## 1 Welcome

## About the Study

The E\&N Rail Corridor is a key multi-modal transportation corridor. The City of Nanaimo's long term goals include the construction of a multi-use trail along the corridor for the full length of the City, supporting the vision of a complete Vancouver Island trail corridor. To date, 8 km of the E\&N Trail has been built between Caledonia Street and Mostar Road, connecting downtown and the north end of the City.

To continue this connection south, the City is studying alignments for the Downtown South section between Franklyn and Seventh Streets - a section just under 2 km in length.
The outcome of this study will be a recommended alignment based on technical analysis and public input.


## Study Process



## The Nanaimo Region Rail Trail Partnership

The NRRT is a partnership of various community groups interested in moving the E\&N Trail forward. Presently, the Partnership is comprised of the Downtown Business Improvement Association (DNBIA), Tourism Nanaimo, Regional District of Nanaimo, The City of Nanaimo, Greater Nanaimo Cycling Coalition (GNCC), and the Island Corridor Foundation (ICF).
The NRRT is a key contributor to the Downtown South Alignment \& Costing Study. Visit: www.nanaimoregionrailtrail.ca

## 2 The Route

## Overview Map



## Overview

The downtown south section begins at the existing E\&N Trail that was recently developed between Fitzwilliam and Franklyn. From Franklyn the route travels south running diagonally through the road network crossing Prideaux, Albert, Milton, Hecate and Kennedy Streets.
After Hecate physical barriers create more separation between the corridor and adjacent land uses and at Pine the Corridor widens from $50^{\prime}$ to $100^{\prime}$.
After crossing Fifth, the corridor runs parallel to Railway Avenue, with no road crossings for 1 km until it reaches Seventh. The recently completed Bing Kee Trail provides a mid-way pedestrian crossing over the tracks.

## Why this Section?

A long-term goal is completion of the E\&N Trail through Nanaimo. This section was identified as the next priority because:
» The Downtown has higher levels of walking and cycling relative to other neighbourhoods within the City; more than $33 \%$ of Downtown residents do not use a car to travel to/from work compared with $15 \%$ for the City overall.
» The circuitous street network results in pedestrians and cyclists using the existing rail corridor.
» Multiple plans, including the South End and Harewood Neighbourhood Plans, have identified this link as a priority.
» The NRRT has identified, as their top priority, the development of this section.

## Have you used the E\&N Corridor between Fifth \& Seventh?

Tell us your likes and concerns about the route. Do you see a comment you agree with up already? Add a dot to it.


## 3 The Challenges of the Corridor

E\&N TRAIL | Downtown South Alignment \& Costing Study

## Key Challenges

The downtown south section of the E\&N is complicated. Urban development, short road blocks, multiple crossings and existing buildings, utilities and vegetation all require consideration for planning a trail within the active rail corridor.

Three challenges require particular consideration when planning for this section of E\&N Trail.

Where are the Key Challenges?


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## Number of Grade Crossings

Grade crossings account for $45 \%$ to $65 \%$ of the overall trail development costs in this section (see the following poster for more information about grade crossings)


## Corridor Width

Typical rail corridors are 100 wide. Between Franklyn and Pine, the corridor is only 50' wide Fitting a trail within the narrow corridor is a challenge


## 4 Regulations \& Grade Crossings

## Safety Regulations for Rail Trails

Because the E\&N is an active railway there are a number of regulations that must be followed. The following diagrams illustrate key current regulations that affect alignment and costing for the trail.

## How Railway Safety is Regulated

Provincially-Regulated Railways such as the E\&N are guided by BC's Railway Safety Act

## Railway Safety Act <br> (British Columbia, Apr. 1, 2004)

The Island Corridor Foundation, owner of the E\&N, follows current federal safety regulations for development of trails on the corridor

New trail development requires approval by the corridor owner (ICF*), rail operator (SVI) and trail owner (CoN)



BC's Railway Safety Act adopts the regulations, rules and standards of the federal Railway Safety Act

Railway Safety Act (Federal)

## What is a Grade Crossing?

A grade crossing is where a road crosses railroad tracks at the same level (ie. one is not elevated over the other). Most railway crossings on Vancouver Island, including the 7 in the study area, are grade crossings.

What are the challenges with grade crossings?


Sight Lines: Vehicle drivers at a grade crossing must be able to see a train approaching on the tracks
In this scenario, by adding a crosswalk for the trail, the blue car must now stop further from the rail crossing, making it more difficult to see an approaching train.

## Vehicles cannot stop on the tracks

In this scenario, if the bus starts crossing, but must stop for people in the crosswalk, it is in an unsafe position stuck on the tracks until the pedestrians have crossed.

To improve the safety for scenarios like these, signals + gates at grade crossings are required. How do crossings with signals + gates work?


