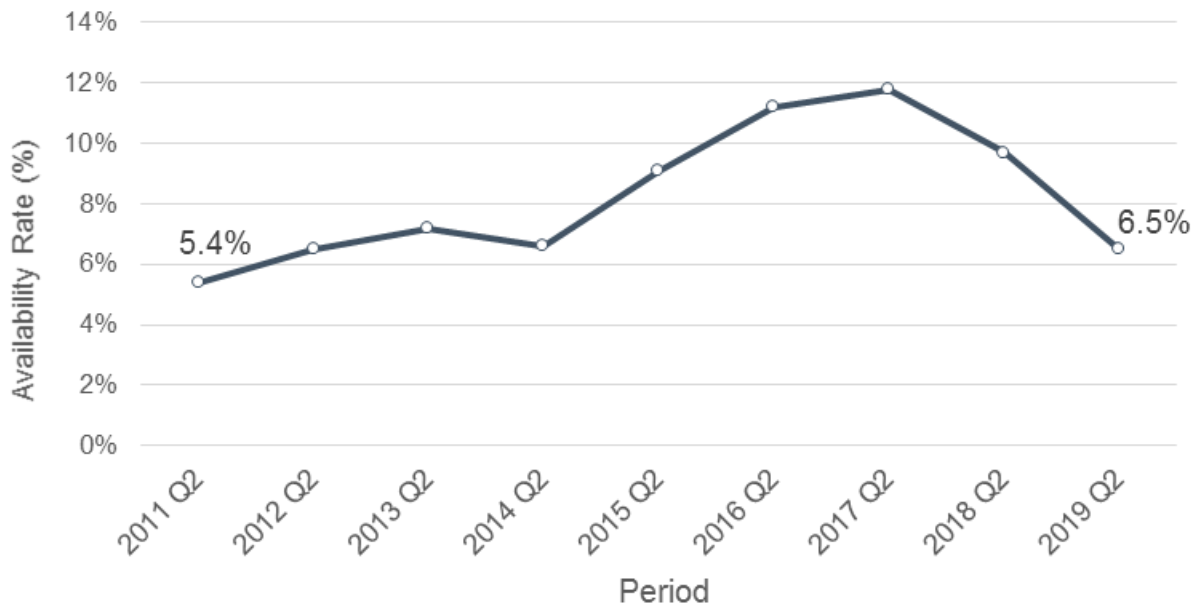
Sector	G.F.A.	
	Total (sq.ft.)	Share (%)
Warehouse	1,045,000	27%
Retail/Food & Accommodation/Personal Services	906,000	23%
Institutional	445,000	11%
Major Office	882,000	23%
Manufacturing Facility	286,000	7%
Multi-Tenant Industrial/Commercial	252,000	6%
Other Office	96,000	2%
Total	**3,912,000**	**100%**

Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

2.3.5 Industrial Space Market Indicators

Halifax has approximately 10.0 million sq.ft. of industrial building space.[1] The industrial availability rate long-term trend within HRM remained relatively stable from 5.4% in Q2 2011 to 6.5% in Q2 2019, as illustrated in Figure 11. There were periods of increased availability over the past few years with highs of 11.8% in 2017 Q2. Since then availability rates have steadily declined and returned to the long-term trend as illustrated in Figure 11. Over the 2011 to 2019 period, vacancy rates have increased most notably in the Halifax sub-area and to a lesser degree in Bedford, while decreasing in Sackville and remaining stable in Dartmouth. As of Q2 2019 Dartmouth is the only area with an industrial vacancy rate lower than the HRM total of 6.5%, while the Halifax sub-market has a vacancy of 8.9%. While industrial vacancy rates have declined from highs reached in 2016 as the market continues to tighten, current industrial availability rates in HRM suggest that there is some excess capacity in industrial building space.

Figure 11
HRM Industrial Availability Rates, 2011 to 2019



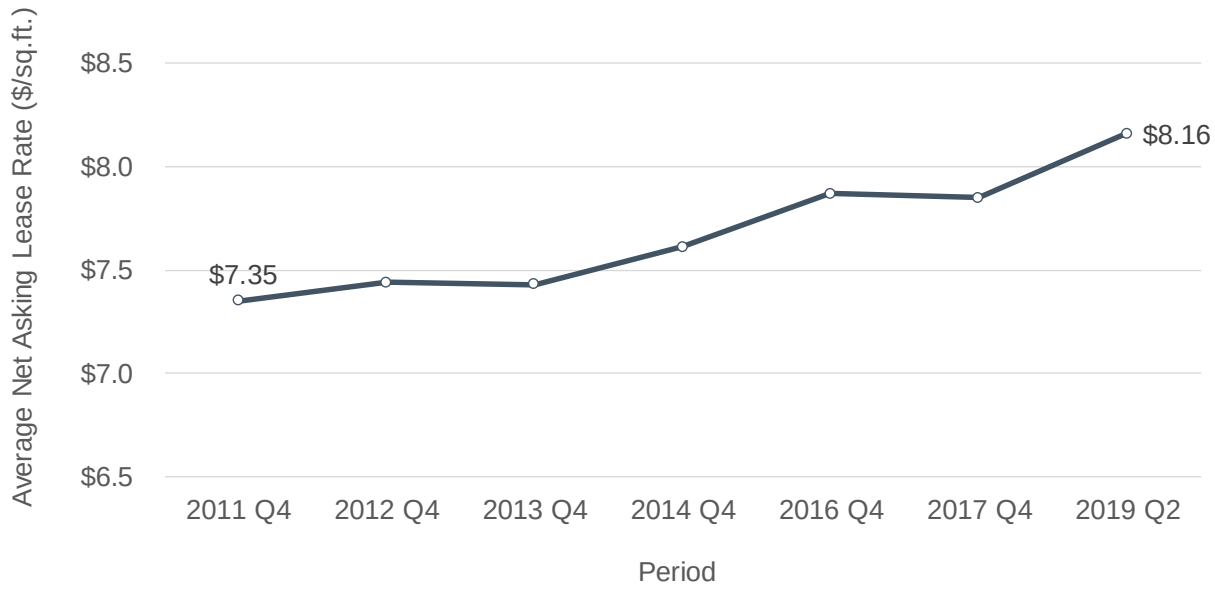
Source: CBRE Halifax Industrial Marketview, Q2 2011 to Q2 2019, by Watson & Associates Economists Ltd., 2020.

[1] CBRE Halifax Industrial Marketview, Q1 2019.

A key variable in understanding the relative strength of the industrial market is the net market rents for industrial space, typically expressed on a per square foot of gross lease area on an annual lease basis and referred to as "net market rent."

Figure 12 summarizes the average market rents for industrial space in Halifax.[1] As shown, industrial net market rents have steadily increased from $7.35 in Q2 2011 to $8.16 in Q2 2019. Average rents have most notably increased in Dartmouth; to a lesser degree in the Halifax sub-market, while Bedford and Sackville have seen slight declines. As of Q2 2019, Sackville has the highest industrial net market rent of $9.80 per sq.ft., followed by the Halifax sub-market ($9.14 per sq.ft.), Bedford ($8.70 per sq.ft.) and Dartmouth ($7.82 per sq.ft.). Compared to the HRM total of $8.16 per sq.ft., Dartmouth is the only sub-area with a lower industrial net market rent.

Figure 12
HRM Average Industrial Net Market Rents, 2011 to 2019



Source: CBRE Halifax Industrial Marketview, Q4 2011 to Q2 2019, by Watson & Associates Economists Ltd., 2020.

[1] As reported by CBRE industrial market reports. Net market rents have not been adjusted for inflation.

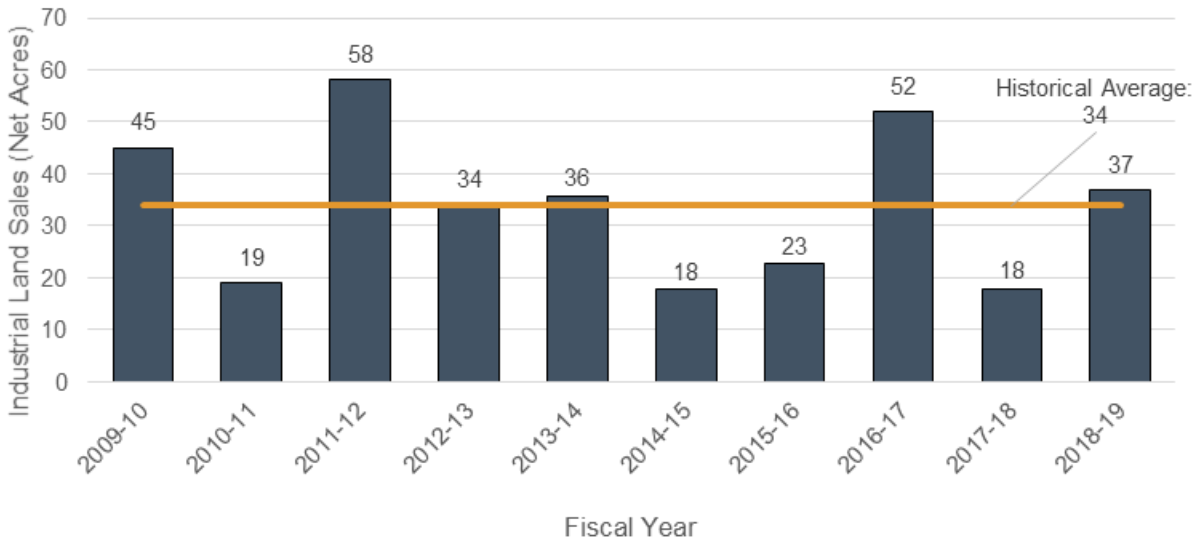
2.4 HRM Business Enterprise Performance Trends

HRM, through CRE, is the leading industrial land developer in Halifax, assembling and servicing land, and is responsible for a range of related initiatives including land sales and marketing. CRE's development efforts over the past decade have focused on the Burnside Industrial Park due to steady market demand and lack of municipal supply opportunities on the Halifax side of the harbour.

Figure 13 illustrates CRE's industrial land sales between 2009/2010 and 2018/2019. Key highlights include the following:

- Over the period, land sales have averaged 34 net acres (14 net ha) per year.
- Land sales have been relatively stable throughout the period, ranging from a low of 18 net acres (7 net ha) per year to a high of 58 net acres (23 net ha) per year;
- Over the past decade, the majority of land sales on a land area basis (85%) have been in Burnside Business Park followed by 8% in City of Lakes Business Park and 7% in Bayers Lake Business Park.

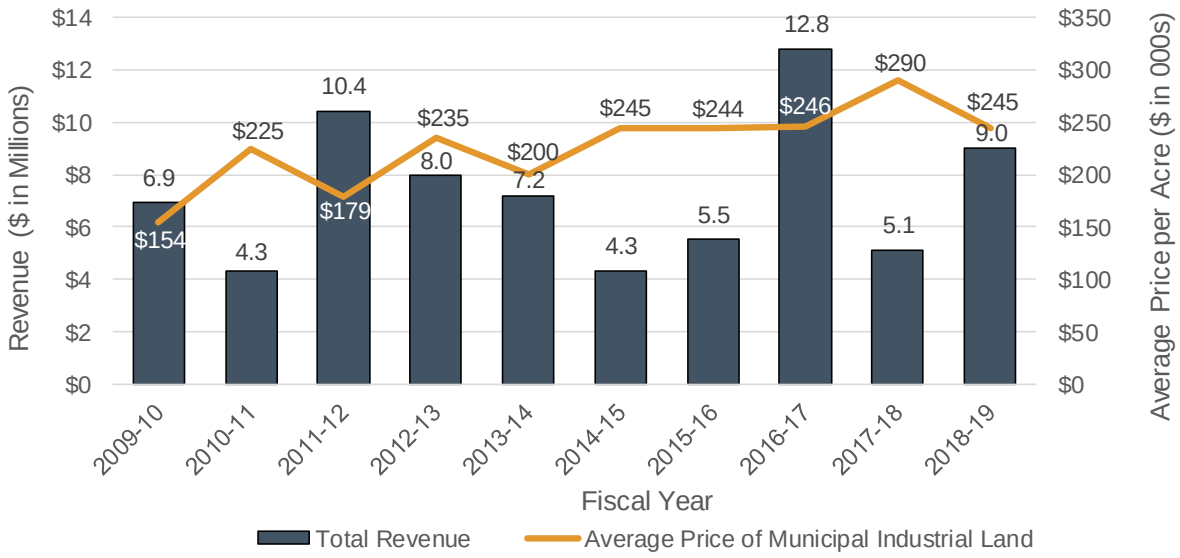
Figure 13
Municipal Industrial Lands Sales (Net Acres), 2009 to 2019



Note: Excludes two large land sales in 2012/2013. Provincial highway land in Burnside Industrial Park and retail commercial land in Bayers Lake Business Park.
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

Industrial land prices, based on revenues generated by HRM, have appreciated over the past decade, rising from an average of $154,000 per acre in 2009/10 to $245,000 per acre in 2018/19, as illustrated in Figure 14.

Figure 14
Average Price of Municipal Industrial Land ($ per acre), 2009 to 2019



Note: Excludes two large land sales in 2012/2013. Provincial highway land in Burnside Industrial Park and retail commercial land in Bayers Lake Business Park.
Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

3. Analysis of Existing Conditions and Growth Trends

3.1 Macro-Economic Trends Influencing Development on Industrial Lands

The following provides an overview of recent macro-economic trends and regional growth drivers that are anticipated to influence future growth trends on industrial employment lands within Halifax over the coming decades. This chapter includes a 20-year forecast of industrial employment land demand and assessment of industrial employment land needs in Halifax over the period.

3.1.1 Global Economic Trends and International Trade

Following steady economic growth since the world economy rebounded from the 2008/2009 financial crisis, the world has changed dramatically in 2020. The December 2019 outbreak of coronavirus disease (COVID-19) in Wuhan, China was officially declared a global pandemic by the World Health Organization (W.H.O.) on March 12, 2020 and has inflicted rising economic and human costs across the world. In response to the threat of further escalation associated with the spread of the virus, governments around the world have implemented quarantine and physical distancing practices in what has been referred to as the "Great Lockdown."

To date, the downward impact of these containment measures on global economic output, commodity prices, and consumer spending has been severe. Economic sectors such as travel and tourism, accommodation and food, retail and personal services, manufacturing, energy, and finance have been hit particularly hard. Furthermore, required modifications to social behavior (i.e. physical distancing) and increased work-at-home requirements resulting from government-induced containment measures and increased health risks have resulted in significant economic disruption largely related to changes in consumer demand and consumption patterns. Lastly, escalating tensions and constraints related to international trade have also begun to raise further questions regarding the potential vulnerabilities of globalization and the structure of current global supply chains.

At the current time, the level of sustained economic impact related to this "exogenous shock" to the world and Canadian economy is largely unknown. Notwithstanding this uncertainty, it is generally clear that the longer COVID-19 persists on an international scale, the greater the severity of the current global recession. In its latest World Economic Outlook, the International Monetary Fund (I.M.F.) baseline scenario is forecasting the global economy to contract by 3% in 2020, which represents a much more significant economic contraction than what was experienced during height of the 2008/2009 financial crisis. For advanced economies, the I.M.F. estimates 6.1% contraction in growth in 2020, while emerging markets and developing economies are also projected to experience negative growth of 1.0%.

Under the baseline I.M.F. assumption that the pandemic recedes in the second-half of 2020 and policy measures have been effective, growth is projected to rebound to 5.8% in 2021. As previously noted, it is important to recognize that there is a great deal of

uncertainty around the duration and intensity of the pandemic as well as the effectiveness of policy responses. As such, more or less adverse scenarios are a possibility.[1] The World Trade Organization (W.T.O.) forecasts that the volume of world merchandise trade will decline by 13% in 2020 and rebound by 22% in 2021 under an optimistic scenario, and decline by 32% and rebound by 24% under a pessimistic scenario.[2]

In the United States (U.S.), real G.D.P. (gross domestic product) is forecast to contract by 5.9% in 2020 and rebound by 4.7% in 2020.[3] The recovery of the U.S. economy will largely depend on the U.S. administration's response to deal with the virus domestically, to date having issued a $2 trillion stimulus bill in March 2020, in conjunction with their approach to international trade and protectionist policies.[4, 5]

The trade war between the U.S. and China, the world's two largest economies, which began in 2018 has also been a steady source of volatility for global markets and has negatively impacted global investment growth.[6] Escalating trade tensions over the past several months between the two countries continues to add risk to global economic growth and further add to trade disruption as well as near-term market volatility.[7,8]

3.1.2 Provincial Context

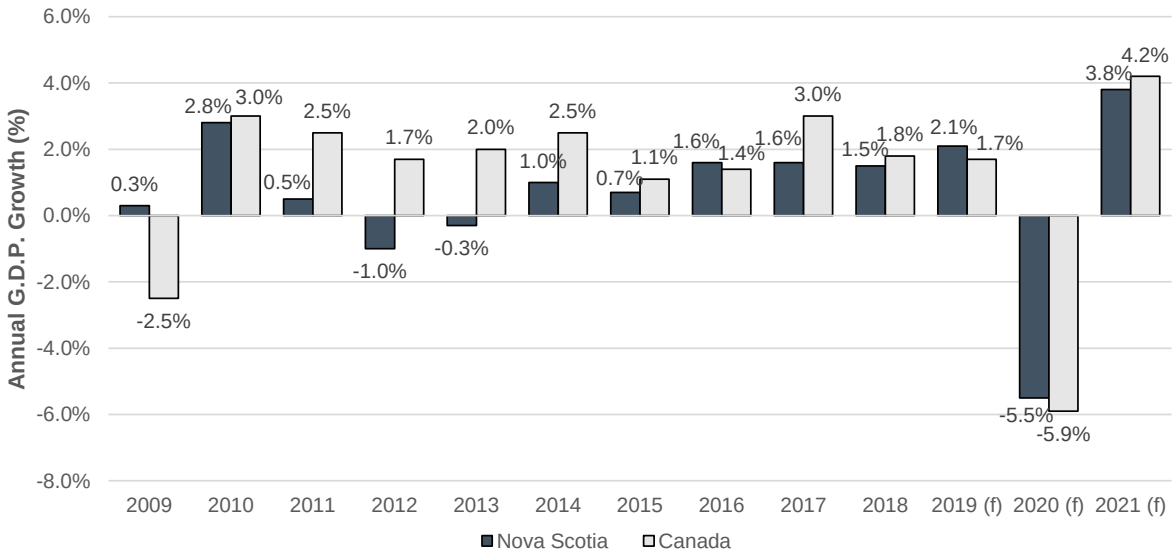
The provincial economy has generated a moderate rate of provincial G.D.P. growth over past five years (Figure 15). Over the past five years, provincial G.D.P. growth has

[1] World Economic Outlook. International Monetary Fund. Chapter 1 The Great Lockdown. April 2020.
[2] Trade set to plunge as COVID-19 pandemic upends global economy – Press Release. World Trade Organization. April 2020.
[3] World Economic Outlook. International Monetary Fund. Chapter 1 The Great Lockdown. April 2020.
[4] Ibid.
[5] U.S. coronavirus stimulus checks: are you eligible and how much will you get? The Guardian. April 2020.
[6] The Investment Cost of the U.S.-China Trade War. Liberty Street Economics. May 28, 2020.
[7] U.S.-China Trade Tensions Are Back: Global Economy Week Ahead, Bloomberg, May 23, 2020.
[8] A U.S.-China trade war is the last thing the world economy needs now, CNN Business, May 19, 2020.

averaged 1.2% annually, which is comparatively lower than the national G.D.P. average of 2.0% annual growth during this same time period.

Growth in 2019 increased to 2.1% in Nova Scotia and eased to 1.7% nationally. While the recent performance of the national and Nova Scotia economies has remained relatively strong over the past several years through to early 2020, the COVID-19 pandemic poses significant risks to the national and provincial economies that are important to recognize. As illustrated in Figure 15, the Nova Scotia economy is forecast to contract by 5.5% in 2020 before growth rebounds 3.8% in 2021.[1] Having said that, household spending in Canada is not expected to return to pre-pandemic levels until the second half of 2021.[2] This is despite strong fiscal stimulus and historically low interest rates.

Figure 15
Nova Scotia and Canada Annual Real G.D.P. Growth (%), 2009 to 2020



Source: Data for Nova Scotia derived from RBC Economic Research Provincial Outlook and data for Canada from 2009 to 2018 derived from BMO Capital Markets Economics Outlook and 2019 to 2021 from RBC Economic Research Provincial Outlook by Watson & Associates Economists Ltd., 2020.
Note: 2019 to 2021 are forecast by RBC Economic Research Provincial Outlook, June 2020.

Over the past decade, the provincial economic base, as measured by G.D.P. output, has shifted from goods-producing sectors (i.e. manufacturing and primary resources) to

[1] Reopening of provincial economies: different speed, scale and outcomes. RBC Economic Research Provincial Outlook. June 10, 2020.
[2] Conference Board of Canada, Canadian Outlook Summary, Summer 2020.

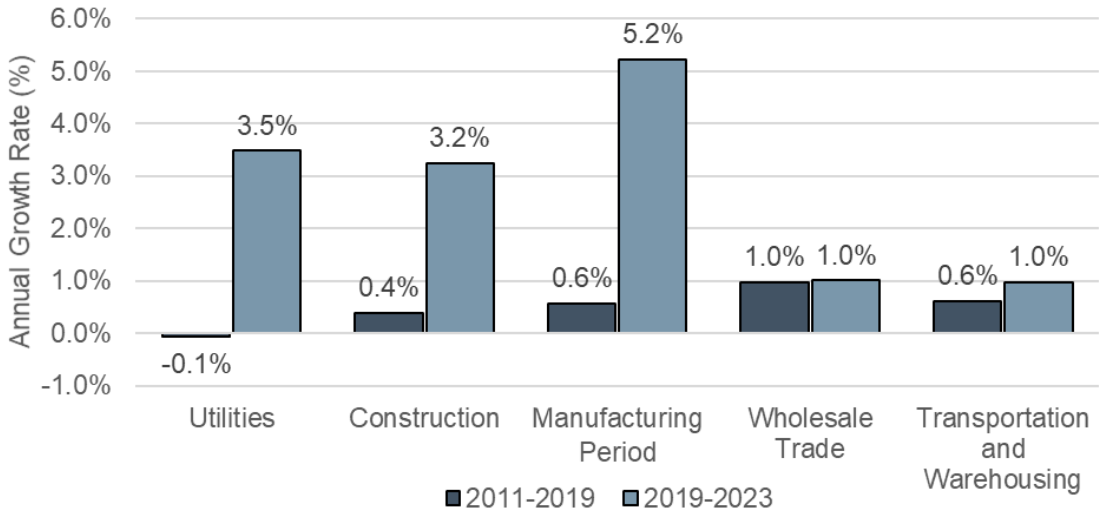
services-producing sectors. Over the past decade, the Province's G.D.P. growth has been powered by services-producing sectors, which have expanded by 11% over the period.[1] This has been led by strong growth in sectors such as professional, scientific and technical services, real estate and rental and leasing and educational services, and arts, entertainment and recreation. In contrast, the goods-producing sectors' G.D.P. has increased by 1% over the same period.[2] Goods-producing sectors that have shown a decrease in G.D.P. output over the period include utilities and construction, and mining and oil and gas.

Nova Scotia's economy is shifting increasingly to services-producing sectors, with economic growth progressively driven by knowledge-based and creative sectors. While industrial/primary sectors remain important, they are not driving economic growth to the same extent as in the past.

Since 2011, Nova Scotia has experienced moderate rates of G.D.P. growth in most industrial sectors, as illustrated in Figure 16. Over the next five years (2019 to 2023), G.D.P. growth in manufacturing, construction and utilities is anticipated to accelerate.

[1] Statistics Canada Table 36-10-0402-01.
[2] Ibid.

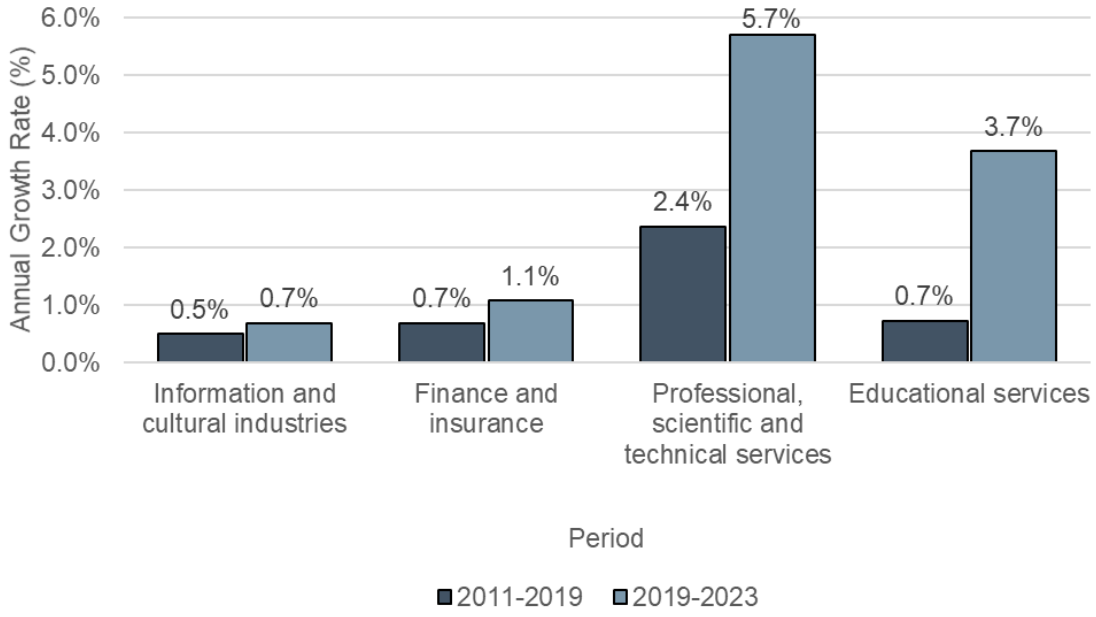
Figure 16
Provincial G.D.P. Growth
by Select Industrial-based Sectors, Historical and Forecast, 2011 to 2023



Source: Derived from Nova Scotia Industry Outlook 2019-2023, August 2019, Canmac Economics Limited by Watson & Associates Economists Ltd., 2019.

Knowledge-based sectors have experienced moderate to strong rates of G.D.P. growth in the Province over the 2011 to 2019 period, as shown in Figure 17. Accelerated growth over next five years is anticipated in key sectors, particularly in professional, scientific and technical services and educational services.

Figure 17
Provincial G.D.P. Growth
by Select Knowledge-based Sectors, Historical and Forecast, 2011 to 2023

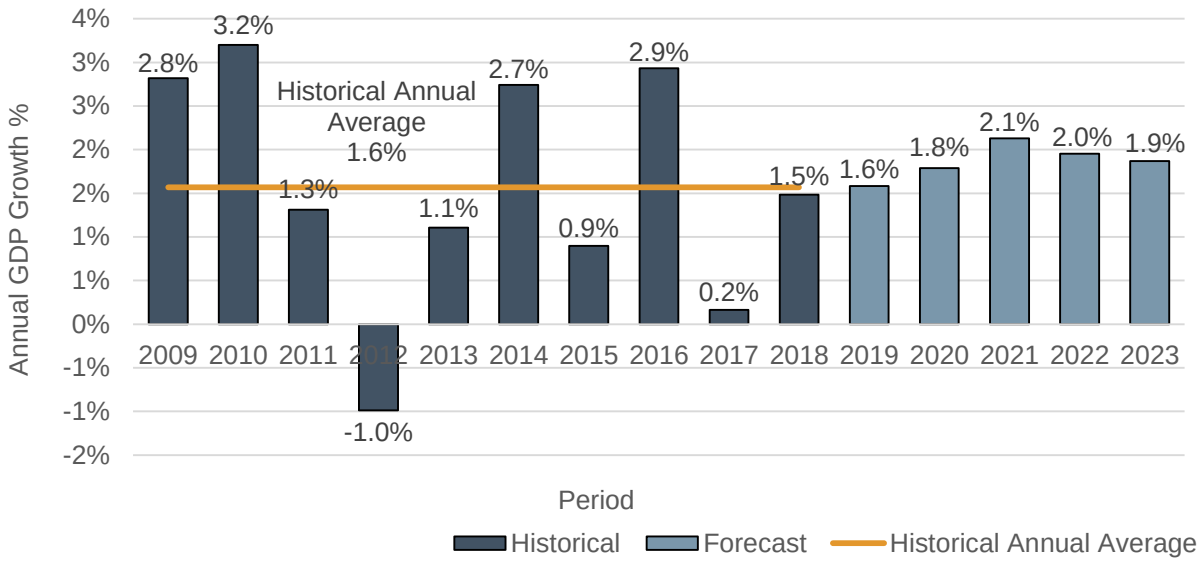


Source: Derived from Nova Scotia Industry Outlook 2019-2023, August 2019, Canmac Economics Limited by Watson & Associates Economists Ltd., 2019.

3.1.3 HRM G.D.P. Growth

Figure 18 illustrates Halifax's historical annual G.D.P. growth from 2009 to 2018, as well as forecast growth through 2023. Over the past decade, GDP growth in HRM has generally outperformed the provincial average, with an average annual G.D.P. growth rate of 1.6%. Moderate G.D.P. growth of 1.6% and 2.1% annually is anticipated over the next five years.

Figure 18
HRM Annual G.D.P. Growth, Historical and Forecast



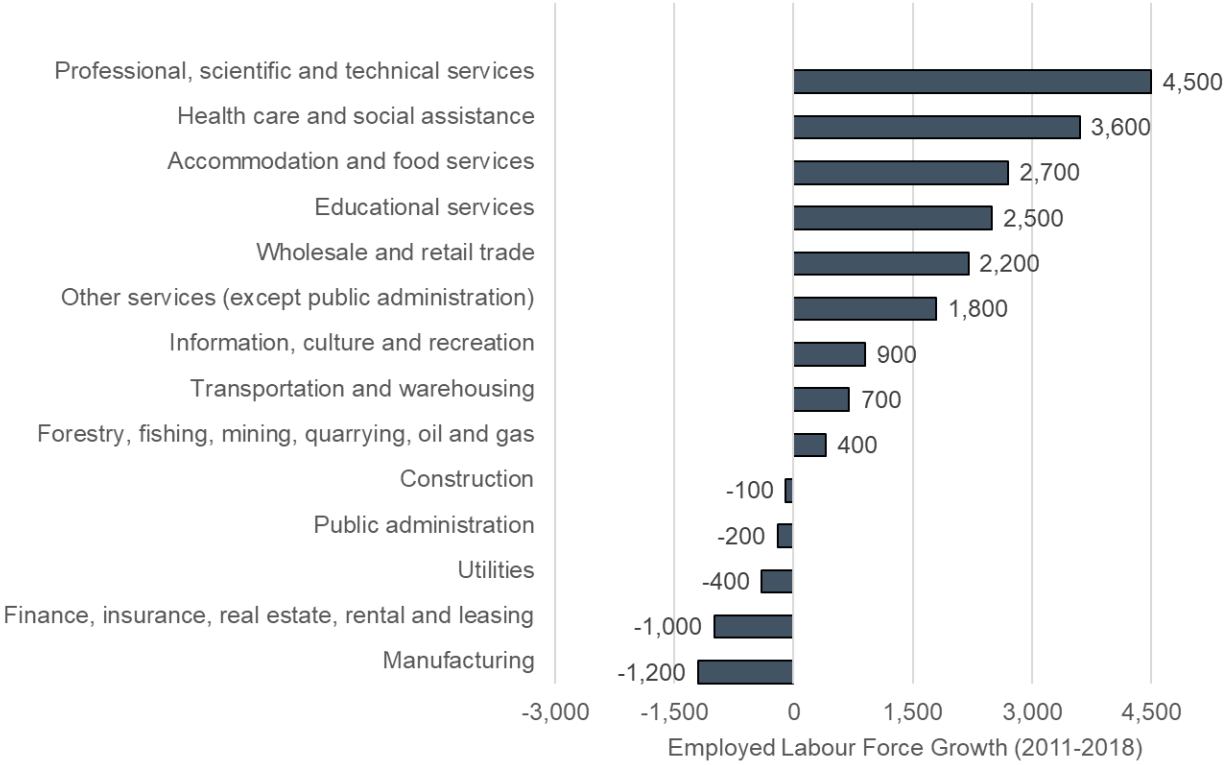
Source: Derived from HRM Finance Economic Outlook 2019-2023, September 2019, Canmac Economics Limited by Watson & Associates Economists Ltd., 2019.

3.1.4 Halifax CMA Employed Labour Force Trends

The HRM economy, as represented by the Halifax Census Metropolitan Area (CMA) has generally out-performed Nova Scotia as a whole, with respect to annual employed labour growth over the past decade.

Figure 19 illustrates the employment change by industry sector over the 2011 to 2018 period in the Halifax CMA. As shown, strong gains in employed labour force have been highest in a number of key sectors including professional, scientific and technical services; health care and social assistance; accommodation and food service; educational services; and other services (except public administration). In contrast, utilities, business, building and other support services, and manufacturing have shown a decline in recent employed labour force size.

Figure 19
Halifax CMA Annual Average Employment Growth by Sector, 2011 to 2018



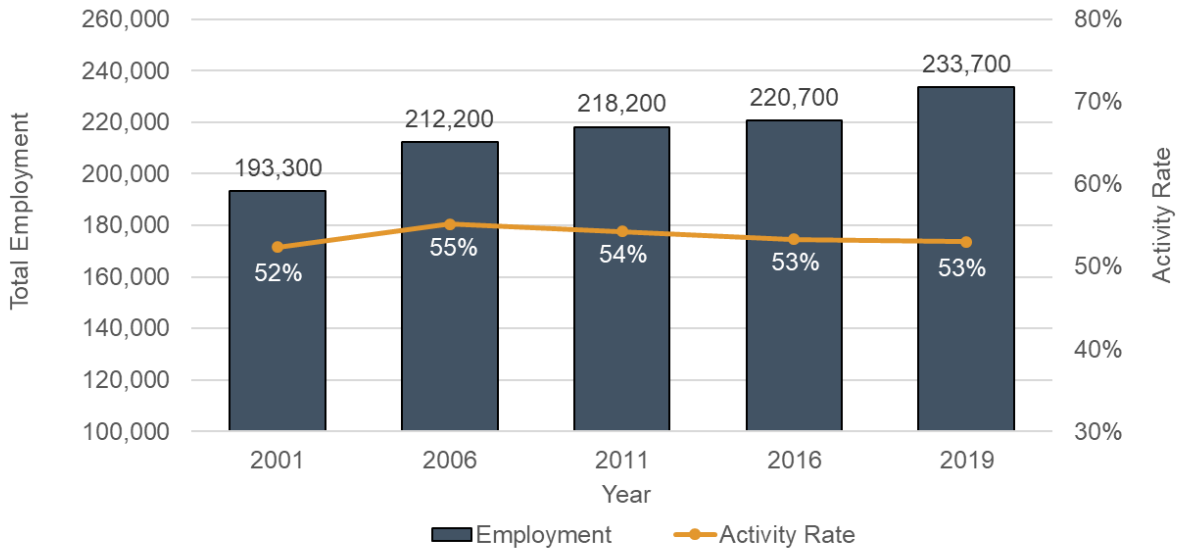
Source: Derived from Statistics Canada Table 14-10-0098-01 by Watson & Associates Economists Ltd., 2019.

3.1.5 HRM Employment Trends and Industry Clusters

HRM's employment base has grown from approximately 193,270 jobs in 2001 to an estimated 233,700 jobs in 2019, an increase of approximately 19% over the 18-year period, as illustrated in Figure 20. The Municipality's activity rate[1] has remained relatively stable over the period, at an estimated 53% in 2019.

[1] Ratio of employment to population in the Municipality.

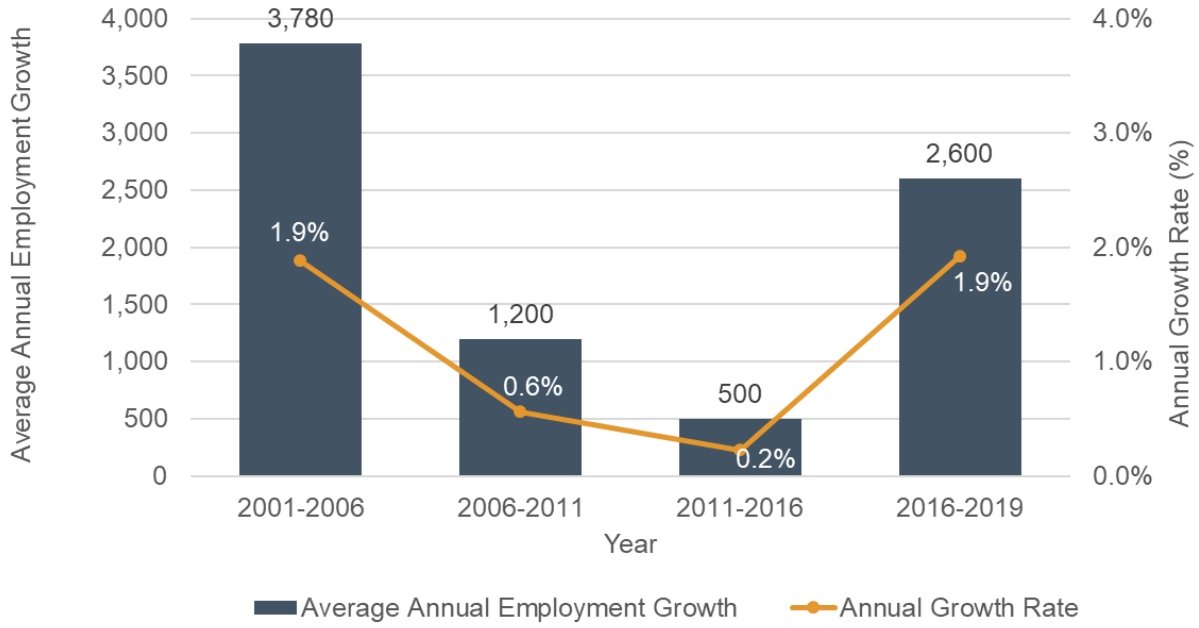
Figure 20
HRM Employment Base, 2001 to 2019



Note: Activity rate includes population with net Census undercount.
Source: Derived from Statistics Canada Census data, 2001-2016, by Watson & Associates Economists Ltd., 2019.

HRM experienced strong employment growth (1.9% annually) over the 2001 to 2006 period, with slower growth during the 2006 to 2016 period, as shown in Figure 21. The employment growth rate over the 2016 to 2019 period has shown a notable rebound.

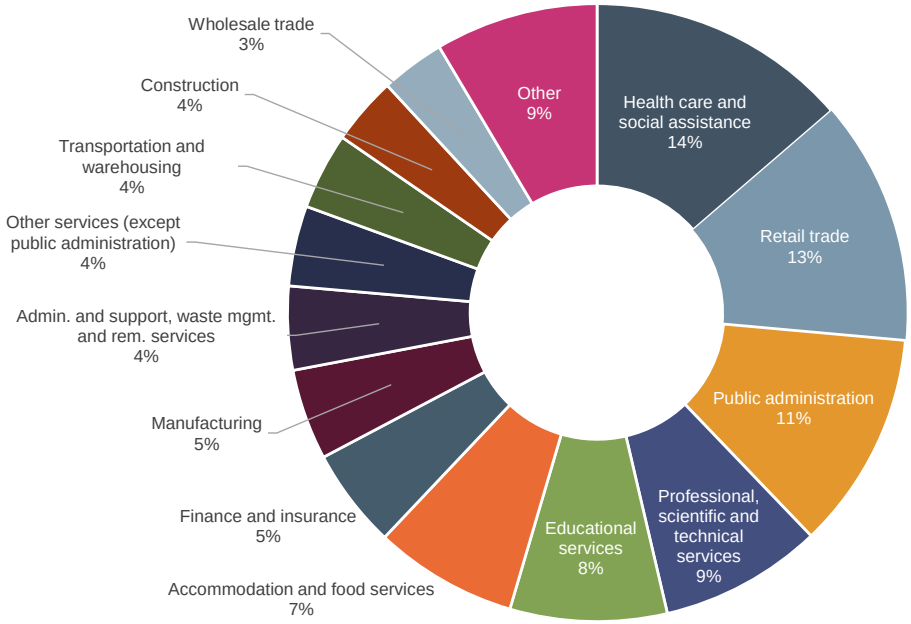
Figure 21
HRM Average Annual Employment Growth and Percentage Change



Source: Derived from Statistics Canada Census data, 2001-2016, by Watson & Associates Economists Ltd., 2019.

As illustrated in Figure 22, HRM's employment base is highly oriented to commercial and institutional sectors. The largest, health care and social assistance, accounts for 14% of total employment, followed by retail trade (13%), public administration (11%), professional, scientific and technical services (9%), educational services (8%), accommodation and food services (7%), finance and insurance (5%), and manufacturing (5%).

Figure 22
HRM Employment Structure, 2016

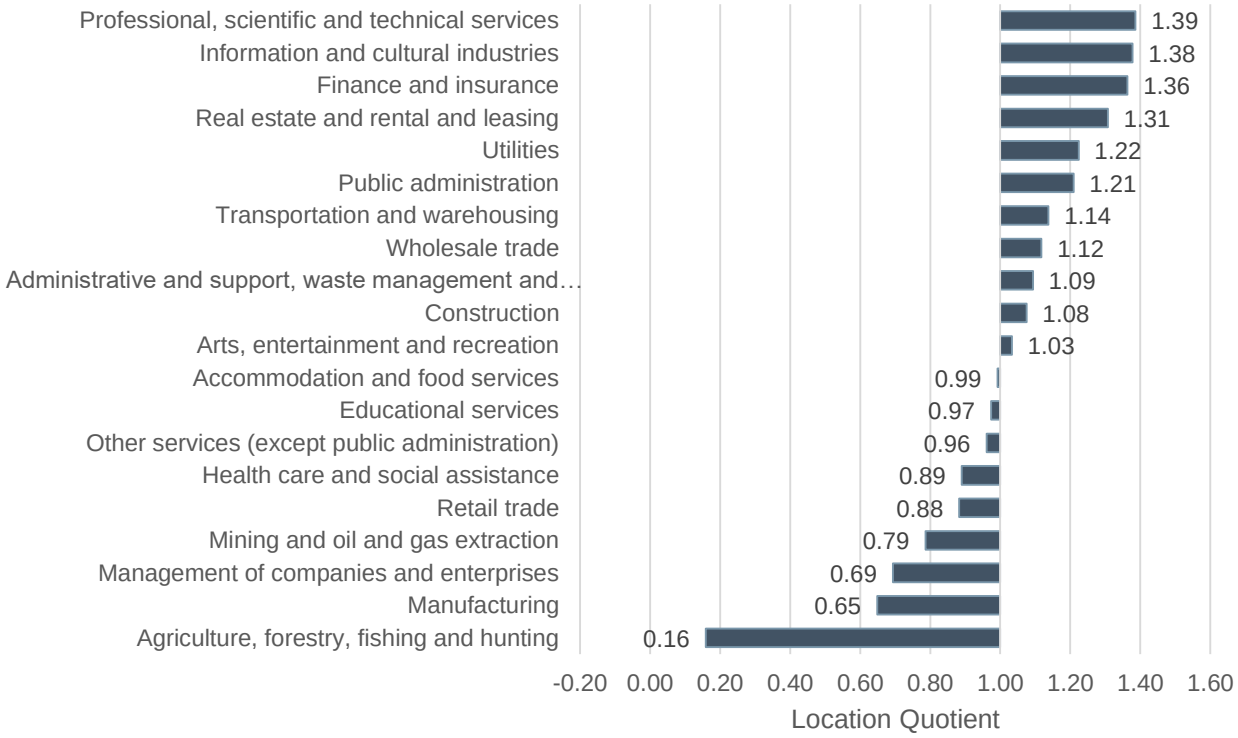


Note: Employment includes usual place of work and work at home employment.
Source: Derived from Statistics Canada 2016 Place of Work data by Watson & Associates Economists Ltd., 2019.

Figure 23 illustrates the strength of employment sectors in HRM relative to the Province using Location Quotients (L.Q.).[1] HRM has a relatively high concentration of employment in service-based commercial sectors including professional, scientific and technical services, information and cultural industries, finance and insurance, and real estate and rental and leasing. Industrial and institutional sectors with a relatively high concentration include utilities, transportation and warehousing, wholesale trade and public administration. In contrast, HRM has a relatively low concentration of employment in a number of primary sectors, such as agriculture, forestry, fishing and hunting, and mining and oil and gas extraction. Other sectors with a relatively low concentration include manufacturing, retail trade, and health care and social assistance.

[1] An L.Q. of 1.0 identifies that the concentration of employment by sector is consistent with the broader employment base average. An L.Q. of greater than 1.0 identifies that the concentration of employment in a given employment sector is higher than the broader base average, which suggests a relatively high concentration of a particular employment sector or "cluster."

