

INTEGRATED NORTH SHORE TRANSPORTATION PLANNING PROJECT (INSTPP)

INSTPP Recommendations with
Supporting Project Ideas and Notes

<https://www.instpp.ca/uploads/1/2/1/6/121600566/instpp-technical-appendix.pdf>



Prepared by: the INSTPP Staff Working Group

AUGUST 2018

CONTENTS

Key Area 1: Establish a framework for ongoing collaborative planning and decision-making .	3
Key Area 2: Jointly advance and implement near-term transportation improvements.	5
Key Area 3: Jointly advance and implement longer-term transportation solutions to improve access and mobility	12
Key Area 4: Coordinate land use and transportation	16
Ideas suggested that do not meet stated objectives	22

1

Key Area 1: Establish a framework for ongoing collaborative planning and decision-making

Recommendation Description	Ideas and Options Description and Comments
<p><i>1.1 The INSTPP Steering Committee should establish a governance structure to address congestion and improve access and mobility of people, and system reliability that consists of:</i></p>	
<p>A North Shore Intergovernmental Steering Committee with a formal connection to Councils and other decision authorities. The committee should also include elected representatives or their designates, and representatives from each partner agency.</p> <p>The Steering Committee will work collaboratively on joint actions to improve access and mobility, engage adjacent local governments, stakeholders and the public for input, and report back to their representative elected bodies as needed.</p> <p>Recommended partner agencies include but are not limited to:</p> <ul style="list-style-type: none"> • Province of British Columbia (Ministry of Transportation and Infrastructure) • Government of Canada • Squamish Nation • Tsleil-Waututh Nation • TransLink • City of North Vancouver • District of North Vancouver • District of West Vancouver <p>A North Shore Transportation Leadership Committee consisting of senior staff leaders from each organization who have responsibility for decisions and commitments that affect transportation and who have a direct link with Steering Committee representatives. The Committee commits to shared decisions and actions that address congestion and improve access and mobility – including funding agreements, policy alignment and clear project leadership – and ensures collaboration among all supporting staff and committees.</p> <p>More detailed terms of reference, including membership, mandate, meeting frequency and operating principles will be required once the decision is made to proceed</p>	<p>The SWG noted the need to identify leadership for the Steering Committee and for the Leadership Committee from among the diverse agencies.</p>

Key Area 1: Establish a framework for ongoing collaborative planning and decision-making

Recommendation Description	Ideas and Options Description and Comments
<i>1.2 The INSTPP Steering Committee should commit to making decisions on planning and transportation matters that address the following key objectives:</i>	
<ol style="list-style-type: none">1. Improving overall person travel time reliability2. Improving transit service reliability, efficiency and connections3. Enhancing coordination of land use and transportation planning and decision-making across jurisdictions4. Achieving shifts to sustainable travel modes that reduce peak vehicle kilometres travelled through programs and policies that encourage people to make more congestion-reducing travel decisions	

2

Key Area 2: Jointly advance and implement near-term transportation improvements

Recommendation Description	Ideas and Options Description
<p><i>2.1 The Ministry of Transportation and Infrastructure continue to improve personal travel time reliability on existing roads and bridges with actions to:</i></p>	
<ul style="list-style-type: none"> Complete the Lower Lynn Improvement project on the Upper Levels Highway to improve travel time reliability; and review long term plans for the interchange (beyond the current phases of the project), including additional infrastructure improvements when warranted and feasible. 	<ul style="list-style-type: none"> Review the benefits of extending the eastbound auxiliary lane from Lynn Valley Road to Mountain Hwy.
<ul style="list-style-type: none"> Complete a technical review to determine transit priority measures around the bridgeheads for Lions Gate and Second Narrows Bridges, and on connecting arterial roads to free transit passengers from congestion and to ensure travel by frequent transit is quick and reliable. 	<ul style="list-style-type: none"> IWMB has no structural capacity to add vehicle lanes. Complete a technical review to determine how best to improve bus access to and from the Lions Gate and Second Narrows Bridges and implement based on outcome of review. Seek improvements to operation and potentially lane configuration northbound and southbound, to reduce person delay. Explore potential to extend hours of HOV on Georgia St (requires coordination and collaboration with CoV). Consider potential of ICBC Traffic Operations and Safety Review and other plans to address INSTPP issues in vicinity of Taylor Way at Marine. Improve transit access to IWMB (consider use of shoulder lanes, eastbound bus lane on Hwy #1 and improved transit access from Hastings). Address policy issues such as the roles of bus only lanes and HOV lanes, considering factors such as the movement of people and operational efficiency and safety for transit. Clarify the scale of opportunity for transit priority. Transit speed and reliability hot spots located at bridgeheads as priorities over bridge decks. (Note potential to consider as extensions to Dollarton Interchange and Phibbs Transit Exchange design projects.)

