



# Inter-River Sub-Area Transportation Study

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## EXECUTIVE SUMMARY

### STUDY PURPOSE

Recent development interest and design work on the Ministry of Transportation and Infrastructure (MOTI)'s nearby Highway 1 Lillooet Interchange Improvement Project has prompted District staff to reconsider the transportation network in the Inter-River neighbourhood. These recent initiatives have provided the District of North Vancouver (District) with an opportunity to develop a plan that provides a network that addresses redundancy, circulation, and permeability for people walking, bicycling, driving, or taking transit in this neighbourhood.

The study provides an overview of the range of options considered and provides recommendations that address the study's goals.

### METHODS

Using feedback obtained from stakeholder groups consulted, District staff developed a range of potential options to serve the collective goals and needs for the area. Each option was evaluated as a segment using a set of refined criteria designed to help achieve the study's objectives. Options were formulated to improve the network with key study goals in mind, as found in the green box to the right.

### RECOMMENDATIONS

New connections identified through the planning process include facilities for people walking, biking and driving and will be local streets that will carry relatively low volumes of vehicular traffic (less than 1,500 vehicles per day).

The following new connections are recommended:

- St. Denis Avenue to Forsman Avenue (south of Lynnmour Elementary School);
- Forsman Avenue to Orwell Street (proximate to the south of Lynnmour Elementary School); and
- St. Denis Avenue to Orwell Street (proximate to the north of Lynnmour Elementary School).

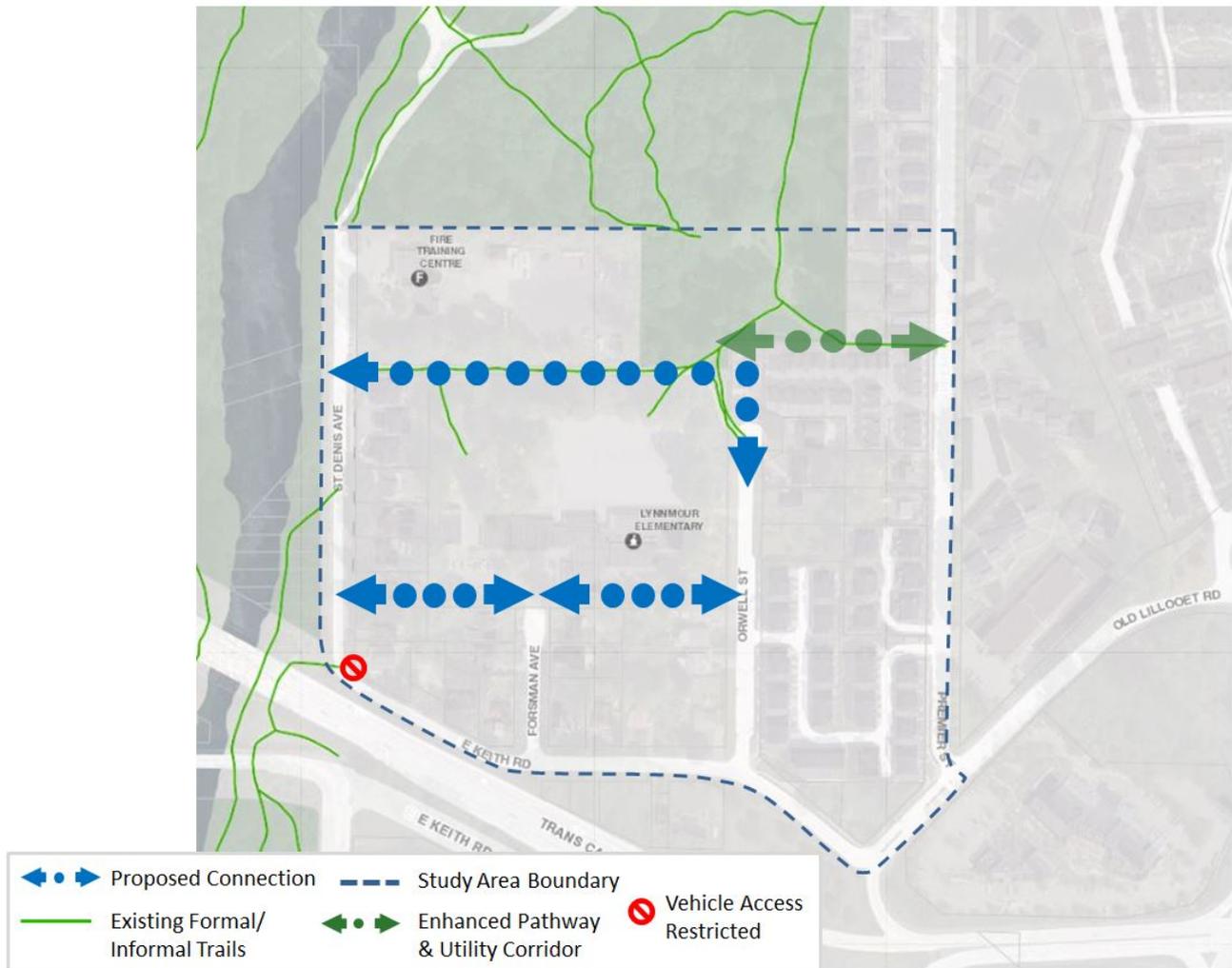
### ADDITIONAL RECOMMENDATIONS

- Continue to meet the needs of people who walk and cycle to and through the sub area by enhancing and/or formalizing informal trails throughout the site;

### STUDY GOALS

- Provide safe & efficient access to all key destinations within and outside of the neighbourhood;
- Minimize neighbourhood traffic impacts & improve livability;
- Provide secondary access were feasible to provide redundancy, better circulation, better emergency access and ability to disperse vehicle traffic;
- Further develop formal and informal walking and cycling networks;
- Provide improved safety and connectivity of commuter & recreational routes & trail networks;
- Preserve and enhance existing natural areas;
- Provide alternative access to St. Denis Avenue; and
- Provide flexibility with ongoing development and highway interchange design work.

- Enhance the existing pathway from Premier Street to Orwell Street, south of ‘Digger Park’ and dedicate space for a utility corridor;
- Support a Drive-to-Five program to encourage physical activity to and from school; and
- Improve circulation for pick-up and drop-off at Lynnmour Elementary.



**FIGURE I:** Summary map of proposed connections.

**NOTE:** Proposed connections are consolidated for convenience purposes only. Each connection may be implemented individually or collectively. Exact alignment is subject to further study.

**LIMITATIONS OF THE STUDY**

The study recognizes that due to adjacent unknowns, the timing of each individual segment will vary. While some segments may be realized through development, other segments may be completed in conjunction with District initiatives. Although new connections have been identified, further study is required to determine the exact alignment of each connection. Lastly, each segment is contingent upon successful partnerships with the stakeholders in this community.

