H4 Emergency Detour Route Study Update

ACRD Transportation Committee

April 16, 2025

BRITISH COLUMBIA | Ministry of Transportation and Transit

Study Objective and Deliverable

Objective:

- In the event of an extended closure of Highway 4 it is critical that viable emergency route options are readily available and pre-determined as part of regional emergency management planning

Scope:

- Review all potential routes that could be used to detour all Highway 4 traffic in the event of an extended closure
- Develop detailed assessments of each viable route
- Complete a MAE of all viable options for comparison and make recommendations for potential use for emergency detour route planning.

Deliverable:

- A Final Report
- A Multiple Account Evaluation of all the routes considered
- Recommendations of viable route options for:
  - All Highway 4 traffic (two-way) use
  - Route options with limited capacity (single lane)
  - Non-viable routes

Workplan

Phase 1: Initial Assessment (July / Aug 2024)

- Review past studies
- Assemble mapping (LiDAR) and background data
- Document the experience of 2023 Emergency Route
- Identify design criteria for Emergency Route Options

Phase 2: Field Observations and Review (Sept 2024 to May 2025)

- Ministry and Consultant conducted field reviews of all routes (Sept/Oct)
- Compiling field observations and development of MAE

Phase 3: Route Assessment Multiple Account Evaluation and Final Report (July 2025)

- Completion of MAE
- Consultation with ACRD Transportation Committee and Mosaic
- Final Report by July 2025

Key Considerations for Emergency Detour

Grade

- Flat (up to 3%)
- Moderate (3% to 8%)
- Steep (> 8%)

Surface Type

- Hard-surface
- Unpaved

Travel Width (not including bridges)

- Narrow (<6m)
- Two-Lane (6m or wider)