Key Area 2: Jointly advance and implement near-term transportation improvements

Recommendation Description	Ideas and Options Description
<ul style="list-style-type: none"> Investigate if current roadway design and infrastructure can be improved to increase safety, and to consider options to expedite incident clearing on the North Shore bridges and highways. 	<ul style="list-style-type: none"> Request government to approve changes to MV Act (as in UBCM resolution B83), for minor incidents, reducing requirement for police attendance and lengthy investigations/forms, noting that there are various stakeholders (e.g. RCMP). Assumes validation for other actions, including using crash and delay data where available. Develop a strategy that considers funding more tow truck hours, more shoulder sweeping, emergency pull-outs, information systems (similar to ATIS on Hwy 99/91) and contracts that require sufficient incident clearing equipment and response performance at both north and south ends of bridges.
<ul style="list-style-type: none"> Support a new inter-regional bus service between Squamish-Lillooet Regional District and Metro Vancouver, connecting with the TransLink system and offering an alternative to car travel. 	<ul style="list-style-type: none"> NSATP identified hourly bus service Squamish to Vancouver as a medium priority for in metro Vancouver. Bus service being considered by BC Transit with Squamish and SLRD was identified as a high priority in BC Transit's Sea-to-Sky Transit Future Plan (2015). Funding is not confirmed. Requires collaboration with SLRD/Squamish and BC Transit. Should identify and support key connections with TransLink system and to key destinations. Consider establishing bus-based solutions before pursuing rail-based solutions.
<ul style="list-style-type: none"> Explore the potential to improve access to Highway 1 for cyclists. 	<ul style="list-style-type: none"> Modify MV Act Regulations. MoTI to review potential. May require support from government to change regulations. MoTI is investigating.

Key Area 2: Jointly advance and implement near-term transportation improvements

Recommendation Description	Ideas and Options Description
<p><i>2.2 The Intergovernmental Steering Committee commit to immediate and joint action on near-term projects and programs to improve walking, cycling, transit and local goods movement within the North Shore and across Burrard Inlet.</i></p>	
<ul style="list-style-type: none"> • We recommend local governments partner and address funding necessary to: <ul style="list-style-type: none"> • Implement transit priority measures, where feasible, including bus lanes, queue jumpers and signal coordination, and ensure these measures are in place before the launch of the Marine Main B-Line in 2019. 	<ul style="list-style-type: none"> • Implement Marine-Main B-Line. • Expedite the implementation of aggressive transit priority measures including bus lanes, queue jumpers, and signal coordination to be in operation with the launch of the Marine-Main B-Line in 2019. • Other considerations for transit priority include: <ul style="list-style-type: none"> • Develop a framework for transit priority including committing it as formal policy in each municipality and authority, with ongoing coordination and budgeting. • Coordinate signalization, prioritizing in favour of people and goods movement, beginning with Marine-Main B-Line. • Implement priority for walking, cycling and goods movement. Identify and implement specific near-term priority actions on other routes considering TransLink’s Speed and Reliability study and a targeted toolkit. • Develop a framework for priority for non-SOV travel and for goods movement including committing it as formal policy in each municipality and authority, with ongoing coordination and budgeting and a comprehensive toolkit. • Address policy issues such as the roles of bus only lanes and HOV lanes, priority couplets, etc. • Implement in other key corridors, considering Lonsdale and others.

