

File No.: 04-1000-20-2020-651

May 17, 2021

s.22(1)

Dear s.22(1)

Re: **Request for Access to Records under the Freedom of Information and Protection of Privacy Act (the "Act")**

I am responding to your request dated December 6, 2021 under the ***Freedom of Information and Protection of Privacy Act, (the Act)***, for:

**Record of any studies that examine the current and future use, and configuration of the downtown rail yards. Date range: January 1, 2016 to December 6, 2020.**

All responsive records are attached. Some information in the records has been severed, (blacked out), under s.21(1) of the Act. You can read or download this section here: [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/96165\\_00](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96165_00).

Under section 52 of the Act, and within 30 business days of receipt of this letter, you may ask the Information & Privacy Commissioner to review any matter related to the City's response to your FOI request by writing to: Office of the Information & Privacy Commissioner, [info@oipc.bc.ca](mailto:info@oipc.bc.ca) or by phoning 250-387-5629.

If you request a review, please provide the Commissioner's office with: 1) the request number (#04-1000-20-2020-651); 2) a copy of this letter; 3) a copy of your original request; and 4) detailed reasons why you are seeking the review.

Yours truly,

[Signature on file]

**Barbara J. Van Fraassen, BA**  
**Director, Access to Information & Privacy**

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\*If you have any questions, please email us at [foi@vancouver.ca](mailto:foi@vancouver.ca) and we will respond to you as soon as possible. Or you can call the FOI Case Manager at 604.871.6584.

Encl.

:kt



# **South Shore Waterfront and False Creek Flats Baseline Conditions**

## **Report**

September 25, 2019

Confidential

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## Issue and revision record

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### Information class: Standard

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# 1 Introduction

All information provided within this report is based on Mott MacDonald's understanding of the Lower Mainland's rail operations. Railway operation is constantly evolving to meet everchanging demands. As such, it will be prudent to obtain the latest information directly from the railways.

The Vancouver Fraser Port Authority (VFPA) and City of Vancouver (CoV) have engaged in a work stream s.21(1)

s.21(1)

The N yard lies south of West Waterfront Road, west of the Main Street overpass and north of Water Street. All of CP's rail yards and mainline in the area lie outside of the VFPA jurisdiction, and while they support the port business which operate on VFPA property, the land is owned independently. Furthermore, railway assets are federally regulated. Rail tracks within the terminals are operated on by CN/CP and terminal rail operators, but fall within VFPA jurisdiction.

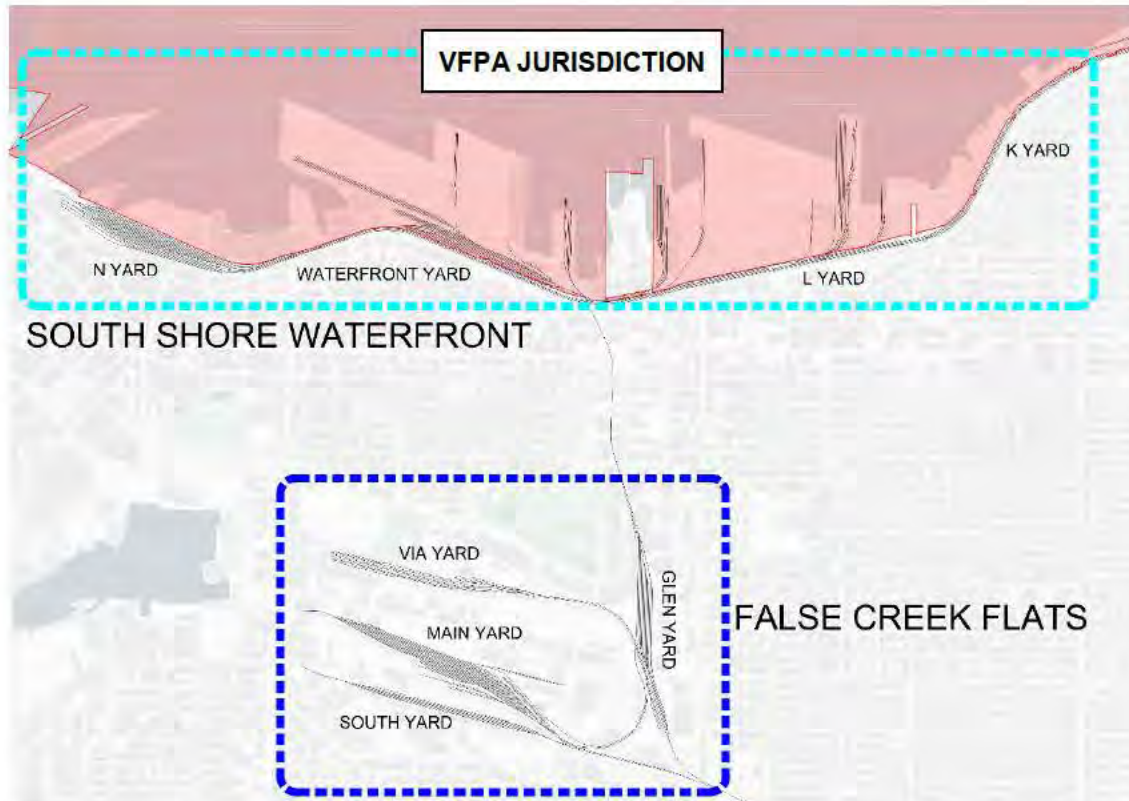
The South Shore Trade Area (SSTA) is one of the Port of Vancouver's (POV) 4 trade areas, encompassing the shoreline along the south shore of the Burrard Inlet from downtown Vancouver through to Port Moody.

The South Shore Waterfront (SSWF) trade sub-area is situated along the southern shore of the Burrard Inlet in Vancouver, BC. It is serviced by multiple rail carriers with a significant focus on containerised cargo and grain commodities, in addition to other smaller volume trade commodities and TransLink's passenger rail service, the West Coast Express (WCE).

The False Creek Flats (FCF) is an industrial area to the south of the SSWF with significant freight and passenger rail infrastructure and subject to a heavy flow of rail traffic through the area. The rail yards within the FCF, while not within VFPA jurisdiction, heavily support the Port of Vancouver rail operations, in particular the SSWF, by providing additional storage and alternative access routes to the sub-area.

N Yard is a major rail yard within the SSWF. It is used by 2 freight railways and the WCE and supports the rail operations in the sub-area. Understanding how FCF and SSWF operations are linked together is key to understanding the importance of the N Yard to the local freight rail operations.

**Figure 1.1: Geographical relations between South Shore Waterfront and False Creek Flats Locations**



This document provides an overview of the current rail operation in the SSWF, FCF and N Yard. Together with the appended memo re-baselining the City of Vancouver's 2008 False Creek Flats Corridor Strategy, it is intended to provide a baseline for any additional planning work that the City of Vancouver and Vancouver Fraser Port Authority will undertake with respect to the railway infrastructure in the area.

## 2 The South Shore Waterfront

### 2.1 The South Shore Trade Area

The South Shore Trade Area (SSTA), one of four Trade Areas encompassing the Port of Vancouver, is split into two subareas:

- The South Shore Waterfront (SSWF) in the City of Vancouver; and
- Burnaby / Port Moody to the east.

The Second Narrows Bridge, connecting the north and south shores of the Burrard Inlet, demarks the boundary between the two subareas.

The rail-serviced port facilities within these two areas are identified by the green parcels on the figure below. Due to the origin of its rail access and its proximity to Port Moody, terminal operations in Burnaby and loco have been included as a part of the Port Moody subarea.

In 2018, the SSTA generated 26% of the total trade (volume by weight) within the Port of Vancouver.

**Figure 2.1: South Shore Trade Area Subareas**



### 2.2 The South Shore Waterfront Subarea

The South Shore Waterfront subarea has been a centre of rail-based trade for almost 150 years. In the late 1880's, CP negotiated with the British Columbia government to extend the western terminus of its transcontinental railroad from the City of Port Moody to a new station along the Burrard Peninsula in exchange for land. As a result, the Vancouver terminus station, along with the surrounding community that adopted the same name, was formed. The completion of the new Vancouver station brought cross country rail access to the mouth of the Burrard Inlet where the Burrard Peninsula's natural formations are perfectly suited for protecting large ocean faring vessels from the open sea.