Figure 23
HRM Location Quotients by Sector Relative to Nova Scotia, 2016



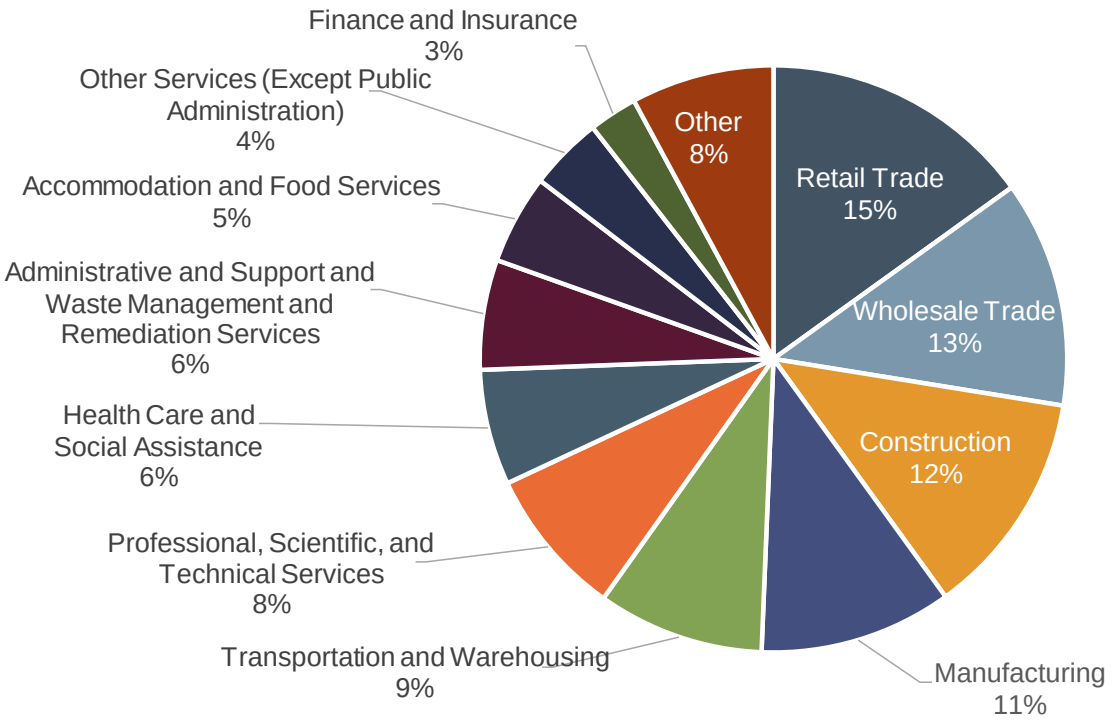
Source: Derived from Statistics Canada Place of Work data for 2016 by Watson & Associates Economists Ltd., 2018.

3.1.6 Industrial Lands Employment Structure

Halifax's existing developed and designated industrial parks accommodate approximately 39,100 jobs.[1] HRM industrial lands accommodate a wide range of employment in industrial, commercial, and institutional sectors. As illustrated in Figure 24, an estimated 15% of Halifax's employment on industrial employment lands is in the retail trade and manufacturing sectors, followed by 13% in wholesale trade, 12% in construction, 11% in manufacturing, 9% in transportation and warehousing and 8% in professional, scientific and technical services. The remaining employment is largely in other service-oriented sectors.

[1] Jobs accommodated within designated industrial parks is based on business data provided by HRM.

Figure 24
Halifax Employment Structure within Industrial Parks



Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

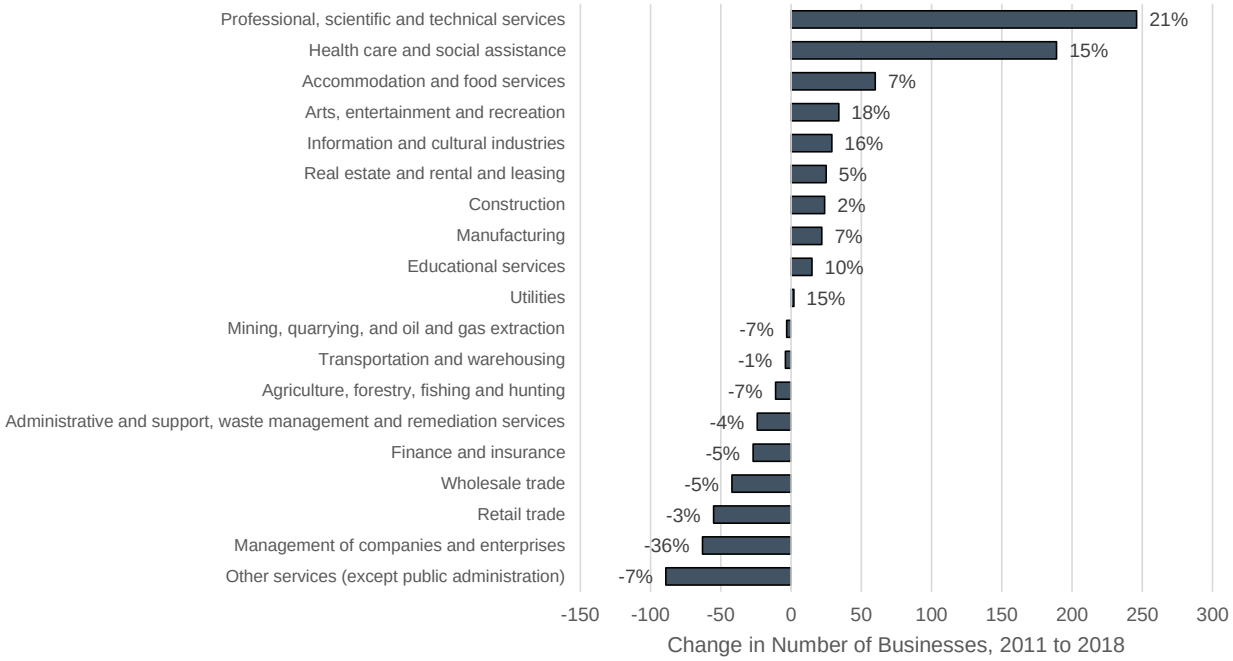
3.1.7 Business Growth Trends

Figure 25 summarizes the change in the number of businesses operating in Halifax by sector over the 2011 to 2018 period. As shown, the Municipality has experienced relatively strong business growth in a number of service and knowledge-based sectors including: professional, scientific and technical services; accommodation and food services; health care and social assistance; educational services; information and cultural industries; and real estate and rental and leasing. Halifax has experienced moderate business growth in key industrial sectors including manufacturing and construction, while a small decline was observed in goods movement sectors including transportation and warehousing, and wholesale trade.

Figure 26 summarizes recent trends regarding business composition in Halifax's Industrial Areas. Key observations include:

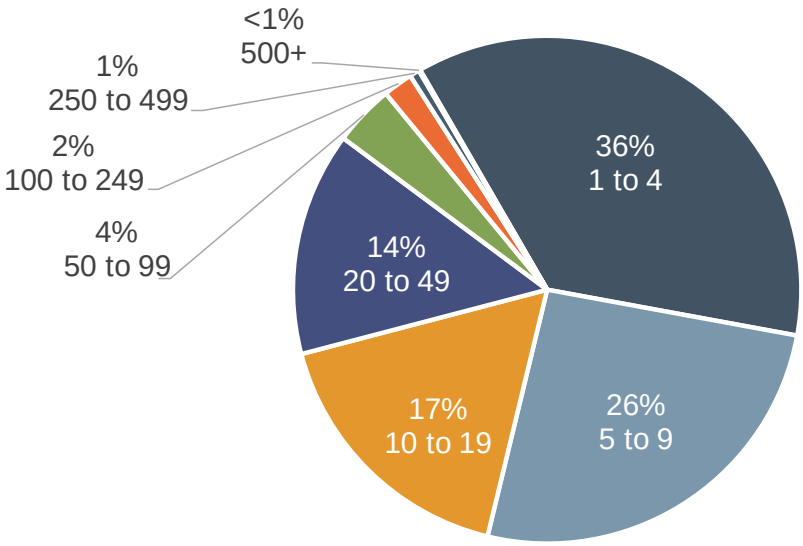
- Approximately 62% of the current business base within Halifax's Industrial Areas consists of small businesses employing under 10 people. Businesses employing between 10 and 49 people make up 31% of total businesses, and businesses employing over 50 employees comprise the remaining 7% of businesses on industrial lands; and
- Small and medium-sized businesses (less than 50 employees) account for more than 93% of businesses within Halifax's industrial areas.

Figure 25
HRM Industrial Business Growth Trends by Sector, 2011 to 2018



Source: Statistics Canada, Canadian Business Counts, 2011 to 2018, by Watson & Associates Economists Ltd., 2020.

Figure 26
Businesses by Employment Size within Halifax Industrial Areas



Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

3.2 HRM Growth Outlook, 2019 to 2039

3.2.1 Regional Economic Growth Drivers

There are a number of factors that indicate economic growth within HRM over the long-term will be relatively strong, building on the economic expansion experienced over the past five years. In turn, anticipated employment growth and new non-residential development will generate continued demand for industrial employment land. These factors are discussed below.

HRM's Growing Importance as a Regional Centre

Over the next two decades, HRM's role as the largest urban centre in the region and primary service hub will continue to expand and evolve in retail trade, higher education, and health services. Planned infrastructure projects, the milestone setting nature of the HSIA in passenger and cargo volumes, and expansion of the Port of Halifax continue to establish HRM's importance in Atlantic Canada.

HRM is also a beneficiary of the Atlantic Growth Strategy, launched by the Government of Canada and Atlantic provinces in 2016. The purpose of the Strategy is to create well-

paying middle-class jobs and grow innovative companies in the region. The Strategy recognizes three regional advantages to capitalize on: ocean economy, food, and tourism. For Nova Scotia, the Strategy has focused on building a start-up business culture and supporting existing and future businesses in export, food, agri-business, and tourism cultures.[1] Since its conception, Atlantic Canada's export value has increased by approximately a third, approximately 18,000 jobs have been created (between July 2017 to December 2018), and approximately 22,000 newcomers have contributed to the regional economy.[2]

Synergy with Post-secondary and Government Institutions

HRM offers a concentration of post-secondary and government institutions (e.g. Dalhousie University, Nova Scotia Community College, Provincial Department of Transportation and Infrastructure Renewal, Veteran Affairs Canada, etc.) to serve as a catalyst for the continued growth of the knowledge-based and creative-class economy within HRM. The cluster of post-secondary and government institutions is recognized by the Halifax Partnership as providing many benefits to a municipality. Some of those benefits include a steady stream of graduates in highly technical, creative, and knowledge-based fields such as engineering, the applied and physical sciences, journalism, and visual culture, and research and development hubs in areas such as ocean technology, life sciences, and renewable energy.[3]

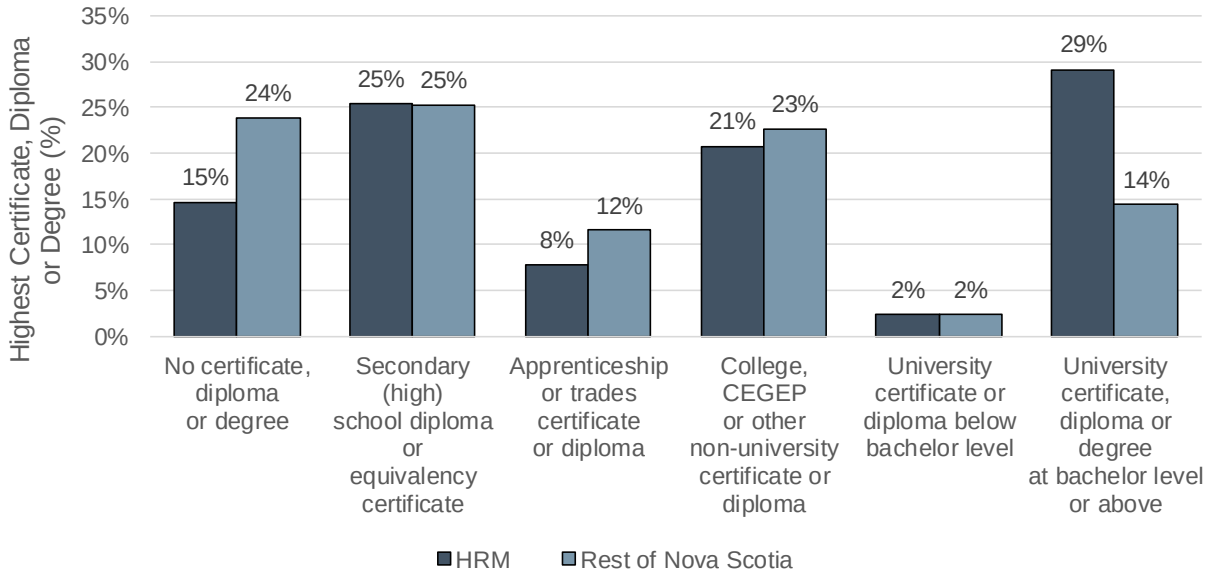
Skilled Labour Force

Halifax boasts a highly skilled labour force which is attractive for both international and locally based industries. Halifax has a relatively high share of residents that have a university bachelor's degree or higher when compared to other areas in Nova Scotia, as illustrated in Figure 27. As shown, approximately, 29% of HRM's population has a university certificate, diploma or degree at a bachelor level or above compared to the rest of Nova Scotia at 14%.

[1] Atlantic Growth Strategy. Link: http://www.acoa-apeca.gc.ca/ags-sca/Eng/infographic-ags-en.html
[2] Atlantic Growth Strategy Infographic (July 2016). Link: http://www.acoa-apeca.gc.ca/ags-sca/Eng/infographic-ags-en.html
[3] Halifax Partnership. Talent. Link: https://halifaxpartnership.com/why-halifax/talent

The shift towards a more "knowledge-based" economy places greater emphasis on soft factors including a skilled labour force which gives Halifax a competitive advantage in this regard.

Figure 27
Highest Certificate, Diploma, or Degree – Province vs. Halifax Regional Municipality



Note: Figure is for the population aged 15 years and older.
Source: Derived from Statistics Canada 2016 Census by Watson & Associates Economists Ltd., 2020.

Major Infrastructure Projects

HRM has shown significant improvements to intra-regional connections with several further projects planned. Most notable is the future extension of Highway 107 and the Highway 102/103 interchange upgrade. These projects are expected to improve the development and growth opportunities within Halifax over the short to medium term.

The future extension of Highway 107 is an example of a major infrastructure project with the potential to improve the development and growth opportunities within the municipality. The Highway 107 extension is planned to connect Highways 101 and 102 to Akerley Boulevard within the Burnside Business Park, which includes general, light

industrial, and logistics uses.[1, 2] This will also effectively connect the Business Park with the suburban communities of Bedford and Lower Sackville. The future extension would provide access to and from the Burnside Business Park, including its planned Phases 13 and 14. Connections to and from the Burnside Business Park could improve the availability of industrial land supply within HRM.[3]

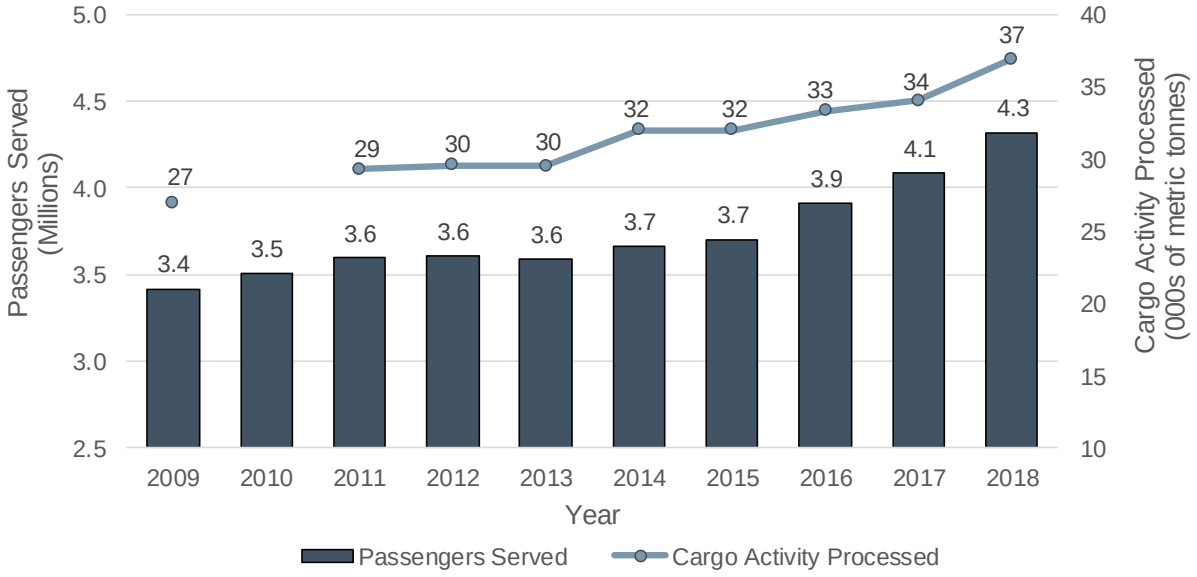
In addition to the Highway 107 extension, the Highway 102/103 interchange is planned to be upgraded at an estimated $18 million, with the federal contribution being approximately half.[4] This major interchange would connect the Halifax peninsula with the greater Regional Municipality. The Beechville Industrial Park, Ragged Lake Business Park, and Bayers Lake Business Park are located west of the interchange and will benefit from the upgraded connections.[5]

Halifax Stanfield International Airport

The HSIA is operated by the Halifax International Airport Authority (HIAA) and as demonstrated in Figure 28, has shown positive growth in processed cargo activity and passengers served. In addition, an Economic Impact Report in 2016 developed by the Chris Lowe Group also demonstrated at that time that total economic activity associated with the airport (e.g. tenants, air cargo exporters, and air visitors) made up a 6.5% share of the Province of Nova Scotia's total employed labour force.[6]

[1] HRM Council Report. February 4, 2019. Link: https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/190430rc172.pdf
[2] Halifax Regional Municipality Planning Strategy. 2014.
[3] HRM Council Report. February 4, 2019. Link: https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/190430rc172.pdf
[4] Investing in Canada Project Map. Link: https://www.infrastructure.gc.ca/gmap-gcarte/index-eng.html
[5] Highway 102/103 Interchange Upgrade and Structure Replacement. Link: https://novascotia.ca/tran/highways/Highway102-103-interchange-upgrade.asp
[6] Halifax Stanfield International Airport. 2016 Economic Impact Report. Released October 2017.

Figure 28
HSIA Passengers Served and Cargo Processed



Source: Derived from Halifax International Airport Authority Annual Report, 2009 to 2018, by Watson & Associates Economists Ltd., 2020.

The HSIA is guided by its Strategic Plan 2017-2021, where two of the four priorities are of most interest to this study because of their potential to have the greatest impact on HRM's position as an important regional centre and employment hub.[1] The first is its Air Service Development strategic priority, which supports continued implementation of a Hub Development Strategy to enable HSIA to improve tourism, trade, investment, and immigration in the region. The second is its Cargo Service Development strategic priority, which focuses on facilitating cargo service expansion to support regional economic development. This priority indicates that within the last year, the federal and provincial governments announced funding commitments to the tune of $36 million for an Air Cargo Logistics Park at HSIA.[2] The objective is to use the Air Cargo Logistics Park and its concentration of commercial and logistics businesses to access air cargo opportunities internationally. It is anticipated that there will be many spin-off effects of

[1] Halifax Stanfield International Airport. 2018 Annual Report.
[2] $18 million from the Government of Canada through the National Trade Corridors Fund, $5 million from the Province of Nova Scotia, and a $13 million investment from the HIAA.

having such a Logistics Park, including improving transportation infrastructure, increasing trade, improving export capacity, and creating jobs.

Since its conception, the HSIA has also made continued investments in its infrastructure, programs, and partnerships to establish its status as an aviation and economic hub in Atlantic Canada. Its recent Airport Improvement Program, worth approximately $500M, includes a U.S. preclearance facility, state-of-the-art water treatment facility, and restoration of airport runways and taxiways to name a few.[1]

HSIA's strategic priorities, performance within the last 10 years, and multi-million-dollar Airport Improvement Program show that HRM is in an ideal position to benefit from the spin-off effects in the form of job creation, regional investment, international trade, infrastructure development, and continued development of various employment sectors.

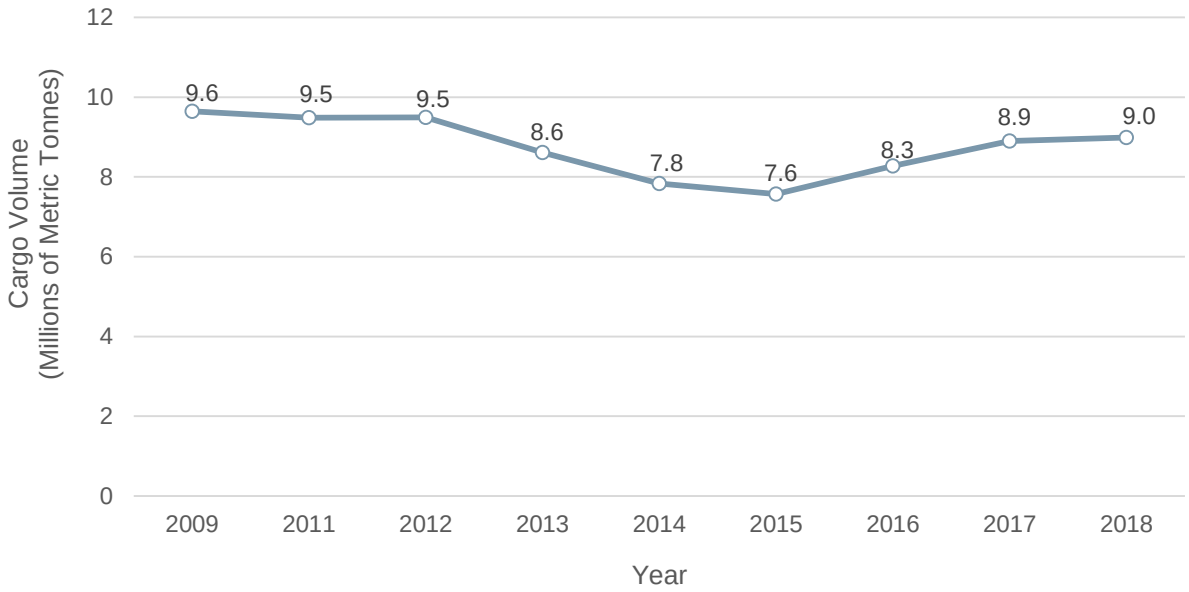
Port of Halifax

The Port of Halifax forms a regional economic hub and provides a cargo and cruise port within the region. From 2017 to 2018, the Port's total economic output to the Province was approximately $4.5 billion. Within the same year, the Port formed 8.4% of the Province of Nova Scotia's employed labour force after considering full-time equivalent employment in port operations and among container exporters. This is an especially significant statistic considering most of the Port's employees reside in HRM.[2]

As the most easterly North American full-service container port, it is connected to 150 countries for cargo imports and exports, with CN providing rail connections to major metropolitan areas such as Toronto, Montreal, Chicago, and Detroit.[3] Figure 29 shows the Port's cargo volume from 2009 to 2018,[4] which has shown positive growth over the past decade.

[1] Halifax Stanfield International Airport. Full History. Published December 2015.
[2] Port of Halifax. 2017-2018 Economic Impact Report. Released May 2019.
[3] Port of Halifax. Fact Sheet: https://www.portofhalifax.ca/about-us/resources/fact-sheet/
[4] Cargo is comprised of bulk, general and containerized.

Figure 29
Port or Halifax Cargo Volume



Note: Includes all cargo in HPA & non-HPA facilities.
Source: Derived from Port of Halifax statistics, 2009 to 2018, by Watson & Associates Economists Ltd., 2019.

Similar to the HSIA, the Port of Halifax continues to invest in its infrastructure, programs, and partnerships to secure its status as an east coast economic and trade hub. From 2007 to 2019, the Port completed over $250 million in capital projects and is anticipated to spend approximately $133 million from 2020 to 2024.[1] In addition, in August 2017, a northward expansion of the South End Container Terminal was recommended to be implemented as a long-term infrastructure solution beyond the year 2030. The purpose of this was to support east coast trade and strengthen the Canadian supply chain.[2]

Aside from the Port's cargo infrastructure and operations, Halifax Seaport presents retail, office, institutional, and arts and culture opportunities. Halifax Seaport is a district that was redeveloped to become an arts and cultural hub along the Halifax waterfront. It includes the Canadian Museum of Immigration, shops for cruises, galleries, a brewery, a film and media centre, the Nova Scotia College of Art and Design, and a

[1] Port of Halifax. 2017-2018 Economic Impact Report. Released May 2019.
[2] Port of Halifax. Infrastructure Plan and Expansion Options: https://www.portcityhfx.ca/infrastructure-plan/

farmers' market. As reported in 2015, Halifax Seaport has attracted between 1.2 million to 1.3 million visitors annually.[1]

The international reach of the Port, the establishment of an arts and cultural hub, and continued infrastructure investment and expansion to support east coast trade all indicate economic growth within HRM over the long term will be relatively strong.

Diversification of Economy

Continued economic diversification provides opportunities for a broader range of non-residential development potential and employment prospects for HRM. Recent development trends, and employment and business growth over the past decade, as illustrated earlier, show a shift to more "knowledge-based" sectors in both the commercial and institutional sectors. This has been evident in the Halifax Seaport initiative which brings non-traditional port and employment uses closer to the harbour to diversify the employment uses and economic activities occurring in the Port, and in HRM overall.

Quality of Life

Quality of life is a key factor influencing the residential location decisions of individuals and their families. It is also a factor considered by companies in relocation decisions. Typically, quality of life encompasses several sub-factors such as employment opportunities, cost of living, housing affordability, crime levels, quality of schools, transportation, recreational opportunities, climate, arts and culture, entertainment, amenities, and population diversity. The importance of such factors, however, will vary considerably depending on life stage and individual preferences.

HRM has a reputation for being a vibrant, growing, affordable, low-crime location in which to live in Nova Scotia, with access to a wide range of recreational opportunities within the urban area and surrounding countryside. This is most evident in the results of a Citizen Survey, which is conducted by HRM and where the purpose is to get feedback from Halifax residents on municipal service delivery, community priorities, public safety, transportation, and quality of life.[2] Results of the latest survey in 2018 showed at least 75% of citizens felt at least safe from crime when walking alone in their area after dark,

[1] Halifax Seaport. News & Media. February 3, 2015 Media Release.
[2] HRM 2018 Citizen Survey.

and property and violent crime decreased from 2010. The results further showed that 96% of respondents said the overall quality of life in the Halifax region is at least good. There was little change between this response and that of the 2012 response, which was 94%.[1]

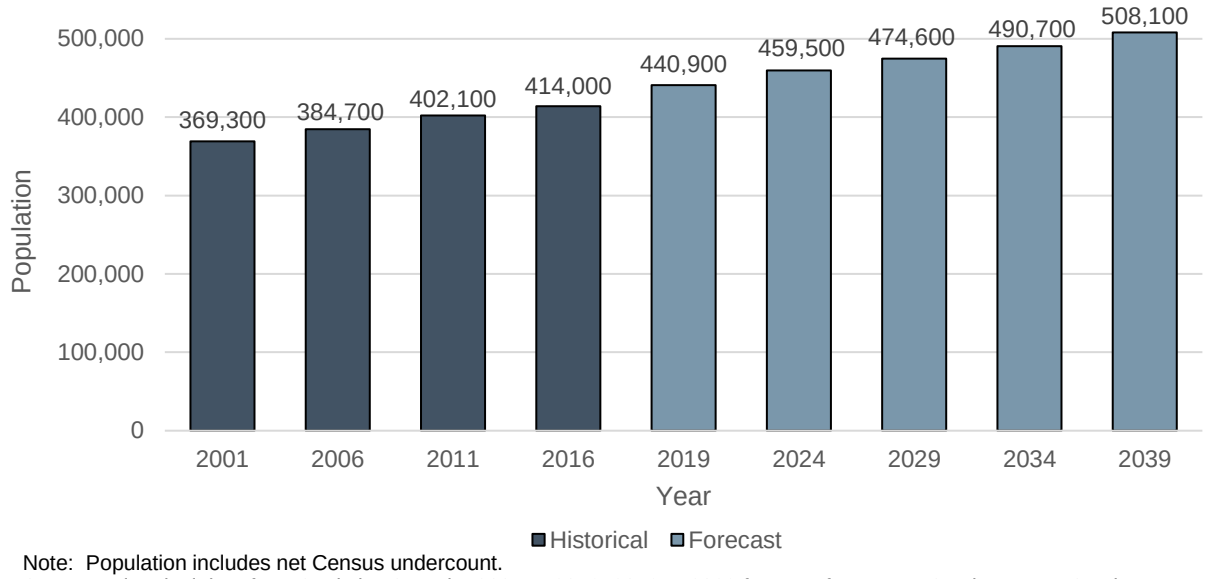
Quality of life is becoming an increasingly important attribute, particularly within the knowledge-based sectors, with workers increasingly determining their place of residency based on quality of life attributes, and employers attracted to locate to these communities based on the labour force pool.

3.2.2 Population Growth Outlook

Figure 30 summarizes the population growth forecast for HRM, based on established projections through 2030 for HRM and longer-term provincial growth rates.

[1] HRM 2018 Citizen Survey Report. Link: https://www.halifax.ca/sites/default/files/documents/city-hall/accountability-transparency/2018%20Citizen%20Survey%20%28Final%20for%20Print%20-%20PDF%20Low%20Res%29.pdf

Figure 30
HRM Population Growth Forecast, 2006 to 2039



Note: Population includes net Census undercount.
Source: Historical data from Statistics Canada, 2001 to 2016. 2019 to 2029 forecast from Nova Scotia & Nova Scotia Regions Demographic Outlook 2019-2030, March 2019, Canmac Economics Ltd. 2034 to 2039 forecast by Watson & Associates Economists Ltd., 2019.

3.2.3 Forecast Employment Growth

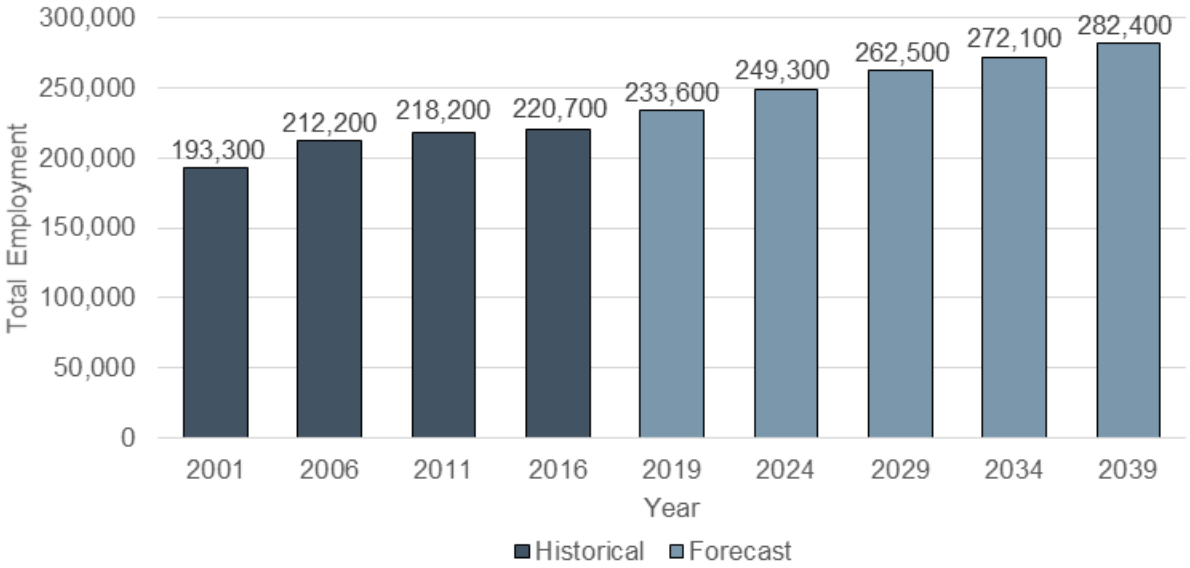
Future demand for industrial employment lands within Halifax is ultimately driven by forecast employment growth. A broad range of factors, as discussed in section 3.2.1, is anticipated to drive future employment growth in Halifax over the next decade. These factors will not only impact the rate and magnitude of growth, but they will also influence the form and density of non-residential development and corresponding demand for industrial lands. Based on a comprehensive investigation of local and regional employment growth drivers and a review of recent economic trends, an updated long-term employment forecast by major sector has been developed.[1] The results of this forecast are summarized below.

As of mid-2019, Halifax's employment base is estimated at approximately 233,600 jobs. As shown in Figure 31, over the 2019 to 2039 forecast period, Halifax's employment base is expected to expand by approximately 21%, increasing to 262,500 jobs in 2029,

[1] The employment base and forecast by major sector (i.e. primary, industrial, commercial, and institutional) includes no fixed place of work (N.F.P.O.W.) employment.

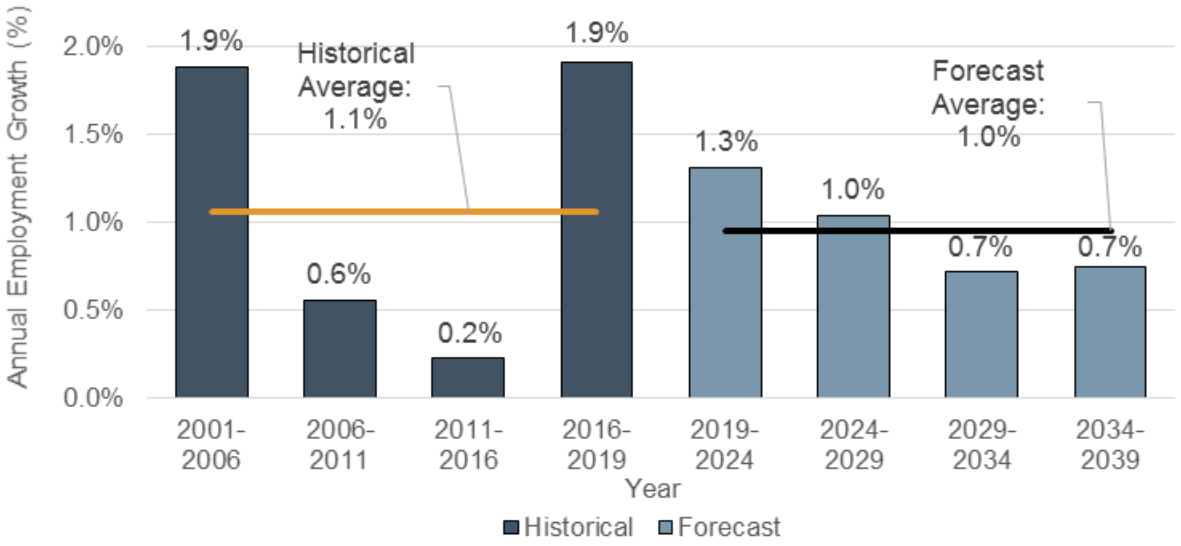
and 282,400 jobs in 2039. This represents an average annual growth rate of 1.0% over the 20-year forecast period, comparable to historical trends, as illustrated in Figure 32.

Figure 31
HRM, Employment Forecast, 2019 to 2039



Note: Figures have been rounded.
Source: 2001 to 2016 derived from Statistics Canada data, and 2016 to 2039 by Watson & Associates Economists Ltd., 2019.

Figure 32
HRM, Annual Average Employment Growth Rates, Historical and Forecast



Note: Figures have been rounded.
Source: 2001 to 2016 derived from Statistics Canada data, and 2016 to 2039 by Watson & Associates Economists Ltd., 2019.

Figure 33 summarizes the municipal-wide employment forecast by sector in five-year increments to the year 2039.

Figure 33
HRM, Employment Forecast, 2019 to 2039

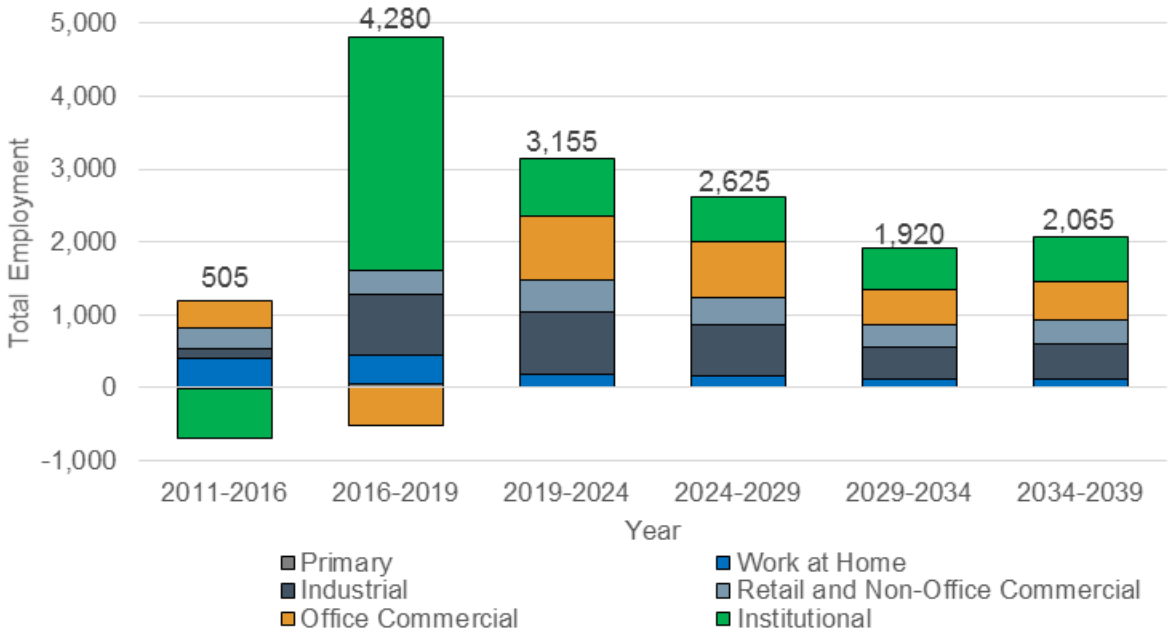
Employment[1]							
Year	Primary	Work at Home	Industrial	Retail and Non-Office Commercial	Office Commercial	Institutional	Total
2011	1,830	11,600	46,870	52,365	34,370	71,170	218,200
2016	1,765	13,585	47,600	53,720	36,245	67,795	220,715
2019	1,950	14,770	50,080	54,700	34,670	77,380	233,550
2024	1,975	15,625	54,350	56,975	39,075	81,325	249,325
2029	2,000	16,375	57,900	58,850	42,850	84,475	262,450
2034	2,000	16,925	60,175	60,350	45,250	87,350	272,050
2039	2,025	17,525	62,550	61,975	47,875	90,425	282,375
Incremental Growth							
2019-2024	25	855	4,270	2,275	4,405	3,945	15,775
2019-2029	50	1,605	7,820	4,150	8,180	7,095	28,900
2019-2034	50	2,155	10,095	5,650	10,580	9,970	38,500
2019-2039	75	2,755	12,470	7,275	13,205	13,045	48,825

Source: 2011 to 2016 derived from Statistics Canada Place of Work data, and forecast by Watson & Associates Economists Ltd., 2019.

[1] Employment forecast includes no fixed place of work. Statistics Canada defines no fixed place of work (N.F.P.O.W.) employees as "persons who do not go from home to the same work place location at the beginning of each shift." Such persons include building and landscape contractors, travelling salespersons, independent truck drivers, etc.

Figure 34 summarizes the average annual employment forecast by major sector over the forecast period in comparison to historical trends (2011 to 2019). As illustrated, over the 2019 to 2029 period, HRM is expected to average 2,890 jobs annually. Over the 2029 to 2039 period, average employment growth is forecast to decline to 1,990 jobs per year.

Figure 34
Halifax Regional Municipality
Average Annual Employment Growth, 2011 to 2039



Note: Figures have been rounded.
Source: 2001 to 2016 derived from Statistics Canada data, and 2016 to 2039 by Watson & Associates Economists Ltd., 2019.

3.2.4 Growth Outlook by Industry Sector

Employment growth over the 2019 to 2039 forecast period is expected across a wide range of sectors driven by continued diversity of the regional economic base and steady local population growth. Population growth is anticipated to drive the demand for population-related commercial and institutional employment in Halifax. New residential and population-related development will also drive demand within the construction sector and influence investment across certain industrial sectors that are more closely driven by regional population growth (e.g. fulfilment centres, urban warehouses).

Most industrial and office commercial employment (export-based employment), however, is not closely linked to population growth. Employment within these sectors tends to be more influenced by broader market conditions (i.e. economic competitiveness, transportation access, access to labour, and distance to employment markets), as well as local site characteristics.

While Halifax's economy is forecast to continue to steadily shift from goods-producing to services-producing sectors, the industrial sector is still anticipated to represent a key employment sector in Halifax.

With respect to employment growth by major employment sector, the following observations have been made:

- The industrial employment base is forecast to increase by 12,470 jobs, accounting for approximately one-quarter of total employment growth. Significant employment opportunities are identified in sectors related to wholesale trade/ distribution, manufacturing, construction, and transportation. It is anticipated that the majority of industrial employment growth will be accommodated within Halifax's Urban Service Area.
- Future demand for retail/non-office commercial employment growth in Halifax is anticipated to steadily increase (7,250 jobs), accounting for 15% of employment growth. A large share of this growth is expected to be in retail, personal services, and accommodation/food services.
- Halifax is expected to experience a significant increase in knowledge-based employment driven, in part, by synergies with its post-secondary and government institutions. As a result, Halifax is expected to see a significant employment increase in business services, professional, scientific and technical services, information and cultural industries, which will be largely accommodated within stand-alone and multi-tenant office buildings. Commercial office employment is forecast to increase by 13,205, accounting for 26% of total employment growth.
- Halifax is anticipated to experience strong employment growth in the institutional sector, representing 13,425 jobs (27% of total employment growth), largely driven by the need for increased health services, higher education, government facilities and other institutional facilities (i.e. cultural, religious, schools) associated with population growth.

- Primary industries (i.e. agriculture, fisheries, and other resource-based employment) are anticipated to experience nominal employment growth over the forecast period.
- In addition to reviewing employment trends by usual place of work, consideration has also been given to the employment outlook in Halifax for employees who work at home. Over the forecast period, work at home employment in Halifax is expected to expand by 2,775 jobs, driven by forecast growth in the knowledge-based and creative economy. This will be facilitated by opportunities related to telecommuting and increased technology. Demographics also play a role in the employment outlook for work at home employment. As the Municipality's population and labour force continue to age, it is likely that an increased number of working and semi-retired residents will be seeking lifestyles that will allow them to work from home on a full-time or part-time basis.

3.2.5 COVID-19 and the New Economy

As discussed in section 3.1, COVID-19 is having a significant negative impact on short-term macro-economic growth. Within the Halifax context, near-term economic challenges due to this pandemic have resulted in elevated rates of unemployment with contraction in employment across a broad range of industry sectors. Despite the near-term challenges, employment levels are expected to largely recover in 2021 and long-term economic growth is expected to remain positive in Halifax. Based on near-term trends observed, COVID-19 is accelerating previously noted technological disruptors, including e-commerce, the gig economy, and automation. Under COVID-19, enterprises are increasingly required to rethink the way they conduct business with an increased emphasis on remote work enabled by technology. These trends are anticipated to fuel further growth for distribution/logistics centres, and place continued downward pressure on bricks-and-mortar retail store/service and office space needs. Near-term and longer-term industrial employment land demand in Halifax is not anticipated to be negatively impacted by COVID-19.

3.3 Analysis of Competitive and Market-Ready Industrial Lands Requirements

A major factor in the future competitiveness of Halifax's economic base is dependent, in part, on the attributes of its industrial areas. This section provides a comprehensive assessment of Halifax's industrial areas and their relative competitive position to accommodate forecast industrial development over the next 20 years.

3.3.1 Industry Sector Requirements

Figure 35 summarizes the broad infrastructure and site requirements of key industry sectors on industrial lands. At both the regional and local levels, location requirements of an industry can vary considerably depending on the nature of the employment sector/ use. Employment sectors typically situated in industrial areas have varying site-specific requirements. To be successful in attracting and retaining businesses in key established and emerging industry sectors, Halifax's industrial areas need to have the corresponding attributes and features.

Figure 35
Employment Sector Infrastructure and Site Requirements

Employment Sector	Requirements
Manufacturing	• Access to major highways • Access to skilled and unskilled labour force pool • Proximity to markets and related industry clusters • Competitive land prices • Market choice in the range of size of development sites • Expansion potential • Buffers from surrounding non-industrial uses • General or prestige setting
Knowledge-based (i.e. Professional Services, Information Technology, Finance and Insurance)	• High development standards • Access and exposure to major highways • Access to on-site amenities and proximity to off-site services • Access to skilled labour

Employment Sector	Requirements
Wholesale Trade/ Warehousing and Logistics	• Access to major highways • Excellent access/traffic circulation for heavy truck traffic • Truck access, loading/unloading requirements • Competitive land prices • Availability of large tracts of land • Flexibility in zoning, parcel configuration • Expansion potential • Compatible surrounding land uses • Intermodal transportation potential • Proximity to markets • Ceiling height (typically 30 to 50+ ft.) • Buffers from surrounding non-industrial uses
Construction	• Access to skilled and semi-skilled labour force • Competitive land prices • Proximity to customer base • Market choice in the range of size of development sites • Provision for open storage

The relative importance of these attributes is evolving in response to structural changes in the macro-economy which is impacting industrial and office development patterns within Halifax. Being competitive in today's "new economy" requires new approaches to how employment areas are planned and developed.

With respect to industrial development, industrial activity is increasingly centred on production processes that are time-sensitive, driven by just-in-time manufacturing, e-commerce and an increasingly globalized environment. As a result, the location and site requirements within the industrial sector continue to evolve. For the Goods Movement sector, a major growth sector, the growing inter-dependence of companies and their suppliers continues to increase the importance of this integrated business process through various modes of transportation. In turn, this drives the need for more, bigger and better-located warehouses and logistics facilities. As such, large flexible tracts of land are required for large warehouses, storage yards and future expansion. Locational requirements are typically focused on direct access to distribution channels. This means that access to transportation infrastructure is critical, including access to major highways and intermodal facilities. Given that these facilities tend to be land-extensive, competitive land costs are also an important consideration in site selection.

