POWELL STREET / PORT LANDS
AND
POWELL STREET / CLARK DRIVE
INDUSTRIAL AREAS STUDY

PREPARED FOR:

CITY OF VANCOUVER

MARCH 2007

FINAL REPORT

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EXECUTIVE SUMMARY

Study Purpose & Approach

The Powell Street/Port lands and Powell Street/Clark Drive (Powell-Clark) industrial areas are recognized as significant industrial land assets within the City of Vancouver. This purpose of the study is to examine the economic roles of these two industrial areas and to provide strategic direction to enhance these roles in order to meet the objectives of the Vancouver Agreement DTES Economic Revitalization Plan.

More specifically, the study seeks to secure and strengthen the long-term economic vitality for industrial activities in the Powell-Clark industrial areas, capitalize on the areas' strategic location in achieving economic and environmental sustainability, maintain and enhance Port of Vancouver operations, and increase employment opportunities for local residents, including those who are socio-economically disadvantaged.

The conclusions and strategic directions proposed are based on a multi-faceted study that included:

- A comprehensive review of the existing conditions within the study area including an analysis of current and anticipated future market trends, a review of existing relevant policies, an assessment of the past and present roles played by these areas within the local economy, and an assessment of economic and geographic linkages between these areas;
- Discussions with study area businesses, Port businesses, and businesses outside the study area;
- An analysis to assess the study area's strengths, weaknesses, opportunities, and threats (SWOT);
- An investigation of global and regional trends affecting industrial areas and activities and port operations;
- Best-practices research compiled from industrial strategies and policies employed in major North American port cities (i.e. Baltimore, Boston, Chicago, San Francisco, and Wilmington (Los Angeles)) and key international port cities (Rotterdam and Barcelona); and
- Discussions with City of Vancouver staff involved in the Metro Core Jobs and Economy Study and the False Creek Flats Program, and local economic development organizations including the Strathcona BIA, Building Opportunities with Business, and Vancouver Economic Development.

Findings

Area Conditions

The Powell-Clark industrial areas, located east of downtown Vancouver, currently play an important role in Vancouver's economy and have many advantages. Generally, these areas enjoy a high level of industrial activity (as evidenced by low vacancy rates) and provide less expensive industrial floor space (due to age, size and configuration) adjacent to the downtown core. Despite relatively high square-foot lease rates, small unit sizes enable competitive lease prices and a strong demand for space. These factors contribute to an environment which acts as an incubator for new businesses.

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Although fragmentation of land and floor space in the area contributes business inefficiencies, it has the corresponding effect of accommodating a higher number of businesses thereby generating employment densities (estimated to be 90 jobs per net acre) which are roughly double those found in newer, suburban industrial areas.

The Powell-Clark industrial areas are also strategically located in close proximity to downtown Vancouver, the Port of Vancouver, major rail and road transportation corridors leading to regional, national, and international markets, and a large labour force. Discussions with area businesses and Port businesses confirm that business linkages exist between the Powell-Clark industrial areas and Port businesses. Given growing Asia-Pacific trade activity and forecasted growth in shipping volumes through the Port of Vancouver, there may be an opportunity to strengthen these linkages through future area redevelopment.

The Powell-Clark industrial areas face many redevelopment challenges including a lack of vacant land available to accommodate building expansion, older building stock, fragmented development upon small lots, soil contamination, aging public infrastructure, a lack of capital investment in infrastructure, traffic congestion, conflicts between incompatible land uses, high square-foot lease rates, negative public perceptions regarding safety and security, competition for skilled labour, and the lack of a vital public realm.

Conditions within the Powell-Clark industrial areas are the result of complex economic and social forces. It is remarkable that these areas function relatively well from an economic perspective in supporting established businesses and providing incubator opportunities for new businesses. However, it is felt that the areas' poor physical condition and public safety perceptions are hindering redevelopment and reinvestment. Strategic policy, program and regulatory measures in addition to public infrastructure upgrades are needed to ensure that the areas can improve and function well for the long term.

Global & Regional Trends

The form, location, and function of modern industries have been impacted by changes in global production and distribution networks and technological advancements. Traditional manufacturing centres within North America and Europe began to erode during the latter half of the 20th century with manufacturing industries relocating to lower cost suburban areas and developing nations. This redistribution of manufacturing industries from Europe and North America to Asia has had a tremendous impact on increasing global trade and correspondingly, transportation and warehousing methods.

Containerization of commodities has increased shipping volumes through global seaports. This trend is very apparent at the Port of Vancouver, which has experienced a steady increase in container traffic over the past decade and where container volumes are projected to increase from 1.77 million TEUs in 2005 to at least 4.6 million TEUs by 2020. This corresponds to increased truck and rail traffic, increased reliance on regional transportation infrastructure, and increased demand for warehousing and distribution facilities that have strong connections to road and rail infrastructure.

The importance of being close to the Port of Vancouver for warehousing and distribution has diminished as regional transportation networks and "just in time" delivery systems have allowed businesses to locate elsewhere in the region while still maintaining relatively strong connections to the Port. Businesses have been attracted to suburban areas as they generally offer lower cost, vacant land capable of accommodating modern, single-storey industrial facilities with higher ceilings which

accommodate rapid production, distribution and vertical stocking. Suburban locations may also provide greater access to multiple points throughout the region and thereby, the opportunity to serve a broader clientele. These advantages are offset by negative impacts on travel time and lower employment density (employees/square foot) than is offered by metropolitan core industrial areas such as the Powell-Clark industrial areas.

The displacement of industrial activities from Vancouver's core and older industrial areas in the greater Vancouver area to suburban areas has also been a result of municipal land use policies and urban growth pressures which have accommodated the conversion of industrial land to residential and commercial uses. Industrial uses tend to be incompatible with residential and commercial uses and are typically incapable of competing with these uses given higher corresponding land costs.

Similar to other cities, Vancouver has allowed the conversion of industrial land (i.e. Expo Lands, Yaletown, Coal Harbour, East Fraserlands, and Southeast False Creek) to accommodate residential and commercial developments. The result has been a decline in the city's industrial land supply and low industrial vacancy rates, which have hindered potential new industrial development within the city.

In contrast to the manufacturing and heavy industry sectors, the service and technology sectors have become a significant component of the European and the North American markets, specifically in cities such as New York, Chicago, Boston, San Francisco, and Barcelona. These sectors are typically more compatible with residential and commercial uses than heavy industry. As a result, industrial areas in urban core areas are accommodating greater numbers of service and technology type industries.

Case Studies Findings

Case study research involved the examination of industrial land policies and employment strategies implemented in Baltimore, Boston, Chicago, San Francisco, Wilmington (Los Angeles), Rotterdam, and Barcelona. These cities were selected as case studies because they are major port cities in developed nations, influenced by similar market conditions and global trends that have influenced industrial land use in Vancouver; and they have implemented strategies aimed at enhancing the economic and social conditions of their inner city industrial areas.

The case study cities have experienced varying levels of success in implementing strategies to preserve inner city industrial lands for business and employment. With few exceptions, heavy industry has left inner city industrial areas. Although tax incentives and policies have slowed the exodus of heavy industry and manufacturing, as seen in Chicago and Baltimore, they have not been able to stop traditional industries from moving away from inner city areas.

Industrial firms that generally survive in inner city industrial areas are the light industrial production, distribution, and repair (PDR) type industries. PDR businesses generally require close proximity to their primary customer base, tend to be located in major commercial centres, and are usually compatible with commercial and residential uses. As is recognized in Baltimore, PDR type businesses can also serve as buffers between heavy industrial uses and less intensive commercial and residential uses in order to minimize the potential for land use conflicts due to adjacency issues.

San Francisco and Boston have had the most successful industrial strategies focussing upon small and medium PDR industries that can operate within close proximity of residential and/or commercial uses. Through the creation of Boston's Back Streets Program and through San Francisco's successful delineation of former industrial land

between PDR zones, PDR-residential zones, and a housing/mixed-use zone, these cities have created a framework that supports PDR businesses and the preservation of business and employment space for city residents. This has occurred without the heavy tax subsidies and other expensive policies that have been largely unsuccessful in Wilmington, Baltimore and Chicago.

Scenario Development

Four future development scenarios were developed for the Powell-Clark industrial areas based on information gathered through discussions with area businesses, the SWOT analyses, an understanding of trends affecting industrial land use, and case study reviews. The different scenarios identify various development options and evaluate each option's ability to encourage reinvestment, maintain or increase employment densities, and to help improve the overall viability of these industrial areas. The following provides a conceptual overview of each option and explores potential benefits and challenges related to implementation and/or longer-term outcomes.

Scenario 1 – Maintain Existing Regulations and Introduce Long-term Revitalization Strategies

This scenario maintains existing policies and development regulations for the Powell-Clark industrial areas. In the short term, business activities would likely continue within the existing building stock, and continue to favour smaller firms in a wide array of business sectors.

However, this scenario is not akin to "doing nothing". If nothing is done in these areas, the rather unfavourable conditions for development in the area can be expected to continue. Long term-revitalization strategies will be required to enhance the viability of the Powell-Clark industrial areas such as infrastructure and public realm and infrastructure improvements, site clean-up assistance, and area marketing initiatives.

Scenario 2 – Encourage Large-Format Industrial Space

This approach would see the institution of policies aimed at encouraging the Powell-Clark industrial areas to be redeveloped for larger-scale, warehouse, manufacturing and processing uses similar to those seen in outlying areas of the region. Given their location adjacent to the Port of Vancouver, the Clark Drive/Knight Street truck route, and the CP Rail right-of-way there may exist some potential for reinvestment in the Powell-Clark areas through policies that strongly encourage land consolidation, and redevelopment for larger-floor plate industrial space that also provides for efficient docking and loading. However, large format industrial space would likely result in significantly reduced employment density than presently exists.

Scenario 3 – Encourage Mixed-Use Industrial/Office Space

This scenario involves implementing policies aimed at allowing both the Powell-Clark industrial areas to include office uses in redevelopment projects, while ensuring that ground floor industrial uses would be maintained or enhanced. The scenario draws on the success of the Mount Pleasant area, which has seen reinvestment and revitalization through ongoing industrial floor space development coupled with significant complementary office uses. However, the policies should be more rigid than the Mount Pleasant model by mandating the provision of light industrial uses on the ground floor (while allowing either industrial or offices uses on upper floors). This requirement is aimed at preserving the industrial land base.

This strategy would enhance industrial uses on the ground floor by encouraging industrial FSRs higher than the area average, while facilitating possible upgrading of the area's older, obsolete industrial floor space. This would also allow for other higher-value uses on the upper floors as an incentive to encourage the revitalization and redevelopment of the area's industrial floor space inventory.

Scenario 4 – Encourage Mixed-Use Industrial/Flex Space

Scenario 4 builds on Scenario 3 with the option of adding rental live/work uses on upper floors. As with Scenario 3, this scenario requires the provision of light industrial uses on the ground floor but allows for additional industrial, office or rental live/work uses (i.e. flex spaces) on upper floors in order to encourage industrial redevelopment while maintaining the potential for employment generation.

Going forward, there may be an opportunity to use rental live/work uses as a tool to aid revitalization to encourage upgrading and reinvestment. While rental live/work uses within industrial areas have the potential to present similar problems to those seen with strata-title space, a requirement that live/work spaces be restricted to rental, and that they not be sited on the waterfront can mitigate the potential for conflicts between residents and nearby heavy industrial uses. The live/work option should only be allowed in areas where major conflicts with adjacent uses are unlikely.

In the future, the upper floors of rental live/work buildings under a single land title could be converted to commercial or industrial uses relatively easily (as opposed to strata-title buildings) when warranted by market conditions. The key to this would be regulations to ensure that upper-level floor space would be developed in a manner to accommodate a number of potential uses through requirements for load bearing floors, high ceilings, and minimal load bearing walls. This built in flexibility would allow for floor space to be developed or converted to other uses based on future demand.

It is worth noting here that a significant input to the benefits and challenges associated with all of the scenarios is an assessment of the current and expected market favourability of each option. This assessment tries to estimate, in a general way, the local market's interest in developing speculative floor space under the terms of a given scenario based on current lease rates, development costs, and estimates of demand. However, the scenarios require further exploration particularly with regard to the implications of imposing various policy, program, or regulatory mechanisms in the Powell-Clark areas. An examination of location criteria and more detailed, site-specific analysis is required.

Conclusions & Strategic Directions

Conclusions

The original intent of the study was to examine the economic roles of the Powell-Clark industrial areas given the local context and general trends affecting industrial lands, and recommend strategic directions to enhance these roles and encourage economic revitalization. The study has confirmed the importance of these two industrial areas to Vancouver's economic landscape, highlighting the areas' advantages in terms of location, access to labour, and capacity to act as a business incubator. However, the areas are also threatened by continued physical and social deterioration and negative public perceptions which may increasingly hinder redevelopment.

An overarching conclusion of the study is that redevelopment is necessary to achieve the objectives of the Vancouver Agreement DTES Economic Revitalization Strategy.

The four future development scenarios explored in Section 11 of the report provide insight to the opportunities and constraints to redevelopment. Scenarios 3 and 4 represent the preferred direction for the Powell-Clark industrial areas.

A variety of potential land uses have been considered including light industrial, office, retail, and residential. The research indicates that the greatest opportunity for growth in the industrial sector is in the areas of processing, distribution, and repair. Allowing for limited ground floor retail uses along major commuter routes may help stimulate industrial redevelopment and contribute to a more vital public realm. Allowing office or flexible spaces on upper floors may also help to encourage industrial redevelopment. Rental live/work space, if carefully integrated, may further help to stimulate industrial redevelopment. However, both the research and anecdotal evidence suggest avoiding strata-title condominium housing.

It is apparent that a combination of policy, program, and regulatory measures coupled with public infrastructure improvements are needed to ensure that the Powell-Clark industrial areas do not continue to deteriorate. Such measures should help to strengthen the position of the Powell-Clark industrial areas so that there is an opportunity to capitalize on future economic growth and increased trade through the Port of Vancouver, the areas' strategic location, and access to local labour.

Strategic Directions

Enhancing the vitality and economic potential of these areas will require a strong commitment from the City expressed through public policy rooted in sound planning principles and strategies. The following strategic directions have been identified as potential approaches to aid in the redevelopment of the Powell-Clark industrial areas.

- Maintain Powell/Clark as a Business Incubator
- Preserve the Small Lot Pattern
- Examine Zoning Measures for Continued Affordability and Job Intensification
- Provide Opportunities for Business Expansion
- Limit Residential Development
- Create a Districting Strategy
- Address the Quality and Safety of the Public Realm through Public Realm and Infrastructure Upgrades
- Allow Limited Retail Uses along Commuter Routes
- Establish Targets for New Industrial Floor Space
- Develop a Marketing and Information Strategy
- Develop Local Employment Training Programs
- Identify Roles for Government to Facilitate Reinvestment
- Avoid Taxation Schemes
- Incorporate Sustainability Measures.

Next Steps

This study has identified various opportunities and constraints to redevelopment in the Powell-Clark industrial areas. Based on the research and scenario exploration, a set of strategic directions has been provided. In the longer term, these may potentially form the basis for area redevelopment plans. However, a more detailed level of analysis is required in the interim to determine which redevelopment scenario is most appropriate for the Powell-Clark areas.

The four scenarios explored in Section 11 included a general level of analysis. More detailed pro forma analysis is required to test the scenarios prior to implementation through policy or regulatory changes. It is recommended that the City of Vancouver pursue two immediate measures:

- Obtain the services of a specialized consultant to develop a detailed pro forma model for scenario testing; and
- Develop feasibility testing based on specific sites within the Powell-Clark industrial areas.

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1.0 Introduction

The Powell Street/Port lands and Powell Street/Clark Drive (Powell-Clark) industrial areas play a significant role in Vancouver's economy as important industrial land assets containing a high percentage of metropolitan core jobs within key industrial sectors. These sectors include: apparel manufacturing; automotive service and repair; food and beverage production processing and catering; light manufacturing and assembly; professional, scientific and technical services; retail; transportation and warehousing; and wholesale and commercial services.

The Powell Street industrial area is a key economic generator due to its proximity to Downtown and the Downtown East Side (DTES). The area provides opportunities for city-serving industrial uses and access to a large labour pool. It is also located adjacent to the Port of Vancouver providing land for Port support businesses and acting as a buffer between the Port's industrial and associated rail operations and neighbouring residential areas. The Clark Drive industrial area is situated on a major trucking and transportation corridor linking Vancouver's core industrial areas to businesses and markets in the region and south of the border.

Both the Powell-Clark industrial areas are being influenced by general trends affecting the city's industrial land supply. These trends include a decreasing supply of available industrial land in the city's core and throughout the Lower Mainland, an increase in overall land values, and pressure to convert industrial land to residential, commercial, and other uses.

Recognizing the significance of these two core industrial areas in relation to the general trends affecting industrial lands and strategic location in relation to the Port of Vancouver and major transportation routes, the City of Vancouver has embarked on a comprehensive review of the future of the Powell-Clark industrial areas. This study is part of an on-going, multifaceted and multi-year effort, through the Vancouver Agreement DTES Economic Revitalization Plan, to revitalize the economy of the DTES. The report presented herein represents the compilation of two studies previously defined as: the Powell Street Industrial Area and Port of Vancouver Study and the Powell Street/Clark Drive Industrial Area Study.

2.0 Study Purpose

The purpose of this study is to examine the economic roles of the Powell-Clark industrial areas given the local context and general trends affecting industrial lands, and recommend strategic directions to enhance these roles and encourage economic revitalization. The study also involves an exploration of the linkages between the Port of Vancouver and area businesses and opportunities to strengthen these linkages. Goals of the study including determining ways to:

- Secure and strengthen the long-term economic vitality for industrial activities in the Powell-Clark industrial areas;
- Capitalize on the areas' strategic location in achieving economic and environmental sustainability and maintaining and enhancing Port operations; and
- Increase employment opportunities for local residents, including those who are socio-economically disadvantaged.

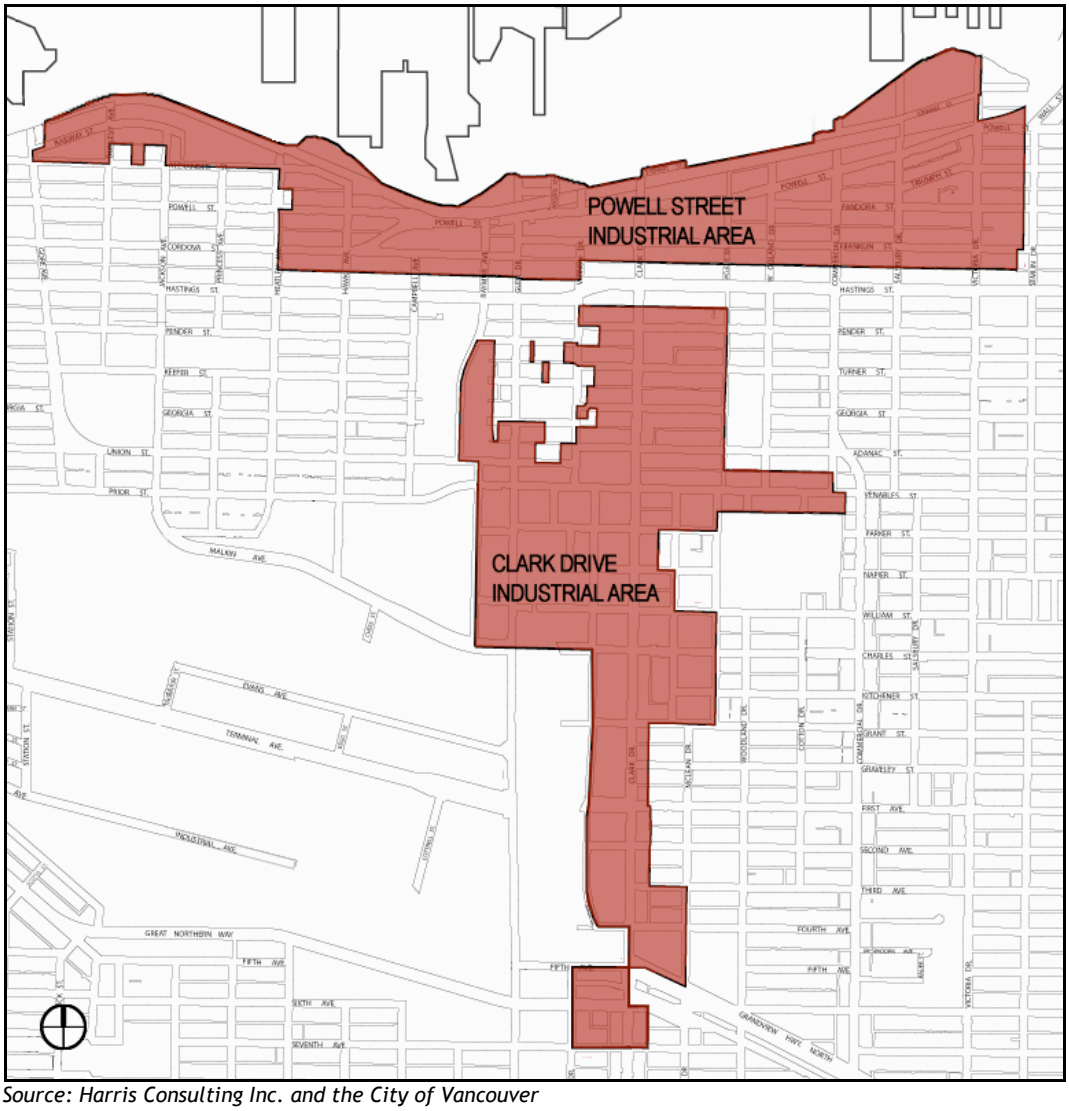
The study purpose reflects strategic direction provided by the Vancouver Agreement DTES Economic Revitalization Plan to address the policies and regulations hindering industrial land investment in order to increase demand for local services, strengthen supplier capabilities, and increase employment opportunities for local residents.

3.0 Study Area

The Powell-Clark industrial areas (Figure 1) are located east of Downtown Vancouver. The Powell Street industrial area is bounded by Heatley Avenue to the west, Semlin Drive to the east, Hastings Street to the south, and the Port of Vancouver (Burrard Inlet) to the north. The area also includes a small part of the area north of Alexander Street and east of Gore Street.

The Clark Drive industrial area is generally bounded by Hastings Street to the north, Great Northern Way to the south, Raymur Avenue to the west, and McLean Drive to the east.

FIGURE 1: STUDY AREA



Source: Harris Consulting Inc. and the City of Vancouver

4.0 Study Approach

The approach to this study is based on both primary and secondary sources of information, which includes:

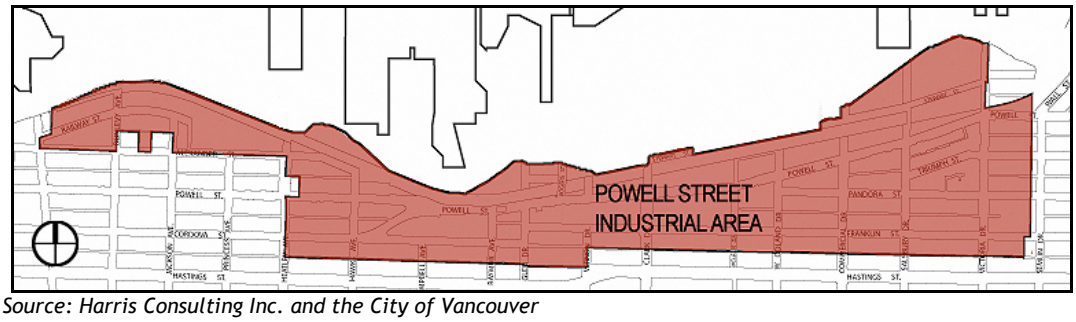
- A comprehensive review of the existing conditions within the study area including an analysis of current and anticipated future market trends, a review of existing relevant policies, an assessment of the past and present roles played by these areas within the local economy, and an assessment of economic and geographic linkages between these areas;
- Discussions with twenty three businesses operating within the study area and on adjacent Port lands, and five businesses outside the study area;
- An analysis to assess the study area's strengths, weaknesses, opportunities, and threats (SWOT);
- An investigation of global trends affecting industrial land use and port operations, and corresponding regional trends affecting the specific study area;
- Best-practices research compiled from industrial strategies and policies employed in major North American port cities (i.e. Baltimore, Boston, Chicago, San Francisco, and Wilmington (Los Angeles)) and key international port cities (Rotterdam and Barcelona).
- Discussions with City of Vancouver staff involved in the Metro Core Jobs and Economy Study and the False Creek Flats Program; and
- A group discussion involving City staff, CitySpaces and Harris Consulting, the Strathcona BIA, Building Opportunities with Business, and Vancouver Economic Development.

5.0 Powell Street Industrial Area Overview

5.1 Area Overview

The Powell Street industrial area (Figure 2) is generally zoned M-2. It was initially intended to accommodate heavy- and water-dependent industries, and other land uses that are generally incompatible with residential uses.

FIGURE 2: POWELL STREET INDUSTRIAL AREA



Source: Harris Consulting Inc. and the City of Vancouver

According to the 2005 GVRD Industrial Land Inventory report, the Powell Street industrial area had:

- 84 acres of industrial land or approximately 5% of the city's total industrial land supply;
- Building stock with a median age of 42 years;

- A median building size of 7,500 square feet; and
- An average land value of approximately $2.0 million per acre.

Approximately 50% (3,133) of the 6,265 people who work in the Powell Street industrial area live within Vancouver, predominantly in the Kensington-Cedar Cottage and Grandview-Woodlands neighbourhoods (6% each). The majority of employees residing outside the city (14%) live in Burnaby and New Westminster.

The following is a comprehensive list of operating business sectors within this industrial area:

- Apparel manufacturing;
- Automotive service and repair;
- Food and beverage production, processing and catering;
- Light manufacturing and assembly;
- Professional scientific and technical services;
- Retail;
- Transportation and warehousing; and
- Commercial services.