Rift Main

Horne Lake Route

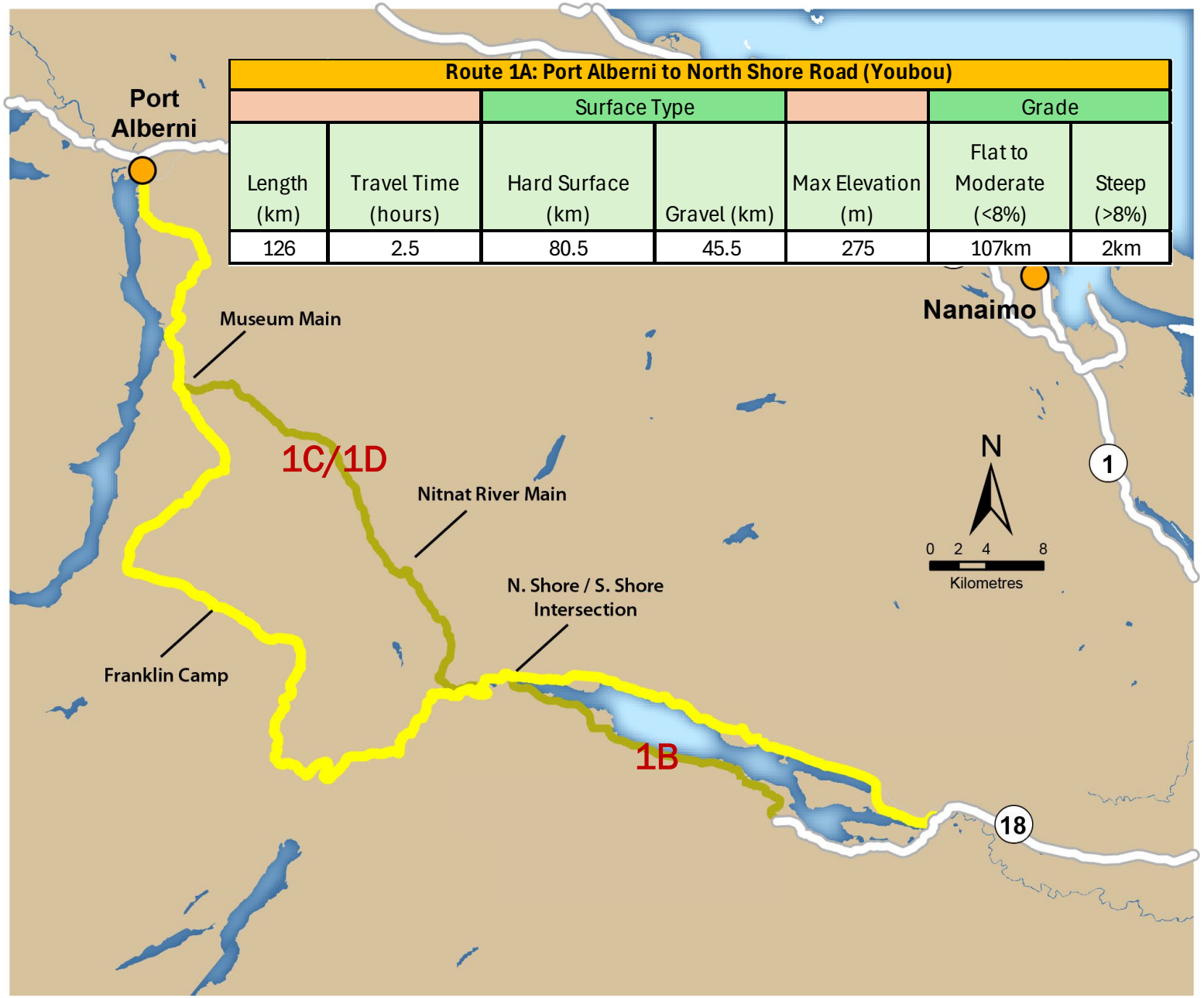
Route 1A

Port Alberni to North Shore Road (Youbou)

(2023 Detour Route)

Carmanah Main

Route 1A: Port Alberni to North Shore Road (Youbou)						
		Surface Type			Grade	
Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat to Moderate (<8%)	Steep (>8%)
126	2.5	80.5	45.5	275	107km	2km

