

Maple Ridge Master Transportation Plan



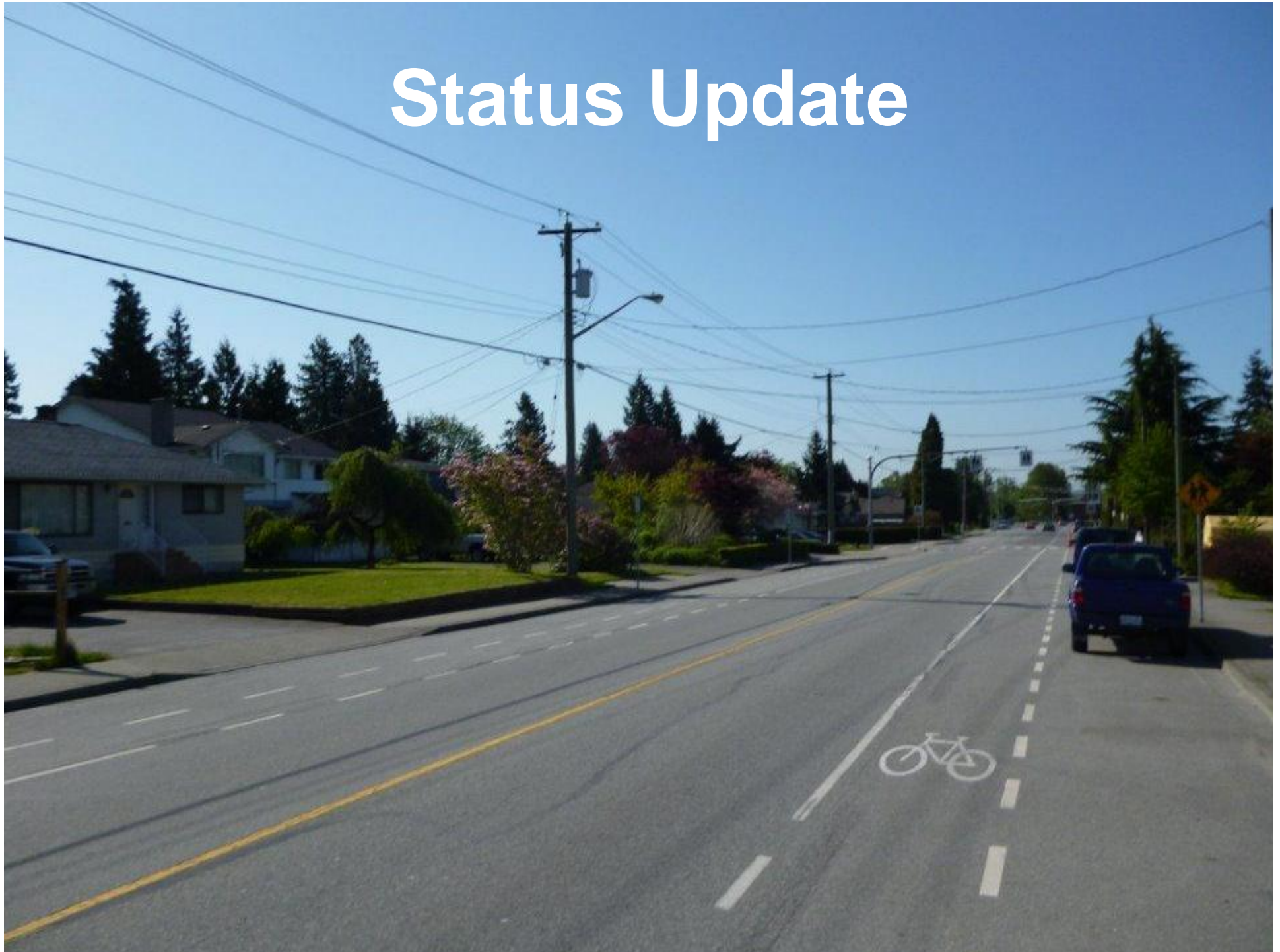
Council Meeting
February 17, 2014

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systems



MAPLE RIDGE
British Columbia

Status Update



Process Complete

Phase 1 – Plan Start-Up

- Review background information
- Council Meeting



Phase 2 – Updated Key Issues & Opportunities

- Working Committee Workshops
- Goals and Objectives
- Updated Key Issues



Phase 3 – Updated Improvement Strategies

- Roadway network plan
- Transit strategy
- Active transportation plan
- Transportation Demand Management



Phase 4 – Reporting

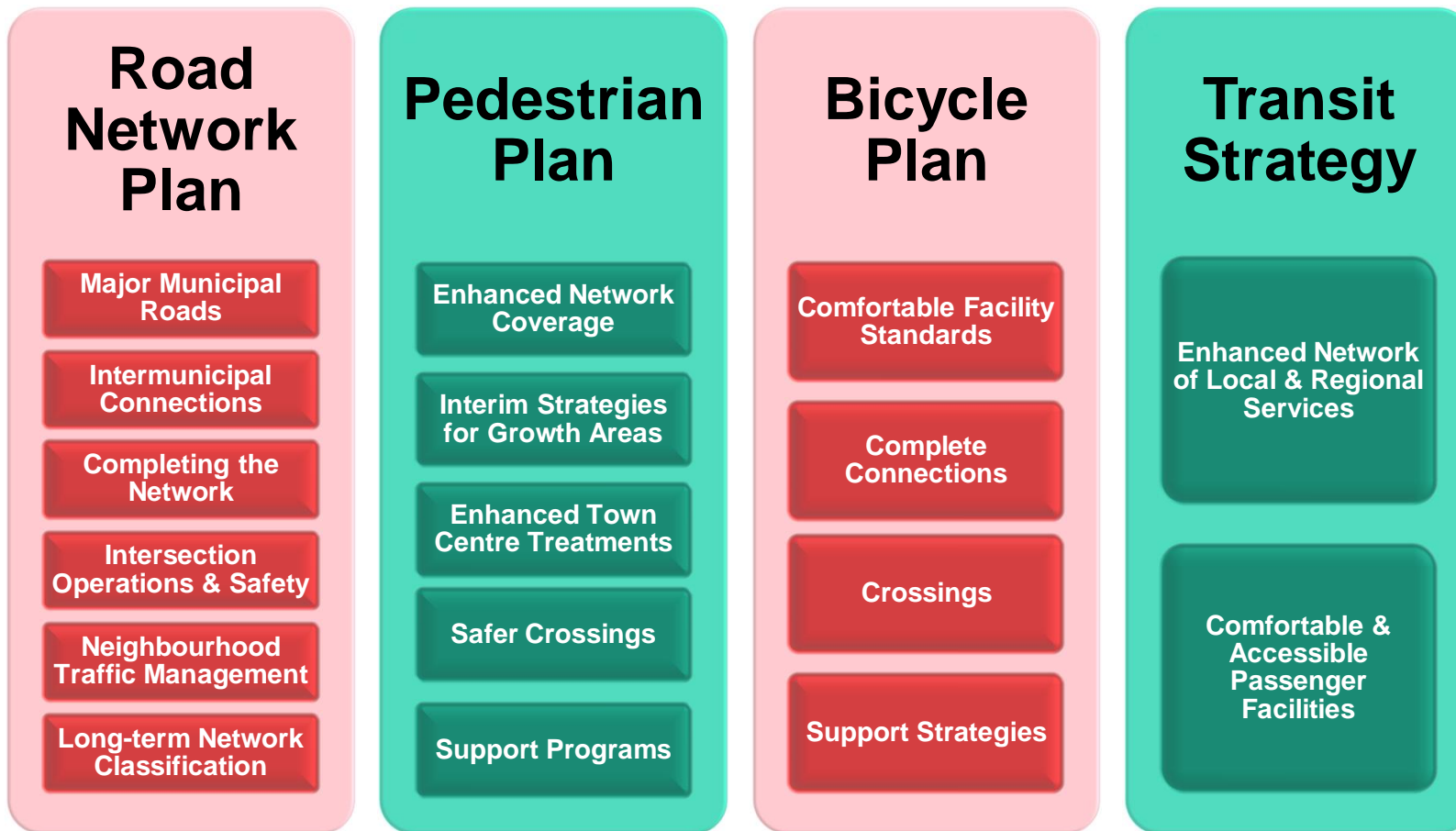
- Open House
- Draft, Finalize & Adopt Plan