Industrial sectors and corresponding examples of businesses operating in the Powell Street industrial area are provided in the following table:

POWELL STREET INDUSTRIAL AREA BUSINESS SUMMARY		
INDUSTRIAL SECTOR	BUSINESS EXAMPLE	ADDRESS
Apparel Manufacturing	TexCo Garment Manufacturing Ltd.	889 East Cordova Street
Automotive Service and Repair	Blitzkrieg Autowerks Inc.	1672 Franklin Street
	New Profession Collision Ltd.	1245 Frances Street
	Drake Towing	1553 Powell Street
Food and Beverage Production Processing and Catering	Sunrise Soya Foods	427 Powell Street
	Happy Planet Juice	888 Malkin Avenue
	Just Right Catering	950 Powell Street
Light Manufacturing and Assembly	Bensen Inc.	405 Railway Street
	William-Switzer and Associates	6-611 Alexander Street
Professional Scientific and Technical Services	HBBH Architects	611 Alexander Street
	Fine Werks Inc.	3-1132 Powell Street
	HIS Promotions	537 Powell Street
	Greener Cleaner	545 Powell Street
	Sunde Metal Interiors	1-1132 Powell Street
Retail	Starbucks	850 Powell Street
Transportation and Warehousing	Able Moving and Storage	801 Powell Street
	Inspiration Interiors	708 Powell Street
	Downtown U-Lok Mini Storage Ltd.	915 East Cordova Street
Commercial Services	Tex-Pro Western	828 Powell Street
	Western Marine Company	1494 Powell Street
	Consolidated Wholesale Plumbing	1001 Venables Street

Source: Strathcona Business Improvement Association and Harris Consulting Inc.

The most prominent industrial sectors present within the Powell Street industrial area are the food and beverage production processing and catering sector, apparel manufacturing sector, and the transportation and warehousing sector. Although not necessarily heavy industrial or water dependent, these types of uses may serve as a

buffer between heavy, Port related activities and other light industrial uses or even residential and commercial uses. West Coast Reduction is one prominent business that remains in the Powell Street industrial area, likely because its business is largely dependent on shipping.

Following the definitions provided by the North American Industry Classification System (NAICS), The Metropolitan Core Jobs and Economy Land Use Plan identified the manufacturing sector as the largest employment sector within the Powell Street industrial area (38%), followed by transportation and warehouse (15%), wholesale trade (14%), and professional scientific and technical services (9%).

According to NAICS, the manufacturing sector is comprised of establishments, "primarily engaged in the physical or chemical transformation of materials or substances into new products." This definition applies to a wide array of businesses that NAICS has attempted to accommodate within a multitude of sub-sectors under the manufacturing heading. The highly specific nature of the NAICS sub-sector definitions reduces the compatibility of such definitions with businesses operating within the Powell-Clark industrial areas. Consequently, the following manufacturing sub-sectors were created to better describe the businesses operating within the study area: apparel manufacturing, food and beverage production, processing and catering, and light manufacturing and assembly.

Similarly, the automotive service and repair sector comes under the other services (except public administration) sector. To simplify matters, the automotive service and repair definition has been applied to all businesses serving automotive vehicles.

To be more descriptive with the industrial classifications applied within the study area, the wholesale sector has been combined with commercial services, which includes laundry services. Under NAICS, commercial laundry services are classified under the other services (except public administration) sector.

The remaining business sectors identified within the Powell-Clark industrial areas closely follow the classifications defined within NAICS. These include: professional scientific and technological services, retail, and transportation and warehousing.

5.2 Powell Street Industrial Area Location Attributes and Geographic and Economic Linkages

The Powell Street industrial area is strategically located within close proximity to downtown Vancouver (the western portion of the industrial area is located approximately one kilometre from downtown), the Port of Vancouver (directly adjacent to the north), and the Trans-Canada Highway (approximately three kilometres east). The industrial area is close to a large residential population, representing a large potential labour pool and providing the opportunity for residents to live close to their place of employment. Thirty-two percent (32%) of residents in proximity to the area participate in the labour force; of these, 80% work in the Powell Street industrial area. However, residents of the downtown, Strathcona, and Grandview/Woodlands neighbourhoods only account for an estimated 10% of the 6,265 workers employed in the Powell Street industrial area.

The Powell Street industrial area's proximity to the ethnic and health food retailers in Chinatown, and food distributors located in the False Creek Flats area is an advantage for the food and beverage production processing and catering firms operating in the Powell Street industrial area, as they enjoy relatively direct access to local stores and strong distribution networks which enable a wide distribution of products to a broad market. J&K Poultry, for example, has established business linkages with numerous downtown restaurants and pubs and West Coast Reduction Inc., a major Port operator. The table below analyzes the level of connection between the Powell Street industrial area and other geographic locations.

POWELL STREET INDUSTRIAL AREA CONNECTIVITY		
Transportation Linkages	Rail Networks	Marginal connectivity exists between the Powell Street industrial area and the rail networks.
	Trans-Canada Highway and City-Regional Road Networks	Most industrial sectors are dependent on road networks for moving people and goods. In particular, businesses within the following sectors require strong access: automotive repair, apparel manufacturing, food and beverage production, retail, warehouse/distribution, and wholesale/commercial services.
	Port of Vancouver	Few industrial sectors within the Powell Street industrial area are directly dependent on the Port of Vancouver or receive a direct benefit from being close to the Port. However, businesses within the apparel manufacturing and light manufacturing and assembly sectors ship and receive via the Port's container terminals.
Labour Location	DTES	DTES residents represent approximately 10% of the labour force in the Powell Street industrial area.
	City of Vancouver	Approximately 50% of employees within the Powell Street industrial area live in Vancouver. The Kensington-Cedar Cottage and Grandview-Woodlands neighbourhoods have the largest concentration of Powell Street industrial employees.
	Region	50% of employees in the Powell Street industrial area live in municipal areas outside Vancouver, 14% live in Burnaby/New West, and 13% reside south of the Fraser River.
Customer Location	Local Area	The automotive repair, food and beverage production/processing and catering, professional services, technical services, warehouse/storage/distribution/delivery, and wholesale/commercial service sectors have significant relationships with local area customers.
	Downtown	Industrial sectors requiring close proximity to downtown include: apparel manufacturing, food and beverage production/processing and catering, light manufacturing and assembly, professional services, technical services, warehouse/storage/distribution, and wholesale/commercial services.
	Port of Vancouver	Port of Vancouver operations are not significant contributors to Powell Street industrial area businesses. However some businesses within the professional services, technical services, warehouse/storage/ distribution, and wholesale/commercial services sectors serve the Port of Vancouver.
	City of Vancouver	Businesses in the apparel manufacturing, automotive repair, food and beverage production/processing and catering, light manufacturing and assembly, professional services, technical services, warehouse/ storage/distribution, and wholesale/commercial services sectors serve customers throughout the city.
	Region	Businesses in the apparel manufacturing, food and beverage production/processing and catering, light manufacturing and assembly, professional services, technical services, and warehouse/storage/ distribution sectors serve customers throughout the region.
	Out of Region	The apparel manufacturing, food and beverage production/processing and catering, light manufacturing and assembly, and professional services sectors have customers outside the region.
Supplier Location	Local Area	The apparel manufacturing, food and beverage production/processing and catering, and light manufacturing and assembly sectors benefit from local area suppliers.
	City of Vancouver	The retail sector has supply links within the city.
	Region	The food and beverage production/processing and catering, furniture manufacturing and assembly, and retail sectors have significant supply links within the region.
	Out of Region	The apparel manufacturing, food and beverage production/processing and catering, light manufacturing and assembly, warehouse/ storage/distribution/delivery, and wholesale/commercial services sectors have strong supply links outside the region.

Source: Harris Consulting Inc.

Due to the integrated nature of the Canadian and American markets, many local firms are partially dependant upon American markets and suppliers. As a result, Vancouver's geographic location in relation to large markets and manufacturing centres within the western United States, (Washington, Oregon, and California) is an advantage for firms as shipping distances are reduced, which has a corresponding positive effect on shipping times and transportation costs.

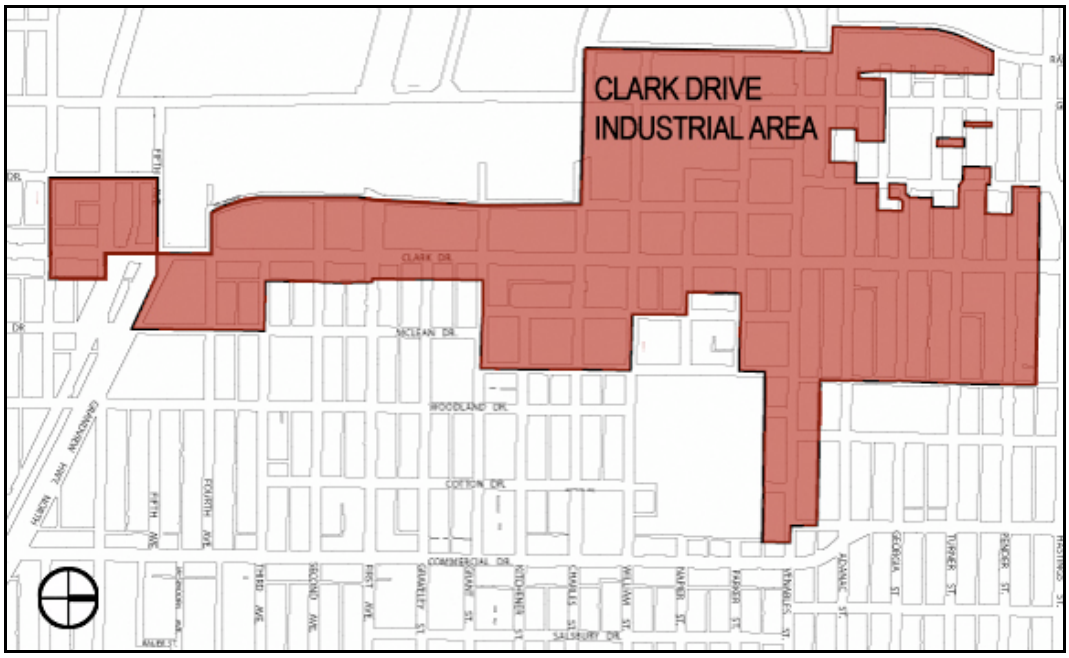
Businesses also have a strategic advantage in being located close to downtown due to the concentration of advanced academic institutions (UBC, SFU, Emily Carr, VCC and BCIT). These offer potential access to new information, research and a well-educated workforce.

6.0 Clark Drive Industrial Area Overview

6.1 Area Overview

The Clark Drive industrial area (Figure 3) consists of 110 acres of developed industrial land, with an additional three acres of vacant or underutilized land, totalling 113 acres or approximately 7% of Vancouver's industrial land supply as of 2005 (2005 GVRD Industrial Land Inventory Report).

FIGURE 3: CLARK DRIVE INDUSTRIAL AREA



Source: Harris Consulting Inc. and the City of Vancouver

According to Statistics Canada there were 5,320 jobs in the Clark Drive industrial area as of 2001, which equates to 3% of the total Metro Core jobs in Vancouver. The primary industrial employment sector within the industrial area is the manufacturing sector (16% of Metro Core total), followed by the transportation and warehouse sector (9% of Metro Core total) and utilities (8% of Metro Core total).

The Clark Drive industrial area has the oldest median aged building stock in the GVRD, at 42 years, and the second smallest median building size in Vancouver at 6,560 square feet. Clark Drive has the second highest average industrial land values in the city after the Mount Pleasant industrial area, at approximately $2.1 million per acre (GVRD 2005 Industrial Lands Inventory Report 2005).

As a result of the 1995 Industrial Lands Strategy which concluded that heavy industries such as saw mills, raw ore foundries and pulp mills were no longer considered suitable industries for inner-city industrial areas, an I-2 zoning designation was created. The I-2 zone facilitated a wide range of service-industrial uses that require locations within the city and was intended to increase the compatibility between industry and neighbouring residential areas.

The Clark Drive industrial area is zoned I-2, enabling the following uses to occupy buildings with a maximum floor space ratio of 3.0: manufacturing, transportation and storage, utility and communication, wholesale, laboratory, laundry or cleaning plant, production or rehearsal studio, repair shop-class A, and work shops.

The manufacturing sector is the largest employment sector within the Clark Drive industrial area, followed by the transportation and warehouse, and utilities sectors. Business sectors operating within the Clark Drive industrial area include:

- Apparel manufacturing;
- Automotive service and repair;
- Food and beverage production, processing and catering;
- Light manufacturing and assembly;
- Professional scientific and technological services;
- Retail;
- Transportation and Warehousing; and
- Wholesale and commercial services.

The following table provides examples of businesses operating within these sectors.

CLARK DRIVE INDUSTRIAL AREA BUSINESS SUMMARY		
BUSINESS CATEGORY	**BUSINESS EXAMPLE**	**ADDRESS**
Apparel Manufacturing	Sin Fung Clothing Manufacturing	823 Clark Drive
	Dream Design Co Ltd.	1111 Union Street
Automotive Service and Repair	Auto Link Services Ltd.	526 Clark Drive
	Eon Auto Repairs Ltd.	1201 Venables Street
Food and Beverage Production and Catering	Fujiya Japanese Food Catering	912 Clark Drive
	Take 5 Café Corporation	1389 Venables Street
Manufacturing	Russell Food Equipment	1255 Venables Street
	McGregor & Thompson Hardware	1250 East Georgia Street
	Palomino Furniture	1389 Venables Street
	Sun Wah Furniture Manufacturing	475 Clark Drive
	General Paint Corp.	950 Raymur Street
Professional Scientific and Technical Services	TRI-Force Security Services Ltd.	745 Clark Drive
	Budget Printing Inc.	440 Clark Drive
	Harrigan Equipment Rentals Ltd	1175 Venables Street
Retail	La Casa Gelato	1033 Venables Street
	General Paint Corp.	1250 Venables Street
Transportation and Warehousing	General Paint Corp.	900 Parker Street
Commercial Services	Jim M. Koo Produce Ltd.	777 Clark Drive
	Consolidated Wholesale Plumbing	1001 Venables Street
	ABC Linen Supply	383 Raymur Street
	Egan-Liang Inc.	745 Clark Drive

Source: Strathcona Business Improvement Association and Harris Consulting Inc.

6.2 Clark Drive Industrial Area Location Attributes and Geographical and Economic Linkages

In spite of the small older buildings and high land prices which are common characteristics of the Clark Drive industrial area, many businesses choose to maintain their operations or relocate here due to the area's location attributes including close proximity to downtown Vancouver which has the largest concentration of commercial office space in the GVRD (see Appendix C for examples of building typologies within the Clark Drive Industrial Area). Many industrial businesses operating within this area provide services and goods to customers located within the city's commercial core. Additional advantages derived from the area's geographic setting include the close proximity to the:

- Port of Vancouver;
- Major transportation routes including the Clark Drive/Knight Street Corridor and the Trans-Canada Highway (particularly for access to the U.S. market); and
- Advanced academic institutions (UBC, SFU, and BCIT).

Given the increased reliance on trucks to transport goods, and increased importance of "Just In Time" delivery systems, the area's most significant attribute is the relative easy access to Clark Drive/Knight Street which is the primary north-south transportation corridor linking Vancouver with markets and businesses parks to the south, via Highway 91 and 99.

The table below analyzes the level of connection between the Clark Drive industrial area and other geographic locations.

CLARK DRIVE INDUSTRIAL AREA CONNECTIVITY		
Transportation Linkages	Rail Networks	Marginal transportation connectivity exists between the industrial area and the rail networks.
	Trans-Canada Highway and City-Regional Road Networks	The Trans-Canada Highway and city and regional road networks, particularly the Clark Drive/Knight Street corridor and Hastings Street, are critical to the Clark Drive industrial area. Businesses in the automotive, apparel manufacturing, food and beverage production, processing and catering, light manufacturing and assembly, retail, warehouse, storage, distribution, wholesale and commercial services sectors rely on commercial trucking and road networks to move their products and services throughout the city and region and beyond.
	Port of Vancouver	Few industrial sectors within the Clark Drive industrial area are directly dependent upon the Port or receive a direct benefit from being close to the Port. However, some businesses within the apparel manufacturing and light manufacturing and assembly sectors ship and receive via the Port's container terminals.
Labour Location	DTES	DTES residents account for less than 10% of the labour force in the Clark Drive industrial area.
	City of Vancouver	40% of all employees live in the City of Vancouver and work in the Clark Drive Industrial area. The Kensington-Cedar Cottage and Grandview-Woodlands neighbourhoods have the largest concentration of workers at 6% respectively.
	Rest of Region	50% of all employees in the Clark Drive industrial area live in municipal areas outside Vancouver. The highest concentration of workers resides in the Coquitlam/Port Moody/Port Coquitlam area.
Customer Location	Local Area	The automotive, food and beverage production, professional services, technical services, warehouse/storage/distribution, and wholesale and commercial services sectors have significant relationships with local area customers.

CLARK DRIVE INDUSTRIAL AREA CONNECTIVITY		
	Downtown	Many businesses within apparel manufacturing, food and beverage production, processing and catering, furniture manufacturing and assembly, professional services, technical services, warehouse/ storage/distribution, wholesale and commercial services sectors have significant relationships with customers in downtown Vancouver.
	Port of Vancouver	Businesses within the professional services, technical services, warehouse/storage/distribution, and wholesale and commercial services sectors serve certain Port related operations.
	City of Vancouver	Businesses in the apparel manufacturing, food and beverage production, processing and catering, light manufacturing and assembly, professional services, technical services, warehouse/storage/ distribution, and wholesale and commercial services sectors draw customers from the City of Vancouver.
	Region	Businesses in the apparel manufacturing, food and beverage production, processing and catering, light manufacturing and assembly, technical services, and warehouse/storage/distribution sectors serve customers in the region.
	Out of Region	Sectors with customers outside the region include apparel manufacturing, and light manufacturing and assembly.
Supplier Location	Local Area	The apparel manufacturing, food and beverage production, processing and catering, light manufacturing and assembly, and wholesale and commercial services sectors have local area supply links.
	Region	The food and beverage production, processing and catering, light manufacturing and assembly, retail, warehouse/storage/distribution and delivery sectors have supply links outside Vancouver.
	Out of Region	The apparel manufacturing, food and beverage production, processing, and catering, light manufacturing and assembly, warehouse/storage/ distribution/delivery, and wholesale and commercial services sectors have supply links outside the region.

Source: Harris Consulting Inc.

7.0 Discussions With Area Businesses

A wide range of businesses operating within the Powell-Clark industrial areas and on Port of Vancouver lands were interviewed in order to gain an accurate perspective of the advantages, challenges and constraints, labour issues, and additional information relevant to the study. Established firms from each of the identified industrial sectors within the study area were targeted and contacted with the assistance of business lists supplied by the Strathcona Business Improvement Association, the City of Vancouver, and the Vancouver Port Authority. Further, firms which had recently relocated to the study area were also identified through additional research and recommendations made by consulted stakeholders. The following firms were contacted and interviewed throughout September and October:

STUDY AREA FIRMS INTERVIEWED		
BC Rentals	Bensen Inc.	Blitzkrieg Autowerks
Budget Printing	Colliers International	Deakin Safety Supplies
Downtown U-Lok Mini Storage Ltd.	Dunlevy Food Equipment Ltd.	Dream Design Co. Ltd.
General Paint	Hamilton Sportswear Company	Happy Planet
Heritage Office Furniture	McGregor & Thompson Hardware Ltd.	Russell Food Equipment
Sunrise Soya Foods	William-Switzer and Associates	
PORT BUSINESSES INTERVIEWED		
Agricore United	CP Rail	Marco Marine Container Inc.
P&O Ports Canada (Centerm)	Rogers Sugar Ltd.	West Coast Reduction Ltd.

7.1 Summary of Input from Powell-Clark Industrial Area Businesses

The following summarizes input from businesses within the Powell-Clark industrial areas regarding the challenges, constraints, advantages, and labour issues currently affecting their business operations within the study area.

7.1.1 Advantages

The greatest advantages gained by firms operating with the Powell-Clark industrial area come from the area's geographical location in relation to downtown Vancouver, the GVRD and surrounding suburban markets. Vancouver's central business district consumes a significant portion of the goods and services produced within the study area. Many firms benefit from being located in close proximity to their customers.

Firms located within the study area have relatively easy access to the Clark Drive/Knight Street corridor. This important north-south truck route provides the key transportation linkage between industrial/business parks south of the Fraser River and markets within the United States. Firms are also able to access Hastings Street, which provides an east-west linkage between the study area and the Trans-Canada Highway and key markets within the region (i.e. North Vancouver and municipalities and business parks east of Vancouver). These major thoroughfares aid with the movements of goods and services while also providing easier access for employees commuting to the area from outside of Vancouver. Firms located directly on Clark Drive and Powell Street also have opportunities to benefit from high exposure to passing traffic, and potential drop-in customers.

The eclectic mixture of businesses within the Powell-Clark industrial areas is an attractive attribute for firms, as a wide array of services and products is provided in the area thus reducing the need to go outside the area for supplies.

7.1.2 Challenges and Constraints

According to local businesses one of the most significant challenges affecting business activities is the area's negative image related to drug trafficking, perceived and real threats to personal safety, prostitution, and property crime (graffiti, theft, vandalism). The occurrence of criminal activities and associated negative perceptions of the area are obstacles to businesses trying to attract customers and employees to the area.

Traffic issues have also been sited as a constraint to business, specifically citywide traffic congestion on major arterials as this hinders the movement of goods and services, often limiting the trade area for businesses located in the study area. Within both the Powell-Clark industrial areas, poorly maintained narrow roads are also a challenge for businesses as larger trucks are often unable to use many of the roads in the area, concentrating local traffic on only a few area routes.

The ability of firms to expand within the study area is hindered by the limited amount of vacant industrial land in conjunction with the small average lot size in the area. As a result many firms are forced to occupy numerous facilities throughout the industrial area, which are often not the most suitable for modern industrial businesses. In addition, the city's current tax rate for industrial land does not encourage the development of a large modern industrial facility (50,000 sq. ft.).

7.1.3 Labour Issues

British Columbia and Vancouver are experiencing a tight labour market. Consequently many firms are having a difficult time finding suitable workers, specifically in lower wage, lower skill positions.

Fewer people are willing to work as framers, metalworkers, and garment workers, while few educational institutions train labourers for many of the industrial businesses within the Powell-Clark industrial areas. As a consequence many firms operating within the study area provide in-house training and options for advancement within the firm.

7.2 Summary of Input from Port Businesses

The following summarizes input from Port businesses regarding their relationships with support businesses, operational linkages to businesses in the study area, and general comments and concerns regarding study area constraints, and constraints and opportunities for Port operations.

7.2.1 Business Linkages

Given the diversity of industrial activities occurring on Port lands, Port businesses rely on a wide range of support businesses and suppliers to carry out those activities. Some of the common types of support businesses include equipment supplier services (i.e. forklift companies, container lifting equipment), linen suppliers, refrigeration specialists (servicing refrigerated containers), import/export businesses, container stuffing and de-stuffing facilities, off-dock storage facilities, safety equipment suppliers, stationary suppliers, repair shops, truck part suppliers, and machine tool companies.

Interestingly, very few of the support businesses identified as servicing Port businesses are located within the study area or even in close proximity. Two exceptions to this finding are Deakin Equipment Ltd. and BC Rentals, which are respectively located in the Powell-Clark industrial areas. When interviewed, BC Rentals indicated that a large portion of its businesses is tied to Port operations. Deakin, however, indicated that the majority of its customers are in the mining and forestry sectors located outside the region.

The majority of support businesses identified by Port businesses are located throughout the region in various Lower Mainland communities such as Burnaby, Coquitlam, Abbotsford, Delta and Surrey, and are in close proximity to major transportation corridors, including the TransCanada Highway and Clark Drive/Knight Street corridor. Port businesses suggested that their support businesses do not necessarily need to be located in the study area because those businesses may provide goods and services to customers throughout the region. Furthermore, the Port may not represent a big enough portion of the supplier's business to warrant locating within the area.

Many of the Port businesses said that the geographic location of support businesses is not critical because purchasing departments source products and services based on cost effectiveness, quality, and the experience of the business. Purchase orders are generally prepared in advance so the location of the support business is not important. If the support business is required to provide its products or services at a particular time, then it is assumed that it will factor travel in order to arrive at the prearranged time.

The findings indicate that, in general, the types of support businesses used by Port businesses serve a regional clientele. The findings also correlate to the results of the

survey conducted by the City's Metro Core Jobs and Economy team which found that 20% of businesses surveyed in the Powell Street industrial area agreed that being close to the Port was an important business location factor.

7.2.2 Challenges and Constraints

Port businesses were asked to provide their perceptions of the challenges and constraints affecting the study area. Interviewees provided a number of reasons why businesses might choose to locate elsewhere in the region including:

- Traffic congestion in the study area;
- Higher property taxes relative to other locations within the region;
- Land constraints (i.e. small parcels of land and the lack of available vacant land);
- Lack of demand for particular goods or services;
- Tradition (i.e. businesses were established a long time ago in other areas and have not moved); and
- The general cost of doing business.

One interviewee suggested that businesses are discouraged from locating in the study area because of incompatible residential land uses. He provided an example where owners of a new residential development moved in and then proceeded to complain about the noise and traffic associated with industrial land uses. Another interviewee suggested that the area is significantly dense with a high proportion of businesses in addition to a high residential population.

Social conditions including prostitution, drug use, and homelessness in addition to concerns about safety and security were cited as other reasons why businesses and residents would not want to be in the area. However, it was found that the Port's recent security upgrades, which require all persons entering Port lands to go through security checkpoints, have virtually eliminated adverse social and criminal activities from Port lands.

In terms of challenges for the study area, Port businesses reinforced the fact that residential and heavy industrial land uses are incompatible, and indicated a preference to retain industrial uses within the area mainly so that it can continue to function as a buffer zone between heavy industry and residential neighbourhoods. Interviewees had a number of suggestions for preserving and enhancing industrial uses in the area including:

- Allowing for the development of additional floor space on a site;
- Making zoning more flexible;
- Providing tax incentives to businesses;
- Addressing traffic issues;
- Improving the public realm and aesthetics;
- Addressing social issues; and
- Creating a true neighbourhood "similar to the experience of the Mount Pleasant neighbourhood".

7.2.3 Port Business Constraints and Opportunities

Some of the Port businesses indicated that they are heavily reliant upon road and rail infrastructure both for sourcing products and services used by their business and also

for transporting (*importing and exporting)* raw materials and finished products through the Port of Vancouver. However, interviewees expressed concerns regarding the quality and efficiency of existing road infrastructure to accommodate support businesses and truck and rail transportation involved with the import and export of raw materials and finished products.