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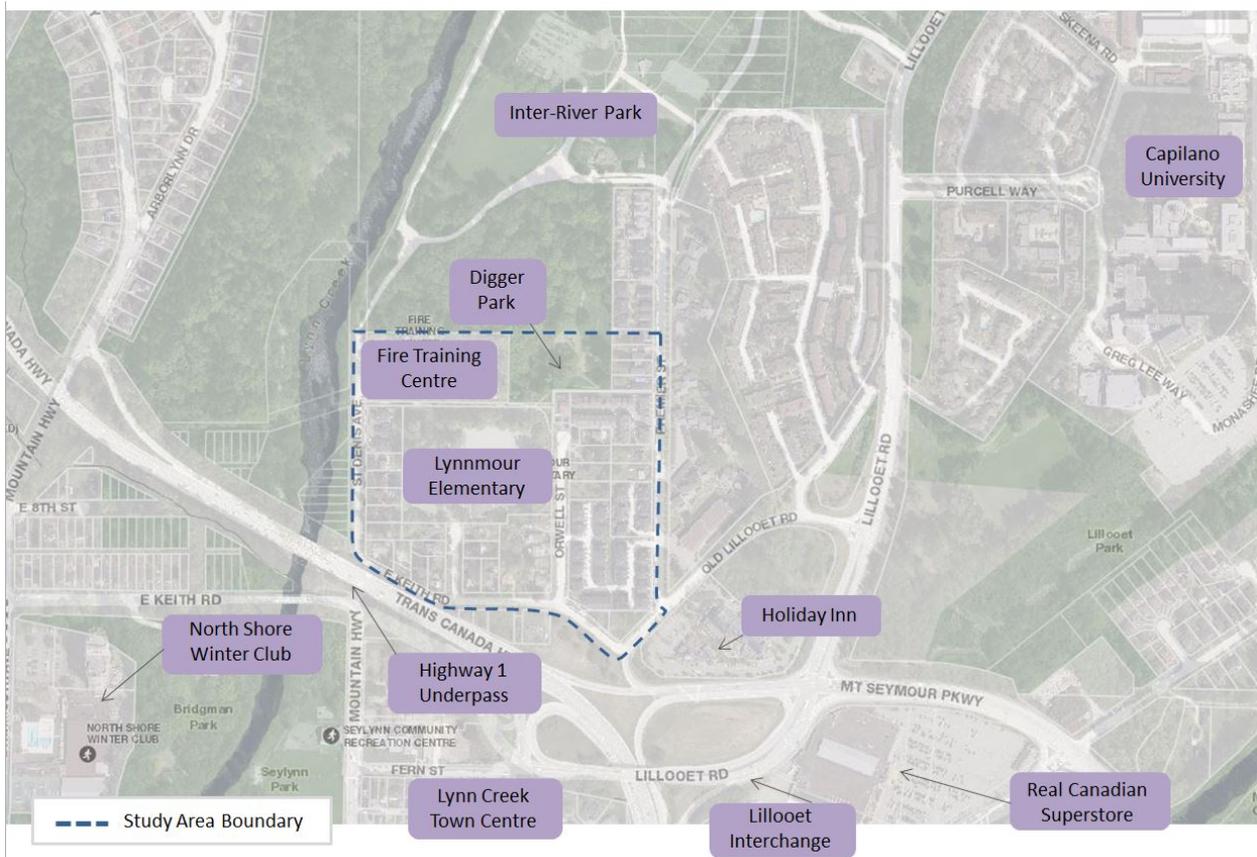
## I. STUDY PURPOSE

In recent months, the District of North Vancouver (District) has received notice of further development interest in the Inter-River neighbourhood. It is timely to consider opportunities to improve the transportation network in the neighbourhood since options for providing additional connection(s) may become limited as redevelopment proceeds. Occurring simultaneously, recent design work being undertaken by the Ministry of Transportation and Infrastructure (MOTI) on the nearby Highway 1 Lillooet Interchange is expected to have an impact on the existing road network.

## II. CONTEXT

### a. LOCAL CONTEXT

The Inter-River sub-area is defined as being north of Highway 1, east of Lynn Creek, south of Inter-River Park and west of Premier Street, as shown in **Figure 1** below. This sub-area has been undergoing re-development characterized primarily from low-density single family to newer low density multi-family housing. Ongoing guidance for change in the area has been in accordance with the 2011 Official Community Plan and the 2006 Lynnmour/Inter-River Local Plan.



**FIGURE 1:** Inter-River Sub-area Map

## b. KEY DESTINATIONS

The Inter-River sub-area is within close proximity to a range of destinations and amenities, as shown above in **Figure 1**. Lynnmour Elementary is at the heart of the sub-area, with the fire training centre and Inter-River Park located just north of the school. The southern portion of the park, known locally as ‘Digger Park’, is characterized by play structures and picnic tables. The northern and western portions of Inter-River Park consist of a series of recreational trails, an off-leash dog park, a bike skills park, and sports fields, which often host sports tournaments. Traffic generated by tournaments in the park are encouraged to enter and leave from the park’s main access on Lillooet Road. People driving to the lower fields can either enter from the park’s main entrance on Lillooet Road or from Premier Street.

One of the key destinations within this sub-area is Lynnmour Elementary School, serving a catchment area of families generally residing between Lynn Creek and Seymour River, as far north as Lynnmour North and as far south as Lynnmour South. It also serves families east of Seymour River toward the Maplewood Conservation Area and south of Mount Seymour Parkway. The school’s primary pick-up and drop-off is located at the end of Forsman Avenue, with people walking, cycling, driving, and taking transit to access the school. Circulation is poor for parents who drive to this primary entrance on Forsman Avenue, with minimal space to turn around at the end of the street for travel back to E Keith Road.

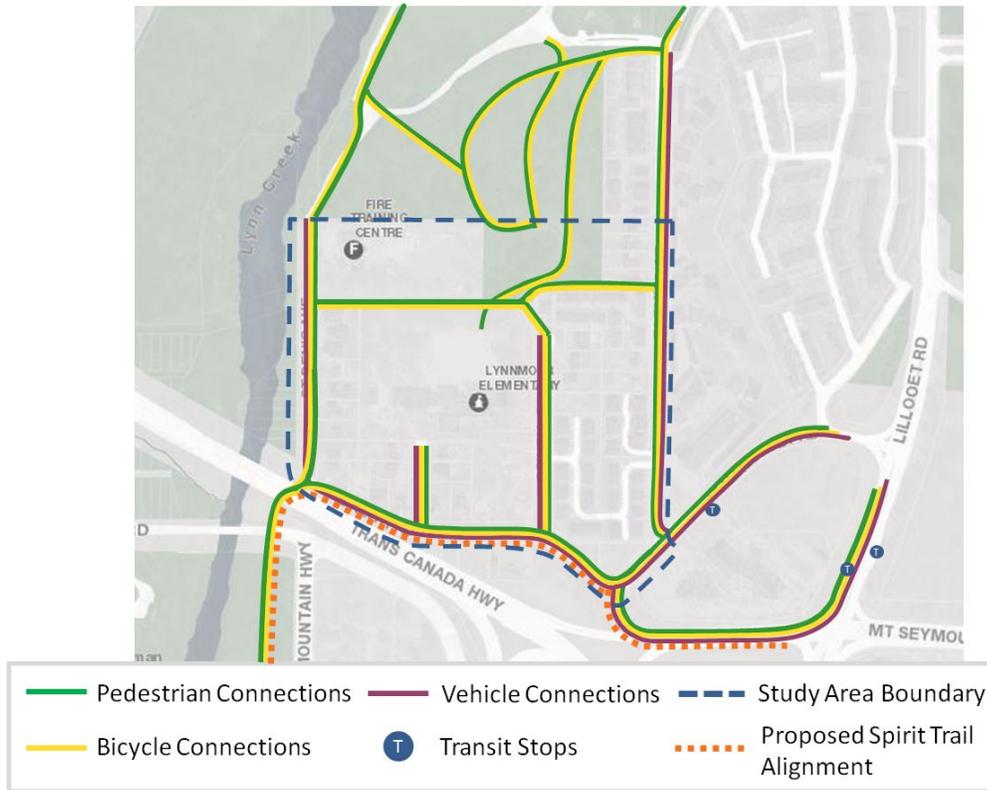
Outside of the sub-area boundaries, residents have access to Real Canadian Superstore, Capilano University and the Lynn Creek Town Centre. Phibbs Exchange, the key transit hub in North Vancouver, is located approximately 1.5 kilometres south, or a 15 minute walk from Lynnmour Elementary School. Residents maintain access to these amenities by either by foot, bicycle, transit or vehicle.

## c. EXISTING PEDESTRIAN, CYCLING, TRANSIT & VEHICULAR NETWORK

Passage to and through the Inter-River sub-area from the south can be accessed by foot or bicycle using a highway underpass south of East Keith Road and St. Denis Avenue (see **Figure 1**). People cycling and walking often travel up St. Denis Avenue through the park and further north, or east along East Keith Road to other destinations.

Several informal east-west pathways exist for people walking and cycling from St. Denis Avenue to Premier Street and from Premier Street to internal street networks off of Lillooet Road (see **Figure 2** below). Students of Lynnmour Elementary often access ‘Digger Park’ using an informal path behind the school’s gravel field, while all other users access ‘Digger Park’ either from Orwell Street or along the informal powerline trail that runs between St. Denis Avenue and Premier Street. Dog walkers often access the off-leash dog park from St. Denis Avenue or through the park’s internal network.

In 2009, Council endorsed the Spirit Trail Route Planning Report. The Spirit Trail is envisioned as a 35-kilometre long, accessible, lowing trail that will link Horseshoe Bay and Deep Cove. In June of 2016, Council indicated general agreement with a route that would travel north through Seylynn Park and along E Keith Road before moving onto Mount Seymour Parkway, as shown in Figure 2 below.