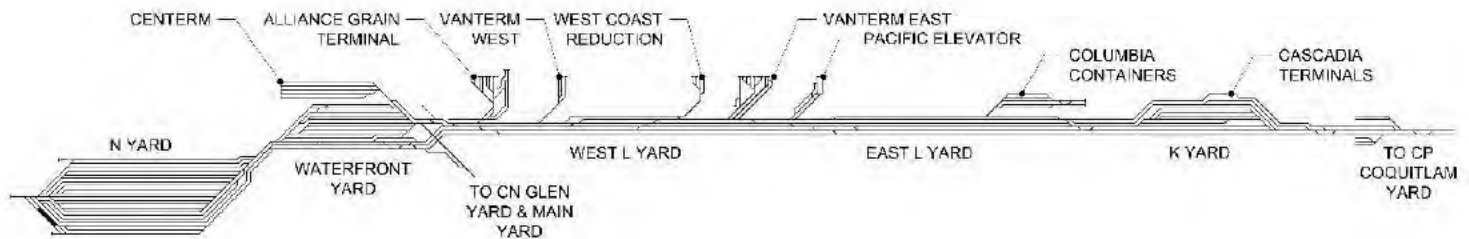
Today, the South Shore Waterfront is a vital hub for Canada's international trade, and is located at the western terminus of CP's operation in North America on CP's Cascade Subdivision. In 2018, roughly 20% of the Port of Vancouver's trade passed through this subarea ( $\approx 77\%$  of the SSTA total), with two main types of rail-served trade commodities: containerised import/export goods, and agricultural products such as grain. The remaining rail traffic includes

commuter train service, manifest (mixed merchandise), and liquid bulk products such as cooking oils and animal by-products.

**Table 2.1 – SSWF Terminals**

Terminal	Commodity	Owner
Centerm	Containers	DP World
Alliance Grain Terminals	Grain	Paterson Global Foods
Vanterm	Containers	GCT
West Coast Reduction	Liquid Bulk	West Coast Reduction
Pacific Elevators	Grain	Viterra
Columbia Containers	Grain Containers	Columbia Containers
Cascadia Terminals	Grain	Viterra

**Figure 2.2: Schematic Representation Of Trackwork And Terminals Within The SSWF Subarea**



Trade of containerized import / export goods has consistently increased ever since 2008 and it is forecasted to continue to grow steadily into the foreseeable future (Ocean Shipping Consultants Container Traffic Forecast Study - Port of Vancouver, 2016). Several expansion projects are already underway in preparation to meet the forecasted trade demands and allow the Port of Vancouver to remain competitive on North America's western seaboard. One of such projects is DP World's ongoing expansion and reconfiguration of its Centerm operations which would increase its capacity to handle 1.5 million containers annually. Global Container Terminals (GCT) has also recently announced planned densification of its existing Vanterm operation to further increase operating capacity by approximately 25%. Similarly, global demand for Canadian agricultural products remains consistent and the grain terminals located within the SSWF have also been carrying out various upgrade projects to maximize use of their limited footprints.

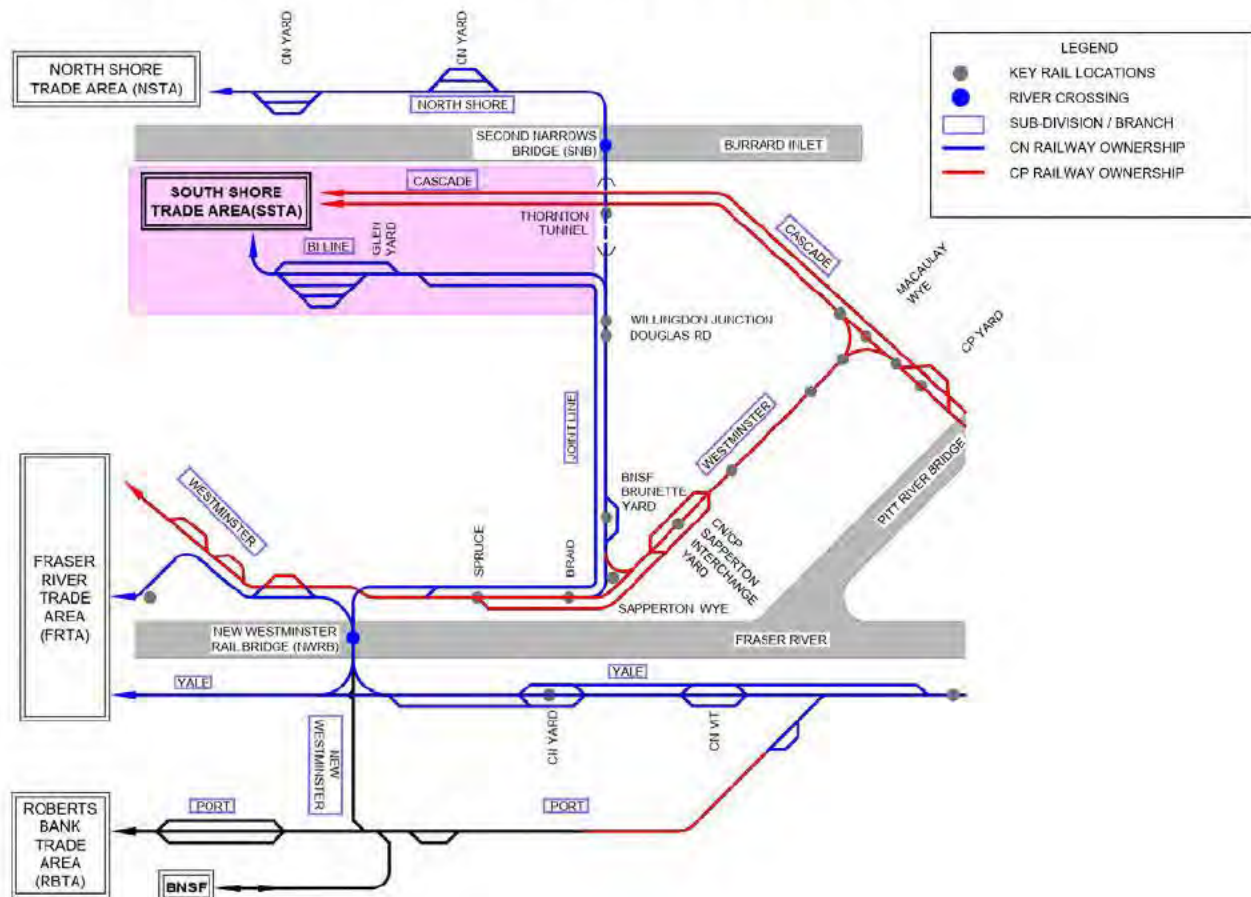
### 3 SSWF Rail Operations

Historically, the SSWF subarea was serviced by all three Class 1 railways operating within Vancouver. BNSF Railways (BNSF) operated a barge slip to provide barge switching service to pulp mill industries along the BC coast. The regional shortline rail operator, the Southern Railway of BC (SRY), took over this service in 2009 and relocated the operation to Annacis Island. As a result, BNSF no longer require access onto the SSWF. The two remaining railways, Canadian National Railway (CN) and Canadian Pacific Railway (CP) both serviced the container and grain industries along the SSWF subarea from their respective yards.

As commercial interests and agreements changed over the years (see Section 5.1 for additional details), Canadian Pacific Railways (CP) became the sole operator until CN regained SSWF access in January 2017 to directly service its containerised cargo clients. However, CP, as the majority owner of SSWF trackwork, ultimately controls the rail access in and out of the subarea.

CP rail service originates from the east at its rail terminal in Port Coquitlam, BC (CP Coquitlam Yard) while CN rail service originates from its rail terminal in Surrey, BC (CN Thornton Yard). Having only intermittent access into the SSWF area, CN typically transfers freight trains to its yards within the False Creek Flats (CN Main Yard and Glen Yard) for further distribution to its various clients within the area.

**Figure 3.1: Schematic Representation Of CN And CP Routes To South Shore**



In addition to the freight rail operators, the West Coast Express passenger rail service also operates on the CP Cascade Subdivision during weekdays, with 5 inbound trains in the morning and 5 outbound train in the afternoon. WCE service, under its current contract with CP, has priority over all other rail services and occupies the southernmost mainline through the SSWF area for up to 8 hours every weekday.