With an increasing emphasis on the "knowledge-based" and/or "creative class" economy, office development is becoming an increasingly dominant built form. Within the office sector, office development patterns are evolving in response to the needs of office tenants. Office tenants are increasingly looking for access/proximity to high-order transit and services/amenities as well as environments that feature mixed-use development and offer opportunities for live/work. The quality and location of new office space are considered very important tools to attract and retain talent. While development and operating costs on location decisions for office development are important, they are less evident than some of the other factors identified above.

3.3.2 Requirements for Successful Industrial/Business Parks

Industrial/business parks require good access to regional transportation networks, on-site infrastructure including roadways and utilities, a critical mass or complementary industries, and available zoned and shovel-ready land. Industrial/business parks are typically located on flat to slightly rolling topography in areas with minimal environmental issues. Roadways within industrial parks tend to be laid out in a grid system to optimize circulation and parcel configuration. Parcels are typically square or rectangular in shape to optimize site design. Many of these attributes help to optimize the end-user's development speed-to-market, while minimizing development costs and project risk.

The specific attributes that are required for an industrial park to be successful are largely based on the intended function and designations. General industrial lands typically accommodate light/advanced manufacturing, logistics, distribution and transportation sectors. Typical attributes of general industrial parks include the following:

- Limited access highway availability is critical for the success of general industrial parks that have a significant degree of manufacturing, warehousing, distribution and logistics. These parks do not necessarily have to be adjacent to a limited access highway but must be in proximity and easily accessible via major arterials that pass through limited residential or mixed-use commercial area(s).
- Size is vital to ensure a wide selection/flexibility of land options and parks must include a sufficient supply of large parcels. As a minimum, 200 acres (80 ha) is a suitable size for a park, in order to reach the critical mass needed to provide reasonable presence, choice and economies of scale. Newer parks focused on

warehousing and transportation tend to be larger, in excess of 500 acres (200 ha).

- Location must provide efficient and effective vehicular access and circulation, particularly for heavy truck traffic, with a minimum of two access points to enter/ exit the industrial park.
- Buffering is important for general industrial parks in order to minimize noise and air pollution to neighbouring residential and other non-residential areas
- Parcel size and configuration needs to be conducive for a wide range of land uses, especially for land extensive uses such as wholesale trade and transportation.
- Employment-supportive uses and other amenities are increasingly important for industrial/business parks.

3.3.3 Stakeholder Consultation

To better understand HRM's industrial growth potential, market competitiveness and investment readiness, key stakeholders in the local market were engaged in a series of consultation sessions. The following guiding principles shaped the engagement approach for the project:

- to instill civic pride with the stakeholders;
- to maintain an authentic process that informed the stakeholders about key project milestones and how their feedback was going to be considered;
- to learn from local businesses and entrepreneurs;
- to establish open lines of communication that are met with a timely response; and
- to encourage dialogue among the stakeholders involved to eventually work towards a shared vision for Halifax's industrial lands.

This subsection presents the consultation methodology. Also, based on the feedback collected from the various types of stakeholders, a number of key takeaways have been identified as important factors to consider during the elaboration of the Strategy.

Stakeholder Consultation Methodology

As part of this study, a series of in-person or telephone meetings were scheduled with stakeholders. Stakeholders included organizations and HRM's internal departments

with the potential to impact or be impacted by the project recommendations. The objective of these meetings was to build a clear understanding of mandates, goals, and upcoming plans of these organizations/departments. In addition, a number of individuals working in Burnside were also engaged as stakeholders through their participation in the Greater Burnside Business Association (GBBA). Groups met with included:

- HRM Departments of Corporate Real Estate; Planning; Transportation and Public Works; and Finance and Asset Management;
- Halifax Transit;
- Halifax Water;
- The Atlantic Gateway Committee led by Halifax Partnership, including representatives from Nova Scotia Business Inc. (NSBI); The Port of Halifax; and the HSIA; and
- A number of local developers who have private industrial park land holdings or develop and construct buildings on industrial lands.

Participants were informed of the project scope and timeframe, and then a discussion took place with interviewees regarding how their operations are impacted by both HRM-developed and privately developed industrial employment lands. Input was collected on:

- Any observed industrial market changes and strengths, weaknesses, opportunities and constraints (SWOC) with regard to industrial employment lands;
- Challenges and opportunities since the completion of the 2008 Business Parks Functional Plan;
- Additional challenges that participants wished to encourage and discourage; and
- Participants' perspective on important elements to consider in developing a definition of sustainable growth and development of industrial lands.

Stakeholder Consultation Key Takeaways

The feedback collected from participants has been categorized into the following four major topic areas and summarized:

1. Land Use Planning of Industrial Lands;

2. Sustainability and Servicing Constraints for Industrial Lands;

3. Considerations for HRM Corporate Real Estate to Action; and

4. Suggestions for Suitable Future Industrial Sites.

Land-Use Planning of Industrial Lands

This was an important topic for many stakeholders and broadly concerns feedback on permitting, master planning, and implementation. Multiple participants noted that the lack of continuity amongst staff responsible for processing land-use applications on the industrial land detracts from HRM's institutional knowledge and consistency with regard to the intent of industrial lands policies. In participants' experience of making land-use applications on industrial land, there have been inconsistent interpretations on the policy intent and context. It was identified by participants that both the 2008 Business Parks Functional Plan and the Regional Municipal Planning Strategy do not provide clear guidance for industrial land-use planning, or clear acreage guidance for the Municipality, and therefore this may be the cause of the inconsistent planning advisement and direction. Participants noted that as part of the future RMPS review, fundamental questions need to be answered, such as:

- How much industrial land does HRM need to maintain?
- Should HRM target specific sectors of activity?
- Where should HRM plan for the growth of industrial lands?

Answering these questions will be crucial to provide for adequate industrial development. It was the view of many stakeholders that there needs to be conviction from HRM that industrial lands need to be preserved from conversion. Currently there is a higher demand for logistics or right-on-time distribution, which is a land intensive use, and with limited large-lot options, is particularly constrained in the current market.

The perceptively broad range of land uses permitted under at least some major industrial zones creates a false sense of how much land is available for, protected for, and dedicated to the industrial market. This has also resulted in difficulty providing adequate public transit for users of industrial lands, since permissive zoning has enabled pockets of high transit demand areas such as call centres, institutional uses, hotels, and non-profit offices in industrial parks. This sort of non-industrial growth has continued to occur, largely because in areas where it is identified that zones are

outdated, it has taken substantial time for amendment processes required to support/ reflect market requirements. Additionally, participants noted that new industrial employment needs are dropping substantially with modernized industrial facilities, and parking requirements should reflect this.

Finally, participants noted that HRM Planning staff need to consider the differences between the urban and rural industrial parks. A conclusive theme which arose from feedback on this topic was that industrial land-use planning should identify employment intensive land uses, and encourage the location of these uses in urban industrial areas better able to be serviced by public transit. Rural industrial lands, and industrial lands difficult to service with transit would be appropriate for less employment-intensive industrial uses.

Sustainability and Servicing Constraints for Industrial Lands

Due to the diversity of topics covered under this "Key Takeaway," the feedback has been broken into bullet points:

- It is prohibitively expensive to supply public transit in industrial lands during long buildouts. This results in difficulty providing transit in an industrial place at any time, however, due to the fact that once transit can be implemented, transportation patterns of potential users have already been established through years-long habits;
- Encouraging safe cycling options and bike shelters may be a strategic investment in industrial areas that have significant employment rates. In some cases, this can be more affordable than providing public transit, especially with falling employment requirements per square foot;
- Water-intensive users should likely have additional pre-planning to mitigate capacity issues. Planning appropriately for warehouse and similar high-land area, low service requirement uses may reduce the over-provision of costly municipal services that these uses may require;
- Some areas are being considered for industrial development that are located outside the serviceable area and the Halifax Water stormwater boundary, which can create jurisdictional issues whether services are provided on-site, by Halifax Water, or HRM;
- Sustainability is deeply linked to an economic development strategy. Compact industrial development is important over dispersed industrial growth, in terms of

cost per unit of infrastructure. Although industrial uses are more efficient than greenfield residential development, it is important to encourage similar uses nearby to each other. Planning requirements can create clustering of businesses, such as Burnside and the City of Lakes;

- Development charges have not been a significant source of revenue in the past for Halifax; the Municipality needs to ensure it recovers its costs by pricing the development charges effectively; and
- Participants identified that multiple power grids may be necessary – industrial stakeholders noted that NS Power has largely been unreliable in their experience. Industrial areas may be able to provide secondary grids to maintain efficiency.

Considerations for HRM Corporate Real Estate

The industrial parks are one of HRM's largest commitments to the economy of the region. HRM is the primary developer of industrial land, and all interviewees identified that the CRE continuing to supply industrial land is critical for the economic development of the region. Participants noted that HRM, through CRE, provides a regionally competitive supply of industrial and related commercial lands for business attraction, growth, and expansion. Feedback indicated that the role that CRE plays in developing industrial lands is critical to ensuring that these lands remain competitively priced for the Atlantic Region (to the extent permitted by relatively difficult topographical conditions) and that their role should continue. This ensures that the price of industrial land does not become entirely run by private interests, which do not always consider the best interests for the region. Participants noted that having a nimble approach to developing industrial land may require developing larger tracts of industrial land in anticipation of a large tenant relocation. It was also suggested, however, that HRM pay more attention to the needs of large corporations. Without a significant large quickly developable acreage, those businesses are likely to pursue development options in in other regions.

Interviewees largely agreed that it was important for CRE to continue to have a major role in creating industrial land, but that increased cooperation between land holders through mechanisms like the Atlantic Gateway Committee will be critical to the success of these new lands. Many participants felt that the strategy needs to ensure a continuing supply of industrial land for the coming decades. They noted that it is important for CRE to have large areas (+/- 300 acres or +/- 121 hectares) of “shovel-

ready"[1] land available if HRM's intention is to diversify the economy by attracting significant operations looking to move locations in the face of geopolitical changes. There are currently no policies to bring in larger lots or supply of larger parcels of land to attract businesses and sectors that would require these. Participants believe there is some development interest in these larger lots. Currently, CRE has not been making lands of this size available. CRE noted that it has difficulty making large lots available in remaining active land holdings in Burnside due to terrain conditions. More development options are considered necessary to meet market demand for larger industrial uses.

Many participants noted that it is important not to overregulate the development of industrial lands, or it will erode HRM's market position. It was felt, however, that a plan to look fulsomely at industrial lands is an important step in long-term success. A larger plan could assist HRM in leveraging cheaper development costs during slow years. Participants identified that the market in Halifax is largely cyclical for industrial development, and fares well during market recessions due to the government-led economy and related government contracts. Taking advantage of these cyclical periods could be particularly helpful if HRM does decide that they should pursue large industrial landholdings.

Many participants felt it would be helpful for HRM to have some form of advisory council that would be able to provide advice regarding industrial land changes over time, rather than stringently regulated industrial policies. Participants felt that advice could be more nimbly applied in response to market changes, whereas regulation and policy can create barriers to responding to these rapid changes.

Suggestions for Suitable Future Industrial Sites

The Province is proceeding with the construction of an extension to Highway 107 that will connect Burnside to the communities of Bedford and Sackville. Participants felt that the properties given road access as part of this highway extension would likely be suitable industrial lands.

Participants have indicated that Halifax currently cannot support typical harbour port uses for distribution due to land supply constraints such as availability and cost.

[1] "Shovel-ready" reflects zoned developable vacant industrial lands that have servicing and would be available for development by an end user immediately or within the next 6 months.

Participants noted that those involved in the industrial land development industry are sending potential distribution businesses to other jurisdictions such as Moncton. Acquiring land close to the port for industrial uses would be the ideal solution to this issue; however, that is difficult under HRM's current development pattern. Participants did identify some sites that may be suitable for industrial development nearby to ports and suitable, including:

- Holdings of more than 200 acres (81 hectares) owned by Valero Energy Inc. in Eastern Passage; and
- Holdings of more than 900 acres (364 hectares), having the former Imperial Oil refinery lands in Dartmouth. This would be a potential opportunity site for a new marine terminal.

3.3.4 Industry Trends Toward Best Practices

A component of the study included a review of best practices in industrial land development and land-use planning practices in other relevant North American jurisdictions. These jurisdictions were selected because of their comparable population sizes and densities to Halifax with similar region centre role (e.g. Quebec City, Quebec), established industrial base with a strong transportation network (e.g. Winnipeg, Manitoba), broad ranges of industrial/employment areas including legacy port area lands and suburban industrial/business parks (e.g. Hamilton, Ontario), comparable in location (east coast municipality) with similar mix of industrial, cultural, and post-secondary land uses (e.g. Boston, Massachusetts). In the case of Los Angeles, California, the Long Beach Port is a leader in the industry and there was a desire to better understand the policies and programs in place to enable it to be a leading-edge example.

By analyzing key industrial park development trends within a cross-section of innovative and inspiring municipalities, it was possible to identify trends toward best practices in terms of industrial development. This subsection presents the five case studies selected: Hamilton, Quebec City, Winnipeg, Boston, and Los Angeles. Further details on these case studies can be found in Appendix B.

The analysis brought to light several interesting actions enacted in those jurisdictions, which resulted in the creation of a list of trends towards best practices.

Hamilton

The City of Hamilton in the Province of Ontario does not build industrial parks, but they do protect approved industrial land from non-industrial land speculation through land-use planning protections. Overtime, the erosion of industrial lands into higher land value commercial uses has occurred due to Council decisions on employment conversion requests and planning tribunal decisions on appeals. The provincial planning documents to which the City is subject, dictate requirements and definitions for industrial land and commercial land activities within the province and more specifically, the Greater Golden Horseshoe region. Municipal plans are required to comply with these provincial plans so, by extension, the preservation and protection goals of the Province must be demonstrated in the City's planning documents and policies. In Hamilton, this strong provincial directive has protected industrial lands by applying a systematic approach to reviewing conversion requests of employment lands to non-employment uses.

Quebec City

Quebec City owns, operates, and manages its industrial parks. With the assistance of a Steering Committee and the Planning and Economic Department, Quebec City has been able to encourage the creation and growth of technology parks within the industrial lands and develop standards to attract international talent. The City has developed an Economic Strategy and hierarchy within the Metropolitan Community Plan to address the land scarcity currently present within the City. The Plan and Strategy intend to develop solutions and determine appropriate available land for future industrial development and expansion.

Winnipeg

Winnipeg, Manitoba, currently does not have strong substantive provincial or municipal policies to protect, preserve, and encourage growth within their industrial lands. The City's new Development Plan, currently being prepared, intends to have substantive policies to preserve and protect the industrial lands that can be further implemented into the City's zoning by-law. The new policy aims to address the current permissive commercial uses within industrial zones by limiting stand-alone commercial and office buildings to specific square footage unless the use is tied to an industrial function. These new policies will help Winnipeg begin to protect and preserve their existing

industrial land and avoid future industrial land from conversion to large-format commercial developments. The City's Employment and Commercial Lands Strategy further outlines the need to address Winnipeg's industrial lands by recommending that investigation occur to determine solutions to acquire new industrial lands while maintaining existing parks.

Boston

Boston, Massachusetts, does not build, own or manage the majority of industrial parks. Still, they do aim to preserve and encourage industrial expansion through the Massachusetts Office of Coastal Zone Management and the Municipal Harbor Planning Process. The Municipal Harbor Planning Process requires approval at the state level to convert industrial lands. This aids in preserving the industrial character of these lands and allows for growth and expansion of the industrial parks. Stakeholders wish to see the industrial designation preserved, thus preventing, for the majority, the conversion of industrial areas. Boston has several economic development initiatives implemented to protect and help industrial sectors grow. For example, the Back Streets Program outlines that where a rezoning of industrial land occurs on non-suitable land, an equal amount of land must be provided elsewhere for industrial development.

Los Angeles

Los Angeles, California, currently lacks state-level policy allowing the City to implement substantive policies preserving and protecting industrial lands. To help correct this situation, the City is currently undertaking a Zoning Code update to reflect the rezoning that has taken place in recent years. Los Angeles does not own, operate or manage the industrial parks but plays an active role in looking for an adequate supply of land for industrial development and expansion. Committees and strategies are in place; for example, the Concierge Service Program and California Coastal Commission protect and encourage the growth of industrial uses. One of the City's goals is to implement a policy that further prevents the continuing conversion of industrial lands to large-format commercial developments and to focus on growing the inventory of available industrial lands.

Key Takeaways from the Case Studies

A common objective for all the Cities was the importance of enabling substantive policy, at a state or provincial level, for implementation within the municipal or City documents

to preserve and protect existing and future industrial lands. Conversion of industrial lands to commercial, residential or office uses was a common trend within four of the five Cities, with the exception of Hamilton, Ontario, which currently has a substantive policy at the provincial level to protect industrial designated lands.

A second common trend was the importance of providing services to industrial designated lands. While all the Cities have not implemented this practice, it was noted as a strategy to consider when acquiring new lands for development that will contribute to attracting new talent. Acquiring new lands, ensuring they are serviced and selling them off for industrial development was viewed as a potentially successful strategy.

The creation of incentives, strategies and/or committees within the Cities to protect and encourage the growth of industrial uses was viewed as valuable. Examples where the consulting team heard success stories were within the City of Boston and their Back Streets Program. This program was designed to control the conversion of industrial lands by requiring land rezoned from an industrial designation to provide an equal amount of land in a more suitable location for industrial development. This model has since been adopted in a variety of cities across the country. In the case of Winnipeg, where no incentives are currently implemented to promote the sale or preservation of industrial lands, the importance of policy with the aim to alter their current documents and provide a focus on industrial land was noted.

Notably, all the Cities surveyed did indicate that commercial and office uses, to a certain extent, are permitted within industrial designated lands. The success appears to be when these uses are restricted to a total square footage, thus avoiding the conversion of industrial parks to commercial, office or residential uses.

3.4 Analysis of HRM Industrial/Business Parks

The following provides profiles of HRM's industrial and business parks, respectively. The tables profile the industrial/business parks and correspond with the key map provided in Figure 38. Profile data was prepared through a desktop GIS-based exercise utilizing available business employment data and non-residential development activity information provided by HRM and land inventory data compiled for the purposes of this study by the Consultant Team.

3.4.1 Profile of Municipally Developed Industrial Parks

The following provides a profile of the existing municipally developed industrial parks in Halifax. The key observations of municipally developed industrial/business parks are summarized in Figure 36.

Aerotech Business Park

The Aerotech Business Park is a partially-serviced industrial area located next to the HSIA that is largely undeveloped. The majority of the Aerotech lands are not in the serviceable boundary. The park was developed beginning in the 1980s through two phases of development. The current industrial base is comprised of approximately 180 acres (73 ha) of developed industrial employment land and an employment base of approximately 500 focused on advanced manufacturing, transportation and warehousing, and accommodation and food services with synergies with the airport. Major employers include Pratt & Witney and L-3 Electronic Systems.

The proximity of the HSIA in relation to the Aerotech Business Park is a significant asset that enhances the development potential of the area. The concept of an "airport" has evolved from solely a transportation hub to a multi-modal employment hub serving as catalysts for a large range of economic activities. Sectors such as research and development, high technology, and advanced manufacturing rely increasingly on air transport in their supply chains and just-in-time delivery. This includes companies engaged in time sensitive businesses such as computer hardware/software, electronics, telecommunications equipment, apparel, automotive components, industrial equipment and health care/biotechnology. Other sectors directly tied to airport activities and operations include air freight distribution/logistics and the aerospace industry.

The park has significant opportunities to accommodate growth including approximately 1,700 acres (688 net ha) of vacant developable land. Of this, approximately 122 net acres (49 net ha) is shovel-ready though HRM currently has no parcels available for sale. The remaining vacant lands are reserved for future industrial and airport development.

Recent development activity has been limited and focused in the accommodations sector with the development of one new hotel.

Bayers Lake Business Park

The Bayers Lake Business Park is a diverse fully serviced prestige industrial area located on the west side of Halifax with excellent access/exposure to Highways 102 and 103. The park, which was first developed in the mid-1980s, is approaching buildout with a developed land area of approximately 370 acres (150 ha). The park is home to approximately 335 business and an employment base of 6,500 with a high concentration of employment in retail and office commercial sectors. To a more limited extent, the park also accommodates industrial sectors including manufacturing, wholesale trade, construction, and transportation/warehousing sectors.

The park has a high concentration of large format retail uses in the northern half of the park. The southern portion is dominated by a mix of industrial and office uses. The park is centered around Bayers Lake and a large area of green space, and is served by Chain of Lakes Trail which intersects the park.

Since 2011, the park has experienced strong development activity. More than four-fifths of recent development activity in the park has been in non-industrial sectors, most notably in retail commercial and major office development.

The park has approximately 35 net acres of shovel-ready industrial employment land available for development concentrated along Hobson Lake Drive with no additional lands remaining to be serviced. HRM currently has no parcels available for sale.

The park has a significant amount of developable vacant land located north of Black Duck Ponds along Susie Lake Crescent being developed by Banc Commercial Holdings. A portion of these holdings was recently sold to the Province to develop a new Community Outpatient Centre.

The 2008 Functional Plan identified that there was a need to more clearly differentiate between the various land uses permitted within the park (i.e. industrial, office, retail commercial) to minimize land use incompatibility issues and to identify and secure lands for future light industrial development.[1]

[1] HRM Business Parks Development Functional Plan - Part II, Bayers Lake and Ragged Lake, May 2009.

Burnside Industrial Park

The Burnside Industrial Park, located in Dartmouth, is the largest industrial area east of Montreal and north of Boston. With a developed land base of 1,800 acres, 1,650 businesses and employment of approximately 20,000, the park is the most dominant industrial area in Halifax. The park has a fully serviced urban industrial area with a diverse employment base comprised of a range of industrial sectors including wholesale trade, manufacturing, transportation and warehousing, and construction, as well as professional, scientific and technical services, and accommodation and food sectors. The older portions of the park largely west of Burnside Drive have a more general industrial character while newer areas, particularly those east of John Savage Avenue, are a prestige employment area.

Development of Burnside began in the 1960s and has included 12 phases of development, all developed by the Municipality. The park has been highly marketable due to its highway connections/access (Highways 111, 118 and 7), market choice of development opportunities and central location.

Burnside has accounted for the largest share of industrial development in Halifax over the past decade. The park has seen a diverse range of development including warehousing, manufacturing, major office and employment-supportive uses.

The park contains the largest share of Halifax's developable industrial employment lands (535 net acres) and shovel-ready industrial employment land (approximately 125 acres). Currently, Phase 12 is in active development by HRM, representing the largest supply of municipally developed parcels available for sale and the identified shovel-ready supply. The planned Phase 13 offers medium- and longer-term growth potential, and will have excellent highway access via the planned Highway 107 project. Potential industrial expansion areas (Phase 14) offer longer term industrial development opportunities.

City of Lakes Business Park

The City of Lakes Business Park is a highly prestige, municipally developed office business park located within the geographic extents of Burnside park. The park has a developed land base of 180 acres (73 ha) and is home to approximately 200 business and 5,300 jobs concentrated in major office, industrial, institutional/government uses that have been largely developed over the past two decades. Major employers include

Canadian Blood Services, Nova Scotia RCMP headquarters, and Jazz Aviation. The park has the highest land utilization and employment densities of Halifax's industrial areas. The area has experienced strong development activity over the past decade concentrated in major office and employment-supportive uses. The park is largely built out with limited development opportunities remaining.

Ragged Lake Business Park

Of the municipally developed industrial/business parks, the Ragged Lake Business Park is the smallest with a developed land base of 40 acres (16 ha) and an employment base of approximately 200, with the majority employed in the industrial sector including transportation and wholesale trade uses. The park is fully serviced and was municipally developed in the early 2000s, but the park had no land absorption activity between 2011 to 2018. The Business Park has approximately 30 net acres (14 net ha) of developable land including 15 acres (6 net ha) of shovel-ready supply.

Figure 36
Profile of Municipally Developed Business Parks

Municipally Developed Industrial/Business Parks					
	Aerotech Business Park	**Bayers Lake Business Park**	**Burnside Industrial Park**	**City of Lakes Business Park**	**Ragged Lake Business Park**
Developed Land (Acres)	181	371	1,567	180	40
Total Businesses	11	335	1,257	211	7
Total Employed	550	6,400	20,400	5,320	210
Employment by Industry Sector					
Primary	0%	0%	2%	0%	0%
Industrial	65%	18%	62%	30%	76%
Manufacturing	46%	4%	15%	2%	72%
Transportation and Warehousing	6%	3%	11%	15%	0%
Wholesale Trade	8%	6%	17%	7%	3%
Construction	5%	5%	16%	4%	0%
Utilities	0%	0%	0%	1%	0%
Admin Support and Remediation	0%	1%	2%	0%	0%
Office Commercial	3%	14%	16%	30%	16%
Retail Commercial	32%	55%	16%	24%	8%
Institutional	0%	13%	4%	15%	0%
Total	100%	100%	100%	100%	100%
Development Activity, 2011-2018 (G.F.A. in sq.ft.)	98,000	576,000	2,138,000	515,000	0
Development Activity by Industry Sector					
Warehouse	0%	8%	44%	0%	0%
Manufacturing Facility	0%	0%	10%	0%	0%
Multi Tenant Industrial/Commercial	0%	8%	9%	0%	0%
Major Office	0%	45%	12%	33%	0%
Other Office	0%	6%	1%	6%	0%
Retail/Food & Accommodation/Personal Services	100%	32%	22%	15%	0%
Institutional	0%	0%	1%	47%	0%
Land Absorption, 2011-2018 (Acres)	9	47	243	58	0
Vacant Developable Land (Acres)	1,729	35	536	2	31
Shovel-Ready Vacant Land (Acres)	122	35	126	2	14

Source: Watson & Associates Economists Ltd., 2020.

It can be seen through the municipally developed industrial/business parks profiles that each industrial/business park caters to different sectors, which can be seen through the employment and development activity by industry sector statistics. The profiles also show the short-term developable potential and land absorption activity of each industrial/business park between 2011 to 2018.

3.4.2 Profile of Private and Provincially Developed Industrial Parks

As previously discussed, Halifax has eight private and provincially developed industrial parks. This includes five within the Urban Service Area – Atlantic Acres Industrial Park, Bedford Commons, Beechville Industrial Park, Sackville Industrial/Business Park and Woodside Ocean Industrial Park and three within the rural area – Eastern Shore Industrial Park, Musquodoboit Industrial Park and Sheet Harbour Industrial Park. The key observations outlined in the profile of privately and provincially developed industrial/business parks are provided in Figure 37. The industrial/business parks located in the urban area are discussed in further detail below.

Atlantic Acres Industrial Park

The Atlantic Acres Industrial Park is a serviced industrial area located in Bedford, immediately west of West Bedford Business Campus. The park is accessible from Hammonds Plains Road to the north and Larry Uteck Boulevard to the south, and is approximately 1.5 km from Highway 102. The park has a largely general industrial character with a developed land base of 120 acres (50 ha) catering to small and medium sized employers with a high concentration in industrial sectors (warehousing, transportation, construction and manufacturing) and office and other commercial uses. The park has an employment base of approximately 1,300. Development of the park has occurred gradually over the past four decades. Market rents are among the lowest in the urban area of Halifax and vacancy rates have also been relatively low. Over the past decade, Atlantic Acres has been one of the more active privately developed industrial parks and is approaching buildout with 8 acres of vacant developable land available for development (all are shovel-ready).

Bedford Commons

Bedford Commons is a large commercial/industrial area with a developed land base of 220 acres (89 ha) and an employment base of approximately 1,300. The park was initially developed by the Province as an industrial park but was purchased by the

private sector (Banc Group) and more recent phases of the park have been developed largely as retail power centre over the past decade.

The park is located in Bedford at the junction of Highways 101, 102 and the Bedford Bypass, and is highly accessible to the regional highway network. These connections will be enhanced with the development of Highway 107 which will intersect the park to the east of Duke Street. Although the park is selectively referred to as an industrial park on occasion, it is primarily a big box power retail power center comprised of a mix of general industrial lands developed east of Duke Street and newer largely retail, office and prestige industrial uses west of Duke Street.

Land absorption in Bedford Commons has accounted for the largest share of the privately developed industrial lands and focused solely on retail, office, institutional and recreational-related development. Recent development includes the Daniel Nestor Atlantic Tennis Centre, Canadian Tire, and Government of Canada Defence.

Although Bedford Commons has the largest amount of vacant developable land (176 acres) of the privately developed industrial/business parks, only a small share is considered shovel-ready. This includes a large contiguous block of lands on the southwest side of the park which Banc is intending to develop as a mixed-use development comprised of office, retail, and residential uses. Existing industrial developed lands east of Duke Street, however, offer potential opportunities for intensification.

Beechville Industrial Park

The Beechville Industrial Park is located immediately to the west of Bayer Lake Business Park, in west Halifax. The park is fully serviced with a general industrial character, a developed land base of 80 acres (32 ha) and an employment base of approximately 900, and has a high concentration of wholesale trade, construction, and manufacturing. The established part of the park, located south of Black Duck Ponds, was built in the 1970s and early 1980s and is largely built out. The southern portion of the park is located north of Highway 3 (St. Margaret's Bay Road) and is about 1.5 km from a limited access highway (Highway 103). The park has not had any development activity over the 2011 to 2019 period due to limited land supply.

Eastern Shore Industrial Park

The Eastern Shore Industrial Park is a rural industrial park located approximately 40 km east of Halifax. Developed by the Province in the early 1980s, the park has a developed land base of 14 acres (6 ha) and is largely oriented to manufacturing activities. The park is accessible via Highway 7 and Highway 103 and has 21 acres (8 ha) of developable industrial employment land.

Musquodoboit Industrial Park

Musquodoboit Industrial Park is a rural industrial park developed by the Province in the mid-1980s. Located approximately 50 km from Halifax, the park has a developed land base of 26 acres (11 ha) with a vacant developable land supply of 21 acres (8 ha). The park is home to largely small-scale manufacturing businesses.

Sackville Business Park

The Sackville Business Park is an older general industrial area initially developed by the Province. The park is located in Sackville immediately west of Bedford Commons, with immediate access to Highway 102. With a developed land base of 145 acres (60 ha), the park is home to approximately 1,000 jobs with a high share in manufacturing. Developed largely in the 1980s, the park has had limited development activity over the past decade and is largely built out with limited developable parcels, but does offer some potential opportunities for intensification.

Sheet Harbour Industrial Park

The Sheet Harbour Industrial Park is a rural industrial area developed by the Province in the 1990s. Located in the eastern part of the Municipality, the industrial area is centred around the Port of Sheet Harbour, a deep-water port terminal. The industrial park has a developed land base of 67 acres (27 ha). Key tenants include the port facility, Northern Fibre Terminals and Energy Resource Group. The park has 24 acres (10 ha) of vacant developable industrial employment land.

Woodside Ocean Industries Park

The Woodside Ocean Industries Park is a large older general industrial area located in Dartmouth. Development of the park began in the 1970s and has continued to-date. With an employment base of 1,870 and a developed land base of 250 acres (100 ha),

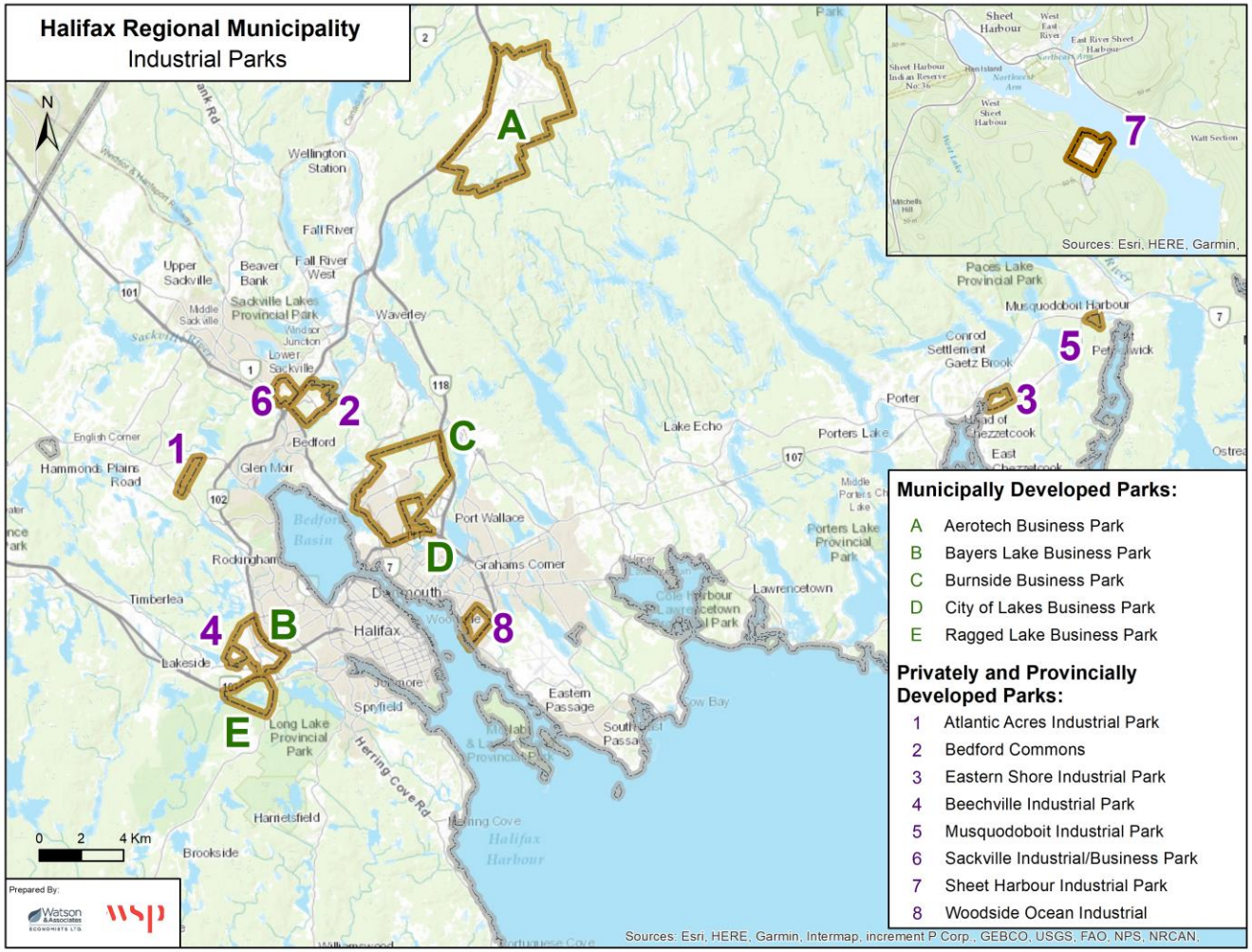
the park is quite diverse with a range of industrial, commercial and institutional uses. The park is approaching buildout with 19 acres (8 ha) of shovel-ready lands remaining for development. Some opportunities for intensification also exist. In addition, most of its development activity has been in the warehouse sector.

Figure 37
Profile of Private and Provincially Developed Industrial Parks

Private and Provincially Developed Industrial/Business Parks								
	Atlantic Acres Industrial Park	**Beechville Industrial Park**	**Bedford Commons**	**Eastern Shore Industrial Park**	**Musquodoboit Industrial Park**	**Sackville Industrial/ Business Park**	**Sheet Harbour Industrial park**	**Woodside Ocean Industries Park**
Developed Land (Acres)	122	81	220	14	26	147	67	252
Total Businesses	88	27	87	4	4	93	No Data	118
Total Employed	1,290	910	1,370	30	20	1,000	No Data	1,870
Employment by Industry Sector								
Primary	0%	0%	0%	0%	0%	0%	No Data	0%
Industrial	58%	86%	9%	71%	84%	19%		33%
Manufacturing	9%	5%	2%	71%	76%	4%		16%
Transportation and Warehousing	17%	1%	0%	0%	0%	5%		1%
Wholesale Trade	11%	38%	5%	0%	8%	3%		2%
Construction	21%	43%	3%	0%	0%	5%		14%
Utilities	0%	0%	0%	0%	0%	0%		0%
Admin Support and Remediation	0%	0%	0%	0%	0%	1%		0%
Office Commercial	18%	5%	13%	29%	8%	12%		17%
Retail Commercial	21%	8%	70%	0%	8%	31%		32%
Institutional	2%	1%	7%	0%	0%	38%		18%
Total	100%	100%	100%	100%	100%	100%		100%
Development Activity, 2011-2018 (G.F.A. in sq.ft.)	107,000	0	338,000	0	0	75,000	0	70,000
Development Activity by Industry Sector								
Warehouse	0%	0%	0%	0%	0%	21%	0%	49%
Manufacturing Facility	0%	0%	0%	0%	0%	61%	0%	31%
Multi Tenant Industrial/Commercial	14%	0%	0%	0%	0%	0%	0%	0%
Major Office	63%	0%	37%	0%	0%	0%	0%	0%
Other Office	0%	0%	0%	0%	0%	5%	0%	12%
Retail/Food & Accommodation/Personal Services	20%	0%	11%	0%	0%	13%	0%	8%
Institutional	3%	0%	52%	0%	0%	0%	0%	0%
Land Absorption, 2011-2018 (Acres)	18	0	47	0	0	8	0	13
Vacant Developable Land (Acres)	8	138	176	62	21	36	24	19
Shovel-Ready Vacant Land (Acres)	8	10	2	1	5	5	15	19

Source: Watson & Associates Economists Ltd., 2020.

Figure 38
HRM Industrial Parks Key Map



3.4.3 SWOC Assessment of HRM Municipally Developed Industrial Parks

Building on the analysis completed above, HRM's key industrial areas are assessed herein to better understand their potential to accommodate future development and growth (Figure 39).

Consideration has been given to the following:

- Physical/economic characteristics, which include the character of existing industrial base, geographic location, and continuity and delineation of the industrial area;
- Access/circulation, which includes an assessment of the accessibility of each site via road infrastructure and the visibility of the area to major transportation routes;
- Development opportunities, including vacant land supply, available lots on the market, parcel configuration and mix, servicing, and site expandability; and
- Target sector attractiveness, including the sectors which the industrial area is best suited to accommodate, and the strength of that area with regard to those sectors.

Figure 39
HRM Industrial/Business Park Assessment

Industrial/Business Park	Strengths	Weaknesses/Challenges	Development Opportunities
Aerotech Business Park	• Synergies with major international airport which is experiencing growth in passenger and cargo volume. • Excellent access and proximity to Highway 102. • Recently upgraded Aerotech Wastewater Treatment Facility serving the park and airport provides for greater growth opportunities.	• Zoning permissions misalignment with market potential • Large part of developable lands is not serviced, with portion potentially to be used for 3rd airport runway in the future. • Limited industrial development in recent years. • Distance from urban core of Halifax detracts from marketability of park for some uses. • Competitive offerings in the industrial market from neighbouring Municipality of East Hants. • No HRM parcels currently available for sale.	• Market potential for research and development, high technology, and advanced manufacturing which rely increasingly on air transport in their supply chains and just-in-time delivery. • Sectors directly tied to airport activities and operations including air freight distribution/logistics and the aerospace industry. • Commercial sectors serving needs of air travellers/ workers of airport and surrounding employment area including hotels, restaurants, gas stations.

Industrial/Business Park	Strengths	Weaknesses/Challenges	Development Opportunities
Bayers Lake Business Park	• A large, well established industrial area of critical mass with a diverse range of industrial, office and retail commercial uses. • Centrally located in west Halifax in proximity to labour force pool. • Excellent access/exposure to two major highways (Highways 102 and 103). • Excellent circulation via a number of arterial roads (Chain Lake Drive, Horseshoe Lake Drive). • Park is well served by employment-supportive uses. • Recreation and green space amenities. • Served by public transit.	• Significant large format retail development has reduced marketability for industrial uses due to traffic and land-use compatibility issues. • Limited shovel-ready land supply remaining with no HRM parcels available for purchase. • Difficult for industrial uses to compete with the hierarchy of higher permitted uses such as retail and office.	• Highly marketable for major office, flex office, multi-tenant industrial condominiums to accommodate knowledge-based sectors, wholesale trade. • No development commitment to industrial development.
Burnside Industrial Park	• A world-class industrial park of critical mass and profile highly marketable for a range of industrial uses. • Strong development activity in the past decade.	• Diminishing long-term development opportunities. • Dartmouth Crossing Retail Commercial Area has competed with industrial development.	• Highly marketable for a range of prestige industrial uses including warehousing, wholesale trade, advanced manufacturing, transportation,

Industrial/Business Park	Strengths	Weaknesses/Challenges	Development Opportunities
	• Excellent highway access (Highways 111, 118 and 7). • Highway connections on the north side of park to improve with development of planned Highway 107. • Excellent internal circulation via arterial road network (Akerley Blvd., Burnside Drive, Wright Avenue). • Access to employment-supportive uses and recreation amenities. • Access to public transit including proposed Rapid Transit route. • Southern portion of park is served by CN Rail main line and spur.	• Difficult terrain to provide optimal market choice with respect to lot sizes and characteristics, for example large format lots (20+ acres) and small format lots (<2 acres). • Not all industrial tenants want to be in Burnside. There is demand for industrial uses in other areas of HRM and in particular on the other side of the Harbour.	offices uses, and multi-tenant industrial development. • Shovel-ready market choice in Phase 12 and Phase 13 address a large share of Halifax's industrial employment land needs over the short and medium term. • Phase 14 offers HRM longer term development opportunities. • Opportunities for intensification and infill development in older parts of the park.
City of Lakes Business Park	• Highly prestige employment area marketable for a range of major office and knowledge-based sectors. • Strong development activity over the past decade.	• Approaching buildout with limited development opportunities. • Small geographic extent.	• Is a Council directed prestige business/office park not intended for industrial uses. • Highly marketable for major office and other office development suited for knowledge-based, corporate

Industrial/Business Park	Strengths	Weaknesses/Challenges	Development Opportunities
	• Access/proximity major highways, public transit, and employment-supportive uses.		office and institutional/government tenants.
Ragged Lake Business Park	• Located in proximity to Highway 103. • Served by public transit. • Substantial adjacent Municipal land holdings for future expansion without conflicting with residential neighbourhoods and potential to offer a wide range of lot sizes and characteristics. • Located along substantial major transportation infrastructure allowing for infrastructure upgrades rather than all new infrastructure to service a major employment centre.	• Limited current developed size and geographic location on edge of urban area detract from its marketability. • Limited development activity in recent years due to lack of supply opportunities. • Those businesses that have located at Ragged Lake originally did so on the basis of the park expanding in the future as originally promoted by the Municipality. • Ragged Lake is adjacent/within the Western Common Wilderness Common, and industrial development will need to be balanced against wilderness area protection goals.	• Marketable for a broad range of industrial uses including transportation, construction, wholesale trade and manufacturing • Long-term industrial expansion potential through 2,000-acre Industrial Reserve.

3.5 Evaluation of HRM Industrial Development Model and Market Opportunities

As previously discussed, the HRM industrial park development program involves raw land assembly, servicing and infrastructure development, subdivision design and construction, and marketing and land sales. The Municipality guides development through subdivision phasing and sells land parcels to private developers and individuals as demand warrants. CRE is also responsible for marketing the municipally developed industrial parks.

The purpose of this section is to evaluate the role and approach for HRM regarding industrial employment land assembly and development. This includes exploring opportunities for private-sector development of industrial employment lands in contrast to the traditional municipal approach. In addition, approaches to optimize sustainability on employment lands from a fiscal, environmental, and socio-economic perspective are explored. This includes a review of the CRE Business Parks Program and broader HRM goals and objectives within the context of the economic and market analysis completed herein. Considerations for HRM's role in industrial land development are drawn from best practices, stakeholder consultation, and recent and anticipated growth trends.

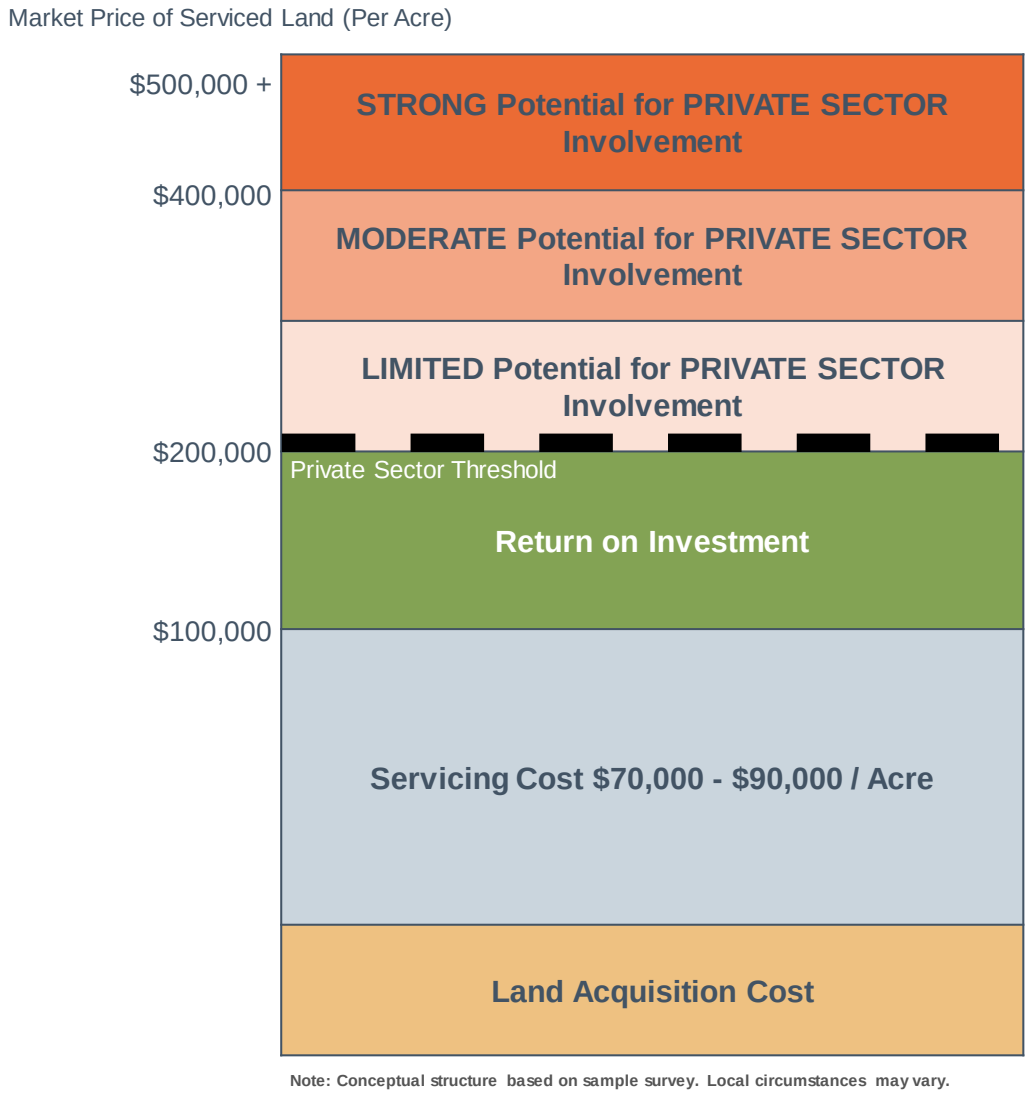
3.5.1 Trends in Municipal Industrial Land Development

In many communities across Canada, relatively low land prices and slower rates of development activity create difficulties in attracting and sustaining private-sector development of industrial lands. The relatively low market price of serviced land creates conditions that limit private-sector interest and involvement in land development (i.e. the costs of servicing lands are too high relative to market prices of serviced land). The absence of the private sector necessitates municipal development of industrial/business parks. Under these circumstances, many municipalities take a pro-active approach and develop municipal industrial/business parks, investing municipal dollars to buy, subdivide and fully service the land. Recouping municipally funded servicing costs (full cost recovery with a return on investment) occurs through land sales to end users who then develop the parcels.