Key Area 2: Jointly advance and implement near-term transportation improvements

Recommendation Description	Ideas and Options Description
<ul style="list-style-type: none"> Develop and implement other improvements identified in local plans, as discussed and agreed to in SWG work sessions. 	<ul style="list-style-type: none"> As committed in TransLink plans: <ul style="list-style-type: none"> Increase SeaBus service frequency to every 10 minutes during peak hours Upgrade Lonsdale Quay SeaBus Terminal (capacity, accessibility and comfort, safety, community integration). Make improvements for transit, cycling and walking on Lonsdale Corridor. Make Improvements to East-West Marine - 3rd-Cotton-Main Corridor. Develop road improvements <ul style="list-style-type: none"> East Keith corridor, Grand Boulevard to Brooksbank Traffic Signal at Keith & Hendry (pedestrian and bike safety). Make improvements for active transportation improvements including upgrading corridors to AAA (All ages and abilities) standards. Examples include: <ul style="list-style-type: none"> 17th Street (Jones to Grand Blvd) Chesterfield (Esplanade to 23rd St, some sections) Complete Capilano Pacific Trail improvements - 2018 Complete Hugo Ray Multi-Use Pathway - spring 2018 Complete Marine Drive separated bike lanes - 25th to 31st - 2018/19 Complete Mathers Multi-Use Pathway - 2018 Complete Spirit Trail segments: <ul style="list-style-type: none"> Royal Avenue - completion 2018 Ambleside - 2018/19 Finalize funding and commit to construction of Casano Loutet walking and cycling overpass. Timing assumes CNV resolves funding in 2018. Construct improvements for traffic operations and cycling at Highway 1 and Lynn Valley (connections, Operations Improvements at Lynn Valley Interchange) Improve non-auto priority and connections

Key Area 2: Jointly advance and implement near-term transportation improvements

Recommendation Description	Ideas and Options Description
	<p>at Lonsdale interchange. (Make immediate improvements where appropriate. Develop plan for transit queue jumpers and more, including justification, design, funding and approvals.)</p> <ul style="list-style-type: none"> • Other considerations include: <ul style="list-style-type: none"> • Develop a Lonsdale Corridor transit priority plan consistent with NSATP rapid transit corridor plans. consistent with NSATP rapid transit corridor plans. • Improve frequency speed and reliability of transit service. • Specific near-term municipal initiatives identified include: <ul style="list-style-type: none"> • Construct Marine Drive bridge replacement at Mosquito Creek* • Construct Marine Drive bridge replacement at MacKay Creek* • Construct corridor road/transit Improvements for Transit priority* (Marine-Main for transit & active transportation (Mackay to Brooksbank)) • Construct 3rd Street widening, Queensbury to Low Level Road* • Implement 3rd Street Traffic Signal improvements • Construct 3rd Street widening, St David's to Queensbury • Study Marine/3rd/Bewicke/Keith/2nd Intersection improvements. <p>* indicates that funding is required from others.</p>
<ul style="list-style-type: none"> • We recommend TransLink work with partner agencies and other stakeholders to: <ul style="list-style-type: none"> • Implement a new, express bus service between Phibbs Exchange and the SkyTrain network, crossing the Second Narrows Bridge, beginning with a rush hour service to assess demand, working with local government partners to assess demand, working with local 	<p>Comments about new express bus service(s):</p> <ul style="list-style-type: none"> • Consider upgrading or replacing existing service(s) between North Shore and SkyTrain or downtown Vancouver, with enhanced priority, limited stops and other features. • Implementation will require TransLink to work with local government partners to seek funding opportunities. • Explore the feasibility and benefits and buses on shoulder lanes for freeway segments. • Should be considered in relation to Willingdon B-Line included in Mayors' Vision