**FIGURE 2:** Existing Walking, Cycling, Driving and Transit Connections and Spirit Trail Alignment

There are currently two bus stops within walking distance on the eastern side of the site (see **Figure 2** above). The stop located on Old Lillooet Road services route 239 to Capilano University, while the stop located on Lillooet Road at Mount Seymour Parkway (west side) services routes 239 and 255 to Park Royal and Dundarave via Capilano University respectively. The stop on the east side of Lillooet Road services the 255 route to Dundarave. Access to the bus stop on Lillooet Road is taken from south of the site along the road to the Highway 1 Westbound off-ramp or through the Holiday Inn parking lot.

The existing street network in the sub-area is comprised of mostly north-south public roads, with the exception of East Keith Road and Old Lillooet Road. This street configuration does not provide any redundancy<sup>1</sup> for vehicles trying to access key destinations and residences on St Denis Avenue, Forsman Avenue, Orwell Street, and Premier Street, providing only one access in and out within the sub-area. Minimal connectivity with the surrounding street network limits access into the sub-area from Old Lillooet Road and the E Keith Road ramp.

**c. EXISTING GUIDING POLICY**

Key goals and recommendations from this study received general direction from Council-approved documents that outline overarching District priorities. The following policies and documents were used to inform the parameters of this study:

<sup>1</sup> 'Redundancy' – refers to the provision of alternative access in and out of a street (i.e. two ways in and out of a street)

- **Official Community Plan (OCP) (2011)** aims to increase the mode share of walking and cycling by 2020.
- **Zoning Bylaws** provide information on existing and intended land uses for the Inter-River sub-area and District as a whole.
- **Form & Character Development Permit Area (DPA) Guidelines** are contained within Schedule B of the 2011 OCP and address the need for improved pedestrian connectivity through and around developments.
- **Transportation Plan (2012)** outlines the need to manage the existing road network to optimize safety and efficiency, while ensuring the integration of sustainable travel modes into the system.
- **Pedestrian Master Plan (2009)** emphasizes a need to provide a well-connected network of pedestrian facilities to encourage active modes of travel throughout the District.
- **Bicycle Master Plan (2012)** identifies one of its key goals as establishing a bicycle network that strengthens community connections and improves safety. Additional supporting goals and objectives include: promoting cycling as a key part of a sustainable transportation system and making all municipal streets more appealing to cyclists in addition to accommodating pedestrians and vehicles.
- **Road Network Study (2011)** addresses the need to identify opportunities for roadway reconfiguration to accommodate other modes and points to the benefits in circulation when improvements to road networks are effective.

### III. ASSUMPTIONS

The following assumptions provide parameters for this study. These assumptions are guided by Council approved documents like the Official Community Plan and Zoning Bylaw, where applicable. Due to adjacent uncertainties with regard to existing land uses and ongoing development, these assumptions allow District staff to plan for network improvements under the following conditions:

- **St. Denis**  
Due to ongoing MOTI work on the Lillooet Highway Interchange, it is assumed that access to St. Denis Avenue would no longer be provided from E. Keith Road, as per preliminary highway improvement designs.
- **Lynnmour Elementary School**  
It is assumed that Lynnmour Elementary School would remain open and on this site.
- **Fire Training Centre**  
It is assumed that access to the fire training centre site would continue to be provided.
- **Park Access**  
It is assumed that primary access to Inter-River Park would continue to be from Lillooet Road.
- **Property Access**  
It is assumed that access to all properties must be maintained.
- **Existing Pedestrian and Cycling Commuter Routes**  
It is assumed that existing commuter and recreational routes that go through and to the Inter-River neighbourhood would be maintained and/or enhanced where appropriate.
- **Additional Connections**  
It is assumed that staff will continue to look for viable proximate connection options as opportunities arise and where such connections provide increased benefit to the community.

## IV. STUDY GOALS

The following goals have been developed to guide the study. These goals have been reviewed and refined using feedback and input from internal and external stakeholders:

- Provide safe and efficient access to all key destinations within and outside of the neighbourhood;
- Minimize neighbourhood traffic impacts and improve livability;
- Provide secondary access where feasible to provide the following: redundancy, better circulation, better emergency access and ability to disperse vehicle traffic;
- Further develop formal and informal walking and cycling networks;
- Provide improved safety and connectivity of commuter and recreational routes as well as trail networks;
- Preserve and enhance existing natural areas;
- Provide alternative access to St. Denis Avenue; and
- Provide flexibility with ongoing development and highway interchange design work.

## **V. RECOMMENDATIONS**

The following recommendations were based on discussions with stakeholders and meet the goals of the study.

*NOTE: The alignments shown are schematic. Exact alignments for the proposed connections below are subject to additional detailed review. Each option has been evaluated individually due to timing and phasing, but can be implemented in isolation or together.*

### a. ROAD CONNECTIONS

Connections identified in this section include facilities for people walking, biking and driving. The road connections are classified as a local street and generally carry lower volumes of vehicular traffic. The form of the road connection should be designed to reflect the classification and volume. Conceptual road configurations as shown in **Figures 3** and **4** may be considered.



**FIGURE 3:** Olympic Village, Vancouver



**FIGURE 4:** Henry Hudson Elementary School, Kitsilano

**Connection A: St. Denis Avenue – Forsman Avenue**

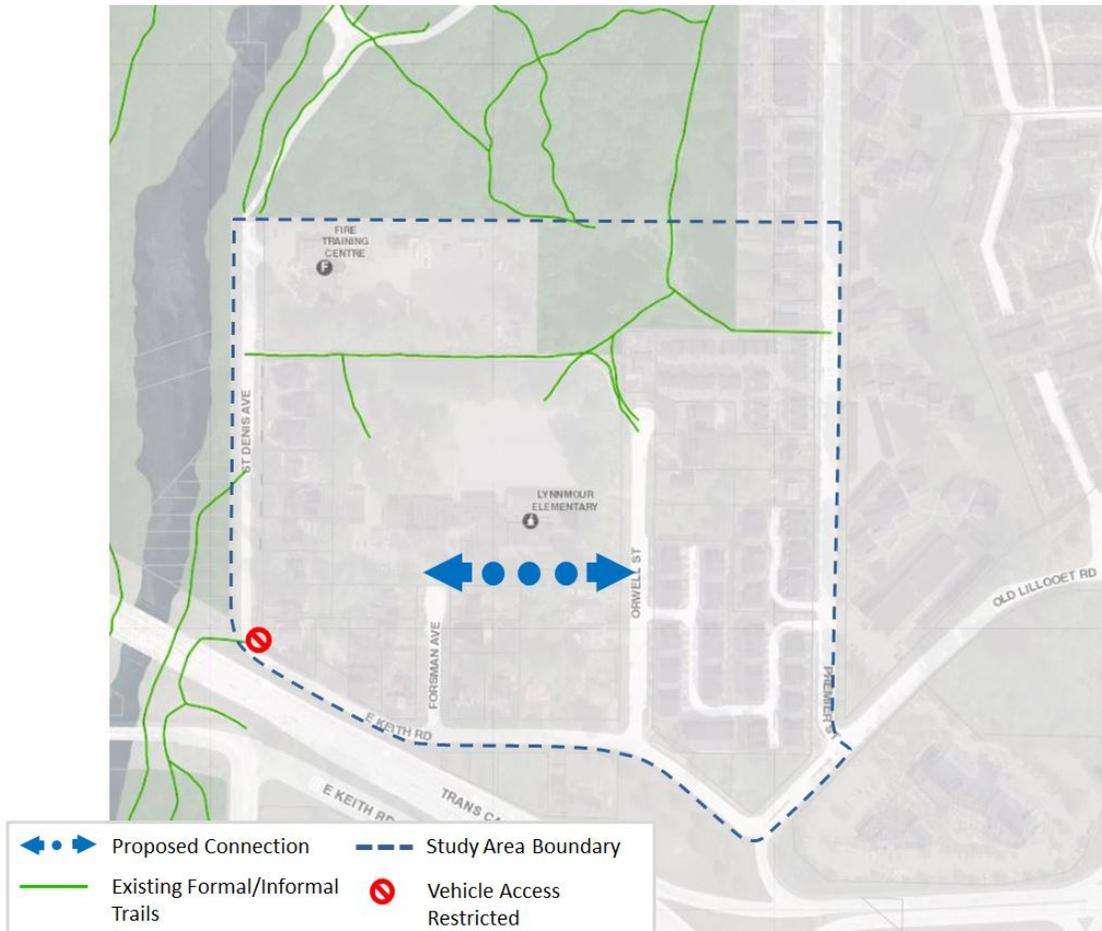
- Purpose: Provides direct access to St. Denis Avenue from E. Keith Road.
- Benefit
  - Provides users with options for accessing St. Denis Avenue; and
  - Can occur independently or in conjunction with other proposed segments.
- Impact
  - Depending on final alignment, school and assembled properties would need to accommodate the new connection.
- Timing: Would coincide with development of residential housing south of the proposed connection and/or renewal of the school.
- Collaboration: School District 44, residents and developers.