Figure 40 illustrates the cost components to servicing land, the potential return on investment and the corresponding market price of land required to sustain the private-

sector development market. Servicing land is a costly undertaking, typically averaging between $70,000 and $90,000 per acre. Factoring in the cost of land acquisition (typically between $20,000 and $40,000 per acre), the total cost of serviced land can easily exceed $100,000 per acre. To allow for a minimum return on investment, the market value of serviced land typically has to be in excess of $200,000. The potential for private-sector development above this point increases with the market value of serviced land.

Figure 40
Conceptual Structure of Sustaining the Private-Sector Development Market



Note: Conceptual structure based on sample survey. Local circumstances may vary.

The relatively high threshold point for the private sector is driven by the differing cost/ benefit methods and expectations regarding return on investment. The private sector typically only includes the revenue of the sale of the serviced land in its return on investment analysis. This is unlike the Municipality which factors in not only the revenue generated from the sale of the serviced land, but also the potential employment, tax assessment and development charge revenue generated from the proposed development. This fundamental difference in approach can have a significant impact in terms of expected return on investment (revenue from sale of serviced land less costs).

Industrial land prices in Halifax are approaching the $300,000 per acre threshold where markets can sustain a moderate degree of private-sector development. Having said that, experience in other markets with a similar price point for land suggests that Municipal-led industrial development is still necessary to provide for sufficient market choice.

3.5.2 HRM Industrial Business Program Performance

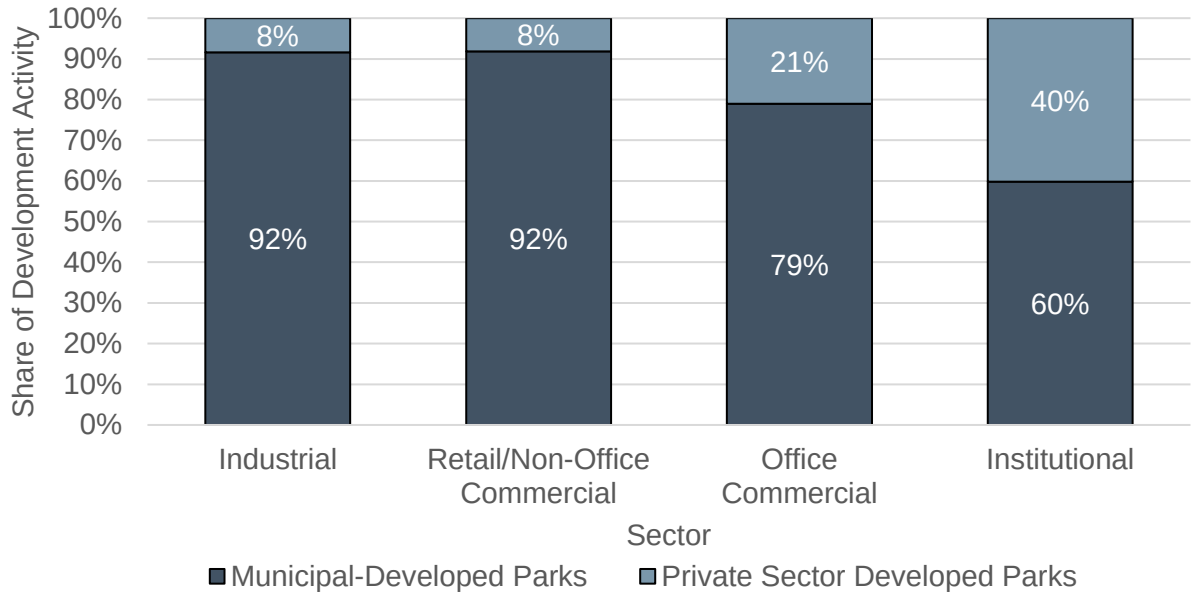
Halifax is in a unique position in that it has experienced both municipal industrial/ business park development as well as some private park development. Over the past decade, the role of the public and private sectors in industrial/business park development within the local context has become more clearly defined, based on direction provided through the RMPS. The RMPS identified that HRM should concentrate on municipal industrial land development focusing on delivery of serviced industrial lands not currently being offered by the private market, and the private sector should focus on retail/office commercial development.

CRE has continued to be the dominant participant in industrial/business park development in Halifax. Comparing industrial employment land absorption by park over the 2011 to July 2019 period, land absorption in municipally developed parks has accounted for about four-fifths (79%) of total industrial employment land absorption over the period.[1] The remainder (21%) is from concurrent development of industrial employment lands in privately developed industrial areas.

[1] An estimated 448 acres (181 ha) of industrial employment lands were absorbed in Halifax over the 2011 to July 2019 period of which 356 acres (144 ha) were in municipally developed parks.

Of non-residential development activity on absorbed industrial employment lands over the period, 85% (3.3 million sq.ft.) of total development has been accommodated within municipally developed parks. Municipally developed parks have accommodated 92% of industrial development G.F.A. accommodated within industrial areas and 79% of office development, 92% of retail/non-office commercial development, and 60% of institutional development, as illustrated in Figure 41.

Figure 41
Share of Non-Residential G.F.A. Accommodated on Absorbed
Industrial Employment Lands 2011 to July 2019
Municipally Developed Parks vs. Private-Sector Developed Parks



Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

To achieve its economic and planning objectives and to address future industrial employment land needs over the next two decades, the role of HRM in municipal industrial land development is expected to be needed for the foreseeable future. As industrial land prices continue to appreciate and the industrial employment lands market continues to strengthen, it is anticipated that the role of the private sector will also expand.

This section explores these options, assessing the strength and weakness of private-sector vs. municipal-sector development in the local context.

Return on Investment

Each approach is driven by the differing cost/benefit methods and expectations on return on investment. HRM's industrial land development program needs to involve a comprehensive cost/benefit analysis. Factored into the economic benefits includes not only the revenue generated from the sale of the serviced land, but also the potential employment, tax assessment, and other municipal fee revenues generated from the development of the subject lands. The private sector typically only includes the revenue of the sale of the serviced land in its return on investment analysis. This fundamental difference in approach can have a significant impact in terms of expected return on investment (revenue from sale of serviced land less costs).

Over the past decade, HRM has generated approximately $73.5 million in revenue from industrial land sales. HRM's current operating model is financially sustainable, with land sales revenues covering land development costs. In addition, the HRM industrial park development and land sales have generated fiscal and economic benefits to the Municipality.

The 3.3 million sq.ft. of non-residential development within HRM's municipally developed industrial parks identified above has yielded an estimated $323 million in assessment and accommodated an estimated 5,500 jobs, as illustrated in Figure 42. This illustrates the strong positive impacts that CRE's municipal industrial land development program has had on the Municipality from a tax assessment and economic growth perspective.

Figure 42
Economic and Fiscal Benefits of Non-Residential Development
within Municipally Developed Industrial Parks, 2011 to July 2019

Sector	Non-Residential GFA (sq.ft.)	Assessment	Employment
Industrial	1,451,000	$ 129,131,000	1,200
OfficeCommercial	772,000	$ 103,073,000	2,200
Retail/Non-Office Commercial	832,000	$ 73,240,000	1,650
Institutional	266,000	$ 17,896,000	400
Total	**3,321,000**	**$ 323,340,000**	**5,450**

Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

Degree of Control of Development

Municipal development of industrial lands tends to provide stronger control over the type and appearance of development that can be more consistent and supportive of municipal strategy and other policy directions. For example, municipal land development in Halifax can be dedicated to industrial and other employment uses, without the same market pressures for land conversions to retail commercial or residential uses as the private sector.

Municipal land development also offers stronger control over design guidelines and uniform standards. HRM has more control on municipally developed industrial lands to enforce higher development/urban standards. This can be done through additional development covenants and restrictions that can be more effective than applicable zoning by-law on privately developed lands.

For example, in the Burnside Industrial Park, as part of the agreement of purchase and sale on the sale of industrial lots, there are agreed upon Site Development & Building Standards. These standards do not currently carry with property title. There is a currently a review/update of Site Development & Building Standards and Restrictive Covenants underway that will improve overall park quality, increase aesthetic standards, and improve land efficiencies.

Degree of Control Over Development Timing

Under municipal development, the control of industrial area phasing/timing can be based on municipal-wide industrial employment land needs (as identified herein) as opposed to being market driven and dependent on private-sector interests. In addition, HRM-sold lands require that the purchaser commence construction within 12 months of land purchase closing, whereas in the private-sector market no such requirements are in place, which prevents speculative activity and "flipping" of properties. The private sector, however, tends to assemble and develop lands in a timely manner to meet identified demand and are able to deliver resources to move projects along quickly.

Project Risk and Financial Commitments

Municipalities are often more receptive to developing more difficult and problematic lands than the private sector. Municipal land development, however, requires extensive financial resources and exposes a municipality to financial and market risk. High up-

front land acquisition and development costs are demanding for municipalities, however, HRM has a self-funded development model with the Business Parks Development Reserve to address these financial needs and has current ownership of the key identified industrial expansion lands at Burnside, Aerotech and Ragged Lake. In contrast, under a private-sector development scenario, land acquisition, development and marketing costs are borne by the private sector and not by HRM.

3.5.3 Evaluation of Industrial Land Development Approaches in Halifax

Based on the market analysis presented herein, the private sector is not considered sufficiently strong and economically viable to support large-scale industrial employment land development in Halifax. As such, it is expected that HRM will need to remain as the primary developer of industrial/business areas in Halifax to provide market choice in serviced industrial employment lands. Industrial land prices, however, have increased to the point where potential public-private partnerships under certain conditions may be possible.

As discussed above, municipal development offers many advantages for HRM. Municipal development of industrial lands tends to provide stronger control over the type and appearance of development that can be more consistent and supportive of a municipal strategy and other planning and urban design policy directions. This includes the ability to be more selective in the sale of land to end users, promoting development of sectors or uses that are considered "desirable." In Halifax, this may include the development of target sectors and "incubator" industries.

Public-Private Partnerships

Public-private partnerships offer HRM an alternative with a number of advantages:

- They are an effective mechanism to minimize risk and/or to share the risk with the private sector;
- HRM does not need to finance the project entirely on its own;
- Each party has something unique to offer, potentially creating a "win-win" outcome;
- HRM can take advantage of the private sector's marketing resources or access to private-sector financing; and

- The private sector can take advantage of municipal clout, which offers a potentially more efficient means of moving through the development approval process.

The key potential disadvantages are:

- Potential conflicting goals and objectives between the two parties; and
- The private market requires a return on investment which, at current market prices, potentially constrains the level of servicing and possibly jeopardizes the ability of HRM to develop a prestige Employment Area to standards it would like to see.

3.6 Observations

The key observations from the analysis in section 3 include the following:

- Economic growth within HRM over the long term is anticipated to be relatively strong, building on the economic expansion experienced over the past five years. There are a number of regional growth drivers that contribute to this including, but not limited to, the Municipality's growing importance as a regional centre, the presence of a skilled labour force, major infrastructure projects and federal and provincial investments, the record-breaking progress of the HSIA and economic diversification initiatives of the Port of Halifax, synergy with post-secondary and government institutions, and quality of life that has been apparent in Halifax.
- Over the 2019 to 2039 forecast period, Halifax's employment base is expected to expand by approximately 21%, increasing to 262,500 jobs in 2029, and 282,400 jobs in 2039. Employment growth over the period is expected across a wide range of sectors driven by continued diversity of the regional economic base and steady local population growth.
- The industrial employment base is forecast to account for approximately 25% of total employment growth.
- Halifax has a diverse industrial lands base comprised of a range of industrial/ business park and other industrial zoned lands to accommodate future growth.
- Municipally developed industrial/business parks attract different sectors but are clearly preferred areas for industrial land development based on the total

employment figures, development activity by industry sector, and land absorption activity.

- Each park has their opportunities depending on their physical/economic characteristics, access/circulation traits, development opportunities when assessing their land supply, and target sector attractiveness. Most of the parks have been identified as having market potential and therefore opportunities to attract knowledge-based sectors, which is important to note considering the shift of Halifax's economy from goods-producing to services-producing sectors.
- The stakeholder consultations highlighted the need for stronger and more consistent policy directions in respect to industrial employment land development in Halifax, stronger protections from conversions (i.e. industrial employment lands to non-employment uses) where warranted, proactive planning of infrastructure and service provisions to support industrial employment land development, looking to lands in proximity to the port to identify sites suitable for future industrial employment development, and reaffirming the role of CRE in industrial employment land development.
- The takeaways from the trends towards best practices review included: the importance of protection and preservation policies at a higher government level in order to permeate into local level land-use policies; establishing monetary and non-monetary incentives to support industrial employment land development; providing services and infrastructure to industrial lands to add more shovel-ready industrial lands to the Municipality's inventory; developing a systematic approach to considering the conversion of industrial lands to non-employment uses; and specifying the form, nature, and amount of non-industrial uses permitted on industrial lands in order to mitigate the growth of non-industrial uses in these areas.

4. Industrial Employment Land Needs

The following provides a review of opportunities to accommodate industrial growth within Halifax and the Municipality's corresponding industrial employment land needs over the next two decades based on the employment forecast presented in section 3.2.

4.1 Opportunities to Accommodate Growth within Industrial Areas

4.1.1 Undeveloped Industrial Land Inventory

The competitiveness of HRM's export-based economy is partly determined by the availability and quality of its developable industrial employment lands. Further, market choice of shovel-ready industrial lands and the potential for future expansion are key factors in the industrial site selection process. This section provides a comprehensive assessment of Halifax's undeveloped industrial land supply as of 2019.

Vacant Industrial Lands Analysis

Figure 43 summarizes the total gross and net vacant industrial land supply by location. Figure 44 summarizes the net developable vacant industrial land supply, adjusted for sites that are unlikely to develop and long-term land vacancy. As illustrated, Halifax has 3,625 gross acres (1,467 gross ha) of vacant industrial land.[1]

It is estimated that, after adjusting the gross supply for internal roads, stormwater, open space, and easements/corridors, the net industrial land supply would be approximately 2,817 net acres (1,140 net ha).

Some vacant parcels, due to small size, fragmentation, odd configuration, access issues, etc., will likely not develop. Based on a broad level review of zoned industrial lands, a number of parcels were identified as unlikely to develop due to these physical constraints. This reduces the total vacant industrial land inventory by 15 net acres (6 net ha), as summarized in Figure 44.

Remaining privately held vacant industrial employment lands in Bedford Commons and Bayers Lake are anticipated to accommodate non-industrial uses including retail commercial, office commercial and mixed-use based on recent development trends, current land-use permissions, and interest of private developers with land holdings in the subject areas. As such, a combined 328 acres (133 net ha) of land located in these

[1] Gross vacant industrial land supply reflects both subdivided parcels and un-subdivided raw lands but excludes environmentally protected or sensitive lands and major utilities and highway right of ways.

two parks are not anticipated to be available for industrial employment lands development over the forecast period

Reflecting the identified lands which are unlikely to develop over the forecast period due to physical and market constraints, the developable vacant industrial land inventory totals 2,474 net acres (1,001 net ha).

Long-term land vacancy is a common characteristic that is experienced in industrial parks throughout Halifax and elsewhere in Canada. This reflects sites that are unlikely to develop to their full capacity due to underutilization of future development and parcel inactivity/land banking, which may tie up potentially vacant and developable lands. While these observations largely apply to Halifax's more mature industrial areas, over the next decade it is foreseeable that HRM's newer industrial areas, as they mature, will also begin to exhibit these characteristics. For the purpose of this analysis, an estimate of 15% long-term land vacancy has been applied to the net developable vacant industrial land inventory. Adjusted for land vacancy, Halifax's net developable vacant industrial land supply is 2,103 net acres (851 net ha), as summarized in Figure 43.

Figure 43
HRM Supply of Net Developable Industrial Employment Lands (acres)

Location	Total Gross Vacant[1]	Non-Developable Features[2]	Net Vacant Industrial Land Supply
Atlantic Acres Industrial Park	8	-	8
Bayers Lake Business Park	209	46	163
Bedford Commons	234	58	176
Beechville Industrial Park	11	-	11
Burnside Business Park	618	83	536
City of Lakes Business Park	2	-	2
Ragged Lake Business Park	36	6	31
Sackville Business Park	46	10	36
Woodside Ocean Industrial Park	19	-	19
Urban Service Area Total	**1,182**	**202**	**980**
Airport	**2,305**	**576**	**1,729**
Rural	**138**	**30**	**108**
HRM Total	**3,625**	**808**	**2,817**

Source: Watson & Associates Economists Ltd.

1. Includes subdivided and unsubdivided lands. Reflects environmental takeout of vacant industrial lands encroached by environmentally sensitive lands

2. A downward adjustment of 25% to unsubdivided parcels (after environmental takeouts) has been applied to account for internal infrastructure requirements and other non-developable features.

Figure 44
HRM Supply of Net Developable Industrial Lands (acres)

Location	Net Vacant Industrial Land Supply	Unlikely to Develop Due to Physical Constraints[1]	Unlikely to Develop Due to Market Constraints[2]	Net Developable Vacant Industrial Land Supply	Long-term Land Vacancy Adjustment[3]	Net Developable Vacant Industrial Land Supply Adjusted for Long-Term Vacancy
Urban Service Area Total	980	14	328	638	96	543
Airport	1,729	0	0	1,729	259	1,470
Rural	108	1	0	107	16	91
Total	**2,817**	**15**	**328**	**2,474**	**371**	**2,103**

Source: Watson & Associates Economists Ltd.

[1] Reflects sites unlikely to develop due to small size,site configuration and access.

2. Privately held net vacant industrial employment lands in Bedford Commons and Bayers Lake is anticipated to accommodate non-industrial uses including retail commercial, office commercial, mixed-use and residential based on intent of private developers with land holdings in the subject areas.

[3] Long-term employment land vacancy adjustment - 15% of net developable vacant lands. Accounts for employment land sites, which may not develop over the long-term (i.e. 2039) due to underutilization of employment sites and sites inactive/land banking.

Figure 45 to Figure 53 are maps that show vacant developable and developed industrial employment lands in HRM.

Figure 45
Aerotech Industrial Park

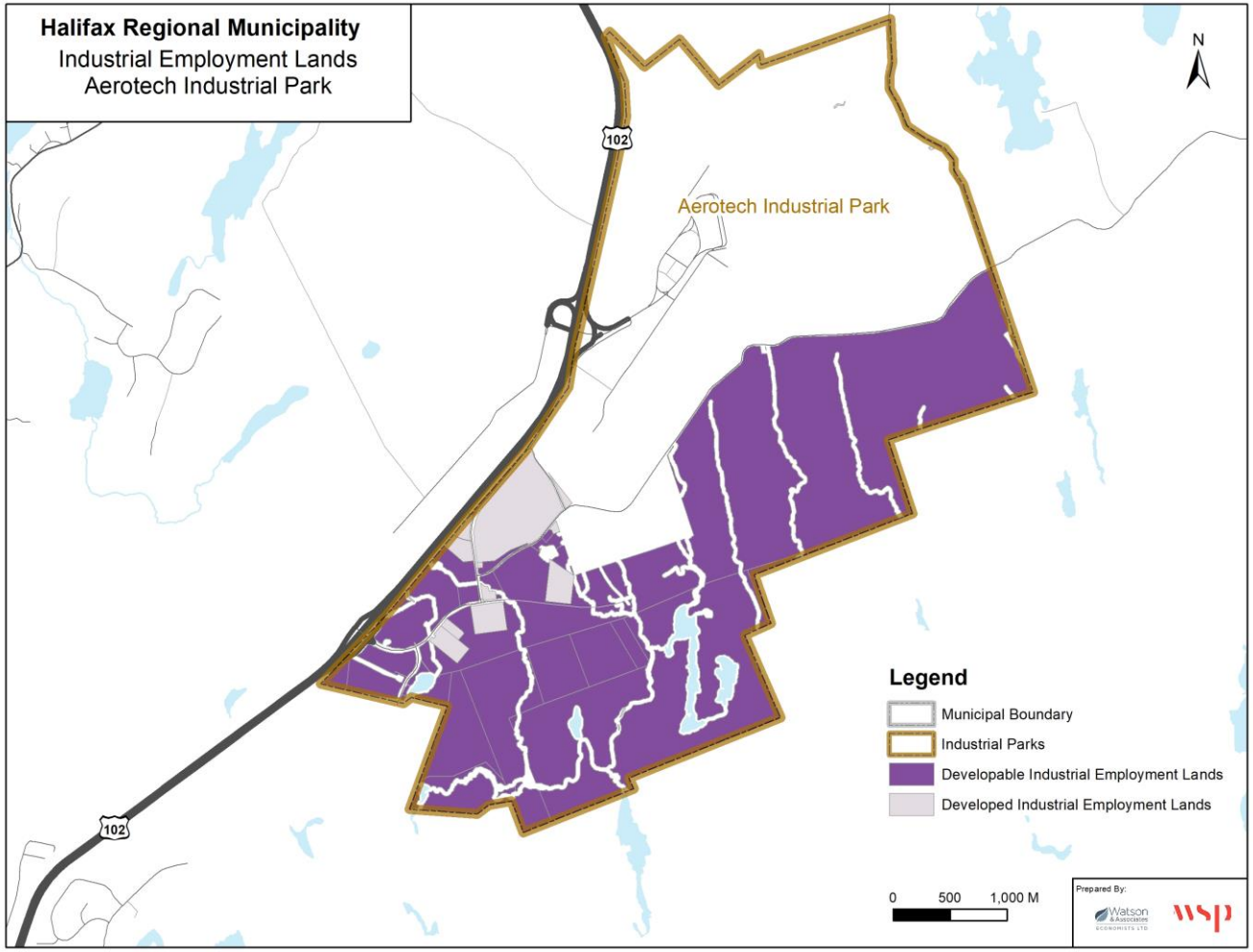


Figure 46
Atlantic Acres Industrial Park

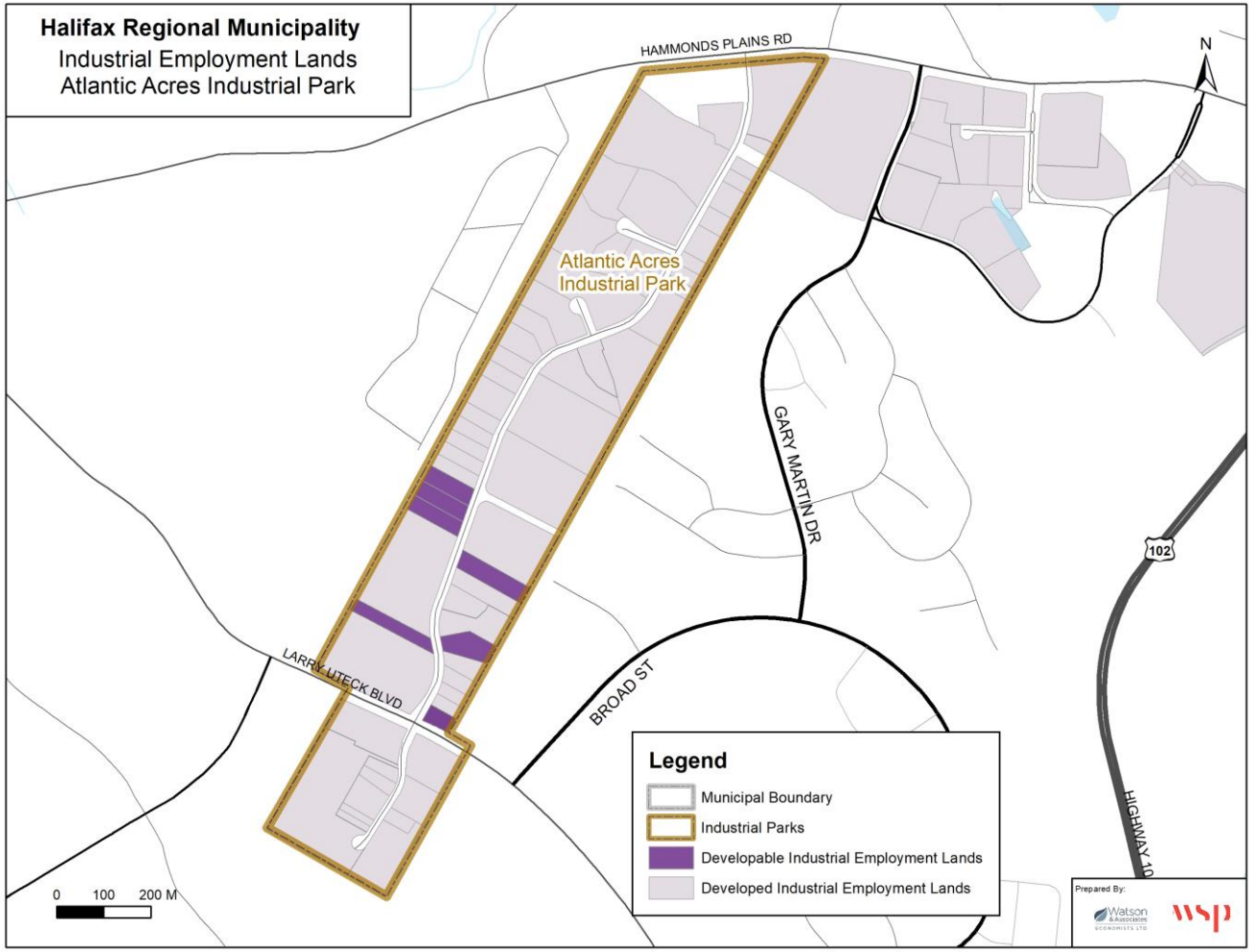


Figure 47
Beechville Industrial Park/Bayers Lake Business Park/Ragged Lake Business Park

