

4.60m
↓

**NO
CLIMBING
OR
JUMPING
FROM BRIDGE**
City of Courtenay

5th Street Bridge Rehabilitation and Upgrade

Council Workshop

November 26, 2018

Courtenay City Hall

Workshop Objectives

1. Overview of the 5th Street Bridge Rehabilitation Project
2. Outline Key Challenges
3. Consider Crossing Enhancement Options

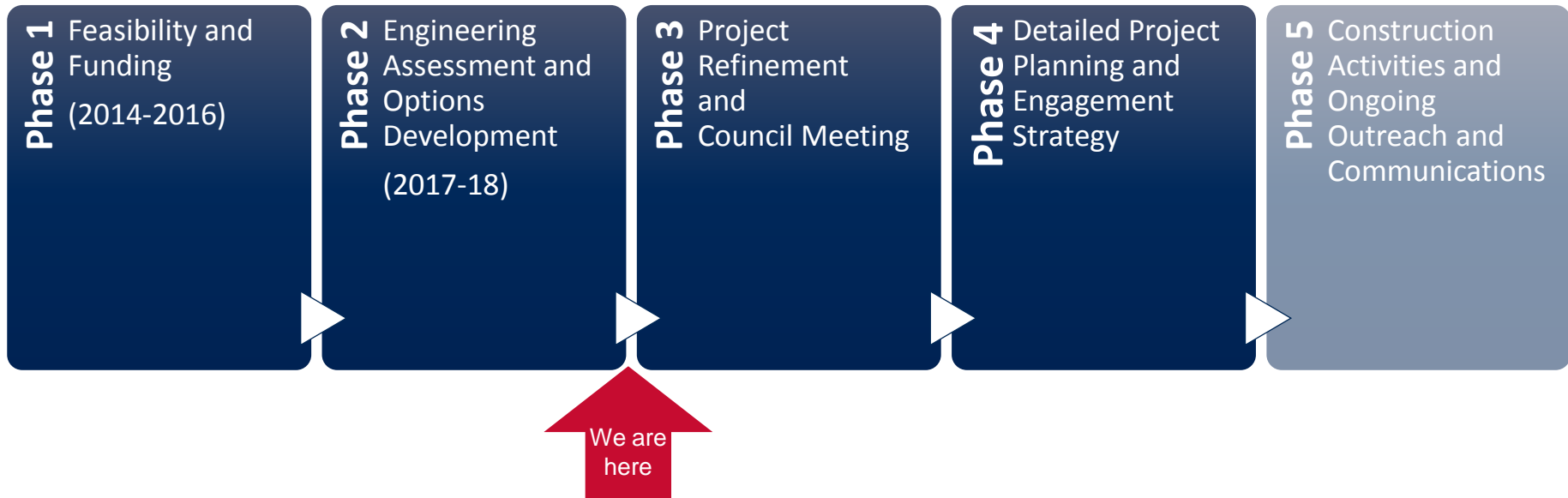
Bridge Engineering

Traffic Management

Communications + Engagement

Transp. + Mobility Designers

Project Development Stages



5th Street Rehabilitation Project Agreement

- **New Build Canada – Small Communities Fund Funding Agreement**
- **Agreement with Province signed in 2017**
- **Construction Complete by March 2020 & Terms of Agreement March 2023**
- **Cost Estimate: \$2.9M (2015 \$)**
- **Cost Sharing: Province/Federal of \$1.96M and Municipal of \$0.98M**
- **Project Scope defined in 2015 and submitted in Grant Application**
 - **Bridge Recoating** – *paint removal, steel repairs and recoating steel*
 - **Bridge Deck Repairs** – *removal and new overlay, removal and new deck concrete*

5th Street Rehabilitation Project



Project Stages & Timeframes *(agreement in principle to beyond March 2020)*

	1	2	3	4	5	6	7	8	9	10	12
Design Completion	█	█									
Traffic Management Plan	█	█									
Request for Proposals			█								
Communications				█	█	█	█	█	█	█	█
Tender					█						
Rehabilitation Starts						█					
Rehabilitation Ends											█

Significant Challenges

Inflation & Cost Escalation



Extended Project Timeframes

- Initial project scope (2014) & cost estimate (2015)
- Funding Agreement (2017)
- Project Refinements & Cost Estimates (2017-2018)
- Consider directions of TMP where synergies exist

Inflation and cost-escalation

- Inflation of 2-3% per year typical of consumer price index.
- Escalation of construction prices on Vancouver Island have increased beyond standard inflation over the last 3 years.
- Project owner typically assumes changes in cost.