**FIGURE 5: St. Denis Avenue to Forsman Avenue Segment**

**Connection B: Forsman Avenue – Orwell Street**

- Purpose: Provides redundancy to the road network, specifically to Forsman Avenue.
- Benefit:
  - Provides users with options for accessing the school (and to St. Denis Avenue if connected).
- Impact:
  - Requires coordination between the school and DNV to develop the segment.
- Timing: Would occur when the school renews.
- Collaboration: School District 44 and residents.



**FIGURE 6:** Forsman Avenue to Orwell Street

**Connection C: St. Denis Avenue – Orwell Street**

- Purpose: Provides access and/or redundancy to St. Denis Avenue users and fire training site.
- Benefit
  - Provides users with options for accessing St. Denis Avenue and Orwell Street;
  - In conjunction with the southern connection, enables ease of traffic flow through the site for parents picking up/dropping off their child(ren) at school while minimizing impact on residents along Forsman Avenue;
  - If the fire training site is redeveloped per the land-use zoning designation, this connection may provide a more direct access to the site; and
  - Can occur independently or in conjunction with other proposed segments.
- Impact
  - Would intersect the existing informal pathway that exists between Lynnmour Elementary School and ‘Digger Park’; and
  - Would require DNV to purchase property located at the northern end of Orwell Street or from the school district.
- Timing: Would occur when the DNV is able to acquire property.
- Collaboration: School District 44, Fire Training Centre site operators and residents.



**FIGURE 7:** St. Denis Avenue to Orwell Street

## b. WALKING & BICYCLING CONNECTIONS

### Connection D: Maintain and Improve Existing Walking and Cycling Connections

- Purpose: To continue to meet the needs of people who walk and cycle to and through the sub-area.
- Benefit:
  - Allows users to use existing routes for recreational and commuter purposes; and
  - Encourages continued active travel through the site;
  - Encourages linkages with the proposed Spirit Trail route, which provides an important East-West connection through the District of North Vancouver and other North Shore Municipalities
- Impact: Minimal/none.
- Timing: As opportunities arise.
- Collaboration: Residents.



**FIGURE 8:** Pathway on Cardero Street, West End



**FIGURE 9:** Pathway on Guildford Street, West End



**FIGURE 10:** Trails and Pathways

**c. ADDITIONAL RECOMMENDATIONS: OTHER ELEMENTS**

**Enhanced Pathway & Utility Corridor**

- Purpose: To ensure space is available for pathway enhancements and to reserve additional land required for a utility corridor.
- Benefit:
  - Provides an improved walking space for pedestrians and users of ‘Digger Park’;
  - Provides additional space for those who walk, cycle and require mobility aids with minimal competition for space; and
  - Provides the required space for maintaining and storing underground utilities.
- Impact: Minimal/none.
- Timing: Space to be reserved immediately, with enhancement occurring when opportunities arise.
- Collaboration: Residents.



**FIGURE 11:** Enhanced Pathway & Utility Corridor

### Support Drive-to-Five Program

- Purpose: This program is aimed at encouraging students to use more active modes of travel to school. Parents are encouraged to drop their children off a five-minute walk away from school, allowing students to get physical exercise and to learn how to become more safe and aware as pedestrians.
- Benefit:
  - Encourages parents and students to incorporate limited physical activity to and from school; and
  - Reduces traffic in and around the school drop-off/pick-up zone.
- Impact: Minimal/none.
- Timing: Would be contingent upon interest of the Parent Advisory Committee (PAC) to work on this issue.
- Collaboration: PAC possibly in collaboration with local businesses.

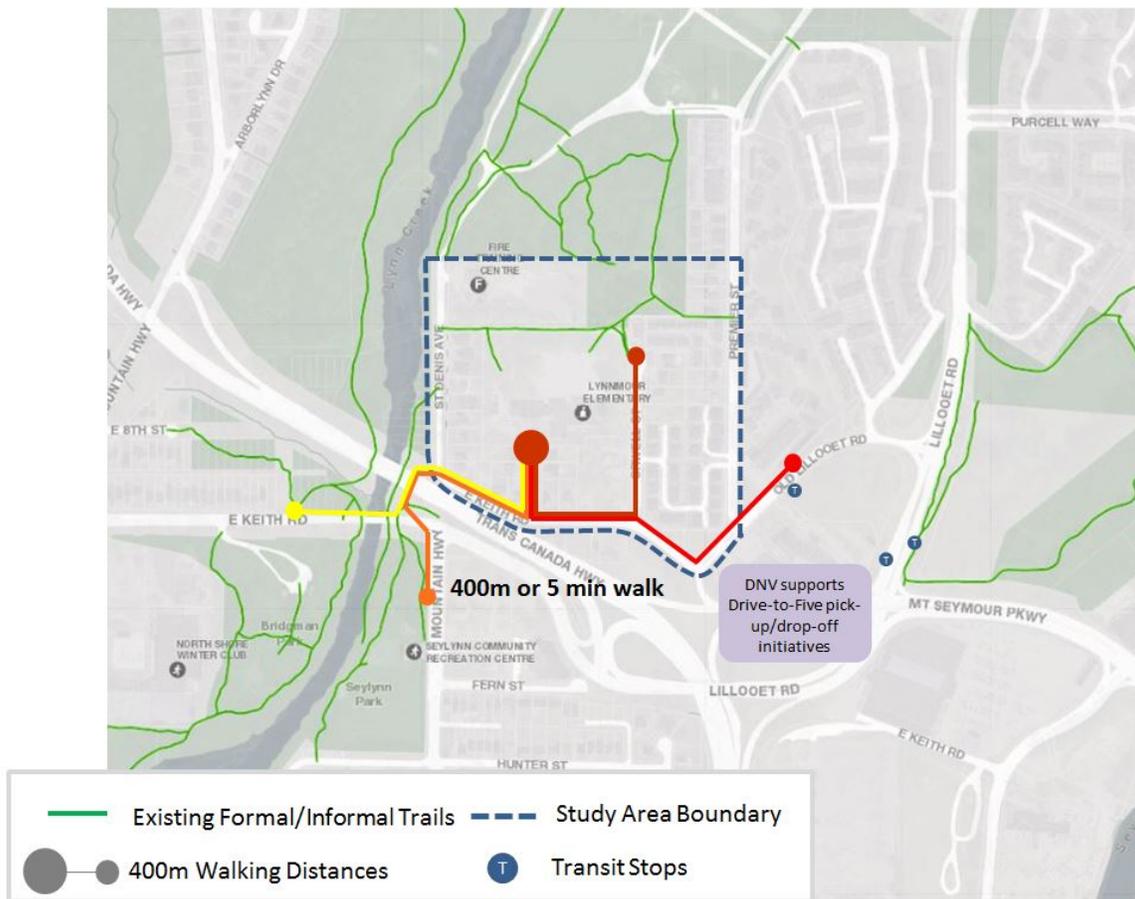


FIGURE 12: Drive-to-Five Walking Distances

## Lynnmour Elementary Internal Circulation

- Purpose: Improve circulation of parents dropping off and picking up students during peak times.
- Benefit:
  - Improves neighbourhood livability for nearby residents; and
  - Allows for efficient and safe circulation near the school.
- Impact: May impact site design for the school's future development.
- Timing: When the school renews.
- Collaboration: School District 44, PAC, students, residents.



**FIGURE 13:** Example of Internal Circulation: Highlands Elementary School



**FIGURE 14:** Example of Internal Circulation: Highlands Elementary School

## **d. ADDITIONAL RECOMMENDATIONS: OUTSIDE STUDY AREA**

### **Formalize Walking and Pedestrian Connections between Lillooet Road and Premier Street**

- Purpose: Provides formal indication of a trail from Lillooet Road to Premier Street.
- Benefit
  - Provides improved access from Premier Street to Lillooet Road for users trying to access the transit stop on Lillooet Road;
  - Provides improved access for students walking to Lynnmour Elementary School from the east; and
  - Formalizes an already existing informal route through a residential complex to serve the greater neighbourhood, as well as the complex's residents, using wayfinding signage.
- Impact
  - Some residents may not support users from neighbouring areas using a path through private development.
- Timing: As opportunities arise.
- Collaboration: School District 44, Edgewater Estate residents and property managers, and Lynnmour West residents and property managers.