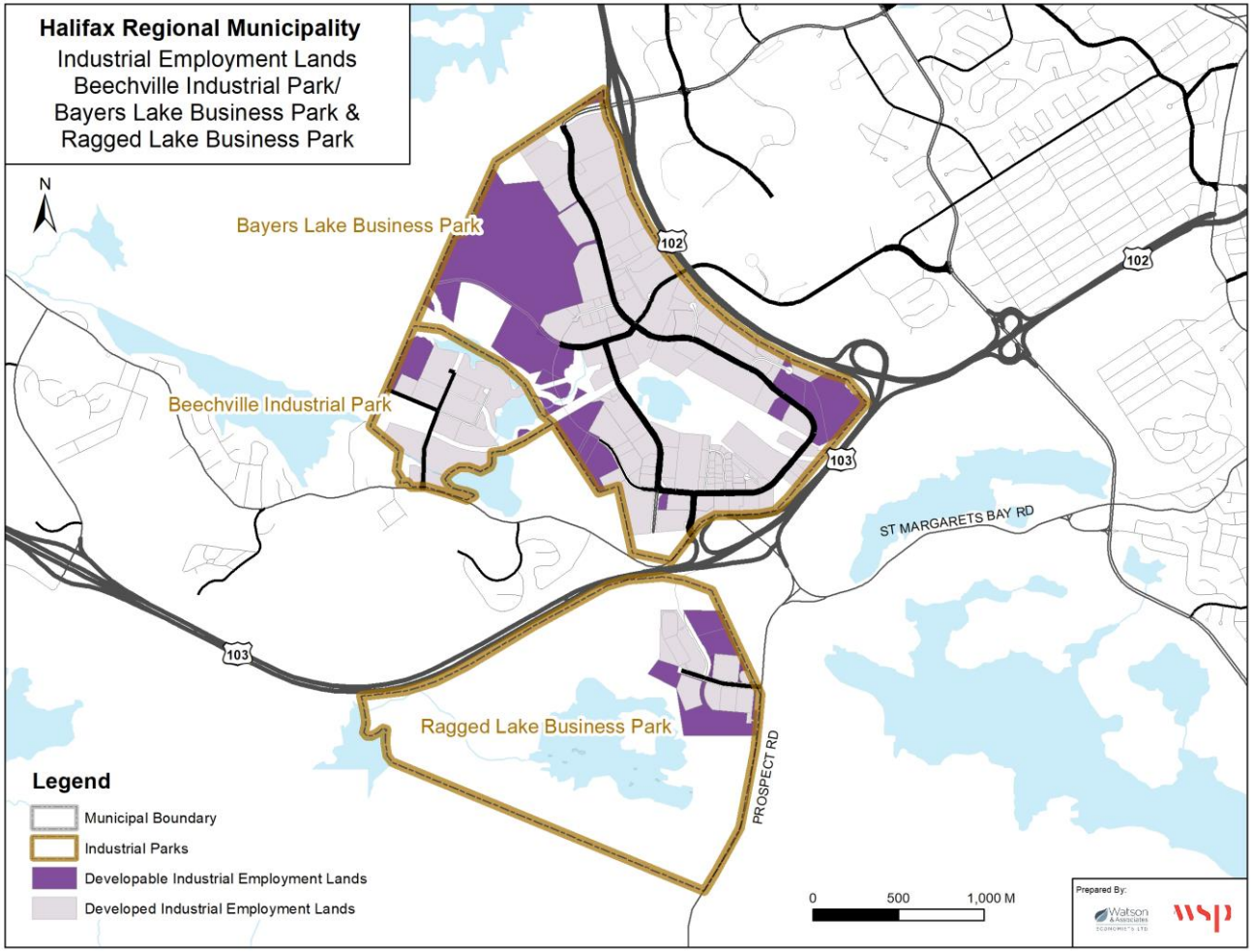


Figure 48
Bedford Commons/Sackville Business Park

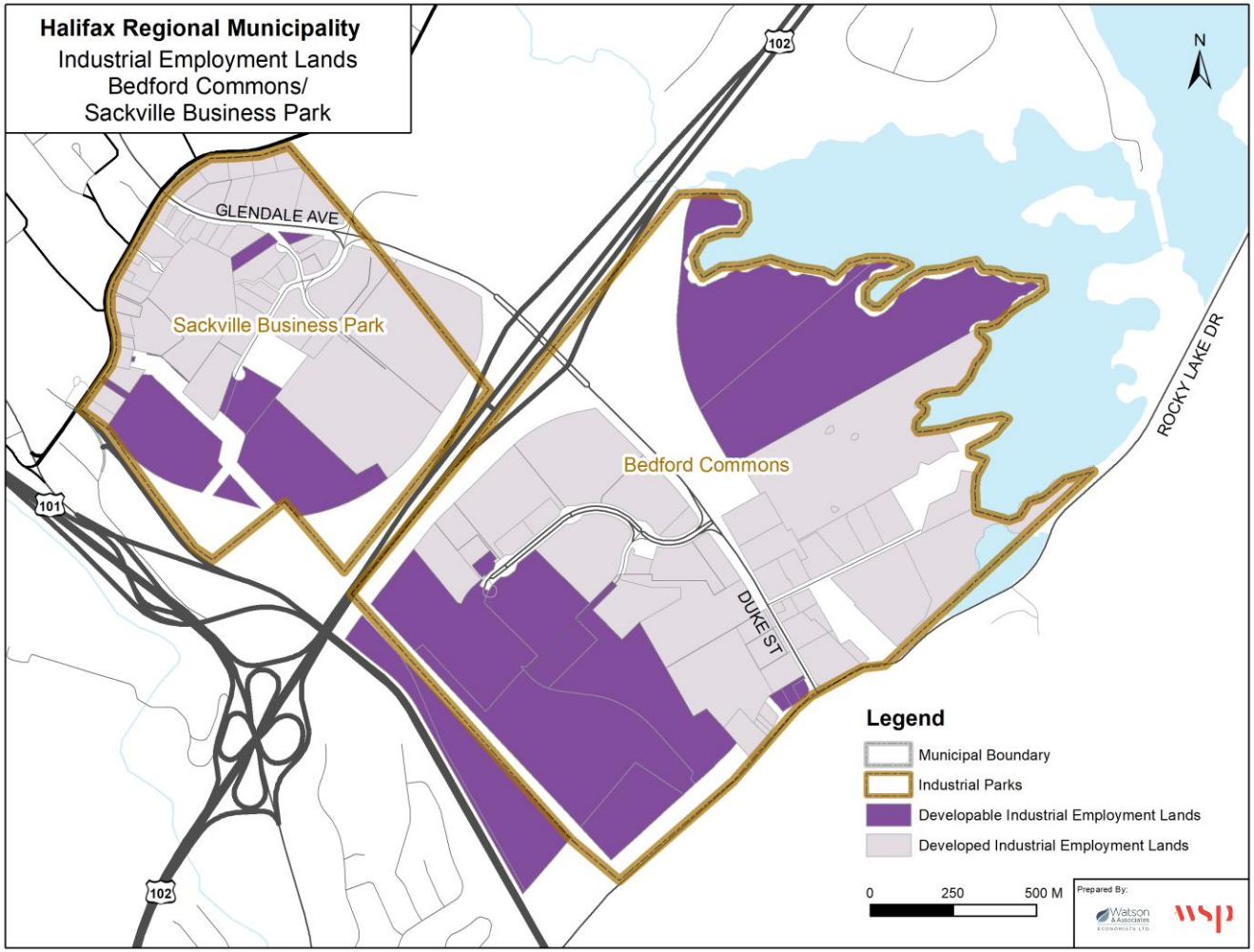


Figure 49
Burnside Business Park/City of Lakes Business Park

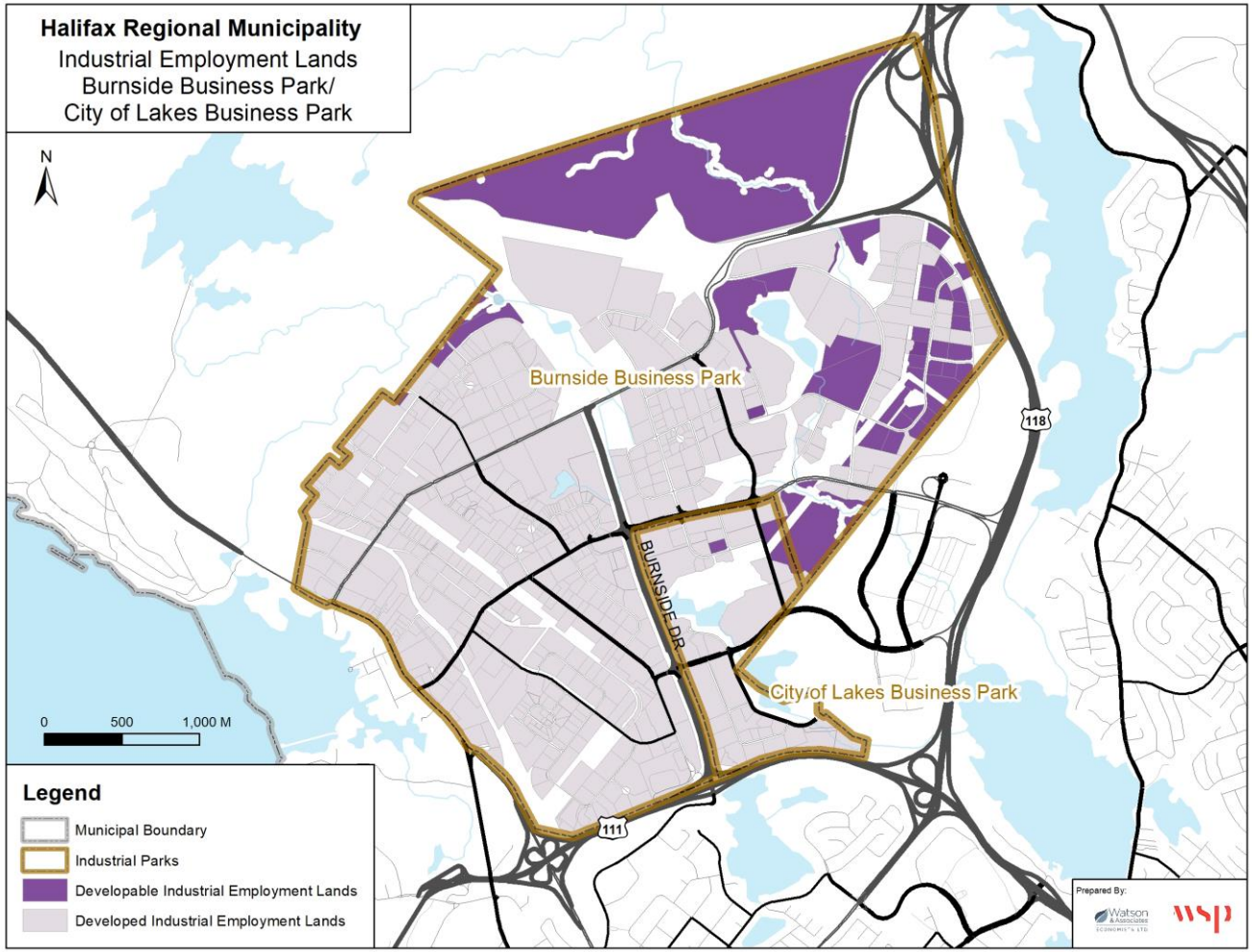


Figure 50
Eastern Shore Industrial Park

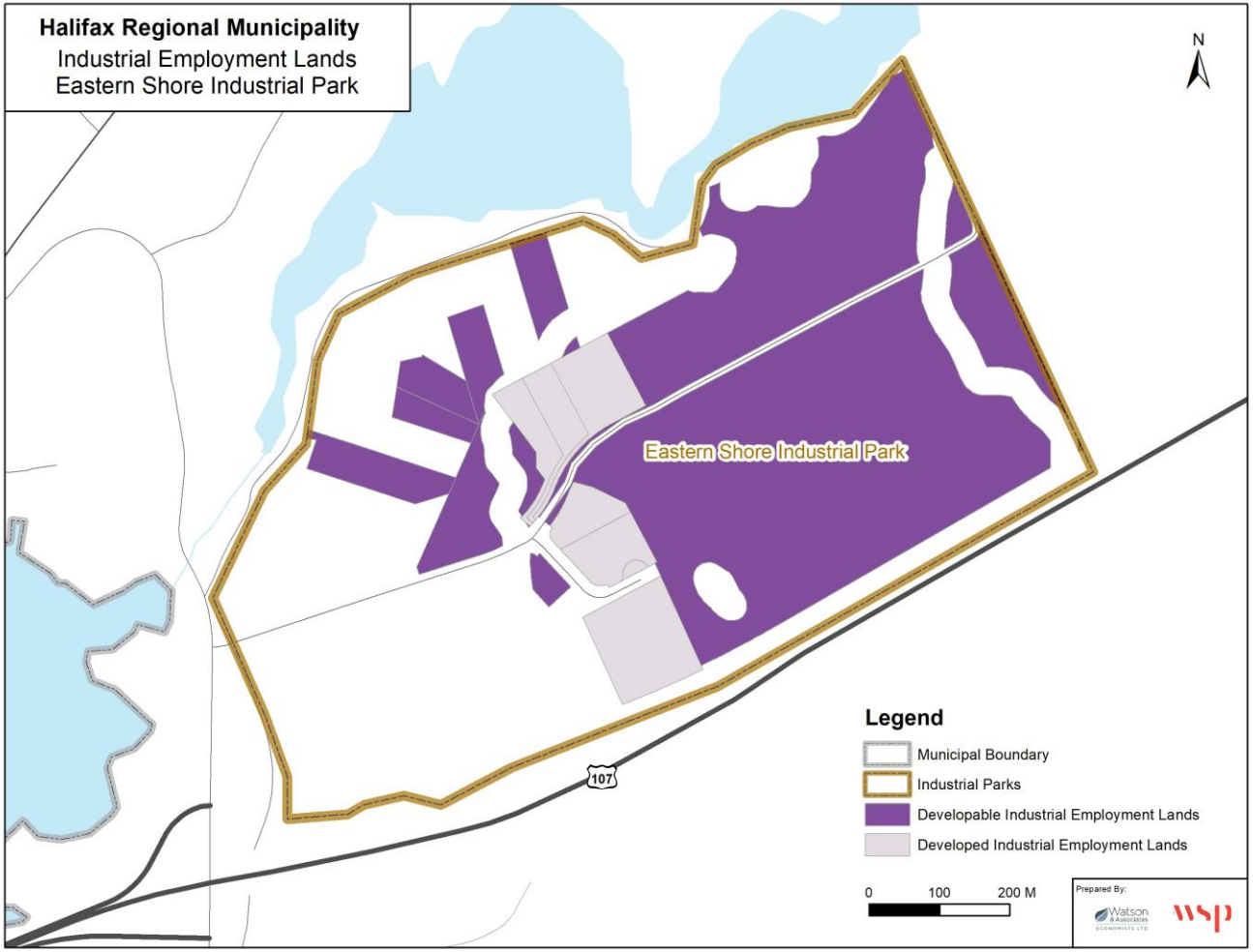


Figure 51
Musquodoboit Harbour Industrial Park

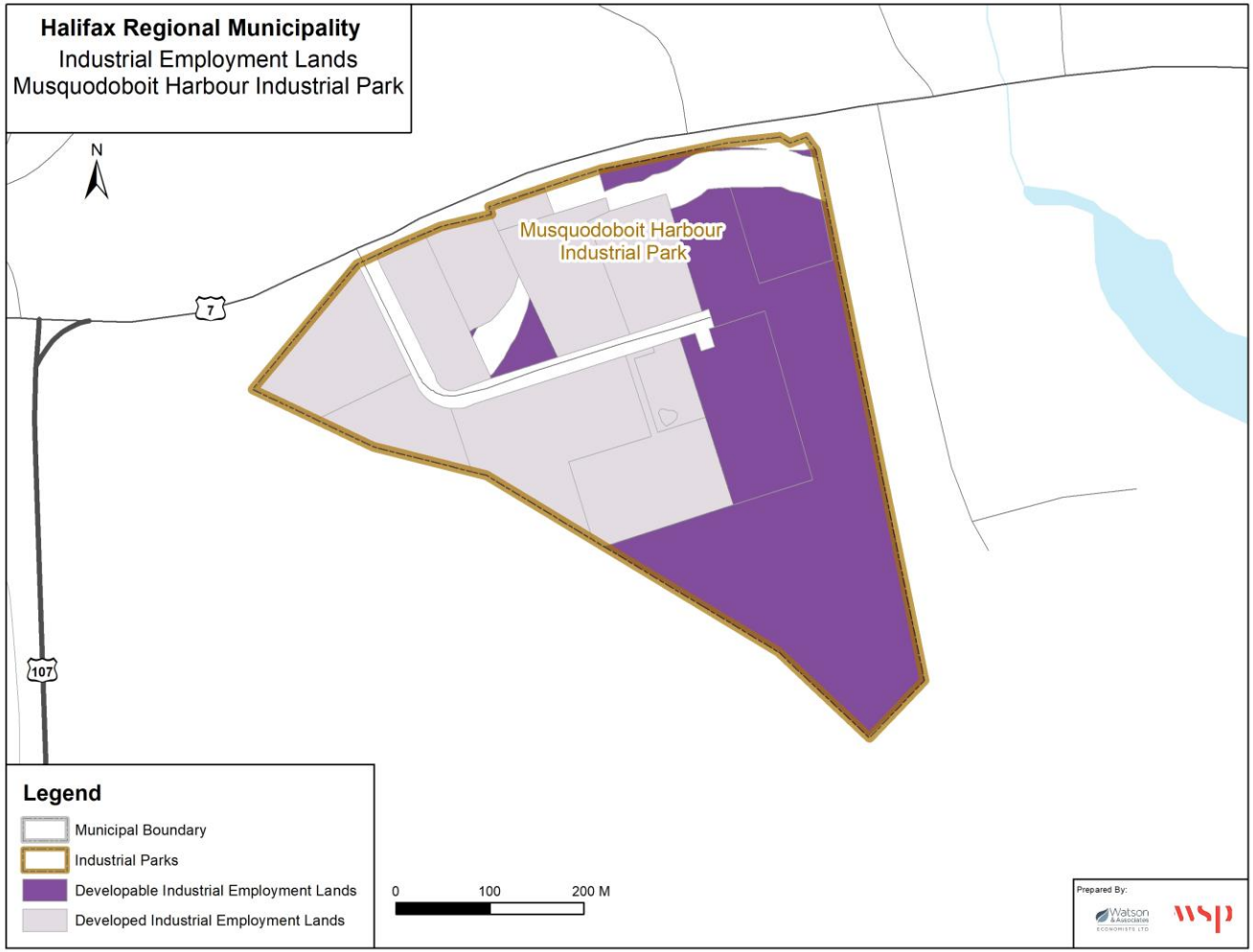


Figure 52
Sheet Harbour Industrial Park

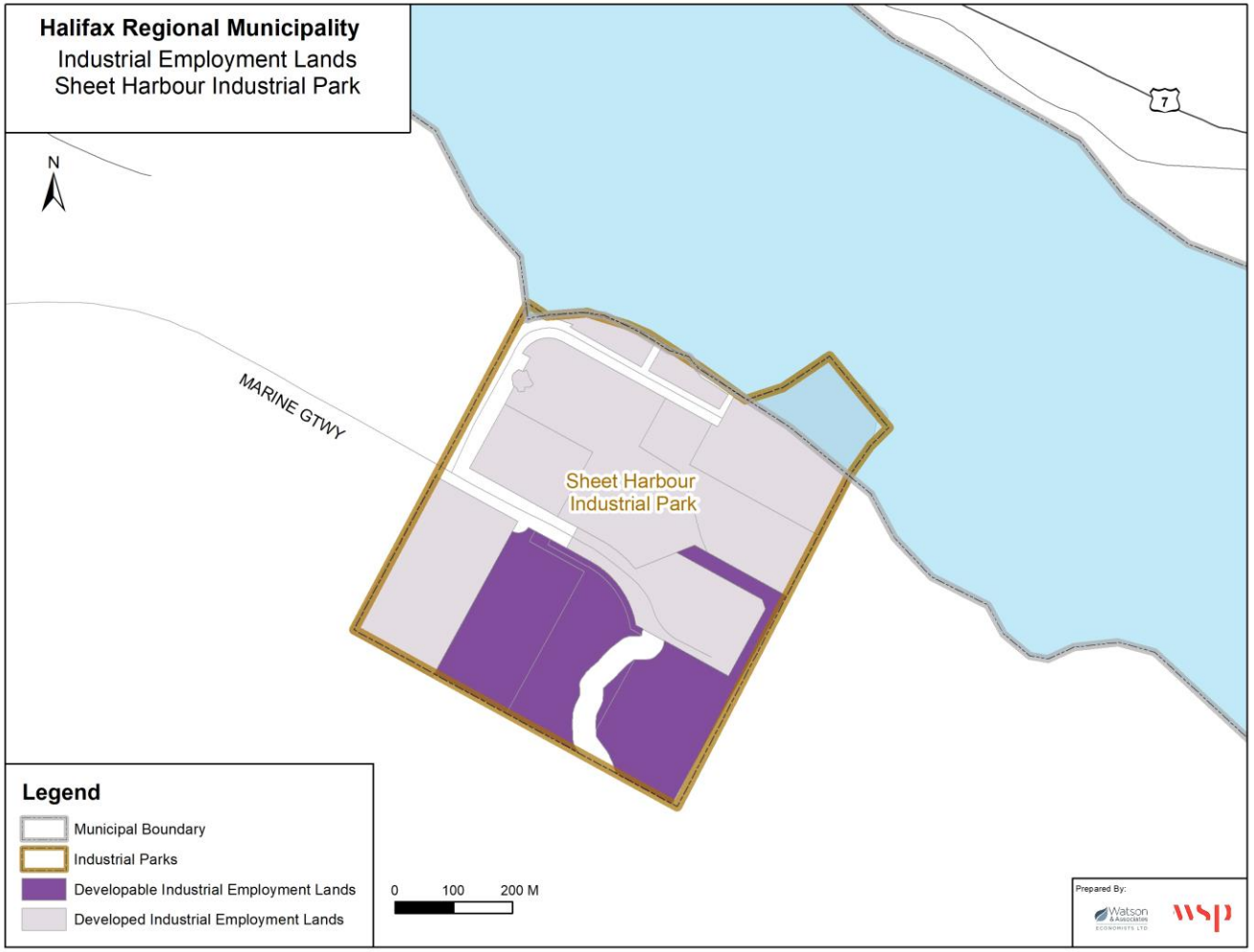
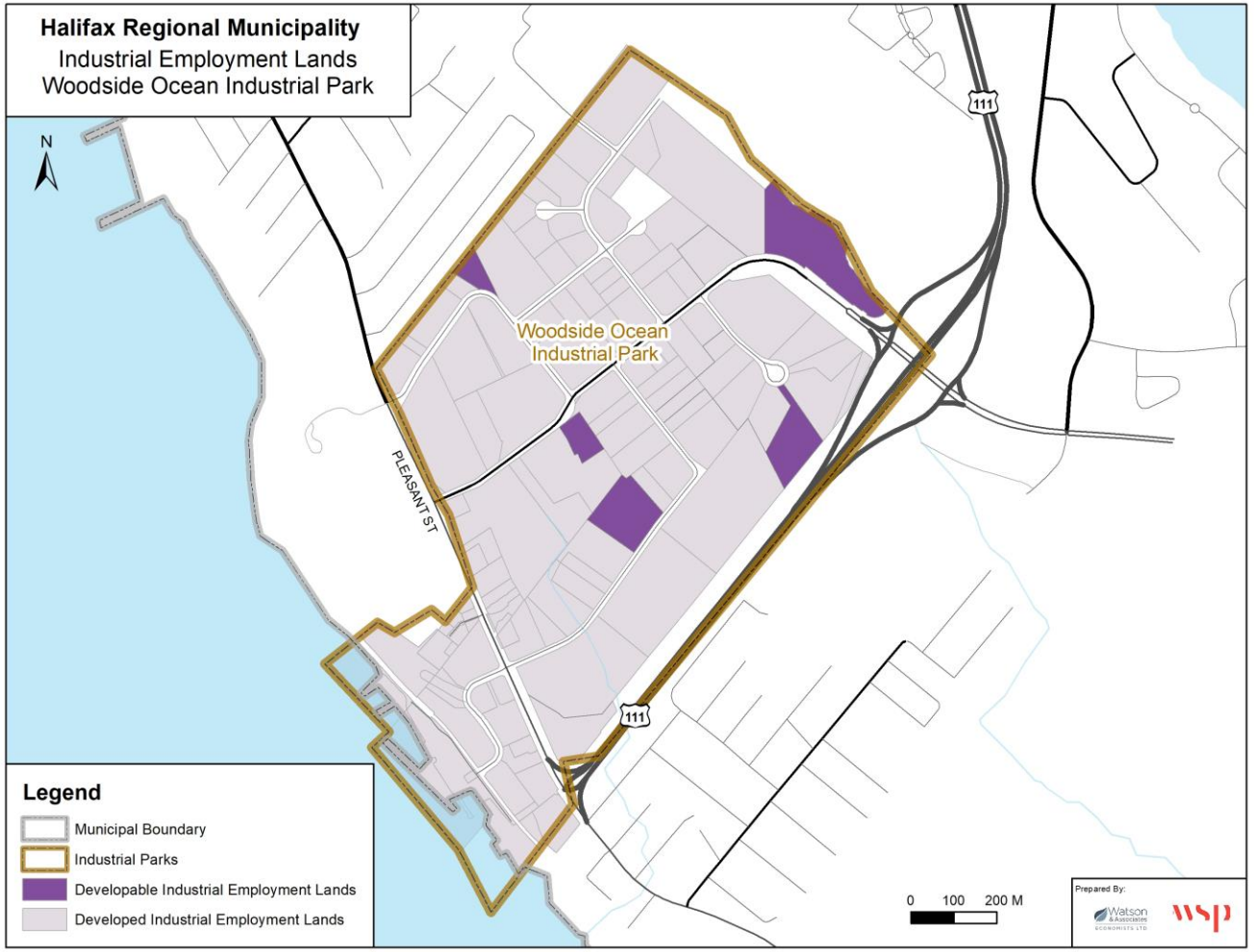


Figure 53
Woodside Ocean Industries Park



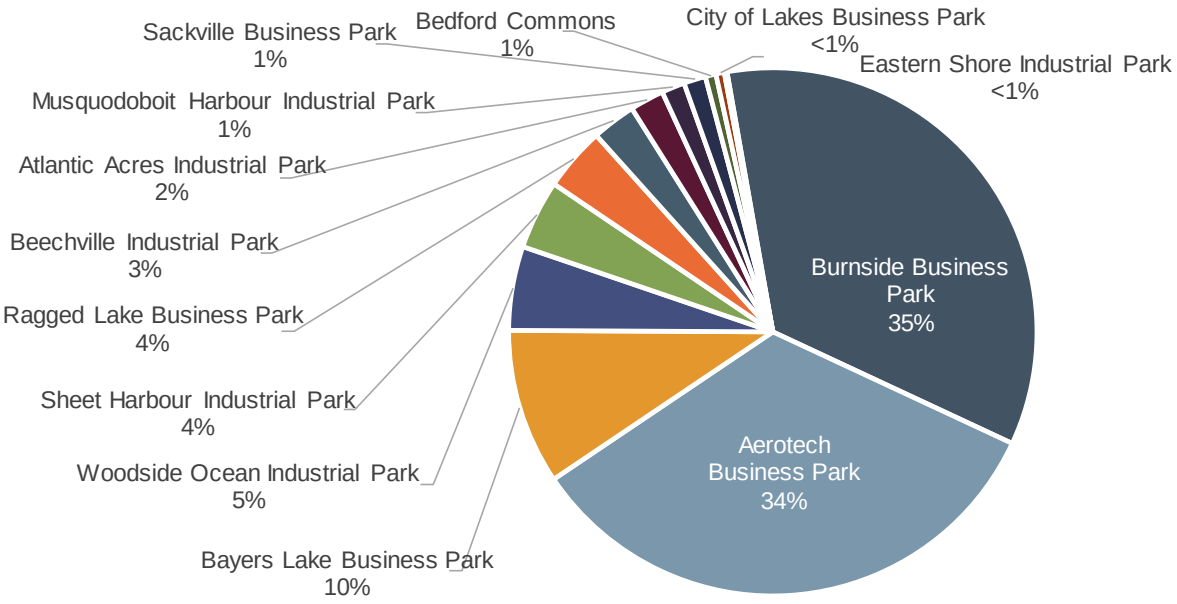
Shovel-ready Industrial Land Supply

As previously stated, market choice of shovel-ready industrial lands and potential for future expansion are key factors in the industrial site selection process. Based on a further review of the net vacant industrial land supply, it was determined that Halifax has 363 net acres (147 net ha) of shovel-ready industrial land including 220 net acres (89 net ha) within the Urban Service Area.

Figure 54 summarizes the share of shovel-ready industrial land by industrial park. As illustrated, just over one-third (35%) of available shovel-ready industrial land is in the Burnside Business Park and approximately another third (34%) is in the Aerotech Business Park. In comparison, the Bayers Lake Business Park, Woodside Ocean Industries Park, Sheet Harbour Industrial Park and Ragged Lake business back account for 10%, 5%, 4% and 4%, respectively. In comparison, the Bayers Lake Business Park, Woodside Ocean Industries Park, Sheet Harbour Industrial Park and Ragged Lake Business Park account for 10%, 5%, 4% and 4%, respectively. The remaining industrial parks account for 8% of the total.

Figure 54 summarizes the shovel-ready industrial lands supply by geographic location.

Figure 54
Halifax Shovel-ready Industrial Employment Lands by Location



Source: Derived from Halifax Regional Municipality data by Watson & Associates Economists Ltd., 2020.

Figure 55 summarizes the share of shovel-ready industrial land, by parcel size. As shown, vacant shovel-ready sites of less than 2 net acres (0.8 net ha) represent 41% of the land parcels available for development. In terms of medium and larger sized parcels, those measuring 2 to 5 net acres (0.8 to 2 net ha) account for 39% of the supply of vacant shovel-ready parcels, while sites between 5 and 10 acres (2 to 4 net ha) account for 19% of the supply and sites greater than 10 acres (4 net ha) account for 1% of the shovel-ready vacant parcels available for development.

Figure 55
HRM Shovel-Ready Industrial Lands by Parcel Size

Parcel Size (Net Acres)	"Shovel-Ready"[1] Land Parcels	
	Parcels (#)	Share of Parcels (%)
Less than 2 acres	31	41%
2 - 5 acres	29	39%
5 - 10 acres	14	19%
More than 10 acres	1	1%
Total	**75**	**100%**

Source: Derived from City of Halifax data by Watson & Associates Economists Ltd., 2020.

[1] "Shovel-Ready" lands are defined as those that are serviced and zoned, and generally considered potentially developable in the short-term (i.e. next six months)

Available HRM vacant industrial lands for sale (as of March 2020) are summarized in Figure 56. As shown, HRM currently has 32 parcels for sale comprised of 159 acres (64 ha) of land, including 133 acres (54 ha) in Burnside Industrial Park, 14 acres (6 ha) in the City of Lakes Business Park and 13 acres (5 ha) in Ragged Lake Business Park.

Figure 56
HRM Municipal Lands for Sale

Parcel Size	Burnside Industrial Park	City of Lakes	Ragged Lake	Total
<2 acres	1	1	0	2
2-5 acres	18	3	0	21
5-10 acres	3	0	2	5
10+ acres	4	0	0	4
Total Parcels	**26**	**4**	**2**	**32**
Total Acres	**133**	**14**	**13**	**159**
Average Price (per acre)	**$312,292**	**$290,377**	**$152,443**	

Source: Derived from Halifax Regional Municipality data, by Watson & Associates Economists Ltd., 2020.

Market Choice Requirements

As a general rule of thumb, in order to allow for proper market functioning, it is recommended that a minimum five-year supply of serviced industrial lands (by various sizes, zoning and locations) is available at all times throughout the forecast period. Despite the overall availability of shovel-ready vacant industrial employment land identified above, market choice is limited with respect to parcel mix and geographic location, as summarized below:

- **Limited Supply of Larger Sized Parcels** – Although Halifax has a relatively healthy supply of medium-sized parcels (i.e. 2 to 5 acres), there is a limited number of small sites (i.e. less than 2 acres) and larger vacant industrial land parcels (i.e. 10 acres and greater) available for development. In order for Halifax to continue to be competitive and potentially attract larger scale industrial employers, such as large-scale manufacturers, logistics and distribution centres, as well smaller scale industrial developments, HRM needs to provide a greater range of parcel sizes.
- **Lack of Geographic Diversity** – The majority of shovel-ready land supply is located in Burnside Industrial Park and the Aerotech Business Park. While Burnside Industrial Park is highly marketable to a broad range of uses, there is a lack of urban supply of industrial lands in other geographic locations including Halifax, Bedford, and Sackville.

HRM needs to provide a balanced inventory of shovel-ready and zoned developable vacant industrial lands that is sufficient to meet market demand in the short to medium term. From a market choice perspective, one of the most important industrial site selection criteria, which is largely controllable by the HRM, relates to ensuring that an ample supply of suitable vacant serviced (and serviceable) industrial land is available for purchase and absorption. This involves providing a readily available and serviced industrial land supply which is well beyond forecast absorption, to fully provide for a range of site selection choices with respect to:

- price;
- site size;
- availability and cost of servicing;
- neighbourhood and setting;
- RMPS designation/zoning;
- visibility;
- highway access;
- privacy;
- topography;
- tenure (lease vs. design build vs. own); and
- other industrial land market requirements which can be added, including soil conditions, site proportioning (frontage to depth), timing of servicing, site expandability, etc.

Historically, HRM has been the primary source of shovel-ready industrial land through its municipal industrial land development program. Potential opportunities to broaden the range and choice of vacant industrial land supply to meet forecast demand over the medium and long term are addressed in section 4.2.

4.1.2 Industrial Lands Intensification Potential

Given the large number of established industrial areas in HRM, a wide array of opportunities for intensification exist. While it is beyond the scope of this assignment to undertake an industrial intensification study, a high-level review to assess the share of underutilized sites has been provided to determine supply potential for intensification.

Intensification can take several forms, including development of underutilized lots (infill), expansion (horizontal or vertical) of existing buildings and redevelopment of sites.

Intensification offers the potential to accommodate future employment growth and achieve improved land utilization resulting in higher employment density in existing industrial areas. Higher land utilization on existing industrial lands can also lead to more effective use of existing infrastructure (e.g. roads, water/sewer servicing), a built form that is more conducive to support for public transit, and communities that are more functional and complete.

4.1.2.1 Intensification Supply Potential

Through a desktop review using the developed industrial parcel inventory, building footprints and orthophoto overlays, up to approximately 480 acres (195 ha) of developed industrial employment land within the Urban Service Area was identified as underutilized, as illustrated in Figure 57. This represents 16% of the total developed industrial land base. This reflects parcels that have:

- a vacant portion (potential for severance or building expansion); and
- relatively low building coverage or sites that are currently used exclusively for storage and/or parking.

Of the underutilized industrial employment lands identified, nearly half (48%) is located within Burnside Business Park, followed by 23% in Bedford Commons, 13% in Woodside Ocean Industries Park and 11% in the Sackville Business Park.

Figure 57
HRM Underutilized Developed Urban Industrial Employment Lands

Industrial Area	Acres	% of Total
Atlantic Acres Industrial Park	16	3%
Bayers Lake Business Park	6	1%
Bedford Commons	112	23%
Burnside Business Park	232	48%
Sackville Business Park	51	11%
Woodside Ocean Industrial Park	64	13%
Total	**482**	**100%**

Source: Watson & Associates Economists Ltd.

4.1.2.2 Evaluation of Intensification Potential

Identifying and evaluating intensification opportunities against market demand is challenging. The intensification potential of the underutilized industrial lands will largely be determined by future development plans of existing or future landowners, which are highly speculative. Infill and redevelopment of existing developed lands will occur over time, largely driven by market demand for land development opportunities. As previously identified, HRM has a significant number of underutilized parcels that hold market potential, which suggests that intensification over the forecast period will be greater than in the past.

Halifax has seen moderate development activity in expansions/additions on existing industrial lands sites. Having said that, redevelopment activity has been limited and the majority of the recent activity has been related to expansion activity of existing businesses. Infill and redevelopment of existing developed lands are expected to increase over time, largely driven by rising industrial land values and related development costs and the continued buildout of HRM's industrial areas.

Based on recent trends in intensification and the likely redevelopment of key intensification opportunities identified, it is anticipated that 10% of Halifax's employment growth on industrial employment lands within the Urban Service Area over the 2019 to 2039 period will be accommodated through intensification. This assumption is reflected in the industrial land needs analysis presented in section 4.2.

To effectively assess and evaluate intensification potential and opportunities in Halifax, and to ensure that the HRM can meet the 10% intensification target identified, a comprehensive municipal-wide industrial lands intensification strategy is suggested, which is beyond the scope of this study. A "stand-alone" industrial lands intensification strategy, separate from this IELS, would involve a site-by-site analysis of potential intensification sites that would include, but not be limited to:

- Assessment of site conditions (e.g. contamination);
- Parcel configuration/size;
- Suitability of building stock for expansion (where applicable);
- Parcel ownership and landowner intentions, future development/expansion;
- Land-use zoning, possible restrictions on use, etc.;
- Review of infrastructure (e.g. condition, capacity); and

- The potential for severance of unutilized portions of lots for new development.

The timing and the potential amount of intensification on industrial lands is based on a variety of market-driven conditions. Potential redevelopment or development of sites needs to be evaluated in terms of economic viability and marketability with respect to market demand. This aspect would form a significant component of an industrial land intensification strategy. As part of the intensification strategy, the HRM could also explore and identify financial tools/incentives and implementation tools to facilitate intensification initiatives.

4.1.3 Other Industrial Zoned Lands to Accommodate Growth

This section summarizes existing industrial zoned lands that through redevelopment may be able to be repurposed to accommodate future growth:

- The Imperial Oil/Esso land holdings are approximately 1,110 acres (445 ha) located in Eastern Passage, and include the site of a former oil refinery.
- The Valero Energy lands, comprise approximately 220 acres (89 acres) in Eastern Passage, and may be suitable for future redevelopment or partial redevelopment.

4.2 Forecast HRM Urban Industrial Employment Land Needs, 2019 to 2039

This section summarizes total urban industrial land demand within Halifax over the next 20 years (i.e. 2019 to 2039), based on the employment forecast presented in section 3.2. Building on the long-term employment forecast, anticipated industrial land needs requirements are then identified based on consideration of the following:

- The estimated share of employment growth on industrial lands by ICI (industrial, commercial and institutional) within the Urban Service Area;
- The share of employment accommodated through intensification of developed industrial lands;
- Existing and forecast density assumptions (i.e. jobs per net acre) for employment on industrial lands; and
- Historical and forecast absorption on industrial lands by employment type (i.e. manufacturing, warehousing and distribution, etc.).

In generating forecast industrial land demand, the following steps have been undertaken.

Determine the Amount of Industrial, Commercial and Institutional (ICI) Employment to be Located on Industrial Lands

As previously identified, industrial lands include a broader range of commercial uses (and, to a lesser extent, institutional uses) in addition to traditional industrial development. For example, a number of commercial and institutional uses are permitted on lands designated/zoned industrial lands.

Figure 58 presents the percentage breakdown of HRM's total employment growth by major sector which is anticipated to be accommodated on urban industrial employment lands over the forecast period (2019 to 2039).[1] The allocation by sector is based on a high-level review of recent and forecast development trends in HRM.

Figure 58
Halifax Regional Municipality
Share of Employment Growth on Urban Industrial Employment Lands by Sector, 2019 to 2039

Employment Sector	Percentage of Total Employment on Urban Industrial Employment Lands
Industrial	95%
Retail and Non-Office Commercial	15%
Office Commercial	25%
Institutional	10%

Source: Watson & Associates Economists Ltd., 2019.

[1] "Work at home" employment has been excluded from the industrial land needs analysis, as this employment is not non-residential land based.

Forecast Employment Growth on Urban Industrial Employment Lands

Figure 59 summarizes anticipated employment on industrial lands over the next 20 years, based on the assumed allocation of growth on industrial lands assigned by ICI. As illustrated below, HRM's industrial lands are anticipated to accommodate 36% of the total employment growth. Over the 2019 to 2039 period, employment growth on industrial lands is expected to total approximately 17,500 jobs. This includes approximately 11,800 jobs (68%) in the industrial sector, 3,300 (19%) jobs in the office commercial sector,1,300 (7%) jobs in the institutional sector, and 1,100 (6%) jobs in the retail and non-office commercial sector.

Figure 59
Halifax Regional Municipality
Forecast Employment Growth on Industrial Land, 2019 to 2039

Major Employment Sector	Employment Growth on Industrial Lands				Percentage of Total Employment on Industrial Lands
	2019-2024	2019-2029	2019-2034	2019-2039	2019-2039
Primary	0	0	0	0	0%
Work at Home	0	0	0	0	0%
Industrial	4,055	7,430	9,590	11,845	95%
Retail and Non-Office Commercial	340	625	850	1,090	15%
Office Commercial	1,100	2,045	2,645	3,300	25%
Institutional	395	710	995	1,305	10%
Total	**5,890**	**10,810**	**14,080**	**17,540**	**36%**

Source: Watson & Associates Economists Ltd., 2019.

Forecast Employment Density on Urban Industrial Employment Lands

Within Halifax, employment density varies widely by sector. Major office, research and development and manufacturing tend to have higher employment densities. In contrast, wholesale trade, warehousing, logistics/distribution, transportation, utilities and communications generally have lower employment densities on average.

Building on recent and historical trends, it is anticipated that future industrial absorption in Halifax will be comprised of a broad range of industrial uses, including logistics/ distribution, warehousing, manufacturing and construction. These industrial uses are expected to place downward pressure on employment densities over the longer term.

Halifax's knowledge-based sectors will continue to expand, accommodated largely through office development and multi-tenant commercial development. Most of these sectors have relatively high employment densities which should generate relatively high average employment densities on industrial employment lands in relation to the existing municipal-wide average. Further, continued upward pressure on industrial land values, driven by the continued long-term strength of the local and regional economies, will also encourage increased land utilization and corresponding higher employment densities relative to what has been experienced in the past.

Based on a review of recent development trends and the forecast land-use mix accommodated on industrial lands, an overall average density of 15 jobs per net acre (37 jobs per net ha) is forecast over the 2019 to 2039 period for urban industrial lands within Halifax.

The forecast density identified herein has been used in generating future demand on industrial lands over the forecast period. It should be noted that the recommended average density on industrial lands has been informed by recent and anticipated market trends and it is foreseeable that future density levels achieved on industrial lands could differ, depending on the regional and local industrial market conditions. Accordingly, it is recommended that HRM monitor future density trends on industrial lands on a five-year basis.

Accommodation of Employment Growth Through Intensification

It is recognized that a portion of forecast employment on industrial lands growth will be accommodated through intensification. Over the 2019 to 2039 period, an estimated 10% of employment growth on urban industrial employment lands is expected to be accommodated through intensification, comparable to recent trends observed in other major centres throughout Canada. Moderate infill and expansion of existing developed sites within developed industrial areas has been occurring to-date and is expected to continue as Halifax matures and industrial land prices continue to appreciate.

Halifax Forecast Urban Industrial Employment Land Demand

Figure 60 summarizes forecast demand for urban industrial employment land within Halifax from 2019 to 2039 in accordance with the assumptions made above. As shown, industrial land demand (absorption) is forecast to total approximately 1,052 net acres (426 net ha), representing an average of 53 net acres (21 net ha) per year.

Figure 60
Halifax Regional Municipality
Industrial Land Demand Forecast, 2019 to 2039

Growth Period	Total Employment Growth on Industrial Lands	Employment Associated with New Development[1]	Employment on Industrial Lands Associated with New Development Adjusted for Intensification	Employment Density (Jobs per Net acre)	Total Industrial Land Demand (acre)	Annual Industrial Land Absorption (acre)
2019-2024	5,890	5,300	5,300	15	353	71
2019-2029	10,810	9,730	9,730	15	649	65
2019-2034	14,080	12,670	12,670	15	845	56
2019-2039	17,540	15,785	15,785	15	1,052	53

[1] Assumes that 10% of the employment accommodated through intensification within established Industrial Areas

4.2.1 Urban Industrial Employment Land Needs, 2019 to 2039

Figure 61 summarizes forecast urban industrial employment land needs for HRM over the 2019 to 2039 period. In accordance with the existing supply of designated developable urban industrial employment lands (identified in section 4.1) versus long-term demand, Halifax has an insufficient supply of designated urban industrial lands to meet long-term needs to 2039. Based on the land needs analysis, a minimum of 510 net acres (206 net ha) of additional developable urban industrial employment land is required to accommodate forecast employment growth to 2039. While Halifax is expected to have sufficient vacant industrial land to meet short-term need (i.e. through 2024), the anticipated shortfall in land supply is expected to become pronounced over the longer term, with a shortfall in industrial land supply of 106 net acres (43 net ha) by 2029, which is anticipated to increase to 302 net acres (122 net ha) by 2034.

Figure 61
Halifax Regional Municipality
Forecast Urban Industrial Employment Land Needs, 2019 to 2039

	2019-2024	2019-2029	2019-2034	2019-2039
Net Industrial Land Demand (acres)	353	649	845	1,052
Net Industrial Land Supply acres (Reflecting vacancy adjustment)	543	543	543	543
Net Industrial Land (acres) Surplus/(Shortfall)	189	(106)	(302)	(510)
Net Land Need with Vacancy Adjustment[1]	**-**	**125**	**356**	**602**
Gross Land Need[2]	**-**	**179**	**475**	**802**

Source: Watson & Associates Economists Ltd, 2020.

1. A 15% land vacancy adjustment has been assumed to account for vacant parcels of land which will not develop over the long-term in proposed industrial expansion areas.

2. Assumes 75% net to gross ratio. Excludes land requirements associated with non-developable environmental features.

The identified net land need does not reflect site-specific takeouts, including open space, arterial roads/rail, stormwater ponds and easements. Further, it does not reflect future land vacancy, as previously discussed. Assuming a vacancy adjustment of 15% and a 75% net to gross ratio, this translates into a minimum requirement of 179 gross acres (72 gross ha), 475 gross acres (192 gross ha), and 802 gross acres (325 gross ha) of additional urban industrial employment land for 2029, 2034 and 2039, respectively, as presented in Figure 61. It is also important to note that this does not take into account non-developable environmental features.

Section 4.2.3 provides direction on new industrial growth areas.

4.2.2 Forecast Industrial Land Demand by Sector/Land Use

Continued structural changes in the global economy and technological advancements will require municipalities to be increasingly responsive and adaptive to changing industry needs and disruptive forces. The following provides an overview of key industry and labour force trends that are expected to influence growth patterns in Halifax and impact the demand for industrial employment lands. HRM will need to position itself for this growth.

Trends in Knowledge-based Sectors

Similar to the provincial and national economies as a whole, the nature of the Halifax economy is changing. Over the past decade, the composition of Halifax's employment base has gradually shifted from a goods-producing economy to a services-producing economy, led by employment growth in a range of knowledge-based and creative-class economy sectors including: advanced manufacturing, professional, scientific and technical services; financial services; information and cultural industries; education services; health care and social services; as well as real estate.

These sectors represent a growing share of the employment base on industrial lands as well as in mixed-use areas. Market demand for non-residential space has been increasingly driven by growth in the knowledge-based or creative class economy. With an increasing emphasis on these knowledge-based sectors, major office, flex office and multi-purpose facilities encompassing office and non-office uses are becoming increasingly dominant built forms within Industrial Parks.

Trends in Industrial Processing

In general, globalization has led to increased outsourcing of production processes to overseas manufacturers. While there will continue to be a manufacturing focus in Halifax, the nature of traditional industrial processes is rapidly shifting, becoming more capital/technology intensive and automated, with lower labour requirements. The highly competitive nature of the manufacturing sector will require production to be increasingly cost effective and value-added oriented.

Emerging export-based subsectors have siting, space and built-form requirements that are significantly different from traditional manufacturing. This may include integrated operations combining office, research and development, warehousing and logistics, and on-site manufacturing in a "campus-style" setting. Anticipating and responding to the evolving needs of industry will be necessary for HRM to better position itself for sustained growth, particularly in leading sectors.

Trends in Work at Home and No Fixed Place of Work Employment

In addition to reviewing employment trends by usual place of work, consideration has also been given in this analysis to the employment outlook in Halifax for employees who work at home as well as employees who have No Fixed Place of Work (N.F.P.O.W.).

Statistics Canada defines N.F.P.O.W. employees as “persons who do not go to the same work place location at the beginning of each shift.” Such persons include landscape contractors, travelling salespersons, independent truck drivers, etc.

Generally speaking, work at home employment and persons who have N.F.P.O.W. are representing an increasing share of employment in municipalities across Canada, including Halifax.

Over the coming decades, work at home employment in Halifax is expected to steadily increase, with a gradual increase in the share of total employment driven by forecast growth in the knowledge-based and creative economy. This will be facilitated by opportunities related to telecommuting and increased technology. Demographics also play a role in the employment outlook for work at home employment. As the City’s population and labour force continues to age, it is likely that an increased number of working and semi-retired residents will be seeking lifestyles that will allow them to work from home on a full-time or part-time basis.

N.F.P.O.W. employment is forecast to also steadily increase within the City over the long term, largely driven by steady employment growth in the construction, Goods Movement and knowledge-based sectors.

Potential Impacts of Technology and Automation on Labour Force Growth

Long-term labour force growth potential across Canada, and more specifically in Halifax, will be directly influenced by continued structural changes and disruptions to the macro-economy driven by technology and automation. According to the Brookfield Institute for Innovation + Entrepreneurship, over the next 10 to 20 years, 42% of the Canadian labour force is at high risk of being affected by automation, either through significant task restructuring or elimination. Jobs that are anticipated to be most highly impacted by automation are primarily within occupations that are administrative, routine, or oriented towards sales and service. The Brookfield Institute report also notes that highly-skilled occupations are expected to grow much more quickly than the rest of the labour force and are at a lower risk of being negatively affected by automation. This

suggests that more highly-skilled labour will be a significant driver of Canada's future economic growth.[1]

A number of reports have recently been prepared which aim to assess the potential impacts of artificial intelligence (A.I.) to businesses as well as the broader impacts and contributions to the global economy. A report prepared by PWC in 2017 identifies that the net impacts to global G.D.P. resulting from A.I. are anticipated to contribute up to $15.7 trillion to the global economy in 2030, more than the current output of China and India combined.[2] The report also identifies that over the next decade, A.I. will generate massive disruption as both established businesses and new entrants drive innovation and develop new business models.

As identified by the World Economic Forum in 2018, to prevent an undesirable lose-lose scenario associated with anticipated technological change in the economy – talent shortages, mass unemployment and growing inequality – a number of critical actions are needed. This includes businesses assuming an active role in supporting their existing workforce through reskilling and upskilling, individuals taking a proactive approach to their own lifelong learning, and governments creating an enabling environment to assist in these efforts.[3]

4.2.3 Outlook by Sector

Manufacturing

Manufacturing remains vitally important to the provincial economy with respect to job growth, and economic output will continue to be a focus of the Halifax economy.

Looking forward, there will continue to be opportunities for manufacturing in Halifax. Manufacturing sectors related to food/beverage processing, machine shops and metal fabrication, show the strongest employment growth potential. New manufacturing employment growth is anticipated primarily in small to mid-sized businesses.

[1] The Talented Mr. Robot. The impacts of automation on the Canadian workforce. Brookfield Institute for Innovation + Entrepreneurship. June 2016.
[2] Sizing the Prize. What's the real value of AI for your business and how can you capitalise? PWC. 2017.
[3] World Economic Forum. Insight Report. The Future of Jobs Report. Centre for the New Economy and Society. 2018.

Despite the growth potential, industrial processes have become more specialized, capital/technology intensive and automated. This means that as the regional manufacturing sector continues to recover, economic output will gradually increase; however, more modest employment growth is anticipated in the manufacturing sector relative to G.D.P. growth.

Goods Movement (Wholesale Trade, Transportation, Warehousing and Logistics)

The Goods Movement sector is an integral part of the Halifax economy. This sector is accommodated in a range of industrial building typologies reflecting the diverse sub-sectors that comprise the sector. This includes distribution centres, warehouses, fulfillment centres, delivery depots, logistics hubs, corporate office buildings of major logistics companies, trucking terminals, multi-tenant warehouses and terminals, cold storage buildings and transportation yards.

Increased outsourcing of manufacturing production to emerging global markets continues to drive the need for new consolidated, land-extensive warehousing facilities to store and manage the distribution of goods produced locally as well as goods imported from abroad. Demand in the Goods Movement sector is anticipated to continue across Halifax, particularly in locations where available industrial lands have strong connectivity to regional transportation infrastructure (i.e. intermodal facilities and major highway access).

Halifax has historically been highly competitive in the Goods Movement sector with intermodal facilities and port facilities. The region has seen strong business growth in truck and air transportation.

Several factors have been changing the nature of the Goods Movement industry in recent years, including just-in-time manufacturing, e-commerce, and globalization. It is expected that the industry will continue to evolve and in the near term the following trends are expected in Canada:

- Just-in-time manufacturing will continue to be the industry norm, placing increased emphasis on more frequent and smaller deliveries by truck transport;
- Automation of distribution centres allows for more vertical storage; however, the need for numerous loading bays will dictate land requirements, and the industry trend is for more and more bays at facilities;

- Larger facilities are a continuing trend versus smaller properties; typically, the larger the property, the lower the average employment density;
- Locations close to multi-modal facilities continue to be very attractive with access to rail – this is generating increased demand for larger-scale logistics hubs. Intermodal hubs typically require approximately 200 to 300 ha (494 to 741 acres) for intermodal infrastructure and loading/unloading areas. Express terminals are smaller (<100 ha/247 acres);
- The increasing growth in e-commerce is anticipated to have a significant impact on employment growth and land demand related to the logistics sector. E-commerce sales in Canada have grown at a rate that is five times the pace of overall growth in retail trade and it is estimated that current online sales account for 6% of total Canadian retail spending. By comparison, U.S. online sales account for 9% of total spending.[1] Delivery expectations within this sector are increasing on an annual basis. As delivery times decrease, it is anticipated that demand for regional fulfilment centres will increase; and
- Reverse logistics – approximately 25% to 30% of online merchandise is returned, which is generating increasing needs for dedicated return centres.

Construction

As previously discussed, the construction sector has been a key component of industrial employment growth for Halifax. Halifax's construction sector has shown strength throughout the past decade driven by continued development activity in both the residential and non-residential sectors.

A large component of the construction sector is associated with employees that have no usual place of work (N.F.P.O.W.). Construction sub-sectors involved in large-scale construction projects typically require land to store equipment and machinery in proximity to major roads and highways. More specialized construction firms may require offices and facilities. Employment in this sector may include a wide-range of job types, including labourers, trades persons and engineers.

Over the forecast period, a portion of industrial employment growth is anticipated to be generated from construction employment, driven by both residential and non-residential

[1] Purolator Logistics. Adapting your Canadian Supply Chain for E-commerce Efficiency. 2015.

development activity within Halifax and the surrounding area. This includes employment associated with construction of buildings, heavy and civil engineering construction, and speciality trade contractors.

Office Employment on Industrial Lands

As previously discussed, structural changes in the economy are changing the nature of economic activities on industrial lands and impacting the built form[1] and character of industrial areas within Halifax. In many of the Municipality's business/light industrial areas the share of office employment has steadily increased.

Over the next decade, demand for stand-alone low-rise office, research and development facilities, flex office and multi-tenant commercial/industrial space is anticipated to continue to account for a growing share of building G.F.A. A large portion of demand is anticipated to be driven by growth in knowledge-based employment sectors including business services, and professional and technical services including engineering and environmental services, and research and development.

Flex office space in particular has become a major trend across many markets in Canada. Flex office space allows occupants flexibility in the use and allocation of space according to operation needs. Tenants of flex office space may include businesses that require a blend of office and industrial site characteristics.

Employment-Supportive Uses in Industrial Areas

As previously discussed, the nature of non-residential development activity on industrial lands has evolved. With this shift in demand on industrial lands anticipated to continue, it is expected that the share of employment-supportive uses (i.e. retail and personal service uses) will continue to account for a notable share of development demand within Halifax's Industrial Areas.

4.2.4 Future Growth Areas

Over the next 20 years, HRM has a need to expand its urban serviced industrial employment lands base to accommodate forecast employment growth on industrial

[1] Includes permanent buildings and structures on the land.

employment lands, as identified in section 4.2.2. Future industrial expansion areas should be assessed based on a number of factors including:

- Physical characteristics, including the continuity and delineation of land base, and physical and environmental constraints;
- Access/circulation, including an assessment of the accessibility of each site via existing (and planned) road and rail infrastructure, and the visibility of the area to major transportation routes;
- Servicing, including existing services available and potential for extension of servicing to the area; and
- Policy/regulatory factors and land-use compatibility, including the degree to which proposed industrial land development in each of the subject areas is consistent with Regional policy and planning direction, and the degree to which industrial development would be compatible with adjacent uses.

Regarding the location of future industrial lands expansion areas consideration should be given to a number of factors, including (but not limited to) the following:

- Good access to regional transportation networks;
- Physical connectivity of the proposed area to existing industrial lands to create a contiguous industrial area;
- A critical mass – minimum of 250 acres (100 ha) – of available lands, where possible;
- Flat to slightly rolling topography in areas with minimal environmental issues;
- Potential for efficient and effective vehicular access and circulation, particularly for heavy truck traffic; and
- Buffering in order to minimize noise and air pollution to neighbouring residential and other non-residential areas.

HRM has potential new growth areas to accommodate future industrial lands development. The following provides a summary of potential new industrial growth areas to accommodate long-term employment growth and development:

- **Burnside Industrial Expansion Area – Phase 14** comprises 427 gross acres (173 gross ha) located north of the future extension of Highway 107 and represents the last of the remaining Burnside industrial land holdings. The area,

along with Phase 13) is highly marketable for a broad range of industrial and employment uses.

- **Ragged Lake Industrial Land Reserve** is a large greenfield site of approximately 2,100 gross acres (810 gross ha) located immediately west of the existing Ragged Lake Industrial Park. The area was initially envisioned in the late 1980s as a suburban office campus but is well located to provide a supply of light industrial land over the long term. Development and land capability assessment was completed in 2015
- **Conrad's Quarry Lands** represent an area of 525 gross acres (210 gross ha). These lands are not currently designated or zoned for industrial lands; however, in addition to an active quarry, there is an active planning application that would permit continued industrial uses on a portion of the site. The RMPS identifies the Port Wallace area as a future residential growth area. The area would require transportation upgrades and buffering from adjacent residential neighbourhoods to support future industrial development.

5. Strategic Directions for Industrial Employment Land Use Planning and Development in Halifax

The primary objective of the IELS is to provide a long-term vision for HRM that ensures Halifax continues to develop as a competitive and sustainable community, and that is well balanced between future population and employment growth. Fundamental to this objective is an adequate supply of industrial employment lands within well-defined designated industrial/business parks located throughout Halifax to accommodate demand over the next two decades and beyond. Moreover, Halifax must recognize the importance of industrial employment lands in accommodating knowledge-based sectors in addition to traditional industrial sectors, and anticipate and plan for the context of the evolving economy accordingly.

Historically, industrial areas have accommodated a broad range of employment uses focused in the industrial sector, including manufacturing, warehousing, transportation, and construction. Structural changes in the macro-economy are altering the character of economic activities in industrial areas and planning requirements. Within Halifax's industrial areas, there is an increasing presence of knowledge-based and/or creative class economic sectors, including professional, scientific and technical services,

finance, insurance, real estate, information and culture, health care and education, accommodated within industrial areas.

This is impacting the built form and character of industrial areas, as these sectors are largely accommodated within office developments that are typically located within prestige industrial/business parks. As such, the physical characteristics which make Industrial Employment Areas successful are also changing as a result of the evolving knowledge-based economy. While access and exposure to major highways and major arterial roads are still critical for most industries, other factors including access to transit, access to labour, availability of amenities and employment-supportive uses within walking distance, as well as housing opportunities for a broad range of income levels, are also often cited by commercial brokers as the most important physical attributes of industrial/business parks.

As such, land-use planning policies must anticipate the evolving nature of the local and regional economy and reflect the diverse needs of established and emerging industries. They must also offer a degree of flexibility and nimbleness that allows for relatively rapid responses to disruptive factors, which can be a critical advantage relative to competitive markets.

Building on the comprehensive technical analysis provided herein, as well as a broad review of best practices in other municipal jurisdictions, a series of policy recommendations and action items are provided below.

5.1 Land-Use Policy Streamlining

Halifax's current planning documents (i.e. CPA, MPS, and LUB) have created inconsistency between the detailed requirements of the industrial-specific zoning, such as setbacks, parking, and landscape requirements, and broader uses permitted in each zone, particularly if readers are comparing industrial zone classifications (I-1, I-2, etc.). This system of policies is still in a pre-amalgamation state, which subsequently impacts how the various LUB and their industrial-specific zoning permissions across HRM are interpreted, applied, and implemented present day.

HRM is currently in the process of modernizing its regulations, namely the CPA and subsequent MPS and LUB, and has to-date partially enacted approval of the Regional Centre Plan. This process is expected to continue, consolidating and simplifying the

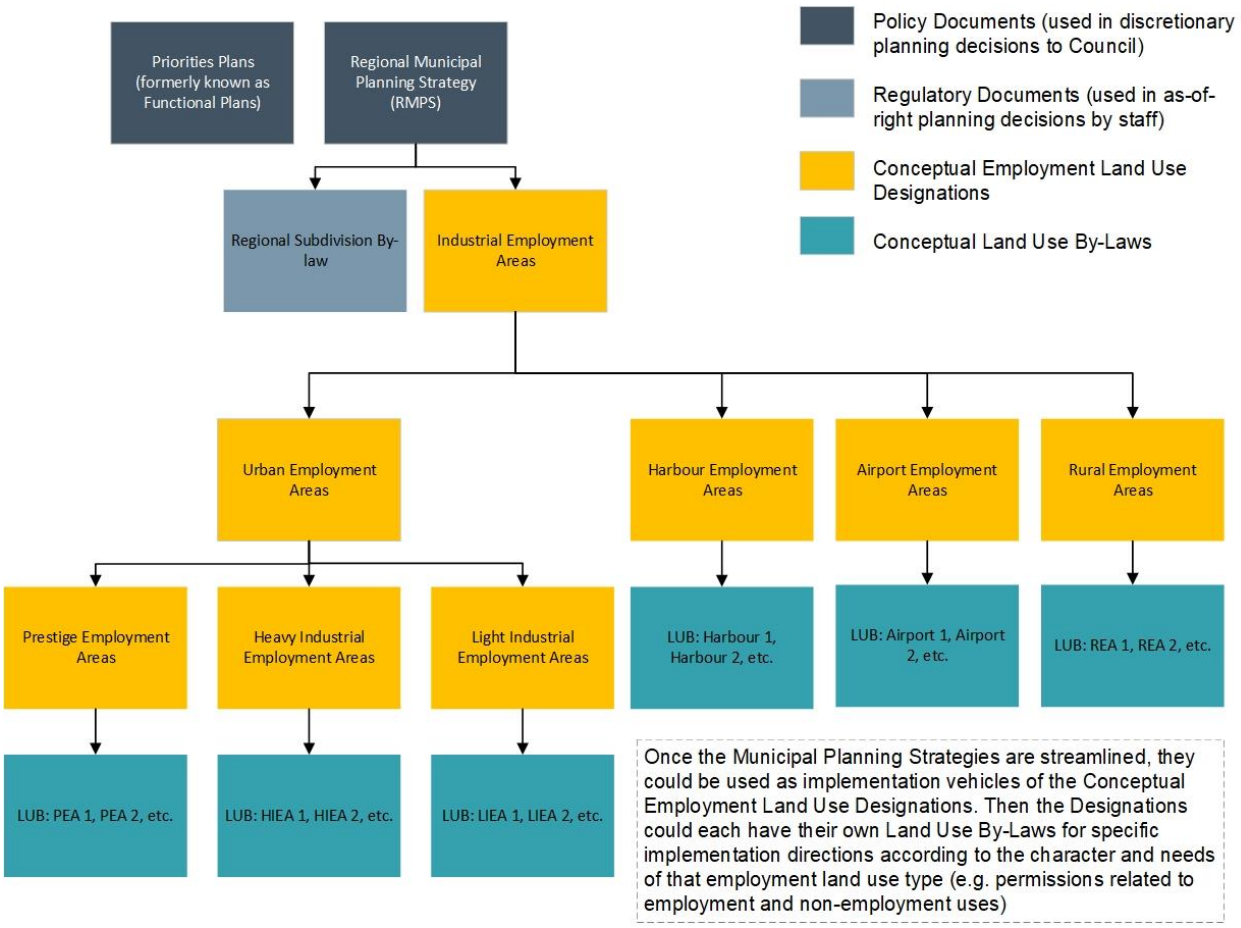
number of planning documents and conflicting policy statements and varied zoning regimes present in HRM's 22 CPA.