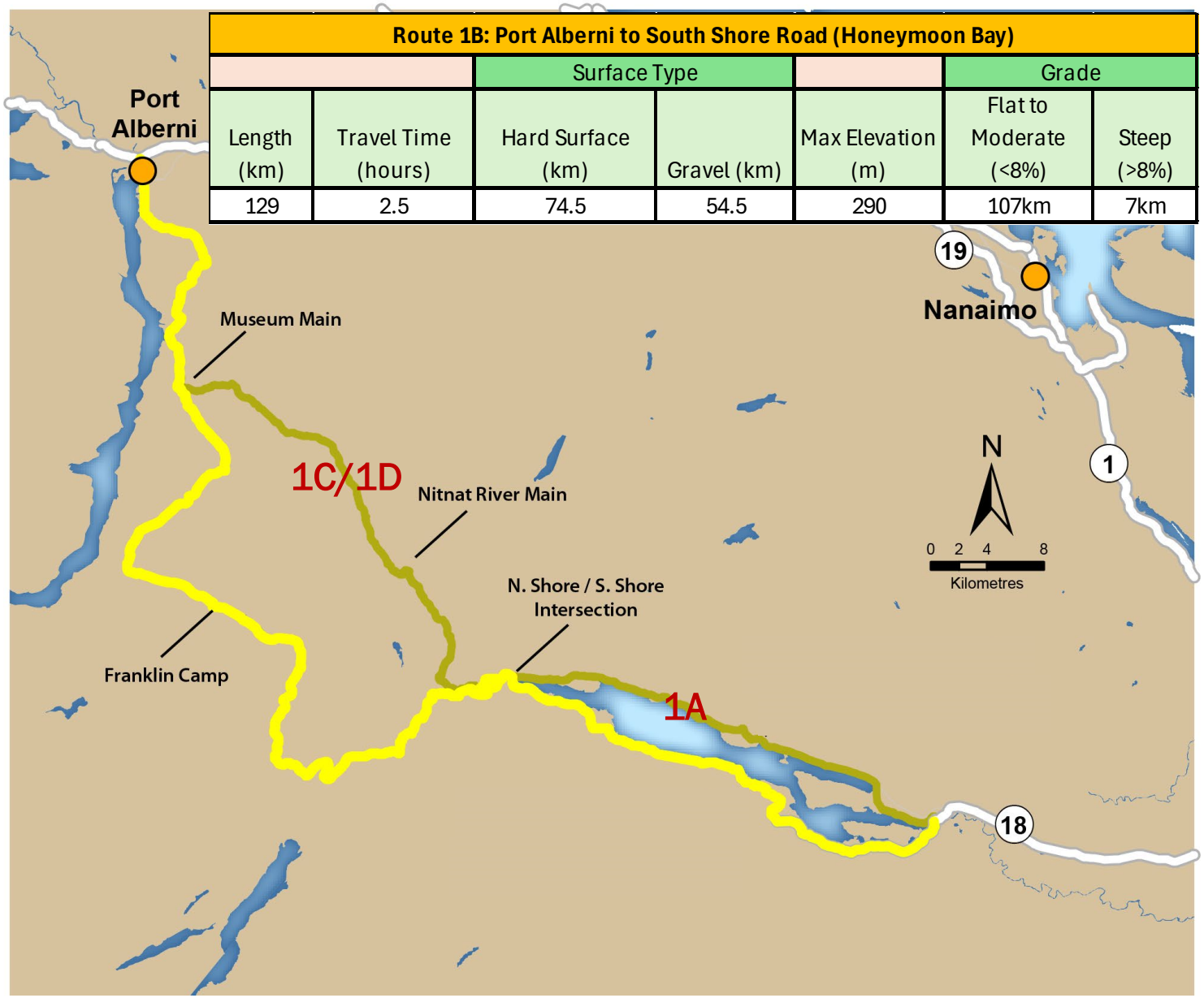


Route 1B

Port Alberni to South Shore Road (Honeymoon Bay)

South Shore Road at Caycuse

Route 1B: Port Alberni to South Shore Road (Honeymoon Bay)						
		Surface Type			Grade	
Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat to Moderate (<8%)	Steep (>8%)
129	2.5	74.5	54.5	290	107km	7km