The Clark Drive – Knight Street Corridor was identified as being critically important to accommodating commercial truck transportation. It was also noted that in the future, movement of goods through the Port of Vancouver will increase substantially and major container terminals, including Centerm and Vanterm, will expand to accommodate increased container volumes. This may become problematic as rail and truck traffic volumes will increase correspondingly. The emergence of a regional distribution centre near Fraser Port is an indication of the increasing volume of raw materials and finished products being transported through the region. In order to deal with projected volumes, there was consensus that transportation infrastructure, serving commercial traffic traveling to and from the Port, should be examined and improved where possible.

A number of interviewees noted their dissatisfaction with current levels of rail traffic, the reason being that rail traffic often interferes with vehicular traffic (i.e. people traveling to work having to wait for trains). It was noted that it is at times difficult to get inbound rail containers to the Port in a timely manner given the heavy reliance on the CP rail transportation corridor. CP and CN have entered into a co-production agreement to share CP's line along Burrard Inlet. In relation to this, it is expected that in the short term the demand for rail-related uses in the False Creek Flats (CN yards) will decrease due to the CP/CN agreement and, correspondingly, there will be decreased use of the Burlington Northern rail line. As a result of this, CN may wish to sell this land in the future.

Terminal operators expressed a concern for the limited amount of land available in close proximity to Port lands for "off-dock" container storage. Where terminals are required to store containers that require sorting or empty containers on-site, this prevents the terminal from reaching maximum container capacity. Container terminal capacity is a function of number of containers and the length of time those containers are stored at the terminal. The ability to store empty containers off-site increases terminal capacity. The False Creek Flats were identified as the only large parcel of land that is yet to be developed where there is an opportunity for significant container storage facilities.

Although not heavily reliant upon support businesses in the study area, Port businesses did express an interest in having convenience stores, fast food restaurants, and coffee shops located nearby to accommodate employees of Port businesses.

8.0 SWOT Analysis

The following is a SWOT (strengths, weaknesses, opportunities and threats) analysis of the Powell-Clark industrial areas. This analysis is based upon previous studies and research relevant to the industrial area, and upon research conducted specifically for this study, which includes interviews with industrial business owners and operators.

8.1 Strengths

Geographical

Both the Powell-Clark industrial areas offer similar geographical proximity to the GVRD's commercial core and the Clark Drive/Knight Street and TransCanada Highway truck routes, which provides an advantage for connecting to labour markets, potential customers, suburban markets and industrial areas. Both areas also lie within close proximity to the Port of Vancouver. At present, this is a benefit to a limited number of businesses.

Business Linkages

Many businesses operating within the industrial area have been established in the industrial area for a significant period of time creating historical links within the community and developing well established supply networks that aid in stabilizing the area and help create a stronger sense of community for area businesses.

Costs

An older building stock allows for the provision of less expensive spaces, which provide business incubator spaces facilitating start up enterprises and local entrepreneurship. Average rents in this area tend to be higher on a per square foot basis. However, smaller average unit sizes aid in decreasing overall occupancy costs.

8.2 Weaknesses

Safety and Security

Several weaknesses exist which are affecting the revitalization and retention of businesses. Perhaps the largest deterrent to new capital investment is that of the perceived threat to individual security and safety. This and other social issues, which are common stereotypes for much of the Downtown Eastside and adjacent industrial areas, make it difficult to attract new employees and customers to the area.

Building Condition/Lot Size

Older buildings are a deterrent to businesses looking to expand and remain in the industrial area. Many of the older buildings are inadequate for modern industrial businesses, hindering expansion and retention of pre-existing businesses.

The area's older building stock and small lot size are a deterrent for many modern industrial activities, which require high ceilings and large areas capable of facilitating street level loading and unloading. As a consequence, several firms are forced to manage multiple properties scattered throughout the industrial area, and suffer increasing operating costs, as additional labour is required to move products between locations.

8.3 Opportunities

Strong Demand

Perhaps one of the largest opportunities within the Powell-Clark industrial areas comes as a result of the strong demand for space within the area. These areas currently enjoy strong demand for available floor space as indicated by a low vacancy rate of less than 2%, and higher than average lease rates of approximately $12.00 per square foot

(relative to the regional average of $9.00 per square foot). In the long term this area will need to encourage new investment to maintain and/or increase the economic activity and employment-generating potential of the area.

Labour Force

The Powell-Clark industrial areas are also located in close proximity to a large number of under-employed and unemployed people. Businesses categorized within the food and beverage production/processing and catering sector, are often dependant upon relatively low skilled people. Many firms in this sector also provide in-house training to upgrade skills. Potential opportunities may exist to increase the concentration of food and beverage production/processing and catering sector firms in the area.

Recent Development

Newer developments (occurring between 1991 and 2001) within the Powell-Clark areas have been occurring at average FSRs of 1.14 and 1.01 respectively. This is significantly higher than the respective averages of 0.85 and 0.81 FSR for these areas. This new development suggests a trend that may see future development in each area occur above the 0.75 to 1.00 range typically seen in the Vancouver region, and may suggest opportunities to increase average FSRs through further policy incentives and regulation, thus increasing overall employment density in each area.

However, close examination of this data shows some causes for potential concern. First, the pace of redevelopment has been relatively slow, with only an average of two new developments in each area annually over the period. Further, when new developments in the Powell Street industrial area are examined, and uses such as self-storage facilities (representing significant industrial densities of 3.5 or higher, but often generating only two or three full-time equivalent employment positions per facility) are removed from floor area calculations, the area's average FSR decreases to 0.9 FSR.

Even if such uses are factored into the calculation, given that the Powell Street area allows for the development of 25% office space, it is possible that the average industrial floor space ratio for new developments may be as low as 0.85 when non-industrial uses are excluded. Hence, while it may be possible to increase the total FSR of new development within the Powell-Clark industrial areas, examination of past growth suggests that increasing the industrial floor space ratio above the 1.0 level may be difficult.

New Business

Going forward, increasing downtown employment coupled with the potential loss of industrial land in the Mount Pleasant and Burrard Slopes areas is expected to drive increased demand for industrial space by so-called PDR (processing, distribution and repair) functions. These functions, which include printing, commercial laundry, and courier services (as well as a number of others) are expected to be a growing sector in the Metro Core and will require industrial sites in close proximity to central business districts.

Opportunities may also exist for businesses within the professional services, security, and architectural sector to locate in the area, as firms within this sector are often more capable of paying higher rents and are generally more flexible with their building/space requirements. This sector is also highly compatible with the adjacent

land uses, and can support other industrial sectors within the area such as technical and commercial services firms.

Despite the fact that there are currently relatively few business linkages between Port businesses and businesses in the Powell-Clark industrial areas, consideration should be made for the trend toward increased trade between Canada and Asia and the impact that this may have on Vancouver as a major North American port city. With increased trade, there may be a greater demand for support businesses to be located in close proximity to port lands in addition to greater demand for industrial land to support port operations. Global trends affecting port industry are discussed in further detail in Section 9.0.

Skilled Labour

Demand for skilled labour is currently strong, given the relatively tight labour market and skill shortages that are prevalent throughout many of the city's employment sectors. Local residents and businesses would likely benefit from an expansion in education and skill training programs targeting under-employed and unemployed residents.

Industrial Clustering

Opportunities to improve connectivity between local firms, such as the sharing of information and supply networks also exist. Improving the connectivity between local firms may give rise to industrial clustering which could strengthen the position of the industrial area as an employment area.

8.4 Threats

Infrastructure Reinvestment

The area's relative lack of recent capital investment is a threat as the building stock and supporting infrastructure is showing signs of decline. If the building stock continues to decline so to will the area's image, which will make it increasingly difficult for the area to function as a business and employment centre.

Limits to Redevelopment

A number of factors are hindering redevelopment and reinvestment activity in the area. Chiefly, there is a lack of adequate redevelopment sites and a lack of new locations for displaced users. Many established industrial businesses in the area, seeking to expand their operations, are uncertain of their ability to remain within the industrial area, and are seeking to relocate their business operations outside the area.

Land Values

Increasing land values and extremely low vacancy rates region-wide are making it difficult for those firms leasing space who might otherwise be priced out of the area, to find adequate locations to move to. This creates a situation of stagnation decreasing the rate of positive turnover that would normally drive increasing economic activity and investment.

Capital Costs

For those businesses that own their sites cost factors such as capital gains taxes and remediation costs can in some cases outweigh the cost of the properties themselves.

This may make it economically unfeasible to sell the site at industrial rates. This too has the impact of hindering redevelopment.

9.0 Trends and Issues

This section addresses (i) the global trends affecting industrial activity, industrial land use in proximity to ports, and port industry, and (ii) regional trends affecting industrial areas within the lower mainland. Some of the trends addressed include: the relocation of manufacturing to suburban areas and developing nations; growth in international trade; improvements in transportation methods and logistic technologies; and the increasing level of residential and commercial incursions into industrial areas.

9.1 Global and National Trends Affecting Industrial Activity

Changes in global production and distribution networks are having a profound impact upon the form, location, and function of modern industries. During the latter half of the twentieth century, traditional manufacturing centres within North America and Europe experienced a hollowing out of their heavy industry, as it began relocating to low cost locations in suburban areas and developing nations throughout the world. The redistribution of industry from Europe and North America to Asia spurred an increase in trade between these geographic regions, leading to improvements in the transportation and warehousing industries.

Transportation & Logistics

Improvements in transportation and logistics methods have altered the way industries operate (with regard to their inventories and space requirements) as industries operating within small spaces have become increasingly dependent upon low inventories. Adoption of "just in time" (JIT) delivery systems have enabled firms to expand production while reducing on site inventories. As a consequence of JIT delivery systems and other emerging modern transportation and logistic technologies, central warehouse and distribution facilities now require larger ground oriented facilities with higher ceilings which are necessary to accommodate rapid distribution of products and vertical stocking.

For Port terminal operators, computerized terminal management systems, truck reservations systems to reduce or eliminate line-ups, and reduced storage times are critical elements to increasing the efficiency of cargo movement.

Containerization

Since their introduction in 1955, TEU (twenty-foot equivalent) cargo containers have revolutionized the shipping industry and associated methods for shipping and receiving products. Containers have made shipping more efficient because they may be:

- Stacked vertically and horizontally, as they are a standard TEU size, thereby avoiding wasted space;
- Quickly transferred from ship to railcar and truck;
- Secured to reduce theft and damage to cargo; and
- Refrigerated in order to allow for perishable goods to be transported over long distances by ship, rail, and truck.

The growth in global trade and trend toward containerization of commodities are factors in increasing container volumes through world seaports. North American port cities have been particularly impacted by the increase in imports from Asia, which has

been the catalyst for container expansion on the west coast. According to the Vancouver Port Authority, world container shipping traffic increased from 35 million TEUs in 1980 to over 300 million TEUs in 2003, representing an increase of approximately 750%. Container shipping volumes through the Port of Vancouver have followed this trend, increasing from 1.67 million TEUs in 2004 to 1.77 million TEUs in 2005 to an expected 4.6 million TEUs by 2020. The trend toward increasing containerization is expected to continue well into the future.

Containerization has had a major impact on the location of major seaports and corresponding infrastructure requirements. As container ships are becoming larger in order to accommodate greater container volumes, deep-water harbours are becoming increasingly important. Ports with natural, deep-water harbours such as the Port of Vancouver, are particularly valuable as they are able to accommodate large container ships and do not require dredging. Major world ports have actually relocated operations in order to accommodate larger container ships. Terminals are also required to expand in order to handle larger container ships and larger container volumes. With greater container volumes, there is also an increasing demand on multi-modal transportation networks and a corresponding increase in truck and rail traffic.

Multi-modal Transportation

The movement towards containerization has resulted in the development of multi-modal transportation networks, which allow containers to be easily transferred from one form of transport to another (i.e. ship to rail or truck or vice-versa). Multi-modal transportation networks are largely dependent upon rail networks and freeways and where these interface with ports to form major transportation hubs. Correspondingly, industrial land within close proximity to multi-modal transportation networks has become increasingly important.

The choice to move goods via rail or road is dependent on time and cost. Where goods are required to travel a long distance over land, they may be shipped via rail whereas goods transported over shorter distances are more likely to be moved by truck. Similarly, the choice to locate an industrial business may largely be dependent on time and cost. Improved road infrastructure has allowed industrial firms to relocate to industrial parks beyond the traditional industrial core yet still have easy access to multi-modal transportation networks. Increased truck traffic is evident in greater demand for ground-oriented industrial floor space with large loading bays.

Industrial Land Conversion

With urban growth and increasing pressure on industrial land, conversions enabling residential and commercial developments have been common. Such incursions by non-industrial land users have pushed out many remaining industrial users as they are often incompatible with residential or commercial users, or they simply cannot compete with increasing land costs.

Generally, desirable industrial land that can accommodate modern industry is in short supply within major North American cities. Large industrial businesses are continuing to relocate to peripheral locations that have lower operating costs and strong rail and freeway access.

In contrast to the manufacturing and heavy industry sectors, the service and technology sectors have emerged as the cornerstone of the European and the North American markets, specifically in cities such as New York, Chicago, Boston, San Francisco, and Barcelona. These sectors are typically more compatible with residential

and commercial uses than heavy industry. As a result, industrial areas in urban core areas are accommodating greater numbers of service and technology type industries.

9.2 Regional Trends and Issues Affecting Industrial Activity

The trends and issues affecting industrial activity on the regional scale are similar to global and national trends. These include increased container traffic, increased reliance upon multi-modal transportation systems, and the conversion of industrial land to residential and commercial uses.

Transportation & Logistics

Perhaps the most significant regional trend influencing industry within Greater Vancouver involves alterations to transportation and logistics systems, specifically the increased use of standardized container units and multi-modal forms of transportation.

As Canada's busiest port, Vancouver has experienced a steady increase in shipping volumes over the past decade; this increase has corresponded to an increase in truck traffic and reliance on trucks to transport goods regionally. Consequently, industrial facilities that can accommodate transport trucks and have strong connections to main truck routes and regional highways are in high demand. In contrast, the importance of being within close proximity to the Port of Vancouver has diminished as trucks can access multiple points throughout the region by locating elsewhere (provided there is a good roadway connection). Through the adaptation of container units, industrial firms are capable of locating on the periphery of urban areas while still maintaining relatively strong connections to port terminals. As a result, industrial facilities are no longer restricted to areas that are adjacent to seaports and rail yards.

Land Values

Inner-city industrial land still retains significant value, specifically for industrial firms whose primary customers reside in the commercial core. Unlike other major cities in Canada and the United States, the absence of a significant freeway system linking Vancouver's core with suburban business parks, strengthens the appeal of inner city industrial land. Industrial firms often cannot afford transportation delays as they require relatively unimpeded access to their client base.

Declining Industrial Land Supply

Similar to other cities throughout the globe, Vancouver is converting industrial zoned land and industrial serving land within its core to accommodate residential and commercial developments. Industrial areas such as the former Expo Lands, Yaletown, Coal Harbour, East Fraserlands, and the Southeast False Creek area have been converted to permit residential and commercial developments.

Low Vacancy Rates

To coincide with the decline in the city's industrial land supply, low industrial vacancy rates within the city are hindering potential new industrial developments from locating in Vancouver. The GVRD industrial land market is also experiencing low vacancy rates. According to Colliers International, the second quarter industrial vacancy rate for 2006 was 1.1%, and the region's limited supply of industrial land is increasing rents across the region, hindering the ability for businesses to expand by relocating to larger facilities. Municipalities with more developable land such as Pitt Meadows, Surrey, Langley, Abbotsford and Chilliwack are experiencing increasing levels of industrial development.

10.0 Case Studies

This section analyzes the industrial land policies and employment strategies that have been implemented in Baltimore, Boston, Chicago, San Francisco, and Wilmington (Los Angeles), Rotterdam, and Barcelona. The rationale for selecting these cities is two-fold: (i) As major ports in developed nations, the case study cities have been influenced by similar market conditions and the same global trends that have influenced industrial land use in Vancouver; and (ii) all of the case study cities have implemented strategies aimed at enhancing the economic and social conditions of their inner city industrial areas.

A summary of each case study has been provided, with detailed case study information available in Appendix D. A synopsis has also been provided at the end of this section, which analyses the specific strategies utilized by the case study cities. The synopsis serves to identify potential policies, tools, and information that may be relevant to long range planning for the Powell-Clark industrial areas.

10.1 Baltimore, Maryland

In the latter half of the 20th century, Baltimore began to experience large-scale de-industrialization and the loss of traditional industrial activities such as shipbuilding, chemical production, food processing and metal fabrication. This left many vacant, underutilized, and contaminated sites with older, derelict buildings on small lots that were incapable of accommodating modern industrial operations.

A corresponding lack of capital investment into these areas has reduced the City's ability to market its industrial areas, despite their numerous strategic advantages such as close proximity to the central banking district, modern port facilities, interstate freeways, and the city's large concentration of advanced academic institutions. Industry and industrial land has also diminished where residential and commercial developments have been allowed, which are not only incompatible with heavy industry but have resulted in increased land prices. Baltimore continues to face competition for industrial job growth and retention from suburban business parks with modern facilities, lower land prices, and fewer operating restrictions.

Maintaining viable industrial lands in proximity to the Port of Baltimore is recognized as a critical component of the State of Maryland's 2005 *Maritime Industrial Retention and Growth Management Strategy* (MIRGMS). The MIRGMS targets Port Focus Areas and provides a number of methods to retain and support the growth of maritime and related industries.

One of the most notable recommendations of the MIRGMS is to facilitate the development of companies with high innovative content which can be accommodated in warehouse, flex or office spaces in close proximity to the regional transportation network and waterfront amenities. These types of uses can serve as effective buffers between heavier industrial type port uses and lighter industrial, commercial and residential mixed-use activity. Demand for warehouse and flex space is anticipated for all the Port Zone jurisdictions, with greatest demand expected in Baltimore City.

At the local level, the City of Baltimore has responded to the decline in industry in a number of ways:

- The City has targeted six industrial sectors that are projected to experience the largest job growth within the Baltimore area including: (i) bioscience, (ii) business services, (iii) construction, (iv) computer, data, and software related

services, (v) healthcare and social assistance, and (vi) the hospitality and tourism industry.

- In 2006, the City adopted a Comprehensive Master Plan (CMP) in order to strengthen the selected growth industries, to improve labour force participation among residents, and to improve access to jobs and transportation linkages between businesses. The CMP included policies to create (i) an industrial mixed-zone district to accommodate current industrial demands and operations while permitting a limited amount of supporting commercial uses, and (ii) a light industrial mixed-use zoning district to accommodate "clean" industrial uses also with supporting commercial uses. Both districts are intended to have specific design guidelines and performance standards to ensure compatibility given the mixture of uses.
- The City has retained the right of eminent domain (the inherent power of government to expropriate private property without the owner's consent, for public uses) in order to assemble several, smaller lots in order to accommodate large businesses.
- The City has accessed Environmental Protection Agency (EPA) grants to fund soil remediation for brownfield redevelopment projects throughout Baltimore.
- The City maintains tax increment financing* (TIF) districts and enterprise zones, where taxes within these zones are intended to enhance infrastructure, aesthetic appearance, and marketability.

Lessons Learned

Consistent with the MIRGMS, State and local governments have implemented plans, programs and incentives to facilitate redevelopment within Port Focus Zones. These efforts have been successful in preserving industrially zoned land, facilitating the redevelopment of brownfield sites, examining the long-term transportation needs for future port access, and identifying a range of economic development tools to support industrial and maritime business development and expansion.

However, the City of Baltimore's strategies including the use of eminent domain, support for brownfield redevelopment, use of TIF districts, and the establishment of enterprise zones, have been marginally successful to date with industries continuing to relocate to suburban business parks. Inadequate industrial building stock coupled with increasing levels of land speculation from non-industrial developments in Baltimore's industrial areas, continue to be obstacles to industrial development within the city.

The success of the recently adopted strategies identified in Baltimore's CMP, including the creation of a mixed-use industrial district, and a light-industrial mixed-use zoning district, intended to promote the six projected industrial growth sectors, are unknown at this time due to their recent implementation.

10.2 Boston, Massachusetts

Since the latter half of the 20th Century, Boston has experienced an economic transformation from an industrial centre to one of North America's leading centres for financial services, higher education, and medical services. Similar to Baltimore, Boston has been experiencing a trend of de-industrialization as industrial firms relocate to

* *Tax Increment Financing or TIF is a tool to use future gains in taxes to finance the current improvements that will create those gains.*

suburban areas and other regions, leaving many neighbourhoods with vacant, underutilized sites, and fewer jobs.

Responding to the decline in industrial jobs, the City of Boston has created three primary strategies with the overall objective to preserve the remaining industrial jobs, in order to maintain a diversified economy and vibrant neighbourhoods. These strategies include a City-owned and managed industrial park, the Neighborhood Jobs Trust Program, and the Back Streets Program.

- The City purchased the 191-acre Marine Industrial Park in 1977, to facilitate new and expanding industries with affordable and modern industrial space. Of the 3.1 million square feet of industrial space, less than 5% is vacant within the Marine Industrial Park.
- The Neighborhood Jobs Trust Program funds skills training and educational programs in Boston through a real estate development linkage program, which contributes $1.44 for each square foot of development in excess of 100,000 square feet. The program's objective is to support new and innovative education and training activities that result in high wage employment, new or non-traditional employment opportunities, and community-based projects.
- Boston initiated the Back Streets program in 2001 with the intention of preserving and promoting small to medium sized industries within the city. The primary goal of this program is to prevent any further reductions in the amount of industrial space within Boston, through the provision of financial and professional assistance to a multitude of businesses throughout the city, in five key areas: real estate support, work force development, business assistance, financing for capital improvements, and planning services.

Lessons Learned

The various initiatives employed in Boston appear to have been successful at maintaining industrial jobs within the city, albeit at a relatively small scale in comparison to other employment sectors. New industrial businesses have recently been established within South Boston, Dorchester, and other industrial areas in the city, suggesting that the various policies have created an attractive industrial atmosphere.

However, Boston is no longer reliant upon industrial jobs and businesses. Boston's future appears to be connected to the growth and development of its advanced academic institutions, and the large clusters of advanced health care facilities within the city. Future job projections anticpate that these sectors will likely experience the majority of the city's employment growth, while the percentage of manufacturing and industrial sector jobs will likely remain static in comparison.

10.3 Chicago, Illinois

Chicago has emerged as the economic centre of the Mid-west, with an economy dominated by the service and financial sectors. However, Chicago was traditionally a home to heavy industry and manufacturing in the areas of: steel manufacturing, chemical production, petroleum refining, electronics, machinery, metal fabrication, food processing, and medical and scientific equipment. While some of these industries remain, Chicago has experienced significant de-industrialization since the latter part of the 20th century, with the relocation of traditional industries to suburban centres, and other countries. Gentrification during the mid-1980's was a factor in destabilizing the industrial land market, specifically in industrial areas in close proximity to central Chicago. Permissive zoning regulations facilitated residential and retail development

on former industrial property, resulting in real estate speculation. This threatened the viability of many industrial areas as remaining manufacturers and industries became hesitant to make long-term capital investments, as they were uncertain of their ability to remain in industrial areas

To deal with the decline in industrial activity in Chicago, the City has embarked on a number of initiatives:

- In 1986, the City created a task force to address the loss of industry resulting from gentrification. The task force recommended the creation of a Permanent Manufacturing District (PMD), with the objective to foster industrial development and to retain and create well-paying manufacturing jobs. PMDs were intended to prevent further conversions of industrial land to alternative uses. Between 1988 and 2004, 11 PMDs were created in Chicago.
- The City has implemented Tax Increment Financing (TIF) Districts, with the objective of spurring private capital investment. Businesses within the TIF District are able to keep all of their property taxes for a 23-year period, to ensure that TIF businesses have adequate financing to develop the necessary infrastructure to attract new businesses.
- The City has implemented Enterprise Zones, which seek to stimulate economic activity and revitalize declining neighbourhoods; in Enterprise Zones, the City provides more flexible zoning and tax regulations in order to guarantee a good return on private investments.

Lessons Learned

Chicago's PMDs continue to be strong employment areas, however the majority of these jobs are no longer in manufacturing. The decline of the manufacturing sector within the PMDs is consistent with the overall shift of the Chicago economy away from a manufacturing-based industrial economy towards a service and finance economy. In contrast with PMDs, TIF appears to have been successful in generating private investments and attracting new businesses within TIF districts, which often coincide with PMDs. One dollar of TIF assistance is accompanied by an average of $6.28 of private investment. Since 1989 TIFs have generated $4.2 billion in private investment through $680 million in TIF assistance. However, land use speculation continues to hinder industrial development within the PMDs, increasing property prices in industrial areas and making them less attractive for industrial businesses.

10.4 San Francisco (Eastern Neighborhoods), California

Traditionally, San Francisco's Eastern Neighbourhoods were home to the city's iron foundries, machine shops, boiler works, warehouses, shipyards, and abattoirs. Between the late 1960's and early 1990's, the region underwent dramatic changes as heavy industry migrated to outlying communities. At the same time, a shortage of available housing and high property values attracted developers to city's industrial areas, where lower land prices and permissive zoning codes facilitated residential development in these areas. Today, the Eastern Neighbourhoods are home to some 70,000 residents while comprising a high proportion of the city's processing, distribution, and repair (PDR) jobs.

The Eastern Neighbourhoods are continuing to transition from industrial to residential, commercial, and other uses. This is directly related to the fact that San Francisco is facing an affordable housing crisis as a result of the city's growing population and high land costs. The challenge for the City of San Francisco has been to accommodate

residential growth while maintaining the PDR jobs needed to sustain the city's economy. In an effort to create cohesive neighbourhoods, which include an integration of residential units and commercial services, and at the same time preserve the city's remaining industrial land and businesses, the City of San Francisco has employed a variety of strategies:

- Through the Citywide Action Plan (CAP), San Francisco has sought to clarify the City's zoning and planning policies to guide new residential, commercial, and industrial projects in a coherent manner. CAP has two components including: (i) updated planning policies related to housing, land use and urban design, and (ii) implementation measures including revised zoning, updated review procedures, and planning code provisions.
- As interim controls, the City introduced two zoning districts in 1999 including: an Industrial Protection Zone (IPZ) and a Mixed Use Housing Zone (MUHZ), which were intended to guide new development toward appropriate locations and provide more stability for processing, distribution, and repair (PDR) jobs). These interim controls were replaced by policy guidelines in 2001.
- The City has further developed its IPZs and MUHZs, altering the definitions of PDR industries and further delineating its industrial land into areas suitable for PDR industries, PDR and residential developments, and a housing mixed-use zone suitable for both residential and commercial developments.