**Table 3.1 – WCE Operations**

Service	Number of Trains	Window of operation in SSWF
AM westbound	5	6:15am – 8:45am
PM eastbound	5	3:45pm – 6:45pm

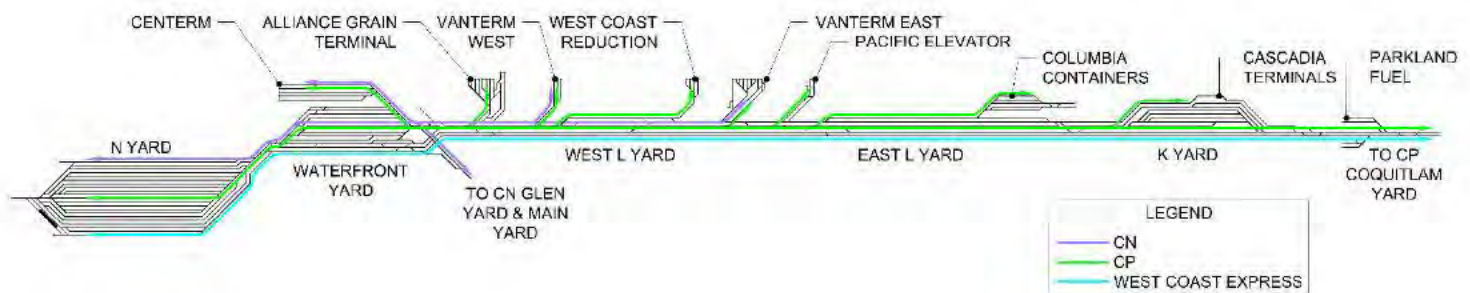
There are currently four local SSWF rail yards, listed sequentially from east to west, from which the railways service the SSWF terminals from:

- K Yard (CP);
- L Yard (CP);
- Waterfront Yard (CN); and,
- N Yard (CP).

As illustrated in the track schematic below, there is a high concentration of terminals located around CP's L Yard and a disproportionate amount of storage tracks at N Yard and K Yard. Due to this configuration, CP relies heavily on L Yard tracks to support the arrival and departure of rail cars at each terminal. If the L Yard tracks are occupied, N Yard and the through tracks between them becomes essential for fluid rail operation in the area. This is especially true during weekdays when WCE occupies CP's mainline for nearly a third of the day.

CN's rail access into the SSWF subarea via the Burrard Inlet (BI) Line requires CN to cut across all three of CP's SSWF main through tracks at the Heatley Diamonds, interrupting CP's switching ability and access to key storage tracks. Since CN does not have the track capacity within SSWF to fully accommodate a 6,000 ft long freight train, CP has provided CN track access rights in N Yard to minimize the impact of this conflicting move on CP's own operation. Having to balance its own clients' demand and the impact of the passenger rail service, CP currently limits CN access across the Heatley Diamond to specific time slots during the day.

**Figure 3.2: Predominate Rail Traffic Routing Along The SSWF By Each Rail Operator Within The Subarea**



## 4 The False Creek Flats

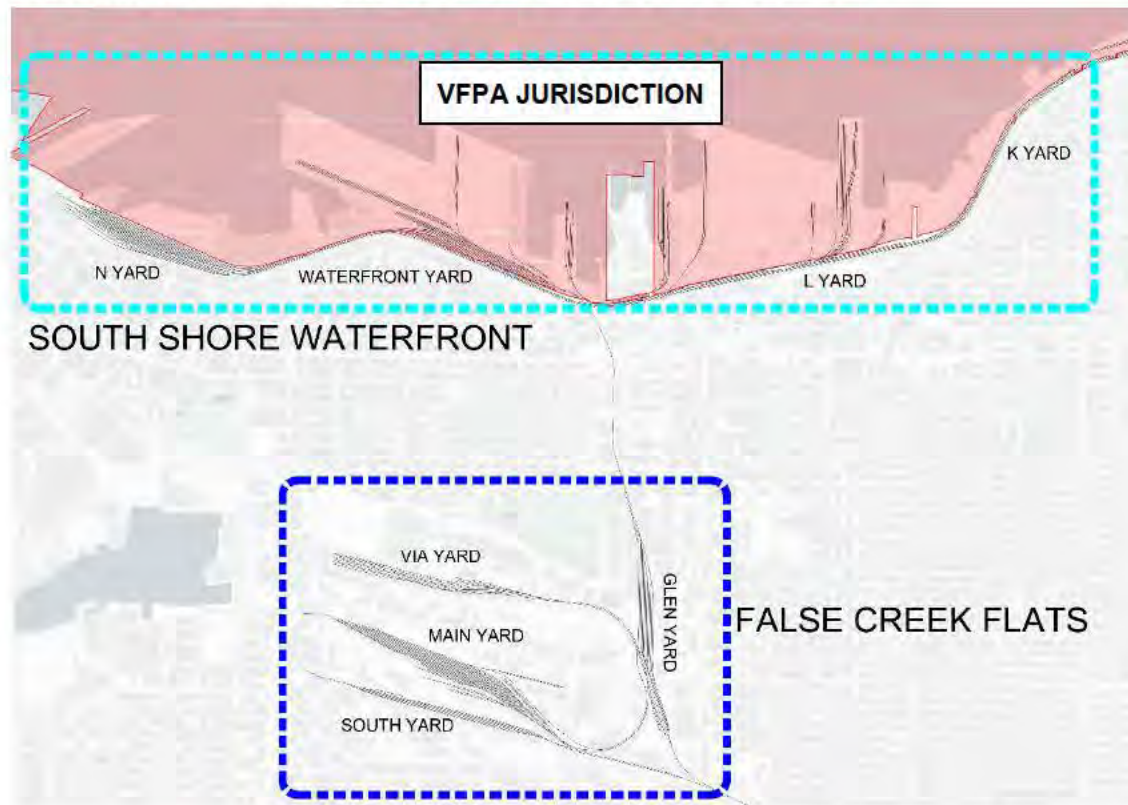
The False Creek Flats (FCF) is one of Vancouver's most significant industrial areas. Comprising over 450 acres and zoned primarily for industrial use, FCF supports over 600 businesses and is strategically located to support Vancouver's other main industrial areas along the Burrard Inlet waterway.

Situated south east of the downtown peninsula, the area is well served by arterial routes and public transport. FCF is directly bordered by residential neighbourhoods: Chinatown and Strathcona to the north, Grandview Woodland to the east, Mount Pleasant to the south and Olympic Village and the future Northeast False Creek to the west.

The FCF has close links to two other key industrial areas: The Mount Pleasant Industrial District to the south west and the South Shore Waterfront (SSWF) to the north.

The FCF is an important rail hub within Vancouver with over 40 km of track, spread largely between 3 freight rail yards and a passenger rail yard, all within its boundaries. CN operates two yards, the Glen Yard and Main Yard, and BNSF Railway (BNSF) operates the final freight yard, the South Yard. All long-distance rail passenger services from Vancouver originate and terminate in the FCF, either at the Pacific Central Station within the VIA rail yard, or the Rocky Mountaineer terminal, adjacent to the CN Main Yard.

The majority of the freight rail traffic that passes through the FCF is destined for the marine terminals in the SSWF, with the FCF yards serving as a switching and storage facility to support the port operations. As throughput across the SSWF is anticipated to continue growing, FCF will have to contend with the growth in rail traffic servicing trade growth.

**Figure 4.1: South Shore Waterfront and False Creek Flats Locations**

#### 4.1 FCF Rail Infrastructure

The False Creek Flats' history is intrinsically tied with rail activity. Indeed, the creation of the FCF came about when the eastern end of False Creek was filled in in the 1910s, with the work being funded and carried out by two railway companies, the Great Northern Railway (which eventually became BNSF) and the Canadian Northern Railway (which would subsequently become CN) who both established their westernmost terminals in the area. The non-gridded street layout and large quantity of warehousing in the area reflect the importance of the two railways in developing the area. As does the orientation of the track entrances to the majority of the terminals in the SSWF, which are primarily west-facing; this was done to facilitate access to the two railways which were linked to the SSWF by the BI line.

False Creek Flats' heavy rail infrastructure consists of four yards:

- South Yard, operated by BNSF;
- Main Yard, operated by CN;
- Glen Yard, operated by CN; and
- VIA Rail Yard, operated by VIA and Amtrak.

There are two rail connections to the FCF:

- The Joint line (BNSF New Westminster Subdivision), providing access for all users south to Burnaby, New Westminster and further afield into Canada and the US; and
- The BI line, providing access to the SSWF.