### **Vehicle Connection from Lillooet Road to Premier Street**

- Purpose: Provides access and redundancy for Premier Street and the neighbourhood.
- Benefit
  - Currently, there are two ways into the neighbourhood and one way out. This segment provides improved redundancy and egress from the site.
- Impact
  - Would be designed with redevelopment to have a minimal impact to future residents.
  - Further studies need to be completed to determine alignment with grade and development.
- Timing: Would occur if and when the existing developments between Lillooet Road and Premier Street redevelop. (possible 10-20 year timeframe)
- Collaboration: Edgewater Estate residents and property managers, Lynnmour West Estate residents and property managers, future developers.

## V. LIMITATIONS

The study recognizes that due to adjacent unknowns, the timing of each individual segment will vary. While some segments may be recognized through development, others can be completed in conjunction with District initiatives (i.e. property acquisition). Although specific segments have been identified, further study is required to determine the exact alignment of each connection. The proposed connections outlined in this Study are intended solely to show through connections in a general area. Lastly, each segment is contingent upon successful partnerships with stakeholders in this community. Ensuring that local residents and development interests have an opportunity to influence positive changes in this community is a priority.

## VI. CONCLUSION

As communities in the District continue to grow and densify, the existing street network needs to advance in order to meet current and future needs for improved access and redundancy. Due to development interest in the Inter-River neighbourhood, the District has identified key opportunities to improve the quality of life of its existing and future residents.

The District recognizes that streets in the Inter-River sub-area should be designed to ensure that they are safe, comfortable, and welcoming for all users, including people walking, cycling, driving or taking transit. New streets that are introduced into the area need to be sensitive to the existing neighbourhood, and should reflect the other local streets. In addition, the new connections need to improve vehicular access through the site as well as increase permeability and access for all users.

In order to reflect the interests of the neighbourhood's residents, the District further recognizes the need to maintain the neighbourhood character in all improvements to the existing network. This work will be done in consultation with local residents and developers to ensure key stakeholders are involved throughout this process.

The proposed recommendations require further studies to determine the most appropriate and cost effective alignment with the least impact to current residents. The proposed connections identified in this report were developed using stakeholder feedback. Each connection serves the purpose of improving circulation and redundancy in the neighbourhood, while providing required access to St. Denis Avenue.

These proposed connections, whether taken individually or collectively, serve to create a more complete and finer grained network in the neighbourhood. These connections intend to address a range of ongoing transportation related issues and help improve the quality of life of local residents, school-goers, and recreational trail users in the Inter-River sub-area.

# APPENDIX

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## **APENNDIX A: PLANNING PROCESS**

## Planning Process

As part of the transportation review process, District staff consulted a total of 12 internal and external stakeholders, listed below in Table 1. Stakeholders from group #1 were chosen from internal departments to provide input on ongoing issues in the neighbourhood. Stakeholders from group #2 were chosen to represent the varying interests in the neighbourhood.

**TABLE 1: Stakeholder Consultation Groups**

Stakeholder Group #1	Stakeholder Group #2
Engineering	Fire
Environment	Neighbourhood Representatives (2)
Parks (2)	School District #44
Planning	Transportation Consultation Committee
Public Safety	Vancouver Coastal Health

In the first set of meetings, stakeholders were requested to review the goals, assumptions, and criteria used to evaluate the options proposed for the study area. Stakeholders were also asked to collectively identify opportunities and barriers with the existing transportation network. Stakeholder input also played a key role in refining criteria to meet the needs of all representatives and identifying key priorities in the neighbourhood.

District staff reviewed the feedback and input of both stakeholder groups and worked to develop potential transportation options that best met the goals outlined for the study. These options were evaluated to determine the highest-ranking options. The criteria included below were used to evaluate a total of seven options.

**TABLE 2: Evaluation Criteria**

Category	Criteria Description	Rating	Option 1a	Option 1b	Option 2	Option 3	Option 4a	Option 4b	Option 5	Comments
Public Safety	<ul style="list-style-type: none"> <li>Improves safety for all users walking, cycling and driving.</li> <li>Minor or no impact on safety for all users walking, cycling and driving.</li> <li>Reduced safety for all users walking, cycling and driving.</li> </ul>	●								
		●								
		○								
	<ul style="list-style-type: none"> <li>Improves ease of access for emergencies throughout whole site.</li> <li>Improves ease of access for emergencies to part of the site.</li> <li>Does not improve ease of access for emergencies for most of the site.</li> </ul>	●								
		●								
		○								
Mobility and Connectivity	<ul style="list-style-type: none"> <li>Improves access and circulation of all modes</li> <li>Has a minimal impact on access and circulation of all modes.</li> <li>Reduces ease of access and circulation of all modes</li> </ul>	●								
		●								
		○								
	<ul style="list-style-type: none"> <li>Provides improved access for all users to key destinations (e.g. natural areas, school etc).</li> <li>Provides improved access for only some users to key destinations (e.g. natural areas, school etc).</li> <li>Reduces ease of access for all users to key destinations (e.g. natural areas, school etc)</li> </ul>	●								
		●								
		○								
Natural Areas	<ul style="list-style-type: none"> <li>No impact on parkland/natural areas.</li> <li>Minimal impact on parkland/natural areas.</li> <li>Negative impact on parkland/natural areas.</li> </ul>	●								
		●								
		○								
Livability	<ul style="list-style-type: none"> <li>Positively enhances neighbourhood livability.</li> <li>Has minimal to no impact on neighbourhood liveability.</li> <li>Negatively impacts neighbourhood livability.</li> </ul>	●								
		●								
		○								

**TABLE 2: Evaluation Criteria**

C a	Criteria Description	Rat			Opti	Opti			Opti	Comments
Costs	<ul style="list-style-type: none"> <li>The cost of implementation is low.</li> <li>The cost of implementation is medium.</li> <li>The cost of implementation is high.</li> </ul>	●								
		●								
		○								
Private Interests	<ul style="list-style-type: none"> <li>Has a positive impact on existing landowners and/or the development potential of land.</li> <li>Has a neutral impact existing landowners and/or the development potential of land.</li> <li>Has a negative impact on existing landowners and/or the development potential of land.</li> </ul>	●								
		●								
		○								

The second set of stakeholder meetings was used to confirm the revised goals and assumptions. District staff shared draft options and draft recommendations informed by an evaluation of each option. Stakeholders provided feedback on the preferred set of transportation improvements in the neighbourhood. The options that best reflect stakeholder input and analysis completed by staff are summarized in Chapter V: Recommendations. In September, 2016, District staff consulted the Inter-River Community Association with proposed recommendations. The results and minutes of this consultation are provided in Appendix C.

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## **APPENDIX B: METHODOLOGY**