Lessons Learned

San Francisco's land re-allocation strategy was intended to facilitate residential and commercial development within industrial areas in a manner that is intended to preserve existing PDR firms. This strategy has been successful to a certain degree. Most offices, retail stores, and residential buildings have remained in the IPZ and MUHZ zones because they can afford to pay higher rental rates than PDR and at the same time, pay lower rents than those at most other locations in the city. Some heavy industrial uses have remained given the high level of infrastructure investment required if they were to move elsewhere. However, heavier PDR businesses located in the MUHZ have left because they are incompatible with surrounding uses or they can not afford predominant residential or office rental rates, leaving the MUHZ to be mostly dedicated to a mixture of residential and commercial uses.

The case of San Francisco's Eastern Neighbourhoods has shown that by creating innovative zoning districts and clear zoning regulations, certain types of industrial businesses can operate successfully while at the same time accommodating residential and commercial development. This case has also illustrated the importance of having strict zoning controls to prevent non-industrial incursions into industrial areas which are not compatible with other land uses in order to preserve industrial jobs and businesses.

10.5 Los Angeles (Wilmington), California

The City of Wilmington is situated on Los Angeles Harbor, adjacent to the Port of Los Angeles. Industrial development coincided with the discovery of oil in 1921. Oil extraction and refineries contaminated the soil and created a complicated overlay of property and resource extraction rights, which has hindered development for much of the last 40 years. Furthermore, unfavourable activities such as junkyards, auto-wreckers, illegal garbage dumping, property crimes, and violent crime have

contributed to economic and social degradation and reduced the City's ability to attract modern industrial businesses.

To counter these negative conditions and stimulate industrial redevelopment, the City of Los Angeles has embarked on a number of initiatives:

- The Wilmington Industrial Park (WIP) was created in 1974, with the boundaries drawn around most areas of Wilmington that were neglected and blighted as a result of oil extraction. The primary objective of the WIP was to enhance the economic condition of the community and to ameliorate blighted conditions through the establishment of a modern industrial park;
- The Los Angeles Redevelopment Authority (LARA), which oversees the WIP, has promoted interdepartmental cooperation among levels of government, while also seeking out financial aid or tax credits from governments for WIP businesses;
- LARA has implemented a comprehensive planning and marketing real estate strategy, culminating in the development of an information website, which provides prospective developers with information on various government agencies and available financing; and
- LARA has reserved the power of eminent domain (the inherent power of government to expropriate private property without the owner's consent, for public uses), in order to remove the impediments to land allocation and development through the assembly of land into appropriate sizes for industrial purposes.

Lessons Learned

Over a long period of time and at a significant cost, the WIP has improved the economic health of Wilmington, as new firms have relocated to WIP and existing firms have chosen to expand their operations. The WIP is now home to approximately 80 business operations, employing some 1,200 people and has successfully attracted local, state and federal financial aid.

The WIP has also been designated as one of Los Angeles's Brownfield Demonstration Sites. As such, businesses looking to locate or expand in the WIP may qualify for numerous grants and low interest loans from various levels of government. Large developments within the WIP have been dependant upon this funding to facilitate soil remediation and the assembly of small lots, a legacy of the original residential layout.

However, despite the improvements that have been made since 1974 and the large amount of public investment into the WIP, many of the original negative conditions remain and the area continues to suffer from a blighted image and lacks the amenities and features that might otherwise make the industrial park successful.

It is difficult to conclude how successful the WIP has been at creating a modern industrial park that is independent from state financing. Many of the original blight conditions remain, including high crime rates and illegal dumping of garbage, in conjunction with high turn over rates and small residential and oddly shaped lots that are not conducive to redevelopment. The ability to attract significant private investment appears to be attached to public financing, which will likely continue into the future. Wilmington's experience highlights the reluctance of private firms to finance soil remediation and significant site assembly, and the difficulty of transforming previously residential areas into industrial parks.

10.6 Rotterdam

In the 14th century, Rotterdam was a small fishing village situated on the river Rotte. During the twentieth century, Rotterdam's maritime related industries began to expand seaward and today, the Port of Rotterdam is a world-class facility and the most important port in Europe.

In the late 1990's, the Rotterdam Mainport Development Project (PMR) was initiated as a coordinated effort involving several national agencies, the Rotterdam metropolitan region, the municipality of Rotterdam and the province of South Holland in order to create space for the port and industry. The objectives of the project were to improve the quality of the environment in and around the port while improving the port's capacity and efficiency. PMR involves:

- The construction of Maasvlakte 2, involving a 2,000 hectare land reclamation process to accommodate modern port facilities capable of serving larger vessels, with immediate access to the North Sea to accommodate quick turn-around times;
- The creation of a 750 hectare recreation and nature area; and
- Execution of projects in Rotterdam's existing port and industrial area to make better use of the area through intensification, while improving livability.

The Municipality of Rotterdam and Port of Rotterdam Authority are jointly responsibility for projects within Rotterdam's existing port and industrial area. CityPorts Rotterdam Development Corporation was established in 2003 as a 50/50 partnership between the Municipality and Port to intensify the economic function of the area to support maritime industries and initiate urban redevelopment in specific locations to support new housing.

The Municipality has, correspondingly, developed its *Gateway to Europe Plan* which identifies planning goals for specific areas:

- Waalhaven and Eemhaven: intensification of short-sea industry, modernization of port functions and attracting port-related knowledge and services;
- Merwehaven and Vierhavens: transformation from port area to urban area with housing and residential-friendly businesses;
- Research, Design & Manufacturing (RDM) site: industrial heritage, education and knowledge economy, energy and creative economy, light maritime and general cargo businesses;
- Rijnhaven and Maashaven: urban intensification with housing, businesses and attractive facilities.

In addition to the planning strategy, physical improvements have been made in certain areas to improve the public realm and mitigate the noise impacts of heavier industrial uses. Noise mitigation has occurred through noise reduction on rail bridges and the development of quiet road surfaces and noise barriers.

As the PMR project moves forward, port related uses will move seaward enabling land to be redeveloped for lighter industrial uses which are more compatible with commercial and residential development. The Rotterdam Port Authority and Municipality of Rotterdam have made agreements on the phasing of land transfers to the City for redevelopment. However, land required for port-serving uses (i.e.

Waalhaven, Eemhaven, and the RDM site) will be retained by the Port of Rotterdam Authority.

Lessons Learned

Rotterdam has moved successfully toward revitalization of urban areas in proximity to Port operations. This has occurred through coordinated efforts between multiple levels of government (national, regional, and local) and the Port of Rotterdam. Redevelopment plans have maintained a dual focus of improving Port functions while at the same time improving the quality of the urban environment and livability for its residents. Continued cooperation between the Municipality and Port remain integral to the continued redevelopment of the area.

10.7 Barcelona

From its early beginnings as a Mediterranean centre for trade in the 13th and 14th centuries, Barcelona has evolved as a manufacturing centre. It is now Europe's third largest port, behind Rotterdam and Hamburg. However, like many North American cities, Barcelona's heavy industrial sector has been in decline and, conversely, there has been growth in the city's tertiary knowledge sector.

In 1988, the Barcelona 2000 Economic and Strategic Plan was created through multi-stakeholder involvement. Objectives of the plan are:

- To connect Barcelona to a network of European cities and improve internal accessibility;
- To improve the quality of life in the city; and
- To make industrial and service sectors more competitive while supporting new, emerging sectors.

The 1992 Olympics had a major impact in stimulating investment in design-led urban infrastructure and improved quality of life for the city's inhabitants. In 2000, the Metropolitan Master Plan was amended to include the regeneration of the Poblenou industrial area. The Master Plan amendment changed the land-use classification for Poblenou from industrial to knowledge-based uses and established conditions for development in terms of land and building use, density and infrastructure support.

Poblenou, adjacent to Barcelona's port, was the base for industrial plants for more than a century. Poblenou is now the focus of the "22@bcn" redevelopment plan to transform the former industrial area into a modern business activity district and high tech incubator zone. Poblenou is to be characterized by high-quality urban development, new open spaces, modern infrastructure, and both new buildings and retrofitted industrial buildings to accommodate high-tech product manufacturing, information technology services, and knowledge centres (i.e. training centres, universities, research facilities, and cultural facilities).

The 22@bcn plan moves away from the historic, industrial land use pattern and seeks to integrate a variety of uses and employ a highly qualified workforce while promoting the knowledge economy. The 22@bcn plan promotes activities that:

- Use production processes characterized by the use of new technology;
- Have a high occupational density (i.e. workers or users/surface area);
- Generate high added value;

- Are directly related to the generation, processing, and transmission of information and technology; and
- Are non-polluting, do not pose a nuisance threat, and can be located in urban centres.

Industrial developments in the Poblenou district can be developed to an FSR equivalent of 2.2. Buildings are required to have street frontage and the maximum building height is directly related to the width of the street (i.e. buildings sited on wider streets can be taller than those sited on narrower streets).

A limited amount of housing is permitted within the Poblenou district, particularly where it is possible to rehabilitate industrial buildings for use as housing in order to maintain Barcelona's industrial architectural heritage and where such buildings are located in an environment where there are no adjacent activities which would be incompatible with housing.

There is also a special infrastructure plan for Poblenou. This plan involves not only the redevelopment of city streets and redefinition of the road network but the development of leading edge energy and telecommunications networks to support emerging knowledge-based industries.

Lessons Learned

Similar to Baltimore, Barcelona has made a strategic decision to target specific economic growth sectors, namely the information and communications technology, research, culture, and knowledge sectors. The City has focused its planning efforts on facilitating the development of these sectors in the Poblenou district while allowing for a limited amount of housing. It has also provided incentive to private investment through major public infrastructure improvements.

A variety of sources indicate that the Poblenou district is redeveloping successfully in accordance with the 22@bcn redevelopment plan. This has occurred through political leadership, focus on cultural-led regeneration, and urban design. According to the City of Barcelona, over the next 15 to 20 years it is expected that 3.2 million m^2 of new and refurbished floor space, 3,500 – 4000 new homes (under a social housing regime), 220,000 m^2 of land for public facilities and open space will be developed at a cost of €12 billion, forecasted to generate 100,000 – 130,000 new jobs in the area.

10.8 Synopsis of Case Study Review

While most of the cities reviewed in this section have experienced significant de-industrialization, with the exception of Los Angeles, the strategies implemented within the seven cities have primarily shared the same goal: to preserve inner city industrial lands for business and employment. The success of these strategies has differed amongst the case study cities. Some of the key findings from the case study review are summarized as follows.

Changing Industrial Land Policies

Chicago, Baltimore, and Wilmington which had struggling inner city industrial areas, failed to attract significant new industrial activity into their industrial zones in spite of zoning bylaws aimed at protecting manufacturers and industry and the large amount of public financing available. Industrial policies within these three cities had at one time sought to transform older brownfield industrial areas into modern industrial parks, in order to attract or retain large tenant manufacturers and employers.

With few exceptions, major industrial businesses have left inner city industrial areas. Although tax incentives and policies have slowed the exodus of heavy industry and manufacturing, as seen in Chicago and Baltimore, they have not been able to stop traditional industries from relocating away from inner city areas.

Policies aimed at transforming brownfield industrial areas involve significant public financing for soil remediation and for lot assembly. Generally these policies have been costly and unsuccessful, as manufacturing firms within these cities continue relocating to suburban locations. Baltimore has recently shifted its policy towards the creation of mixed-use commercial/industrial districts aimed at attracting commercial and industrial businesses, rather than preserving past zoning bylaws, which facilitated heavy industry.

Emergence of Production, Distribution, and Repair (PDR) Industries

Industrial firms that generally survive in core industrial areas are the light industrial production, distribution, and repair (PDR) type businesses. PDR businesses generally require close proximity to their primary customer base, generally located in major commercial centres. San Francisco and Boston, which created policies targeting businesses within the PDR sector, were generally more successful at preserving employment and businesses. In addition, the majority of the PDR firms are compatible with numerous alternative land uses. This has allowed them to coexist with adjacent commercial and residential areas. Furthermore, PDR uses can serve as effective buffers between incompatible land uses such as heavy industrial and commercial, residential, and mixed-use developments.

Boston and San Francisco have had very successful industrial strategies focussing upon small and medium PDR industries that can operate within close proximity of residential and/or commercial uses. Through the creation of the Back Streets Program (Boston) and the through the successful delineation of former industrial land between PDR zones, PDR-residential zones, and a Housing/Mixed zone (San Francisco), these cities have created a framework that supports PDR businesses and the preservation of business and employment space for city residents. This occurred without the heavy tax subsidies and other expensive policies that have been largely unsuccessful in Wilmington, Baltimore and Chicago.

The case study strategies and their potential applicability to the Powell-Clark industrial areas are summarized in the following table.

Strategy	Case Study Application*	Rationale	Suitability for the Powell-Clark Areas
Planning & Policy			
City-wide Action Plan	SF, ROT	Provides a coherent development framework for residential, commercial and industrial uses	Currently exists as part of the Industrial Land Strategy
Target Economic Growth Sectors	BAL, BAR	Target specific growth sectors instead of trying to satisfy all potential businesses	May be explored given the challenges of a limited land supply
Public Consultation			
Industrial Summit	SF	To inform public about the role of industrial land and PDR uses in the city's economy, explore options for remaining industrial land, and seek input from the summit participants to frame land use policies and zoning controls for the remaining industrial land in San Francisco.	Currently being addressed as part of the Metro Core Jobs and Economy work
Zoning/Regulatory Tools			
Industrial Mixed-use / Industrial Protection Zones (IPZs)	BAL, SF	Mix industry with supporting commercial activities to stimulate industrial activities in designated areas; accommodate new housing while maintaining PDR businesses through integrated communities.	Currently exists within city policy, could be enhanced
Light-industrial Mixed-use/Mixed-use Housing Zones (MUHZ)	BAL, SF, RO, BAR	To accommodate light industrial uses compatible with supporting commercial activities.	Currently exists within city policy, could be enhanced
Permanent Manufacturing Districts (PMDs)	CHI	To retain and create well-paying manufacturing jobs in Chicago.	Currently exists as part of the existing Industrial Land Strategy
Overlay Zones	SF	To encourage different land uses within specified areas: PDR zone to preserve PDR businesses; PDR-Residential zone for a mix of PDR space and housing; Housing/Mixed Use Zone for housing and mixed use.	May be suitable to facilitate the changing types of uses on industrial land
Streamlined PDR definitions	SF	To provide flexibility for PDR businesses.	Definition of industrial land could be re-examined
Eminent Domain	BAL, LA	To enable assembly of land into appropriate sizes for industrial purposes.	Politically difficult - though more direct City action should be examined
Taxation/Funding Tools			
Access Funding for Brownfield Development	BAL, LA	To assist with soil remediation costs and enhance vacant and underutilized areas.	Should be explored given that these costs represent a challenge to redevelopment

Tax Increment Financing (TIF)	BAL, CHI	To stimulate private investment to improve the infrastructure and appearance of TIF districts. In Chicago, TIF businesses keep all of their property taxes for 23 years.	Should not be considered due to lack of short-term impact and requirement for provincial and federal legislative changes.
Enterprise Zones	BAL, CHI	To revitalize the economy and declining neighbourhoods through flexible zoning and tax regulations.	Zoning options under investigation; taxation may require provincial and federal approval
Local/State/Federal Financial/Tax Aid for Land Revitalization	LA	To assist with soil remediation costs and lot assembly.	Should be explored; these costs are a challenge to redevelopment
Local Programs			
Neighborhood Jobs Trust Program	BOS	To provide training and employment prospects for under-employed and un-employed residents; supports new or non-traditional employment opportunities and community-based projects.	The potential for implementing local programs should be explored.
Back Streets Program		To provide workforce development, assist businesses, and finance capital improvements.	
Intergovernmental Cooperation			
Promote Multi-government Cooperation	LA, ROT	To streamline complicated regulatory review processes while simultaneously assisting new developments.	Should be explored
Marketing			
Planning and Marketing Strategy; Website Development	LA	To attract developers, resolve obstacles for site development, and promote site development opportunities.	Should be explored

**Case Study Application: Baltimore (BAL), Boston (BOS), Chicago (CHI), San Francisco (SF), Wilmington (LA), Rotterdam (ROT), Barcelona (BAR)*
Source: CitySpaces Consulting Ltd. and Harris Consulting Inc.

11.0 FOUR FUTURE DEVELOPMENT SCENARIOS

Based upon information gathered through discussions with area businesses, the SWOT analyses, and case study reviews, a set of four future development scenarios were developed for the Powell-Clark industrial areas:

- Scenario 1 - Maintain existing regulations and introduce long-term revitalization strategies;
- Scenario 2 – Encourage large format industrial space;
- Scenario 3 – Encourage mixed-use industrial/office space; and
- Scenario 4 – Encourage mixed-use industrial/flex space.

These scenarios identify several different development options and evaluate each option's ability to encourage reinvestment, maintain or increase employment densities, and to help improve the overall viability of these industrial areas. The following

provides a conceptual overview of each option and explores potential benefits and challenges related to implementation and longer-term outcomes.

It is worth noting here that a significant input into the benefits and challenges associated with these scenarios is an assessment of the current and expected market favourability of each option. This assessment tries to estimate, in a general way, the local market's interest in developing speculative floor space under the terms of a given scenario based on current lease rates, development costs, and estimates of demand.

In the past, the Powell-Clark industrial areas have seen most of their new floor space developed as purpose-built space financed by the end user (often with a small amount of space built for future expansion that is leased out to other users in the short-term). While this does represent new investment into these areas, it is much harder to predict when and at what scale this type of investment will occur. Purpose-built space is not subject to developer profit margin and can sometimes be built at a significant premium (relative to the local market) if a particular user is intent on locating in a certain area.

Given the uniqueness of this model, the assessment below has instead tried to gauge the market's reaction to each scenario based on an estimate of the likelihood of a speculative project being developed. This provides a better comparison with which to judge the advantages and disadvantages of each scenario.

11.1 Scenario 1 – Maintain Existing Regulations and Introduce Long-term Revitalization Strategies

It should be noted that while certain characteristics of the Powell-Clark industrial areas provide some significant challenges for businesses located here, they do play an important role within the City of Vancouver. Generally, these areas enjoy a high level of activity (as evidenced by low vacancy rates) and provide less expensive industrial floor space (due to its age, size and configuration) adjacent to the downtown core, which acts as a significant facilitator for new business incubation opportunities.

As well, while the fragmentation of land and floor space in the area does lead to less efficient business activity, it has a corresponding effect of generating higher employment densities (estimated to be 90 jobs per net acre) than might otherwise be the case in other, newer industrial areas. The first scenario for these areas maintains the unique role these areas play within the city. Therefore, this option would see the maintenance of existing regulations in the Powell-Clark areas. This option would likely see the continuation of business activities within the existing building stock, which tends to favour smaller firms in a wide array of activity sectors.

It should be noted however that maintaining current zoning regulations is not the same as "doing nothing". If nothing is done in these areas, the rather unfavourable conditions for development in the area can be expected to continue. Currently, a high cost of development coupled with a set of allowable uses that do not currently generate revenues large enough to make redevelopment feasible have hindered new investment in the area. Thus, if all regulations in the area are maintained in their current forms it is possible that the Powell-Clark areas could continue to see limited reinvestment which can be expected to hinder the future role they will play within the local economy.

Therefore if this scenario is chosen as the preferred option, it is recommended that the general strategic directions identified in Section 12.0 still be implemented as a means of enhancing the viability of the Powell-Clark industrial areas through non-zoning-

related supports such as infrastructure and public realm improvements, site clean-up assistance, and/or area marketing initiatives.

11.1.1 Benefits

This scenario would allow these areas to continue to provide lower-cost industrial space (driven by unit size, age of building etc.) to smaller and start-up firms in close proximity to population, transportation routes, and labour supply. Maintaining current policies and regulations would also continue to favour the accommodation of smaller-sized firms in the area which drive the area's high average employment densities.

This scenario would also see a continuation of the steady (though somewhat slow) redevelopment that has been occurring within these areas. This would benefit the area given that recent development has tended to occur at increased densities relative to the area average. This suggests a general increasing in the amount of industrial floor space in these areas, and may correspond to increasing industrial employment as well.

11.1.2 Challenges

Currently, development dynamics in the area limit the feasibility for redevelopment and the creation of new, more functional industrial floor space. This can hinder the overall health of these areas in two ways. A lack of adequate space can present a significant challenge to those firms looking to locate within the area. It can also hinder those businesses already in the area that are looking to expand. If adequate space cannot be found in the local area, then some businesses may choose to locate outside the area.

Comments from stakeholders suggest that this is already occurring and that many of those businesses unable to find suitable space (either to locate to or expand within) have been choosing to locate outside the City of Vancouver altogether. This represents a net loss of economic activity, and employment for the city.

Over time and without ongoing reinvestment, the area may become less and less viable to new businesses and begin to see significant decline and decreased activity which could see the current strengths of the area erode.

11.2 Scenario 2 – Encourage Large-Format Industrial Space

This approach would see the institution of policies aimed at encouraging the Powell and Clark industrial areas to be redeveloped for larger-scale, warehouse, manufacturing and processing uses similar to those seen in outlying areas of the region. Given their location adjacent to the Port of Vancouver, the Clark Drive/Knight Street truck route, and the CP Rail right-of-way there may exist some potential for reinvestment in the Powell-Clark areas through policies that strongly encourage land consolidation, and redevelopment for larger-floor plate industrial space that also provides for efficient docking and loading.

11.2.1 Benefits

The primary benefits of this scenario are based on the strong demand for this type of industrial space within the region. Currently, the GVRD is facing a number of challenges related to a lack of industrial land that are driving extremely low vacancy rates of approximately 1.1%. This scenario would provide industrial floor space of a type in high demand within the region generally, which is also located adjacent to downtown Vancouver, the Port of Vancouver, the CP Rail right-of-way, and the Clark Drive truck route, suggesting high demand for this type of floor space.

11.2.2 Challenges

Despite the anticipated demand for floor space and lease rates achievable for this type of floor space in this location, market dynamics do not currently favour the development of large format industrial space. Development constraints include high land values coupled with significant anticipated land assembly costs.

One of the key strategic advantages of large format industrial development would be the provision of efficient docking and loading areas. However, the provision of such facilities would result in less industrial floor space being provided on the ground floor, requiring additional industrial floor space to be provided on upper levels in order to satisfy the City's goal of increasing industrial floor space. This presents a challenge given that upper-floor industrial floor space lease rates tend to be lower than those for ground floor space (estimates of current lease rates suggest they may be as much as 30% lower). This can be expected to decrease the financial feasibility of redevelopment at least in the short term.

Overall, the points presented above highlight the market challenges related to redevelopment under this scenario. This suggests that industrial lease rates are not sufficient to cover the costs of development at least in the short term and that other strategies may need to be employed to encourage the development of new industrial floor space. In the longer term lease rates for industrial space may rise to sufficient levels to facilitate redevelopment (inclusive of construction, land assembly and possible site remediation costs) though when that might occur is unknown.

Other challenges related to this scenario lie in anticipated changes in employment density. Examination of larger-format, suburban industrial areas show average employment densities much lower than those found in the Powell-Clark industrial areas (estimated to be approximately 50 jobs per net acre, compared to 90 in the Powell-Clark areas). This suggests that redevelopment of this type may actually decrease the number of jobs in the area.

11.3 Scenario 3 – Encourage Mixed-use Industrial/Office Space

Over the past several years the Mount Pleasant Industrial Area has seen reinvestment and revitalization through ongoing industrial floor space development. New development has been occurring at an average FSR of 1.5. Based on existing regulations, this is estimated to consist of 1.0 FSR of ground floor industrial floor space coupled with 0.5 FSR of other uses, and primarily office space on upper floors. New development has improved the viability of the area's building stock, and allowed for the maintenance of local employment levels.

This scenario examines the potential benefits and challenges associated with encouraging redevelopment within the Powell-Clark industrial areas in a manner similar to that seen in Mount Pleasant. Given that the Mount Pleasant area is adjacent to the region's second largest office space concentration (Central Broadway), office demand in the area is substantial enough to drive rents that can encourage the creation of new industrial floor space.

This scenario involves implementing policies aimed at allowing both the Powell-Clark industrial areas to include office uses in redevelopment projects similar to the case of Mount Pleasant, with the added requirement that light industrial uses be mandatory on the ground floor. This strategy would preserve and enhance industrial uses on the ground floor (by encouraging industrial FSRs higher than the area average, while also facilitating possible upgrading of the area's older, obsolete industrial floor space), but

still allow for other higher-value uses on the upper floors as a means to encourage the revitalization and redevelopment of the area's industrial floor space inventory.

While this scenario would ensure that ground-floor industrial floor space in the area would be maintained or enhanced, it would provide strong market incentive to create flexible floor space on the upper floors to accommodate other uses. Additionally, this scenario would draw on demand for office uses within the city to encourage the redevelopment of the area's industrial floor space inventory while maintaining the potential for employment generation. Key to this would be regulations to ensure that upper-level floor space would be developed to accommodate a wide variety of potential uses through requirements for load bearing floors, high ceilings, and minimal load bearing walls. This would allow floor space to be converted to industrial or other uses based on future demand.

11.3.1 Benefits

This scenario favours a more intensive land use pattern within the Powell-Clark industrial areas that also has the potential to maintain or enhance current employment densities. Employment densities within the Mount Pleasant Industrial Area currently average approximately 115 jobs per acre.

This type of redevelopment would also serve to accommodate those types of uses projected to grow most rapidly in the future. Going forward, it is assumed that the strongest growth in industrial activity in Vancouver will be for PDR (processing, distribution, and repair) functions, primarily serving residents and businesses within the downtown core.

Augmenting anticipated growth in this sector may be the potential loss of land in the city's other downtown serving industrial areas such as Mount Pleasant and Burrard Slopes. The past several years have seen significant incursions into these industrial areas by residential development. Going forward it is possible that industrial land supply in these areas may continue to erode, placing added demand on the Powell-Clark industrial areas to accommodate downtown-serving industrial uses, a situation that would support a higher-density mix of both industrial and office uses.

11.3.2 Challenges

Currently, development forms like those found in Mount Pleasant are permissible in parts of the study area (within the Clark Drive Industrial Area). However, market dynamics have not favoured this type of development in this area in the past.