Significant Challenges

Full Closure vs Alternating One-Lane Operation



- Method of rehabilitation can impact schedule, cost services, economy & community connectivity.

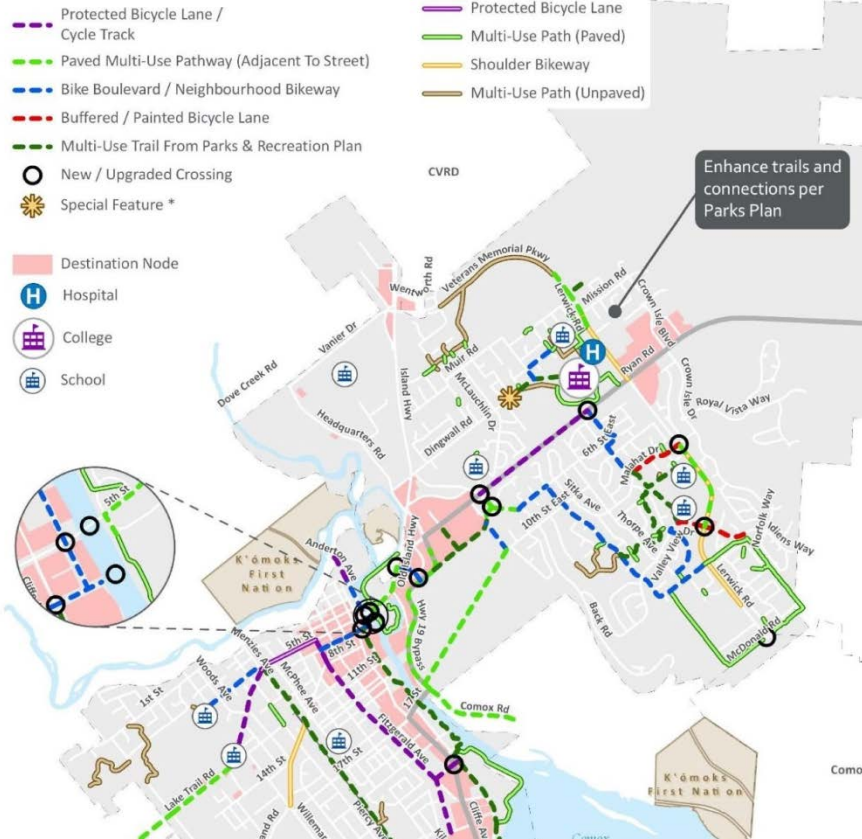
	Full Closure	Alternating Single-Lane
DURATION	5 months	6 months
COST (2019 \$)		
Bridge Recoating	\$4.2M	\$4.8M
Bridge Deck Repairs	\$1.4M	\$1.5M
Total	\$5.6M	\$6.3M

Class B Cost Estimate with contingencies.

