

Blaine-Birch Bay Multimodal Connectivity Study

Prepared for:

Blaine-Birch Bay Park & Recreation District 2

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SE21-0819

FEHR  PEERS

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Introduction

The Blaine-Birch Bay Park & Recreation District 2 (BBBPRD2) is responsible for providing recreational opportunities in the northwest portion of Whatcom County covering the Blaine-Birch Bay area. In support of its mission, BBBPRD2 collaborated with Fehr & Peers to identify and prioritize feasible concepts to create safe, connected active transportation networks along the roads within the district boundaries. The project identified strategies to improve safe walking and biking access to public transit and popular destinations. Candidate projects were first evaluated against a set of criteria evaluating the non-motorized access benefits. Based on the non-motorized access analysis along with a cost and feasibility review, a list of priority projects was selected to potentially advance through future planning and funding phases.

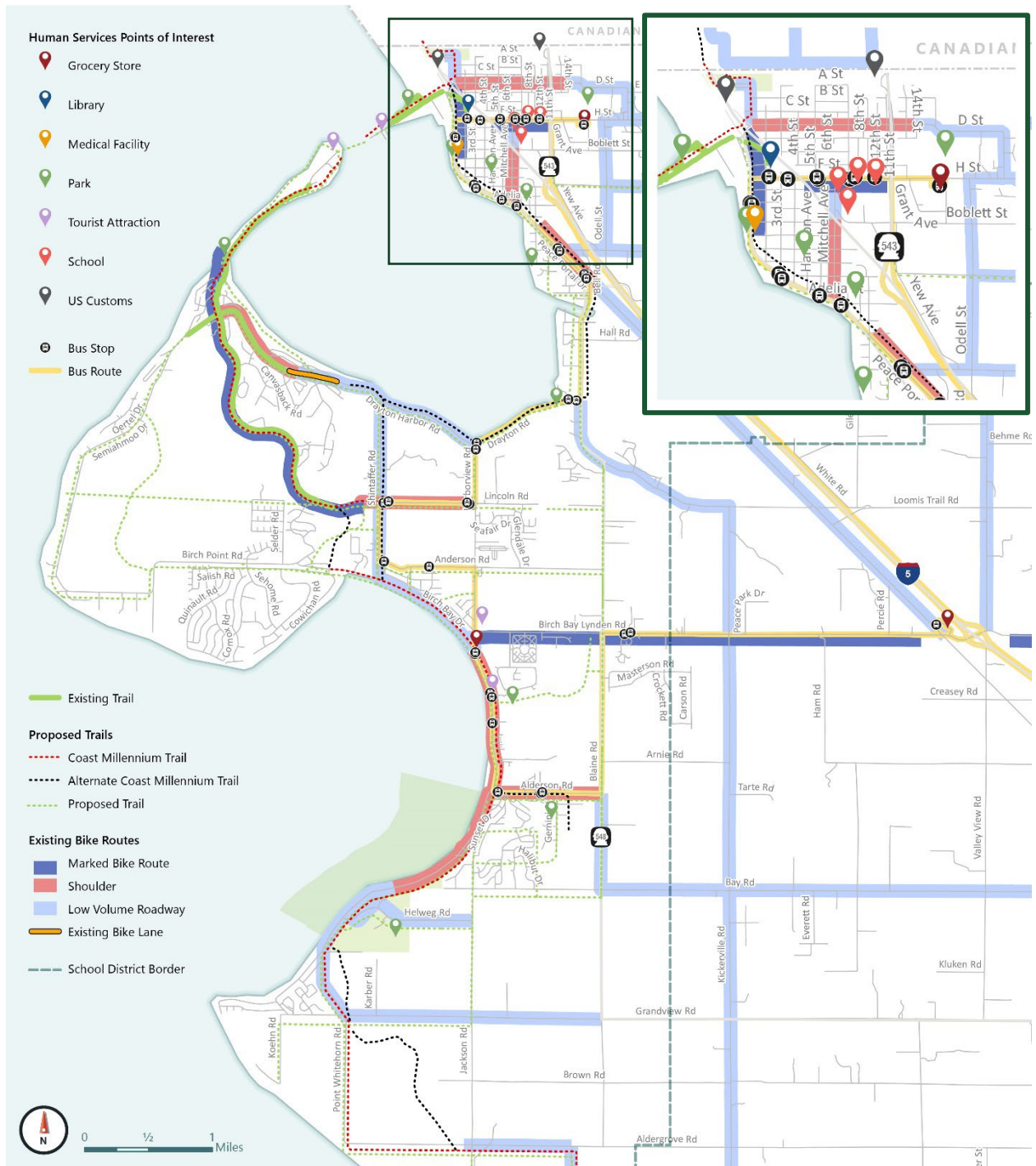
Planning Context Map

Figure 1 encapsulates existing transportation conditions and previously proposed projects within the study area using data procured from Whatcom County, Whatcom Council of Governments, the City of Blaine, and BBBPRD2. While the data did not provide a complete picture of all facilities in the area, it provided an initial assessment of current conditions and potential transportation issues to support the initial analysis.

Several existing marked bike routes and wide shoulders are within the study area, including along Birch Bay Lynden Road, Birch Bay Drive, Lincoln Road, and Alderson Road while trails exist along Semiahmoo Parkway and Drayton Harbor Road (in the Blaine city limits). Multiple proposed trails and bike routes also exist in the study area and provided an initial set of potential projects for the project evaluation phase of the study.



Figure 1: Planning Context Map





Initial Project Evaluation

Project Identification and Evaluation Approach

Fehr & Peers utilized the data summarized in **Figure 1** to identify potential projects that would improve safety and connectivity for people walking and biking in the study area. The analysis identified gaps in bicycle facility and trail connections and determined project segments that could be implemented over time based on funding availability. Primary factors that guided the project development included connections to key destinations, such as parks, schools, bus stops, and other activity centers. Projects that were previously identified as part of other planning efforts, but which are not yet funded, were also included on the candidate project list for evaluation. In addition, a focus was placed on creative solutions to equitably manage the potential conflicts between high-speed traffic (35+ mph) and non-motorized users while balancing the needs for cost efficiency and construction feasibility.