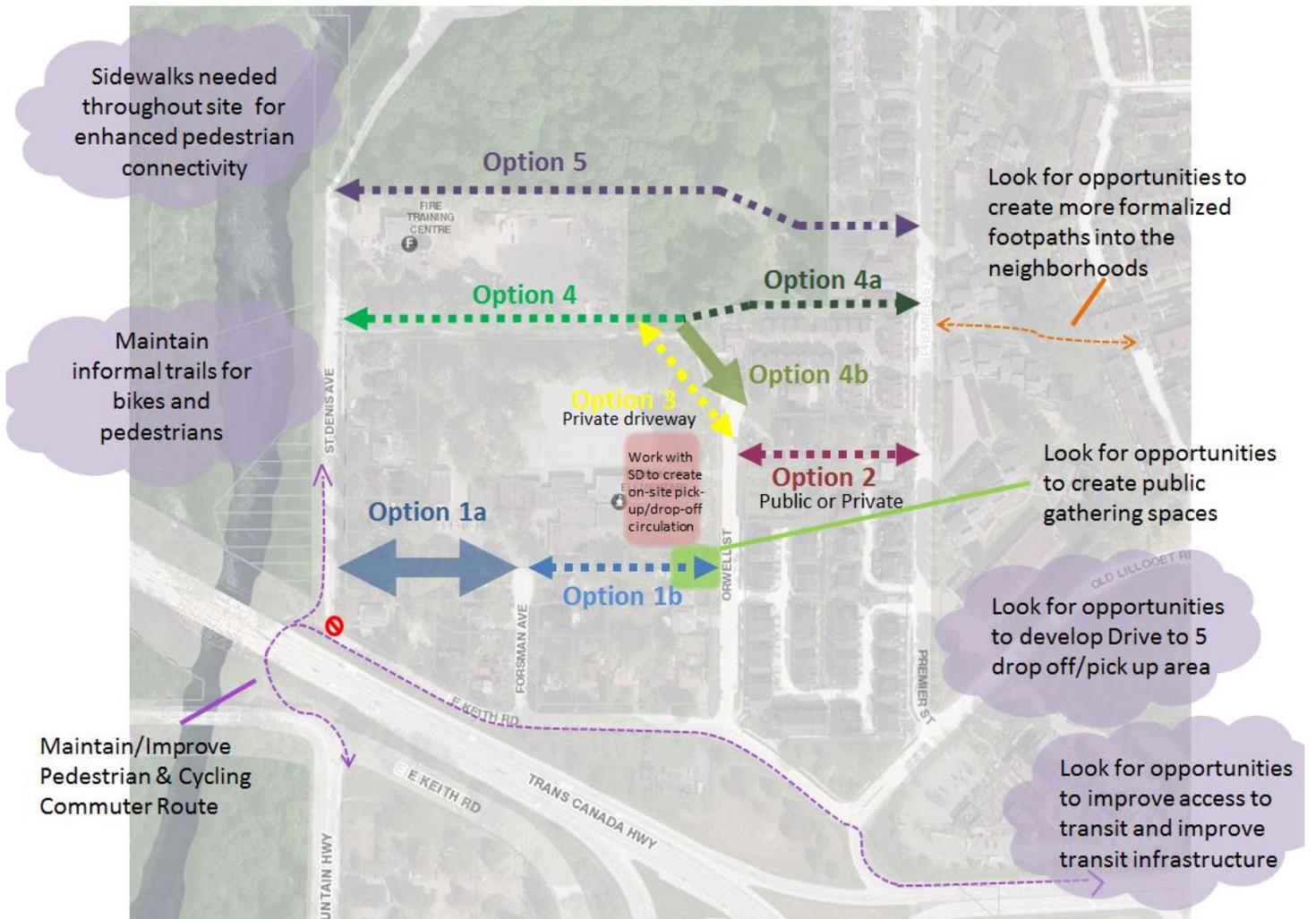
## Options for Consideration

Using stakeholder feedback as the foundation for further analysis, District staff developed a range of potential options to serve the goals and needs for the area. Each option was evaluated as a segment, with the understanding that combined options would serve to better improve the network as a whole. Staff presented options with two key objectives in mind:

1. Better connect and improve the existing network for current and future transportation needs;  
and
2. Provide required access to St. Denis Avenue.

The range of proposed options considered for further analysis and evaluation are shown below in **Figure 15**. These options are intended to delineate a general location for a proposed east-west connection. Further details on the exact alignment will need to be discussed with relevant property owners and upon Council's direction.

Although the options presented in **Figure 15** serve the purpose of providing vehicular access, the District supports creating streets that are safe for all users that walk, cycle, use transit, and drive to and through the site. Stakeholder feedback further highlighted the need to maintain and enhance existing formal and informal walking and cycling routes through the site. This study does not aim to detract from the existing walking and cycling network, but rather aims to highlight opportunities that improve the range of options for accessing various destinations in and adjacent to the sub-area.



5: Map of Options Considered

## EVALUATION

### VEHICLE ACCESS

Stakeholders were asked to consider each option individually to determine which options best served the most needs in the neighbourhood. Although this study assumes Lynnmour Elementary School will remain open on site, the School Facilities Plan highlights the possibility that Lynnmour Elementary School may renew. The District believes access should be maintained, as a decision on its final location, whether on- or off-site, is still undecided.

Using the goals and assumptions as parameters for this study, stakeholders generally agreed with the following:

- Option 1b plays a key role in providing improved circulation and access to the school's existing entrance, should the school remain in its current location. Combining option 1a is a logical connection through to St. Denis Avenue;
- A combination of options 1a and 1b with 2 will provide a similar connection to 4a and 4b with less impact on the park;
- Option 4b is a favourable option but, option 4a will have an impact on the southern portion of Inter-River Park, otherwise known as 'Digger Park';
- Options 3 and 5 have minimal support due to their impact on existing parkland and their minimal impact to overall network improvement; and

The meeting minutes that document the discussion can be found in **Appendix C**.

District staff used the feedback collected from both sets of stakeholder meetings to refine the options and present the most widely recommended 'scenarios'. These scenarios are presented in **Chapter V: Recommendations**.

Scenarios that provided redundancy within the street network and improved circulation were ranked more favourably than those that had fewer overall benefits to the network. Scenarios that had the biggest impact to Inter-River Park and to existing development were not ranked favourably amongst stakeholders.

The highest ranking scenario from this evaluation was Scenario 4, which recommends a combination of options 1a, 1b, 2 and 4b. This scenario was preferred because it provides redundancy for access to St. Denis road while providing improved circulation and additional alternatives into/out the site. Option 2 provides a second option for users into and out of the sub-area by providing access via Premier Street or Orwell Street, and has a lower impact on the park than option 4a. It was however recognized that option 2 would place greater pressure on existing traffic patterns along Premier St. Option 2 was subsequently removed from the final recommendations.

A range of additional transportation needs were highlighted by stakeholders during the consultation process. These needs were not highlighted in any of the presented scenarios, but are addressed below.

## **PEDESTRIAN, CYCLING, AND TRANSIT ACCESS**

### **Maintain and Enhance Existing Pedestrian and Cycling Commuter and Recreational Networks**

- Stakeholders highlighted the importance of formal and informal pedestrian and cycling trails that travel to and through the site.
- Commuter and recreational trails that run through the site should be maintained to provide opportunities for active travel.

### **Improved Connections to Transit**

- Stakeholders identified barriers to accessing the existing transit stops located southeast of the sub-area on Old Lillooet Road and Lillooet Road.

- District staff recommend exploring opportunities to put in more formalized paths that provide improved access to the existing bus stop locations.
- Stakeholders also identified opportunities to improve transit stop infrastructure for all abilities and for all weather conditions.

## **SCHOOL CONGESTION**

### **Drive to Five Program**

- The intent of Drive-to-Five programs is to provide locations where parents can park approximately a 5 minute walk away from school and encourage their children to engage in active modes to school.
- Stakeholders requested that opportunities for Drive-to-Five locations at existing parking lots in the adjacent area be explored.
- The Holiday Inn parking lot or existing Ministry land were recommended as two potential locations for this use.
- The District recommends that the Lynnmour Elementary PAC work with the local businesses to identify potential locations for short term-parking in support of Drive-to-Five.

## **ADDITIONAL CONSIDERATIONS**

### **PROPERTY ACQUISITION**

- The District understands that as part of this transportation review, network improvements will likely be timed with redevelopment opportunities. Where redevelopment opportunities do not exist, the District would need to consider acquiring properties to help create a complete network.