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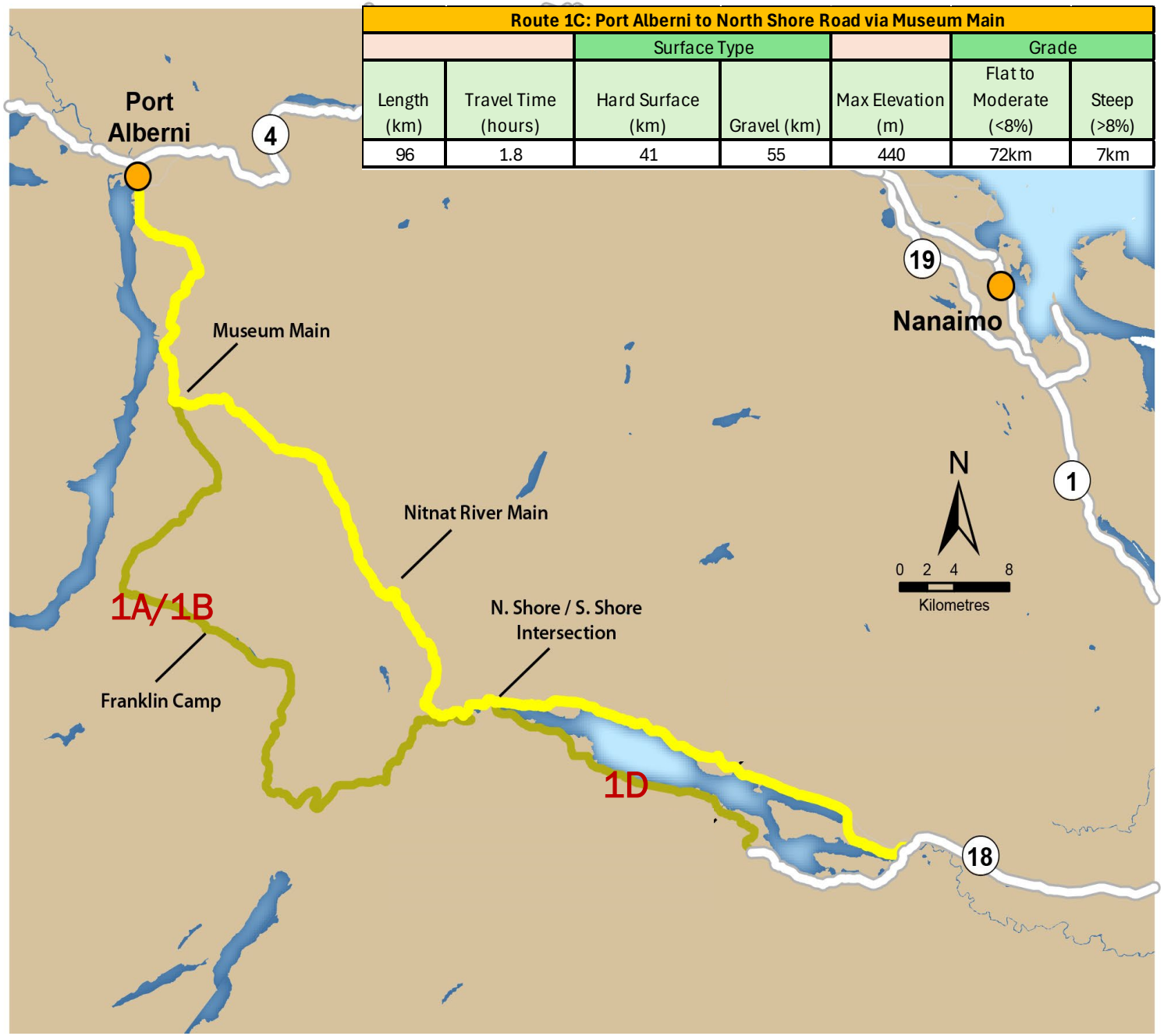
Route 1C

Port Alberni to North Shore via Museum/Rift Main

Rift Main between Musuem and Nitinat River Main

Route 1C: Port Alberni to North Shore Road via Museum Main						
		Surface Type			Grade	
Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat to Moderate (<8%)	Steep (>8%)
96	1.8	41	55	440	72km	7km