Significant Challenges Plans for Walking and Cycling



DRAFT Bike Plan



DRAFT Pedestrian Plan



5th Street Bridge Possibilities



1. Bridge Rehabilitation

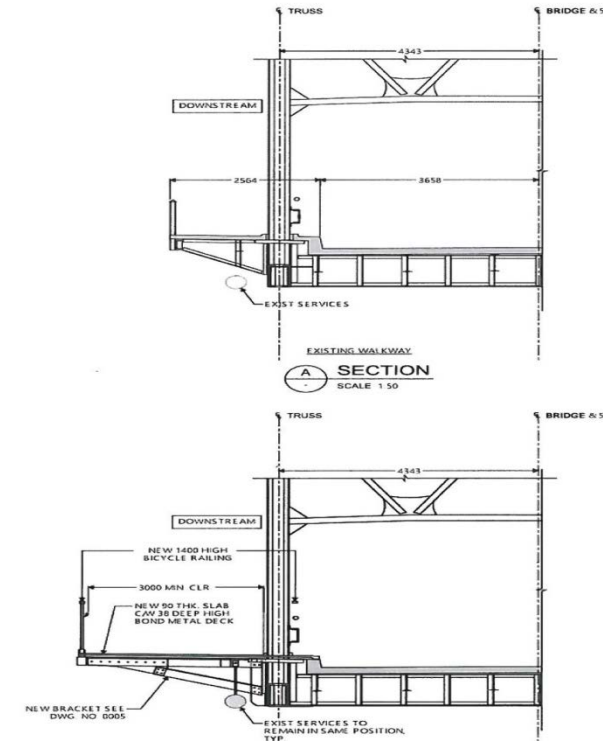
Bridge Recoating

- Repair and recoat all steel
- Remove & replace concrete deck



2. Enhanced Treatments for Walking & Cycling

- Cantilever paths (2) on each side
- Upgrade sidewalks, crossings and pathways for on/off connections



Option 1



Rehabilitation Only (Grant Program)

Features:

- Full recoating, deck repairs and related upgrades.
- Approximately 5 to 6 months construction.
- Project costs exceed original Grant by \$3.4M.



	1. Full Rehabilitation
DURATION	6 months
COST (2019 \$)	
Bridge Recoating	\$4.8M
Bridge Deck Repairs	\$1.5M
Total	\$6.3M

Option 2



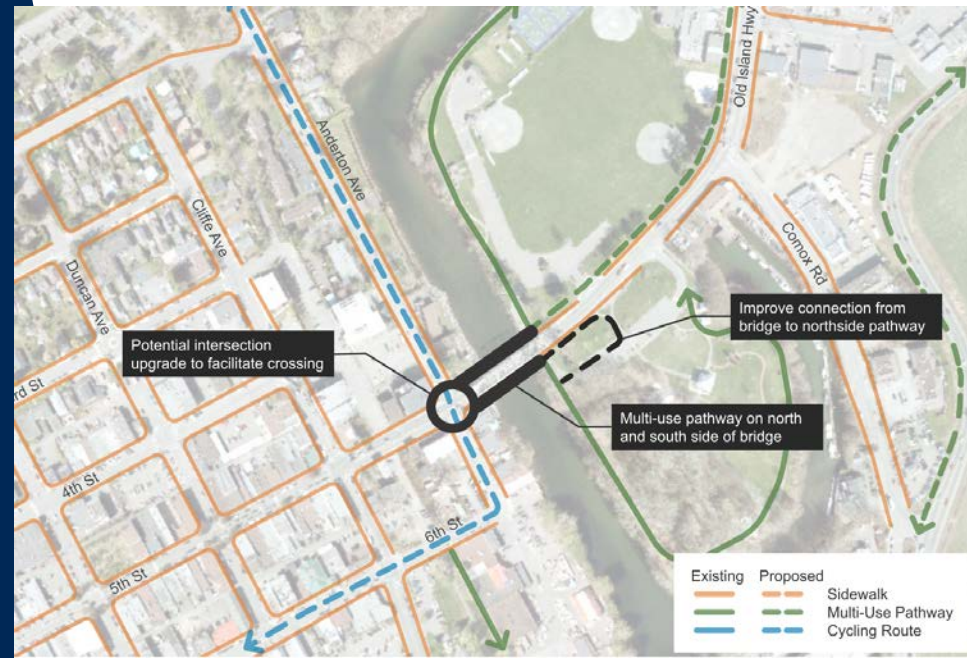
Rehabilitation with 5th Street Bikeways

Features:

- Recoating the understructure.
- Full deck repairs and related upgrades.
- Two sides bike facilities.
- Approximately 8 month construction.
- Project costs exceed original Grant by \$4.8M.