**TABLE 3: Evaluation of Options**

Category	Criteria Description	Rating	Option 1a	Option 1b	Option 2	Option 3	Option 4a	Option 4b	Option 5	Comments
Public Safety	<ul style="list-style-type: none"> <li>Improves safety for all users walking, cycling and driving.</li> <li>Minor or no impact on safety for all users walking, cycling and driving.</li> <li>Reduced safety for all users walking, cycling and driving.</li> </ul>	●								<ul style="list-style-type: none"> <li>All options being considered will be low-volume, low-speed streets, and will therefore have reasonably safe traveling conditions.</li> <li>None of the options ‘reduce’ safety however, Options 3-5 present more opportunity for conflicts between users than Options 1-2.</li> </ul>
		●	●	●	●	○	○	○	○	
		○								
	<ul style="list-style-type: none"> <li>Improves ease of access for emergencies throughout whole site.</li> <li>Improves ease of access for emergencies to part of the site.</li> <li>Does not improve ease of access for emergencies for most of the site.</li> </ul>	●								<ul style="list-style-type: none"> <li>Options 1a &amp; 1b collectively provide the best access and circulation for emergency vehicles through the site.</li> <li>Option 2 as well as 4a &amp; 4b collectively also provide good access and circulation but may not be the most efficient route for emergency access.</li> <li>Option 3 and 5 provide access for emergency vehicles but provide the least circulation and efficiency of travel through the site.</li> </ul>
		●	●	●	●	○	●	●	○	
		○								
Mobility and Connectivity	<ul style="list-style-type: none"> <li>Provides required access to St. Denis</li> <li>Does not provide required access to St. Denis</li> </ul>	●								<ul style="list-style-type: none"> <li>Providing access to St. Denis is a required component of this study.</li> <li>At a minimum, the chosen scenario must include an option that provides this required access.</li> </ul>
		○	●	○	○	○	●	●	●	
	<ul style="list-style-type: none"> <li>Improves access and circulation of all modes</li> <li>Has a minimal impact on access and circulation of all modes.</li> <li>Reduces ease of access and circulation of all modes</li> </ul>	●								<ul style="list-style-type: none"> <li>All options, with the exception of 1b, provide access and connectivity to other streets but do not provide improved circulation.</li> <li>Option 1b improves both access and ease of circulation for all modes as well for parents dropping off/picking up children at school.</li> </ul>
		●	●	●	●	●	●	●	●	
		○								
	<ul style="list-style-type: none"> <li>Provides improved access for all users to key destinations (e.g. natural areas, school etc).</li> <li>Provides improved access for only some users to key destinations (e.g. natural areas, school etc).</li> <li>Reduces ease of access for all users to key destinations (e.g. natural areas, school etc).</li> </ul>	●								<ul style="list-style-type: none"> <li>This criterion is not an effective indicator.</li> </ul>
●		●	●	●	●	●	●	●		
○										
Natural Areas	<ul style="list-style-type: none"> <li>No impact on parkland/natural areas.</li> <li>Minimal impact on parkland/natural areas.</li> <li>Negative impact on parkland/natural areas.</li> </ul>	●								<ul style="list-style-type: none"> <li>Option 1 a/b and 2 do not impact parkland or natural areas.</li> <li>Option Options 3 and 4a/b would require removal of some park trees.</li> <li>Option 5 would impact the Riverine Forest.</li> </ul>
		●	●	●	●	●	●	●	○	
		○								

Category	Criteria Description	Rating	Option 1a	Option 1b	Option 2	Option 3	Option 4a	Option 4b	Option 5	Comments
Livability	<ul style="list-style-type: none"> <li>Positively enhances neighbourhood livability.</li> <li>Has minimal to no impact on neighbourhood liveability.</li> <li>Negatively impacts neighbourhood livability.</li> </ul>	●								<ul style="list-style-type: none"> <li>Options 1a and 1b provide improved circulation and flow of traffic for school pick-up/drop-off</li> <li>Option 2 would divert traffic from any new development onto Premier St and negatively impact residents who take access off of Premier St.</li> <li>Options 3 and 4b provide no benefit to the community.</li> <li>Options 4a and 5 would have an impact on the park and the quality of the park as a public space.</li> </ul>
		●	●	●	○	●	○	●	○	
		○								
Costs	<ul style="list-style-type: none"> <li>The cost of implementation is low.</li> <li>The cost of implementation is medium.</li> <li>The cost of implementation is high.</li> </ul>	●								<ul style="list-style-type: none"> <li>The cost of implementing options 1-2 are considered low because of the narrow road widths and no impact to utilities.</li> <li>Options 3-4 are considered high because of utility costs and the length of the segment.</li> <li>Option 5 would be costly due to the length of the segment.</li> </ul>
		●	●	●	●	○	○	○	●	
		○								
Private Interests	<ul style="list-style-type: none"> <li>Has a positive impact on existing landowners and/or the development potential of land.</li> <li>Has a neutral impact existing landowners and/or the development potential of land.</li> <li>Has a negative impact on existing landowners and/or the development potential of land.</li> </ul>	●								<ul style="list-style-type: none"> <li>Options 1a &amp; 2 may impact the size of developable land.</li> <li>Option 1b may have a minor impact depending on size and location of public meeting place/square.</li> <li>Option 4a would have a negative impact on existing landowners.</li> <li>Option 5 would impact existing landowners and may have an impact if properties were redeveloped.</li> </ul>
		●	○	●	○	●	○	●	○	
		○								

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**APPENDIX C: MEETING MINUTES & ATTACHMENTS**



❖ **DISCUSSION OF ASSUMPTIONS, GOALS & CRITERIA**

- Assumptions
  - Weisenbach shared the draft assumptions with the group.
  - The group discussed the assumptions and provided additional suggestions that should be considered: a) park access, b) property access and c) commuter routes and active travel networks.
- Goals
  - Weisenbach shared the draft goals and asked for feedback.
  - Group suggested adding in goals that addressed protection of active travel networks and preservation of natural areas and recreational space.
- Criteria
  - Tejani reviewed the draft criteria to be used for options evaluation.
  - Group recommended additional criteria about protection of natural areas, flood protection, connection of trail networks, impact on utilities, and cost of option implementation.

❖ **EXISTING CONDITIONS & ISSUES**

- Group recorded strengths and weaknesses of the existing transportation network on the study area map.
- Group then summarized issues into key themes. (See Attachment A on page 29)

❖ **Wrap Up & Next Steps**

- Meeting minutes to be dispersed for confirmation of understanding
- Draft evaluation of options for presentation at next meeting, and layout of May 30<sup>th</sup> meeting provided.

**NEXT MEETING: Monday, May 30<sup>th</sup> at 10:30 am in Meeting Room 'C'**



## Inter-River Sub-area Transportation Study

### District of North Vancouver Stakeholder Meeting #1b Meeting Minutes

**Held at:** Municipal Hall - Meeting Room 'A'

**Date/Time:** May 17<sup>th</sup> at 7:00 pm                      **Adjourned:** 8:00 pm

**Attended By:** Antje Wahl – Transportation Consultation Committee  
Brenda Barrick – Neighbourhood Representative  
Erin Black – Vancouver Coastal Health  
Mark Thomson – School District 44  
Victor Penman – Fire  
Ingrid Weisenbach – Transportation  
Shazeen Tejani – Transportation

**Regrets:** Elise Roberts – Neighbourhood Representative

**Minutes taken by:** Shazeen Tejani

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#### Meeting Agenda Topics:

- 1) Introductions
- 2) Review Study Purpose
- 3) Discussion of Goals, Assumptions, Criteria
- 4) Existing Conditions & Issues
- 5) Wrap-Up & Next Steps

#### ❖ INTRODUCTIONS

- Participants introduced themselves and their roles relevant to this meeting.

#### ❖ REVIEW STUDY PURPOSE

- Weisenbach spoke about the purpose of the transportation study, which included a need to clarify the transportation needs for this area in advance of future development proposals.
- The boundaries of the study area were discussed. Weisenbach went over the study area and the tight timeframe. Group discussed that the boundary may not be an exact line as the study should also consider users that pass through the study area or people within the neighbourhood that need to access key destinations outside the study area.

#### ❖ DISCUSSION OF ASSUMPTIONS, GOALS & CRITERIA

- Assumptions
  - Weisenbach shared the draft assumptions with the group.

- The group discussed the assumptions and provided additional suggestions that should be considered: a) park access, b) property access and c) commuter routes and active travel networks.
  - Goals
    - Weisenbach shared the draft goals and asked for feedback.
    - Group suggested adding in goals that addressed protection of active travel networks and preservation of natural areas and recreational space.
  - Criteria
    - Tejani reviewed the draft criteria to be used for options evaluation.
    - Group recommended additional criteria about protection of natural areas, livability of the neighbourhood to enhance social cohesion and sense of community, and health indicators.
- ❖ **EXISTING CONDITIONS & ISSUES**
- Group recorded strengths and weaknesses of the existing transportation network on the study area map.
  - Group then summarized issues into key themes. (See Attachment A on page 29)
- ❖ **Wrap Up & Next Steps**
- Meeting minutes to be dispersed for confirmation of understanding
  - Draft evaluation of options for presentation at next meeting, and layout of June 2<sup>nd</sup> meeting provided.