Key Area 2: Jointly advance and implement near-term transportation improvements

Recommendation Description	Ideas and Options Description
<p>government partners to reprioritize timing and transit resources.</p> <ul style="list-style-type: none"> • Explore other new bus services focusing on advancing the North Shore Area Transit Plan (NSATP) long-term FTN concept. • Improve or extend both directions of transit priority south of Burrard Inlet, • working with City of Vancouver (e.g. Georgia St, Powell St and East • Hastings St), and the City of Burnaby • (e.g. Willingdon Ave.) 	
<p><i>2.3. The Intergovernmental Steering Committee work with businesses, the development community and others in the private sector and public institutions to achieve sustainable behaviour changes.</i></p>	
<ul style="list-style-type: none"> • The partners jointly fund additional resources to plan and launch more intensive outreach and education efforts, such as TravelSmart, focusing on: <ul style="list-style-type: none"> • A coordinated North Shore demand management strategy to influence and support decisions by institutions, businesses and individuals that will improve person access and mobility including incentives such as employer-provided fare subsidies, encouraging employees to walk, cycle and take transit, particularly where there are new services, journey to school programs, and incentives for off-peak travel, etc 	<ul style="list-style-type: none"> • Develop a coordinated North Shore transportation demand strategy including parking management and other incentives such as employer-provided fare subsidies, journey to school programs, incentives for off-peak travel, etc. • Actively and collaboratively manage North Shore transportation demand with policies, programs, incentives and other measures. • Work with major employers to encourage their employees to walk, cycle and take transit, including considering new services. • Develop and implement a targeted information and communication strategy, potentially employer-based or potentially based on pilot programs, with personalized information, incentives and rewards to encourage changes in personal travel behaviour including mode shift and encourage employees or residents to walk, cycle, carpool or take transit. (A program elsewhere in the region saw walking +9%, transit use +12%, car trips -8% among participants).

Key Area 2: Jointly advance and implement near-term transportation improvements

Recommendation Description	Ideas and Options Description
	<ul style="list-style-type: none"> • Other considerations include: <ul style="list-style-type: none"> • Identify and implement quick wins. • Develop a collaborative strategy for local measures such as parking management (may include on-street and off-street parking management, unbundled parking, employer/TMA programs, fare subsidies, journey to school programs, incentives for off-peak travel, fare bundling, education, etc.) • Commit it as formal policy in each municipality and authority, with ongoing coordination and budgeting • Evaluate in a regional context to avoid unintended distortions in demand • Support the development of a regional/provincial strategy for a full suite of initiatives to influence the amount, nature and mode choice of travel demand. • Requires further development and funding.
<ul style="list-style-type: none"> • Implementing a public awareness program to encourage behavioural change by informing members of the public how they can make travel decisions that benefit them and do not add to congestion. 	<ul style="list-style-type: none"> • Implementing public awareness program(s) to encourage behavioural change by informing members of the public how they can take realistic individual action to improve their transportation and mobility experience. • See notes above.

3

Key Area 3: Jointly advance and implement longer-term transportation solutions to improve access and mobility

Recommendation Description	Ideas and Options Description
<p><i>3.1 The Intergovernmental Steering Committee coordinates the North Shore's participation with TransLink on the RTS update, including long-term solutions across Burrard Inlet that prioritize people and local goods movement over the movement of vehicles, with a focus on:</i></p>	
<ul style="list-style-type: none"> Evaluating the benefits and costs of, and conditions for rapid transit between the North Shore and Burrard Peninsula, connecting to the regional rapid transit network, and focusing on connecting Lonsdale City Centre with Vancouver's metropolitan core. 	<ul style="list-style-type: none"> Evaluate the conditions that would justify a new rapid transit line between the North Shore and SkyTrain. Connect with other lines in the system. Consider pedestrian and cycle access. Potentially replace SeaBus. Requires significant effort to develop business case, regional prioritization and funding. Preliminary demand forecasting suggests focusing on connecting Lonsdale City Centre with downtown Vancouver and not considering an extension across the Second Narrows. Evaluate all modes including bus rapid transit, light rail, SkyTrain, ropeway (gondola) and others. Municipal partners have noted a preference for 'rail' rapid transit for this connection. Acknowledged that the municipal preference is for rail.
<ul style="list-style-type: none"> Evaluating the rationale for and conditions under which there should be increased funding for TransLink cost-sharing programs (e.g. roads, cycling, walking to transit). 	<ul style="list-style-type: none"> Uses may include expanding existing MRN roads, and funding for MRN infrastructure upgrades to improve safety, connectivity, and efficiency. Requires regional agreement to increase overall funding or reallocate existing funding.
<ul style="list-style-type: none"> Evaluating the rationale for and conditions that would justify inter-regional rail service between Squamish and Metro Vancouver. 	<ul style="list-style-type: none"> Connect with other lines in the system. Consider pedestrian and cycle access. Potentially replace SeaBus. Requires significant effort to develop business case, regional prioritization and funding. Preliminary demand forecasting suggests focusing on connecting Lonsdale City Centre with downtown Vancouver and not considering an extension across the Second Narrows. Other considerations include:

Key Area 3: Jointly advance and implement longer-term transportation solutions to improve access and mobility

Recommendation Description	Ideas and Options Description
	<ul style="list-style-type: none"> • Anticipated that rail solutions require CN and TC approvals and significant capital investments to achieve speed and reliability on freight track. • Assumed operation to Lonsdale but demand may be highest to downtown Vancouver. • Need to assess demand before selecting technology. • Consider establishing bus-based solutions before pursuing rail-based solutions.
<p>3.2 The Intergovernmental Steering Committee collaboratively develop and allocate resources, including partnerships, to implement and advance:</p>	
<ul style="list-style-type: none"> • Investments in frequent transit services and supporting infrastructure to improve reliability, speed and attractiveness. 	<ul style="list-style-type: none"> • Consider how to accelerate some Mayors' Council Vision Phase 3 projects by partnering to fund additional service • Key example/priority: <ul style="list-style-type: none"> • B-Line service (e.g., Lynn Valley Centre to Downtown Vancouver, Metrotown to Capilano University)
<ul style="list-style-type: none"> • Improvements to and completion of the pedestrian and cycling networks to make walking and cycling the preferred modes within town centres and along the Frequent Transit Network and to connect paths into one complete network across the North Shore. 	<ul style="list-style-type: none"> • Develop a coordinated plan to improve specific corridors to accommodate transit, cycling, pedestrians and automobiles, and implement it. • Examples include: <ul style="list-style-type: none"> • East Keith corridor (east of Grand Boulevard) • Queensbury corridor (E Keith to 3rd St) • Westview/Larson Road corridor • 1st Street corridor
<ul style="list-style-type: none"> • Lower Level Road completion connecting Marine Drive to the west and West 1st Street to the east. Additionally, evaluate the potential to connect further east by providing a new major east-west road connection across the North Shore (i.e. Barrow-Spicer corridor), and implement signal coordination. 	<ul style="list-style-type: none"> • Elements include connecting Marine Drive to the west and West 1st Street to the east (near-term) • Study to confirm case for and requirements to connect further east: <ul style="list-style-type: none"> • Elements for consideration may include some or all between Park Royal, Lonsdale and Amherst/Dollarton (including Barrow-Spicer and potentially Dollarton to Mt Seymour Parkway (Seymour Blvd Connector) if supported by partners.

Key Area 3: Jointly advance and implement longer-term transportation solutions to improve access and mobility

Recommendation Description	Ideas and Options Description
	<ul style="list-style-type: none"> Also consider north of Highway 1 Lynn Valley to Capilano University or Dempsey/Lillooet/Hyannis
<ul style="list-style-type: none"> Further investments to make roadway infrastructure more complete and resilient, including improved east-west connections, more efficient traffic operations such as coordinated signals, parking management and improving access for transit, cycling and walking. 	<ul style="list-style-type: none"> Update and implement the North Shore bike and pedestrian master plans to reduce auto-dependency. Provide AAA (all ages and abilities) links between all town centres, bridges, and transit exchanges. Evaluate the conditions under which there should be increased funding for TransLink cost-sharing programs (e.g. roads, cycling, walking to transit). Other considerations include: <ul style="list-style-type: none"> Increase funding for TransLink cost-sharing programs (Example: MRN, cycling, walking to transit). Uses may include expanding existing MRN roads, and funding for MRN infrastructure upgrades to improve safety, connectivity, and efficiency. Requires regional agreement to increase overall funding or reallocate existing funding
<ul style="list-style-type: none"> Developing a shared North Shore perspective and engagement in ongoing discussions and planning about regional mobility pricing as one means to achieving transportation objectives within the North Shore. 	<ul style="list-style-type: none"> Continue to participate in ongoing discussions and planning for regional demand management pricing as one means to achieve transportation objectives within the North Shore. Consider support for regional demand management pricing including potential pilot programs.
<ul style="list-style-type: none"> Review the potential for adding park-and-ride capacity at suitable locations. 	<ul style="list-style-type: none"> Review the potential for adding park and ride capacity where appropriate and implement where appropriate. Review benefits and drawbacks to park and ride including potential traffic benefits, congestion risks, implications on local transit demand, land use implications costs and existing policy. Consider additional locations including Hwy 1 near Lonsdale & 29th, Lynn Valley and Hwy 1 at Marine (Phibbs). A design exists for Marine at Phibbs but it is required until 2021 for staging during planned MoTI projects. Consider review of park and ride locations as a measure to address “last mile” issues.