We are here

Master Transportation Plan Themes and Directions



Transportation Strategy Directions



Goals & Objectives

1. Access & Mobility

- *Move people, goods & services*
- *Promote accessibility*
- *Develop multi-modal networks*
- *Enhance safety*
- *Support regional connections*
- *Develop efficient roadways*
- *Maintain emergency access*

2. Transportation Choice

- *Integrate travel modes*
- *Promote regional and local transit*
- *Promote cycling*
- *Enhance walking*

3. Community & Environment

- *Maintain the road network hierarchy*
- *Coordinate with growth plans*
- *Preserve natural areas*
- *Minimize emissions*
- *Support healthy lifestyles*

4. Affordable Transportation

- *Minimize infrastructure*
- *Maximize efficiency*
- *Prioritize transit*

Road Network Plan

Shaping Influences and Challenges on District Roads

- *Network classification and continuity*
- *Neighbourhood traffic conditions and impacts*
- *Existing delays and congestion*
- *Growth in east-west traffic*
- *Operational and safety at major intersections*
- *Silver Valley growth and network expansion*
- *Town Centre area network congestion*
- *Waterfront access*
- *Trucks on rural roads*

Major Municipal Roads

Regional & Provincial Corridors

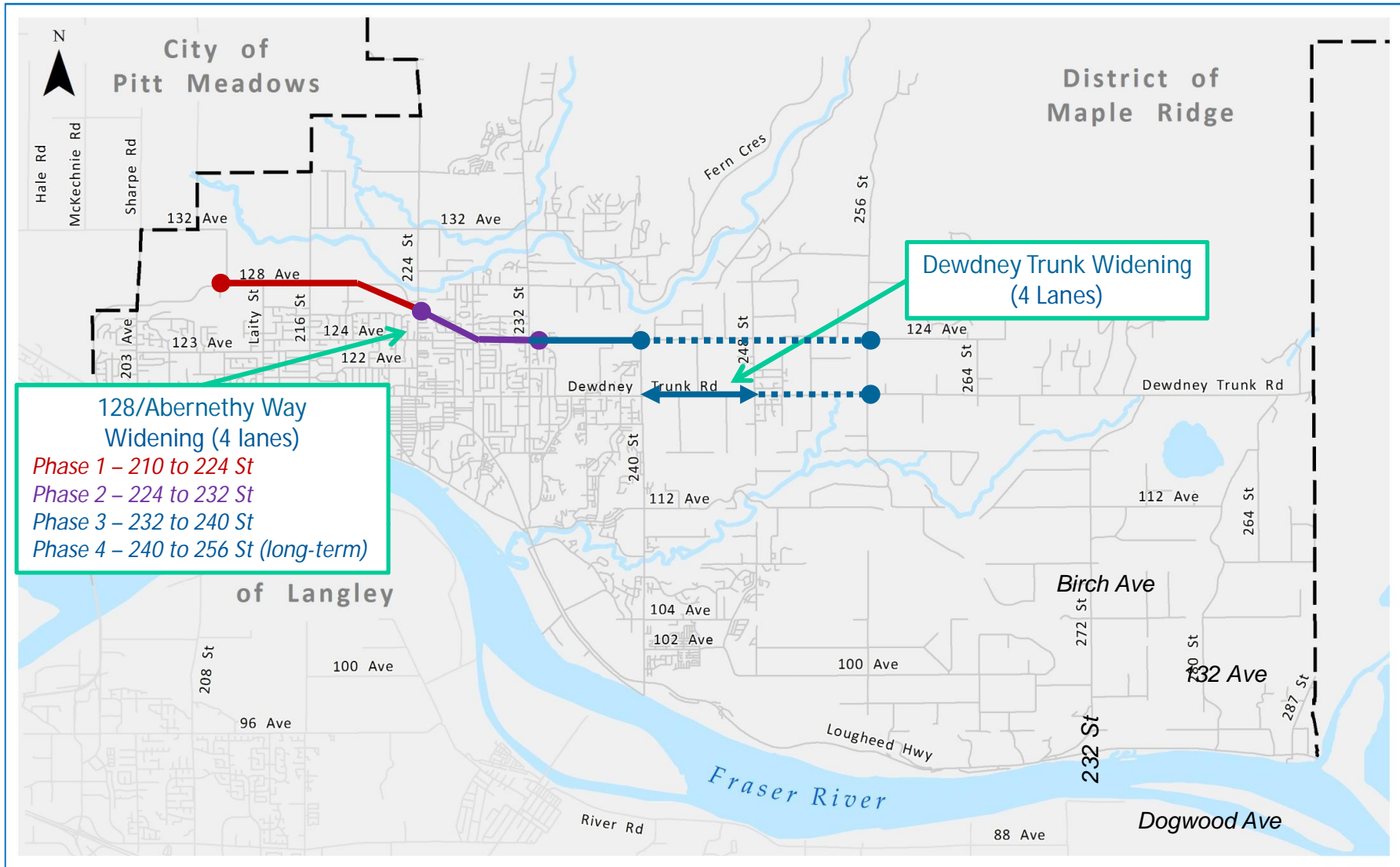
Completing the Network

Intersection Operations & Safety

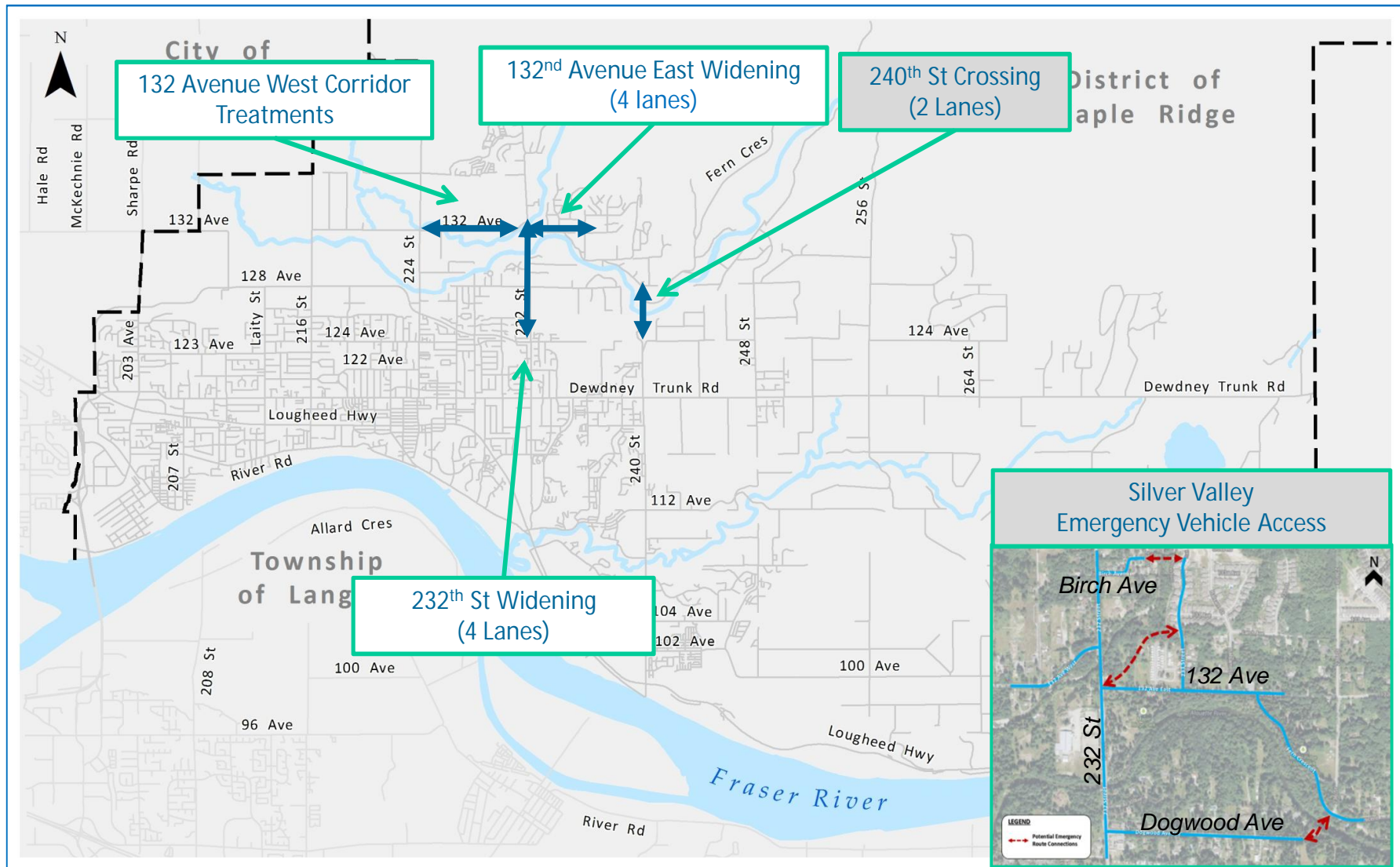
Neighbour-hood Traffic Management Policy

