

HELLO & WELCOME.

A NEW PLAN FOR THE FALSE CREEK FLATS

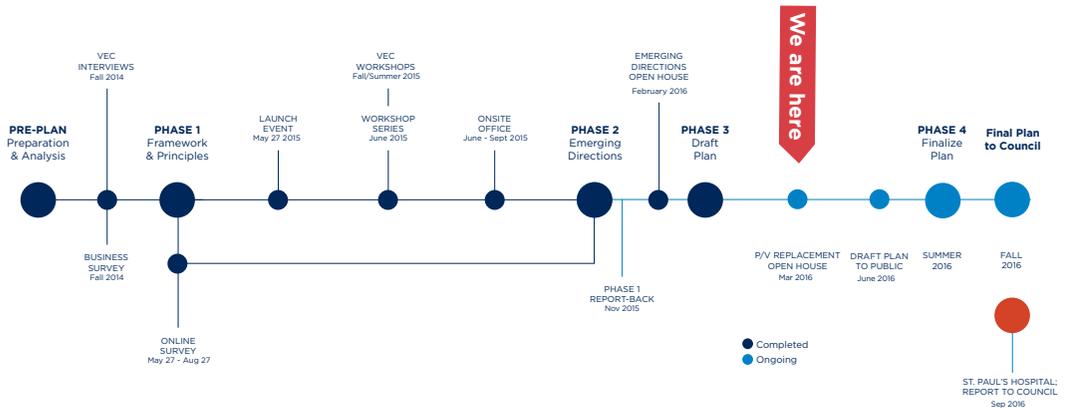
Since last May, City staff have been working with you to identify the key issues, desires and directions for the future of the False Creek Flats. Throughout this process we have heard overwhelmingly about the need for better connections to unlock the true potential of the area in becoming a greener and healthier place to work in Vancouver.

Today's conversation regarding a suitable alignment for a new Prior-Venables replacement is only one piece of a broader transportation network. This larger network will form a critical component of a new plan for the future of the False Creek Flats.

For more information on this process, and to receive any ongoing email updates please visit our website, and sign up to our email list serve at:

vancouver.ca/FalseCreekFlats

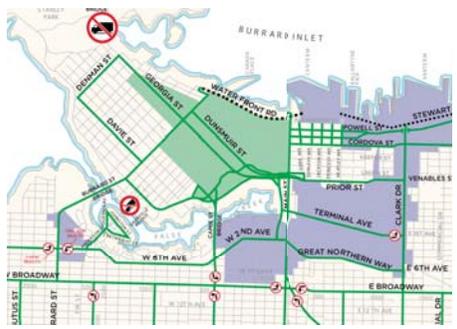
PLANNING PROCESS OVERVIEW



PRIOR & VENABLES TODAY

Since the construction of the viaducts in the early 1970s, Prior and Venables Street, between Gore Ave and Clark Drive, has functioned as an arterial and truck route in the City’s network of streets. This means that it serves a dual role of providing safe and convenient local access to residents and businesses, as well as playing a regional role efficiently moving people and goods from the east into downtown.

TRUCK ROUTES - EXISTING



AN ARTERIAL OVERPASS?

With the goals of improving rail efficiency into the Port, and minimizing the number of heavy trucks on our streets, the City conducted a Rail Grade Separation Strategy Study in 2008. This strategy aimed to support the broader economy by better utilizing the rail yards in the Flats; reducing train related traffic disruptions; improving public safety; and supporting rail as an alternative to trucks for goods movement.

Through that study, the strategy recommended that all arterial roads be separated from rail with a grade-separated crossings or overpass. The last remaining arterial which crosses the Burrard Inlet Rail Line at grade is Prior/Venables.

Recommended East-West Movement Across the Burrard Inlet Rail Line (BI Line Rail Grade Separation Study 2008)



- OVERPASS CROSSING
- ⊗ CLOSED CROSSING
- ↔ PEDESTRIAN/BIKE UNDERPASS

CHALLENGES WITH PRIOR/ VENABLES

Since the 2008 study’s original conclusion that Malkin was the most logical route, subsequent work has reconfirmed that the existing alignment along Prior/Venables is poorly suited to accommodate an improved link due to proximity to residential uses, a limited right-of-way to improve the existing conditions, the challenging geometrics and natural topography of the alignment making a future grade-separated route along Prior/Venables less supportable than others.