As HRM's policy streamlining efforts continue, it is recommended that HRM develop an Industrial Employment Area planning policy framework that recognizes and is based on characteristics of different types of industrial/business parks. This is described in greater detail below.

Recommended Action

- Develop a clear definition and policy hierarchy of Industrial Employment Areas according to the types of industrial employment areas HRM envisions planning for and developing in the long-term, and based on the market demand analysis undertaken in this study. The Industrial Employment Areas policy hierarchy is recommended to be independent of the type of industrial/business park (i.e. municipally developed or privately developed) and implemented through the Regional Plan. Figure 62 demonstrates a conceptual planning policy framework to protect and implement Industrial Employment Areas in HRM. It is also understood that HRM intends to continue their Secondary Planning and Land Use By-law simplification project by reducing the number of plan areas and creating overarching plans for similar planning regions, such as the suburban and rural portions of the Municipality. In reviewing the existing industrial zones, definitions and provisions between land-use policy and regulations applied to similar lands in different communities can vary widely. Consistency in naming and in the definitions of permitted uses would be particularly helpful for parties seeking to site properties for an industrial land use.

Figure 62
Conceptual Planning Policy Framework for Industrial Employment Areas in Halifax



Source: Derived by Watson & Associates Economists Ltd. and based on existing planning framework of Halifax Regional Municipality.

5.2 Accommodating Industrial Uses

HRM's land-use permissions allow for a wide range of industrial uses on industrial employment lands including manufacturing, warehousing/distribution, and research and development functions though permissible uses vary by land-use designation. Section 2.1 provides an assessment of the current industrial land-use policy framework with respect to employment uses. Development trends and market opportunities have also been explored within the local and regional context to examine how well aligned current land-use policies are to the market. In review of land-use permissions within each of

HRM's municipally developed industrial parks and market assessment, gaps were identified which have led to the subsequent recommended actions.

Recommended Actions

The gaps are recommended to be addressed through HRM's Land Use By-Laws:

- With respect to Aerotech Business Park, expand range of permitted industrial uses within the AE-1 Zone to include warehousing uses to accommodate logistics/distribution related functions; and
- With Bayers Lake and Ragged Lake I-3 Zone, permitted industrial uses should be limited prestige industrial uses including advanced manufacturing, warehousing and multi-tenant industrial uses and not allow for open storage.

5.3 Permissible Non-Industrial Uses

Lands that have been planned and designated for employment uses are often highly desirable and marketable based on infrastructure, visibility, or cost. As such, they can attract interest from non-industrial, non-office users, such as commercial retail or community/institutional uses.

As mentioned earlier, the regional economy continues to evolve from a goods-producing economy to a service-based economy. This places increased pressure on industrial employment lands to accommodate commercial service, retail, and community/ institutional uses. Through land use designations and zoning by-law provisions, municipalities have responded by permitting a range of commercial, community and institutional uses on industrial employment lands.

Typically, municipalities accommodate at least some commercial service (stand-alone or accessory) and limited retail activity (primarily as accessory) on employment lands that support and complement primary industrial uses. To varying degrees, ancillary uses, such restaurants, entertainment facilities and personal services (e.g. dry cleaners and hairdressers) are permitted on employment lands with the intention to support and/or complement employment uses. Municipalities also typically accommodate select community/institutional uses such as recreation centres and emergency services facilities on industrial employment lands.

To ensure that the integrity of Halifax's employment lands base is not jeopardized over the long-term, the provision for select commercial, community and institutional uses within industrial areas should be assessed on the degree to which the use:

- Supports/complements the primary industrial uses within industrial employment areas;
- Does not adversely affect the stability of the industrial area;
- Does not adversely impact other designated employment uses (i.e. increased road traffic);
- Is compatible with neighbouring land uses (i.e. does not raise health and safety concerns); and
- Does not detract from the potential for the subject lands to be utilized for industrial purposes.

The provision for select commercial services and accessory retail within employment lands which rank favourably against the criteria identified above should generally be permitted. Stand-alone retail, however, which is largely population serving and not compatible with industrial uses, should not be permitted. Further, the provision for community/institutional uses should be carefully examined against the criteria identified above, particularly for large-scale uses such as recreational centres, which typically are not well suited to be accommodated in industrial employment areas.

<u>Recommended Actions</u>

- Overall recognize that some non-industrial uses may be needed to assist in the creation of a stimulating environment for the workers, but be careful that these non-industrial uses do not become large or start to shift land towards non-industrial activities;
- Provide stronger direction regarding industrial employment-supportive uses in industrial employment areas by:
    - Introducing more defined policy direction in the Regional Municipal Planning Strategy that outlines the goals and objectives related to employment-supportive uses in Industrial Employment Areas (e.g. non-industrial, non-office uses should be of limited scale, or focused on serving businesses and employees in the Employment Areas). Such uses should minimize potential land-use conflicts and support a viable mix of commercial and industrial land uses; and

- Considering the introduction of more defined criteria or descriptions regarding the appropriate type, size and location of complementary non-industrial uses in Industrial Employment Areas (e.g. eating establishments, daycares, personal and health care services and smaller-scale, service-oriented businesses) at strategic and accessible locations in existing and future Industrial Employment Areas, where appropriate.

- With respect to updates of specific LUB, the following is recommended:
  - Within Aerotech Business Park AE-3 zone, the permitted use of retail stores should be limited to accessory and ancillary retail uses of less than 40,000 sq.ft.;
  - The range of permitted commercial uses in I-3 (General Industrial) Zone within Bayers Lake and Ragged Lake should be narrowed to prohibit large format retail uses. Permitted commercial uses should be limited to accessory and ancillary retail uses, employment supportive uses (e.g. hotels, restaurants) and office uses; and
  - Within Burnside Expansion Area I-2 zoning, allow for stand-alone office uses within gateway locations (e.g. along major arterial roadways and intersections).

5.4 Protection of Industrial Employment Areas

Across Canada, there is increasing pressure to convert designated industrial and employment lands to non-employment uses, namely commercial retail and residential uses. This is often driven by higher demand (and hence higher market values) for commercial and residential development than employment lands development. In order to create a healthy economy within a community, residential, commercial and employment land needs must be balanced.

It is recognized that there is a need to preserve Halifax's industrial employment lands for employment uses. It is also recognized, however, that under some circumstances, a conversion may be justified for planning and economic reasons, but such decisions must be made using a systematic approach and methodology.

The conversion of employment lands to non-employment uses negatively impacts HRM in several ways:

- It erodes HRM's finite supply of designated industrial employment lands;

- It potentially fragments the existing industrial employment land supply; and
- It generally impedes Halifax's potential to accommodate export-based job opportunities.

In very specific cases, the conversion of employment lands to non-employment uses may be justified from a land use planning and economic perspective. Such consideration, however, must be given within the context of the municipal-wide land needs, cumulative effects, and local site-specific impacts.

Currently, no direction is provided in HRM with respect to how subject industrial sites of interest within Industrial Employment Areas (i.e. non-employment development applications) are to be evaluated from a planning and economic standpoint for conversion to a non-employment use. The Province of Ontario's approach to evaluating and rationalizing employment area conversions could offer lessons on how to approach this. In the Ontario, the 2020 Provincial Policy Statement and the 2019 Growth Plan provide specific direction with respect to the conversion of employment lands. The 2019 Growth Plan, for example, directs that the conversion of lands within Employment Areas to non-employment uses may occur as long as it can be demonstrated that:

- there is a need for the conversion;
- the lands are not required over the horizon of the provincial plan for the employment purposes for which they are designated;
- the Municipality will maintain sufficient employment lands to accommodate forecasted employment growth to the horizon of the provincial plan;
- the proposed uses would not adversely affect the overall viability of the employment area or the achievement of minimum intensification and density targets of the provincial plan or another other policies of it; and
- that there are existing or planned infrastructure and public service facilities to accommodate the proposed uses.

These conditions may not apply to Halifax, however the systematic approach and methodology of reviewing employment land conversion requests could be adopted.

<u>Recommended Actions</u>

- Provide policy which guides the Regional Municipal Planning Strategy with respect to the protection of industrial employment lands;

- Through the Regional Municipal Planning Strategy provide policies to protect industrial areas from fragmentation in order to prevent the encroachment of institutional and commercial uses into industrial lands;
- Determine which industrial parks will be serviced by transit, water, and wastewater services and plan permitted land uses accordingly. Policy needs to protect both serviced (urban) and unserviced (rural) industrial lands;
- Create a Regional Plan policy in order to make it clear under what circumstances industrial land conversions will be considered;
- Develop an approach to evaluating requested conversions on employment lands. This evaluation approach should introduce specific considerations to help evaluate the appropriateness of converting sites from employment to non-employment uses within the broader context of municipal-wide industrial employment land needs. Specific considerations should include location, site size, configuration, marketability, future expansion potential, etc.;
- Develop land use, density, and transition policies in LUB to buffer and protect industrial employment lands from encroachment by other land uses;
- Halifax should separate out the land use designations and zoning between commercial and industrial employment lands to clarify what can be counted as within the industrial land supply. Both Dartmouth Crossing and Bayer's Lake have areas that should be counted as commercial rather than industrial lands;
- Both HRM Planning and CRE to be involved in the evaluation of and comment on industrial land conversions, and the impact of conversions on Halifax's ability to meet future industrial growth;
- HRM's deep port is a competitive advantage that should be protected. As such, the recommendation is to maintain private sites with deep water access for marine industrial uses; and
- HRM should create a policy to limit the encroachment of institutional uses into municipally developed industrial/business park employment lands. These lands represent a significant land holding of more affordably priced land in the region because it is developed at cost. Industrial/business parks have become an affordably priced land option for regional recreational infrastructure development. The placement of non-profit and government offices or service centres, particularly during cycles of lesser industrial demand, has placed several uses with high transit demand in industrial parks. This has eroded the ability of the

region to provide a compelling argument for transit investment and making it financially difficult to provide services overall.

5.5 Accommodating Future Growth Within Existing Industrial Employment Areas

A significant share of Halifax's forecast employment growth is expected to be accommodated on industrial employment lands and there is a need to maximize development potential of HRM's industrial areas.

In the short to medium term, HRM should concentrate its efforts in accommodating new industrial, office and employment supportive development in industrial areas with the broadest market choice of shovel-ready industrial lands and strongest market attributes. This includes the Burnside Industrial Park (Phases 12 and 13) and Aerotech Park.

Given the finite supply of industrial greenfield lands in the Halifax, HRM should also capitalize on intensification opportunities within the large developed industrial lands base. Land intensification allows for increased economic and employment activity on limited land and facilitates the expansion of established industries. This can encourage the re-development of existing under-utilized sites, and promotes using lands, resources, and infrastructure more efficiently. Industrial intensification is not possible in all locations or for all industrial uses/ activities. In particular, changes in context and zoning can make industrial uses "non-conforming uses," which limits the ability for an industrial use to expand on a property. The intensification of employment lands can better utilize existing infrastructure, and the expansion of existing industrial uses can often be more amenable to the public than the relocation of the same use to a new location.

<u>Recommended Actions</u>

- HRM should aim to accommodate 10% of future employment growth on urban industrial employment lands through intensification;
- HRM should monitor intensification development in industrial areas on a go forward basis by tracking the location of building permit activity on industrial lands;

- HRM should undertake an industrial intensification strategy to effectively assess and evaluate intensification potential and opportunities to ensure that HRM can meet the identified intensification target;
- To support the continued use of urban industrial properties, non-conforming use clauses could be examined for industrial properties. Package A of Centre Plan would require most expansions of non-conforming uses to be by development agreement. This is likely an unnecessarily restrictive approach to the continued operations of urban industrial properties under Package A lands. Light industrial uses could have provisions to be able to expand their zoning provisions by an as-of-right approach;
- With respect to water and transportation, ensure that serviced lands are provided the appropriate level of servicing. Costs to maintain the pipes can be lost to businesses that are not generating revenue to pay for this; and
- Work with landowners of large infill or redevelopment sites to assess interest in developing the lands and assessing feasibility of development.

5.6 Market Choice in Industrial Employment Lands

As previously noted, one of the most important site selection criteria that can be influenced by HRM is an ample supply of suitable, vacant, serviced (and serviceable) industrial land that is available for purchase and absorption. This inventory must provide a balanced market choice of sites, by site size and zoning across all the Municipality's industrial areas.

Recommended Actions

- In order to allow for proper market functioning, HRM should work to ensure that a minimum five-year supply of serviced industrial employment lands (by various sizes, zoning, and location) is available at all times throughout the forecast period;
- Ensure that permitted uses within the applicable LUBs reflect the nature and intended use within HRM's industrial areas; and
- With planning of future growth areas including Burnside Phase 14 and Ragged Lake Industrial Expansion, encouraging the development of smaller and larger (less than two acres and five acres and above) parcels, to broaden market choice for industry sectors.

5.7 Plan for Long-Term Industrial Employment Land Growth

The industrial land demand forecast in section 4 identifies a need for an additional minimum 802 gross acres (325 gross ha) gross acres of industrial employment land in the urban service area by 2039, with industrial land supply in the urban area reaching a shortfall between 2024 and 2029. As a result, HRM needs to plan for additional industrial employment lands, beyond those currently designated within the urban service area.

All suburban and rural plans should have the opportunity for, or discussion regarding industrial land options. In some plans, there is no ability, or evaluative criteria for how to consider these types of applications, or planning consideration on where these uses would be appropriate prior to an application being submitted. There is utility to the region in having some locally oriented rural industrial uses interspersed throughout the Municipality, such as general contractors, construction storage yards, and industries involving a specialized trade.

Large landholdings such as the Valero lands of former industrial lands are currently exploring redevelopment opportunities. These are in areas that would be suitable for land redevelopment that integrates an industrial development component if the supply of HRM-created industrial land is exhausted or if there is insufficient land for projected industrial growth.

<u>Recommended Actions</u>

- HRM will need to strategically plan for the development of new industrial expansion areas to accommodate the medium- to longer-term industrial land needs:
    - Over the short term (1 to 5 years) it is recommended that HRM service and develop Phase 13 of the Burnside Industrial Park (400 gross acres or 162 gross ha);
    - Over the medium term (5-10 years), Ragged Lake Industrial Reserve be designated and serviced for a broad range of Industrial, office and employment-supportive uses. Ragged Lake Industrial Reserve offers an opportunity for HRM to provide a greater market choice of parcel sizes including sites for larger industrial development; and

- Over the longer term (10+ years), it is recommended that Phase 14 of Burnside Industrial Park (425 gross acres or 172 gross ha) be designated for Industrial use and serviced by HRM. It is recommended that HRM designate, service and develop the lands for industrial employment uses to accommodate industrial, office and employment-supportive uses.

- Based on preliminary directions provided herein, and background work completed for this study, undertake a more comprehensive land use and growth management study over the medium term to assess likely candidate sites for consideration of HRM to accommodate longer term industrial land needs;
- Halifax needs to be able to take a proactive approach to identify and acquire properties suitable as future industrial employment lands. CRE should be informed with internal reviews of new highway extensions to examine industrial potential/consideration of acquisitions. In the near term, the extension of Highway 107 offers lands that may be suitable for this purpose;
- Halifax should consider having an approach, whether it is through land, or connecting potential buyers with brownfield sites for land areas that could support a major industrial relocation (on the scale of +/- 300 acres). Stakeholder interviews indicated that there is interest, but no method for land needs of this scale to be met Halifax; and
- Once potential industrial employment land is identified to accommodate future growth, master planning is relevant and desirable.

5.8 Role of Municipality in Industrial Employment Land Development

HRM has a strong tradition of successful municipal industrial/business park development. Historically, industrial land prices in Halifax have been too low to facilitate broad private-sector development of industrial lands, requiring HRM through the CRE to act as a land developer. CRE has been responsible the majority of industrial employment land development in Halifax, and has accounted for the majority of industrial, office and employment supportive development on industrial land in the Municipality yielding strong assessment and employment growth for Halifax.

Though industrial employment land prices are expected to continue to appreciate over time, it is not expected that land prices will reach levels to permit wide-scale private-sector development of industrial employment lands over the forecast period. From a

market demand perspective, HRM through CRE will need to be involved in industrial land development for the foreseeable future, though there may be opportunities to partner with external parties on select projects through public-private partnerships.

Recommended Actions

- HRM through the CRE continue its role as a municipal developer of industrial employment lands in Halifax for the foreseeable future focusing longer term development efforts in Burnside Industrial Park (Phase 13 and 14), Ragged Lake and Aerotech Business Park.
- CRE is the primary developer of industrial/business parks and as such, should acknowledge their role in planning and designing for industrial, office and employment-supportive uses through the planning permissions framework and plan for development beyond industrial uses to include a broader range of development opportunities; and
- Establish minimum building to lot coverage requirements and require reasonable full development of the site for all industrial employment land parcels sold by CRE.

5.9 Monitoring Industrial Employment Land Development Activity and Needs

Effectively accommodating employment land development over the longer term requires the implementation of programs and mechanisms to accurately receive, catalogue and assess industrial development information, as well as to assess the available supply of employment lands within Halifax. The data collected and presented in this study offers HRM with a base from which to work, but the HRM will need to continue to update and monitor the information on a regular basis.

Recommended Actions

- HRM needs to regularly monitor Industrial Employment Land development against the demand analyses set in this Study, to facilitate market trend analysis. It is recommended that CRE in collaboration with the Planning Division develop a technical database of industrial employment land development in HRM. This database should monitor the current supply of industrial employment land, recent development activity (e.g. inquiries and pre-consultations, applications under

review, and application approved, and industrial employment land building permits. This would be able to provide HRM Planning and CRE the ability to, for example, track its supply and make decisions on whether it should be increased, understand where industrial employment land inquiries and pre-consultations are concentrated to anticipate future industrial employment land development or planning policy amendment needs, and use the building permits as a way to understand where industrial employment land development is most feasible and/or desirable;

- Building on baseline data provided in this study, develop a system for tracking and monitoring Industrial Employment Land supply and demand data, to assist with longer-term planning and land needs forecasting. Key Industrial Employment Land supply and demand attributes should be tracked including:
    - Historical land absorption on Industrial Employment Lands by location, sector and size;
    - Industrial Employment Land supply (i.e. serviced, serviceable and constrained);
    - Forecast Industrial Employment Land absorption against actual land absorption in Employment Areas; and
    - Undertake a comprehensive update at a minimum of every five years.
- HRM needs some mechanisms to get feedback from the market. HRM should adopt a formal communication approach to engage with private industrial developers on a regular basis and as development opportunities arise. HRM should also consider administering short surveys to prospective industrial developers during the inquiry and site selection phase and at the point of deciding to and to not select a site. The purpose of the surveys is to collect qualitative data for future planning processes for HRM's industrial employment areas. This would compliment establishing a formal communication approach and provide a formal way for HRM Planning and CRE to document the needs of industrial developers, trends in industrial employment land development, and challenges to development.

5.10 Marketing Initiatives to Promote HRM Industrial Land Development

There are a range of marketing and promotional tools which can be utilized by HRM to inform prospective industries about municipally developed industrial employment lands.

Building on the recommendations and findings of the IELS, HRM, in collaboration with other Economic Development stakeholders, should undertake a more comprehensive approach to marketing existing municipally developed shovel-ready industrial lands in Halifax with the aim of increasing industrial land absorption and development activity. This would include highlighting the competitive advantage of Halifax as a location for industrial investment in a targeted manner. Marketing efforts should be geared towards the broader strengths and opportunities of Halifax, as well as specific target sector investment attraction efforts.

Recommended Actions

- An effective place-branding for HRM's industrial/business parks to raise their profile and impact regionally, nationally, and internationally. The branding will help create a unique identity for Halifax's industrial employment lands and differentiate them from offerings in competitor municipalities. The branding component should incorporate the strengths/opportunities that Halifax offers and be oriented to target industry sectors.
- A business attraction package which would include a City-wide investment profile and profiles for each of the City's key industrial/business parks, most Burnside Business Park, Aerotech Business Park and Bayers Lake. The profiles would contain information on location, parcel availability and pricing, sector information and planning and servicing.
- Development of sector-based initiatives with specific focus on key growth sectors, as identified in the Halifax Strategic Plan 2016-2021:
- Continue supporting and encouraging collaboration of the Atlantic Gateway Committee to assist in playing to the strengths of the various landholders in the region.

The marketing initiatives discussed above should be supported through a broad range of communication tools including a strong internet presence, including web-based interactive tools and the use of social networking, newsletters and email blasts to showcase the competitive advantages of Halifax and business success stories.

5.11 Protecting Halifax's Marine Industrial Uses

Around Halifax Harbour and throughout Halifax, waterfront lands that have suitable frontage and depth for cargo vessels are rare and are increasingly in demand for

residential and recreational development. Given the small amount of strategically located industrial lands with this waterfront access, it is important to protect existing and suitable marine industrial areas, particularly where these lands have easy access to existing rail or port facilities.

Recommended Actions

- Use land use protections for key industrial employment lands in the Centre Plan Area, particularly for marine industrial properties. HRM needs a clear policy on maintaining key ocean based industrial land resources from development speculation, particularly in the Centre Plan area. Our understanding is that under Centre Plan Package B changes, the larger zoning for the Regional Centre will be revised. The Harbour Employment Area sub-designation suggested in section 4.4.1 could specify that these uses are particularly important to protect; and
- Halifax's Secondary Plan and By-law Simplification project will likely result in new zones as Community Plan Areas are consolidated. This has sometimes resulted in underutilized industrial lands becoming rezoned to commercial or residential uses during the community planning processes. It is recommended that HRM be cautious during these projects to ensure that areas suitable for marine industrial uses remain zoned as such in order to prevent the encroachment of non-compatible land uses.

Appendix A
Industrial Policy Context – Supplemental Documentation

As part of the Planning Policy Review in section 2.1, the subsequent sections provide a detailed review of priorities plans (formerly known as functional plans), Municipal Planning Strategies (MPS) and Secondary Municipal Planning Strategies, Land Use By-Laws (LUB) by Community Planning Areas (CPA) and current industrial planning applications in HRM. Figure 1 from section 2.1 is provided below again to provide context to the detailed review to follow. Figure A-1 is provided to demonstrate the Generalized Future Land Use Map of which Figure 1 applies to.

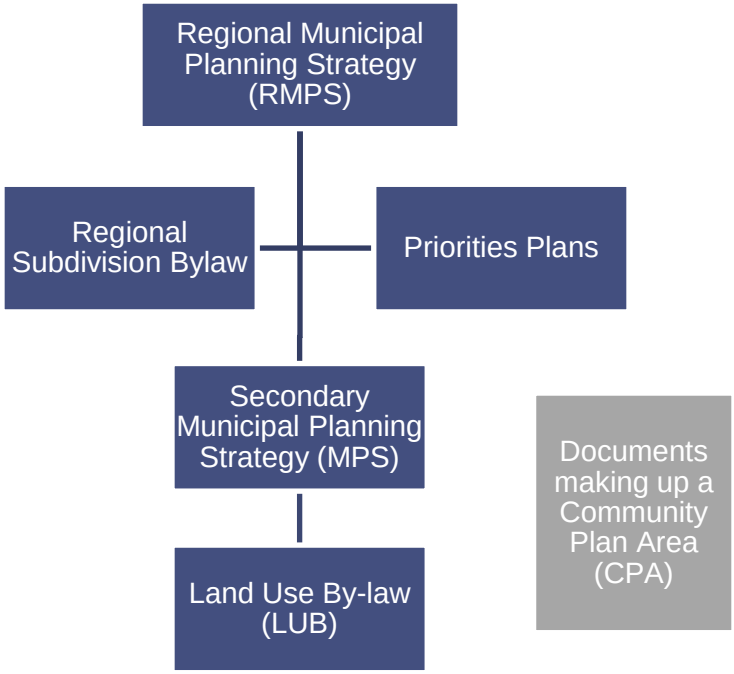
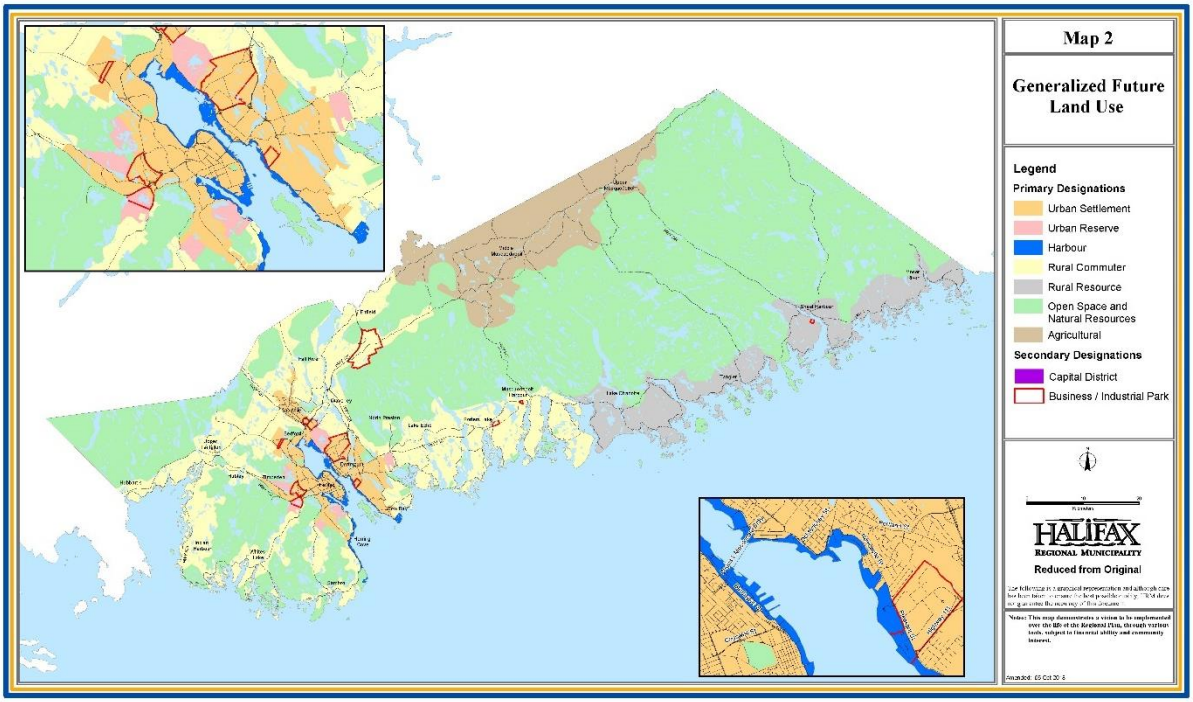


Figure A-1
Generalized Future Land Use



Source: Regional Municipal Planning Strategy

Priorities Plans (Formerly Known as Functional Plans)

Integrated Mobility Plan (2017)

Halifax's Integrated Mobility Plan (2017) (IMP) provides a vision for the Municipality's future on several transportation topics. Throughout the IMP, the Regional Centre is prioritized through both policies and actions due to it having the greatest potential for sustainable mobility.[1] Of most relevance to this study are the policies and actions of the "Land Use & Transportation" section. The excerpt below is from page 51, and highlights the difficulties in current business park development patterns in achieving mode-share targets:

[1] It should also be noted that a number of Business Parks are identified in the RMPS as a Regional Local Growth Centre where priority should be given allowing for transit services and active transportation to connect to other centres and the Regional Centre, as designated through the IMP. These include the City of Lakes Business Park in the Burnside Business Park, as well as Woodside Ocean Industrial Park.

The presence of jobs along transit corridors and near transit hubs help work towards achieving the Regional Plan mode-share targets (and is key to the Regional Centre's high non-auto mode share). In contrast, employment growth in single-use business parks risks emptying traditional and new compact, mixed-use centres of jobs, daytime vitality and transit riders. Employment growth should be directed to existing and proposed mixed use, transit oriented communities in both urban and suburban areas.

Key policies in the IMP with impacts on industrial lands include directives to:

- Designate areas for high residential and employment density only where there is an existing or proposed high level of transit service to support the development of walkable, affordable transit-oriented communities;
- Protect industrial lands for industrial uses and direct other commercial uses to mixed-use areas; and
- Work with the province, hospitals, school boards and other institutions to ensure that new public facilities are located within existing or planned transit-oriented development and within a 5-min. walk (500 m) to frequent, accessible transit service.

Key actions in the IMP with impacts on industrial lands include:

- A7: Identify and implement new sidewalks, multi-use pathways and enhanced crossing treatments to connect networks and better manage interactions between pedestrians and motor vehicles;
- A21: Amend Municipal Planning Strategies and land use by-laws as necessary to implement the reduced parking requirements recommended in the Halifax Regional Parking Strategy;
- A25: Meet regularly with agencies responsible for siting, refurbishing and/or designing public facilities, government buildings, hospitals and educational amenities to ensure those agencies are familiar with the objectives of this plan;
- A27: Consider focusing commercial land use inside designated mixed-use growth centres and minimize these uses in other areas;
- A28: Ensure that consideration is given to retaining industrial zoning wherever direct rail or marine frontage is available, to facilitate goods movement by rail or water;

- A29: Refine the designations and zoning for industrial parks to minimize residential and commercial encroachment of land suitable for industry;
- A30: Re-evaluate the recommendations of relevant land-use studies in light of the upcoming Port Master Plan and an upcoming major rehabilitation / replacement project for the Mackay Bridge;
- A39: Work toward improving accessibility and connectivity of sidewalks, crosswalks and transit stops;
- A100: Study the feasibility of other commuter rail options for the Halifax region, including: the feasibility of extending commuter rail service into the core of downtown Halifax and the feasibility of a Woodside-Downtown Dartmouth-Burnside rail service;
- A106: Complete a review of the current Truck Route By-Law to determine if and where any revisions would be beneficial based on current and projected truck demands and land use/settlement patterns;
- A112: Explore other opportunities for transporting containers within the region to minimize truck impacts without hampering transport economics. These opportunities may include a rail shuttle, cross-harbour truck ferry and truckways;
- A113: Work with CN, Nova Scotia Transportation and Infrastructure Renewal and private landowners to reserve the right-of-way for a future rail spur into the Burnside Expansion Area and adjacent municipal industrial land reserve; and
- A128: Complete a Best Practices review in order to update the Municipality's Master Emergency Evacuation Plan by considering changes to evacuation routes, shelter and muster stations, and new developments in the region.

Green Network Plan

Regional Council approved the Green Network Plan (GNP) in 2018 with the goal of protecting and managing open space as an interconnected system across the Halifax Region. The GNP proposes a series of policies and actions to protect and manage open spaces from the lenses of environmental protection, socio-cultural importance, recreation, and economic productivity.

The GNP's working 'landscapes support' policies and text support the Region's economy though activities such as natural resource extraction, forestry, agriculture and industrial harbour areas. Of note, no other rural industrial uses are part of these protections, aside from industrial harbours. The GNP does not define rural industrial

uses. Examples of existing rural industrial uses are outlined in the Prospect Road Municipal Planning Strategy and include manufacturing operations, warehousing, trucking and excavating companies, general contractors, construction storage yards, salvage yards and industries involving a specialized trade.

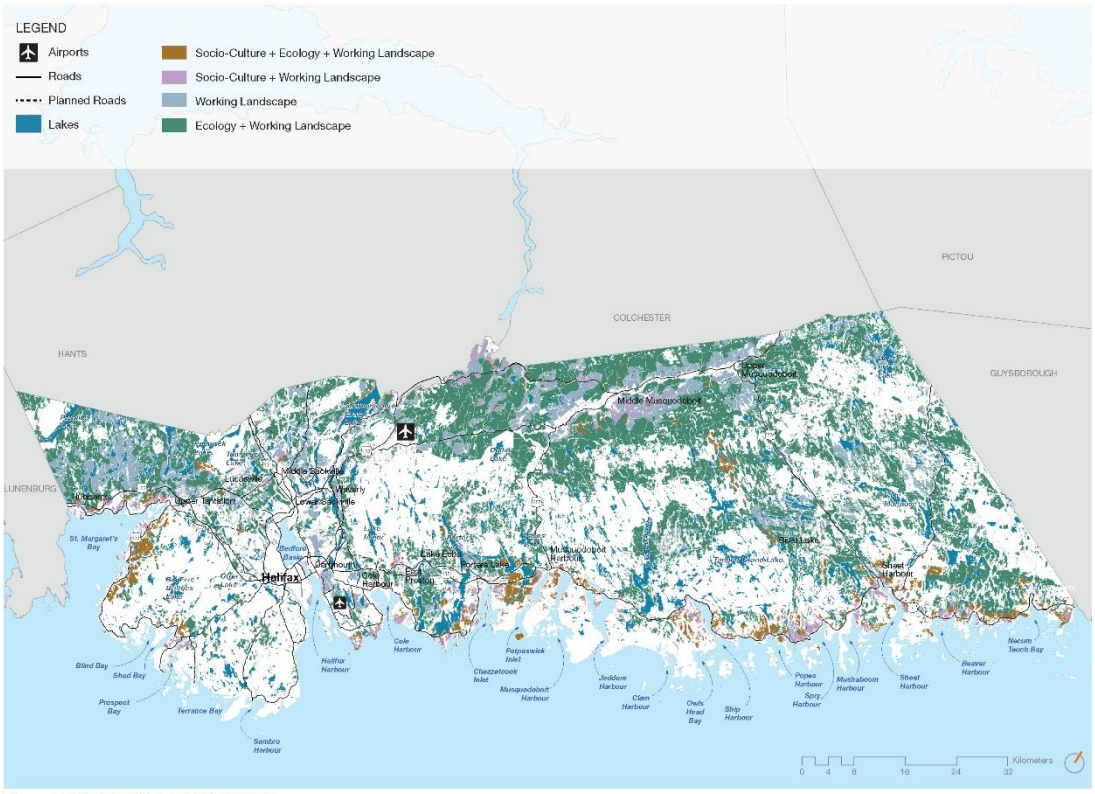
Directions of the GNP related to industrial lands include:

- Establishing a consistent watercourse buffer requirement for industrial zones and uses, which currently range from 20 to 100 m for some zones and specific uses;
- Work with Halifax Water to develop a green infrastructure specification document to guide and promote the use of low-impact design approaches to manage storm water on private property for multi-unit residential, commercial and industrial developments;
- Support eco-tourism and the protection of scenic landscapes (normally through limiting industrial development visibility to the road); and
- Preserve natural corridors and sensitive natural features when planning the development of new urban neighbourhoods and business parks.

These directions are proposed to be implemented through the following actions:

- Action 20: Amend Municipal Planning Strategies and Land Use By-laws to provide more opportunities for uses that support primary resource industries, such as aggregate and wood processing facilities in locations with high value working landscapes (Figure A-2). Specific measures to consider include providing as-of-right development opportunities (without a lengthy rezoning or development agreement process) for resource developments that locate in areas that are buffered from nearby residential areas, wildlife corridors and core areas shown on the Green Network Ecology Map (Map 5 on page 35);

Figure A-2
High Value Working Landscapes



Map 7: **WORKING LANDSCAPES**

Source: Derived by WSP from HRM's Green Network Plan

- Action 26: Amend Municipal Planning Strategies and Land Use By-laws to ensure that rural industrial developments are adequately screened from scenic roads and trails;
- Action 27: Review Municipal Planning Strategies and Land Use By-laws to maintain and, where needed, increase lot size and frontage requirements to prevent dense "ribbon development" along scenic routes located between rural centres;
- Action 30: Amend the Regional Plan to clarify the purpose and scope of land suitability assessments, which identify vulnerable landforms (constraints to development) and other ecological features, as base information needed to inform the design of new mixed-use neighbourhoods and business park developments;

- Action 33: Consider the preservation and creation of natural connections to the Chebucto Peninsula when planning the development of the Ragged Lake Business Park; and
- Action 73: Amend the Regional Plan to clarify the scope and purpose of cultural landscape studies, based on the Cultural Landscape Framework Study, as an integral component of master neighbourhood and business park planning initiatives and the identification, preservation and celebration of these landscapes.

Community Planning Areas, Municipal Planning Strategies, and Land Use By-Laws

HRM currently has twenty-two (22) Community Plan Areas (CPA) and are enabled through individual Municipal Planning Strategies (MPS) or Secondary Municipal Planning Strategies, and Land Use By-Laws (LUB).

MPS and SMPS are required to enable the policy directives of the Regional Municipal Planning Strategy (RMPS). For clarity, we have shown typical MPS and SMPS policy approaches to industrial land organized by the following RMPS regions:

- **Municipal Parks:** MPS policies within this region typically include supportive language regarding the importance of economic growth. Older plan areas such as the Bedford MPS reference the pre-amalgamation goal to compete with other industrial parks in the metropolitan area to obtain a share of regional industrial growth;
- **Private Business Parks:** Lands in this region are often developed and covered by general existing industrial lands language in MPS documents. The primarily commercial private business park of Dartmouth Crossing is regulated as a highway commercial development;
- **Halifax International Airport and Aerotech Business Park:** The MPS policies for this region are enabling for the Aerotech Business Park. The policies also have noise contour protections to limit residential encroachment on the airport;
- **Halifax Harbour Designation:** This designation is applied differently in Halifax versus Dartmouth within their respective MPS policies. On the Dartmouth side, the Centre Plan applies a comprehensive development district zone within the industrial use lands of Dartmouth Cove, designating this area for comprehensive community master planning efforts. On the Halifax side of the harbour, the

designation is focused on maintaining the industrial port lands for harbour related industries, encouraging their growth; and

- **Rural HRM:** MPS policies are often times enabling mixed use land use designations which can include light industrial development. This means that a rezoning rather than a more time-intensive plan amendment could be used for many types of industrial development operations. The Beaver Bank, Hammonds Plains, and Upper Sackville MPS is an example of this planning approach.

Of particular note across HRM's MPS is the Dartmouth Municipal Planning Strategy (1978). This MPS regulates the development of the significant number of business parks of Burnside and the City of Lakes. Since Burnside and the City of Lakes Business Parks make up a substantial portion of the developed industrial lands in HRM, this MPS has a greater level of detail regarding industrial uses than most MPS documents. This document attempts to reconcile the office-oriented development which makes up the City of Lakes Business Park with the more industrial lands focused Burnside Industrial Park.

In our review of the CPA, most of them are found to have industrial-specific zoning in their respective LUB. Figure A-3 shows the CPA with industrial-specific zones in their respective LUB.

Figure A-3
Community Plan Areas and Industrial-Specific Zoning

	Halifax Regional Municipality Community Plan Area																		
Industrial-Specific Zone Name	Beaver Bank, Hammonds Plans and Upper Sackville	Bedford	Chebucto Peninsula (Planning District 5)	Cole Harbour/ Westphal	Dartmouth	Downtown Dartmouth	Eastern Passage/Cow Bay	Eastern Shore (East)	Eastern Shore (West)	Halifax Mainland	Halifax Peninsula	Lake Echo/ Porters Lake (Planning Districts 8 & 9)	Lawrencetown	Musquodoboit Valley/ Dutch Settlement	Prospect (Planning District 4)	Sackville	Shubenacadie Lakes (Planning Districts 14/17)	St. Margaret's Bay (Planning Districts 1 & 3)	Timberlea/ Lakeside/ Beechville
AE-1: Aerotech Core Zone																	X		
AE-2: General Airport Zone																	X		
ILI: Light Industry Zone		X																	
I-1: Light Industry (or Industrial) Zone				X	X		X	X	X	X					X			X	X
I-1: Mixed Industrial Zone	X																		
I-2: Business Industry													X						
I-2: Salvage Yard												X						X	
I-2: Light Industrial													X						
I-2: Radio Transmitter Zone										X									
I-2: General Industry (or Industrial)					X		X												
I-3: Light Industrial																	X		
I-3: Heavy Industry														X					
I-3: Harbour-Oriented Industrial					X														
I-3: General Industrrial										X		X							
I-3: Mixed Industrial Zone																		X	
I-3: Local Service															X				
I-4: Salvage					X														
I-4: Transmitter Zone																		X	X
I-4: Former Sanitary Landfill Site Zone	X																		
MR-1: Mixed Resource Zone																		X	
MR-2: Fishing Industry Zone							X												
GU-1: General Use Zone	X																		
CD-1: C&D Materials Transfer Stations Zone	X																		
CD-2: C&D Materials Processing Facilities Zone	X																		
CD-3: C&D Materials Disposal Sites) Zone	X																		
C-3: Industrial Zone											X								
C-5: Industrial Commercial Mix Zone			X								X								
FI: Fishing Industry Zone									X										
BP: Business Park Zone																X			
BP-1: Business Park-1 Zone																X			
M: Marine Business Zone						X													

Source: Derived by WSP from HRM's twenty-three Land Use By-laws.

As can be observed from the table, similar industrial-specific zoning nomenclature can exist across different CPA. For example, the I-3 classification can refer to both Heavy Industrial Uses, Light Industrial Uses, or Marine Industrial Uses, depending on the plan area in question. In addition, the traditional use of industrial zoning has been very broad in application, permitting on occasion, office, commercial, service uses, as well as manufacturing. For example, Dartmouth Crossing is developed as-of-right within Dartmouth's I-2 (General Industrial) Zone. On the opposite end, Aerotech's AE-1 zoning permits a narrow band of permitted uses, and does not match market demand. The variation in permitted development options creates a false sense of how much land is available to the industrial market.

This current planning documents (i.e. CPA, MPS, and LUB) have created inconsistency between the detailed requirements of the industrial-specific zoning, such as setbacks, parking, and landscape requirements, as well as broader uses permitted in each zone, particularly if readers are comparing industrial zone classifications (I-1, I-2, etc.). This system of policies is still in a pre-amalgamation state, which subsequently impact how the various LUB and their industrial-specific zoning permissions across HRM are interpreted, applied, and implemented present day.

Specific Lot Requirements of Municipally Developed Business Parks in HRM

The specific lot requirements of municipally developed business parks in HRM are provided in the subsequent sections.

<u>Aerotech Business Park</u>

The table below outlines the specific lot requirements for development within the AE-1 and business uses within AE-3 and AE-H Zones.

Lot Requirement	AE-1 Zone		AE-H Zone
	Industrial Uses	Business Uses (as of AE-3 Zone) *	
Min. Lot Area	120,000 sq. ft. (11,148 m^2)	120,000 sq. ft. (11,148 m^2)	200,000 sq. ft. (18,580 m^2)
Min. Frontage	200 ft (61 m)	200 ft (61 m)	250 ft (76.2 m)
Min. Front or Flankage Yard	75 ft (22.9 m)	75 ft (22.9 m)	75 ft (22.9 m)

Min. Rear Yard	35 ft (10.7 m)	35 ft (10.7 m)	35 ft (10.7 m)
Min. Side Yard	• Structure is 35 ft or less in height: 35 ft • Structure is greater than 35 ft: 50 ft	• Structure is 35 ft or less in height: 35 ft • Structure is greater than 35 ft: 50 ft	50 ft (15.2 m)
Min. Setback from any lot line within 100 ft. of Highway 102 Right-of-Way	75 ft (22.9 m)	75 ft (22.9 m)	N/A
Min. Landscaped Area (exclusive of required yards)	15% of the area of the lot devoted to impervious surfaces	15%	N/A

* Note service stations are permitted within the AE-3 Zone but have their own lot requirements under the Land Use By-law.

Bayers Lake Business Park and Ragged Lake Business Park

The following table outlines specific lot requirements for development within the I-3 Zone for both the Bayers Lake Business Park and Ragged Lake Business Park.

Lot Requirement	I-3 Zone
Min. Lot Area	No Requirement Noted
Min. Frontage	No Requirement Noted
Min. Front or Flankage Yard	No Requirement Noted
Min. Rear Yard	No Requirement Noted
Min. Side Yard	No Requirement Noted
Roadway Setback	• 30 ft (9.1 m) from any collector road • 10 ft (3.0 m) from all other roads
Development with on-site sewage disposal or water services	Shall be setback a min. 200 ft (61 m) from the ordinary highwater mark of any lake or watercourse
Development serviced with city sewer or water services	Shall be setback a min. 20 ft (6.1 m) from the ordinary highwater mark of any lake or watercourse

Burnside Industrial Park and City of Lakes Business Park

The following table outlines specific lot requirements for development within the I-2 and C-3 Zones in the Burnside Industrial Park. The table should also be referred to for

specific lot requirements for development within the I-2 zone of the City of Lakes Business Parks.

Lot Requirement	I-2 Zone	
	Industrial Uses	Business Uses (as of C-3 Zone)
Min. Lot Area	5,000 sq. ft. (464.5 m^2)	5,000 sq. ft. (464.5 m^2)
Min. Frontage	No Requirement Noted	No Requirement Noted
Min. Front or Flankage Yard	No Requirement Noted	No Requirement Noted
Min. Rear Yard	No Requirement if 100% Lot Coverage applied	No Requirement if 100% Lot Coverage applied
Min. Side Yard	No Requirement if 100% Lot Coverage applied	No Requirement if 100% Lot Coverage applied
Max. Height	No Requirement Noted	3-storeys for a building with an office function as its primary function

Atlantic Gateway – Halifax Logistics Park

The specific lot requirements of the I-2 Zone that is applied to the Burnside Industrial Park should be referred to for its application here in the Atlantic Gateway – Halifax Logistics Park. The table below should be referred to for specific lot requirements of the I-3 Zone.