Long-term Network Plan & Classification

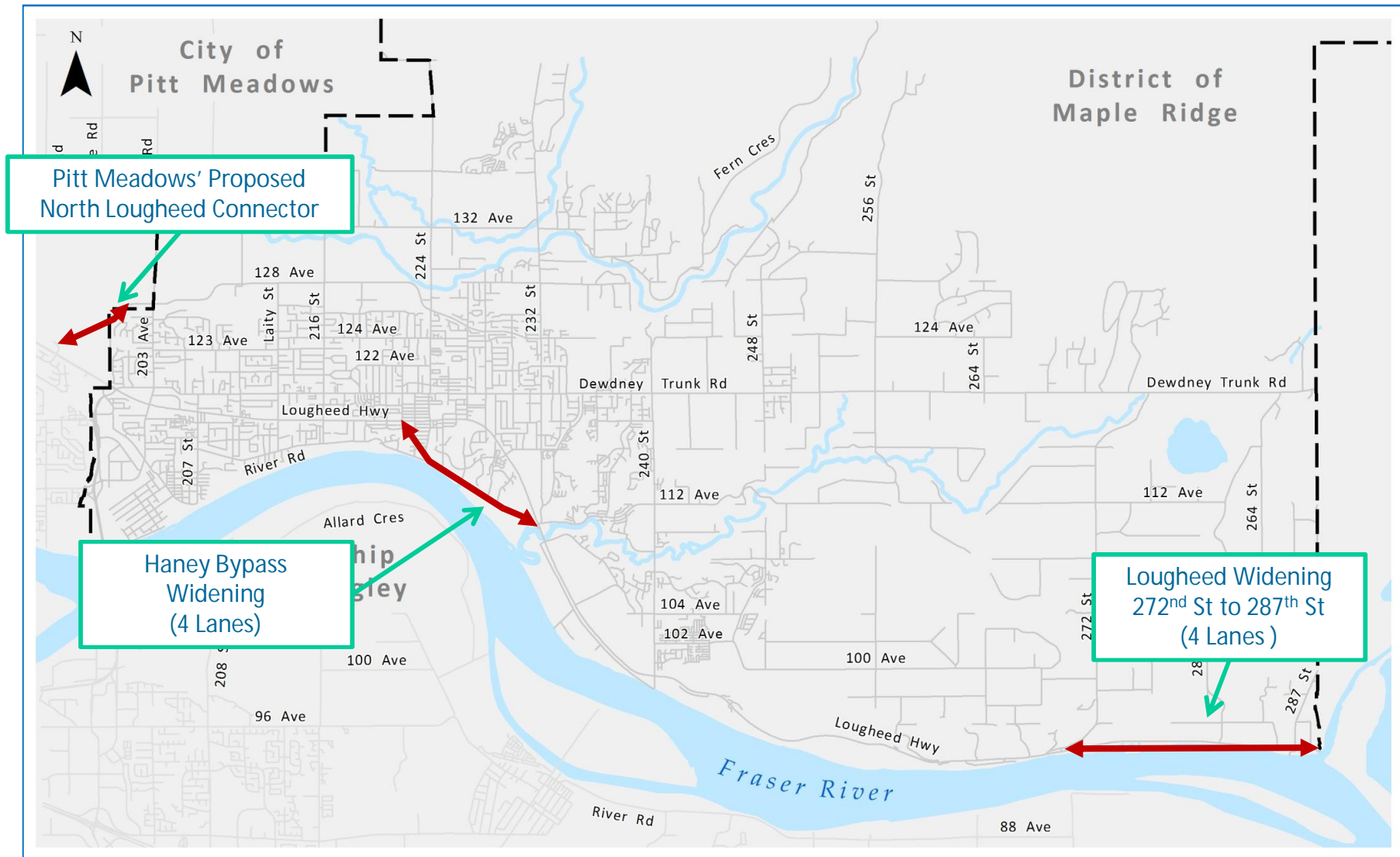
a. Major Municipal Roads



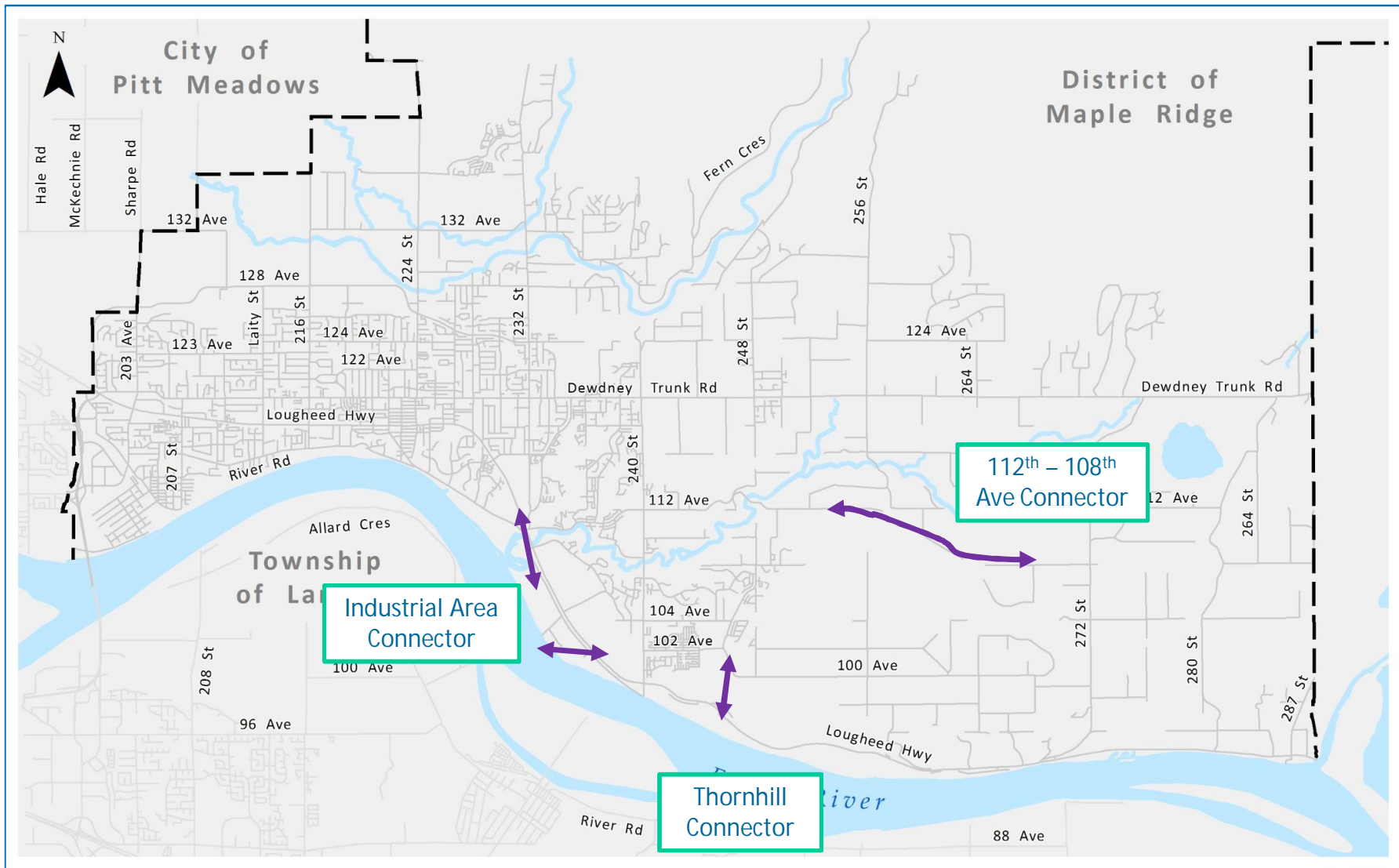