DOWN-GRADING PRIOR/ VENABLES

In October 2015, during the decision regarding the removal of the viaducts, Council provided direction to staff that the False Creek Flats Plan would identify a new alignment for a Prior and Venables arterial replacement. Once constructed, this new arterial would allow for the eventual downgrading of Prior to a locally serving collector street.

STRATEGY RECOMMENDATIONS

The 2008 Rail Grade Separation Strategy identified the following priorities for grade separated crossings and street closures:

1. Powell Street – is the top priority for grade separation. (completed in 2014)
2. Malkin Ave – was proposed as a better alignment for grade separation than Prior/Venables, subject to further technical analysis and community consultation. (since the time of this report, City staff have identified other alternatives than Malkin for consideration)
3. Prior/Venables – as a potential location for an underpass crossing for pedestrians and cyclists; and
4. In the long term, secondary crossings at Parker, Union, and East Cordova will be closed to ensure public safety.



WHAT ARE THE OPTIONS?

On the basis of analysis completed over the last two years, including engagement with a number of stakeholders, City staff are recommending two leading options for further consideration by stakeholders, the public and Council – Malkin Ave and National Ave.

Each option would connect either to the viaducts or the viaducts replacement arterial street network at Gore Avenue to the West and would 'T' into Clark Drive at the East (vehicles would be required to make a left or right hand turn onto and off of the arterial at Clark to discourage commuter traffic from using local streets in Grandview Woodlands).

EAST-WEST ARTERIAL OPTIONS



East-West Arterial Study

OBJECTIVES

To guide development of alternative alignment options for an east-west arterial and rail overpass, the following study objectives were developed:

Maintain an efficient east-west arterial route: Ensure a goods movement, transit and vehicular connection to downtown, while improving pedestrian and cyclist conditions throughout the False Creek Flats.

Seismically resilient and reliable connections: Collaborate with Providence Healthcare to ensure safe and reliable access to and from the new hospital from both Downtown and the east.

Support Vancouver's economy by improving the Burrard Inlet connection between the False Creek Flats rail yards and the Port: Implement grade separation of the BI Rail line from east-west vehicular traffic, improving goods movement by rail.

Minimize impacts on existing uses: Respect the existing community gardens, residential properties, businesses and city facilities as much as possible.

Mitigate disturbance to parks: Explore opportunities to increase the overall park size; protect eagle nesting habitat.

Explore opportunities to reallocate road space on adjacent routes: Rerouting East-West arterial traffic and trucks provides an opportunity to reallocate road space and potentially implement public realm improvements on parallel streets.

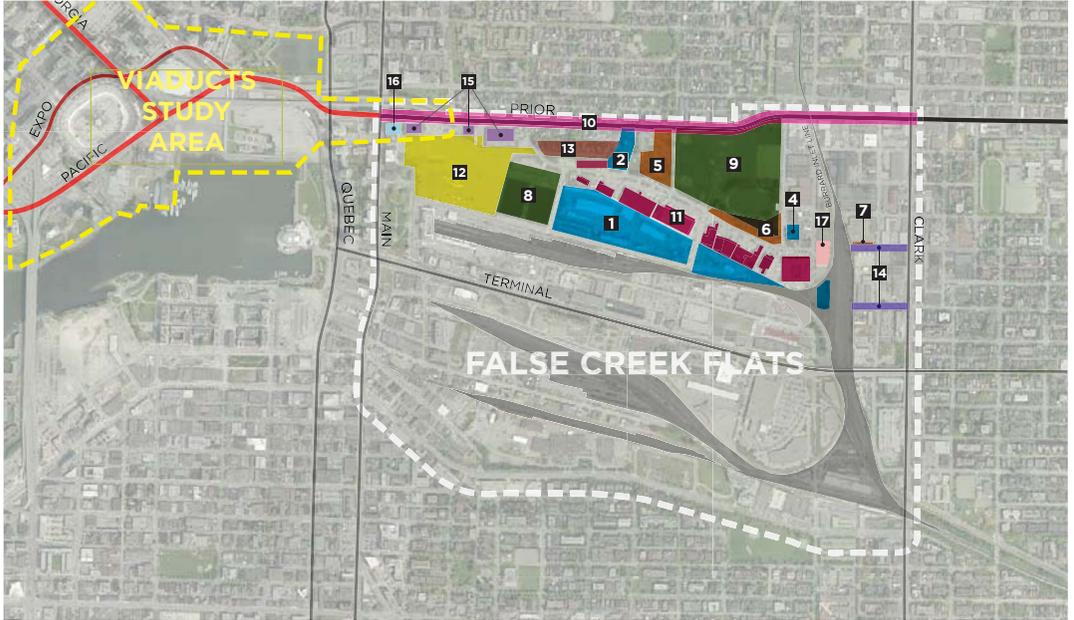
Create an urban structure and street design suitable for the long term development aspirations of the False Creek Flats study area: Creating a regularized block pattern with development lots of sufficient size will support future industrial and office uses.