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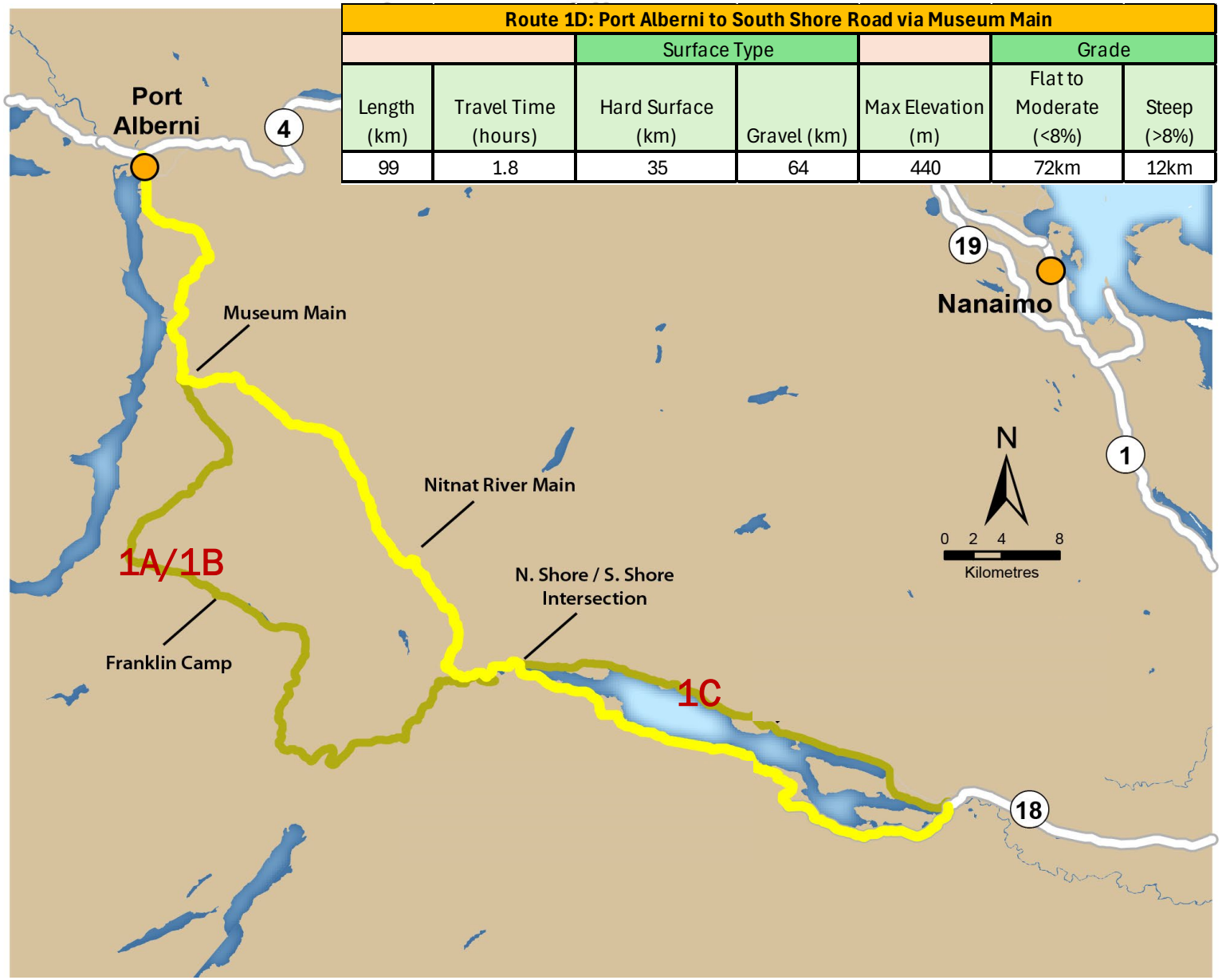
Route 1D

Port Alberni to South Shore Road (Honeymoon Bay)

South Shore Road at Caycuse

Route 1D: Port Alberni to South Shore Road via Museum Main						
		Surface Type			Grade	
Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat to Moderate (<8%)	Steep (>8%)
99	1.8	35	64	440	72km	12km