Demand for office uses in the western Powell Street area is strong with office rents approaching those seen in the Mount Pleasant area (around $18 – 20 per square foot) where new developments of the type envisioned here have been occurring over the past several years suggesting the viability of this model assuming similar market conditions (i.e. lease rates). It is possible that in the short term, this scenario (if applied in the western Powell Street area) could facilitate new development and investment in the short term. In other areas of the Powell-Clark industrial areas, office rents for space above other uses are currently too low to cover land and development costs (lease rates for this type of space can be as low as $6 per square foot). This suggests that in these areas at least, this scenario will not provide enough incentive to facilitate redevelopment in the short term.

Therefore while implementing this scenario would not likely provide significant incentives for the revitalization in the Powell-Clark areas in the short term (though

some incentive may exist currently in some areas), there may be some long-term potential for redevelopment in the future if average office rents in the area increase to levels proportional to those currently offered in the Mount Pleasant area.

11.4 Scenario 4 – Encourage Mixed Use Industrial/Flex Space

This option draws upon the strengths of Scenario 3, while providing an added level of flexibility to ensure that the Powell-Clark industrial areas are well positioned to respond to current and future market dynamics. This scenario would see the institution of policies aimed at encouraging these areas to be redeveloped with a requirement to develop light industrial floor space on the ground floor, while also allowing for some flexibility in the floor space development on the upper floors, providing for the development of additional industrial, office or even live/work residential uses.

Currently live/work space is allowed within the Powell-Clark industrial areas. However it is regulated for artist studio use. Regulations also limit live/work space to 1.0 FSR and require that it be developed only through the reuse of an existing building.

Going forward there may be some opportunity to use expansion of residential live/work uses as a tool to aid revitalization by harnessing the robust housing sector to encourage upgrading and reinvestment in its central industrial areas.

The market for residential units in the Vancouver region is strong and is expected to remain strong for some time based high demand driven by a strong economy and significant in-migration, and a limited supply of land for new development. Currently, live/work strata-titled residential units near the Clark Drive and Powell Street industrial areas sell for average prices of between $400 and $500 per square foot. Therefore mixed developments combining this type of residential development could encourage a significant amount of new industrial floor space (while also creating potential for productive space within live/work units). Based on these prices, estimates suggest that 1.0 FSR of industrial floor space could be made viable under current market conditions by allowing an additional 1.25 to 1.5 FSR of strata-titled live/work space to be developed as well.

While this presents a substantial opportunity for the creation of new industrial floor space, the addition of these types of uses to the Clark Drive and Powell Street areas add additional complexity to the functioning of a viable industrial area. Other areas within the city that have seen live/work space introduced have faced numerous and sustained complaints by residents related to truck traffic, noise complaints, odours, etc. The main challenge related to these types of uses has been primarily related to the ownership and siting of these developments. Past developments of this type have tended to be strata-title ownership. Live/work developments in this form are more likely to attract residents more interested in living than working, who have stronger concerns about property values, loss of views, and are less accommodating of pre-existing industrial uses.

The addition of these types of owned residential uses to the Powell-Clark areas could be expected to hinder far more than help the improvement of business activity within these areas. However, the addition of rental live/work space may create a situation where residential uses more amenable to adjacent industrial activity could be accommodated and used to aid in revitalization.

While rental live/work uses within these industrial areas have the potential to present similar problems to those seen with strata-title space, a requirement that live/work spaces be restricted to rental, and that they not be sited on the waterfront can

mitigate the potential for conflicts between owner/residents and nearby industrial uses. Anecdotal evidence backs up this assertion, as live/work residents in the rental-only ARC building on Powell Street seem to co-exist well with surrounding industrial uses. Furthermore, the upper floors of rental live/work buildings under a single land title could be converted to commercial or industrial uses relatively easily (as opposed to strata-title buildings) when warranted by market conditions.

The lower revenue values associated with rental floor space (at an average lease rate of $16 per square foot rental space capitalizes to a value of about $270 per square foot assuming a six percent capitalization rate which is just less than half the value of strata-title space) suggest that 1.0 FSR of industrial floor space would need between 2.0 and 2.5 FSR of accompanying rental live/work floor space to create a favourable project under current market conditions.

This scenario would see the addition of flexible space on the upper floors to facilitate upgrades to the Powell-Clark areas' ground-floor industrial floor space. This would be achieved through a short-term market incentive by accommodating a wide range of uses such as live/work studios, office and/or service commercial activities as outlined in Scenario 3.

This scenario would draw on the current demand for residential floor space within the city and use it to encourage the redevelopment of the area's industrial floor space inventory while also maintaining the potential for employment generation. As in Scenario 3, the key to this would be regulations to ensure that upper-level floor space would be developed in a manner that would accommodate a number of potential uses through requirements for load bearing floors, high ceilings, and minimal load bearing walls. This would allow for floor space to be developed or converted to other uses based on future demand.

11.4.1 Benefits

Much like Scenario 3, this scenario would favour more intensive land use patterns within the Powell-Clark industrial areas. This provides the potential to maintain or enhance current employment densities.

This type of redevelopment would also serve to accommodate PDR functions, most notably those that serve residents and businesses within the downtown core. This is advantageous given the potential loss of land in the city's other downtown serving industrial areas such as Mount Pleasant and Burrard Slopes which may result in added demand on the Powell-Clark industrial areas to accommodate downtown-serving industrial uses.

This scenario would also provide space that will continue to accommodate and incubate many of the smaller and independent firms that are one of the strengths of the Powell-Clark industrial areas. The potential to develop small-scale spaces that allow work activities to share space with living quarters provides a strong support to smaller and start-up firms.

Most notably, this scenario may provide a near-term incentive for reinvestment given that lease rates for live/work space in the area average approximately $16 per square foot. This scenario can also be expected to maintain opportunities to meet market demand in the future as the development model is meant to change over time to respond to market conditions. For example, if office rents in the Powell-Clark areas increase to levels similar to those in the Mount Pleasant industrial area (with similar lease rates for live/work space), office space could be substituted for live/work space

and still generate a viable project. The requirement for residential uses to be rental is intended to reduce the likelihood of complaints against industrial activities from residents who have a vested interest (ownership) in their property.

Given that live/work units would be rental units and that residential rents have increased much more slowly than average home prices in the City of Vancouver, developing this type of space should provide an incentive for reinvestment but should not consistently outbid other uses as would be the case if this floor space was sold under strata title.

11.4.2 Challenges

The primary challenges associated with this scenario are related to live/work residential uses. Overall, these uses would need to be carefully regulated and monitored to minimize conflicts with other uses. This may require more stringent building regulations, siting and buffering regulations, and stronger bylaws related to outputs (noise, pollution etc.) from adjacent industrial uses.

Overall, many of the uses within the Powell-Clark industrial areas tend to be lighter industrial uses that may be amenable to a mixed-use pattern of development however the heavier Port-related industrial uses may require a buffer zone that restricts live/work space of any kind from being located nearby. This would also have the effect of limiting live/work spaces with significant waterfront or view amenities, which in the past have made units attractive to developers for residential purposes as opposed to work purposes.

A further challenge involves parking requirements. Currently there is little on street parking within the Powell-Clark areas during work hours. If employees and residents are added to the area, provisions will need to be made within each development for parking. However, the goal of creating and maximizing ground-floor industrial space and providing adequate loading facilities for businesses places limits on the amount of surface parking that can be provided on-site. At the same time, significant additional costs related to underground parking may prove to be a significant disincentive to redevelopment.

12.0 Conclusions and Strategic Directions

12.1 Conclusions

The original intent of this study was to examine the economic roles of the Powell Street/Port lands and Clark Drive (Powell-Clark) industrial areas given the local context and general trends affecting industrial lands, and recommend strategic directions to enhance these roles and encourage economic revitalization. A comprehensive review of the Powell-Clark industrial areas, together with the information gathered through policy analysis, trend identification, best practices research, business interviews, SWOT analysis, and scenario exploration has led to a number of conclusions.

12.1.1 Area Opportunities

The study has confirmed that the two industrial areas are a vital component of Vancouver's economic landscape. Although the areas are perceived to be somewhat in decline due to their age and appearance, they are very successful in many ways. The areas are home to both long-time, established businesses and provide incubator space for new businesses. Fledgling businesses are attracted by competitive and affordable lease rates and the central location. Established businesses have remained in the area

primarily due to the location advantage and business linkages that have developed over time. The areas also achieve significant employment densities (approximately 90 persons per acre) that are roughly double that of newer suburban industrial areas. Furthermore, the proximity to downtown, the port, and major rail and road transportation routes offers strategic business linkage opportunities.

12.1.2 Area Challenges

Despite the advantages, the Powell-Clark industrial areas face numerous challenges including the older building stock, fragmented development on small lots, soil contamination, deteriorating infrastructure, traffic congestion, conflicts between incompatible land uses, negative public perceptions regarding safety and security, competition for skilled labour, the lack of a vital public realm, and a lack of vacant land to accommodate business expansion.

12.1.3 Redevelopment is Necessary

An overarching conclusion of the study is that redevelopment is necessary to achieve the Vancouver Agreement DTES Economic Revitalization Strategy objectives to increase demand for local services, strengthen capabilities for local suppliers, and increase employment opportunities for local residents. Some insights regarding options for redevelopment have been provided in the four preceding scenarios. Of these four scenarios, Scenarios 3 and 4 currently offer the strongest models for redevelopment. However, more detailed and site-specific analysis is needed to test the assumptions prior to scenario implementation.

A common assumption through all of the scenarios is that a combination of policy, program, and regulatory measures coupled with public infrastructure improvements are needed to provide certainty for the Powell-Clark industrial areas over future land use and to ensure that the areas do not continue to deteriorate. There is also an economic imperative to redevelop the areas in a manner which will capitalize on the growth of downtown and the Port of Vancouver, potential business linkages, and access to labour.

12.1.4 Land Use Considerations

The study explored issues related to potential future land uses in the Powell-Clark industrial areas. The possible land uses considered include light industrial, office, retail, and rental live/work.

Light Industrial (PDR)

Going forward, the research suggests that the strongest growth in industrial activity in Vancouver will be in the PDR (processing, distribution, and repair) sector, primarily serving residents and businesses within the downtown core. The examination of global and regional trends in industrial land activity and case study research has revealed that these lighter types of industrial uses can coexist with a variety of other land use types. As such, opportunities to incorporate and promote these types of uses through policy, program, or regulatory measures should be explored further.

Office

Office uses have successfully contributed to the redevelopment of the Mount Pleasant area by introducing jobs and stimulating building replacement. Office uses may have the same effect in the Powell-Clark areas. However, offices should be limited to upper floors so as not to threaten the viability of ground-oriented industrial uses.

Retail

The introduction of retail uses along commuter routes has been identified as a potential mechanism for improving the public realm within the Powell-Clark industrial areas. Limited retail uses on the ground floor may contribute to improving the public realm by attracting sidewalk pedestrian activity while at the same time helping to support industrial redevelopment. Locations for retail uses should be considered carefully to mitigate potential traffic conflicts (e.g. interference with commercial trucking) and congestion.

Rental Live/Work

In Vancouver and in the majority of the case study cities, industrial land has been displaced by higher-revenue generating residential uses. To a limited extent in the Powell Street industrial area, an incursion of strata-title residential live/work development has previously resulted in conflicts regarding noise and views with adjacent heavy industrial, rail, and port operations.

The experience suggests that in order to prevent the further displacement of industrial land from core industrial areas and curb land speculation, opportunities for residential development should be seriously limited. At the same time, opportunities to provide housing and "eyes on the street" may occur through the development of rental live/work spaces which have the flexibility to be converted into other types of uses as market conditions change. Rental live/work uses should be carefully located to avoid conflicts with neighbouring uses.

12.2 Strategic Directions

Enhancing the vitality and economic potential of the Powell-Clark industrial areas will require a strong commitment from the City expressed through public policy rooted in sound planning principles and strategies. The following strategic directions apply to potential policy, program and regulatory options to encourage redevelopment of the Powell-Clark industrial areas.

12.2.1 Maintain Powell/Clark as a Business Incubator

In order for the Powell-Clark areas to retain established businesses and continue to attract and incubate new businesses, the affordability and availability of small spaces needs to be retained. Availability of small, industrial spaces will continue to exist as long they are not pushed out by higher revenue generating land uses (e.g. condominium housing) or zoning regulations that encourage lot consolidation.

12.2.2 Preserve the Small Lot Pattern

Affordability is directly related to the availability of small units in older building stock, a result of the historic pattern of small lots. Although square foot lease rates appear high, the availability of small units allows competitive and affordable lease rates which are attractive to start-up businesses and play a role in keeping businesses in the area. Consolidation of small lots would possibly facilitate redevelopment of the building stock into more modern and larger format industrial units. However, this would have the corresponding result of reducing small unit availability, affordability, and employment density. That being said, opportunities for lot consolidation in order for existing businesses to achieve greater efficiencies in their operations should not be discouraged.

12.2.3 Examine Zoning Measures for Continued Affordability and Job Intensification

Further study is needed to examine zoning measures to ensure that the Powell-Clark industrial areas can remain affordable. Maintaining and potentially intensifying employment densities over time will require supportive zoning mechanisms. These must be based on an understanding of land development in relation to employment generation. For instance, self-storage developments that achieve high FSRs generally have corresponding employment densities that are very low.

12.2.4 Provide Opportunities for Business Expansion

Incentives to accommodate business redevelopment and expansion in the Powell-Clark areas may be achieved through more flexible zoning (i.e. upper floor flex spaces). Opportunities for businesses to expand into larger and more modern spaces might also be found in the future development of the False Creek Flats through, for example, direct land sales or exchanges.

12.2.5 Limit Residential Development

Zoning mechanisms should be created to limit residential development and avoid the displacement of industrial uses. Scenario 4 explored the potential for upper floor rental live/work uses with the basic assumption that renters would be less likely to oppose adjacent land uses than owners given that they would not have a vested interest in the property. Although not as financially lucrative as condominium development, opportunities to incorporate rental live/work uses on upper floors may present a financial incentive to redevelopment under current market conditions. Limiting live/work uses to rental would also allow future conversions to industrial or commercial uses under the right market conditions.

12.2.6 Create a Districting Strategy

A districting strategy should be created to avoid land use conflicts, limit residential development, and protect the industrial land base. The research conducted for this study has confirmed the incompatibility of certain land uses – particularly heavy industrial (i.e. Port of Vancouver operations) and residential live/work developments. Land use conflicts due to adjacency issues can be mitigated through land use buffering. For instance, flex or office spaces and lighter industrial uses (i.e. PDR uses) can serve as effective buffers between heavier industrial uses and lighter industrial, commercial and residential mixed-use activities because they pose less of a nuisance threat.

A districting strategy can provide a level of protection for heavier industrial uses in the Powell-Clark industrial areas and on Port of Vancouver lands, particularly those that need to remain in the area to access port facilities or rail infrastructure. The strategy can also formalize transition zones between higher intensity and lower intensity uses throughout the Powell-Clark industrial areas and with neighbouring areas. There may also be a significant economic benefit as a result of clustering certain types of uses with complementary uses.

The scenarios explored in this report identify the potential introduction or expansion of land uses categories within the Powell-Clark industrial areas. It is recommended that a districting strategy be created based on the preferred scenario eventually chosen for implementation.

12.2.7 Address the Quality and Safety of the Public Realm through Public Realm and Infrastructure Upgrades

It is recommended that the City conduct an analysis of options to identify and prioritize potential short- and long-term upgrades to public infrastructure in order to improve the quality and safety of the public realm.

The business consultation process emphasized the need to improve the overall quality of the public realm and infrastructure and to address the Powell-Clark areas' public safety issues and negative image resulting from perceived and real threats to personal safety, prostitution, drug trafficking, and property crime (graffiti, theft, and vandalism). These issues present challenges to businesses trying to attract customers and employees to the area. There is also a sense that the poor quality of many of the roads in the area encourages a disproportionate amount of truck traffic onto the few routes considered to be of high quality, causing conflicts between users and transportation bottlenecks.

A number of businesses consulted believe that roadway infrastructure improvements and upgrades to sidewalks, lighting, and implementation of CPTED (Crime Prevention Through Environmental Design) principles would aid in the attractiveness of the area by improving perceptions of safety and social conditions in the area.

12.2.8 Allow Limited Retail Uses along Commuter Routes

The City of Vancouver should continue to allow retail uses along commuter routes as a means of encouraging industrial redevelopment. Retail uses should be limited so that they do not impede future industrial development, interfere with critical traffic movement on major commercial truck routes, or create problems at intersections. They should also be attached to an existing industrial facility. These restrictions are intended to limit the amount of retail space competing with industrial uses. At the same time, an accessory retail operation may supplement industrial or wholesale activities or improve development feasibility if sub-leased.

12.2.9 Establish Targets for New Industrial Floor Space

Over the past decade, new development in the Powell-Clark industrial areas has achieved average industrial FSRs of 1.14 and 1.01 respectively. However, current market dynamics do not favour higher industrial FSRs. Current policies which allow for office uses and other low employment uses (i.e. self-storage units) may increase FSRs but also decrease overall employment density. Because of this, decisions to increase FSRs must be considered in tandem with the types of uses that may be allowed under the zoning regime.

12.2.10 Develop a Marketing and Information Strategy

The report findings indicate that a positive context can be created for reinvestment and expansion of the employment floor space inventory within the Powell-Clark industrial areas to significantly aid economic and social revitalization. A strong marketing and investment attraction strategy is needed to highlight investment opportunities and attract developers and businesses to the Powell-Clark industrial areas. The strategy must promote policies and initiatives that will enhance local market dynamics and create opportunities to achieve positive investment returns.

12.2.11 Develop Local Employment Training Programs

It is recommended that local employment training programs be implemented (similar to those run by the Aboriginal Community Career Employment and Services Society and Building Opportunities with Business). These training programs would serve two purposes: to provide training opportunities for local residents and forge direct ties with local businesses.

Past research indicates that approximately 10% of Downtown Eastside residents occupy jobs in the Powell-Clark industrial areas. According to area businesses, there is a lack of local, skilled labour. Programs directed at job training in the PDR (processing, distribution and repair) fields could serve to link DTES residents with new jobs in the Powell-Clark industrial areas. These might include jobs in the automotive repair, printing and typesetting, delivery logistics, and food processing sectors.

12.2.12 Identify Roles for Government to Facilitate Reinvestment

This study identified a number of issues that may affect reinvestment opportunities in the Powell-Clark industrial areas. These include challenges related to site remediation, capital gains tax costs related to sales of and reinvestment in real estate assets, and the lack of suitable industrial land within the region. A number of issues are beyond the City's jurisdiction and will require intervention from senior levels of government in order to be resolved.

It is recommended that the City of Vancouver examine the current challenges to reinvestment and identify provincial and federal government programs to address these challenges. If such programs do not exist, the City may wish to engage in discussions with senior government departments to explore possible actions and partnership arrangements to deal with the resolution of critical issues.

12.2.13 Avoid Taxation Schemes

The City of Vancouver should not attempt to implement taxation schemes such as tax increment financing (TIF) or separate taxation rates for upper floor industrial space. These types of taxation schemes require the approval of higher levels of government and would likely consume a significant amount of time and energy to implement for, at best, modest gains.

Past research suggests that TIF schemes do not significantly impact industrial land values or act as a major catalyst for industrial reinvestment. Instead, TIF strategies have been most useful in redeveloping industrial areas for other uses and may actually promote land speculation rather than industrial redevelopment.

The use of preferential taxation rates for desired development forms (i.e. upper-floor industrial space) is unlikely to have an impact given the negligible gains that might be achieved. It is estimated that a 50% reduction in upper floor taxation rates would only decrease the total tax bill for a property by 8% (assuming an upper floor contains half of the property's total industrial floor space).

12.2.14 Incorporate Sustainability Measures

As redevelopment occurs, opportunities will arise to incorporate measures of environmental, economic, and social sustainability. Measures that strive for environmental sustainability may include soil remediation, the installation of more efficient public works and infrastructure, district energy systems, materials recycling, and the use of green building technology. Economic sustainability may be pursued

through efforts such as enhanced business operation efficiencies and business linkages. Measures to enhance social sustainability may be found through increased job skills training and employment opportunities for local residents. These and other opportunities to incorporate measures of environmental, economic, and social sustainability should be pursued where possible.

12.3 Next Steps

This study has identified various opportunities and constraints to redevelopment in the Powell-Clark industrial areas. Based on the research and scenario exploration, a set of strategic directions has been provided. In the longer term, these may potentially form the basis for area redevelopment plans. However, a more detailed level of analysis is required in the interim to determine which redevelopment scenario is most appropriate for the Powell-Clark areas.

The four scenarios explored in Section 11 included a general level of analysis. More detailed pro forma analysis is required to test the scenarios prior to implementation through policy or regulatory changes. It is recommended that the City of Vancouver pursue two immediate measures:

- Obtain the services of a specialized consultant to develop a detailed pro forma model for scenario testing; and
- Develop feasibility testing based on specific sites within the Powell-Clark industrial areas.

APPENDICES

POWELL STREET / PORT LANDS

AND

POWELL STREET / CLARK DRIVE

INDUSTRIAL AREAS STUDY

CITY OF VANCOUVER

MARCH 2007

APPENDIX A: EXISTING ZONING

This appendix provides a brief interpretation of the City of Vancouver's M-2 and I-2 zoning schedules, the industrial zoning bylaws for the Powell-Clark industrial areas respectively.

A.1 M-2 District Schedule: Powell Street Industrial Area

The intent of M-2 zoning as stated within the City's M-2 district schedule is to, "Permit industrial and other uses that are generally incompatible or potentially dangerous or environmentally incompatible when situated in or near residential districts but that are beneficial in that they provide industrial employment opportunities or serve a useful or necessary function in the city."

Buildings within this zone are restricted to a maximum height of 30.5 metres (100 feet); whereas the floor space ratio may not exceed 5.0; a maximum ratio of 1.0 is applied for all uses excluding: manufacturing, transportation, and storage and wholesaling. Further, accessory retail may not exceed 1,000 m^2, with general office space restricted to a maximum 235 m^2 or 25% of the total gross floor area (the greater measure will be applied) of all the principal and accessory uses combined. The following table illustrates the permitted uses within an M-2 zone.

PERMITTED USES IN THE M-2 DISTRICT SCHEDULE: POWELL STREET INDUSTRIAL AREA	
Manufacturing	
Brewing or Distilling	Leather Products Manufacturing
Bakery Products Manufacturing	Machinery or Equipment Manufacturing
Chemicals or Chemical Products Manufacturing - Class B	Non-Metallic Mineral Products Manufacturing - Class B
Clothing Manufacturing	Paper Products Manufacturing
Dairy Products Manufacturing	Metal Products Manufacturing - Class B
Ice Manufacturing	Software Manufacturing
Electrical Products and Appliances Manufacturing	Plastic Products Manufacturing
Food or Beverage Products Manufacturing - Class B	Printing or Publishing
Furniture or Fixtures Manufacturing	Rubber Products Manufacturing
Jewellery Manufacturing	Wood Products Manufacturing - Class B
Miscellaneous Products Manufacturing - Class B	Shoes or Boots Manufacturing
Motor Vehicle Parts Manufacturing	Textiles or Knit Goods Manufacturing
Tobacco Products Manufacturing	Transportation Equipment Manufacturing
Retail	
Gasoline Station - Full Serve	
Service	
Animal Clinic	Production or Rehearsal Studio
Catering Establishment	Repair Shop - Class A
Laundry or Cleaning Plant	School - Vocational or Trade
Motor Vehicle Repair Shop	Work Shop
Transportation and Storage	
Cold Storage Plant	Packaging Plant
Storage Warehouse	
Utility and Communication	
Public Utility	Radio Communication Station
Wholesale	
Wholesale - Class A.	

Source: City of Vancouver

The M-2 zone also allows conditional approval uses as follows:

CONDITIONAL APPROVAL USES IN THE M-2 DISTRICT SCHEDULE: POWELL STREET INDUSTRIAL AREA	
Cultural and Recreational	
Artist Studio - Class B, subject to provisions	Marina
Club	Park or Playground
Fitness Centre	Rink
Hall	
Dwelling	
Dwelling Unit for a caretaker or watchman or other person similarly employed, if such dwelling unit is considered to be essential to the operation of the business or establishment.	
Residential Unit associated with and forming part of an Artist Studio - Class B, subject to provisions.	
Institutional	
Ambulance Station	School - Elementary or Secondary
Child Day Care Facility	School - University of College
Public Authority Use	Social Service Centre.
Manufacturing	
Animal Products Processing	Paper Manufacturing
Chemicals/Chemical Products Manufacturing-Class A	Non-metallic Mineral Product Manufacturing - Class A
Food or Beverage Products Manufacturing - Class A	Petroleum Products or Coal Products Manufacturing
Linoleum or Coated Fabrics Manufacturing	Pulp Manufacturing
Metal Products Manufacturing	Vegetable Oil Manufacturing
Miscellaneous Products Manufacturing - Class A	Wood Products Manufacturing - Class A
Office	
General offices, excluding the offices of accountants, lawyers, notary publics, or the offices of real estate, advertising, insurance, travel and ticket agencies.	
Parking	
Parking Uses	
Retail	
Furniture or Appliance Store	Retail Store
Gasoline Station - Split Island	Vehicle Dealer
Liquor Store	
Service	
Auction Hall	Neighbourhood Public House
Barber Shop or Beauty Salon	Photofinishing or Photography Laboratory
Drive-through Service	Photofinishing or Photography Studio
Funeral Home	Print Shop
Laboratory	Repair Shop - Class B
Sign Painting Shop.	Restaurant - Drive-in
Motor Vehicle Wash	Restaurant - Class 1
Transportation and Storage	
Aircraft Landing Place	Railway Station or Rail Yard
Booming Ground	Stockyard
Grain Elevator	Storage Yard or Works Yard, with adequate fence
Marine Terminal or Berth	Taxicab or Limousine Station
Mini-Storage	Weighing or Inspection Station
Wholesale	
Bulk Fuel Depot	Junk Yard or Junk Shop
Card Lock Fuel Station	Lumber and Building Materials Establishment
Wholesaling - Class B.	

Source: City of Vancouver

A.2 I - 2 District Schedule: Clark Drive Industrial Area

The I-2 zoning district is intended to, "Permit industrial and other uses that are generally incompatible with residential land use but are beneficial in that they provide industrial and service employment opportunities or serve a useful or necessary function in the city. It is not the Intent, however, to permit uses that are potentially dangerous or environmentally incompatible when situated near residential districts."