As a train nears the grade crossing, a pedestrian crossing signals trail users to stop from proceeding into the crosswalk. This allows vehicles to clear out of the crossing, avoiding a vehicle being stuck on the tracks.

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The gate lowers and signals flash to stop vehicles before the train arrives. In order for the signal timing to work, new sensors must be installed up the tracks. Costs to install this railway infrastructure can be $\$ 500,000$ to $\$ 1,000,00+$ per grade crossing.

## 5 The Route Alternatives

## Why Consider Route Alternatives?

The City is looking at alternatives to identify a route that balances cost, experience, safety and function. Because the $E \& N$ is an active rail corridor, safety requirements at grade crossings must be met. Estimated costs to meet these standards account for $50 \%$ to $65 \%$ of the overall trail costs. Alternatives are considered to reduce these costs.

## Alternatives Overview

Two alternative routes have been developed for evaluation:
» Route A: On-Corridor follows the corridor as closely as possible. Most of this route is on the west side of the track and has more grade crossings and associated costs.
» Route B: On/Off-Corridor includes a combination of on and offcorridor sections to reduce costs by avoiding some grade crossings. Most of this route is on the east side of the track.

The Section Summaries and large overview maps provide details about the alternatives. We invite you to review them and provide your comments.


## How Will Alternative be Evaluated?

While costs are important, the E\&N Rail Trail needs to be functional and appealing to users if it is going to be a success. Below are criteria that are used to evaluate the alternatives.


Do you have other suggestions for evaluation criteria? Write them on a sticky note and post them below.

## 6 Section Summaries

## SECTION 1: FRANKLYN TO ALBERT



EVALUATION OVERVIEW
The table below summarizes strengths and challenges of each option based on technical review.

| Evaluation Criteria | Option A | Option B |
| :---: | :---: | :---: |
| Cost Estimate - Trail | \$760,000 | \$520,000 |
| Cost Estimate - Grade Crossings <br> * There is potential to avoid a grade crossing at Prideaux by moving the crossing 30 m from the tracks. This potential would be confirmed <br> at the detailed design stage. <br> ** The grade crossing at Albert could be built with Section 1 or 2, depending on which is built first. | \$820,000 - Franklyn (required) | \$0 |
|  | \$1.14 M - Prideaux* |  |
|  | \$940,000 - Albert** |  |
| Pedestrian Experience | Good - flat grades, direct route | Moderate - mostly flat grades, departure from corridor |
| Cyclist Experience | Good - flat grades, direct route | Moderate - mostly flat grades, requires $90^{\circ}$ turns |
| Vehicle Impacts | Moderate - multiple crosswalks |  |
| Railway Impacts | Minimal | Moderate - new mid-block pedestrian crossing |
| CPTED (Crime Prevention Through Environmental Design) | Good - passive surveillance, well lit |  |
| Infrastructure Requirements (retaining, drainage, utilities) $C B=$ Catch basin | Good - no retaining needed; relocation of a few CBs | Good - no retaining needed; relocation of a few CBs |
| Environmental Impacts | Good - Minimal tree impacts |  |
| Compatibility with Neighbouring Land Use | Poor - narrow rail corridor means close proximity to private properties | Moderate - existing road corridor is tight in places |

Length $=340 \mathrm{~m}$ ROW* Width $=15 \mathrm{~m}\left(50^{\prime}\right)$ \# of Grade Crossings: $\Rightarrow$ Option $A=1$ to 3
OVERVIEW
Estimated Cost:
(see the Evaluation Criteria below for more details)
» Option A Trail = \$760,000
Option A Crossings = \$820,000-\$2.90M
" Option B Trail = \$520,000
Option B Crossings = \$0

* RoW = Right of Way


## OPTIONS NARRATIVE

This section will extend the existing E\&N Trail at Franklyn Street to Albert Street.
Option A is 3.0 m multi-use trail on the west side of the rail tracks, within the rail ROW. The route includes a grade crossing at Franklyn, then crosses Prideaux 30 m from the tracks, potentially avoiding the need for signals + gates at this location. Near Albert the corridor becomes too narrow to fit the trail, so the trail joins with an existing lane for a short period. At Albert, a grade crossing with signals + gates would be required.

Option B is a 2.4 m to 3.0 m multi-use trail that follows the street grid crossing at the corner of Franklyn and Prideaux. The trail then follows Prideaux to Albert. A pedestrian/cyclist grade crossing mid-block is required over the tracks at mid-block.

Both options would require mid-block closure of the existing lane to Prideaux to avoid full signals + gates at the Prideaux crossing. Lane access/egress would be at Franklyn.

Tell us what you know about this section of trail or your questions or concerns about this route. Write your comment on a sticky note and add it to the plans or in the space below.