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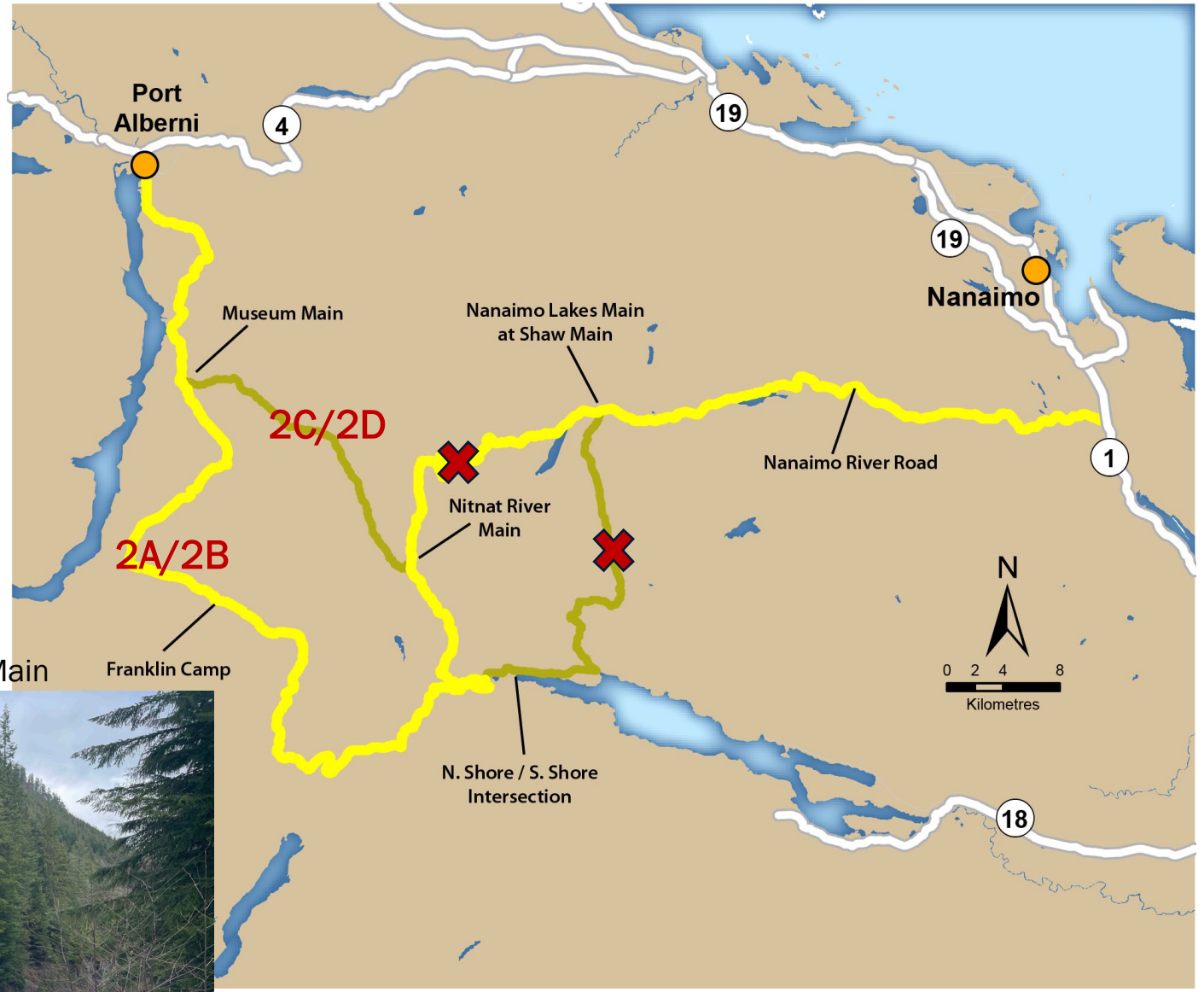
Route 2 (A,B,C,D)

			Surface Type			Grade	
Route	Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat to Moderate (up to 8%)	Steep (>8%)
2A	169	3	80.5	88.5	830	125km	23km
2B	160	3	80.5	79.5	675	119km	20km
2C	114	1.9	41.2	72.8	830	68km	25km
2D	131	2.5	41.2	89.8	675	95km	15km

Shaw Main

Nanaimo Lakes / Nitinat River Main



Route 2 Options eliminated due to fatal flaws

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Route 3A

Port Alberni to Cumberland via Beaver Creek Rd

Comox Main

Route 3A: Port Alberni to Cumberland via Beaver Creek Road						
		Surface Type			Grade	
Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat to Moderate (<8%)	Steep (>8%)
79	1.5	28	51	410	47km	19km