a. Major Municipal Roads



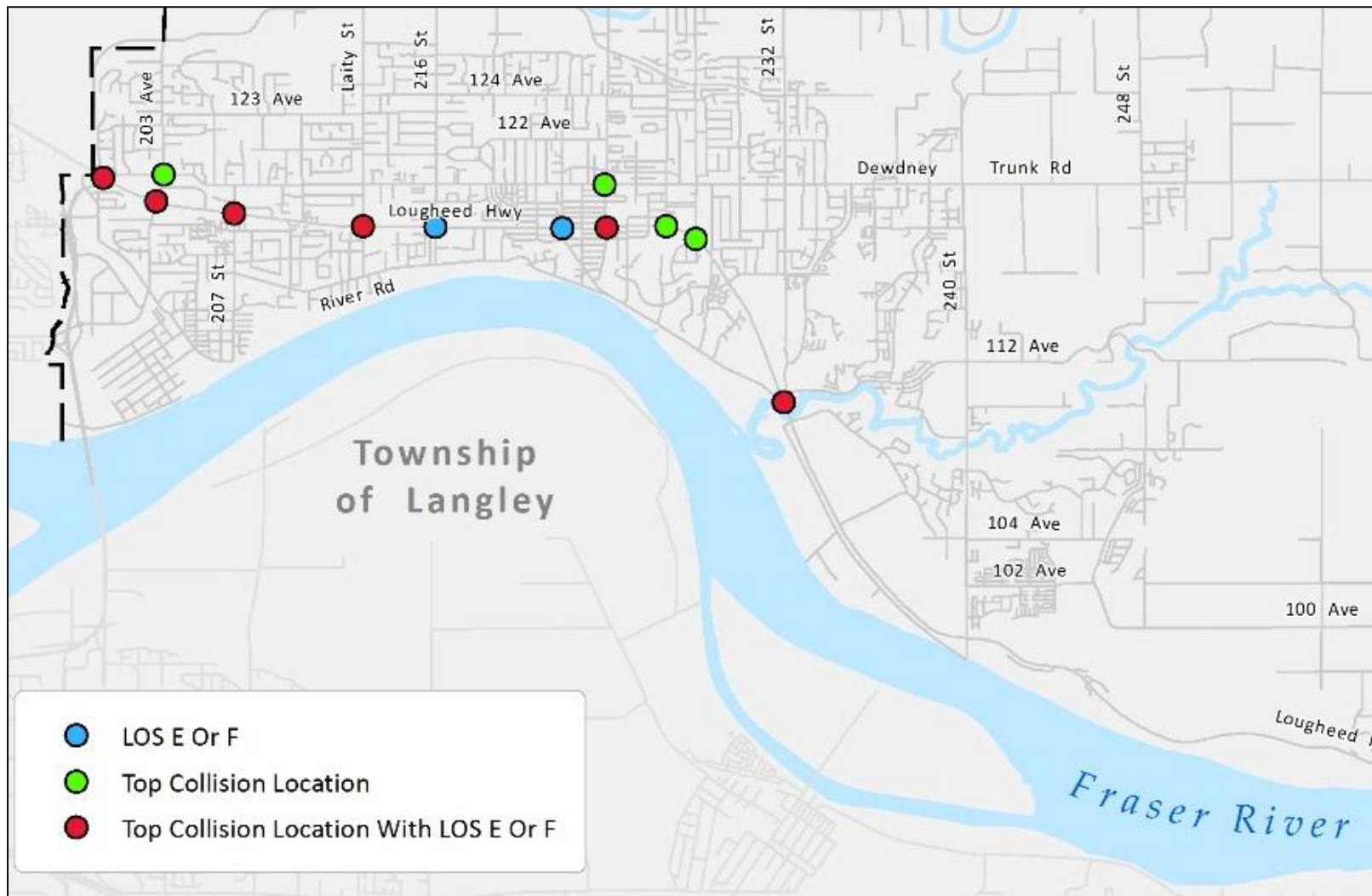
b. Inter-municipal & Provincial Connections