## PUBLIC OPINION

Combined with technical analysis, public input will help identify the recommended route. Which option do you believe is the better route for this section? Use a dot to mark your preference.

| Option A | Option B | Either Option |
| :---: | :---: | :---: |
|  |  |  |

## 7 Section Summaries

## SECTION 2: ALBERT TO KENNEDY/HECATE



## EVALUATION OVERVIEW

The table below summarizes strengths and challenges of each option based on technical review.

| Evaluation Criteria | Option A | Option B |
| :---: | :---: | :---: |
| Cost Estimate - Trail | \$570,000 | \$670,000 |
| Cost Estimate - Grade Crossings <br> * The grade crossing at Albert could be built with Section 1 or 2 , depending on which is built first. | \$940,000 - Albert* | \$1.24 M - Hecate/Kennedy*** |
| ** There is potential to avoid a grade crossing at Milton by moving the crossing 30 m from the tracks. This potential would be confirmed at the detailed design stage | \$1.41 M - Milton** |  |
| *** The grade crossing at Hecate/Kennedy could be built with Section 2 or 3 , depending on which is built first. | \$1.14 M - Hecate/Kennedy*** |  |
| Pedestrian Experience | Good - flat grades, direct route | Moderate - hill at Albert, departure from corridor |
| Cyclist Experience | Good - flat grades, direct route | Moderate - hill at Albert, requires $90^{\circ}$ turns |
| Vehicle Impacts | Moderate - signalized pedestrian crossings at Albert and Milton | Significant - signalized pedestrian crossings at Albert and Milton; potential removal of on-street parking on one-side of Milton and Hecate |
| Railway Impacts | Minimal |  |
| Infrastructure Requirements (retaining, drainage, utilities) $C B=$ Catch basin | Poor - retaining likely required near Albert and Kennedy; changes to curb line and relocation of CBs on Milton | Moderate - changes to curb line and relocation of a CBs on Milton and Hecate |
| CPTED (Crime Prevention Through Environmental Design) | Good - good sightlines, passive surveillance (if development occurs), well lit |  |
| Environmental Impacts | Moderate - potential tree removals due to grades near Albert and Kennedy | Good - minimal impacts to existing vegetation |
| Compatibility with Neighbouring Land Use | Moderate - narrow rail corridor means close proximity to private properties | Moderate - existing road corridor and narrow rail corridor means close proximity to private properties |

## PUBLIC OPINION

Combined with technical analysis, public input will help identify the recommended route. Which option do you believe is the better route for this section? Use a dot to mark your preference.

|  | Option B <br> (solid line) | Option B <br> (dashed line) <br> Opmmmam | Any Option |
| :---: | :---: | :---: | :---: |

## Section Summaries

## SECTION 3: KENNEDY/HECATE TO FIFTH



EVALUATION OVERVIEW
The table below summarizes strengths and challenges of each option based on technical review.


```
Length = 335m
ROW Width:
» }15\textrm{m}(50') Kennedy to Pin
    \> 15m(50') Kennedy to Pir
    # of Grade Crossings:
# Option A = 0 to 2
» Option B = 0 to 2
Estimated Cost
(see the Evaluation Criteria below for more details)
(see the Evaluation Criteria below for mo
    Option A Crossings =$0-$2.23M
    » Option B Trail = $700,000
    Option B Crossings = $0 - $2.32M
```

OVERVIEW


## OPTIONS NARRATIVE

Both options for this section are within the rail corridor and face similar challenges including CPTED (ie. low visibility, limited ambient light), steeper slide slopes and existing drainage ditches that would need to be converted to underground pipes if a trail is added in the corridor. The options in this section have similar costs and would likely require gates + signals at the grade crossings at Hecate/ Kennedy and at Fifth.

Option A is 3.0 m to 4.0 m multi-use trail located on the west side of the tracks, following an existing desire line. Steep existing side slopes will likely require retaining (near the Boys and Girls Club). Existing vegetation includes bramble and blackberries, so no significant vegetation removal is required.

Option B is a 3.0 m to 4.0 m multi-use trail located on the east side of the tracks. This route has steep side slopes near Hecate and again near Fifth that could require retaining. Near Hecate, there are existing trees that would be affected by trail development.

Tell us what you know about this section of trail or your questions or concerns about this route. Write your comment on a sticky note and add it to the plans or in the space below.

## PUBLIC OPINION

Combined with technical analysis, public input will help identify the recommended route. Which option do you believe is the better route for this section? Use a dot to mark your preference.

| Option A | Option B | Either Option |
| :---: | :---: | :---: |

## SECTION 3: FIFTH TO SEVENTH




## OPTIONS NARRATIVE

Between Fifth and Seventh there is a 1 km stretch of corridor without crossings. The Bing Kee pedestrian crossing is midway through this section. For both options grade crossings with signals + gates would be required at Fifth and Seventh.