Buildings within this zone are restricted to a maximum height of 18.3 metres (60 feet); however the director of planning may increase the height of buildings to 30.5 metres (100 feet). The maximum floor space ratio within the I-2 district is restricted to 3.0 for following uses: manufacturing, transportation and storage, utility and communication, wholesale, laboratory, laundry or cleaning plant, production or rehearsal studio, repair shop class A, and workshop. In contrast, the maximum permitted floor space ratio is 1.0 for the following uses: catering establishments, motor vehicle repair shop, photofinishing or photography laboratory, sign painting, and all other uses. Retail uses are permitted 1,000 m^2 of floor space, whereas general office space is restricted to 235 m^2 or 33% of the total gross floor area of all principal and accessory uses combined. The following table highlights permitted uses with the I-2 district schedule.

PERMITTED USES IN THE I-2 DISTRICT SCHEDULE: POWELL STREET INDUSTRIAL AREA	
Manufacturing	
Bakery Products Manufacturing	Miscellaneous Products Manufacturing - Class B
Batteries Manufacturing	Motor Vehicle Parts Manufacturing
Chemical Products Manufacturing - Class B	Non-Metallic Mineral Prod. Manufacturing-Class B
Clothing Manufacturing	Paper Products Manufacturing
Electrical Products or Appliances Manufacturing	Plastic Products Manufacturing
Food or Beverage Products Manufacturing- Class B	Printing or Publishing
Furniture or Fixtures Manufacturing	Rubber Products Manufacturing
Ice Manufacturing	Shoes or Boots Manufacturing
Jewellery Manufacturing	Textiles or Knit Goods Manufacturing
Leather Products Manufacturing	Transportation Equipment Manufacturing
Metal Products Manufacturing - Class B	Wood Products Manufacturing - Class B
Retail	
Gasoline Station - Full Serve	
Service	
Animal Clinic	Photofinishing or Photography Laboratory
Catering Establishment	Production or Rehearsal Studio
Laboratory	Repair Shop - Class A
Laundry or Cleaning Plant	School - Vocational or Trade
Motor Vehicle Repair Shop	Sign Painting Shop
Motor Vehicle Wash	Work Shop
Transportation and Storage	
Cold Storage Plant	Storage Warehouse
Packaging Plant	
Utility and Communication	
Public Utility	Radio Communication Station
Wholesale	
Wholesale - Class A.	

Source: City of Vancouver

The I-2 zone allows the following conditional approval uses:

CONDITIONAL APPROVAL USES IN THE M-2 DISTRICT SCHEDULE: POWELL STREET INDUSTRIAL AREA	
Cultural and Recreational	
Artist Studio - Class B, subject to provisions	Hall
Billiard Hall	Marina
Bowling Alley	Park or Playground
Club	Rink
Community Centre or Neighbourhood House	Swimming Pool
Fitness Centre	Theatre
Dwelling	
Dwelling Unit for a caretaker or watchman or other person similarly employed, if such dwelling unit is considered to be essential to the operation of the business or establishment.	
Residential Unit associated with and forming part of an Artist Studio - Class B, subject to provisions.	
Institutional	
Ambulance Station	School - Elementary or Secondary
Child Day Care Facility	School - University of College
Public Authority Use	Social Service Centre
Manufacturing	
Brewing or Distilling	Non-metallic Mineral Products Manufacturing - Class A
Chemicals/Chemical Products Manufacturing - Class A	Paper Manufacturing
Food or Beverage Products Manufacturing - Class A	Rubber Manufacturing
Linoleum or Coated Fabrics Manufacturing	Vegetable Oil Manufacturing
Miscellaneous Products Manufacturing - Class A	
Office	
General offices, excluding the offices of accountants, lawyers, notary publics, or the offices of real estate, advertising, insurance, travel and ticket agencies.	
Parking	
Parking Uses	
Retail	
Furniture or Appliance Store	Retail Store
Gasoline Station - Split Island	Vehicle Dealer
Liquor Store	
Service	
Auction Hall	Print Shop
Barber Shop or Beauty Salon	Repair Shop - Class B.
Drive-through Service	Restaurant - Class 1.
Funeral Home	Restaurant - Drive-in.
Laundromat or Dry Cleaning Establishment	School - Business
Photofinishing or Photography Studio	School - Arts or Self-Improvement.
Neighbourhood Public House	
Transportation and Storage	
Aircraft Landing Place	Recycling Depot
Booming Ground	Storage Yard
Marine Terminal or Berth	Taxicab or Limousine Station
Utility and Communication	Truck Terminal or Courier Depot
Public Utility	Weighing or Inspection Station
Mini-Storage Warehouse	Works Yard

CONDITIONAL APPROVAL USES IN THE M-2 DISTRICT SCHEDULE: POWELL STREET INDUSTRIAL AREA	
Railway Station or Rail Yard	Waste Disposal Facility
Stockyard	
Wholesale	
Card Lock Fuel Station	Junk Yard or Junk Shop
Lumber and Building Materials Establishment	Wholesaling - Class B

Source: City of Vancouver

APPENDIX B: LOCAL AREA IMAGES

Powell Street Industrial Area

Image B1: Downtown U-Lok Mini Storage and Starbucks - East Cordova Street

Source: Harris Consulting Inc.

Image B2 – Sunrise Soya Foods 427 Powell Street

Source: Harris Consulting Inc.

Image B3 – Design Centre 611 Alexander Street

Source: Harris Consulting Inc.

Image B4 – Deakin Equipment 1361 Powell Street

Source: Harris Consulting Inc.

Clark Drive Industrial Area

IMAGE B5 – Russell Food Equipment 1255 Venables Street

Source: Harris Consulting Inc.

IMAGE B6 – Signs By Ken 1289 Clark Drive

Source: Harris Consulting Inc.

IMAGE B7 – Hemptown Clothing 1307 Venables Street

Source: Harris Consulting Inc.

IMAGE B8 – vacant warehouse 857 Clark Drive

Source: Harris Consulting Inc.

APPENDIX C: PLANNING CONTEXT AND RELEVANT LOCAL AREA STUDIES

C.1 Policy and Strategic Planning Context

This section addresses and summarizes a number of regional, city, and local-neighbourhood plans and policy documents that are relevant to Vancouver's industrial land, businesses and employment generation, and other public policy issues relating to the Powell-Clark industrial areas. This study highlights the following key plans and policies, they are: Vancouver Agreement Economic Revitalization Plan; Metropolitan Core Jobs and Economic Land Use Plan; Vancouver CityPlan; Central Waterfront Official Development Plan; City of Vancouver Industrial Lands Strategy; A Program of Strategic Actions for the Downtown Eastside.

C.1.1 Vancouver Agreement Economic Revitalization Plan

The Vancouver Agreement was a joint partnership agreement adopted in March 2000 by the federal government, provincial government, and City of Vancouver. One of the primary purposes of this agreement is to demonstrate the commitment amongst governments to work together within their jurisdictions and mandates, in order to develop and implement a coordinated strategy to promote and support sustainable economic, social development within Vancouver. The rationale for the Vancouver Agreement is to increase involvement from all three levels of government in the decision-making process for the future of communities in Vancouver, in particular the Downtown Eastside.

The Vancouver Agreement outlines four priorities for initiatives within the DTES including: improved safety, improved social well-being of residents, improved health of residents, and economic revitalization. The agreement also outlines several goals for economic revitalization including the need to increase the level and breadth of economic activity in the DTES, through the promotion of business development.

An Economic Revitalization Plan was developed as part of the Vancouver Agreement: outlining strategies and actions to increase business activity and job growth essential to the creation of a safe, healthy, and a sustainable community. The objectives as stated in the Economic Revitalization Plan to enhance economic activity in the DTES are as follows: the promotion of business retention and new business development; assists businesses and residents to participate in and benefit from increased economic activities and job opportunities; build on the diversity of the DTES; ensures comprehensive health and social services are available to respond to and meet local population's needs; finally, builds upon the unique economic strengths of the DTES.

Three key strategies were created to meet the objectives of the Economic Revitalization Plan, they are: increase demand for DTES products and services; strengthen the capabilities of local suppliers; and, increase employment opportunities for local residents.

The Vancouver Agreement and its Economic Revitalization Plan is an important aspect towards revitalization of the Powell-Clark Industrial regions as it seeks to promote the supply of businesses within the area, which is intended to correspond to an increase in local employment, which is intended to support local businesses. This synergic relationship between employers and employees is part of sustainable community – one of the objectives of the Economic Revitalization Plan. As the industrial areas of Powell-Clark are the primary centres for employment within the DTES, this plan has a direct bearing upon these areas.

C.1.2 Metropolitan Core Jobs and Economic Land Use Plan

The Metro Core Study was initiated in March 2005 as a major planning program to ensure that Vancouver has enough land to accommodate potential future job growth and economic activity in the Metro Core over the next 25 years. The study area is the Metropolitan Core, defined as the area bounded by Burrard Inlet (to the north), English Bay (to the west), 16th Avenue (south), and Clark Drive (east). This study is a consequence of the increasing pressure from residential development being placed upon areas that had been designated for employment growth.

Past characteristics of the Metro Core were reviewed in order to better understand the area's economic activity and urban development. In addition, future studies will create projections for economic activity, land supply, and associated transportation and infrastructure capacity.

Key findings from this study to date reveal that the economic structure is growing and diversifying as the professional and commercial services have incurred large job growth within the professional, scientific and technology sub-sectors. Jobs in health, education and public administration have also increased; the health care industry is one of the largest employment sectors today within the Metro Core. Similar to other cities in North America, Vancouver's growing service sector has coincided with a decline in the industrial sector.

C.1.3 Vancouver CityPlan

CityPlan, adopted in 1995, provided direction to the City of Vancouver to create neighbourhood centres which meet the needs of residents and local businesses. Issues addressed by CityPlan, which are relevant to the city's industrial land policies, involve the objective to create a diverse economy where people live close to work. As stated in CityPlan, "Vancouver will be a diverse economy with a variety of employment opportunities, and jobs close to home."

Through the expansion of employment opportunities in Vancouver, CityPlan sought to concentrate job growth in the downtown, maintain industrial areas, and focus additional job growth in the neighbourhood centres. As stated in this plan, "Vancouver will use existing industrial land for port uses and industries that employ city residents or serve city businesses."

The goal and objectives established within CityPlan are intended to create a city with a sense of community for all ages and cultures in conjunction with a healthy economy and environment.

The directions stated within CityPlan are relevant to the Powell-Clark Industrial areas as it represents, in part, the perspective of the city's residents and how they value the city's industrial lands. As CityPlan was created with public participation and states the objective of preserving the city's industrial land supply, this suggests that residents value a diversified local economy and workforce, and are in support of the maintaining land which can accommodate industrial uses into the future.

C.1.4 Central Waterfront Official Development Plan

The Central Waterfront Official Development Plan (ODP) area lies along the south shore of Burrard Inlet, north of the Downtown District and the Gastown Historic District between Burrard Street and Gore Avenue. The official plan was adopted in 1979 with the intention of providing a degree of "certainty" and "flexibility" to future developments in the Central Waterfront area. It was anticipated that future

development of urban uses would take place over a long period of time. Consequently, traditional zoning regulations and development by-law were deemed to be inappropriate for this area, rather goals and objectives were created to guide future developments.

The Central Waterfront Official Development Plan contains planning policies that focus upon land uses, population, physical form, public open space, movement patterns, and the Burrard shoreline. These policies were created, in part, to achieve the following policies: to encourage the development of new urban uses including commercial, recreational, cultural and public uses throughout the waterfront area, and to enhance public connectivity with the waterfront.

Overall, the city's primary objective was and continues to be to improve public access to the waterfront while simultaneously preserving port operations and ensuring that future development in the area is compatible with the adjacent downtown and Gastown districts.

The ODP is relevant to this study due to the close proximity of Central Waterfront to the Powell Street area. In addition, as the ODP specifically addresses issues relevant to port land and industrial land serving the port, many policies created could be perceived to have set a precedent for adjacent industrial areas, such as the Powell Street industrial area.

C.1.5 City of Vancouver Industrial Lands Strategy

Adopted in 1995, the Industrial Lands Strategy was intended to retain most of the city's existing industrial land base, in order to preserve port-related and city-serving industries. The rationale for this strategy was to create industrial zones that are more conducive to the needs of modern industry operating in Vancouver.

The stated objectives of the Industrial Lands Strategy are to: update definitions of industry to better accommodate service businesses, revise outright height and bulk limits to ensure compatibility with nearby residential areas, and, revise provisions for conditional uses (cultural, recreational, and educational), to determine which uses can locate in industrial areas and which uses should be excluded. In addition, as part of the process to maintain and preserve port-related and city-serving industries, the city: increased the allowable floor area for service industrial users, created new industrial definitions, increased the amount of accessory and office space permitted within an industrial operation, reduced height and bulk provisions, replaced some "heavy" industrial zoning with "light" industrial zoning, and, facilitated "change of use" in inner-city industrial areas.

The Industrial Land Strategy also explains that over time industrial land may warrant redevelopment for other uses, and that redevelopment and rezoning may occur if consistent with the objectives of CityPlan and/or other City planning policies. In accordance with this, a "Let Go" area was created along East Hastings to permit alternative land uses, specifically commercial uses. The Industrial Land Strategy requires that rezoning applications satisfy certain conditions before industrial land is released for alternative uses including the following:

- Compatibility of proposed land uses with existing industrial activity (the proposed development should not affect the operations of adjacent existing and potential industrial activity in the area);
- The proposed development should not increase land values of surrounding industrial land;

- The proposed development should comply with relevant planning policies such as the Central Area Plan and the Artist 'Live/Work' Studio Policy; and
- The proposed development should comply with relevant legislation concerning environmental impacts and mitigation measures.

The Industrial Lands Strategy is pertinent to the Powell-Clark industrial areas' revitalization as it establishes the policy framework for industrial land in Vancouver. This strategy acknowledged the evolution of industry in central Vancouver, noting the incompatibility of "heavy" industry, and the importance of city-serving industry. The Industrial Lands Strategy initiated the process to provide enhanced zoning bylaws and definitions for industrial uses specific to Vancouver, in order to better accommodate current industrial businesses in the city. More importantly this plan recognizes the dynamic nature of industry, and the need to re-evaluate industry while promoting businesses which are compatible with adjacent land uses, in the attempt to create a balanced community.

C.1.6 A Program of Strategic Actions for the Downtown Eastside

In 1998, council adopted recommendations put forth in the Program of Strategic Actions for the Downtown Eastside, which focused upon the potential changes required within the Downtown Eastside, comprised of the Gastown, Chinatown, Strathcona and Victory Square neighbourhoods. The purpose of this project was to examine tangible actions to enhance social conditions in the Downtown Eastside.

Recommendations sited in the program include: that the city give immediate priority to several short-term projects that will improve the street conditions and encourage better working relationships among groups in the area; and, that council request the Police Board to reallocate resources to provide high level police visibility in Chinatown, Gastown and Hastings Street. The following objectives were also identified within the program, they are:

- Improve existing single occupancy rooms;
- Reduce the incidence of drug addiction;
- Reduce drug-related crime;
- Form a task force of elected officials, local residents, and business people to advocate that low-income housing and services are provided throughout the Lower Mainland;
- Improve conditions at the street level through actions such as a more periodic lane clean-up program and improved park landscaping program; and
- Help community people find allies and seek a common future, with recent action being the facilitation of discussions among different local interest groups through meetings.

The Program of Strategic Actions for the Downtown Eastside is highly relevant for the revitalization of the Powell-Clark industrial areas as it proposed methods to ameliorate some of social issues affecting residents and businesses in the DTES, which are also prevalent in the adjacent Powell-Clark industrial areas.

C.2 Local Area Studies

This section identifies relevant studies and their key findings in order to provide a clear understanding of the past and current, social and economic situation in Vancouver, more specifically within the areas in and around the Powell-Clark industrial areas. The following studies addressed within this section are the: Downtown Eastside Economic

Capacity Study; Hastings North Industrial Area Study; Strathcona BIA Business Directory and Goods and Services Analysis; and, False Creek Flats Business Survey.

C.2.1 Downtown Eastside Economic Capacity Study

Conducted by Ference Weicker and Company in 2002, the *Downtown Eastside Economic Capacity Study* focused on the following communities Gastown, Chinatown, Strathcona, and the area bounded by these communities and Burrard Inlet. The purpose of this study was to: develop a profile of the economy in the study area; identify and assess potential economic and community development opportunities and drivers; make observations and provide recommendations regarding the opportunities that should be pursued and actions that should be taken to promote development.

As part of the profile developed, the Economic Capacity Study illustrated many of the strengths and advantages for businesses in the area, which could be used to improve the economic competitiveness of the area. Perhaps the largest perceived strength of the DTES is its geographic location in relation to the region, which helps ensure access to other markets within the Lower Mainland. In addition, the unique cultural heritage of the area provides opportunity to promote tourism, retail products and services. Many businesses have also been in the area for many years, establishing important links within the community and surrounding area: these links were identified as a significant factor in retaining employers in the area.

In contrast to the benefits, some of the major constraints identified which have hindered the area's ability to attract new investment include the high costs associated with upgrading older buildings to modern occupancy standards and the area's negative image, a product of perceived safety and security issues affecting the area. Further, the diverse nature of the local industry has made it difficult to establish strong linkages and strong industry associations. It is difficult for clusters to emerge because there are limited complimentary services, specialized education, and information sharing amongst firms. These findings help explain some of the difficulties that require attention in order to revitalize the area.

In response to these constraints the study outlined several actions and policies to promote economic development in the area, these include:

- Addressing safety/security issues in the area;
- Ease the constraints to investment in the building infrastructure;
- Develop an inventory of potential sites that could be occupied by businesses setting up operations in, or relocating to the DTES region;
- Undertake an investment attraction program targeted at site selection, decision-makers and at businesses that may be interest in relocating to the area;
- Vancouver should provide assurances that areas will remain industrial;
- Assistance should be provided to potential investors in site selection and the development process; and
- Consideration for an industrial enterprise zone, in which companies that set up operations would qualify for substantial assistance in the form of financing or tax credits.

The Ference Weicker study summarized the characteristics of the current economy, the general outlook for growth and the major constraints to development, and is relevant to future industrial studies as it outlines key issues relating to development in and around the Powell-Clark industrial areas. It also provides logical solutions and

strategies for both general topics and more focused issues such as the light industrial/manufacturing sector and the strategies for revitalization of the region for business, industry, and social development.

C.2.2 Hastings North Industrial Area Study

The Hastings North Business Improvement Association Industrial Area Study originated in 2006, with the objective to study and assess the capacity of the industrial lands of the study area, generally bounded by Renfrew Street (east), Commercial Drive (west), Powell Street (north), and Hastings Street (south). The overall objective of the study is to revitalize the industrial areas within the Hastings North Business Improvement Area.

Several issues were addressed including negative social issues, sloping topography and small lots of land with fragmented ownership. This study will seek to create a marketing strategy designed to attract new capital investment, which would help stimulate the area's economy and help relieve some of the real and perceived hindrances of the area.

The four main sections of this study may include:

- The identification of compatible target industries;
- Recommendations for Hastings North revitalization;
- Targeted Industrial Marketing Strategy; and
- Analysis and synthesis of baseline data to establish the existing profile of the industrial area.

Due to the close proximity of Hastings North industrial area to Powell-Clark industrial areas, regional trends will likely have a similar affect upon both study areas; in addition, some of the perceived hindrances which are affecting Hastings North industrial area also afflict Powell-Clark; consequently, some of the research and subsequent strategy proposals of the Hastings North Industrial Area Study may be relevant to the Powell-Clark industrial areas.

C.2.3 Strathcona BIA Business Directory and Goods and Service Analysis

This project was initiated in 2005 and covers a study area, generally bordered by Clark Drive (east), Gore Avenue (west), Railway Street (north), and Venables Streets (south). The purpose of this project was to gather information from business and property owners, record vacant properties, and determine the demographic profile of buying groups in Strathcona. The overall objective was to update market information for Strathcona BIA members, while simultaneously creating a tool to assist with business retention.

The need for a greater involvement from business and property owners became apparent throughout the project. Additional findings of the project also included:

- Hastings and Powell Streets have the highest number of operating businesses and vacant properties (Hastings has 51 vacant, Powell 24);
- Most vacancies are in the upper 700, 800, 900 and 1100 blocks of Hastings as there are fewer commuters and shoppers circulating those respective blocks, a possible consequence of illegal activity in the area;
- 8% of employees in Strathcona live within the neighbourhood; and
- Safe and clean street are important if workers are walking to and from work – this could also be an attractive feature for potential residents considering moving into the area.

Threats to the Strathcona area were also identified, such as the lack of available jobs with new businesses in the area, in addition the increasing level of illegal activities, along with new transit policies which may diminish the amount of available parking for potential customers.

Strathcona BIA studies reveal several key economic and geographical linkages and functioning sectors present in the Powell-Clark industrial areas, such as the strong connections to downtown Vancouver as well as transportation corridors such as Clark Drive and the Trans-Canada Highway. Other location attributes include the relative low cost and rent of property, which help these regions attract industry and businesses.

C.2.4 False Creek Flats Business Survey

The False Creek Flats Business Survey was conducted in 2004 as part of the False Creek Flats planning process. This survey identified significant characteristics of the False Creek Flats Area, which is generally bounded by Main Street (west), Clark Drive (east), Venables (north), and Great Northern Way (south), creating an overlap with the area identified as the Clark Drive industrial area.

This survey is intended to assist with the following: development of a complete long-range vision for the False Creek Flats Area; future transportation studies; future potential development projects; and, rezoning and policy formation. Topics addressed within this survey include: business characteristics; economic impact of the False Creek Flats; employee and transportation needs; location decision factors; social and community practices; and, recommendations as proposed by survey respondents.

Recommendations of the survey included maintaining reasonable land costs and rents in order to retain businesses within the area, addressing the demand for improved parking, and maintaining an adequate parking supply to support existing and potential future businesses. It was also recommended that policies be developed to improve the capacity for businesses to expand.

The results of the False Creek Flats survey are highly relevant to the Clark Drive and Powell Street industrial area, given the close geographic proximity of the False Creek Flats and the similar social and economic issues affecting this area.

APPENDIX D: CASE STUDY REPORT

D.1 Baltimore, Maryland

D.1.1 City Overview

In the past Baltimore's economy and industry expanded in conjunction with its port. The City of Baltimore is centrally located on the Eastern Seaboard of the United States and as a result its port and industrial firms serve the major population centres on the east coast, such as Washington D.C., Philadelphia, and Pittsburgh. The city's transportation network, which includes freeways (Interstate 95, Interstate 70, and Interstate 695), rail, and port facilities, provide Baltimore's businesses with excellent access to the majority of the American market.

Despite the city's strategic location, its position as the main economic centre within Maryland and the Baltimore-Washington D.C. region has receded. The surrounding counties of Anne Arundel, Baltimore, Carroll, Harford, and Howard, which account for the Baltimore Metropolitan Area, have taken Baltimore's place as the primary economic driver in the region. The Baltimore Metropolitan Area has experienced moderate to strong economic growth in the past, while the City of Baltimore, in contrast, has endured significant economic decline throughout the last two decades.

Although previously a centre for shipbuilding, chemical production, food processing and metal fabrication, during the latter half of the 1900's Baltimore experienced de-industrialization, losing many of its manufacturing and heavy industry similar to other eastern American cities. During its manufacturing peak in the 1950's, approximately 30% of the city's population was employed in the manufacturing sector. By 2000 this number had fallen to roughly 6% of the city's work force.

Increased international and domestic competition caused many industrial firms to relocate or shut down entirely. Between 1990 and 2002, the city experienced a significant reduction in employment and economic activity in the manufacturing sector, which declined by 45% from 41,500 jobs to roughly 23,000 jobs. The remaining industrial sectors also contracted by 40%. Furthermore, the city's retail sector declined by 47.3%, financial activities declined by 38.3 percent, transportation, warehousing and utilities declined by 38.3% and construction declined by 32.6%. In total, Baltimore lost approximately 75,000 jobs leaving many industrial sites throughout the city vacant or underutilized. The service sector was the only sector in Baltimore that experienced healthy growth, expanding by 7% between 1990 and 2002.

In contrast to the city, the Baltimore Metropolitan Area experienced general employment growth of 8.5% during the same time period. Although the manufacturing sector also declined in the Metropolitan Area, wholesale employment expanded by 4% while transportation, warehousing and utilities grew by 1%. A large portion of this economic growth took place on the periphery of the urban area adjacent to Interstate 95 and Interstate 695.

D.1.2 Area Overview

As noted, the majority of Baltimore's past industrial development was associated with the port and as a result, much of the city's historical industrial area is located on the Patapsco River, directly south and south east of Baltimore's Central Banking District.

The majority of the industries, which are located within the older-central industrial areas of Baltimore, such as the Carroll-Camden Industrial area, remain in order to

serve Baltimore's Central Banking District. These remaining businesses are relatively small, light-industrial firms that need to be close to their customers which are predominantly located in the Central Banking District.

As a result of the city's recent de-industrialization, many underutilized brownfield sites remain which could potentially accommodate future developments. Many of these sites are located on or adjacent to the city's waterfront, which has experienced an increase in non-industrial developments over the past few years. Overall, Baltimore faces many challenges, which are hindering its ability to attract traditional industrial businesses to the city.

D.1.3 Area Challenges

Baltimore has several former industrial areas stretched around its waterfront. A large portion of the city's waterfront industrial land consists of older multi-story industrial facilities, which are becoming increasingly popular for commercial and residential businesses. Planned Unit Developments (PUDs) are currently the principal method of accomplishing conversion from industrial to mixed use. PUDs in industrial zones may include any uses allowed in business zones including: offices, business and professional uses, hotels and motels, restaurants, live entertainment or dancing in accessory restaurants, and taverns.

The City of Baltimore has been promoting vacant industrial heritage buildings with the goal of attracting new developments. As a consequence, land prices have increased in the industrial areas and displaced industrial operations that can't compete or are incompatible with commercial or residential developments. The incursion of non-industrial activities into industrial areas of Baltimore has reduced the incentive for businesses to make capital improvements to their facilities within the city, as they fear that their operations will be restricted. More industrial firms are moving out to suburban industrial parks or areas within Baltimore that have direct access to interstate freeways.

Baltimore cannot compete with the surrounding suburban centres for industrial growth and job retention, as the majority of the city's existing industrial building stock will not support modern industrial activities. Furthermore, former industrial areas consisting of older multi-storey buildings are not easily accessible from interstate freeways, making them less attractive for warehouse and distribution operations – one of the city's healthier industrial sectors. Baltimore's recent industrial decline has left the city with no marketable industrial areas capable of competing with modern suburban industrial and business parks.