c. Completing the Network



d. Candidate Safety & Operational Improvements

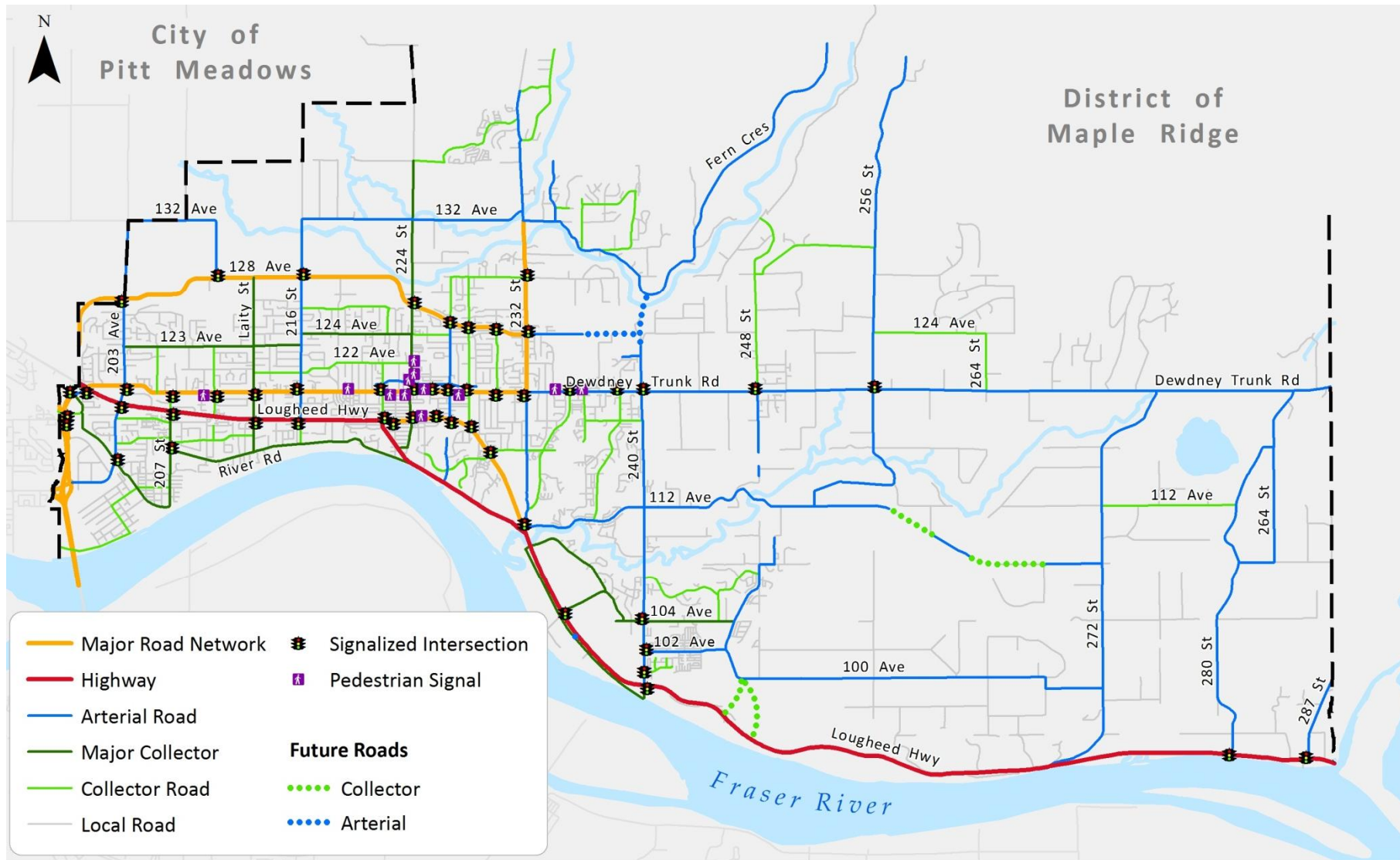


e. Neighbourhood Traffic Management

Application of Candidate Measures

	Traffic Calming Measure	Minor Collector	Local	Lanes	Transit Route*	Emergency Route*
Vertical	Raised Crosswalk	✓	✓			
	Raised Intersection**	✓	✓			
	Sidewalk Extension**	✓	✓		✓	✓
	Speed Hump		✓	✓		
	Textured Crosswalk	✓	✓		✓	✓
	Speed Cushion		✓		✓	✓
Horizontal	Chicane (one lane)		✓	✓		
	Curb Extension	✓	✓		✓	✓
	Curb Radius Reduction	✓	✓			
	On-Street Parking	✓	✓		✓	✓
	Raised Median Island	✓	✓		✓	✓
	Traffic Circle	✓	✓			
	Road Narrowing / Road Diets	✓	✓		✓	✓
	Gateway Median1	✓	✓		✓	✓
Obstruction	Directional Closure		✓			
	Diverter		✓	✓		
	Full Closure		✓	✓		
	Intersection Channelization		✓	✓		
	Raised Median Through Intersection	✓	✓	✓	✓	✓
	Right-in / Right-out Island		✓	✓		