There are two passenger terminals within the FCF:

- Pacific Central Station, servicing VIA and Amtrak; and
- The Rocky Mountaineer Vancouver Station.

There is a road-rail transload facility owned by CN, south of the Main Yard, and a maintenance facility in the VIA Rail yard servicing all the passenger trains as well as the West Coast Express (WCE) trains from the SSWF. There is a limited amount of small industries served directly by rail scattered along the edges of the FCF rail yards.

## 5 FCF Rail Operations

Since the creation of the False Creek Flats in the 1910s, the rail industry has gone through many changes; some reflective of the global state of rail transport, some very localised to changes occurring within Vancouver. These changes have had a significant influence on the use of the railways within the area.

The rail network operations in the FCF can largely fall into two categories

- 1) The CN operations servicing the SSWF, which are expanded upon below; and
- 2) The various long-distance passenger services originating from stations within the FCF.

**Table 5.1 – Passenger services in FCF**

Service	Frequency	Station
Amtrak	2 daily inbound, 2 daily outbound	Pacific Central
VIA	2.5 weekly inbound, 2.5 weekly outbound (0.5 being seasonal addition)	Pacific Central
Rocky Mountaineer	2.5 weekly inbound, 2.5 weekly outbound (0.5 being seasonal addition)	Rocky Mountaineer Station

### 5.1 Previous CN Operations

The railway operation in the FCF are intrinsically tied into the port operations in the SSWF. With the SSWF track and yard space largely controlled by CP, train traffic from CN and BNSF would use the FCF as a final holding area before crossing CP tracks to access terminals within the SSWF. Since 2000, most freight rail traffic within FCF has been container traffic, destined to the two major SSWF container terminals:

- DP World Centerm; and
- GCT Vanterm.

Furthermore, CN have handled the majority of rail cars in the FCF during that period. Historically, BNSF rail operations, in the area, centred around a barge slip operation in SSWF, directly north of the Heatley Diamonds, providing services to industries along the BC coast. However, in 2009, the SRY took over BNSF's barge switching operation and constructed a barge slip on Annacis Island, removing the traffic from the FCF area.

Previously, CN managed all their rail operations in-house, directly serving all their customers in the SSWF, providing full service from origin to destination. In 2000, CN and CP successfully negotiated the implementation of the Fraser Canyon Directional Running Zone (DRZ), whereby the railways agreed mutual running rights on both sets of tracks lining the Fraser River between Kamloops and the Lower Mainland. Until this point, both railways were operating on a single mainline track to handle their own traffic in both directions. Trains would enter the Lower Mainland on CN's corridor east of the river and return to the interior on CP's corridor to west; this agreement more than doubled capacity on both tracks, resulting in improvements for both railways.

In 2004, following the success of the initial DRZ agreement, CP and CN entered in a series of co-production agreements with the goal of improving rail operations within the Port of Vancouver, by increasing capacity on the existing infrastructure through operational adjustments. The key change for the SSWF and FCF being a set of reciprocal interchanges, resulting in CP bringing the majority of CN container trains onto the SSWF along CP's mainline, bypassing the FCF. This would result in a loss of rail traffic within the FCF, with the remaining traffic limited to intermodal trains servicing small industries within the FCF area as the majority of the port-destined traffic was handled through the CP mainline. Small number of grain trains and some container traffic was still handled in FCF, as well as the small amount of local rail clients in the FCF.

In 2008, a renegotiation of the 2004 co-production agreement resulted in CP operating all the CN traffic destined for the SSWF through the CP mainline (as illustrated in Figure 5.1). This resulted in a further reduction in freight rail traffic in FCF. This was partially offset by the growth of the CargoFlo Transload operation to the south of the Main Yard, whereby bulk rail cars would be brought and have their cargo transferred to trucks. However, the railyards in the FCF were largely underused.

**Figure 5.1: Co-Production Agreement Routings**



Source: Canadian Pacific

However, in 2017 CN began once again to directly service their container clients in the SSWF. This meant using the BI line to access the SSWF and a significant increase in rail traffic in FCF (Figure 5.2). Furthermore, due to the growth in container traffic in the intervening years, the FCF is now seeing more rail traffic today than it was before the 2004 co-production agreement.

**Figure 5.2: Glen Yard Container Operation In 2018, Looking North From E 1st Avenue**

How the railways choose to operate their trains is dependent on a variety of factors, mainly driven by the clients, profit and the market conditions at the time. As self-serving businesses for profit, operational changes must be beneficial to the railways themselves before being considered. Furthermore, the railways are federally regulated which provides them with a certain level of independence in deciding how to operate on their infrastructure.

s.21(1)

## 5.2 Current CN Operations

The vast majority of the rail traffic in the FCF is comprised of container trains destined for or originating from the Centerm and Vanterm terminals in the SSWF. The typical operations involving container trains are as follows. A visual representation of these movements are presented in series of schematics included for reference in Appendix C:

1. Trains greater than 6,000 ft in length are brought from CN Thornton Yard to FCF via Joint Line destined for SSWF container terminals;
2. Trains are split and stored in Glen and Main Yard;
3. Trains are then switched and marshalled into trains destined specifically for either Centerm or Vanterm;
4. Up to 6,000 ft train built up for one terminal within yards, on clear track between grade crossings;

5. When Heatley Diamonds are available during CN's allotted window, the CN train is moved up BI line, blocking crossings for as little as possible. Train fully crosses Heatley Diamonds and is stored on CP Country Lead and Track 20 or Track 1 in N Yard. The distance between the Heatley Diamonds and the end of the N Yard provides track length just enough to accommodate a 6,000 ft train, as such CN always target 6,000 ft long switches across the Heatley Diamonds to maximize each window of opportunity;
6. CN trains then split and stored in CN's Waterfront Yard and then moved into terminals for processing;
7. Once processed, the cars are moved back to the Waterfront Yard;
8. Ahead of an opening of the Heatley Diamonds, 6,000 ft worth of cars are built up on the CP Country Lead and into the N Yard;
9. Train then moved back into Glen and/or Main Yards; and
10. Either stored in the yards or taken directly back to CN Thornton Yard.

**Figure 5.3: Glen Yard Temporary Storage**



The other type of train brought into False Creek Flats is a manifest train. This train comprises a mixed consist of various rail car types. The rail cars serve a variety of purposes:

- Cars directly servicing smaller industries within the FCF;
- Full bulk cars destined for the CargoFlo transload facility to be unloaded into trucks;
- Empty cars to be stored in Main Yard until needed at container terminals or other terminals; and
- Occasionally cars to be interchanged with BNSF.

The two sets of operations heavily affect the usage of the Glen Yard and Main Yard. Both yards have two primary functions:

- Arrival/departure of trains; and
- Short term storage/standing ahead of access to terminals.

Both yards have a limited amount of switching/marshalling activities naturally required for local manifest traffic and container operations. However, due to the yard layouts and the proximity of grade crossings north of Glen Yard, switching is limited. Nevertheless, the small amount of switching that does occur is generating sufficient noise to disturb local residents.

### 5.3 Traffic Levels

The container traffic levels passing through FCF is a function of the container volume being processed by the two terminals and the shipping line market split between CP and CN. In 2018, CN held approximately 80% of the shipping line contracts, translating to the same percentage volume of cars moving through the FCF.

While the previous co-production agreement was in place, the market split did not matter as all trains were serviced by CP. However, given the change in operation in January 2017, this split will have a significant effect on the rail traffic in the FCF.

## 6 N Yard Operations

N Yard is CP's largest yard in the SSWF with 20 tracks dedicated to freight operations, three of which are CP's longest storage tracks in SSWF. The yard also has 3 dedicated passenger service tracks (excluding SkyTrain) along the southern edge of the yard.