*includes Beaver Creek Road

Route 3B

Port Alberni to Cumberland via Ash Main

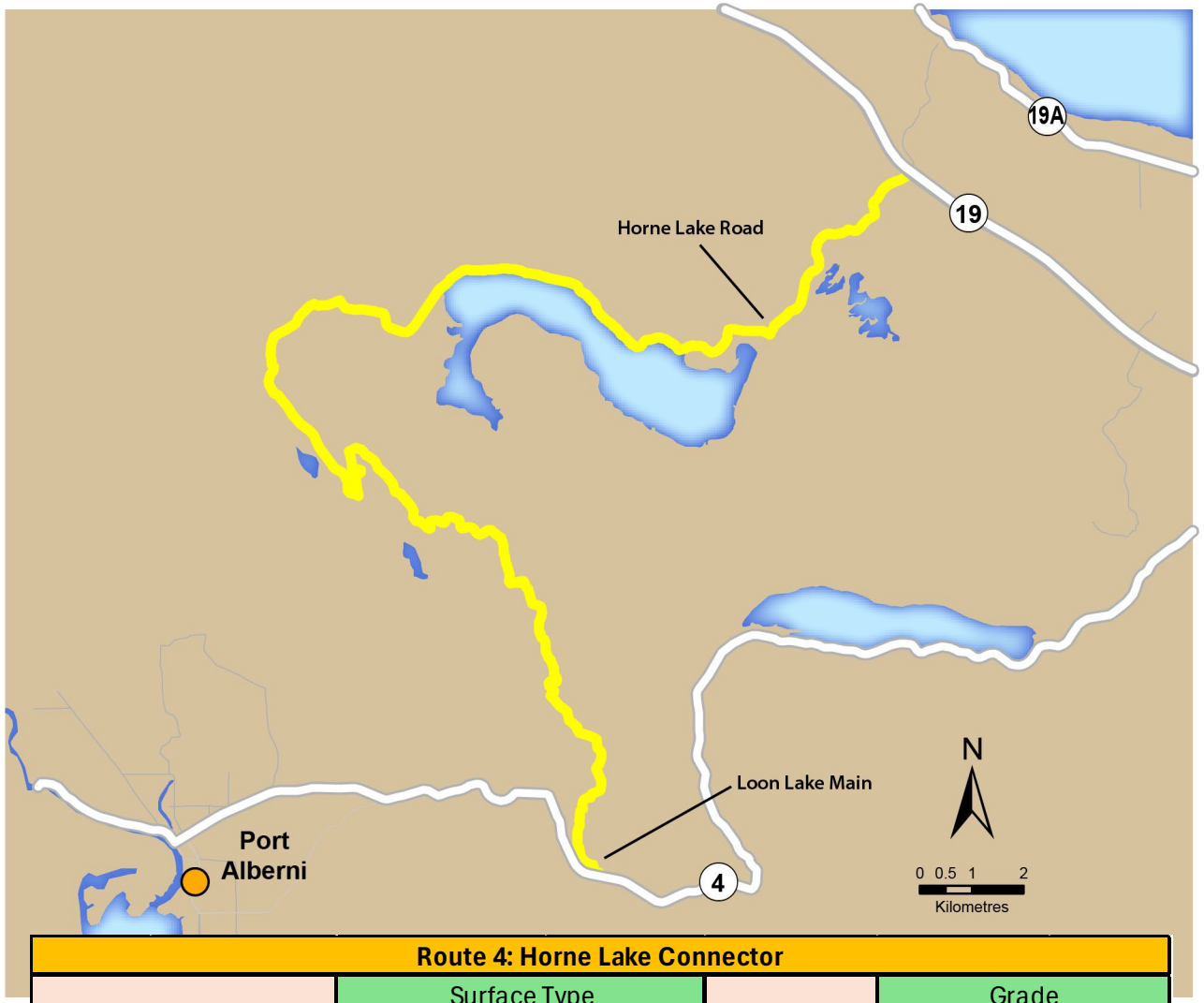
Ash Main

Route 3B: Port Alberni to Cumberland via Ash Main						
		Surface Type			Grade	
Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat (>3%)	Steep (>8%)
65	1.5	6.5	58.5	410	52km	13km

Route 4

Horne Lake Connector

Horne Lake Route



Route 4: Horne Lake Connector						
		Surface Type			Grade	
Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat (>3%)	Steep (>8%)
28	45	0	28	388	16km	12km

ROUTE SUMMARY							
			Surface Type			Grade	
Route	Length (km)	Travel Time (hours)	Hard Surface (km)	Gravel (km)	Max Elevation (m)	Flat to Moderate (up to 8%)	Steep (>8%)
1A	126	2.5	80.5	45.5	275	107km	2km
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2D	131	2.5	41.2	89.8	675	95km	15km
3A	79	1.5	28	51	410	47km	19km
3B	65	1.5	6.5	58.5	410	52km	13km
4	28	45	0	28	388	16km	12km

Route 2 Options eliminated – fatal flaw

Next Steps

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Thank you