Key Area 3: Jointly advance and implement longer-term transportation solutions to improve access and mobility

Recommendation Description	Ideas and Options Description
<ul style="list-style-type: none"> Updating the 2004 study of passenger marine ferries as a means for providing more travel choices for people travelling to, from and across the North Shore. The study update should address the feasibility, benefits/costs, and opportunities for partnering to implement an expanded passenger ferry service. 	<ul style="list-style-type: none"> Same crossings suggested as 2004 plus Harbourside and Seaspán, as well as consideration of electric vessels. (the four routes recommended for further analysis were Bowen-Ambleside-Waterfront, Lonsdale-Ambleside-UBC, Deep Cove-Maplewood-Waterfront, and loco-Maplewood-Lonsdale.) Considerations: Requires significant infrastructure investment, requires significant water-facing land use, poor connectivity to existing transit service, crossings most viable when not parallel to shore or duplicated by bridge, active shipping corridor subject to federal shipping regulations, similar to existing marine service (SeaBus), energy cost of speed very high, previous private ventures have been unsuccessful. Conditions for Future Evaluation: higher density and connectivity at potential North Shore landings Fleet technology assessment required. Validate significant changes since 2004 including potential role for emergency resiliency and willingness of region or sub-region to subsidize. Consider a pilot service if promising.
<ul style="list-style-type: none"> Develop and implement a plan to ensure appropriate transit operations facilities to deliver North Shore service. 	<ul style="list-style-type: none"> Develop and implement a plan to ensure appropriate transit operations and maintenance facilities (depots) to deliver North Shore service Confirm TransLink’s operations and maintenance facility regional plan is sufficient for the North Shore’s needs. Consider anticipated growth, reliability, operating models, cost, benefit and relationship of transit centre to service levels. No significant impact on transit speed, reliability, general travel time or overall vehicle volume. Mayors’ Council Plan Phase 2 includes funding to study an expansion to the West Vancouver depot

4

Key Area 4: Coordinate land use and transportation

Recommendation Description	Ideas and Options Description
<p><i>4.1 The North Shore local governments commit to collaborative action on land use and transportation planning that promotes access and mobility without increasing demand for driving, aligning with regional plans and creating conditions that can support growth in transit use toward higher capacity transit investments, including:</i></p>	
<ul style="list-style-type: none"> Aligning and coordinating transportation objectives and land use decisions across the entire North Shore, in a regional context, sufficient to support future large investments in transit. 	<ul style="list-style-type: none"> Commit to coordinated dialogue and decisions to align land use and transport. Develop a process to coordinate North Shore land use and transport planning, committing it formally in each municipality and authority, with ongoing coordination, reporting, budgeting and incentives/disincentives and a comprehensive toolkit. Consider developing as an agreement such as an MOU. Address concerns and perceptions that existing traffic issues (where peak demand for driving exceeds peak capacity for driving) are a constraint on growth. Prioritize alignment of transport objectives and land use decisions, across entire North Shore.
<ul style="list-style-type: none"> Developing mixed-use communities with new jobs and housing in approved, existing town centres and along defined Frequent Transit Network (FTN) corridors, over all other locations. 	<ul style="list-style-type: none"> Focus development of new jobs and housing in existing town centres and along defined FTN corridors, over all other locations. Proposed corridors include: <ul style="list-style-type: none"> 15th Street Corridor. East Keith corridor. Larson Rd/23rd St corridor. Grand Blvd/Queensbury corridor. NOTE that these corridors may not fully align with the current planned FTN. Develop a phasing plan that coordinates land use and transport investments.