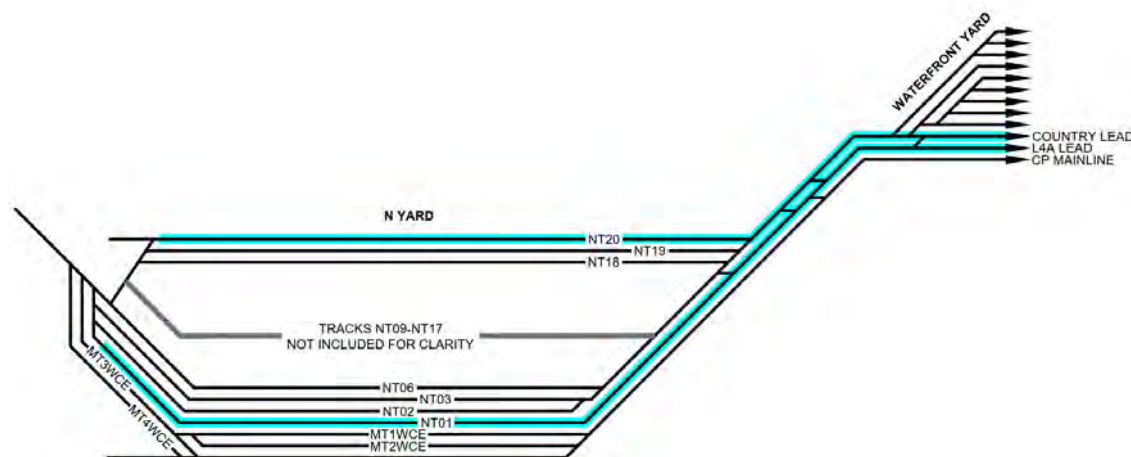
As mentioned previously, CN currently have running rights on Tracks 20 and 1 for them to arrive and depart trains onto/from the SSWF. This arrangement is beneficial to CN as it allows them to bring longer train lengths across the Heatley Diamonds, minimizing the number of trips that need to be made back and forth from Glen Yard. The arrangement is also beneficial to CP, as it minimizes outages along their mainline caused by CN crossing the diamonds. However, whenever CN are using the yard tracks, it occupies some of CP's longest yard tracks while restricting CP movements in and out of N Yard, especially during WCE service. As such, CN are only allowed to use the tracks for arrival and departure and extended period of CN standing on the tracks is strongly discouraged.

### 6.1 Arrival/Departure

CP use N Yard for a wide variety of purposes. As the only CP yard west of the terminals, it offers unique connectivity to all the west-facing terminals along the SSWF. As such, trains destined for the following terminals tend to use N Yard as an arrival/departure yard:

- Alliance Grain Terminals (AGT);
- GCT Vanterm East and West;
- West Coast Reductions; and
- Viterro - Pacific Elevators (PE).

**Figure 6.1: Schematic of N Yard Tracks used**



These terminals only have entrance tracks facing the west., which means that they can only be accessed from the west. In practice, this means that any trains accessing the terminals from CP's Coquitlam Yard must be pulled past the terminal along the CP rail lines and then pushed into the terminals. This requires continual track length to the west of the yard for the trains to pull into before being pushed back. At a minimum, this length needs to be equal in length to a

train. This track length is provided by the N Yard. CP trains are pulled in from the east from Coquitlam Yard into the N Yard using the Country Lead or L4A lead, and then pushed into the terminals.

**Figure 6.2: N Yard Operation In 2017, looking east from TransLink SeaBus station**



## 6.2 Storage

N Yard also has important storage functionality for CP. This largely revolves around short term storage of rail cars waiting for occupancy at terminals to free up or waiting for additional cars to be processed before being built up into a full train and returned to the Coquitlam Yard. The yard's services include:

- Often CP unit trains are getting longer and longer, with many trains now exceeding the capacity of the terminals. The preferred method of operation is to store the excess cars in Coquitlam yard and create an additional transfer when there are enough cars to form a train. However, this is not always practical if there is a time constraint or not enough trains down the pipeline. In this case, the excess cars will be brought into and stored in the N Yard until several rail cars in the full terminal have been processed and can be switched out. The empty cars will then remain in the N Yard until the fully processed train is returned to Coquitlam Yard.
- Terminals occasionally receive bad-order cars, that is to say rail cars which cannot be handled by the receiving terminals due to mechanical or logistical faults, which prevents processing but also makes them unsuitable for use on the mainline. These cars will often be stored in N Yard until they can be repaired.
- GCT Vanterm and Centerm are serviced by both carriers, who have timetables to switch their cars in and out of the terminal. Occasionally, the terminal operators are unable to process all the rail cars on site, which means that there is not enough track length to land the rail cars brought in by the railways. When this happens to CP, they will often leave the unprocessed container cars in the N Yard until terminal tracks are free.

The use of N Yard for storage has reduced significantly since 2017. Prior to CN restarting their SSWF operations and taking approximately 80% of the container business, in order to manage traffic on the mainline and reduce congestion between Coquitlam and the SSWF, CP would use the N Yard more prevalently to store excess container rail cars. If CP container traffic were to increase in the future, it is likely that the N Yard would again see an increase in use by container trains.

### 6.3 Marshalling

N Yard is infrequently used as a marshalling yard, primarily for outgoing container traffic. Cars are sorted and reassembled as such that cars with an eastern destination will be placed further ahead in a train than those with a western destination. Due to the different accesses for Vanterm and Centerm, container trains heading east along the CP mainline from Coquitlam are most often destined for one terminal only. The small amount of marshalling is largely limited to container trains, which are more often marshalled in the Coquitlam Yard.

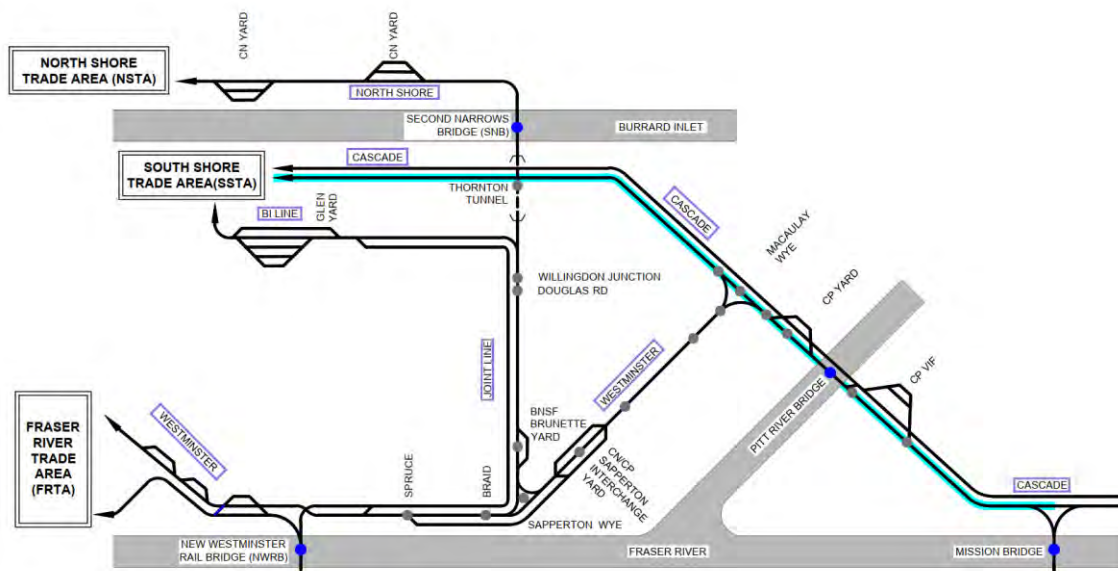
**Figure 6.3: N Yard Operation In 2018**



### 6.4 West Coast Express

The N Yard is home to the West Coast Express' western terminus station. WCE trains are stored on the West Coast Express storage tracks after the morning service on weekdays and throughout weekends. WCE currently operates on the CP Cascade Subdivision mainline between the Mission City Station and N Yard.