f. Long-term Network Plan



Conceptual Costs & Priorities

Project	Conceptual Cost Estimate (millions)	Timeframe			Potential Funding Partners		
		Short Term (<5 Yr)	Medium Term (5-10 Yr)	Long Term (10-20 Yr)	District	TransLink/ MoTI	Private
Major Municipal Roads							
128 Ave/Abernethy Widening <i>210 – 224 St</i> <i>224 – 232 St</i> <i>232 – 240 St (Option)</i>	\$9.4 \$6.7 \$7.5	✓	✓	✓	✓ ✓ ✓	✓ ✓ ✓	
Dewdney Trunk Rd Widening <i>240 St to 248 St</i>	\$5.3		✓		✓		
232 St Widening <i>Abernethy to 132 Ave</i>	\$8.3	✓			✓	✓	
132 Ave East Widening <i>232 St to Fern Cr</i>	\$1.2		✓		✓	✓	
240St Crossing (option) <i>Abernethy to Fern Cr</i>	\$40.0			✓	✓	✓	
Regional & Provincial Corridors							
Haney Bypass Widening	N/A	✓				✓	
Lougheed Widening <i>272nd St to 287th St</i>	N/A		✓			✓	
112 th /108 th Ave Extension <i>112th Ave to 108th Ave</i>	\$9.8			✓	✓		✓
Thornhill Connector <i>Jackson Rd to Lougheed</i>	\$5.2			✓	✓		✓
Albion Industrial Access <i>Lougheed to south</i>	\$25 - \$30			✓	✓	✓	✓
Other Considerations							
Intersection Operations & Safety Improvements	\$2.0	✓	✓		✓		✓
Neighbourhood Traffic Management Strategies	\$2.0	✓	✓		✓		✓
TOTAL	\$82-127						

Pedestrian Plan

Shaping Influences and Challenges on Pedestrian Plan

- *In Maple Ridge, walking accounts for 3% of daily commute trips and 10% of all daily trips*
- *Sidewalk coverage in some areas is limited*
- *Discontinuous trails and pathways*
- *Attractive and accessible connections to key pedestrian generators*
- *Lack of sidewalks on neighbourhood streets*

Enhanced Network Coverage

Interim Strategies for Growth Areas

Enhanced Treatments in the Town Centre

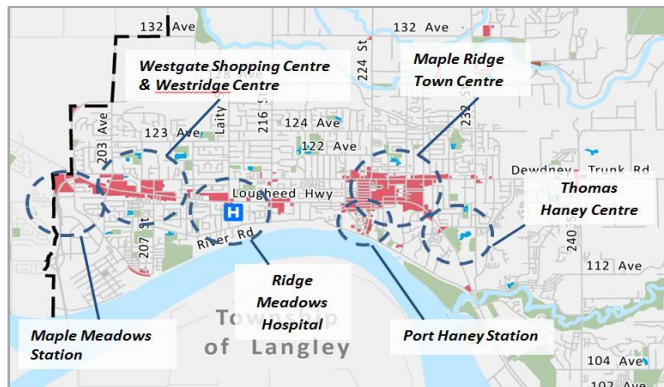
Safer Crossings

Support Programs

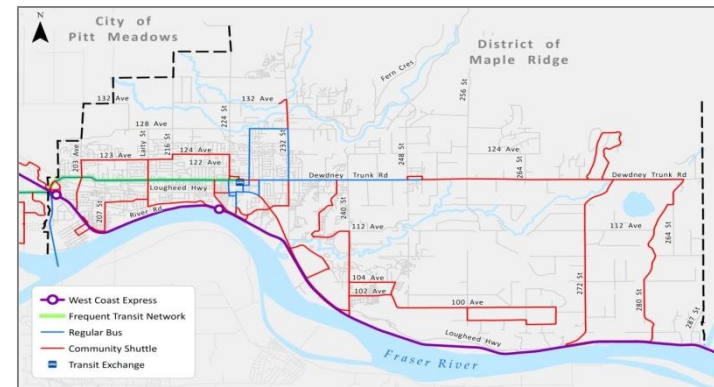
a. Enhanced Network Coverage (priorities)

- Urban Arterial: Both Sides
- Urban Collector: Both Sides
- Local Streets in Pedestrian Areas: Both Sides
- Other Local Streets: One Side

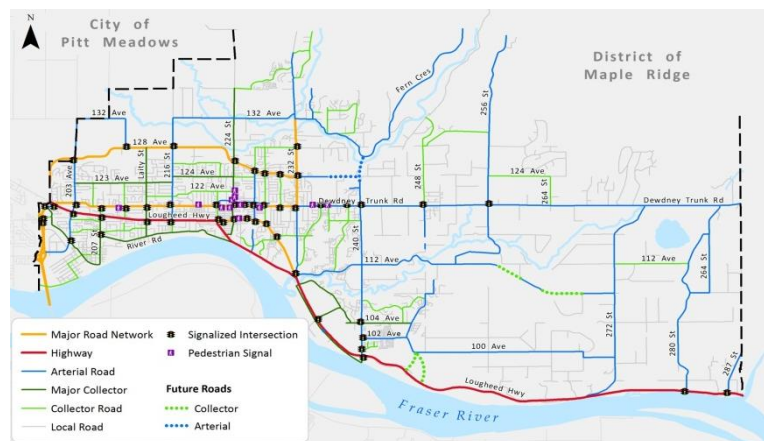
1. Key Pedestrian Areas



2. Bus Routes



3. Other Urban Arterials & Collectors



b. Interim/Modified Strategies for Growth Areas

ALTERNATIVES	PROS	CONS
1. Provide with Growth	<ul style="list-style-type: none"> Minimizes cost 	<ul style="list-style-type: none"> Reduced comfort & safety of pedestrians Limits access to new areas
2. Shoulder Widening	<ul style="list-style-type: none"> Within right-of-way Provides separation for pedestrians May use asphalt or concrete 	<ul style="list-style-type: none"> Moderate-high cost Challenges of continuity
3. Ultimate Sidewalk	<ul style="list-style-type: none"> Separation for pedestrians as development progresses 	<ul style="list-style-type: none"> Higher capital and property cost Requires land acquisition
RECOMMENDED: Shoulder widening or separated path	<ul style="list-style-type: none"> Low cost Separation for pedestrians with growth Within right-of-way Flexible design around existing constraints & integration with equestrian trails 	<ul style="list-style-type: none"> Both separate shoulder and pathway required for equestrian facilities on same road

c. Enhanced Town Centre Treatments

Beyond Design Standards

- Boulevards
- Narrow crossings
- Street Furniture
- Enhanced Wayfinding
- Universal accessibility design
- Street lighting
- Pedestrian safety (CPTED)



d. Safer Crossings



Enhanced
crosswalks



Narrower
Crossings



Countdown
Timers



Accessible &
Audible Signals

e. Support Programs

*Events
Open Streets / Sunday
street closures*



Parklets

*Education & Awareness
Safer School Travel
Programs*



Conceptual Costs & Priorities

Sidewalk Priorities

Location	Short-term	Medium-Term	Long-term	Total Length (km)	Total Cost
Pedestrian Areas	\$1,502,500	-	-	10 km	\$1,502,500
Bus Route Sidewalks	-	\$1,841,250	-	12.3 km	\$1,841,250
Urban Collector and Arterials	-	-	\$2,090,250	13.9 km	\$2,090,250
TOTAL				36.2 km	\$5.43 million