Key Area 4: Coordinate land use transportation

Recommendation Description	Ideas and Options Description
<ul style="list-style-type: none"> • Actions that make walking, cycling and transit more competitive, focussing within and between town centres, and protecting rights-of-way. 	<ul style="list-style-type: none"> • Develop a coordinated plan for accelerated upgrading and expansion of the Frequent Transit Network (including frequent bus, B-Line and SeaBus) between town centres and transit exchanges, after Marine-Main B-Line. NSATP identifies frequent and rapid service networks in 2040 vision. • May include further increases in frequency on FTN services (including advancing upgrading of routes to FTN and SeaBus every 10 minutes during non-peak times) and infrastructure improvements that improve speed, access and comfort (Example: faster connections within SeaBus terminals).
<ul style="list-style-type: none"> • Actions that facilitate reduced auto use and more efficient use of the transportation network 	<ul style="list-style-type: none"> • To advance may require demand management, land use commitments to generate demand, overall transit funding and regional prioritization.
<ul style="list-style-type: none"> • Committing to and implementing integrated design principles for centres that make walking, cycling and transit competitive and fully integrated. 	<ul style="list-style-type: none"> • Design town centres to make walking, cycling and transit competitive. • Include integrated design principles for transit hubs and transit facilities that integrate with surrounding communities and urban design and land use; and implement. • Design to connect transit facilities with adjacent land uses and enhance customer experience, security, safety, accessibility and community integration. Examples include: <ul style="list-style-type: none"> • Intensify the land use around Phibbs Exchange. • Ensure the design and siting of the transit exchange at Park Royal is appropriate for the nature of the service and level of demand

Key Area 4: Coordinate land use transportation

Recommendation Description	Ideas and Options Description
<ul style="list-style-type: none"> Prioritizing infrastructure investments that support the movement of people and local goods, in designated corridors. 	<ul style="list-style-type: none"> The FTN has been identified for the North Shore based on land use plans. Future expansion of the FTN expected to be developed in coordinated North Shore land use plan. Advance the designated Frequent Transit Network and intensify services between town centres. Find mechanisms to advance transit service connecting to areas that have not reached full development. <ul style="list-style-type: none"> Develop a framework and agreements, including conditions for success. Consider municipal funding, requirement for developers to fund or provide service, or support market incubation funding for TransLink. Various models possible (charter, operating subsidy, farebox subsidy, Independent Transit Services, etc.). Advance land use to support demand for increased investment in transit services and infrastructure.
<ul style="list-style-type: none"> Finding mechanisms to advance transit service connecting to areas that have not yet reached full development. 	<ul style="list-style-type: none"> Develop a framework and agreements, including conditions for success. Consider municipal funding, requirement for developers to fund or provide service, or support market incubation funding for TransLink. Various models possible (charter, operating subsidy, farebox subsidy, ITS, etc.).
<ul style="list-style-type: none"> Using available policy tools to discourage development outside target areas. 	<ul style="list-style-type: none"> Actively discourage and deny development outside target areas. Collaboratively consider the implications and benefits of restrictions on development (e.g. a moratorium) beyond walking distance of the approved Town Centres and Frequent Transit Network Corridors.
<ul style="list-style-type: none"> Developing a coordinated North Shore Workforce Housing Strategy, aligned with transit investment. 	<ul style="list-style-type: none"> Develop a coordinated, aggressive North Shore Workforce Housing Strategy.

Key Area 4: Coordinate land use transportation

Recommendation Description	Ideas and Options Description
<ul style="list-style-type: none"> Developing a coordinated plan to establish a complete network of protected and separated walking and cycling facilities for transport. 	<ul style="list-style-type: none"> Develop a framework for coordinated bicycle and pedestrian facility planning including committing it as formal policy in each municipality and authority, with ongoing coordination, reporting, budgeting and incentives/disincentives and a comprehensive toolkit. Cycling facilities for consideration include: <ul style="list-style-type: none"> 21st Street pedestrian/bike connection over Mosquito Creek (Westview to Fell) Lonsdale North of 23rd Develop more active connections (east-west) Highway 1 at St Andrews or Ridgeway Highway 1 at 21st St, Capilano, Westview, Lynn Valley W 1st, 3rd St to Garden Ave, to link with future Low Level Road extension. 17th Street 13th Street Chesterfield 23rd Street Westview Drive 16th Street/Larson) Spirit Trail Bridge over rail track at Pemberton Avenue Develop a bike share program, potentially with electric assist bikes.