Seek cost effective rail overpass design solutions taking into consideration both up-front capital costs and on-going maintenance costs.

KEY CONSIDERATIONS

Relocation of the arterial requires careful consideration of the impact to the local communities, businesses, landowners and the needs of the city as a whole. As with any infrastructure project, short and medium term impacts must be balanced with long term requirements and benefits - Providence Health Care is an important stakeholder in this regard.

Translink approval is required for any modifications to the City's truck route network and the City will need to be able to demonstrate equivalent or improved capacity for the efficient movement of people and goods accessing areas within the flats and the downtown.



> SITES

- **City Facilities**
 - 1 City Works Yards
 - 2 Fire Hall #1
 - 3 Fire Rescue Training Facilities
 - 4 City Animal Control
- **Community Gardens**
 - 5 Strathcona Community Garden
 - 6 Cottonwood Community Garden
 - 7 Purple Thistle Community Garden
- **Parks**
 - 8 Trillium Park
 - 9 Strathcona Park
- **Prior Street / Venables Street**
 - 10 Prior Street / Venables Street
- **Produce Row**
 - 11 Produce Row
- **Providence Land**
 - 12 Providence Land
- **Atlantic Street Residents**
 - 13 Atlantic Street Residents
- **Industrial Businesses (East of Tracks)**
 - 14 Industrial Businesses
- **Industrial Businesses (West of Tracks)**
 - 15 Industrial Businesses
- **Left Bank**
 - 16 Left Bank
- **Canada Post**
 - 17 Canada Post

Civic Facilities

Fire Hall #1, Fire Training Facility, Animal Control Shelter, and City Works Yard on National are all located in the study area. Any changes to the arterial need to ensure emergency services can continue to be delivered at existing levels of service. In some cases new facility locations or redevelopment may be required.

Community Gardens

There are three community gardens that could be impacted: Cottonwood Community Garden, Strathcona Community Garden, and the Purple Thistle. Both Cottonwood Garden and the Purple Thistle are located within the street right of way.

Industrial Businesses

To construct a rail overpass on any alignment, a number of businesses between Raymur & Clark Drive, and Main & Malkin could be impacted.

Parks (Strathcona Park and Trillium Park)

There are significant public parks within the study area. Strathcona Park is 21 acres (excluding Cottonwood Garden) and Trillium Park combined with the newly planned northern portion is 7.5 acres.

Prior Street / Venables Street

With the construction of the viaducts, Prior Street and Venables Street became part of the City's arterial street and goods movement network through the Strathcona neighbourhood. Residents are excited about the future downgrading, once an alternate arterial is complete.

'Produce Row'

Currently, 6 of the City's 9 produce wholesalers are found along Malkin Avenue, representing approximately 450 local jobs. These businesses combined receive approximately 4,000 truck deliveries a week, and often block traffic on Malkin while manoeuvring.

Providence Lands

The site owned by Providence Health Care, is currently being planned for the re-located St. Paul's Hospital, and any road alignments will need to consider the design and function of the new health campus.

Transportation/Goods Movement Performance

The new arterial will need to be a minimum of 4 lanes, with a direct connection between Clark and Main Street and function in a similar capacity to Prior/Venables. It also will need to accommodate commercial goods movement (large trucks).