Further, new construction within Baltimore, specifically on industrial land, is often hindered due to soil contamination, a legacy of the city's former heavy industrial businesses. This issue has further reduced the city's ability to attract new industrial businesses, as construction and development costs on greenfield sites in modern industrial parks in the suburban areas are lower.

The decentralization of businesses to the suburbs has reduced the city's ability to generate traditional industrial clusters and external economies of scale, further eroding the city's ability to market its industrial areas. Many of Baltimore residents have also relocated to suburban communities, and are less likely to commute into the city for employment; past trends have seen businesses following their employees to the suburbs. As the city continues to lose more industries and businesses to the suburbs, it is faced with the prospect of having more of its residents commuting to the suburbs for employment.

Many of Baltimore's remaining industries struggle to acquire and retain qualified workers. In addition, a large portion of the city's unemployed workers lacks the necessary transferable skills to allow them to gain employment in modern industrial settings, further reducing the employment pool.

D.1.4 Strategies Employed

In response to the massive decline in employment experienced in the 1990's, the Baltimore Workforce Investment Board (BWID) identified six industrial sectors in 2000 which were anticipated to experience the largest growth in the Metropolitan Area, they are: bioscience; business services; construction; computer; data and software related services; healthcare and social assistance; and the hospitality and tourism industry. These sectors have been selected on the basis of their wage potential, appropriateness for Baltimore's workforce, and relation to existing strengths for growth potential in the broader state and national context. Baltimore targeted six specific industries, rather than trying to meet the needs of all the potential businesses. It is anticipating that these industrial sectors will generate and sustain growth in other related industries, thus stimulating the overall economy.

While the selected growth industries may not include any of the cities more established traditional industries such as manufacturing or chemical processing, the policies created to foster the target growth sectors, which are discussed below, will have an affect on the city's remaining industrial activities, as new industrial zones were created in order to facilitate modern industrial needs in Baltimore.

Maintaining viable industrial lands in proximity to the Port of Baltimore is recognized as a critical component of the State of Maryland's 2005 *Maritime Industrial Retention and Growth Management Strategy* (MIRGMS). The MIRGMS targets Port Focus Areas and provides a number of methods to retain and support the growth of maritime and related industries including:

- Encouraging local governments to implement zoning controls and development guidelines to protect access and use of transportation infrastructure;
- Encouraging local governments to preserve and promote zoning classifications and development guidelines that maintain appropriate land use buffers between port-compatible industry and other uses.
- Marketing the Port of Baltimore as an international gateway.
- Utilizing existing public-private partnerships to increase private investment in the Port of Baltimore.
- Focusing resources on business development in the Port, by conducting semi-annual forums;
- Incorporating funding for projects that support freight movements and maritime related industrial development in long-range capital programs.
- Encouraging advocacy to obtain increased federal funding for intermodal facilities and security;
- Encouraging state and local governments to work cooperatively to redevelop brownfield sites in Port Focus Areas, to support port compatible industrial development; and
- Encouraging local governments to enact legislation requiring adequate notification to developers concerning the potential impacts of contiguous industrial land uses, installation of buffers or barriers, and traffic studies in

association with proposed new developments to demonstrate that existing uses will not be materially affected.

One of the most notable recommendations of the MIRGMS is to facilitate the development of companies with high innovative content which can be accommodated in warehouse, flex or office spaces in close proximity to the regional transportation network and waterfront amenities. These types of uses can serve as effective buffers between heavier industrial type port uses and lighter industrial, commercial and residential mixed-use activity. Demand for warehouse and flex space is anticipated for all the Port Zone jurisdictions, with greatest demand expected in Baltimore City.

In 2006 the City of Baltimore adopted the Comprehensive Master Plan (CMP), the city's first development plan in over 30 years, which seeks to enhance the city's economy, while ameliorating the blighted conditions caused by the massive de-industrialization. The CMP identified three goals: firstly, to strengthen the identified growth sectors; secondly, to improve the city's labour force participation rate among residents; and thirdly, to improve access to jobs and transportation linkages between businesses. The CMP also identified the following policies and objectives to support the three goals as described below.

Objective 1.1
Retain and Attract Businesses in All Growth Sectors

Policy 1.1
Create an industrial mixed-zone district that will better accommodate current industrial demands and operations, which often require supporting commercial space. This new mixed-use district will include design guidelines that will encourage an industrial park atmosphere, while providing the mix of industrial with supporting commercial uses. As the retention of industrial uses is the primary objective, commercial uses within the district will be controlled and monitored in order to preserve the industrial nature.

Policy 1.2
Create a light industrial mixed-use zoning district, that will accommodate clean industrial uses that are able to perform well with and benefit from commercial activity that supports these industries. Specific design guidelines and performance standards will ensure that the industrial uses will not create any negative externalities on surrounding properties.

Policy 1.3
Preserve use of eminent domain in order to assemble smaller lots, which are no longer being utilized to their full potential.

Objective 2.1
Improve Labour Force Participation Rate Among City Residents

Policy 2.1
Create a strategic Plan for the Mayor's Office of Economic Development that links employers to jobseekers.

Policy 2.2
Target Mayor's Office of Economic Development resources to unemployed or under employed populations to better connect job seekers and employers.

Policy 2.3
Monitor and enforce First Source Hiring program (First Source Hiring program promotes the hiring of qualified unemployed or underemployed residents. The Program

encourages construction contractors and subcontractors to give first consideration to qualified residents of East Baltimore.)

Objective 3.1
Improve Access to Jobs and Transportation Linkages between Businesses

Policy 3.1
Implement Transportation Demand Management strategies with large employers and institutions.

As many of these policies were only recently adopted in the 2006 CMP, the results cannot be quantified at this time. However, Baltimore has pre-existing development initiatives that sought to increase development throughout the city. In particular, the City of Baltimore is currently using Environmental Protection Agency (EPA) grants to expand and promote brownfield developments throughout the city. Funding from the EPA is intended to assist with potential developments by financing soil remediation. This money, may however be utilized by non-industrial development projects. Consequently, Baltimore has experienced much redevelopment activity along its former industrial waterfront over the last few decades. To date limited amounts of industrial re-development have taken place along the city's waterfront.

Businesses in Baltimore, which are located within an Enterprise Zone, may also apply for Tax Incentive Financing (TIFs) measures, which are intended to promote infrastructure improvements. The following inner city industrial areas coincide with Enterprise Zones: Carroll-Camden, Canton-Holabird, and Locust Point. According the Baltimore Development Corporation, TIFs provide the opportunity to leverage limited public financing of public infrastructure and site preparation in order to maintain and attract investment. This form of financing works by pledging property tax increments gained from the property improvements to the businesses in the area, in essence taxes generated by property improvements are kept within the designated area.

In addition to TIFs, businesses within the Enterprise Zone may participate in a ten-year program that waives 80% of the property tax on non-residential properties for the first five years.

D.1.5 Conclusions

Many of the obstacles that hindered past economic development in Baltimore were not addressed by earlier incentives, such as the TIFs and Enterprise Zones, which were directed at existing businesses, leaving small, often contaminated lots, and old-derelict industrial buildings to attract new businesses. Many of these conditions still prevail in Baltimore, while suburban office parks often provided greenfield land, with an attractive modern image for businesses. Inadequate transportation and supporting infrastructure are not the sole reason for the city's inability to attract new industrial jobs. Certain industrial areas adjacent to Baltimore's port facilities have managed to maintain relatively low vacancy rates, such as the 5% vacancy rate in the Canton industrial area, which is located approximately six kilometres southeast of downtown Baltimore. In comparison the Carroll-Camden industrial area, which is directly adjacent to central Baltimore, struggles with a 21% vacancy rate.

Carroll-Camden has the potential to be one of the city's most competitive industrial areas given its highway, rail and port access, in conjunction with its close proximity to downtown. However, the area's obsolete buildings, blighted image, scrap yards and high crime rate deter potential industry. The city hopes that a mixed-use designation

will accommodate supporting commercial uses, while simultaneously preserving industrial uses.

The lack of any significant capital investments in the city's industrial building stock has left large areas of Baltimore's industrial lands with outdated industrial facilities that cannot facilitate modern industrial operations. In addition, older industrial areas within the city often lack adequate connections to interstates, thereby hindering truck and goods movements.

In contrast, while these outdated industrial buildings can no longer facilitate modern industry they are becoming quite popular for commercial offices and residential conversions, particularly in areas adjacent to the waterfront. The city's past policy to promote non-industrial activity as a means to re-vitalize the waterfront resulted in an increase in speculation in land price, which in turn pushed out industrial businesses to suburban areas.

Despite Baltimore's many geographic advantages and supporting port facilities, inadequate-old industrial building stock is forcing warehouse and distribution firms to the suburbs. Warehouse and distribution firms are extremely dependent upon transportation infrastructure and will relocate where they can get the best access to interstate freeways. The only industries that need to remain within the inner city industrial areas, such as Carroll-Camden, are light industries that support and service the city's commercial operations.

As a result of the city's challenges and the failure of past initiatives, Baltimore's primary focus has shifted towards attracting bioscience, business services, construction, computer, data and software related services, healthcare and social assistance, and the hospitality and tourism industry. Baltimore is currently re-zoning its former industrial areas to mixed-use industrial, in order to accommodate modern industrial needs and demands, which often require supporting commercial space for various purposes. Baltimore needs to improve its industrial building stock and the real and perceived images of its inner industrial in order to attract more industries.

Overall the lack of investment in the city's industrial building stock in conjunction with high levels of land speculation, forced industries out to the suburbs. The City of Baltimore experienced job significant job loss while the Metropolitan Area enjoyed an expanding economy, which was fuelled in part by the city's departing businesses and residents. Despite these negative trends, opportunities exist to restore Baltimore's industrial vitality through initiatives such as the MIRGMS and Baltimore Comprehensive Master Plan. The effectiveness of such initiatives can not be evaluated at the present time since they have only been in effect for a short time.

D.2 BOSTON, MASSACHUSETTS

D.2.1 City Overview

Prior to the 1960's Boston's industrial sector provided the largest number of jobs within the city. Boston, like most other industrial cities in the Northeastern United States, has under gone an economic transformation since the 1960's. The predominance of the industrial sector has given way to the service sector. Today roughly five percent of Boston's land remains zoned for industrial uses, a decrease of roughly 40% from the 1962 land use.

During the 1990's the city's remaining industrial businesses began moving away to the suburbs and other regions, lured away by lower rents and land prices. Consequently,

the city's employment structure continued to shift away from its previous labour intensive manufacturing sector to a technology and service sector. As of 2000 the city's service sector has expanded to comprise 46% of the total employment in Boston, in contrast the manufacturing employment sector has dwindled to 4% of the city's overall employment.

Despite the past decline in industrial activity Boston remains as a national centre for financial, higher education and medical services, as well as a centre for transportation, and communications services. These sectors are anticipated to generate the largest employment growth for the city and its surrounding areas. However, the City of Boston remains committed to protecting and preserving its industrial job base.

D.2.2 Area Overview

The majority of Boston has been designated for residential and commercial uses, only 5% (1,500 acres) of the city's land remains for industrial uses. The neighbourhoods with the most industrial land are South Boston, Dorchester, Allston-Brighton, Hyde Park and Charlestown, these neighbourhoods account for 76% of Boston's total industrial land area. With the exception of South Boston, most of these neighbourhoods were capable of accommodating industrial development due to their geographic distance away from the downtown, and residential neighbourhoods.

Of these five neighbourhoods South Boston has the most industrial land, while being the closest to downtown, approximately 31% of the city's total. This includes the Marine Industrial Park, which is owned by the City, and accounts for 33% of South Boston's industrial land. The South Boston Marine Industrial Park is intended to help ensure an industrial future in South Boston. In addition, South Boston has access to the harbour, airport, and highways, making it attractive location for industrial activity. Similar to the other industrial areas of Boston, South Boston has experienced a decline in traditional industrial activities.

D.2.3 Strategies Employed

In response the declining industrial activities the city has initiated many programs with the goal of preserving a diversified economy, and maintaining the city's remaining industrial jobs. Three of the more prominent programs in Boston include: the Backstreet Program, the Neighbourhood Jobs Trust program, and the Marine Industrial Park. As these programs often have similar goals and objectives, they generally work in symbiosis.

Located in South Boston, the Marine Industrial Park is 191-acre industrial park, which was purchased by the City of Boston in 1977. The primary objective of the Marine Industrial Park is to facilitate new and expanding industries with affordable and modern industrial space. The industrial park is currently comprised of 3.1 million square feet of industrial space, and enjoys a 95% occupancy rate, which is one of the highest rates in the city. The Marine Industrial Park, also utilizes the other initiatives (discussed below) that have been developed by the City of Boston and Commonwealth of Massachusetts.

The Neighbourhood Jobs Trust program funds skill training and educational programs throughout the city. Funded by real estate development, via the linkage program, the Neighborhoods Jobs Trust receives $1.44 for each square foot of development in excess of 100,000 square feet. Between 1988 and 2004 $15 million have been generated, and have helped finance 116 programs throughout the City of Boston. Between 2001 and 2004 roughly 800 people received various forms of education and technical training

from a diverse range of community based organizations. Services funded under this program include: model program designs for entry-level jobs training, school-to-work transition, family literacy, and workplace-based education. The Neighbourhood Jobs Trust's objective is supporting new and innovative education and training activities which result in high wage employment, new or non-traditional employment opportunities, and community based projects that respond to specific communities' documented education and training needs.

In addition, Boston initiated the Back Streets program in 2001 with the intention of preserving and promoting small to medium sized industries within the city. The primary goal of this program is to prevent any further reductions in the amount of industrial space within Boston, through the provision of financial and professional assistance to a multitude of businesses throughout Boston. No specific area or industry is targeted by the initiative, rather an overarching framework exists, which looks to preserve and enhance existing business clusters throughout the city. Between 2001 and 2003 the Back Streets program provided approximately $3 million to industrial firms, helping the city retain roughly 300 jobs, while creating 68 new positions. Since its inception the Back Streets program has grown to include 4,000 companies, and employing a total of 100,000 people.

The program began with focus groups throughout the city to establish the needs of the remaining industries. In response to the industries' needs the city established the Back Streets program to provide assistance in the following five key areas: real estate support, work force development, business assistance, financing for capital improvements, and planning services.

Businesses are provided with real estate support through the Boston Redevelopment Authority's (BRA) 'site finder' service, which helps new and expanding companies locate suitable properties that enable them to expand while remaining in Boston. The BRA 'site finder' service draws upon BRAs internal resources and form relationships with Boston's leading commercial and industrial real estate brokers. This service was made possible after a land use analysis had been conducted on the city's industrial zoned land, establishing the various businesses and work force clusters that existed within the city.

Further, the Back Streets program provides work force development by coordinating efforts with the city's and state's various career centres, while simultaneously providing English language and job training for recent immigrants and residents who have few work skills. These initiatives by the Back Streets program work in conjunction with the Neighborhood Jobs Trust, the Commonwealth's Department of Education (DOE), and the Mayor's Office of Jobs and Community Services (JCS). The latter two agencies provide basic education programs for adults, teaching prospective workers the necessary skills which will enable them to, not only gain employment but also to have the ability to move upward within a business. The Back Streets program matches employers with potential workers who have received training from the various education services; while financial incentives encourage businesses to hire from the city's under privileged groups.

Professional business assistance is also provided by a small team of business managers who act as liaisons between the City's various agencies and the businesses that are associated with the Back Streets program. These managers help provide solutions, resources, contacts, and clear instructions to assist businesses through the various development stages. The underlying intention of this service is to streamline the development process by establishing a single source of information to help businesses

remain successful. The service has been described has, "One stop shopping for zoning, permitting, city department resources, and linkages."

The comprehensive industrial planning and assistance services provided by the Back Streets program to individual businesses and small industrial districts include: protecting industrial land use through planning and zoning, identifying opportunities for expansion and development, identifying transit and infrastructure improvements, and identifying public realm improvements.

In addition, the Back Streets program provides businesses with the information they require to gain access to the funding options available to them through various options. Two of the prominent loan providers are the Boston Industrial Development Financing Authority (BIDFA), and the Boston Local Development Corporation (BLDC). BIDFA issues tax exempt financing for projects and equipment where costs exceed $3 million. Firms that borrow from the BIDFA must make reasonable efforts to provide new jobs to Boston residents giving priority to minorities and women. The BLDC provides firms with loans between $15,000 - $150,000 in order to relocate within Boston, businesses within the Backstreet program can qualify for loans at interests rates of one half below prime, which are fixed for a term of seven years. Back Streets businesses located within the Boston Empowerment Zone can also qualify for further funding which is made available to firms within the Empowerment Zone.

Part of Boston was designated as an Empowerment Zone in 1999, by the U.S. Department of Housing and Urban Development. Encompassing 15 square kilometres, including parts of south Boston, Downtown, the Seaport District, Chinatown, the South End, Mission Hill, Roxbury, Jamaica Plain, and Dorchester, the Empowerment Zone contains approximately 10% of the city's population. This designation by the Department of Housing and Urban Development makes Boston eligible for $130 million in tax-exempt bonds for various revitalization development projects and job creation programs for 10 years.

These bonds are not solely limited to industrial businesses; rather they are available to a wide range of commercial and retail operations. Further funding for industrial development is made available through tax-exempt industrial development bonds for firms looking to acquire land for the construction of new facilities or to expand or renovate existing facilities. Projects eligible for Industrial development bonds generally involve manufacturing firms that create tangible products.

D.2.4 Conclusions

While Boston has been experiencing a declining industrial sector and the city's economic future appears to be connected to the growth and development of its education, and health care sectors, recent industrial development throughout the city suggest that Boston has been successful at preserving industrial sector jobs and creating a diversified economy. In 2003, South Boston accommodated the newly completed 66,000 square foot Pilot Sea Food and the 75,000 square foot Legal Sea Food processing facilities. In addition, Dorchester became home to a 76,000 square foot graphic services office and a 38,000 square foot bakery.

The various initiatives employed by the City of Boston and the Commonwealth of Massachusetts appear to have been successful at maintaining industrial jobs within the city, albeit at relatively small scale in comparison to other employment sectors. New industrial businesses have recently established within South Boston, Dorchester, and other industrial areas, suggesting that the various policies have managed to make an attractive industrial atmosphere within Boston.

However, Boston is no longer dependant upon industrial jobs and businesses. Boston's future appears to be connected to the growth and development of its advanced academic institutions, and its large cluster of advanced health care facilities within the city. Future job projections anticipate that these sectors will experience growth, while the city's manufacturing and industrial sectors will likely remain static in comparison to the other employment sectors.

D.3 CHICAGO, ILLINOIS

D.3.1 City Overview

Chicago has traditionally been a home to manufacturing and industrial activities in the following areas: steel, chemical production, petroleum refining, electronics, machinery, metal fabrication, food processing, and medical and scientific equipment. While some of these industries remain, Chicago has endured significant de-industrialization throughout the last 20 years, as the city's traditional industrial base began relocating to suburban centres, and other countries. In spite of these departures Chicago remains the economic centre of the Mid-west, however its economy is now dominated by the service and financial sectors.

D.3.2 Area Challenges

Gentrification began to destabilize industrial land markets in Chicago, and introduce non-conforming land uses. Piecemeal zoning changes enabled residential and retail development on former industrial property. This resulted in real estate speculation, which threatened the viability of many industrial areas, as manufacturers became increasingly hesitant to make long-term capital investments.

D.3.3 Strategies Employed

A task force was created in 1986 to review the condition of the city's industrial sector and the pressure it was facing from non-industrial uses. The task force, which was led by the Department of City Planning, the Department of Economic Development, and other public offices and agencies, recommended the creation of a Permanent Manufacturing District (PMD), with the objective to retain and create well-paying manufacturing jobs. Acting upon this recommendation the Clybourn Corridor PMD was established in 1988 by the City Council. The Clybourn Corridor PMD is a 115-acre area located between Clybourn Avenue and the Chicago River, and is approximately four kilometres North West of Chicago's CBD.

The PMD, as laid out by the city's task force, would create new zoning regulations that would make any future zoning changes extremely difficult, with the goal of preventing further conversions of industrial land to alternative uses. A PMD enabling ordinance, in conjunction with an amendment to the Chicago Zoning Ordinance provided a legal framework for the creation of PMDs elsewhere in the city. In 1990 the City Council created two new PMDs, the 146-acre Goose Island and the 170-acre Elston Corridor, both of which are adjacent to the Clybourn Corridor.

Section 17-6-0401-A of the Chicago Zoning Ordinance, states that the purpose of the PMDs is to:

- Foster the city's industrial base;
- Maintain the city's diversified economy for the general welfare of its citizens;

- Strengthen existing manufacturing areas that are suitable in size, location, and character and which City Council deems may benefit from designation as a PMD;
- Encourage industrial investment, modernization, and expansion by providing for stable and predictable industrial environments; and
- Help plan and direct programs and initiatives to promote growth and development of the city's industrial employment base.

While the principal objective of the PMD is to foster industrial development, PMDs do make allowances for non-industrial uses, if they are deemed to be compatible with industrial development, some examples include postal services, utilities, building maintenance services, construction, office and retail space (with certain restrictions), warehousing and distribution, and automobile repair. The allowances of non-industrial uses have had a large impact upon the PMD, notably the Clybourn Corridor.

The Clybourn Corridor is partitioned into two sub-districts: a core and a buffer area separating the core from neighbouring residential areas. The core area is limited to heavy industrial manufacturing, while the buffer area includes many commercial enterprises such as bars, restaurants, and retail establishments. In 1988 20% of workers in the buffer zone were employed within the manufacturing sector, as of 2004 manufacturing jobs accounted for less than 2% of the buffer areas workforce. That being said the core industrial sector still maintains many of its original manufacturing businesses and jobs, which most likely would have been forced to relocate if they were not surrounded by a buffer zone.

The industrial land on Goose Island was also being threatened by non-industrial developments, prior to its PMD designation. In the late 1980's the real estate market on and surrounding Goose Island was quite strong, causing many industrial properties on the island to sell for prices far above the city's average industrial rate. Property owners on the island were hoping to rezone land for residential and commercial developments, and prevented any industrial development from taking place on their property even after the council designated the island as a PMD in 1990. The speculation that the city would eventual abolish the PMD lasted until the mid 1990's, when the city finally threatened to take direct ownership over all vacant industrial land on the island. Private investments in industrial capital were not made until the speculation over future land use possibilities was resolved. The last major underutilized site upon Goose Island has recently been developed with the construction of Global Innovation's $84 million, 300,000 sq. ft. research center.

Between 1988 and 2004 the combined PMDs of the Clybourn Corridor, Goose Island, and the Elston Corridor, witnessed an increase of 101 new businesses to a total of 356, and an increase of 827 new jobs to a total of 7,415. That being said the number of manufacturing jobs within the PMDs declined from 3,088 in 1988 to 2,135 in 2004. While there were fewer manufacturing jobs in 2004 when compared to 1988, the manufacturing sector in the PMDs did experience a slight rebound between 2000 and 2004. This trend is contrary when compared to the citywide manufacturing sector, which experienced a decline in manufacturing businesses by 18% and manufacturing jobs decreased by 28%. The F.I.R.E., retail, and service sectors accounted for the largest growth in PMDs between 1988 and 2004, which signifies the overall transformation of the Chicago economy from a manufacturing base to a service base.

To coincide with their PMDs, industrial businesses in Chicago also have access to an array of economic incentives including: Tax Increment Financing, Industrial

Development Revenue Bonds, Enterprise Zone Facility Bonds, Industrial Retention and Expansion Loans.

The City of Chicago created Tax Increment Financing Districts (TIF), with the objective of spurring private capital investment. Businesses within the TIF are able to keep all of their property taxes for a 23-year period, with the intention that this funding will ensure that TIF districts will have adequate financing to develop the necessary infrastructure which will in turn attract newer businesses.

D.3.4 Conclusions

Chicago's PMDs continue to be strong employment areas, however the majority of these jobs are no longer manufacturing. The Tax Increment Financing (TIF) incentive appears to be the most effective tool when measured by its ability to attract new businesses, one dollar of TIF assistance is accompanied by an average of $6.28 of private investment. Since 1989 TIFs have generated $4.2 billion in private investment through $680 million in TIF assistance.

A recent report published by the University of Wisconsin-Milwaukee Center for Economic Development, entitled *Curbing Industrial Decline or Thwarting Redevelopment* analyzes the level of success achieved by Chicago's PMDs over the past 15 years. The findings of this report indicate that while the PMDs have experienced significant job creation, noting that the number of businesses in the PMDs have increased from 255 to 356, while jobs have increased from 6,588 to 7,415, the manufacturing sector experienced a significant reduction in the number of jobs. Manufacturing jobs decreased from 3,088 in 1988 to 2,135 in 2004. In 1988 nearly one half of all employment within the PMDs was in the manufacturing sector, as of 2004 this total had decreased to 29%.

The report identifies the employment sectors that experienced the largest increase in employment levels from 2000 to 2004; they were the F.I.R.E, retail and service sectors, which grew by 37.5%, 34.5%, and 58.6% respectively.

In addition, the report notes that the Clybourn Corridor PMD has transitioned from a largely industrial area to a retail service area. Within this PMD each new retail job created corresponded with a decrease in of one manufacturing job.

The decline of the manufacturing sector within the PMDs is consistent with the overall transition of the Chicago economy away from a manufacturing based economy towards a service-based economy.

In addition, land use speculation continues to hinder industrial development within the PMDs as this is increasing the price of property in industrial areas making it less attractive for industrial businesses.

The PMDs have been effective at preserving areas for employment; however they have not fostered the city's industrial base, as manufacturing jobs have decreased in comparison to non-industrial jobs within the F.I.R.E, retail and service sectors.

The Enterprise Zones have also been subject to much criticism, as the long-term benefits produced from these zones may not equal the costs associated with the tax breaks and other exemptions from city codes and ordinances. A paper published by Anna Sokol from the University of Michigan suggests that these zones have failed, as they have not prevented the departure of high paying manufacturing jobs.

Tax Increment Financing (TIF) does however appear to be quite successful at generating private investments within the TIF districts, which often coincide with the

PMDs. One dollar of TIF assistance is accompanied by an average of $6.28 of private investment. Since 1989 the Department of Planning and Development has successfully leveraged $4.2 billion in private investment through $680 million in TIF assistance.