**NEXT MEETING: Thursday, June 2<sup>nd</sup> at 7:00 pm in Meeting Room 'A'**

## ATTACHMENT 'A': KEY THEMES IDENTIFIED BY TEAM

### Summary of Existing Conditions & Opportunities (Both Groups):

- Study area not bound by the sub-area boundaries; issues like bike commuter routes and pedestrian paths outside and through the site seen as being important
- **Congestion:** Seen as potentially worsening with new development near Lynnmour Elementary school.
- **Transit accessibility:** Seen as being in 'poor' condition – walking distances to transit stops seem too far, with no transit connections in the internal network.
- **Cycling Routes:** Seen as being effective near the southern portion of the site, under the highway, but being very poor along Old Lillooet Road and crossing Keith Road. There was also a need for improved connections leading into and out of the sub-area.
- **Pedestrian connections:** Generally, the trail and footpath network through the site was seen as being excellent. There was an expressed need for continued maintenance of these trails and a desire for improved pedestrian connections immediately outside of the sub-area. Pedestrian connections should be emphasized for key destinations throughout the site.
- **Environmental Assets:** Both Inter-River and 'Digger Park' play a huge role in establishing a sense of community for residents – an assumption should be that both parks will be protected from disturbance. Lynn Creek is also a recreational and ecologically valued asset. The environmental & ecosystem health of the Riverine Forest should also be maintained.
- **Parking:** Seen primarily as an issue closer to Inter-River Park.



**Inter-River Sub-area Transportation Study  
District of North Vancouver  
Stakeholder Meeting #2a  
Final Meeting Minutes**

**Held at:** Municipal Hall - Meeting Room 'C'

**Date/Time:** May 30<sup>th</sup> at 10:30am                      **Adjourned:** 11:30am

**Attended By:** Pouya Behzadi – Engineering  
Richard Boase – Environment  
Tamsin Guppy – Planning  
Ingrid Weisenbach - Transportation  
Shazeen Tejani – Transportation

**Regrets:** Fiona Dercole – Public Safety  
Douglas Rose – Parks

**Minutes taken by:** Shazeen Tejani

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**Meeting Agenda Topics:**

- 1) Meeting #1 Recap & Approval of Minutes
- 2) Review Revised Goals & Assumptions
- 3) Review Options & Criteria Evaluation
- 4) Recommendations
- 5) Wrap-Up & Next Steps

❖ **MEETING RECAP & APPROVAL OF MINUTES**

- Weisenbach summarized key ideas that arose in the previous May 17<sup>th</sup> Stakeholder meeting and confirmed feedback received by the group.
- Group added that improved transit facilities and connections to transit were needed.
- Weisenbach addressed the potential for a pedestrian bridge on Crown Street to provide improved connections from Lynn Creek to Park and Tilford Centre.

❖ **DISCUSSION OF GOALS & ASSUMPTIONS**

- Goals
  - Weisenbach shared the revised goals; making note of new additions based on feedback.
- Assumptions
  - Weisenbach shared the revised assumptions with the group.
  - Group recommended a change of wording regarding the Fire Training Site.
  - Group also recommended adding the assumption that 'recreational' routes would be maintained.

#### ❖ OPTIONS & CRITERIA EVALUATION

- Options
  - i. Weisenbach shared each of the draft options and rationales with the group.
  - ii. Group discussed the opportunities for utilizing existing parking facilities to accommodate 'Drive to Five' locations, with the Holiday Inn Parking Lot, Premier Street, and Ministry Land being potential options.
- Criteria Evaluation
  - i. Weisenbach & Tejani shared the draft evaluation of the proposed options, providing rationale for scoring on several criteria.
  - ii. Group recommended:
    1. Adding utility impacts as a separate category; and
    2. Revisiting scoring regarding improved safety for all users for options 1a and 1b; Recognizing that the introduction of cars by way of street, where none travelled before, has implications for the safety of pedestrians and cyclists.

#### ❖ RECOMMENDATIONS

- Weisenbach summarized key recommendations produced using the evaluation criteria.
- Group discussed the potential of combining options and the benefits of each.
- Group recommended:
  - i. Placing 4a and 4b at a higher priority than currently ranked;
  - ii. Creating a hybrid option out of 4a and 4b that forms a 'T' junction;
  - iii. If selected, implementing 1a and 1b together;
  - iv. Beginning a discussion with the School District about options 1a, 1b and 4b;
  - v. Factoring impacts to utilities at an earlier stage.
  - vi. (By general agreement from all participants) that option 5 not be pursued, since it provided the least benefit and at the highest social and environmental cost;

#### ❖ WRAP-UP & NEXT STEPS

- Draft meeting minutes to be dispersed for confirmation of understanding.
- Transportation to present recommendations for Council's consideration this July\*.

**\*NOTE: Presentation of recommendations to Council was delayed to the fall of 2016. Date of presentation to be decided.**

**District of North Vancouver  
Stakeholder Meeting #2b  
Meeting Minutes**

**Held at:** Municipal Hall - Meeting Room 'A'

**Date/Time:** June 2<sup>nd</sup> 2016 at 7:00pm **Adjourned:** 8:30pm

**Attended By:** Antje Wahl – Transportation Consultation Committee  
Brenda Barrick – Neighbourhood Representative  
Elise Roberts – Neighbourhood Representative  
Mark Thomson – School District #44  
Victor Penman – Fire Department  
Ingrid Weisenbach - Transportation  
Shazeen Tejani – Transportation

**Regrets:** Erin Black – Vancouver Coastal Health

**Minutes taken by:** Shazeen Tejani

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**Meeting Agenda Topics:**

- 1) Meeting #1 Recap & Approval of Minutes
- 2) Review Revised Goals & Assumptions
- 3) Review Options & Criteria Evaluation
- 4) Recommendations
- 5) Wrap-Up & Next Steps

❖ **MEETING RECAP & APPROVAL OF MINUTES**

- Weisenbach summarized key ideas that arose in the previous May 17<sup>th</sup> Stakeholder meeting and confirmed feedback received from Antje Wahl.

❖ **DISCUSSION OF GOALS & ASSUMPTIONS**

- Goals
  - Tejani shared the revised goals; making note of new additions based on feedback.
- Assumptions
  - Tejani shared the revised assumptions with the group.
  - Group recommended a change of wording to include 'Inter-River' with regard to the bullet on park access. Group further recommended specifying that access to the park will be maintained from "Inter-River Road".
  - Group also recommended revising the word 'commuter' to make it more clear that these routes are used for people accessing key destinations, not just those who commute to work.

- Group also required further clarification on assumptions related to park use. Weisenbach informed the group that the District's Parks Department was currently reviewing any future uses.
- School District Facilities Plan indicates redevelopment potential for Lynnmour Elementary. The final location, whether on- or off-site, is still undecided.

#### ❖ **OPTIONS & CRITERIA EVALUATION**

- Options
  - i. Weisenbach shared each of the draft options and rationales with the group.
  - ii. Group expressed concern about the impacts to the park with options 4a & 5, and for new residents that front the park, south of option 4a.
  - iii. Group was also concerned that option 1b would provide direct vehicular access to the school, thereby reducing the likelihood that children will walk or bike to school.
  - iv. Group further expressed concern with Option 1a as potentially increasing access and traffic along St. Denis Ave, a road currently used heavily by pedestrians and cyclists.
- Criteria Evaluation
  - i. Weisenbach shared the draft evaluation of the proposed options.

#### ❖ **RECOMMENDATIONS**

- Weisenbach summarized key recommendations produced using the evaluation criteria.
- Group discussed the potential of combining options and the benefits/impacts of each.
- Group recommendations:
  - i. 1a + 1b provides circulation for school pick up/drop off and direct access to St. Denis;
  - ii. Doing a combination of options 1a + 1b, 4b, and 2, all as public roads was most preferred;
  - iii. 4a provides improved access if the school were to have primary pick up/drop off on Orwell;
  - iv. 4a would be considered feasible if designed to reduce speeds and road widths;
  - v. Group agreed option 5 was not reasonable; and
  - vi. Group suggested considering a 6<sup>th</sup> option that bisects the school site from Forsman through to Option 4b, if the school relocates.
- Group acknowledged that improved connectivity to transit stops and improved transit infrastructure were needed adjacent to the sub-area.

#### ❖ **WRAP-UP & NEXT STEPS**

- Draft meeting minutes to be dispersed for confirmation of understanding.
- Transportation to present recommendations for Council's consideration this July.

**\*NOTE: Presentation of recommendations to Council was delayed to the fall of 2016. Date of presentation to be decided.**

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**APPENDIX D: DISTRICT OF NORTH VANCOUVER**  
**E-DOCS REFERENCE LIST**

Lynnmour/Inter-River Local Plan: 836865

Internal Stakeholder Meeting Minutes & Attachments – Meeting 1: 2896702

External Stakeholder Meeting Minutes & Attachments – Meeting 1: 2896686

Internal Stakeholder Meeting Minutes & Attachments – Meeting 2: 2906517

External Stakeholder Meeting Minutes & Attachments – Meeting 2: 2906422