Lot Requirement	I-3 Zone
Min. Lot Area	5,000 sq. ft. (464.5 m^2)
Min. Frontage	No Requirement Noted
Min. Front or Flankage Yard	30 ft. (9.1 m)
Min. Rear Yard	Setbacks applied as specified within the Building By-laws of the City of Dartmouth (no longer in existence, setbacks referred to within the Regional Subdivision By-law)
Min. Side Yard	No Requirement if 100% Lot Coverage applied

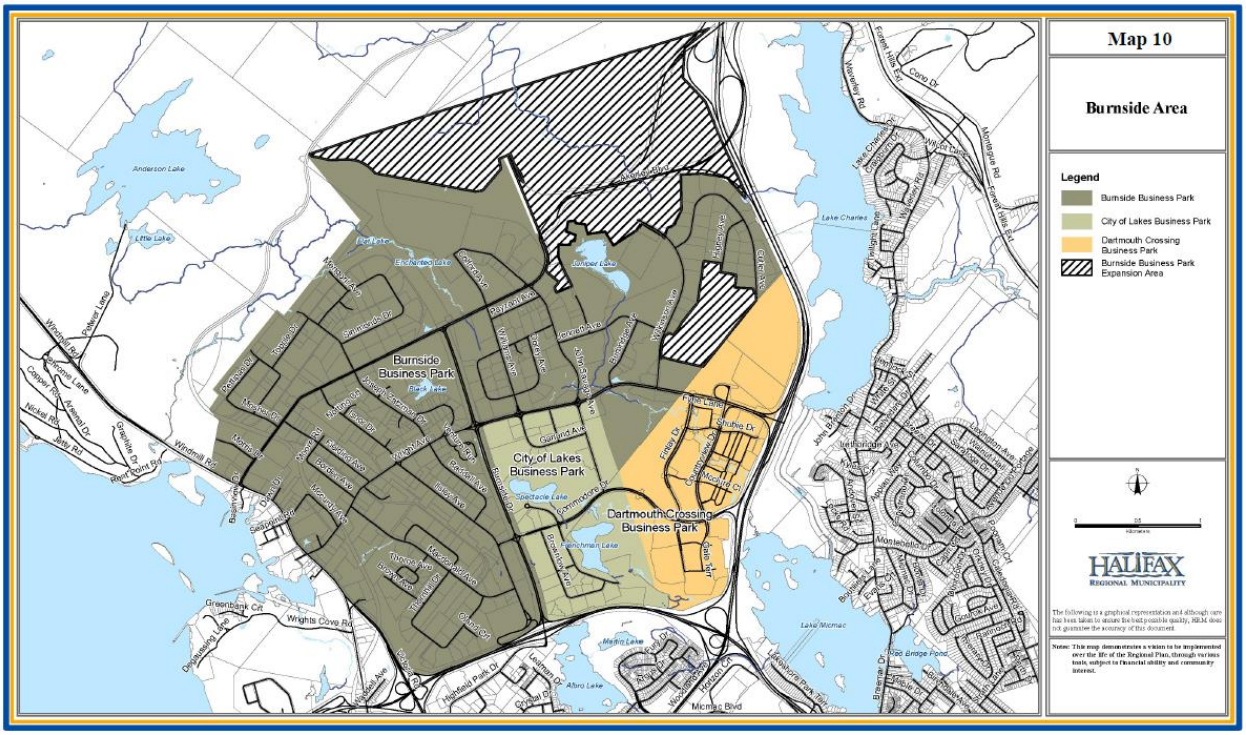
HRM Industrial Employment Lands Applications

The following sections describe industrial employment lands applications applicable to this study.

Case 21808: Burnside and City of Lakes Business Park Rezoning

In 2018 Halifax Regional Municipality introduced three (3) draft proposed zones for Burnside and the City of Lakes Business Parks as part of a staff-initiated planning process to amend the Regional Municipal Planning Strategy as well as the Dartmouth Secondary Municipal Planning Strategy and Land Use By-law. This staff-initiated planning process came as a result of the Council approved-in-principle 2008 Part I Business Parks Functional Plan with the intent on using the recommendations in the Business Parks Functional Plan as the framework to create new zones and update the above noted policy but also aim to protect and support industrial lands within Halifax Regional Municipality.

Figure A-4
Burnside Area Map



Source: Derived by WSP and Watson & Associates Economists Ltd. from the HRM Regional Municipal Planning Strategy.

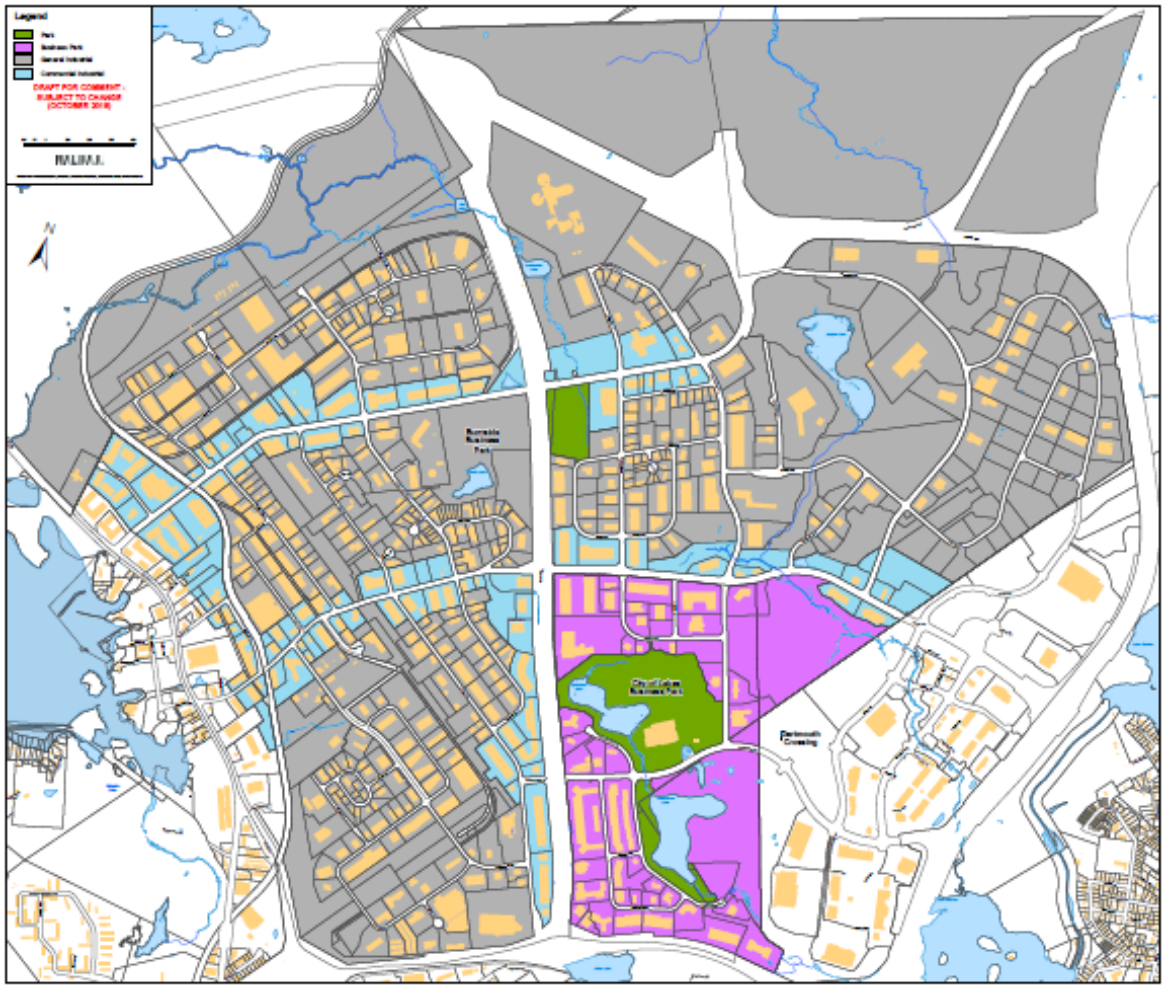
The draft zones created and currently being finalized by HRM are provided in the following table.

Zone	Purpose	Location	Permitted Uses	Requirements
Business Park (BP)	To accommodate a campus-style suburban office area that allows for a mix of office, commercial and light industrial uses mixed with shops and services intended for the use of employees and business clients	City of Lakes Business Park	• Existing Uses • Banks and Financial Institutions • Day Cares • Hotels • Industrial Training • Light Industrial Uses (contained within a building) • Offices • Personal Services (including medical clinics) • Recreation Uses • Restaurants • Retail Uses (Maximum 3000 Square Feet) • Utilities • Accessory Uses (including caretaker units)	• Maximum five (5) storeys Office Buildings • Building materials must include masonry, stone, precast concrete, steel, or glass panels • Buildings must have a front door and walkway from the street • Landscaping with trees must be provided along the street • No outdoor display of goods • No outdoor storage near the street • Off-street loading must be on the side or rear of a building • Lighting must be directed to buildings, driveways and walkways, and away from street and other properties
Commercial Industrial (CI)	To accommodate light industrial and commercial uses that support	Main streets that have high visibility and access to transit within the	• Existing Uses • Banks and Financial Institutions • Day Cares • Dealerships and Vehicle Services • Garden Centres	• Building materials must NOT include unfinished concrete, plywood, or particle board (limit low quality) • Buildings must have a front door and walkway from the street

Zone	Purpose	Location	Permitted Uses	Requirements
	industries, employees and customers	Burnside Business Park	• Industrial Training • Light Industrial Uses • Kennels and Animal Shelters • Personal Services (including medical clinics) • Recreation Uses • Restaurants • Retail Uses (Maximum 3000 Square Feet) • Retail Building Suppliers • Self-Storage Facilities • Utilities • Accessory Uses (including accessory office, retail uses and caretaker units)	• Landscaping with trees must be provided along the street • Outdoor display of goods is allowed • No outdoor storage near the street • Off-street loading must be on the side or rear of a building • Lighting must be directed to buildings, driveways and walkways, and away from street and adjacent properties
General Industrial (GI)	To accommodate a wide range of industrial uses (light and heavy)	Larger lots and separated from other uses within the Burnside Business Park	• Existing Uses • Industrial Training • All Industrial Uses (light and heavy) • Retail Building Suppliers • Utilities	• Building materials must NOT include unfinished concrete, plywood, or particle board (limit low quality) • Landscaping with trees must be provided along the street • Outdoor display and storage are permitted anywhere on the site

Zone	Purpose	Location	Permitted Uses	Requirements
			• Accessory Uses (including accessory office, retail uses and caretaker units)	• Off-street loading must be on the side or rear of a building • Lighting must be directed to buildings, driveways and walkways, and away from street and adjacent properties <u>Special Heavy Industrial Use Requirements:</u> • Must be located on one (1) hectare lots • Must be set back from property lines if next to a non-GI zone

Figure A-5
Draft Burnside and City of Lakes Zones



Source: Derived by WSP from HRM, Case 21808

By applying the above noted draft proposed zones to lands within the Burnside and City of Lakes Business Parks, it will ensure that existing business and uses are protected while at the same time aiming to protect and have available industrial lands for future growth. Included as part of the proposed zones regarding existing businesses and uses, the above will continue to allow these existing businesses and uses to be extended, enlarged or altered, as well as be permitted to resume operation if discontinued and replaced/rebuilt if destroyed. By removing the existing permissive I-2 (General Industrial) Zone applied to the subject lands will allow Halifax Regional Municipality to focus on supplying industrial lands leaving the private sector to continue developing land for retail and office space. This will encourage the use of primarily light industrial

uses within the Burnside and City of Lakes Business Parks (as implemented in the Regional Municipal Planning Strategy Policy EC-6).

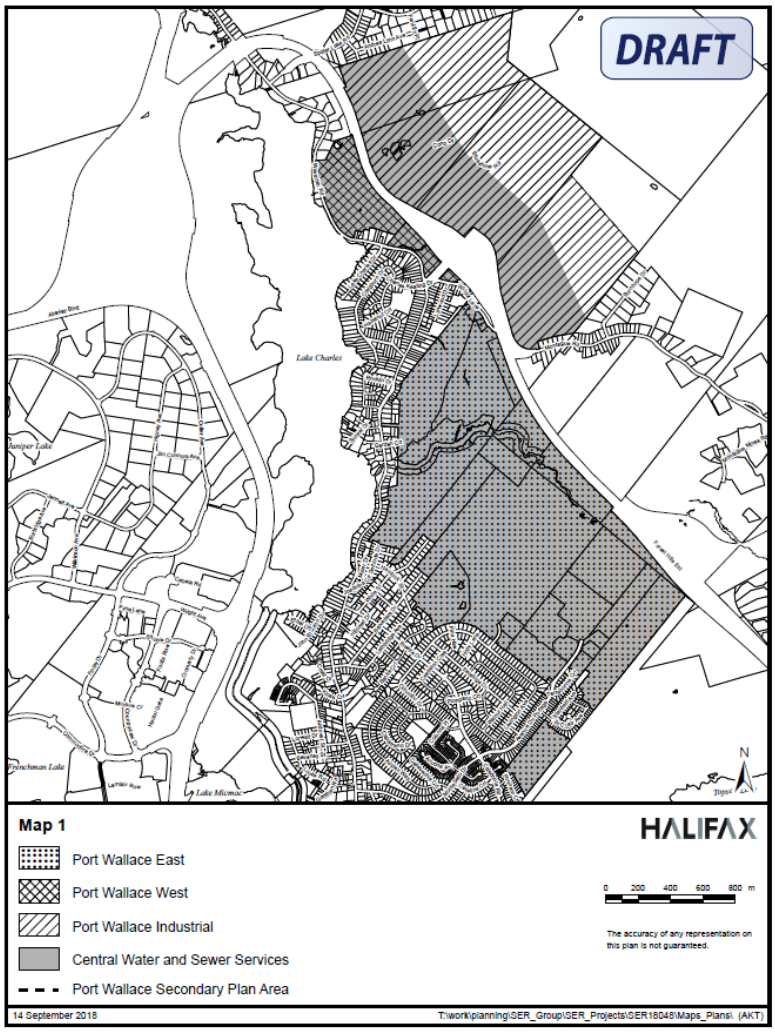
As of September 2019, Halifax Regional Municipality Staff are working to finalize the above draft proposed zones for the Burnside and City of Lakes Business Parks to present to Regional Council for approval. No further timeframe is outlined on Halifax Regional Municipality's website.

Port Wallace Secondary Planning Strategy

The Port Wallace Secondary Planning Strategy, like the Burnside and City of Lakes Business Parks Rezoning, is a Halifax Regional Municipality initiated planning process that began in 2014. As stated in working Secondary Plan document in September 2018, the Port Wallace area is comprised of three (3) areas. These areas have been divided into Port Wallace East proposed to be developed into a community containing residential, commercial and institutions uses; Port Wallace West proposed to be developed primarily for residential uses; and Port Wallace Industrial comprised of a 525 acres area proposed to be developed into an industrial park.

The Regional Municipal Planning Strategy identifies the Port Wallace area as a future growth area, therefore, a new community complete with municipal services, new policies and regulations was undertaken in the form of a Secondary Municipal Planning Strategy to be approved by Regional Council. By providing industrial uses within the Port Wallace area will help increase the readily available industrial land, with access to the highway, within Halifax Regional Municipality.

Figure A-6
Draft Secondary Plan Area of the Port Wallace Secondary Planning Strategy



Source: Derived by WSP from HRM, Port Wallace Community Planning Website.

As of 2018, draft Port Wallace zones were proposed and are shown in the subsequent table:

	Port Wallace Commercial – Industrial (CI) Zone	Port Wallace General Industrial (GI) Zone
Permitted Uses	• Uses existing on the effective date • Broadcast Uses • Cannabis Production Facilities • Commercial Recreation Uses • Community Recreation Uses • Day Care Facilities • Dealership Uses • Garden Centres • Industrial Training • Industrial Uses (EXCEPT heavy uses; salvage yards; CD-1, CD-2 and CD-3 uses) • Kennels and Animal Shelters • Restaurants (drive-through, full-service or take-out) • Retail Uses (Maximum 3,000 sq.ft.) • Retail Building Suppliers • Self-Storage Facilities • Utility Uses • Vehicle Services • Accessory Uses (including accessory office and retail uses) • Caretaker Units	• Uses existing on the effective date • Dealership Uses • Industrial Training • Industrial Uses (EXCEPT CD-1, CD-2 and CD-3 uses) • Retail Building Suppliers • Utility Uses • Accessory Uses (including accessory office and retail uses) • Caretaker Units

	Port Wallace Commercial – Industrial (CI) Zone	Port Wallace General Industrial (GI) Zone
General Requirements	• Lot Area Min.: 5,000 sq.ft. • Min. Front/Flankage Yard: 20 ft. • External Cladding shall not have the appearance of: unfinished concrete (except for foundation walls); plywood, or particle board • Every new or expanded main building shall have at least one (1) pedestrian entry door which faces the public street and is accessed from a pedestrian walkway • Every new or expanded main building shall have a pedestrian walkway that provides access from the public street and is clearly separated from any vehicle parking or driving areas • Off-street loading areas shall be located on the side or rear of buildings • No outdoor storage shall be permitted within any yard abutting a streetline • Except for areas where landscape is required, outdoor display shall be permitted in any yard • Except for driveways and walkways, landscaping shall be provided minimum of ten	• Lot Area Min.: 5,000 sq.ft. • Min. Front/Flankage Yard: 20 ft. • Loading Bays shall be located on the side or rear of buildings • Except for driveways and walkways, landscaping shall be provided minimum of ten (10) feet in depth from the property boundaries abutting the streetline • Landscaping shall consist of grass, or other plant ground cover and shall include one (1) ornamental shrub for every 100 sq.ft. of required landscape area and one (1) double-staked nursery stock tree for every 50ft of lot frontage • Except for areas where landscape is required, outdoor storage and display shall be permitted in any yard • Garbage and waste containers shall be screened from view from adjacent properties and public streets

	Port Wallace Commercial – Industrial (CI) Zone	Port Wallace General Industrial (GI) Zone
	(10) feet in depth from the property boundaries abutting the streetline • Landscaping shall consist of grass, or other plant ground cover and shall include one (1) ornamental shrub for every 100 sq.ft. of required landscape area and one (1) double-staked nursery stock tree for every 50 ft. of lot frontage • Garbage and waste containers shall be screened from view from adjacent properties and public streets	
Outdoor Lighting	• Shall be directed to driveways, parking areas, loading area, building entrances • Walkways shall be arranged to divert the light away from streets, adjacent lots and buildings • Security lighting for multiple unit residential dwelling uses shall be directed to all walkways and parking areas and not exceed a height of 5.5 m • Exterior lighting plan for any multi-unit Building shall be submitted to the Development Officer	• Shall be directed to driveways, parking areas, loading area, building entrances • Walkways shall be arranged to divert the light away from streets, adjacent lots and buildings • Security lighting for multiple unit residential dwelling uses shall be directed to all walkways and parking areas and not exceed a height of 5.5 m • Exterior lighting plan for any multi-unit building shall be submitted to the Development Officer

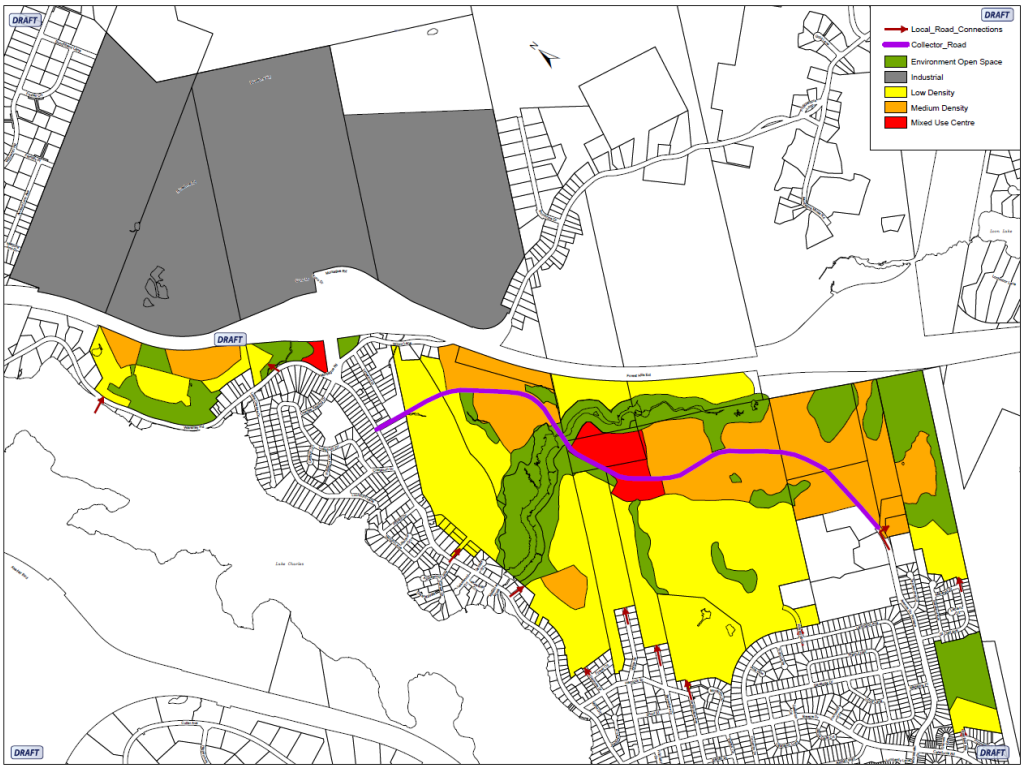
	Port Wallace Commercial – Industrial (CI) Zone	Port Wallace General Industrial (GI) Zone
Buffering Requirements	• All structures and uses of land shall set back a minimum of 325 ft. from lots that are zoned or used for residential purposes and screened • All structures located within 3,008 ft. from a lot that is zoned or used for residential purposes shall be a maximum of 65 ft. in height	
Special Requirements	Cannabis Production Facilities: • Where a lot containing a Cannabis Production Facility abuts a lot zoned or used for residential purposes or that is used for a daycare, community centre, school, religious institution, public park or play the facility, including the building and outdoor area shall be set back a minimum 230 ft. from the abutting lot line Caretaker Units: • Be located within a main building that contains a permitted industrial use • Provide living accommodation for a maximum of two (2) adults • Fully separated from the industrial use by walls, partitions or a floor • Separate entrance from the industrial use • Maximum floor area of 602.8 sq.ft.	Heavy Industrial Uses: • Minimum Lot Area: 107,639 sq.ft. (1 hectare) • Minimum Side and Rear Yard Setback of 24.6 ft. if abutting a zone other then GI; 230 ft. if abutting a lot zoned or used for residential purposes, daycare, community centre, school, religious institution, public park or playground Salvage Yards: • Minimum Lot Area: 107,639 sq.ft. (1 hectare) • Storage on the site shall be completely enclosed and screened from the view of nay adjacent sites or streets • A fence shall be constructed around the entire property that is not less then 6 ft. in height; construed of opaque material; set back a minimum of 20 ft. from the streetline

	Port Wallace Commercial – Industrial (CI) Zone	Port Wallace General Industrial (GI) Zone
	Existing Uses: • Uses existing on the effective date • Uses are permitted to be extended, enlarged or altered • Uses are permitted to resume operation if discontinued • Uses are permitted to be rebuilt or replaced if destroyed on the same lot	• Separated a minimum distance of 500 ft. from, and not abut a lot that is zoned or used for residential purposes, daycare, community centre, school, religious institution, public park or playground Cannabis Production Facilities: • Where a lot containing a Cannabis Production Facility abuts a lot zoned or used for residential purposes or that is used for a daycare, community centre, school, religious institution, public park or play the facility, including the building and outdoor area shall be set back a minimum 230 ft. from the abutting lot line Caretaker Units: • Be located within a main building that contains a permitted industrial use • Provide living accommodation for a maximum of two (2) adults • Fully separated from the industrial use by walls, partitions or a floor • Separate entrance from the industrial use

	Port Wallace Commercial – Industrial (CI) Zone	Port Wallace General Industrial (GI) Zone
		• Maximum floor area of 602.8 sq.ft. Existing Uses: • Uses existing on the effective date • Uses are permitted to be extended, enlarged or altered • Uses are permitted to resume operation if discontinued • Uses are permitted to be rebuilt or replaced if destroyed on the same lot

As of September 2019, HRM staff are working to complete the background research and continue to develop draft policies for the Port Wallace Secondary Planning Strategy. Next step, as indicated on Halifax Regional Municipality's website, is for further public consultation to occur once the draft policy is completed. No further timeframe is outlined.

Figure A-7
Draft Future Land Use Map



Source: Derived by WSP from HRM, Port Wallace Community Planning Website.

Case 19755 & 20235: Rezoning Woodside Ocean Industries Park

Cases 19755 & 20235 involved applications to rezone the properties located 1 Research Drive and 101 Research Drive, adjacent to each other, in Dartmouth from S (Institution) to I-1 (Light Industrial). At the time of both applications, it was argued that the S (Institution) zone may have been applied to both parcels as at the adoption of the Dartmouth MPS the properties were owned by the Province. The current use for both sites is research, office, and light manufacturing uses, which is not the intent of the existing S Zone.

In the Staff Report, Halifax Regional Municipality Staff felt that the proposal to rezoning both sites to an industrial use was reasonably consistent with the intent of the Dartmouth Municipal Planning Strategy and would resolve the existing uses become more inline with the zoning attached to the subject properties and proposed Council to approve both LUB amendments.

Both cases held public hearings in March 2017. For Case 19755 (1 Research Drive) Community Council agreed that the current S (Institutional) zone did not fit the intended use of the property, however, concerns were raised around the I-2 (Light Industrial) zone not being compatible with the abutting residential zone as well as provisions for a buffer around the exiting wetland. Community Council defeated the motion to approve the LUB amendment and suggested that the applicant could bring this matter back through a new application process or address the zoning through the Centre Plan. For Case 20235, the same conclusion and concerns were also addressed.

In May 2017, following additional conversation with Halifax Regional Municipality Planning Staff and the property owners, Community Council requested a staff report to consider both of the above cases subject to the following:

- Additional setbacks from neighbouring residential development on the lands;
- Requirements for trees to screen any industrial development on the lands;
- Limitations on traffic flow from the lands onto Fenwick Street;
- Prohibiting outdoor storage; and
- Requiring all parking areas to be paved.

Halifax Regional Municipality staff issued an information report in February 2018, as requested, to Community Council addresses four (4) possible mechanisms available to address both cases. These mechanisms are:

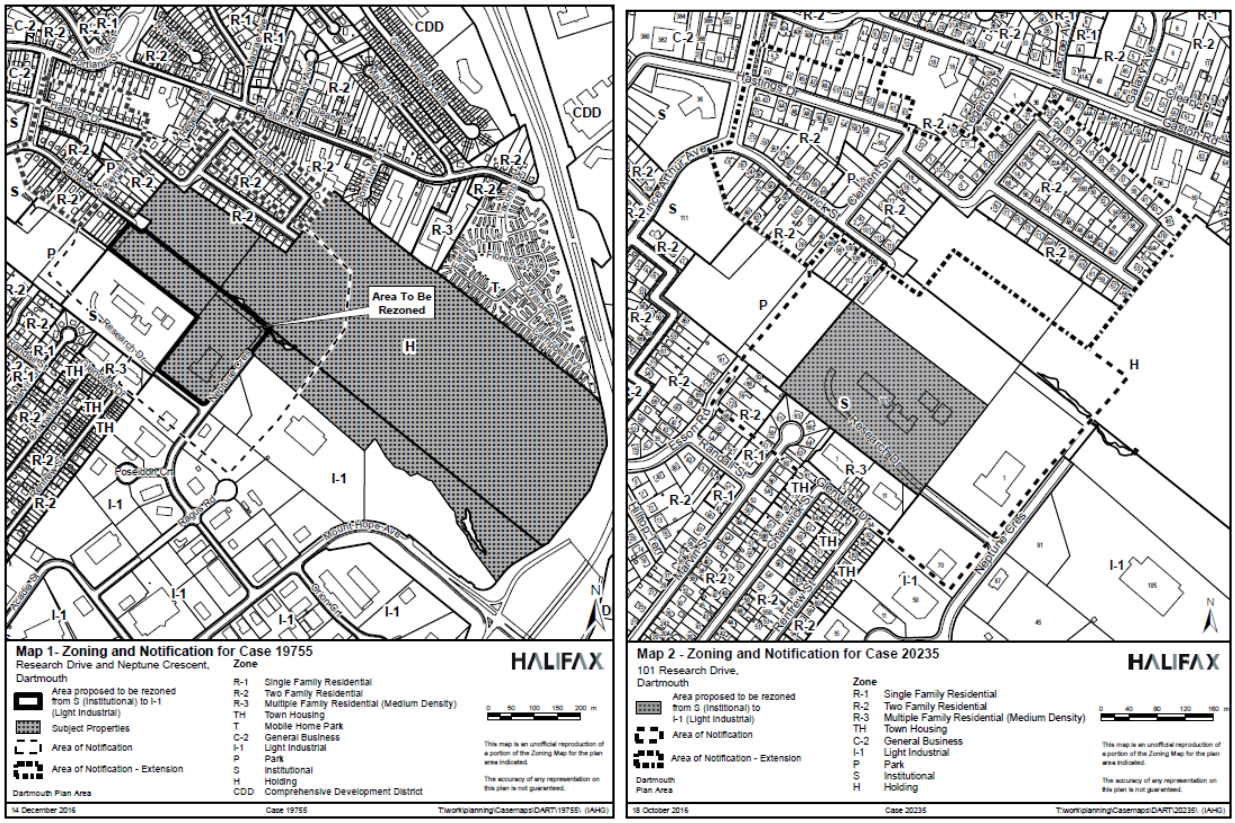
1. Amend the existing I-2 Zone to introduce new development standards;
2. Draft a new zone with requirements relating to setbacks, use, and landscaping unique to the existing by-law;
3. Amend the Dartmouth MPS to include requirements for setbacks, buffering, landscaping, and storage within the policy itself; and
4. Take no action at present and continue to apply the standards of the existing suite of Industrial zones in the Dartmouth LUB.

Staff indicated that of the five (5) items Community Council has asked to have regulated, three (3) can currently be regulated under the existing policy.

In March 2018, Harbour East-Marine Drive Community Council recommended that Halifax Regional Council request an initiation report to give consideration of amendment to the Dartmouth Municipal Planning Strategy and Land Use By-law that would reduce conflict between industrial activities and abutting residential and institutional uses in the Woodside Industrial Park area.

As of September 2019, Halifax Regional Council has not initiated the amendment to the Dartmouth Municipal Planning Strategy and Land Use By-law, since it is proposed to occur under the amendment package for Centre Plan.

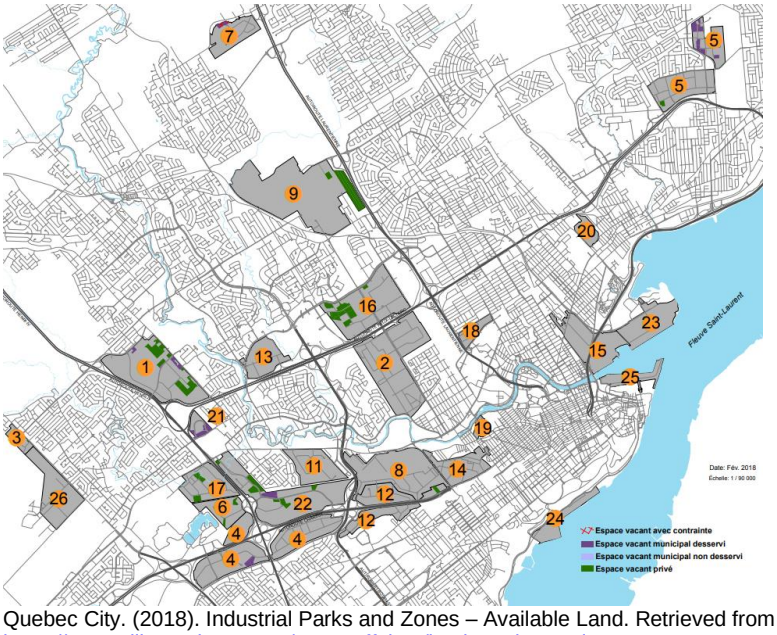
Figure A-8
Woodside Areas to be Rezoned



Source: Derived by WSP from HRM Staff Reports

Appendix B
Industry Best Practices

1.1 Quebec City



Quebec City. (2018). Industrial Parks and Zones – Available Land. Retrieved from https://www.ville.quebec.qc.ca/gens_affaires/implantation-projets-immobiliers/projets-industriels/docs/parcs_zones_industrielles_municipal.pdf

Similarities with HRM

- ☒ Population Size
- ☒ Port
- ☒ Airport
- ☒ Railway
- ☒ Other: University

Main Characteristics

City Population:	546,958[1]
Regional Mun. Pop.:	800 296[2]
Population Density:	1,204/km^2 [3]
Unemployment Rate:	3.7%[4]
Land Cost (/sq.ft):	$6-11[5]
Port Docking Capacity:	Deep water

1.1.1 Industrial Employment Lands Inventory Context

- There are 27 industrial sites, including 15 industrial parks, five industrial zones, two innovation areas, one hi-tech park, three port areas and one aeropark.
- Before the municipal amalgamation, industrial parks competed in terms of supply and prices. Now, all parks are publicly owned.
- The City has gradually created a hierarchy of industrial parks by sorting the types of companies present on the territory (central/urban, low density/bulk storage).
- Land scarcity has prompted the City to develop an economic strategy based on specific sectors to be promoted while being open to the world.
- By 2031, the Quebec Metropolitan Community will lack more than 920 hectares of industrial lands to meet the needs of the cities of Quebec and Levis only. Office and commercial land needs are calculated separately.
- A steering committee was set up to encourage the creation of technology parks.

[1] Institut de la statistique du Québec. (2019). *Provincial Decree of the Population 2020.* Retrieved from https://www.mamh.gouv.qc.ca/organisation-municipale/decret-de-population/
[2] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[3] Based on the area provided on the City's website, excluding the main waterbodies. Quebec City. (2016) *Portrait – Ville de Québec*. Retrieved from https://www.ville.quebec.qc.ca/apropos/portrait/quelques_chiffres/ville/index.aspx
[4] As of December 2019. Institut de la statistique du Québec. (2019). *Labour Market Characteristics, Seasonally Adjusted Data, National Capital.* Retrieved from https://www.stat.gouv.qc.ca/statistiques/profils/profil03/societe/marche_trav/indicat/tra_mens03.htm
[5] Quebec City. *Industrial Parks and Zones*. Retrieved from https://www.ville.quebec.qc.ca/gens_affaires/implantation-projets-immobiliers/projets-industriels/parcs-et-zones-industriels.aspx

- To help grow businesses, the City has created Innovation Zones, such as the D'Estimauville Park (where Medicago was established) and Chauveau Park (where Simons set up its headquarters and logistics center), in partnership with the private developer Dallaire Group.
- Synergy is the cooperation of two or more organizations to produce a combined effect greater than the sum of their separate effects. Such synergy occurs due to a close collaboration of economic development actors (airport, port, City) from various jurisdictions towards common objectives with a timetable. Strong local leadership is paramount in order to prioritize projects and create a shared vision.

1.1.2 Land Use Planning Policy Context

- In the Metropolitan Community Plan, policies are set to hierarchize employment lands. Such an assessment must include the consolidation potential in terms of square meters and public transit.
- A planning rationale must demonstrate the benefits of such development in relation to the regional goals (metropolitan structure, integration with the active and public transport network, impact on the road network of metropolitan interest, creation of a multi-use and high-quality living environment, nuisance management, etc.) to authorize an expansion of the employment lands outside of the predetermined priority growth areas.
- There are five land use designations of industrial uses: hi-tech (I1), craft (I2), general (I3), recycling (I4), extractive (I5).
- As the land use policy framework is different in the province of Quebec, the Zoning Bylaw of Quebec City comprises hundreds of different zones permitting industrial uses with specific provisions applicable to each zone. These provisions are presented in grids of specifications for each zone. Generally speaking, this approach offers the advantage of setting provisions that take into account the specificity of the sector (topography, the proximity of other uses, utilities in place, etc.). On the other hand, the granularity of the provisions makes it challenging for the Development Officers and Building Inspectors to enforce the provisions.
- Considering the labour shortage, the Planning and Economic Development departments develop conditions to attract international talent. Business executives expressed the need to have a high-quality environment, which motivates their employees to innovate. Beyond the functional design, it is paramount to accommodate the workforce, offer a space that inspires creativity, make workers' daily lives more comfortable and simplify their transit. It is crucial to know the workers' routine and daily activities. The City now offers the following proximity services and amenities in the Innovation Zones:

    - Parks, active transportation, public transit, daycares, minimum green space per lot, bike parking regulations.
    - The City is considering the possibility of pushing further the concept of proximity services and integrate places for socialization as well.

- Master plans ensure a design signature in the Innovation Zones.

1.1.3 Economic Development Implementation Approach

- The Service of Economic Development and Major Projects is responsible for overseeing the sale process of municipally-owned vacant industrial lands, which takes from 6 to 9 months. The Service is composed of 3 divisions:
  - Management: Major projects, retail, industrial park development, leasing.
  - Real Estate: Land acquisitions and easements for development purposes or municipal functions.
  - Entrepreneurship and Regional Development: Business support by orienting clients to the adequate resources.
- The Service of Economic Development and Major Projects offers a personalized assistance to industrial developers throughout the permitting and acquisition process.
- A Property Transfer Policy sets the sale price of municipally-owned vacant industrial land and imposes requirements to ensure an increase of the property value, such as:
  - Commencement of the project: within 12 to 24 months
  - Completion of the building: within 18 months
  - Minimum Floor Area Ratio: 15%, but usually 20%
  - Pre-emption right
- The City counts on several external partners for its foreign investment attraction, business incubator and sector-specific events (e.g., LE CAMP, Quebec International).
- To develop promising niches, stakeholder engagement is paramount.
- Collaboration requires a strong political leadership and a robust administrative support.
- The City can create taxation sectors to apply development charges when work is carried out in specific parks.

Port Contribution

The Port of Quebec is an inland port located along the St. Lawrence Seaway. It is the second-largest port in the province of Quebec after the Port of Montreal. It is the last deep-water port with 15 meters at low tide before the Great Lakes. With the Laurentia project, the Port will increase by 610 meters of wharf—16 meters at low tide—and 17.5 hectares.

1.1.4 Sustainable Development Implementation Approach

- Sustainable development best practices inspire development in the hi-tech industrial parks.
- For the public space design, LEED-inspired evaluation criteria, funding offered to cover administrative fees, like the material traceability.
- In the Master plans, landscaped ditches are encouraged.
- Development is performed by considering the hilly topography.

- The advantage of having more owner-occupied buildings than leasing companies creates an environment of high-quality, up to the level of private investments, while ensuring the durability of the reputation of the park.

1.1.5 Trends Analysis toward Best Practice

Land Use Planning

☐ Set a clear definition of industrial lands
☐ Enact municipal policies to protect and preserve industrial lands
☐ Rely on State or provincial-level policy to preserve industrial lands
☐ Rely on federal-level policy to preserve industrial uses
☐ Create a Coastal Flood Resilience Zoning Overlay District with design guidelines
☒ Consolidate Zoning Bylaws after municipal amalgamation
☐ Limit the number of industrial land use designations
☐ Segregate industrial lands from commercial lands
☒ Permit commercial office uses within each industrial park up to a maximum set limit
☐ Perform a comprehensive review approximately every ten years
☐ Allow rezoning when land not suitable for industrial uses is swapped by a more suitable location
☒ Create a hierarchy of parks by sorting the types of companies present on the territory
☐ Provide appropriate signage, travel routes and access to and from industrial developments for trucking
☐ Ensure efficient off-street and on-site loading facilities for industrial development

Economic Development

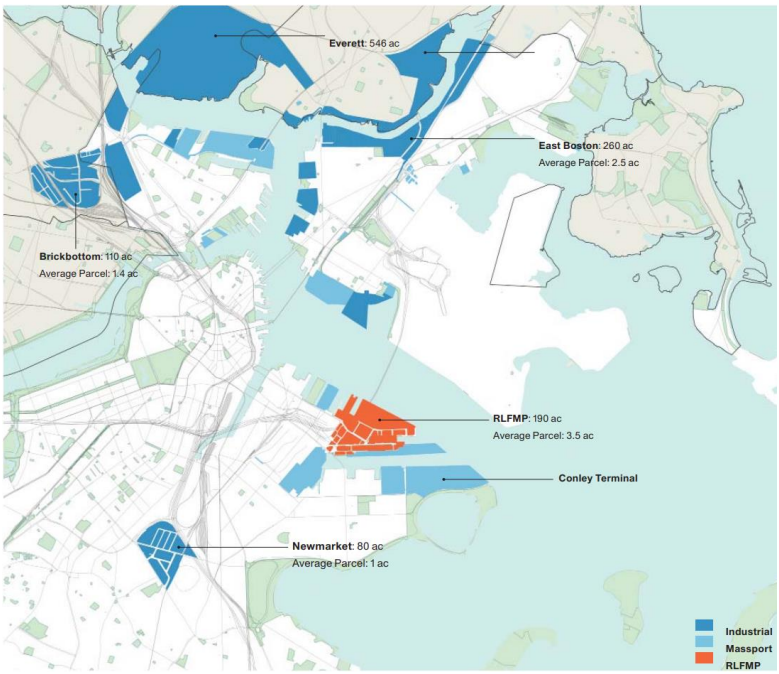
☒ Strategize the impact of strong political leadership
☒ Set winning conditions to obtain a strong administrative collaboration
☒ Encourage a shared vision among the key stakeholders
☒ Engage key stakeholders at an early stage and on a regular basis
☒ Create committees to protect and preserve existing and future industrial lands
☒ Adopt strategies to protect and preserve and grow existing and future industrial lands
☒ Develop signature industrial parks
☒ Build an economic development strategy based on specific sectors to be promoted
☒ Implement a business attraction, expansion and retention strategy
☒ Undertake studies to maintain updated knowledge of the regional industrial context
☒ Monitor the availability of industrial land, both public and private, for the land inventory
☒ Reveal a map with available industrial land
☐ Seek out for industrial parcels suitable for development
☒ Put in place Economic Development Programs to support industrial development
☒ Implement a program supporting developers throughout the permitting process as well as the purchase or leasing of industrial lands
☐ Issue bonds to finance the businesses and institutions' capital needs
☒ Put in place a talent attraction strategy at the international level
☐ Proactively hire for manufacturing trades to provide a sustainable workforce
☒ Ensure servicing to industrial lands

☐ Permit servicing to industrial land outside the servicing boundaries
☒ Create taxation sectors for servicing works in specific areas
☐ Offer a discounted rate on development charges for non-residential development
☒ Put in place mechanisms to ensure industrial property value increase

Sustainable Development

☒ Provide options for transit and adequate level of public transportation
☐ When public transit is a challenge, provide adequate transit options to sectors with the highest-job densities first
☐ When public transit is a challenge, ensure that available residential lands are located within proximity to the industrial lands for people who work in these areas
☒ Favour owner-occupancy that place value in the high-quality design
☒ Encourage high-quality public urban design and landscaping architecture
☒ Create a LEED incentive program
☐ Enact policies to prepare utility infrastructure for the impacts of climate change and increase the uptake of green infrastructure
☐ Demand a Building Energy Reporting for energy and water use of large non-residential buildings

1.1 Boston, Massachusetts



Boston (2017). Map of Boston's Industrial Parks with areas. Retrieved from http://www.bostonplans.org/getattachment/820e6922-af1f-4470-bbbe-99dfa82df97c

Similarities with HRM

- ☐ Population Size
- ☒ Port
- ☒ Airport
- ☒ Railway
- ☒ Other: University

Main Characteristics

City Population:	694,583[1]
Regional Mun. Pop.:	4.8 Million[2]
Population Density:	12,792.7/mile[2] [3]
Unemployment Rate:	9.6%[4]
Land Cost (/sq.ft):	$7.51[5]
Port Docking Capacity:	Deep water

1.1.1 Industrial Employment Inventory Context

- The neighbourhoods with the most industrial lands are: South Boston (Marine Industrial Park); Dorchester; Allston/Brighton, Hype Park, and Charlestown.
- Approximately 5% (68 million square feet or 1,565 acres) is considered industrial land in Boston.
- The Raymond L. Flynn Marine Park is Boston's largest contiguous industrial land. The park contains an active dry-dock with 9,300 linear feet of shoreline. The park is composed of a mix of maritime industrial and related uses including: seafood processing; cruises; ship repair; bulk and break-bulk cargo operations; storage and distribution; and marine infrastructure.
- Breakdown of types of buildings, as of Q2 2019, within the industrial lands is as follows:

[1] United States Census Bureau, Quick Facts – Boston City, Massachusetts, July 1, 2018. Retrieved from: https://www.census.gov/quickfacts/bostoncitymassachusetts
[2] United States Census Bureau, American Fact Finder – Boston, Massachusetts, 2016. Retrieved from: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk
[3] United States Census Bureau, Quick Facts – Boston City, Massachusetts, 2010. Retrieved from: https://www.census.gov/quickfacts/bostoncitymassachusetts
[4] Unemployment in Boston, Boston Redevelopment Authority Research Division, March 2014. Retrieved from: http://www.bostonplans.org/getattachment/390b9ea9-61d7-467b-9a4c-f6e8588aa4b0
[5] Boston. Boston Industrial Commercial Real Estate Q2 2019 Report. Retrieved from https://www.nordlundassociates.com/boston-industrial-real-estate-summary/

    - Warehouse: 43%
    - Flex: 20%
    - Manufacturing: 19%
    - High Bay (24' Clear Heights): 18%
- Sectors within the industrial parks include: container terminal; fish pier; tourism (cruise terminal); light industrial manufacturing; high value manufacturing; petroleum; warehousing; and Gillette Shaving Headquarters is located in Boston and are a water dependent industry in the sense they use a lot of water in their manufacturing.
- Conway is the only container terminal in Boston and allows products/supplies to be placed directly onto trucks and shipped regionally. 90% is shipped within 250 miles of Boston.
- The Fish Pier (fishing) is still a significant player in Boston's economy and has been successful largely due to its proximity to the airport. The major advantage is the ability to have fish products shipped easily.
- South Boston's Seaport is the largest continuing maritime industrial area contained container ships and a cruise ship terminal. Raymond L. Flynn Marine Park is located on the eastern edge of Seaport.
- There are 2 large players in the maritime industrial area:
    - Economic Development and Industrial Cooperation which operate the marine industrial park; and
    - MassPort (Massachusetts Port Authority)
- MassPort operates the container terminal and fish pier while the City operates the marine industrial park.
- Most of the industrial parks within Boston are owned by MassPort and they deal for the majority in leases with the industrial companies located there. MassPort historically do not like to sell their land, instead, they will do 99-year ground leases to ensure they remain in control of their lands.
- Currently, although the numbers are not known, there is not a large surplus of industrial zoned land within the City of Boston. Available land is located in the northern part of the marine industrial park.