**Figure 6.4: Schematic of West Coast Express Route**

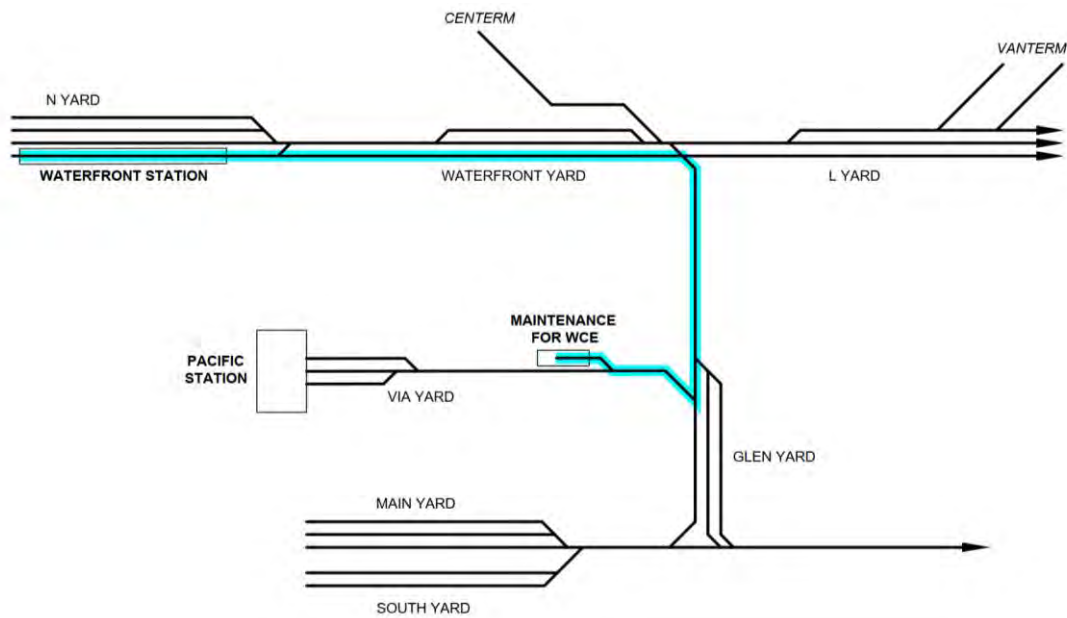


The operating window of the WCE within the SSWF is roughly between 0615 - 0845 and 1545 - 1845. During those operating periods, the line is closed off to CP activity and CN are unable to cross the Heatley Diamonds. During this time CP is limited to using their other tracks. As the line between Coquitlam and SSWF is, at minimum, double-tracked for the entirety of its length, this does not fully prevent CP from servicing their customers. However, due to the reduction in functional capacity due to the loss of a track, it requires CP to modify their operations during the window.

**Figure 6.5: N Yard Operation In 2019, showing WCE tracks on the right**



Maintenance of WCE trains is carried out at the VIA Rail Maintenance facility, adjacent to Pacific Central Station in the FCF. This takes place on weekends, or during weekdays between services for quick fixes. To access the facility, trains need to traverse the BI line, Glen and VIA yards. They can only do this when there are no conflicting freight moves, as WCE trains not in service do not benefit from any priority.

**Figure 6.6: Schematic of West Coast Express Maintenance Route**

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## 8 Conclusion

The N Yard, South Shore Waterfront and False Creek Flats rail operations have undergone significant changes over the last few years with certain yards much busier in 2019 than they were in 2016 and others much less so. The railways are very dynamic, and their operations are evolving day-to-day to meet the latest demands and challenges.

Due to the need to maintain high operability and constant flexibility, the railways are very protective of their assets. Glen Yard was very quiet for the better part of a decade but now is in almost constant use. N Yard sees much less rail traffic than it did a few years ago, but CP could have reason to believe that, in time, considering the growth within the SSWF and the volatility of rail traffic patterns, it will become busy again.

The SSWF was developed over 100 years ago, and despite significant changes in the interim, much of the layout is still a reflection of layout decisions made at the time. s.21(1)

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## **A. False Creek Flats Rail Corridor Strategy Re-baselining for 2019**

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<b>Project:</b>	South Shore Waterfront Concept Planning Study		
<b>Our reference:</b>	407168-MMD-00-P0-MO-RW-0001	<b>Your reference:</b>	Rev B
<b>Prepared by:</b>	C. Au	<b>Date:</b>	2019-09-25
<b>Approved by:</b>	J. Sutcliffe	<b>Checked by:</b>	A. Wells
<b>Subject:</b>	Updates to "Project Summary Report for False Creek Flats Rail Corridor Strategy"		

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## 1 Introduction

The *Project Summary Report for 'False Creek Flats Corridor Strategy'* (FCFCS) was issued on October 30, 2008 by the City of Vancouver (CoV) – Engineering Services. The summary report compiled the findings of the strategy which investigated the benefits and costs of various potential grade separation projects, which might have provided benefit to the local roads and railways. In the 11 years since publication, traffic patterns and infrastructure have evolved and are no longer as documented in the report. This memorandum will highlight the changes between current conditions and those from 2008, to re-baseline the report for 2019.

The rail yards within the False Creek Flats make up a key industrial area which supports rail operations and defines rail fluidity around the south shore waterfront. Located east of False Creek, the railyards are connected to the container terminals, Centerm and Vanterm on the south shore of Vancouver's Burrard Inlet via the Burrard Inlet Rail Line (BI Line).

In 1995, Vancouver City Council adopted the "Industrial Lands Strategy", which resolved to protect the use of False Creek Flats for transport related industrial purposes to serve downtown Vancouver. In 2003, the Council approved additional planning to "maintain and strengthen the role of the industrial area in the Eastern Flats servicing the Port and Downtown".

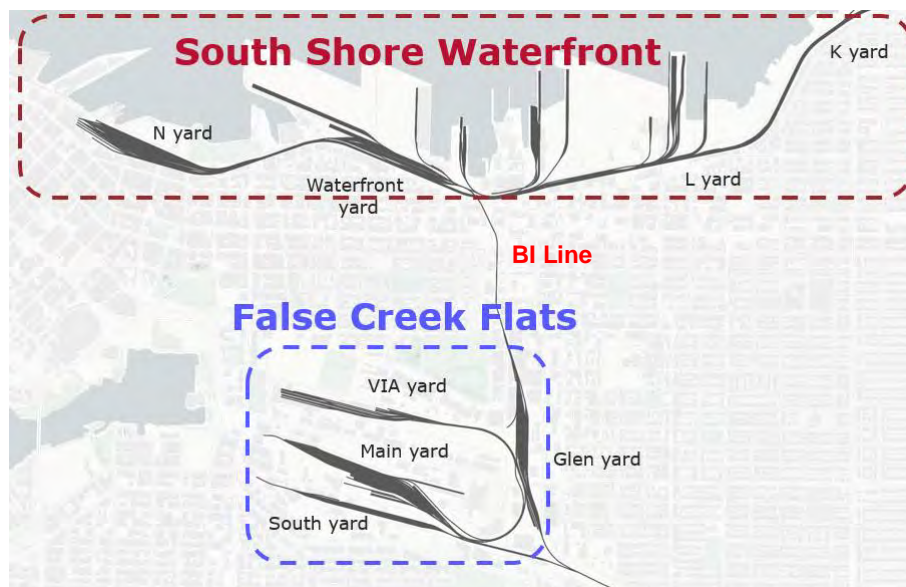
Work on the False Creek Flats Rail Corridor Strategy began in 2007 with the aim to identify additional preliminary road, rail, bicycle and pedestrian grade separation concepts along the BI Line and to address its limitations. The study was completed the following year, undertaken by the CoV in partnership with Transport Canada, and with participation by Port Metro Vancouver, the Greater Vancouver Gateway Council (GVGC - representing the railway companies), TransLink, Vancouver Area Cycling Coalition (VACC), and Better Environmentally Sound Transportation (BEST).

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**Figure 1: Map of area under consideration**



Since 2008, rail and road traffic through the corridor has continued to increase as the City and Port of Vancouver have continued to grow in population and throughput respectively. There have been a variety of changes both in the immediate vicinity and areas serviced by the roads and rail. As a result, portions of the original project summary report have become outdated or obsolete. This technical note serves as an addendum to the original report and documents the deviations from the summary report at publication. This update has been purposed as a re-baselining, so that upcoming studies no longer need to include significant allowances for changes since the initial publication.

## 2 Policy Updates

This section of the memo focuses on the changes in policy that have occurred since the publication of the Project Summary Report for 'False Creek Flats Corridor Strategy' in 2008. The policy documents and studies that are relevant to the area are summarized in Table A below.