Option A is 3.0 m to 4.0 m multi-use trail located on the west side of the tracks. Because the corridor is $100^{\prime}$ there is opportunity to locate the trail to manage grades, vegetation and drainage. The low point between Bing Kee and Seventh would need to be addressed.
Option B has two options. The first option follows the tracks to Columbia where it joins the street as a bicycle boulevard with speed humps and a traffic circle. At the end of Columbia, trail users are directed down a City ROW to View before traversing ICF land to connect back with the corridor at Seventh.

The second option is a 3.0 m to 4.0 m multi-use trail located on the east side of the tracks. Layout, vegetation and grading issues would be similar to those described in Option A.

## Tell us what you know about this section of trail or your questions or concerns about this route. Write your comment on a sticky note and add it to the plans or in the space below.

EVALUATION OVERVIEW
The table below summarizes strengths and challenges of each option based on technical review.

| Evaluation Criteria | Option A | Option B |
| :---: | :---: | :---: |
| Cost Estimate - Trail | \$1.68 M | \$750,000 - Columbia Bicycle Boulevard (solid line) |
|  |  | \$1.56 M - On Rail (dashed line) |
| Cost Estimate - Grade Crossings <br> * The grade crossing at fitth could be built with Section 3 or 4 , depending on which is built first <br> $* *$ Confirmation of the need to built the grade crossing at Seventh with this section or with future trail extension would be confirmed at detailed design. | \$1.09 M - Fifth* | \$1.08 M - Fifth* |
|  | \$820,000 - Seventh** | \$820,000 - Seventh** |
| Pedestrian Experience | Good - manageable grades, direct route; low point between Bing Kee and Seventh | Moderate (solid line) - manageable grades, direct route; pathway on Columbia Street |
|  |  | Good (dashed line) - manageable grades, direct route; low point between Bing Kee and Seventh |
| Cyclist Experience | Good - flat grades, direct route; low point between Bing Kee and Seventh | Moderate (solid line) - direct route; some grade challenges between Columbia and View; uses street network |
|  |  | Moderate (dashed line) - direct route; ravine between Bing Kee and Seventh |
| Vehicle Impacts | Good - minimal traffic impacts | Moderate (solid line) - traffic calming introduced on Columbia if bicycle boulevard is developed |
|  |  | Good (dashed line) - minimal traffic impacts |
| Railway Impacts |  | Minimal |
| $\underset{\text { Design) }}{\text { CPTED (Crime Prevention Through Environmental }}$ | Poor - limited passive surveillance and ambient light, isolated, swales and fences limit potential "escape" routes | Good (solid line) - passive surveillance and street lighting |
|  |  | Poor (dashed line) - limited passive surveillance and ambient light |
| Infrastructure Requirements (retaining, drainage, utilities) | Moderate - drainage swales and culverts required; grade improvements in ravine between Bing Kee and Seventh |  |
| Environmental Impacts | Moderate - some trees likely affected by grading at low point and sight lines | Good (solid line) - minimal tree impacts |
|  |  | Moderate (dashed line) - some trees likely affected by grading at ravine and sight lines |
| Compatibility with Neighbouring Land Use | Good - little impact on adjacent land uses | Moderate (solid line) - traffic calming introduced |
|  |  | Good (dashed line) - little impact on adjacent land uses |

## PUBLIC OPINION

Combined with technical analysis, public input will help identify the recommended route. Which option do you believe is the better route for this section? Use a dot to mark your preference.

|  | Option B <br> (solid line) | Option B <br> (dashed line) <br> Option A$\underline{\underline{\text { Illom }}}$ | Any Option |
| :---: | :---: | :---: | :---: |

## 10 Priorities \& Next Steps

## Which Section Do You Think is a Priority?

Imagine that you are in charge of deciding how to allocate funding for the development of the E\&N Trail Downtown South. You have only three sustain-a-bucks (tokens) to spend, but four sections of trail to consider. How would you spend your funds?

Place your tokens in the bins for the segments that you believe should be the highest priority. You can place all of them in one bin or one in each - it's up to you!


## Section 1:

Franklyn to Albert


Section 2:
Albert to
Kennedy/
Hecate


Section 3:
Kennedy/Hecate to Fifth


## What's Next?

Thank you for taking the time to participate in planning for the E\&N Trail. Your feedback will contribute to the development of a recommended route for the E\&N Trail Downtown South Alignment. A recommendation will be presented for Council consideration in July.

Please take amomentto complete a questionnaire and encourage others in your community to do the same. Questionnaires will be available online until June $19^{\text {th }}$ at:

www.nanaimo.cal goto/enrailtrail