Key Area 4: Coordinate land use transportation

Recommendation Description	Ideas and Options Description
<ul style="list-style-type: none"> Completing missing east-west links by optimizing operations for roads and cycling, and by revisiting potential new transit services. 	<ul style="list-style-type: none"> Develop a coordinated approach for road planning to improve or develop new east-west road connections that improve choice and reduce dependence on Hwy #1 including connecting segments of the lower level road and segments north of Hwy 1. Advance development of next North Shore Area Transportation Plan Committing as formal policy in each municipality and authority, with ongoing coordination, reporting, budgeting and incentives/disincentives. Examples include: <ul style="list-style-type: none"> Advance development of the Western Low Level Road Extension between District of North Vancouver and District of North Vancouver including (some or all) between Park Royal, Lonsdale and Amherst/ Dollarton (including Barrow-Spicer), considering sequencing where plans and funding are advanced and the role of the Federal Government. W 3rd St bridge over MacKay Creek. North of Highway 1 Lynn Valley to Capilano University or Dempsey/Lillooet/Hyannis Across Capilano River Clyde Avenue Bridge (Klahanie Court to Clyde Avenue) Dollarton to Mt Seymour Parkway (Seymour Blvd Connector). Replace Mackay Creek crossing on Marine Drive, for transit/cycle priority. Revisit potential new transit services on several North Shore corridors, focusing on improving east/west connections. Consider the following transit services that were evaluated in the 2013 NSATP: <ul style="list-style-type: none"> High Priority: Park Royal to Lynn Valley via Capilano, Queens and 29th Ave. Medium Priority: Park Royal to Lonsdale Quay via 1st St, Welch St and Lower Rd (Develop with Phase 2 Route design Medium Priority: Lonsdale Quay to

Key Area 4: Coordinate land use transportation

Recommendation Description	Ideas and Options Description
	<p>Downtown Vancouver via Low-Level Road.</p> <ul style="list-style-type: none">• Medium Priority: Horseshoe Bay Brentwood via Hwy #1.• Medium Priority: Park Royal to Lynn Valley via Larson.• Low Priority: E Keith to Lillooet.
Committing to evidence-based decision-making.	



Ideas suggested that do not meet stated objectives

<p>A gondola system from Phibbs to Capilano University, and Phibbs to Maplewood/Innovation District.</p>	<ul style="list-style-type: none">• Other considerations include:<ul style="list-style-type: none">• Confirm potential for bus-based solutions, threshold for higher capital solutions, best models for gondola solutions.• Implementation requires regional prioritization, funding and approvals. Also solving technical issues such as crossing power ROW.• May be a candidate for private investment.• Not recommended to advance at this time. Considerations include: Marginal advantage over existing road network, minimal expected travel time savings assuming travel distance and gondola speed, gondola suitability requires significant physical barrier/obstacle, would add a transfer at Phibbs Exchange, significant capital investment.• Conditions for Future Evaluation: Regional prioritization and multi-government funding commitment, significant deterioration of road-based travel speeds.
<p>Adding more vehicle capacity on the existing bridges or adding a new road crossing of Burrard Inlet.</p>	<ul style="list-style-type: none">• Structural capacity of existing bridges cannot support additional lanes.• There are no plans to increase the level of non-transit motorised vehicular traffic on the LGB and Stanley Park Causeway.• Ideas mentioned from past discussions include road crossing under Burrard Inlet and a new crossing at Second Narrows.• Modelling work done for INSTPP identifies that there would be short term reductions in bridge congestion and that congestion would return to pre-expansion levels within several years.• Adding driving capacity may be contrary to the stated goals of INSTPP.• May reduce viability of transit, add demand on arterial and local roads and induce additional demand.

Ideas suggested that do not meet stated objectives

	<ul style="list-style-type: none"> • There are limited alternative crossings and support of adjacent municipalities and authorities not assured. • Future work, when bridge replacement or expansion is contemplated should consider the implications of adding lanes to IWMB, expansion of LGB/causeway and, addition of third road crossing (noting that crossing locations are limited).
<p>Consider expanding the uses of bus lanes for select other uses such as taxis</p>	<p>Increased priority for taxis in bus lanes not being pursued:</p> <ul style="list-style-type: none"> • Challenge to enforce • Currently no clarity on future TNC/ride hailing policy • Potential for significant impacts to transit travel time and reliability • Some uses are operationally incompatible with bus lanes.