Bicycle Plan

Shaping Influences and Challenges for Cycling

- *Cycling makes up a small portion of the overall travel in the District today*
- *The bicycle network in Maple Ridge includes a basic network of east-west and north-south bicycle routes*
- *The District's bicycle network can be comfortable for a broader range of the population*
- *Existing bicycle facilities provide direct connections to other communities*
- *There are several intersections that are difficult for cyclists to cross*

Comfortable Facilities
(Standards)

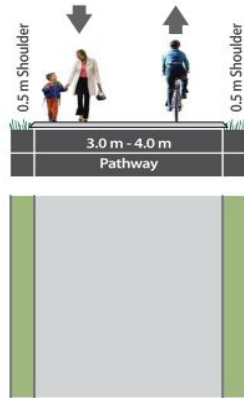
Network Plan

Safe Crossings

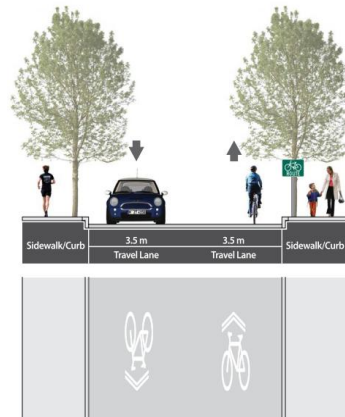
Support Strategies



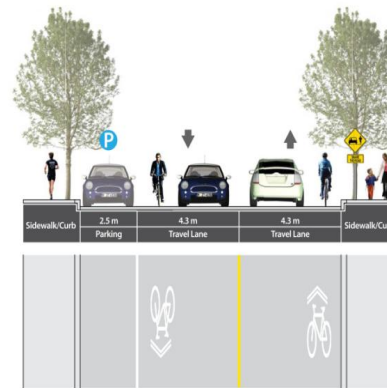
a. Comfortable Facilities



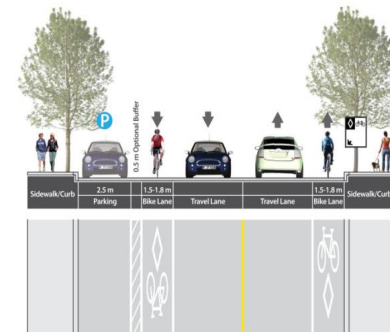
Off-Street Pathway



Shared Local Road

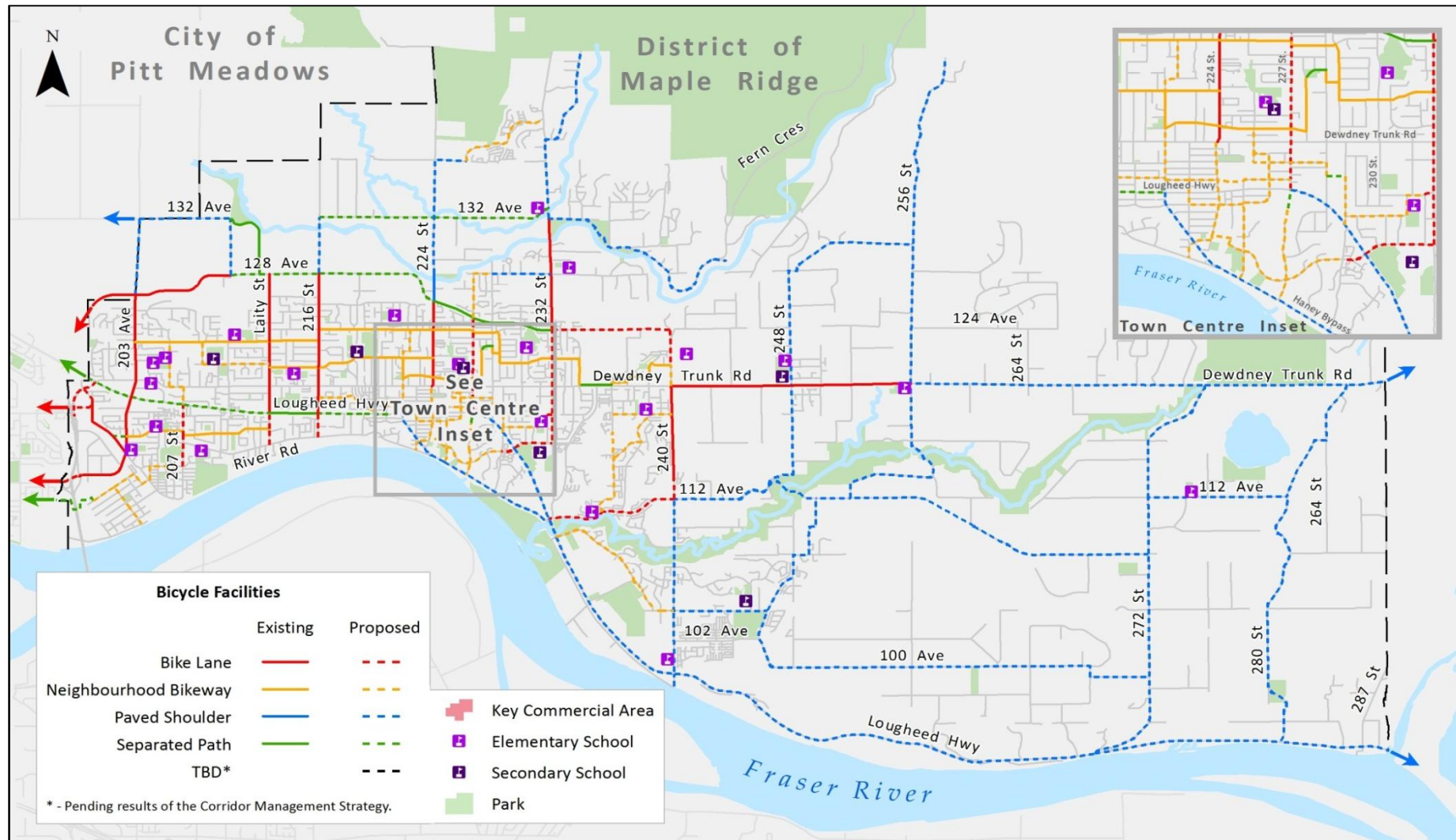


Shared Wide Lanes



Bicycle Lanes

b. Network plan



c. Safer Crossings



Bicycle Activated Push Buttons



Enhanced Pavement Markings



Bike Boxes

d. Support Programs



Bicycle Parking

Wayfinding



**Education & Awareness
Safer School Travel
Programs**

Conceptual Costs & Priorities

Bicycle Network

Facility Type	Short-term	Medium-Term	Long-term	Total Length (km)	Total Cost
Bicycle Lane	\$75,750	\$223,800	-	12.2	\$299,550
Paved Shoulder	-	-	\$23,766,600	79.2	\$23,766,600
Local bikeway	\$878,560	-	-	21.8	\$878,560
Off-Street Pathway	-	2,954,000	-	6.4	\$2,954,000
TOTAL	\$954,310	\$3,177,800	\$23,766,600	119.6	\$27,898,710