1.1.2 Land Use Planning Policy Context

- There are seven (7) classes of industrial districts within the Zoning Code. Districts include: LM (Light Manufacturing); M (Restricted Manufacturing); I (General); MER (Maritime Economy Reserve); W (Waterfront); WM (Waterfront Manufacturing); and WS (Waterfront Service).
- Each of the industrial classes are further subdivided into subdistricts. The subdistricts are identified by a number indicating the maximum allowed floor area ratio and some have a second number indicating the height limit. The industrial subdistricts include: Light Manufacturing (LM-1, LM-2); Restricted Manufacturing (M-1, M-2-55, M-2, M-4, M-8); General Industrial (I-2); Maritime Economy Reserve (MER-2); Waterfront (W-1: Port Norfolk Waterfront Service, W-2: Waterfront Industrial); Waterfront Manufacturing (WM); and Waterfront Service (WS).

- Floor Area Ratio limits and height limits are enforced within proximity to the airport.
- There is pressure in Boston not to convert the industrial lands to commercial parks but to convert them to residential and office uses.
- The Massachusetts Office of Coastal Zone Management (CZM) enforces the industrial zoning and designation; however, this can be overturned. To rezone the industrial lands to a new use can be a lengthily process as stakeholders are involved and want to see the industrial designation preserved.
- The CZM is the lead policy, planning, and technical assistance agency on coastal and ocean issues within the Executive Office of Energy and Environmental Affairs (EEA) and implements the state's coastal program under the federal Coastal Zone Management Act. In 1972, the Congress of the United States recognized that there was an increasing and competing demands upon the coastal lands and waters. Policies were enacted to assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and esthetic values as well as to needs for economic development.
- To promote and protect water-dependent industrial uses, the Commonwealth of Massachusetts has established Designated Port Areas (DPAs), including in Boston. State policy seeks to preserve and enhance the capacity of the DPAs to accommodate water-dependent industrial uses and prevent significant impairment by non-industrial or nonwater-dependent types of development, which have a far greater range of siting options.
- The Downtown Municipal Harbour Plan (MHP) is currently under review. A state-approved MHP establishes a community's objectives, standards, and policies for guiding public and private use of land and water within the jurisdiction of the Public Waterfront.
- The Municipal Harbour Planning Process has several advisory committees for different parts of Boston.

1.1.3 Economic Development Implementation Approach

- Several planning initiatives are in place within Boston to protect and help industrial sectors grow. These initiatives include:
    - Back Streets Program brings a variety of tools and resources to help light industrial and supporting neighbourhood businesses grow and prosper. This initiative created industrial zones, protected Boston's industrial sector and allowed for improvements within the industrial lands to occur (i.e. infrastructure improvements). This allowed rezoning in areas where industrial land was not suitable if an equal amount of land was provided for in a more suitable location;
    - The Back Street initiative program is a model that has been adopted in a variety of other cities since first being introduced to the City of Boston in 2001;

- The Boston Industrial Development Financing Authority (BIDFA) issues bonds that help finance the capital needs of the city's businesses and institutions. This initiative promotes economic growth and employment in the city; and
- The Economic Development and Industrial Corporation (EDIC), created by the State, works to provide industrial parks with energy improvements, upgrades to roads, transportation routes, internet services and signage. Projects must involve industrial and manufacturing uses and are designed to lower the unemployment rate and eliminate substandard, or open areas.

– As of Q2 2019, the vacancy rate within Boston's industrial lands was 7.2%.
– The Municipal Harbour Planning Process, which requires the state's approval, is aimed at preserving the industrial character of the lands that remain industrial and manage the conversion of these properties.
– Tension exists between trying to preserve industrial land and the benefits that can be offered to the maritime economy by converting these lands to residential and office uses. The concern is the disappearance of jobs that will result if this trend continues to occur.

Port Contribution

The Port of Boston is the largest port in Massachusetts as well as one of the principal ports on the East Coast. The Port of Boston is owned by the Government of Massachusetts and operated by the Massachusetts of Port Authority.

As of 2018, approximately 66,000 jobs were related to cargo, cruise, seafood processing, and harbour tours/marina activity.

1.1.4 Sustainable Development Implementation Approach

– In 2019 Boston updated their Climate Action Plan outlining 18 strategies that will increase carbon reductions from buildings and transportation over the next five years. Goals within the updated plan include:
  - Preparing for the impacts of climate change;
  - Becoming a zero-waste community; and
  - Protecting natural resources.
– A strategy noted within the 2019 updated Climate Action Plan is the use of the coastal flood resilience design guidelines to administer a future Coastal Flood Resilience Zoning Overlay District.
– Boston's Planning and Development Agency have enacted the Smart Utilities Policy. The objective of this policy will be to prepare Boston's utility infrastructure for the impacts of climate change and to increase the uptake of green infrastructure, district energy, and other smart technologies in large new developments.
– In 2013 the City enacted the Building Energy Reporting and Disclosure Ordinance (BERDO). This policy requires that all non-residential buildings

greater than 35,000 square feet or any parcel with multiple buildings that sum to 100,000 square feet report their annual energy and water use to the City.

- Transit has historically not been great to Boston's industrial areas as these lands are located along the fringe of the city and the majority of public transportation is located within the city core. Boston's Seaport area is a particular case as, when the new highway interchange was created, a lawsuit was filed to integrate transit improvements into it. As a result, transit improvements were implemented (underground bus transit rapid line) that connects the Seaport area. This line is heavily used and overloaded.
- The City is working on dedicated bus lanes within the downtown and Seaport area to help relieve the overloaded existing public transit options.

1.1.5 Trends Analysis toward Best Practice

Land Use Planning

☐ Set a clear definition of industrial lands
☒ Enact municipal policies to protect and preserve industrial lands
☒ Rely on State or provincial-level policy to preserve industrial lands
☒ Rely on federal-level policy to preserve industrial uses
☒ Create a Coastal Flood Resilience Zoning Overlay District with design guidelines
☐ Consolidate Zoning Bylaws after municipal amalgamation
☒ Limit the number of industrial land use designations
☐ Segregate industrial lands from commercial lands
☐ Permit commercial office uses within each industrial park up to a maximum set limit
☐ Perform a comprehensive review approximately every ten years
☒ Allow rezoning when land not suitable for industrial uses is swapped by a more suitable location
☐ Create a hierarchy of parks by sorting the types of companies present on the territory
☐ Provide appropriate signage, travel routes and access to and from industrial developments for trucking
☐ Ensure efficient off-street and on-site loading facilities for industrial development

Economic Development

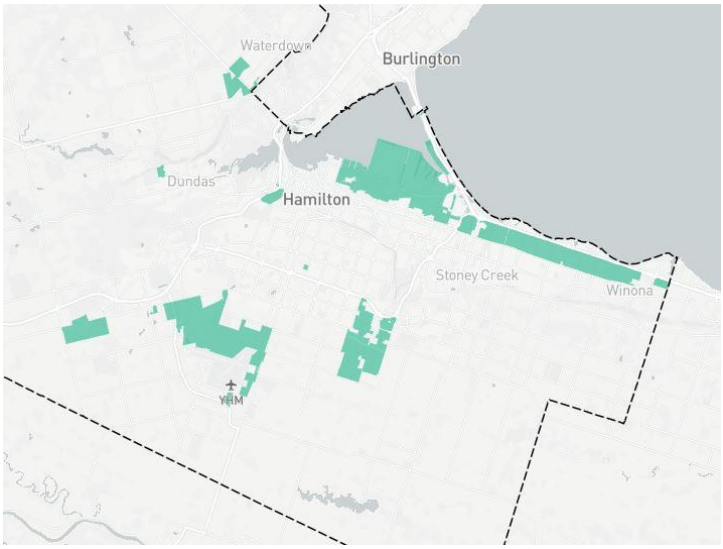
☐ Strategize the impact of strong political leadership
☐ Set winning conditions to obtain a strong administrative collaboration
☐ Encourage a shared vision among the key stakeholders
☐ Engage key stakeholders at an early stage and on a regular basis
☐ Create committees to protect and preserve existing and future industrial lands
☒ Adopt strategies to protect and preserve and grow existing and future industrial lands
☐ Develop signature industrial parks
☐ Build an economic development strategy based on specific sectors to be promoted
☐ Implement a business attraction, expansion and retention strategy
☐ Undertake studies to maintain updated knowledge of the regional industrial context
☐ Monitor the availability of industrial land, both public and private, for the land inventory
☐ Reveal a map with available industrial land

☐ Seek out for industrial parcels suitable for development
☒ Put in place Economic Development Programs to support industrial development
☐ Implement a program supporting developers throughout the permitting process as well as the purchase or leasing of industrial lands
☒ Issue bonds to finance the businesses and institutions' capital needs
☐ Put in place a talent attraction strategy at the international level
☐ Proactively hire for manufacturing trades to provide a sustainable workforce
☐ Ensure servicing to industrial lands
☐ Permit servicing to industrial land outside the servicing boundaries
☐ Create taxation sectors for servicing works in specific areas
☐ Offer a discounted rate on development charges for non-residential development
☐ Put in place mechanisms to ensure industrial property value increase

Sustainable Development

☐ Provide options for transit and adequate level of public transportation
☒ When public transit is a challenge, provide adequate transit options to sectors with the highest-job densities first
☐ When public transit is a challenge, ensure that available residential lands are located within proximity to the industrial lands for people who work in these areas
☐ Favour owner-occupancy that place value in the high-quality design
☐ Encourage high-quality public urban design and landscaping architecture
☐ Create a LEED incentive program
☒ Enact policies to prepare utility infrastructure for the impacts of climate change and increase the uptake of green infrastructure
☒ Demand a Building Energy Reporting for energy and water use of large non-residential buildings

1.1 Hamilton, Ontario



Hamilton, Ontario Industrial Lands Reveal Map. Retrieved from https://investinhamilton.ca/discover-hamilton/location/business-parks/

Similarities with HRM

- ☐ Population Size
- ☒ Port
- ☒ Airport
- ☒ Railway
- ☒ Other: University

Main Characteristics

City Population:	536,917[1]
Regional Mun. Pop.:	747,545[2]
Population Density:	480.6/km^2 [3]
Unemployment Rate:	7.0%[4]
Average Land Cost (/acre):	$550,000 - $600,000[5]
Port Docking Capacity:	Deep water

1.1.1 Industrial Employment Lands Inventory Context

- There are four different groupings for the industrial lands within Hamilton and eight industrial parks and one business park.
- The first two groupings are classified as “Goods Movement” and involve shipping and navigation. The ownership of the lands near the port is the Hamilton-Oshawa Port Authority. These lands are 100% historical and contain a specialized function set apart from the other industrial lands. The second goods movement involve lands surrounding the airport. These lands contain a special designation, “Airport Employment Growth District.”
- Airport Business Park/Airport Employment Growth District is Hamilton’s largest park (555 hectares) and ranked as Canada’s busiest overnight express cargo airport.
- The second two groupings are classified as “Industrial Lands” and relate to the older parts of the former City of Hamilton, including Bayfront, which is a heavy industrial area. Within these groupings are also the newer “Business Parks” not referred to as Industrial Parks and contain higher standards of design.

[1] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[2] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[3] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[4] Based on 2016 Statistics Canada data retrieved from: Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[5] Per conversation with the Manager of Business Investment and Sector Development at the City of Hamilton

- Some of the sectors within the parks include the following: light manufacturing and warehouse centre operations; life sciences; advanced manufacturing, food and beverage productions; commercial warehousing; large-scale steel production; commercial bakery; and international auto manufacturing distribution centres.
- Manufacturing is a key sector for Hamilton, with food and beverage being a more significant sector within the last 4 to 5 years.
- Steel has been the most known sector within Hamilton's industrial lands. Unfortunately, this industry is no longer thriving as it once did.
- Sectors that are seeing a rise within the industrial parks are food and beverage; aerospace, as well as a defence company, are anticipated to be developed within the industrial parks soon.
- Clusters do not exist within the parks in Hamilton. Uses and sectors are spread throughout each park. Food and beverage, for example, can be located within each park but are not clustered together in one area.
- All the industrial lands within the City of Hamilton are privately owned, maintained and developed. The city does have land within the parks, but these are individual pieces of land, and the City is not involved in the development.
- Currently, there is a low number of properties that are vacant and available for purchase within the industrial lands. The City monitors the vacant land and is involved with the construction of land when land is deeded to the City (e.g., roads). However, the majority of the parks are built out.
- The Airport Employment Growth District was indicated as having available land for purchase. However, these lands are unavailable due to servicing issues.
- A Research Park is part of the industrial lands. This park functions differently from the others due to its proximity to McMaster University and the 400-series highway. While commercial and mixed-use development is not permitted within the industrial lands, this park is foreseen as becoming mixed-use.
- Currently, the north end of the city is developing a new 500-acre master plan for a new business park.
- The Port of Hamilton has attracted $350 million investments since 2009.
- The Port of Hamilton contributes $6 million in local property taxes each year making it one of Hamilton's top industrial/commercial taxpayers.
- Hamilton's cargo in connected to $6 billion of economic activity in Ontario.
- Approximately 2,100 people are employed at The Port of Hamilton and approximately 38,000 jobs in Ontario are connected to the cargo that transits through The Port of Hamilton.

1.1.2 Land Use Planning Policy Context

- Hamilton recently consolidated a new Zoning By-law for the entire City to replace the seven former municipalities Zoning By-laws.
- Former municipalities include the following: Town of Ancaster, Town of Dundas, Town of Flamborough, Township of Glanbrook, City of Hamilton and City of Stone Creek.

- There are fourteen (14) industrial zones within the Zoning By-law. Zones include the following: Research and Development (M-1); General Business Park (M-2); Prestige Business Park (M-3); Business Park Support (M-4); General Industrial (M-5); Light Industrial (M-6); Airside Industrial (M-7); Airport Related Business (M-8); Airport Reserve (M-9); Airport Light Industrial (M-10); Airport Prestige Business (M-11); Extractive Industrial (M-12); Shipping and Navigation (Port Lands) (M-13); and Shopping and Navigation (East Port) (M-14).
- M-1 relates to the Research Park near McMaster University and involves different strategies than the other industrial zones.
- M-2, 3 and 5 relate to the industrial land groupings. The uses within these zones are fairly similar, but M-3 is located on the outside of the parks and requires higher design standards. M-6 zone is used as the transition zone between heavy industrial uses and residential uses.
- M-4 is specific to the business support zone. This zone is located in small areas (pockets) where no other commercial use is within proximity.
- M-7 to M-11 relate to development surrounding the airport.
- Many of the parks are isolated, with limited services and amenities offered within proximity. The parks are not mixed-use; they are industrial. One of the parks has developed a more substantial retail function than the City has envisioned. The City believes it is crucial to separate industrial parks from commercial development. Office uses are permitted within each industrial park up to a maximum set limit.
- The City of Hamilton and the Province of Ontario have a clear policy on defining what industrial lands are. Previously, developers tried to convert industrial land to commercial uses, but the City has put a stop to this with the strong support of the Province.
- The City of Hamilton completes its comprehensive review approximately every ten years. At this time, it is determined if it is desirable to convert commercial zones to industrial zones. Such a situation has not occurred to date.
- The City of Hamilton explains its success is partly due to the separation of industrial and commercial lands thanks to a robust provincial directive and the policies within the Growth Plan for the Greater Golden Horseshoe.

1.1.3 Economic Development Implementation Approach

- The City of Hamilton owns properties within the industrial parks, but they are not responsible for maintaining, managing or selling the industrial lands.
- As part of its strategy, City Staff are actively seeking out parcels that would be suitable for industrial development. The City acquires these parcels, ensures they are serviced and then sells them off to private developers to be maintained and managed. The City of Hamilton does not want to be a landlord for industrial uses.
- The current inventory of Hamilton's industrial lands available for development is approximately 400 to 450 acres. The industrial vacancy within Hamilton is 1%, which does not make for a healthy industrial environment. As a result, the City is actively seeking adequate and suitable industrial land opportunities.

- The City's strategy is to attract new talent to their industrial lands but also to provide room for growth and expansion to existing companies and industries.
- Large companies are setting down roots within Hamilton due to the expensive costs of developing in the Greater Toronto Area. This has allowed Hamilton to attract new talent as the area is seen as an attractive alternative to Toronto.
- Hamilton's Economic Development Action Plan outlines a variety of strategies, such as a land acquisition strategy, as well as an approach to provide servicing to existing land outside the servicing boundaries. For example, a trunk sewer is required to be connected near the airport lands and, once this is complete, additional industrial land will become available. The servicing strategy is a strong piece of the Economic Development Action Plan since it ensures that the industrial parks have services provided to them.
- In the *Background Report: Goods Movement Review for the City of Hamilton*, September 2015, one of the recommended policies concerning industrial lands involves improving signage for truck routes to and from industrial areas, the Port and the airport. Also, it is noted the importance of ensuring goods movement is accounted for in the planning and design of new industrial development.
- Policy was implemented that all new industrial development greater than a specific size (450 m^2) have off-street loading facilities to maximize the efficiency of the existing goods movement network.

Port Contribution

The Port of Hamilton links Canada's industrial lands to the St. Lawrence Seaway. The Port of Hamilton is one of the busiest of all the Canadian Great Lakes ports and the largest port in Ontario.

Industrial sectors found at the Port of Hamilton include Steel, Advanced Manufacturing, Argi-Food, Petrochemicals, and Construction Materials.

1.1.4 Sustainable Development Implementation Approach

- LEED incentive program is active within Hamilton and allows developers to offset their development/operation costs.
- The majority of the industrial sites are greenfield sites; therefore, the brownfield program implications (taking existing sites and cleaning them up and providing adequate service) are not necessary.
- The City of Hamilton offers a discounted rate on development charges for non-residential development.
- Transit is considered to be a challenge within Hamilton. Hamilton is an amalgamated city (provincially forced in 2001), and each of the amalgamated municipalities had their own business and industrial parks. The majority of transit options are located within the city's core, therefore not offering transit options to the distant business and industrial parks. It would be costly for the city to expand these services. Conversations are ongoing to determine a strategy on the best way

forward to provide transit options. This challenge is one of the reasons for the labour shortage in Hamilton.

1.1.5 Trends Analysis toward Best Practice

Land Use Planning

- ☒ Set a clear definition of industrial lands
- ☒ Enact municipal policies to protect and preserve industrial lands
- ☒ Rely on State or provincial-level policy to preserve industrial lands
- ☐ Rely on federal-level policy to preserve industrial uses
- ☐ Create a Coastal Flood Resilience Zoning Overlay District with design guidelines
- ☒ Consolidate Zoning Bylaws after municipal amalgamation
- ☒ Limit the number of industrial land use designations
- ☒ Segregate industrial lands from commercial lands
- ☒ Permit commercial office uses within each industrial park up to a maximum set limit
- ☒ Perform a comprehensive review approximately every ten years
- ☐ Allow rezoning when land not suitable for industrial uses is swapped by a more suitable location
- ☐ Create a hierarchy of parks by sorting the types of companies present on the territory
- ☒ Provide appropriate signage, travel routes and access to and from industrial developments for trucking
- ☒ Ensure efficient off-street and on-site loading facilities for industrial development

Economic Development

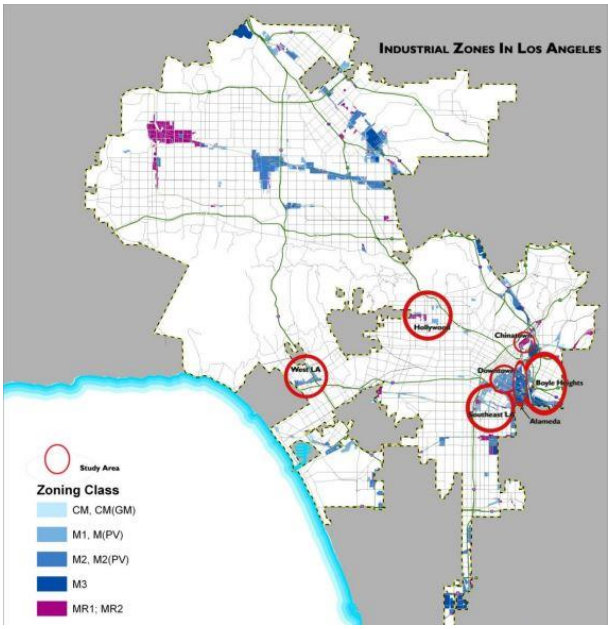
- ☐ Strategize the impact of strong political leadership
- ☐ Set winning conditions to obtain a strong administrative collaboration
- ☐ Encourage a shared vision among the key stakeholders
- ☐ Engage key stakeholders at an early stage and on a regular basis
- ☐ Create committees to protect and preserve existing and future industrial lands
- ☐ Adopt strategies to protect and preserve and grow existing and future industrial lands
- ☐ Develop signature industrial parks
- ☐ Build an economic development strategy based on specific sectors to be promoted
- ☒ Implement a business attraction, expansion and retention strategy
- ☐ Undertake studies to maintain updated knowledge of the regional industrial context
- ☒ Monitor the availability of industrial land, both public and private, for the land inventory
- ☐ Reveal a map with available industrial land
- ☒ Seek out for industrial parcels suitable for development
- ☐ Put in place Economic Development Programs to support industrial development
- ☐ Implement a program supporting developers throughout the permitting process as well as the purchase or leasing of industrial lands
- ☐ Issue bonds to finance the businesses and institutions' capital needs
- ☐ Put in place a talent attraction strategy at the international level
- ☐ Proactively hire for manufacturing trades to provide a sustainable workforce
- ☒ Ensure servicing to industrial lands
- ☒ Permit servicing to industrial land outside the servicing boundaries

☐ Create taxation sectors for servicing works in specific areas
☒ Offer a discounted rate on development charges for non-residential development
☐ Put in place mechanisms to ensure industrial property value increase

Sustainable Development

☒ Provide options for transit and adequate level of public transportation
☐ When public transit is a challenge, provide adequate transit options to sectors with the highest-job densities first
☐ When public transit is a challenge, ensure that available residential lands are located within proximity to the industrial lands for people who work in these areas
☐ Favour owner-occupancy that place value in the high-quality design
☐ Encourage high-quality public urban design and landscaping architecture
☒ Create a LEED incentive program
☐ Enact policies to prepare utility infrastructure for the impacts of climate change and increase the uptake of green infrastructure
☐ Demand a Building Energy Reporting for energy and water use of large non-residential buildings

1.1 Los Angeles, California



Los Angeles. (2007). Industrial Zones. Retrieved from https://planning.lacity.org/odocument/f6a208f7-e0d3-4896-a6dc-8cec5fa97d86/attachment_b.pdf

Similarities with HRM

- ☐ Population Size
- ☒ Port
- ☒ Airport
- ☒ Railway
- ☒ Other: University

Main Characteristics

City Population:	3,990,456[1]
Regional Mun. Pop.:	13.1 Million[2]
Population Density:	8,092.3/m²[3]
Unemployment Rate:	4.0%[4]
Average Land Cost (/sq.ft):	$157[5]
Port Docking Capacity:	Deep water

1.1.1 Industrial Employment Lands Inventory Context

- Industrial Parks within Los Angeles include the following: Hathaway Industrial Park; La Mirada Commerce Center; Signal Hill; and Cerritos Industrial Park.
- Business Parks within Los Angeles include Culver City Business Park; Carson; Torrance; Ventura Blvd; Monterey Park; and Cerritos Office Park.
- The City of Los Angeles converted most of its industrial lands to commercial or residential development following the downturn of the economy. Since this occurred, there has been a limited supply of available industrial land within the City of Los Angeles.
- As a result, adjacent cities have been pro-active to preserve existing industrial land or create new areas for industrial uses that can service the regional market, including Los Angeles.

[1] United States Census Bureau, Quick Facts – Los Angeles City, California, July 1, 2018. Retrieved from: https://www.census.gov/quickfacts/fact/table/losangelescitycalifornia/POP060210
[2] United States Census Bureau, American Fact Finder – Los Angeles, Califorina, 2015. Retrieved from: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk
[3] United States Census Bureau, Quick Facts – Los Angeles City, California, July 1, 2018. Retrieved from: https://www.census.gov/quickfacts/fact/table/losangelescitycalifornia/POP060210
[4] As of December 2019. Economic Research, Unemployment Rate in Los Angeles Country, CA. Retrieved from https://fred.stlouisfed.org/series/CALOSA7URN
[5] Los Angeles. Industrial Properties soar to new highs amid tight inventory: report, May 10, 2018. Retrieved from https://therealdeal.com/la/2018/05/10/industrial-properties-soar-to-new-highs-amid-tight-inventory-report/

- Sectors located within the industrial lands of Los Angeles include manufacturing, aerospace, transportation, textile, warehouse and distribution.
- Clusters can be found within the existing industrial lands. Manufacturing is considered the largest cluster along with aerospace, textiles and the port (shipping).
- A trend of newer industrial sectors is being seen that build off existing sectors. Examples of these trends include sectors of electronics and industrial automotive. These trends are considered specializations and have a higher land value within the existing industrial lands.
- Private developers own the majority of industrial lands within Los Angeles except for the port infrastructure. There is privately owned land surrounding the port; for example, the railways are privately owned.
- The City of Los Angeles owns pockets of land throughout the industrial areas. Namely, there are publicly owned lands that contribute to industrial uses, such as training centres. The City, however, does not own large scale industrial land.
- There are committees and strategies in place to assist with the industrial lands with varying levels of success. Unfortunately, there is no success to date in creating strategies in continuing to grow the inventory of available industrial lands. Currently, these strategies in place are focusing on preserving and retaining the existing and future industrial areas. One of the main goals of the City is to prevent the continuing conversion of industrial lands in commercial development.
- The City of Los Angeles, with the County, is looking at formally owned public land in the desert outside of the city, to create a transportation and industrial park.

1.1.2 Land Use Planning Policy Context

- There are five industrial zones within the Zoning Code. Zones include the following: MR1 Restricted Industrial Zone; M1 Limited Industrial Zone; MR2 Restricted Light Industrial Zone; MR2 Light Industrial Zone; and M3 Heavy Industrial Zone.
- The industrial zones are among the least restrictive zones within the Los Angeles Zoning Code.
- The Zoning Code has not been updated since approximately 1946; however, the City is currently in the process of recoding the entire city of Los Angeles. The review is necessary because a series of spot rezonings have made the code inconsistent with the neighbourhood plan.
- Industrial land inventory is challenging in Los Angeles since up-to-date information is lacking.
- The employment per square foot is low, along with the high overhead cost in Los Angeles, which contributes to the industrial lands going down and converting to commercial.
- A challenge that the City of Los Angeles is currently facing is that policy in relation to the industrial lands requires attention at the state level. There are things that the City would like to do, but the existing policy holds their hands. State-level policy needs to be more pro-active, which will allow cities to implement a stronger policy to preserve and protect their industrial lands. Currently, the City of Los Angeles can only use the existing policy to create opportunities with the industrial sectors.

- The City finds it successful in ensuring that available residential lands are located within proximity to the industrial lands for people who work in these sectors. As transit can be a concern to the industrial areas, they find it helpful to have residential areas that allow people to commute to work more efficiently.
- The Concierge Service Program was put into place a number of years ago, led by the Mayor's office. A coalition of the industrial agencies involved in industrial projects was created to provide support to the industrial developers in Los Angeles. This program allows developers access to a team that can help provide information on inventory or needs within the industrial lands.
- Concierge Service Program has been a success story in Los Angeles. Developers heavily use this program as it provides them with a contact person who can support them throughout the process by providing information on the permitting process as well as the purchase or leasing of industrial lands.
- The California Coastal Commission is the lead policy, planning, and technical assistance agency on coastal and ocean issues within the Executive Office of Energy and Environmental Affairs (EEA) and implements the state's coastal program under the federal Coastal Zone Management Act. In 1972, the Congress of the United States recognized that there was an increasing and competing demands upon the coastal lands and waters. Policies were enacted to assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic, and esthetic values as well as to needs for economic development. The Coastal Act includes specific policies that address concerns relating to the shoreline, marine habitat protection as well as industrial uses. These policies are statutory standards applied to the planning and regulatory decisions made by the Commission and by local governments.
- The Commission reviews port master plan and amendments for a variety of industrial ports in the State of California, including Los Angeles. Approval from the Commission is necessary to allow for port expansions within the industrial lands. Several programs are in place to protect the coast from development, for example, oil spill prevention.
- Chapter 7 of the California Coastal Commission relates to industrial development along the coast. Coastal-dependent industrial facilities are encouraged though the act pursuant to the policies and provisions outlined.

1.1.3 Economic Development Implementation Approach

- Los Angeles has found that the majority of the industrial sectors are home to smaller businesses. Los Angeles needs to link these smaller businesses to the industrial policies that are currently in place and ones that need to be implemented.
- Los Angeles needs to review its economic policies and carve out industrial policies. However, it was noted that the City of Los Angeles is sensitive to changes surrounding its economic policies.

- The City has an uncommitted ("hands-off") government policy when it comes to managing the industrial lands. The City only gets involved when they own the land and through the permitting process.
- This approach does not mean there are not publicly owned land within the industrial parks, such as airport lands and LA metro lands. These lands, however, have a specific use and are not necessarily related to industrial uses.
- Currently, there is a limited supply of available industrial land within the parks. Pockets of 5,000 to 10,000 sq. ft. exist; however, beyond those sizes, the availability decreases.
- Transportation, logistics, warehousing and distribution space account for the majority of the square footage within the parks.
- The City learned the need to hire for manufacturing trades. The challenge with the expansions of this industry has been finding the right people for employment. A workforce strategy is required to ensure that as workers retire, new staff is available. Los Angeles has noted that a sustainable workforce is required for the industrial lands.

Port Contribution

The Port of Los Angeles comprises 15 marinas with approximately 3,700 recreational vessel slips and dry docks with industrial land located within the area to support the port business. The Port of Los Angeles is one of the world's busiest seaports in North America, and the number one ranked port in the United States. The Port of Los Angeles is governed by the Los Angeles Board of Harbour Commissioners.

Together with the Port of Long Beach, both ports comprise the San Pedro Bay Port Complex. The San Pedro Bay Port Complex, as of 2018, provides approximately 190,000 jobs to the residents of Los Angeles.

1.1.4 Sustainable Development Implementation Approach

- The City of Los Angeles has invested and partnered with Clean Energy Smart Manufacturing Innovation Institution, LA CleanTech Incubator, and the Port Greening Initiative to mandate policy and practices for green development.
- A new policy mandate is currently underway that will introduce all-electric buses to their public transportation fleet.
- Transit in the past has not been seen as a priority in Los Angeles. One of the most significant complaints from citizens and workers is the lack of transit options that currently exist, providing a challenge for many to commute to work.
- Incentives programs have been introduced regarding energy and water as well as rebates are offered for businesses and industries for solar installation or by reducing the building's footprint.

1.1.5 Trends Analysis toward Best Practice

Land Use Planning

- ☐ Set a clear definition of industrial lands
- ☒ Enact municipal policies to protect and preserve industrial lands
- ☒ Rely on State or provincial-level policy to preserve industrial lands
- ☒ Rely on federal-level policy to preserve industrial uses
- ☐ Create a Coastal Flood Resilience Zoning Overlay District with design guidelines
- ☐ Consolidate Zoning Bylaws after municipal amalgamation
- ☐ Limit the number of industrial land use designations
- ☐ Segregate industrial lands from commercial lands
- ☐ Permit commercial office uses within each industrial park up to a maximum set limit
- ☐ Perform a comprehensive review approximately every ten years
- ☐ Allow rezoning when land not suitable for industrial uses is swapped by a more suitable location
- ☐ Create a hierarchy of parks by sorting the types of companies present on the territory
- ☐ Provide appropriate signage, travel routes and access to and from industrial developments for trucking
- ☐ Ensure efficient off-street and on-site loading facilities for industrial development

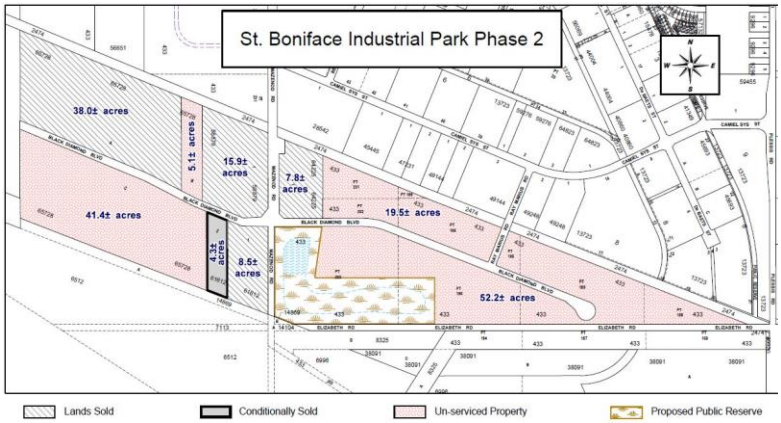
Economic Development

- ☐ Strategize the impact of strong political leadership
- ☐ Set winning conditions to obtain a strong administrative collaboration
- ☐ Encourage a shared vision among the key stakeholders
- ☐ Engage key stakeholders at an early stage and on a regular basis
- ☒ Create committees to protect and preserve existing and future industrial lands
- ☒ Adopt strategies to protect and preserve and grow existing and future industrial lands
- ☐ Develop signature industrial parks
- ☐ Build an economic development strategy based on specific sectors to be promoted
- ☐ Implement a business attraction, expansion and retention strategy
- ☐ Undertake studies to maintain updated knowledge of the regional industrial context
- ☒ Monitor the availability of industrial land, both public and private, for the land inventory
- ☐ Reveal a map with available industrial land
- ☐ Seek out for industrial parcels suitable for development
- ☒ Put in place Economic Development Programs to support industrial development
- ☒ Implement a program supporting developers throughout the permitting process as well as the purchase or leasing of industrial lands
- ☐ Issue bonds to finance the businesses and institutions' capital needs
- ☐ Put in place a talent attraction strategy at the international level
- ☒ Proactively hire for manufacturing trades to provide a sustainable workforce
- ☐ Ensure servicing to industrial lands
- ☐ Permit servicing to industrial land outside the servicing boundaries
- ☐ Create taxation sectors for servicing works in specific areas
- ☐ Offer a discounted rate on development charges for non-residential development
- ☐ Put in place mechanisms to ensure industrial property value increase

Sustainable Development

- ☐ Provide options for transit and adequate level of public transportation
- ☐ When public transit is a challenge, provide adequate transit options to sectors with the highest-job densities first
- ☒ When public transit is a challenge, ensure that available residential lands are located within proximity to the industrial lands for people who work in these areas
- ☐ Favour owner-occupancy that place value in the high-quality design
- ☐ Encourage high-quality public urban design and landscaping architecture
- ☐ Create a LEED incentive program
- ☐ Enact policies to prepare utility infrastructure for the impacts of climate change and increase the uptake of green infrastructure
- ☐ Demand a Building Energy Reporting for energy and water use of large non-residential buildings

1.1 Winnipeg, Manitoba



St. Boniface Industrial Park Phase Two, Winnipeg – Available Land. Retrieved from: https://www.winnipeg.ca/ppd/CityProperty/ForSale/StBonifaceIndustrialPark.stm

Similarities with HRM

- ☐ Population Size
- ☐ Port
- ☒ Airport
- ☒ Railway
- ☒ Other: University

Main Characteristics

City Population:	705,244[1]
Regional Mun. Pop.:	778,489[2]
Population Density:	1,518/km2 [3]
Unemployment Rate:	6.5%[4]
Land Cost (/acre):	$250,000[5]
Port Docking Capacity:	N/A

1.1.1 Industrial Employment Lands Inventory Context

- The majority of the industrial lands in Winnipeg are private, except for St. Boniface Industrial Park (total area of approximately 700 acres). The City's Real Estate Department develops and manages any publicly owned industrial lands.
- St. Boniface Industrial Park was developed in two phases. Phase One is sold out. Unserviced lots are available for purchase within Phase Two. The current zoning of this park is M-2 (Manufacturing General) under Phase One and M-3 (Manufacturing Heavy) under Phase Two. The selling price per acre of Phase Two is $250,000.
- Murray Industrial Park and Inkster Industrial Park are examples of privately-owned industrial lands. Both parks are fully developed. There currently is a shortage of large, serviced industrial lands for sale.
- There are different clusters of employment lands located throughout the City of Winnipeg. Not all of these areas would have been developed initially as industrial parks but do include industrial zoned land and uses.
- Winnipeg's economy is quite diverse. Economic Development Winnipeg focuses its work on ten key industries . These industries include the following: Advanced Manufacturing; Aerospace; Agribusiness; Information and Communications

[1] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[2] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[3] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[4] Statistics Canada. 2017. *Focus on Geography Series, 2016 Census*. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census.
[5] City of Winnipeg – St. Boniface Industrial Park, Phase 2. Retrieved from: https://www.winnipeg.ca/ppd/CityProperty/ForSale/StBonifaceIndustrialPark.stm

Technologies; Creative Industries; Energy and Environment; Financial Services; Life Sciences; Tourism and Transportation and Distribution.

- Clusters can be found around the airport, namely aerospace industries. Food processing industry clusters are located in the East and South-East portions of the City. Transportation and logistic clusters are in the North-West section of the city.
- In addition to the industrial lands located within the City, CentrePort Canada, which is located 1/3 within the City of Winnipeg, offers land available for industrial development including BrookPort Business Park and Sherwin Park – Industrial Condos.
- The City of Winnipeg is currently struggling to make their industrial lands competitive compared to surrounding cities and rural areas. One of the reasons is that there are higher standards for industrial lands located within the City's limits. For example, for roads, curb and gutter are required. In surrounding cities and rural areas, curbing is not required, and ditches are permitted.
- One of the recommendations within the Employment and Commercial Lands Strategy is to investigate this topic further and determine solutions for the industrial lands. One potential solution discussed is to provide servicing to new industrial lands.

1.1.2 Land Use Planning Policy Context

- There are four (4) manufacturing zones within the Zoning By-law. Zones include the following: Manufacturing Mixed-Use; Manufacturing Light; Manufacturing General and Manufacturing Heavy.
- The Manufacturing Mixed-Use Zone is intended more for Business Parks.
- The City of Winnipeg is currently facing a similar concern as Halifax, where large-format retail commercial demands are encroaching into industrial lands.
- Permitted as-of-right within the Manufacturing Light zone are retail stores up to a maximum floor area of 40,000 sq. ft.
- The zoning by-law is far too permissive of commercial uses within the industrial lands.
- Polo Park, for example, was intended as industrial land but has become one of the City's largest retail development, including a mall and big-box retail uses.
- It has been indicated that while Winnipeg does not currently have substantive policies in place to protect and preserve their industrial lands, they are in the process of preparing a new development plan to alter existing policies. The intent is for the higher, overarching plans to have substantial policies in place to preserve and protect the industrial lands that can be implanted in the future into the City's zoning by-law.

1.1.3 Economic Development Implementation Approach

- Currently, no initiatives are put in place to promote the sale of industrial lands. This is taken on a case-by-case situation, and the City has no control over the sale of the privately-owned industrial lands.

- Some clusters of industrial sectors are more desirable than others. On the opposite, older industrial lands are considered less desirable due to the older style of buildings. These are the areas where vacant is available. New industrial parks have a shortage of available land due to the modernized built-form designs and improvements/upgrades to the road systems and transit options.
- The privately-owned industrial landowners are, on occasion, brought in during the negotiations of implementing an industry. These situations occur when City-owned land is insufficient, and potential land is found within one of the privately-owned parks. Economic Winnipeg plays a role in helping industries find adequate sites.

Port Contribution

CentrePort Canada is Canada's first and largest tri-modal transportation (railway, trucking and air cargo) inland port and Foreign Trade Zone with access to national and international rail, truck, and air cargo operations.

Sectors found within CentrePort Canada include advanced manufacturing, agribusiness, energy & mines, and transportation & logistics. One-third of CentrePort is within Winnipeg's limits.

1.1.4 Sustainable Development Implementation Approach

- The City of Winnipeg's new Development Plan is currently being prepared and intends to have a focus on their industrial lands.
- This new plan intends to review the areas that contain the highest-job densities and focuses on providing sustainable transportation and adequate transit options to these areas. These areas are more than likely to be the office development sectors.
- It is also intended to create a policy to locate office uses with greater than 2,000 sq. m. of floor area within proximity to a primary transit network station.
- Also, policies will be put into place to protect industrial land uses by limiting the permitted commercial and office uses. Namely, stand-alone office buildings will be limited to 2,000 sq. m. in industrial zones unless it is demonstrated that the use is tied to a land-intensive industrial function; then, up to 5,000 sq. m. of office space will be permitted.
- The City of Winnipeg intends to integrate the sustainable development recommendations of the Employment and Commercial Lands Study in the new Development Plan.
    - The Employment Lands development should encourage eco-industrial development approaches, including:
        - Support innovative and sustainable buildings that incorporate green building design standards such as LEED and include sustainable building features such as green roofs and solar panels;
        - Support the development of an eco-industrial/business park;
        - Encourage the redevelopment of brownfield sites that rehabilitate contaminated sites;

- Promote industrial development opportunities that generate high industrial employment densities (e.g. manufacturing); and
- Promote reduced impervious surfaces that lead to improved water quality.

- Land use planning should be coordinated with municipal financial and capital planning in order to provide an integrated decision framework for development and spending priorities within the planning area.
- All modes of transportation, particularly more active and environmentally sustainable forms such as walking, cycling and public transit, are to be facilitated.

1.1.5 Trends Analysis toward Best Practice

Land Use Planning

☐ Set a clear definition of industrial lands
☒ Enact municipal policies to protect and preserve industrial lands
☐ Rely on State or provincial-level policy to preserve industrial lands
☒ Rely on federal-level policy to preserve industrial uses
☐ Create a Coastal Flood Resilience Zoning Overlay District with design guidelines
☐ Consolidate Zoning Bylaws after municipal amalgamation
☒ Limit the number of industrial land use designations
☐ Segregate industrial lands from commercial lands
☒ Permit commercial office uses within each industrial park up to a maximum set limit
☐ Perform a comprehensive review approximately every ten years
☐ Allow rezoning when land not suitable for industrial uses is swapped by a more suitable location
☐ Create a hierarchy of parks by sorting the types of companies present on the territory
☐ Provide appropriate signage, travel routes and access to and from industrial developments for trucking
☐ Ensure efficient off-street and on-site loading facilities for industrial development

Economic Development

☐ Strategize the impact of strong political leadership
☐ Set winning conditions to obtain a strong administrative collaboration
☐ Encourage a shared vision among the key stakeholders
☐ Engage key stakeholders at an early stage and on a regular basis
☐ Create committees to protect and preserve existing and future industrial lands
☐ Adopt strategies to protect and preserve and grow existing and future industrial lands
☐ Develop signature industrial parks
☐ Build an economic development strategy based on specific sectors to be promoted
☐ Implement a business attraction, expansion and retention strategy
☒ Undertake studies to maintain updated knowledge of the regional industrial context
☐ Monitor the availability of industrial land, both public and private, for the land inventory
☐ Reveal a map with available industrial land
☐ Seek out for industrial parcels suitable for development

☐ Put in place Economic Development Programs to support industrial development
☐ Implement a program supporting developers throughout the permitting process as well as the purchase or leasing of industrial lands
☐ Issue bonds to finance the businesses and institutions' capital needs
☐ Put in place a talent attraction strategy at the international level
☐ Proactively hire for manufacturing trades to provide a sustainable workforce
☐ Ensure servicing to industrial lands
☐ Permit servicing to industrial land outside the servicing boundaries
☐ Create taxation sectors for servicing works in specific areas
☐ Offer a discounted rate on development charges for non-residential development
☐ Put in place mechanisms to ensure industrial property value increase

Sustainable Development

☐ Provide options for transit and adequate level of public transportation
☒ When public transit is a challenge, provide adequate transit options to sectors with the highest-job densities first
☐ When public transit is a challenge, ensure that available residential lands are located within proximity to the industrial lands for people who work in these areas
☐ Favour owner-occupancy that place value in the high-quality design
☐ Encourage high-quality public urban design and landscaping architecture
☐ Create a LEED incentive program
☐ Enact policies to prepare utility infrastructure for the impacts of climate change and increase the uptake of green infrastructure
☐ Demand a Building Energy Reporting for energy and water use of large non-residential buildings