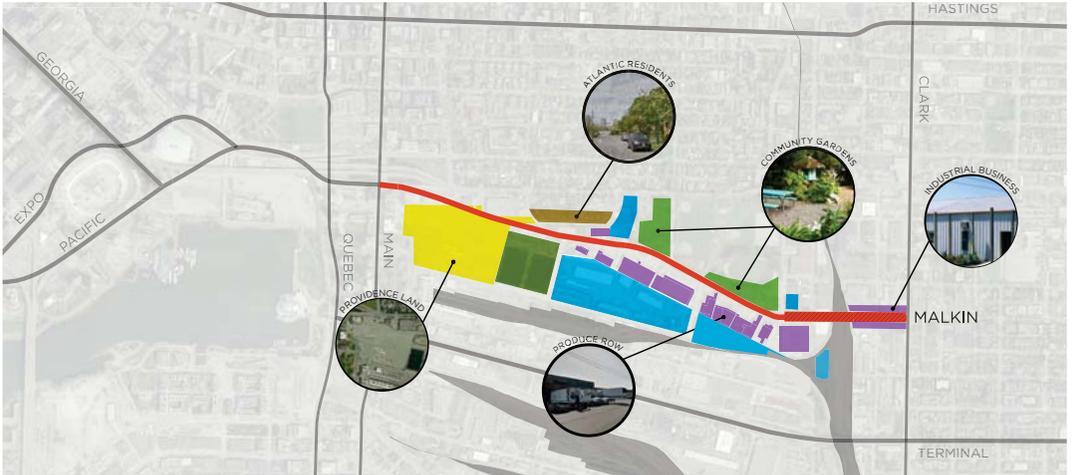
Atlantic Street Residents

Any changes to the arterial need to ensure access to the neighborhood and mitigate impacts due to increased traffic.

Rail & Port

Port expansion planned in the near future, rail activity will increase, likely with the desire for increased rail yard space. A well planned overpass location would keep options open for market factors to determine the future of rail along the BI Line.

OPTION / MALKIN AVENUE



Note: Impacts which are neutral to the options i.e. both impact equally e.g. the need to relocate or reconfigure Firehall #1 are not listed, but are accounted for in cost estimates as applicable.

ANALYSIS

OVERVIEW

The Malkin Avenue option would connect from Main Street and 'T' into Clark Drive (no through route to or from Grandview Woodlands). The railway overpass would start at Raymur Street, pass overtop of Glen Drive, the railway tracks, Vernon Drive and align with Charles Street to connect with Clark Drive. To minimize impacts to adjacent uses, this alignment would be constructed predominantly within the existing paved surface of Malkin Ave between Chess and Raymur Streets.

⊕ PROS

- Northerly alignment relative to National Ave option, providing
 - better balance between proximity to First Ave and Hastings St arterials
 - better access and local service to Strathcona community.
- Wider average available road right of way than National Avenue
- Building land uses and street connections to the north and south of the entire alignment
- Avoids impact to City's National Works yard and Fire training facilities.
- Significantly lower cost as compared to National Ave option
- Better soil conditions as compared to National Ave alignment (approx. 5m of fill compared to 10m for National Avenue options)

⊖ CONS

- Significant impact to operations of Produce Row business between Chess St and Raymur Ave. The current operations are incompatible with arterial use of Malkin Ave (truck manoeuvring on street).
- Property acquisition and resultant business impact to industrial business East of Glen Drive (narrow cross section).
- Impact to City's Animal Control Facility.
- Narrow paved roadway area east of Chess Street requires interim street cross-section compromises to avoid property acquisition or impact to Cottonwood community gardens e.g. no northern sidewalk adjacent to the Curb.
- Concerns with adjacency to Cottonwood Community Gardens.