Transit Strategy

Shaping Influences and Challenges for Cycling

- *Transit service levels are limited for some travel*
- *Limited network coverage*
- *Network congestion points*
- *Limited local and regional connections*
- *Significant transit travel times*
- *Limited local park-and-ride*

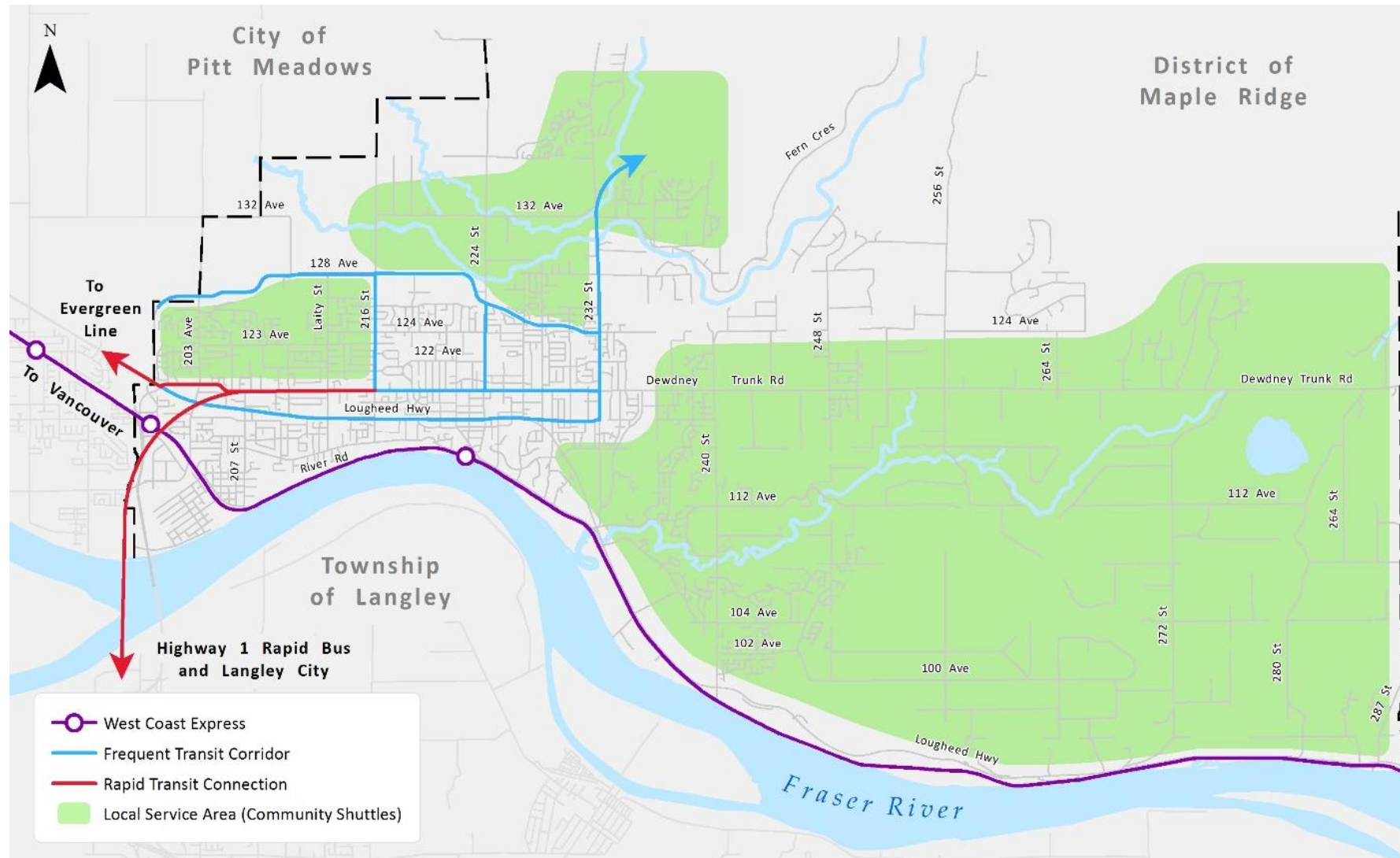
Enhanced Local & Regional Services

Comfortable & Accessible Passenger Facilities

Expanding West Coast Express

Transit priority Strategies

a. Enhance Local & Regional Services



b. Comfortable and Accessible Facilities



Customer Information



Seating



Shelters

Accessible Design



c. Expanding West Coast Express

Weekday

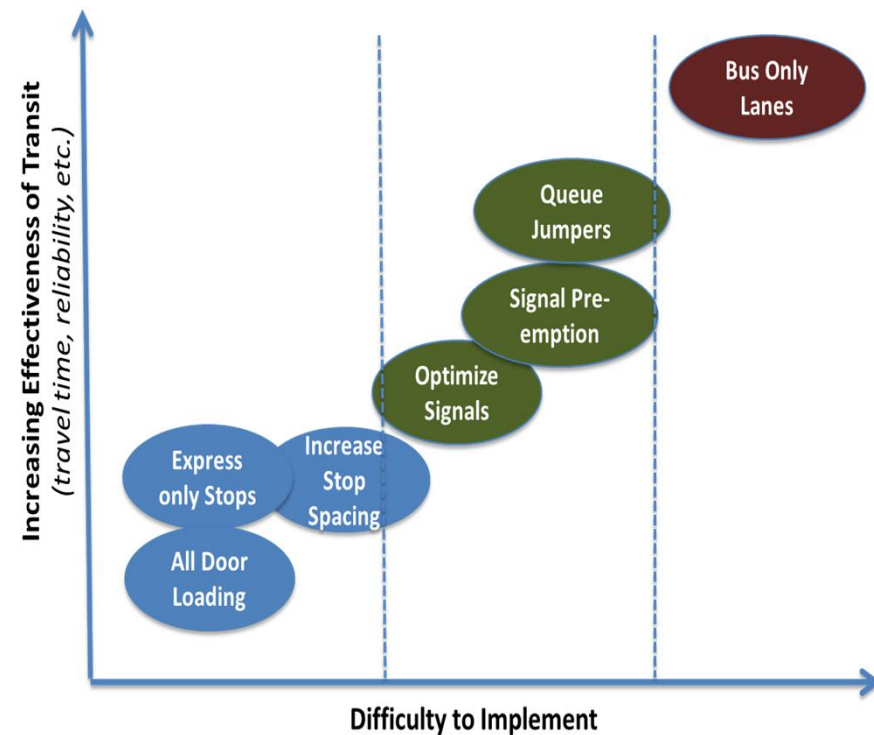
- Mid day service
- Reverse peak

Weekend Service



d. Transit Priority Strategies

Strategies to Enhance Transit Travel Times



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