D.4 SAN FRANCISCO (EASTERN NEIGHBORHOODS), CALIFORNIA

D.4.1 San Francisco Overview

Between 1990 and 2002 San Francisco's population expanded by 66,000 residents to 800,000. The population increase over the last decade in conjunction with limited residential development throughout San Francisco created a housing supply shortage and consequently a sharp increase in property values. The shortage of available housing and high property values attracted developers to the city's industrial land, where land prices were lower and more conducive to development projects. Permissive zoning laws facilitated the property developer's demand for industrial land and as a result residential incursions into industrial zoned increased dramatically over the last decade. Despite the residential incursions, San Francisco's industrial land is currently inadequate for residential units, as it lacks sufficient public services and amenities required to create sustainable communities. Undirected residential incursions into industrial land have also led to the displacement of industrial businesses, while simultaneously increasing the number of conflicting interests, as residents have been allowed to live adjacent to active industries. Solving the city's housing crisis, while preserving the city's employment diversity is the focus of the current planning initiatives underway in San Francisco and more specifically within the Eastern Neighborhoods.

D.4.2 Eastern Neighborhoods Overview

The Eastern Neighborhoods region is located directly south of San Francisco's Central Banking District, and is generally comprised of the South of Market, the Mission, Showplace Square/Potrero, Central Waterfront, South Bayshore, and Visitacion Valley communities. These communities contain all of San Francisco's industrially zoned land, 3,254-acres or roughly 14% of San Francisco's total land area. While being the only active industrial district in San Francisco, the Eastern Neighborhoods are also home to many vibrant residential areas, which have grown up along side industry over the last century and are now home to approximately 70,000 residents. The mixed industrial and residential heritage of the Eastern Neighborhoods have generated many conflicts of interests over the last half-century; while this mixed use also created many unique neighbourhoods, which the City of San Francisco is striving to preserve and enhance by identifying areas for future residential developments which will not impede upon existing industries.

Traditionally the Eastern Neighborhoods were home to the city's iron foundries, machine shops, boiler works, warehouses, shipyards, and abattoirs. Between the late 1960's and early 1990's, the region underwent dramatic changes as heavy industry migrated to outlying communities, particularly to the East Bay and the North Bay. The closure of the Hunters Point Naval Shipyard in 1974 was symbolic, as it came to represent the decline in the city's industrial base and the subsequent loss of blue-collar jobs for San Francisco and the Eastern Neighborhoods in particular.

The exodus of heavy industry began in the late 1960's. This made the area more attractive for commercial/office space and residential developments. With the decline in industry, the city's available industrial land has been halved from its peak of 3,254-acres. Much of this land has been transformed through a variety of land use plans into

non-industrial space. As of 1999, only 4.5% of the City's industrial land remained to serve the needs of the production, distribution, and repair (PDR) sector in San Francisco. The PDR sector is the primary source of industry within San Francisco. If the city's industrial land is further reduced; most PDR businesses will find it difficult to remain in San Francisco.

The PDR (production, distribution and repair) sector is a unique term, which describes the industrial activities existing in San Francisco today. Businesses in this sector provide the most jobs on industrially zoned land: as of 2002 PDR activities provided 68,000 jobs citywide, or 12% of San Francisco's total employment. Approximately 47,000 of these PDR jobs were located in the Eastern Neighborhoods in some of the following activities:

- Food and beverage wholesale and distribution;
- Fashion/garment design and manufacture;
- Delivery services (messengers, airport shuttle vans, taxis, limousines);
- Event production and catering;
- Construction contractors and building material suppliers;
- Wholesale and retail of furniture, equipment, appliances and furniture; and
- Manufacture of specialty fixtures, displays, furniture, custom wood and metal works.

While some PDR businesses are located in other regions of San Francisco, the PDR businesses found in the Eastern Neighborhoods have a specific character derived from the clustering of similar and related activities. Each of the communities within the Eastern Neighborhoods have a unique cluster, some examples include: the printing and media clusters in South of Market and Central Waterfront; the furniture and design cluster at Showplace Square; and the food and beverage clusters at South Bayshore. As each firm in a cluster is often partly dependent upon one another for success, a firms collapse or closure has a large impact on the surrounding community: a displacement of one or more firms in a cluster can often disrupt and break up long-standing and successful PDR districts. Given the large importance of the PDR sector and its dependence upon industrial land, the city has undertaken many initiatives, with the goal of preserving and strengthening this sector of the economy. While the overall goal of the city planning department for the Eastern Neighborhoods is to create cohesive neighbourhoods that involve the successful integration of residential units, commercial services, along with the retention and perseverance of the existing PDR businesses.

D.4.3 Area Challenges

One of the largest challenges facing the city's industrial land supply has been the permissive city zoning by-laws, which make allowances for non-industrial uses within industrial zoned land. The city's M-1 and M-2 industrial zoning, which made up a significant portion of the Eastern Neighbourhoods industrial zoning, facilitated the incursion of the many non-industrial land uses including, residential housing, medical facilities, educational facilities, and assembly and entertainment facilities.

The robust economy that existed during the dot-com boom of the late 1990's and early 00's utilized these allowances. Between 1998 and 2001, the job creation rate in the Eastern Neighborhoods was four times higher than the city as a whole; total employment in San Francisco grew by approximately 25,550 jobs. Much of this growth spilled over from the Central Banking District to the Eastern Neighborhoods, accounting for approximately 15,950 or 62% of the city's employment growth. The management,

information, and professional services sector experiencing the largest growth, while in contrast, during this same period, employment in the PDR sector declined by 0.5% or 256 jobs in the Eastern Neighborhoods. The strong growth in non-industrial businesses led to an increased demand for office and residential space, which in turn placed more pressure upon the area's existing industries. As noted above, by 1999 only 4.5% of San Francisco's industrial land remained in use by the PDR sector.

Increasing levels of commercial developments within the Eastern Neighborhoods coincided with a dramatic increase in residential developments, which were a consequence of the city's permissive zoning laws. Between 1997 and 2002, the Eastern Neighborhoods' industrial land accommodated the addition of approximately 5,000 residential units (primarily live/work units) and approximately 50 office projects. In contrast there has been no major new industrial development in the area since the Redevelopment Agency sponsored the creation of the India Basin Industrial Park in 1969.

The incursions of commercial and residential developments into the industrial land supply reduced certainty among industrial businesses, as speculation regarding the continued incursions of non-industrial operations within the Eastern Neighborhoods led to a decline in the amount of new investments within the PDR sector. Recent employment projections developed by The Association of Bay Area Governments (ABAG) stated that the employment within the city's PDR sector would expand by approximately 18,000 between 2000 and 2025. However, given the current industrial land supply and current land use patterns within San Francisco, employment growth of this nature is highly unlikely.

The public services and amenities serving the growing number of residents within the Eastern Neighborhoods are currently inadequate, a legacy of the past industrial nature of the area. Improvements in public transit, public spaces, and commercial services are required in order to establish livable neighbourhoods, which can meet the requirements of local area residents. Furthermore, the undirected residential development that occurred over the last decade has exacerbated these inadequacies in public services while simultaneously making it more difficult to provide services to residents in an efficient manner.

The various government agencies responsible for the planning and development of San Francisco and more specifically, the Eastern Neighborhoods, are attempting to remove these challenges, while alleviating the city's housing shortage while simultaneously ensuring the perseverance of the city's remaining industrial land and businesses. The overall goal of the planning department is to create cohesive neighborhoods, which includes the integration of residential units and commercial services.

D.4.4 Strategies Employed

In July of 2002 the San Francisco Planning Department hosted a summit on Industrial land in the Eastern Neighborhoods, which was attended by community members, businesses, property owners, residents, developers, the Port Agency, the Redevelopment Agency, and the Mayor's Office of Economic Development. The purpose of the summit was to:

- Inform the summit participants about the industrial land in San Francisco
- Describe what are PDR industrial uses
- Explain the role of PDR businesses in the city's economy
- Discuss how the city should use its remaining industrial land

- Seek input from the summit participants to frame land use policies and zoning controls for the remaining 1,654 acres of Industrial land in the city's Eastern Neighborhoods.

During the course of the summit the city and its participants produced three potential policy options to guide the city's future policy development. The three policy options put forth by the summit were:

i. Do nothing – let price competition between incompatible land users determine uses, and locations, ultimately losing all or most of PDR businesses.

ii. Revise zoning to encourage housing and provide infrastructure and urban amenities, excluding industrial users, which would likely result in the loss of PDR businesses that are important to the city's economy.

iii. Change zoning to encourage PDR businesses to remain in San Francisco and identify land for housing and other needs through Citywide Action Plan for a citywide solution.

Since the industrial summit San Francisco's planning department has developed a myriad of complimentary programs and policies in pursuance of the third policy option. Two such programs laid out by the city's planning department are the Citywide Action Plan (CAP) and the Better Neighborhoods Program. The former policy seeks to create a coherent development pattern for residential, commercial and industry projects throughout the city, while the latter program is tailored to the specific interests and needs of individual communities.

The CAP has two focuses: firstly, to clarify and update the general planning policies, including a revised housing element, a new land use element and a revised urban design element; secondly, to prepare implementation measures including revised zoning, updated review procedures, and planning code provisions that would implement the CAP.

San Francisco's CAP established temporary area specific zoning controls in 1999; 1,200 acres were identified as Industrial Protection Zones (IPZs), while 450 acres were identified as a Mixed Use Housing Zone (MUHZ) for residential and commercial uses. The intent of these zoning controls was to guide new development towards the most appropriate location while providing reassurances to the PDR businesses established within the Eastern Neighborhoods. In 2001 the city passed resolution 16202, establishing a permanent Industrial Protection Zone Special Use District. The intention of resolution 16202 is similar to the temporary zoning controls passed in 1999; however, its specific goal is to support active businesses in the area and to protect current PDR jobs in the community. The majority of the IPZs are located within the Bayview Hunters Point industrial area.

Resolution 16202 successfully delineated older industrial zoned land into areas which would be better suited to accommodate housing developments, especially high-density residential developments which maximize allowable densities and affordability, and areas which can serve the needs of the existing PDR sector. Directing future residential/mixed use developments into specified zones, in conjunction with the protective IPZs and MUHZ, will help ensure that future housing developments will be situated in areas that can be served more easily by public amenities and commercial services creating coherent livable communities, while also preserving the future longevity of the PDR sector, which is integral to the city's overall economy.

More recently, in February of 2004, the city's planning commission passed resolution 16727, which pursues the development of selected new residential neighbourhoods in

the industrial zoned land of the following neighbourhoods: South of Market, the Mission, and Showplace Square/Potrero. Resolution 16727 created three overlays to the existing planning code encouraging different land uses, within specified areas, throughout the Eastern Neighbourhood land uses. The following zones were created: a PDR zone, for the perseverance of existing PDR space; a PDR-Res zone, which is intended to foster a mix of PDR space with housing; a Housing/Mixed Use zone, which encourages the establishment of residential units in correlation with other land uses.

Building in part from resolutions 16202 and 16727, the San Francisco Planning Department proposed new interim controls for parts of the Eastern Neighborhoods, and areas within the Central Waterfront, on February 9th, 2006. These interim controls would establish mixed-use residential, employment and business development, and urban mixed-use areas for sections of the Mission, Showplace Square/Potrero Hill, east South of Market and the Central Waterfront. The proposed interim controls must operate within the existing context of planning codes; they include a simplified definition of production, distribution, and repair, along with five new zoning districts.

The revised PDR definitions proposed under the new interim controls are not specifically identified and listed, as they have been in the past. Areas identified for PDR use are regulated by listing uses that would not be allowed and by using existing planning code definitions and terminology. Under this approach, PDR does not include housing, office, retail and personal services, institutions, or massage establishments, as currently defined in the city's planning code. The new interim controls will provide more flexibility as it avoids the potential to preclude unanticipated PDR businesses that might appropriately locate in the proposed zoning districts.

The five new zoning districts in the proposed interim controls include:

- Employment and Business Development District - Intended to encourage new business formation, support existing businesses, and to conserve building space for PDR businesses by restricting the demolition of PDR buildings, requiring five square feet of PDR space for every one foot of new housing, and restricting office and retail to 5,000 square feet per lot.
- Urban Mixed Use District - Intended to create dynamic, mixed-use places that also serve as transitional area between established residential neighborhoods and areas intended for PDR and other business activities.
- Residential Mixed Use District - Intended to encourage housing and to provide space for a mix of retail and commercial uses.
- Design and Showroom District - The intent of this district is to acknowledge and support the unique collection of buildings, jobs, and uses that characterize part of Showplace Square.
- Arts and Technology District - Intended to encourage a wide array of non-residential uses that reflect the presence of the California College of Arts

The Better Neighborhoods Program is also underway in the Eastern Neighborhoods. The Central Waterfront community is currently involved with the Better Neighborhoods Program, and has established The Central Waterfront Neighborhood Plan as a blueprint for ensuring that new growth is coordinated in a way that creates a coherent urban neighbourhood.

The main goal of this plan is to establish land use districts that foster the Central Waterfront's mixed-use heritage. The plan looks to preserve the character of the Central Waterfront area, encourage additional housing, and establish residential

mixed-use areas, while protecting important production, distribution, and repair activities.

The PDR district established under the Central Waterfront Plan, "Encompasses those parts of the Central Waterfront that either contain the most significant or important PDR building stock, existing vibrant PDR clusters, or are the most appropriate places for such activities because of the character of surrounding uses." Criteria were established to identify the following: buildings with large floor plates or floor-area ratios, loading docks or areas, clerestories, and other features attractive to a range of PDR users; buildings in good condition (based on field surveys and data on recent investment); important Clusters or concentrations of PDR activities.

In areas not designated for PDR uses, residential and mixed uses are encouraged. The inclusion of mixed-use space into the Central Waterfront area is intended to foster a vibrant neighbourhood. By selectively bolstering housing in areas adjacent to more established residential enclaves and protecting areas characterized by building types that feature the flexibility required by PDR activities, the Central Waterfront Plan hopes to accommodate moderate amounts of new housing which will not disrupt existing industrial uses or preclude new industries from growing.

D.4.5 Conclusions

In 2005 the San Francisco planning department hired the firm Economic and Planning Systems (EPS) to conduct a supply and demand study for the spatial needs for the PDR sector. The report analyzed past and future PDR employment data, in order to establish whether the city has an adequate supply of land to meet the needs of its PDR sector.

The EPS report is a moderate-growth projection, which averaged the results of the high growth scenarios presented by Association of Bay Area Governments (ABAG) and the low growth scenarios based on past trends. The PDR employment projections based on ABAG's projections are highly optimistic in that they show 22% to 40% growth in PDR employment despite past declines of 21% from 1999 through to 2004 in the Eastern Neighborhoods and 27% decline in the city's overall industrial employment from 1980 through 2000. EPS's report projected PDR employment in the Eastern Neighborhoods to increase by an approximate 13%, to a total of 51,000 jobs by 2030, assuming that an adequate supply of land existed. Approximately 43,800 jobs are expected to require space on PDR land while 7,100 jobs would remain or could locate on non-PDR land.

EPS's report, while conservative in comparison to the ABAG report, still projects growth in the overall PDR sector, which is a significant change departure from the decline witnessed during the dot-com boom. However, not every PDR category is expected to experience growth throughout this period. The Fashion and Transportation industries are projected to decline by over 25%, resulting in a loss of nearly 3,000 jobs for the Eastern Neighborhoods by 2030; while the Construction and Audio Visual industries are expected to grow by 50% respectively, contributing 7,000 new jobs for the Eastern Neighborhoods by 2030.

The EPS report also forecasted the PDR sector's future demand for industrial land to reach 27,000,000 square feet, while the future supply is stated to be 24,000,000 square feet, resulting in a land deficit of 3 million square feet. Some of the land deficit could be reduced, pending the environmental clean-up and land use allocation of the Hunter Point Naval Shipyard, which could contribute an additional 2.7 million square feet.

While the City of San Francisco currently has an inadequate supply of industrial land to facilitate the full potential employment growth projected in the EPS and ABAG reports, the former more conservative report is projecting strong employment within the PDR sector, in contrast to the decline in PDR employment experienced during the dot-com boom. The EPS projections suggest that the PDR sector is healthy, and will likely remain an integral part of San Francisco's overall economy well into the future.

The goal of preserving the city's employment diversity while creating new space for residential development to help alleviate the housing crisis appears to have been achieved upon initial review. The mixed-use heritage of the Eastern Neighborhoods, and the continued desirability of the area for residents and industrial businesses suggest that residential developments can be integrated into industrial areas, if they are guided towards appropriate locations. Making allowances for random residential developments throughout industrial areas makes it difficult to provide adequate services to both industry and residents.

D.5 WILMINGTON (LOS ANGELES), CALIFORNIA

D.5.1 Los Angeles Overview

The City of Wilmington is located directly north of the East Basin of the Los Angeles Harbour, adjacent to the port of Los Angeles. Founded as a port city, early economic activity in Wilmington centred on the fisheries and supporting fish canneries. These activities remained the prominent industry until the 1960's.

Industrial activity began to diversify with the discovery of oil in 1921 and the development of supporting oil facilities. The exhaustion of many of the oil wells within Wilmington and the depletion of the major fisheries off the coast of southern California has left much of the industrial land under utilized for much of the latter half of the 20th century.

D.5.2 Wilmington Industrial Park Overview

The Los Angeles Harbour Industrial Center Redevelopment Project, also known as The Wilmington Industrial Park (WIP) was established in 1974 with the goal of creating a healthy, active industrial centre with the physical and economic strength to maintain itself. The primary objective of the WIP redevelopment plan is to entice labour-intensive industries into the industrial park to in order to provide new employment opportunities for area residents, while ameliorating blighted conditions in the park. The Redevelopment Project Area Plan identifies blight as an area "Characterized by a prevalence of depreciated values, impaired investment to such an extent that capacity to pay taxes is reduced and tax receipts are inadequate for the cost of public services rendered."

The boundaries of the WIP were drawn to include the most neglected and blighted areas of Wilmington, encompassing a total of 232-acres of land, 157-acres are developable, were selected in southwest Wilmington. The redevelopment project, which was originally headed by the Community Redevelopment Agency of Los Angeles, has since acquired additional support from the City's Brownfields Revitalization Program and numerous other capital funding projects from the state and federal governments.

D.5.3 Area Challenges

Some of the issues have hindered industrial development within the WIP include: small residential lots and streets (a legacy of the original city layout), complicated overlay of multiple petroleum rights, abandoned oil wells, contaminated soil, inadequate public utilities and infrastructure. The WIP has also accommodated junkyards, auto-wreckers, and illegal garbage dumping over much of the last 30 years; such uses have contributed to the economic and social degradation of both the project area and the Wilmington community, often making it difficult to attract new industries. Further, the WIP area suffers from property crimes such as vandalism and theft, while violent crimes are also common.

The Wilmington-Harbour City Community Plan in conjunction with the redevelopment plan for the Los Angeles Harbor Industrial Center Redevelopment Project have established the following policies and programs in order to meet the primary goal as stated in these plans, and elevate obstacles to economic growth.

D.5.4 Strategies Employed

The objectives and policies below address development issues relevant to the WIP and are taken from the Wilmington-Harbour City Community Plan.

Objective 3.4

To develop and improve the Wilmington Industrial Park into a vital and thriving industrial centre taking full advantage of its location near the Alameda Corridor and the Port of Los Angeles, providing a strong economic and employment base within the community

Policy 3.4.1

Develop and protect the industrial integrity and enhance the long-term stability of the Wilmington Industrial Park

The policies and initiatives established in the Los Angeles Harbor Industrial Center Redevelopment Project Plan which specifically address the policies which are intended to ameliorate the blighted conditions within the WIP, while also attracting new employment.

Policy 3.4.3

All zoning, building, health and safety codes should be strictly enforced within the Wilmington Industrial Park.

Policy 3.4.5

In order to limit access and provide a more orderly flow of traffic, improve the visual environment for traffic entering and exiting the Park, increase safety, reduce illegal dumping and other criminal activities, and permit the assembly of large parcels of land that can be more effectively developed for industrial purposes.

The redevelopment plan which was adopted in 1974, and has since been amended and adopted in 1986, 1994 and again in 2002, has set out the following objectives for the enhancement of the WIP, they are listed bellow:

- The elimination and prevention of the spread of blight and deterioration and the renewal, redevelopment and restoration of the Project to the extent permitted by law and specified in this plan;
- The removal of impediments to land disposition and development through the assembly of land into appropriate sizes for industrial purposes;

- The creation of an industrial park integrated with an active oil field operation and providing a new economic and employment base within the Wilmington community, taking full advantage of its location by the Los Angeles Harbour;
- Development of a comprehensive planning, marketing and real estate development strategy that will attract developer interest, identify and resolve complex surface and subsurface development site issues and promote opportunity sites for development;
- Promotion of interdepartmental cooperation among local, state and federal authorities regulating environmental remediation activities in order to facilitate and streamline complex regulatory review and facilitate new development; and
- Seek and promote federal, state and local enterprise zone or other beneficial designations that will provide financial or tax credit incentives for new businesses to operate in the WIP.

The WIP has been able to achieve many of its objectives through the implementation of the following actions:

- Acquisition of real property for industrial activities;
- Relocation assistance to residential and non-residential occupants displaced from property acquired by the Redevelopment Agency; and
- Redevelopment of land and transportation infrastructure by private enterprise and public agencies.

In addition, the WIP has also been designated as one of Los Angeles's Brownfield Demonstration Sites. This classification provides a multitude of grants and funding for environmental remediation projects and infrastructure improvements. Businesses within the WIP also qualify for various Environmental Protection Agency grants and loans, Housing and Urban Development loans which assist with brownfield site acquisition and redevelopment. Local governments and redevelopment agencies can also access the State of California Infrastructure Economic Development Bank's low interest loans to help finance infrastructure and public amenities improvements for brownfield sites. Additional financing for private companies is made available through other government agencies and services. This financing is necessary to assist local governments and businesses offset the high costs associated with redeveloping brownfield sites.

In conjunction with the monetary assistance the Brownfields Revitalization Program also provides professional expertise, including direct call assistance to Redevelopment Agency project managers, the Mayor's Office, and various other city departments. Professional assistance provided by the Brownfields Revitalization program, is not the sole source of information for developers as the Redevelopment Agency established an online date base.

As part of the redevelopment strategy the Redevelopment Agency has also conducted an in depth survey of the WIP. The survey involved the following: a GIS database, mapping of oil wells and updating surface infrastructure conditions in order to create an electronic data base; studies of soil conditions and estimates for remediation costs; economic development and market analysis to identify industrial uses appropriate for the area; industrial land use planning identifying opportunity sites; financial analyses and development of financial incentives. This information has been made available to the public and prospective developers via a website, which serves as a one stop information source.

The WIP website – *www.wilmingtonindustrialpark.org* – is part of the comprehensive planning and real estate development strategy, which promotes sites for development, while also providing information regarding funding sources and information on local, state, and federal government initiatives, hence promoting interdepartmental cooperation among levels of government.

The Redevelopment Agency has a mandate to use eminent domain. Set to expire in 1998, its use has since been extended to July 2014. The complicated nature of the land ownership, a consequence of the original residential layout, requires eminent domain in order to facilitate the transition of the WIP from an under utilized industrial park comprised of small inadequate residential lots to a modern industrial park. The complex nature of the property rights and the small lot sizes makes site acquisition for prospective developers unfeasible.

A prominent example of publicly financed land assembly is Block 29, which now houses Juanita Foods. In order to facilitate Juanita Foods, the Redevelopment Agency spent a total of $7.2 million on land assembly and commercial and residential relocation activities, along with reimbursing Juanita foods for relocating subsurface utility lines and environmental clean up work. In total the Agency assembled 21 parcels of land and relocated 31 businesses and residences to make way for Juanita's Foods new building. Prior to its redevelopment, Block 29 was home to a variety of industrial operations including oil production, automobile and boat salvage yards, and automobile and truck repair facilities. The $7.2 million spent on Block 29, surpassed the budgeted $3 million for land acquisition and site assembly: the additional funds were obtained through the issuance of a tax allocation bond in the fiscal year of 1999.

More recently the Redevelopment Agency committed $9.4 million to assist with the development and expansion of the American Soccer Co. and Union Ice Company facilities. The agency will help these firms through land assembly and acquisition, relocation assistance for displaced firms, environmental remediation of properties related to the proposed expansion sites, and negotiating surface rights with oil well operators. This redevelopment of the Union Ice Company facilities is scheduled for the fiscal year of 2006.

D.5.5 Conclusions

Since 1974 the Redevelopment Agency has been directly involved with 33 new or expanding firms, which account for nearly 700,000 square feet of industrial floor space, which involved $US30 million in private investment. An additional $US10 million in public investments has been spent, relocating underground utility lines and improving streets, sidewalks, curbs and gutters, storm drains and sewers. The WIP is now home to more than 75 businesses, with a conservative employment figure at 1,220, and an estimated annual payroll of $32 million.

However, In spite of the significant redevelopment that has occurred since the WIP's formation, there continues to be a number of inadequate residential streets, in conjunction with many small parcels of land with scattered ownership, which continues to impede development. As a result land assembly remains quite difficult and largely dependent upon the Redevelopment Agencies support and public financing to facilitate site assembly and soil remediation. Approximately 75 acres remain in blighted conditions or are currently under utilized brownfield sites.

Between 1990 and 2001 the WIP attracted 61 building permits, or an approximate average of 5.5 per year. As of 2001, 27 years after the WIP had been established 46% of the land area remained in small oddly shaped lots not conducive for industrial

development. The most recent large-scale industrial developments, notably the Union Ice Company, have required public financing to carry out soil remediation, site assembly, and relocation assistance for displaced firms. Under the first redevelopment plan for the WIP, the power of eminent domain was intended to expire in 1998; it has since been revised and extended to 2014. This extension in conjunction with the recent assistance provided to the American Soccer Company, the Union Ice Company, and Juanita Foods, suggest that large scale industrial development cannot take place without assistance provided by the Redevelopment Agency and the Brownfield Revitalization Program. Further, the latter two companies have been established within the WIP for many years, and therefore were not attracted by recent policy initiatives.

In the case of the WIP, the Redevelopment Agency's power of eminent domain together with public funding, which enables soil remediation, are perhaps the two biggest reasons for industrial development. As this project has been underway for 32 years, and many of the original conditions of blight still remain, including high crime rates, and illegal dumping of garbage it is difficult to say if any of the other policies have been successful in attracting new industries. It does appear that the future development of the WIP will be heavily dependent upon public financing, as a large portion of small residential lots which are interspersed with oil wells still remain.