Arterial Spacing



Bicycle Network



Potential Project Costs

Overpass Structure
\$35-60,000,000

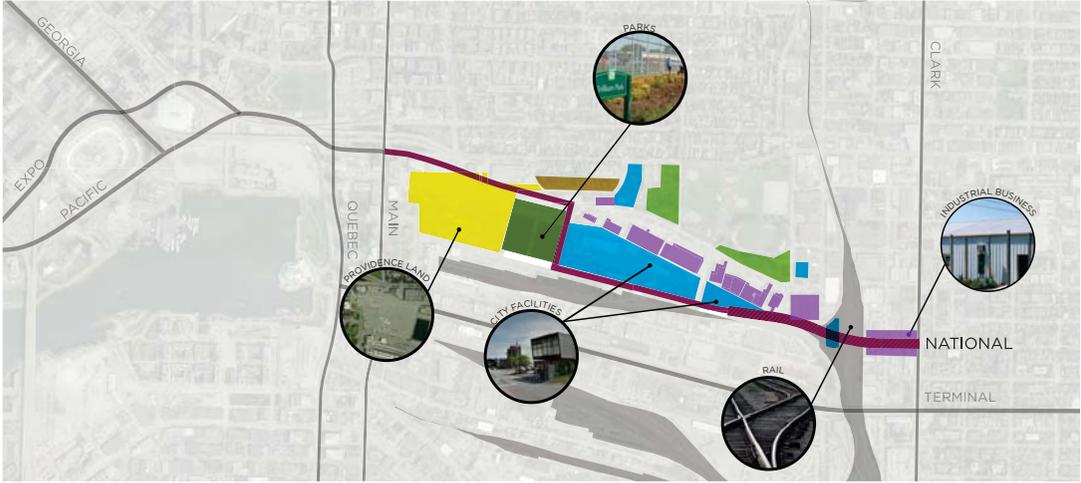
Bike Underpass
\$10-15,000,000

Land Acquisition
\$20-35,000,000

Roadway Design & Construction
\$15-20,000,000

Total Cost
\$80-130,000,000

OPTION / NATIONAL AVENUE



Note: Impacts which are neutral to the options i.e. both impact equally e.g. the need to relocate or reconfigure Firehall #1 are not listed, but are accounted for in cost estimates as applicable.

ANALYSIS

OVERVIEW

The National Avenue option would connect from Main Street and 'T' into Clark Drive (no through route to or from Grandview Woodlands). The railway overpass would start just east of Chess Street, pass through and over the Fire Training Facilities, the railway tracks, Vernon Drive and align with Grant Street to connect with Clark Drive. This option would protect existing uses along Malkin Avenue east of Thornton.

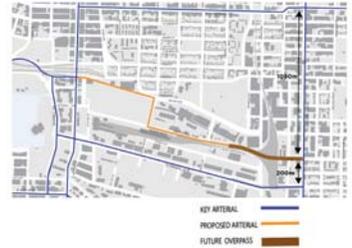
⊕ PROS

- Avoids impact to Cottonwood Community Gardens
- Avoids impact to produce row east of Thornton
- Avoids impact to Animal Control Facility
- Avoids significant impacts to Providence Lands as opposed to the National Avenue Diagonal
- Maintains the same roadway alignment as the Malkin Avenue option along the North side of the Providence Healthcare site, providing consistency in the leading E-W options for concurrent hospital planning work

⊖ CONS

- Significant impact to Fire training facility which would require relocation (challenging due to space requirements and uses e.g. burn tower)
- Moderate impact to operations at the City's National works yards.
- Property acquisition and resultant business impact to industrial business East of Glen Drive (narrow cross section).
- Significantly higher cost as compared to Malkin Ave option (increased property acquisition e.g. Fire training facility and significantly longer overpass).
- Southerly alignment relative to Malkin Ave option, providing
 1. poorer balance between proximity to First Ave and Hastings St arterials
 2. poorer access and local service to Strathcona community.
- No buildings, land uses or street connections to the south for a significant portion of the alignment (Via Rail).
- Poorer soil conditions as compared to Malkin Ave alignment (approx. 10 m depth to competent soils)
- Concerns with adjacency to Trillium Park (east and north sides)
- Concerns with performance and safety of the required road curvatures at Thornton (comparable to current condition at McGill/Nanaimo)

Arterial Spacing



Bicycle Network



Potential Project Costs

Overpass Structure
\$50-90,000,000

Bike Underpass
\$10-15,000,000

Land Acquisition
\$75-105,000,000

Roadway Design & Construction
\$15-20,000,000

Total Cost
\$150-230,000,000

OPTION / WILLIAM STREET



Note: Impacts which are neutral to the options i.e. both impact equally e.g. the need to relocate or reconfigure Firehall #1 are not listed, but are accounted for in cost estimates as applicable.