	Rehab with 5 th St Bikeways
DURATION	8 months
COST (2019 \$)	
Bridge Recoating	\$4.8M
Bridge Deck Repairs	\$1.5M
Cantilever Paths	\$1.4M
Total	\$7.7M

Note: cantilever is 25% more if done later.



Option 3



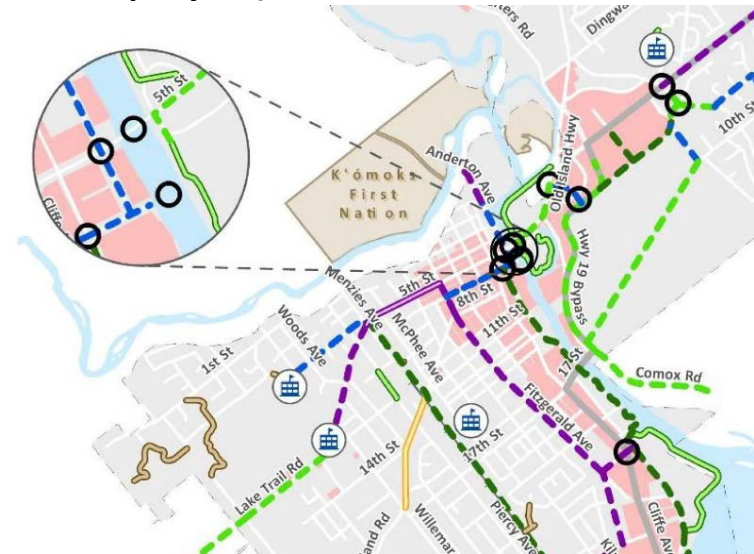
5th St Rehabilitation (Grant Program) + 6th Street Ped/Bike Bridge

Features:

- Full recoating, deck repairs and related upgrades.
- Approximately 5 to 6 months construction.
- Project costs exceed original Grant by \$3.4M.
- New Grant required for 6th St Bridge. (\$3.5M to \$4.0M)

	Rehabilitation	6 th Street Ped/Bike Bridge
DURATION	6 months	
COST		
Bridge Recoating	\$4.8M	
Bridge Deck Repairs	\$1.5M	
Total	\$6.3M	\$3.5 to \$4.0M

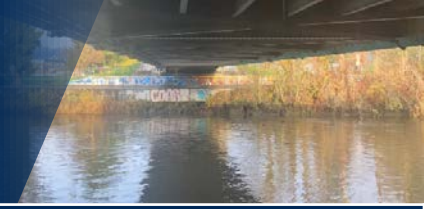
Note: 6th St Bridge estimate (Associated Engineering, 2013, escalated at 3.0% per year)



5th Street Bridge
Rehabilitation

URBAN
systems

Options Summary: Considerations



	1. Rehabilitation	2. Rehabilitation with 5 th Street Bikeway	3 Rehabilitation with 6 th Street Ped/Bike Bridge
DURATION	6 months	8 months	6 months
COST (2019 \$)			
Bridge Recoating	\$4.8M	\$4.8M	\$4.8M
Bridge Deck Repairs	\$1.5M	\$1.5M	\$1.5M
Cantilever Paths	-	\$1.4M	-
Total	\$6.3M	\$7.7M	\$6.3M + \$3.5 to \$4.0M
COST BEYOND GRANT	+ \$3.4M	+ \$4.8M	+ \$3.4M +\$3.5 to \$4.0M
SUMMARY COMMENTARY	<ul style="list-style-type: none"> • Additional City funds required. • Rehab works remain compliant with Grant. • Substantially extends life of asset. 	<ul style="list-style-type: none"> • Additional City funds required. • Rehab work Grant compliant. • Substantially extends life of asset. • Enhanced cycling and walking network. 	<ul style="list-style-type: none"> • Additional City funds required. • Rehab works remain compliant with Grant. • Substantially extends life of asset. • 6th Street Bridge serves parks and planned route on 6th Street

Questions & Discussion

- *Closure vs alternating single-lane during construction?*
- *5th Street rehab only or rehab + cantilever (now or later)?*
- *Future 6th Street ped / bike bridge?*
- *Timing for 5th Street Bridge Rehabilitation?*