**Table 1: Policy Documents of relevance**

Document Name	Study	Published by	Published for	Publication Date
<b>Metro Vancouver 2040 Shaping Our Future<sup>1</sup></b>	Regional Growth Strategy	Metro Vancouver	Greater Vancouver Regional District Board	July 29, 2011 Updated for 2017
<b>False Creek Flats Area Plan<sup>2</sup></b>	N/a	City of Vancouver	Vancouver City Council	May 17, 2017
	Regional Industrial Lands Strategy <sup>3</sup>	Industrial Lands Strategy Task Force	Metro Vancouver	ongoing
<b>Summary Report<sup>4</sup></b>	Industrial Lands Inventory	Metro Vancouver		2015
<b>Transportation 2040 Plan<sup>5</sup></b>	N/a	City of Vancouver	Vancouver City Council	October 31, 2012
<b>Final Report<sup>6</sup></b>	Flats Arterial Community Panel	Flats Arterial Community Panel	Vancouver City Council and Vancouver Park Board.	April 2019
<b>Downtown Eastside Plan<sup>7</sup></b>		City of Vancouver	Vancouver City Council	March 12, 2014

Source: See footnotes

### 2.1 Regional Growth Strategy

Subsequent to the False Creek Flats Rail Corridor Strategy in 2008, Metro Vancouver produced a Regional Growth Strategy in 2011 to:

- Protect key employment lands from residential development; and
- Identify and preserve industrial and mixed-employment zones in the region.

### 2.2 False Creek Flats Area Plan

The "False Creek Flats Area Plan" was approved by the Council on May 17, 2017. The document establishes a comprehensive framework for the future of the False Creek Flats. The long-term plan focuses on developing

<sup>1</sup> <http://www.metrovancouver.org/services/regional-planning/PlanningPublications/RGSAdoptedbyGVRDBBoard.pdf>, accessed 2019-05-25

<sup>2</sup> <https://vancouver.ca/files/cov/false-creek-flats-plan-2017-05-17.pdf>, accessed 2019-05-25

<sup>3</sup> <http://www.metrovancouver.org/services/regional-planning/industrial-lands/regional-strategy/Pages/default.aspx>, accessed 2019-05-25

<sup>4</sup> <http://www.metrovancouver.org/services/regional-planning/PlanningPublications/PPEIndustrialLandsInventorySummaryReport.pdf>, 2019-05-25

<sup>5</sup> [https://vancouver.ca/files/cov/Transportation\\_2040\\_Plan\\_as\\_adopted\\_by\\_Council.pdf](https://vancouver.ca/files/cov/Transportation_2040_Plan_as_adopted_by_Council.pdf), accessed 2019-05-25

<sup>6</sup> FACP Final Report <https://drive.google.com/file/d/18bHER4CHfatllISXgZQjn49EempCLTViX/view>, accessed 2019-05-25

<sup>7</sup> <https://vancouver.ca/files/cov/downtown-eastside-plan.pdf>, accessed 2019-09-01

the area to be more productive and sustainable, as well as building connectivity to the rest of Vancouver. The Plan follows ten main principles to overcome the challenges facing the area, principle 7 guides the strategy on rail development:

***Principle 7: Ensure ongoing presence and improve efficiency of rail***  
*Recognizing the positive impact of efficient rail on our streets, continue to work with rail and port partners to establish improved efficiencies and a more integrated relationship with neighbouring users.<sup>8</sup>*

Rail infrastructure is still seen as a defining characteristic of the area providing benefits through its industrial ties, but also presenting barriers as the railway lines "effectively separated geographically proximate neighbours" (sic<sup>9</sup>). While maintaining and increasing rail-oriented businesses is a goal for the plan, it recognizes that connecting areas separated by railways remains a high priority.

The Plan refers to the False Creek Flat Corridor Strategy in supporting the need to grade-separate and improve efficiency of the Burrard Inlet Rail Line.

The plan explicitly supports the need of a new east-west arterial street corridor, grade separated from the railway, and the implementation of a "Walk-the-Line" foot/cycle path which would require crossing the railway in multiple locations.

## 2.3 Metro Vancouver Regional Industrial Lands Strategy

The Metro Vancouver Regional Industrial Lands Strategy Task Force was established in 2018 to envision the future of industrial lands across the area to the year 2050, and to provide a set of recommendations to guide stakeholder actions. The work is still ongoing, and the findings of the process will be documented in a Report, which will be seen as a re-baselining of the Metro Vancouver Industrial Lands Inventory Summary Report, completed in 2015.

## 2.4 False Creek Flats Arterial

Further to the False Creek Flats Corridor Strategy and the City of Vancouver's Transportation 2040 Plan, consultation and engagement began to deliver a preferred option for a new arterial route through the False Creek Flats. A community panel, tasked with identifying a preferred option, delivered a recommendation for a route which crossed over Main yard, connecting into Charles St, to the east of the yard. More details can be found in section 4.5 of this document.

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<sup>8</sup> p7, Project Summary Report for False Creek Flats Rail Corridor Strategy, City of Vancouver, 2008

<sup>9</sup> p12, Project Summary Report for False Creek Flats Rail Corridor Strategy, City of Vancouver, 2008

### 3 Updates to the Project Summary Report for False Creek Flats Rail Corridor Strategy

This section of the memo focuses on the content of the Project Summary Report that is now out-of-date. The memo looks both to highlight the situational changes between 2008 and 2019 and to provide more recent data to contextualise the change in the intervening period.

#### 3.1 Traffic Changes for Rail and Road

Changes to traffic volumes and rail operations directly affect the cross product of at-grade crossings and therefore any justification for implementing grade separation. Furthermore, traffic volumes can help define the characterisation of a street, and rail operations have an impact on all the aspects of a railway that affect the public from noise disturbance to vibration distribution to emission levels.

##### 3.1.1 Rail Traffic

Section 1.0 of the FCFCS provides context to the rail operations occurring around the south shore of the Burrard Inlet. The data was based on 2006 statistics, and certain numbers have changed since. Table 2 below summarizes the rail traffic changes since the project summary report was produced.

**Table 2: Rail Traffic Changes**

	Original Report (2008)	Updated (Year)
Port of Vancouver container traffic volumes	Over 2.2 million TEU (2006)	Over 2.9 million TEU (2016)
Container traffic to South Shore Terminals	1.2 million TEU (2006)	1.45 million TEU (2017)
South Shore Rail/Truck Split	Approximately 50/50%	Approximately 48/52% (2016)

Source: Gateway 2030 data

The original document does not provide any data with regards to specifically how many rail movements were accommodated along the Burrard Inlet (BI) rail line. The data provided only demonstrated the amount of rail container traffic which served the two South Shore waterfront container terminals but did not specify how much of the traffic was serviced by CN via the BI line against traffic serviced by CP via the CP mainline.

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- Additional idling while trains are waiting to access the South Shore;
- Greater road crossing occupation by trains which negatively affects road users;
- Increased rail activity in Glen and Main Yards; and,
- An increase in noise pollution for nearby neighbourhoods.

s.21(1)

<sup>10</sup> <https://vancouversun.com/news/local-news/reactivated-rail-line-a-headache-for-strathcona-residents>, article published May 2, 2018; and <https://vancouversun.com/news/local-news/you-think-its-a-bomb-east-van-residents-frustrated-by-noisy-trains>, article published January 22, 2019

s.21(1)

The 2008 FCFCS mentions that Port Metro Vancouver had "conducted modelling work and found that significant capacity gains have been achieved by reducing traffic entering the south shore terminals via the BI Line", subsequent modelling completed for the VFPA has demonstrated that this hypothesis remains valid in 2019.

### 3.1.2 Road Traffic

Section 2.0 of the FCFCS outlines the existing road crossings along the BI Line. The section also includes the daily traffic and bus routes at the major crossings. Table 3 below summarizes the road traffic changes that have occurred since 2008.

**Table 3: Road Traffic Changes for at-grade crossings**

	Original Report (2008)	Updated (Year)
Powell Street	32,000 vehicles per day 6 bus routes	None Available 6 bus routes
Venables Street	30,000 vehicles per day 1 bus route	26,000 vehicles per day (2013) 1 bus route (Count is from Glen Dr to George St)
Adanac Bikeway along Union St	2000 cyclists per day	4000 cyclists per day

Source: Updated traffic counts from City of Vancouver

**Figure 2: Venables Street Count Location**



It should be noted that the latest available traffic counts are from 2013 and are of adjacent road corridors (as noted in the table) and not where the BI Line crosses the road.

### 3.2 Infrastructure Changes

Section 5.0 of the FCFCS details the proposed corridor strategy of the BI Line and the associated infrastructure changes. The following sections note the changes to the infrastructure plans.

**Figure 3: Rail Crossings considered in FCFCS**



Source: *Project Summary Report for False Creek Flats Rail Corridor Strategy, City of Vancouver, 2008*

In the FCFCS, the remaining 6 at-grade crossings across the BI line were considered for grade separation along with 2 additional projects which would create grade-separated crossings.