ANALYSIS OVERVIEW

This option seeks to minimize impacts to Cottonwood Community Gardens, Produce Row and the City's National works yard and Fire training facility, by connecting from the intersection of Malkin Avenue and Hawks Street to the intersection of William Street and Raymur Avenue; north of the Cottonwood gardens and through Strathcona Park. The railway overpass would start at Raymur Avenue, pass over top of Glenn Drive, the railway track, Vernon Drive and align with William Street to 'T' into Clark Drive.

⊕ PROS

- Avoids impact to Cottonwood Community Gardens
- Avoids impact to produce row east of Thornton
- Avoids impact to Animal Control Facility
- Closure of Hawks Avenue and the street RoW beneath the Cottonwood Community Gardens could net out the property requirement for the new roadway, ensuring no net loss of park space.
- Cost savings relative to the National and Malkin Options (shorter overpass) could be used to invest in improvements to Strathcona Park and the community gardens.

⊖ CONS

- Impacts Strathcona Park.
- Requires modifications to the established Park property boundaries, which are not supported by the Vancouver Park Board.
- Introduces an arterial street between Strathcona park and Cottonwood Community Gardens
- Property acquisition and resultant business impact to industrial business East of Glen Drive (narrow cross section).

OPTION / MALKIN AVENUE (North)



Note: Impacts which are neutral to the options i.e. both impact equally e.g. the need to relocate or reconfigure Firehall #1 are not listed, but are accounted for in cost estimates as applicable.

ANALYSIS OVERVIEW

The option seeks to minimize the impacts of a Malkin Avenue alignment on Produce row, by utilizing the northerly portion of the RoW for Malkin Avenue between Hawks and Raymur Avenue, which would require the relocation of the Cottonwood Community Gardens. The railway overpass would start at Raymur Avenue, pass over top of Glenn Drive, the railway track, Vernon Drive and align with Charles Street to 'T' into Clark Drive.

⊕ PROS

- Northerly alignment relative to National Ave option, providing
 - Better balance between proximity to First Ave and Hastings St arterials
 - Better access and local service to Strathcona community.
- Wider average available cross section than National Avenue
- Buildings, land use and street connections to the north and south of the entire alignment
- Avoids impact to City's National Works yard and Fire training facilities.
- Significantly lower cost as compared to National Ave option
- Better soil conditions as compared to National Ave alignment (approx. 5 m depth to competent soils)

⊖ CONS

- Requires relocation of the Cottonwood Community Gardens
- Significant impact to Produce Row east of Chess St (reduced compared to leading Malkin Avenue option)
- Property acquisition and resultant business impact to industrial business East of Glen Drive (narrow cross section).
- Impact to City's Animal Control Facility.

OPTION / NATIONAL AVENUE (Grid)



* For a full list of Pros and Cons for a National Avenue option, please refer to Page 6.

Note: Impacts which are neutral to the options i.e. both impact equally e.g. the need to relocate or reconfigure Firehall #1 are not listed, but are accounted for in cost estimates as applicable.

ANALYSIS OVERVIEW

This option seeks to deliver a more permeable and interconnected urban street grid network through the Providence healthcare site.

⊕ PROS

- Permeable and interconnected urban street grid network. *

⊖ CONS

- Does not achieve adequate transportation performance requirements (significant reduction in capacity and travel time reliability relative to existing connection on Prior and Venables street). *

OPTION / NATIONAL AVENUE (Diagonal)



* For a full list of Pros and Cons for a National Avenue option, please refer to Page 6.

Note: Impacts which are neutral to the options i.e. both impact equally e.g. the need to relocate or reconfigure Firehall #1 are not listed, but are accounted for in cost estimates as applicable.

ANALYSIS OVERVIEW

This option seeks to deliver optimal traffic performance for the National Avenue option by bisecting the future Providence Healthcare site.

⊕ PROS

- Best traffic performance of the National Avenue options.
- Reduced impact to Atlantic Street Residents *

⊖ CONS

- Significantly jeopardizes the viability of the proposed Providence Healthcare Campus. *