The 8 potential projects were classified as the following:

**Arterial Streets**, to build an overpass

- 1) Powell Street
- 2) Malkin Avenue (new)
- 3) Venables Street

**Bike Routes**, to separate using either overpass or underpass

- 4) Union Street (Adanac Bikeway)
- 5) Central Valley Gateway (new)

**Industrial Streets**, to be closed

- 6) Cordova St
- 7) Raymur St
- 8) Parker St / Glen Dr

### 3.2.1 Powell St Overpass

A grade separated structure was proposed for Powell Street in the FCFCS. The structure was noted to have the greatest potential to provide short term road capacity increases in the east-west direction as well as protecting rail capacity along the BI line.

The Powell Street Overpass began construction in June 2013 and was completed in the summer of 2014. As such, the proposed infrastructure plan is no longer relevant. Currently, the BI Line only crosses one major thoroughfare: Venables St.

### 3.2.2 Central Valley Greenway

The Central Valley Greenway (CVG) was proposed in the FCFCS to provide a connection for pedestrians and cyclists from Grandview Highway North across the BI Line. The FCFCS recommended that *"The location of the final alignment of this structure should be determined as part of the False Creek Flats Long Range Land Use and Transportation Study. This study should begin in fall of 2009."*<sup>11</sup>

A grade separated crossing between the CVG and the BI line was completed by routing the bike lane along Great Northern Way (south of the BI line) and using the Clark Drive overpass to create grade separation from the railway. As such the grade-separation project has been completed associated infrastructure plan is obsolete. However, further improvements to the CVG as per the False Creek Flats Area Plan (2017) discussed in Section 0 are included in the transportation strategy for the next 10 years, although these do not impact the railway. These include:

- *"Improve the CVG at the Clark Drive crossing and provide new grade separated connections"* (grade separate between bike lane and road); and,
- *"Improve the CVG Greenway by providing new at-grade routes"*<sup>12</sup>.

### 3.2.3 Adanac Bikeway

The Adanac Bikeway is currently at grade, crossing the BI line at Union St, and a grade separated path for pedestrians and cyclists over the rail tracks was proposed. At the time of the FCFCS, grade separation was noted as a low priority. However, the False Creek Flats Area Plan (2017) suggests implementing a grade-separated Adanac connection to maintain walking and cycling facilities is a priority project<sup>13</sup>.

### 3.2.4 Other crossings

In addition to the items discussed in the sections above, updated information was unavailable for certain crossings.

The project summary report indicated that the following at-grade crossings were being reviewed to determine how they could be closed or rerouted:

- Cordova Street East of Raymur Street;
- Raymur Street South of Cordova; and
- Parker Street at Glen Drive

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<sup>11</sup> p23, Project Summary Report for False Creek Flats Rail Corridor Strategy, City of Vancouver, 2008

<sup>12</sup> p106, False Creek Flats Area Plan, City of Vancouver, 2017

<sup>13</sup> p114, False Creek Flats Area Plan, City of Vancouver, 2017

The False Creek Flats Area Plan does not provide a specific strategy to eliminate the at-grade rail crossings at locations, however, it does mention that one of its ongoing policies is to *"Support the False Creek Flats Rail Corridor Strategy to eliminate at-grade rail crossings at local industrial streets by closing Glen Drive, Parker Street, Union Street, and Prior/Venables Street while maintaining property access and circulation"*<sup>14</sup>

Table 1 in the FCFCS<sup>15</sup> mentions that property acquisition would be a component of the cost to close these crossings.

### 3.2.5 Future False Creek Flats Arterial

A grade separation at Malkin Avenue was proposed in the project summary report. This grade separation project was largely superseded by the False Creek Flats Arterial route option study, with 6 of the 8 routes being considered within the immediate vicinity of the previously outlined area. The new arterial is anticipated to provide congestion relief for the existing east-west routes across the false creek flats. Furthermore, the route will provide another significant grade separated crossing of the BI line, reducing the amount of conflict between road and rail.

A community panel process was setup and tasked with providing a recommendation to prioritize routes to for further consideration, based on the panel's knowledge of the local area businesses, inhabitants and movements. The process would form a key step in the overall decision-making process for the arterial alignment. This is an ongoing process and up-to-date information about the false creek flats arterial can be found at the City of Vancouver's website.<sup>16</sup>

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<sup>14</sup> p82, False Creek Flats Area Plan, City of Vancouver, 2017

<sup>15</sup> p3, Project Summary Report for False Creek Flats Rail Corridor Strategy, City of Vancouver, 2008

<sup>16</sup> <https://vancouver.ca/streets-transportation/false-creek-flats-arterial.aspx>

## 4 Next Steps

A Summary Report with supporting drawings will be developed documenting the current physical and operation status of the existing False Creek Flat rail network and the BI line. This report will include the following:

- Challenges to be addressed by infrastructure changes;
- High level improvements and changes to infrastructure or operations that may be of benefit to freight and passenger railways which would support their current requirements to service their existing customers;
- Existing conflicts that hinder identified changes;
- s.21(1)
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- Pre-cursors that may be required to facilitate any improvements identified.

END.

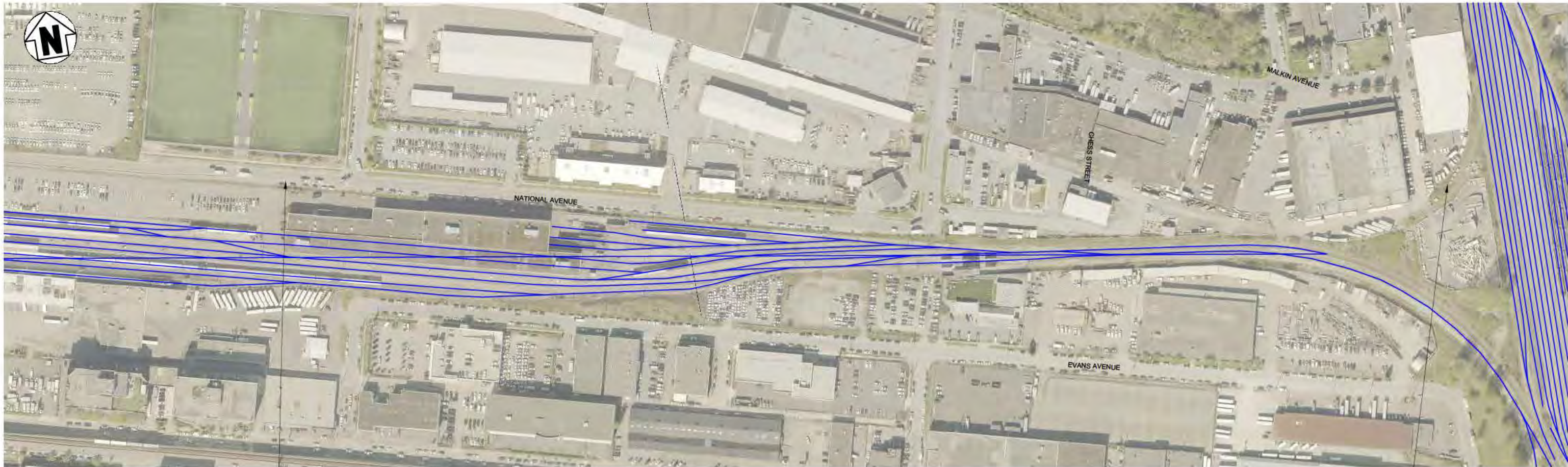
## **B. Site Visit Constraint and Condition Identification Drawings**











PLAN  
SCALE 1:1500

NATIONAL-CHARLES OVERPASS ROUTING

LOOKING SOUTH TOWARDS REMOVED WYE



NOTES:

1. EXISTING TRACKS FROM BRITISH COLUMBIA OPENSTREET DATA ACCESSED THROUGH GEOFABRIK (<https://download.geofabrik.de/north-america/canada/british-columbia.html>)
2. ORTHOIMAGERY FROM CITY OF VANCOUVER (2015)

FOR REFERENCE ONLY

DATE: 2019/07/31

10m 0 1:1500 60m

Legend:

EXISTING TRACK

Engineer's Seal:

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Title:

PORT OF VANCOUVER  
SSWF CONCEPT PLANNING STUDY  
EXISTING CONDITIONS &  
PROPOSED CHANGES  
SHEET 4 OF 6





## **C. Current CN Operations at FCF Schematics**