Fehr & Peers developed a set of evaluation criteria aligned with the values and priorities of the community, including Whatcom County and Washington State Department of Transportation (WSDOT). The evaluation criteria were finalized through discussions with BBBPRD2 Commissioners and project staff. The analysis then used the criteria to score each candidate project to inform the prioritization process. Evaluation criteria are listed in **Table 1**; criteria are a mix of quantitative and qualitative metrics. Each goal is equally weighted with a 20-point maximum score allowing each project to earn up to 100 points total. See **Appendix A** for the full evaluation criteria, technical descriptions of the metrics used, and scoring definitions.



Table 1: Evaluation Criteria

Goal	Project Evaluation Criteria
1. Improve connectivity and mobility options for travelers walking, biking, and taking transit	<ul style="list-style-type: none"> • Project fills a network gap to expand options for taking a variety of travel modes. • Project improves access for as many people as possible in the region.
2. Improve safety and comfort for travelers of all ages and abilities	<ul style="list-style-type: none"> • Project makes biking safer/more comfortable for people of all abilities. • Project includes pedestrian improvements.
3. Equitably serve the community	<ul style="list-style-type: none"> • Project provides safety and access benefits for vulnerable communities.
4. Support timely and coordinated project implementation	<ul style="list-style-type: none"> • Project is implementable within a reasonable timeframe. • Project is implementable given technical and right-of-way considerations. • Project is funded. • Project is likely to be funded through local, regional, state, or federal funding. • Project limits construction impacts.
5. Support environmental and community health	<ul style="list-style-type: none"> • Project supports community access to nature. • Project reduces negative environmental impacts.

Source: Fehr & Peers, 2022.

Non-Motorized Access Analysis

Figure 2 highlights the locations of each candidate project within the study area and **Table 2** summarizes the candidate projects and their overall evaluation criteria scores. Please see **Appendix B** a more detailed matrix of the projects and the evaluation results.

The top scoring projects were enhanced crossings (21, 8, 13, 14, 20, and 22) and trail projects (6, 5, 7, 12, and 17). The enhanced crossing projects scored well because they improved connectivity and mobility for travelers for a relatively smaller cost and faster timeline than the other projects on the list. The trail projects scored well because they improved connectivity and mobility for all modes while enhancing safety and comfort for all ages and abilities. Lower scoring projects were bike lanes along roadways with potentially challenging conditions (3, 4, and 2) or projects that provided lower benefits relative to either a higher cost or complexity (24, 25, and 26).



Figure 2: Candidate Projects

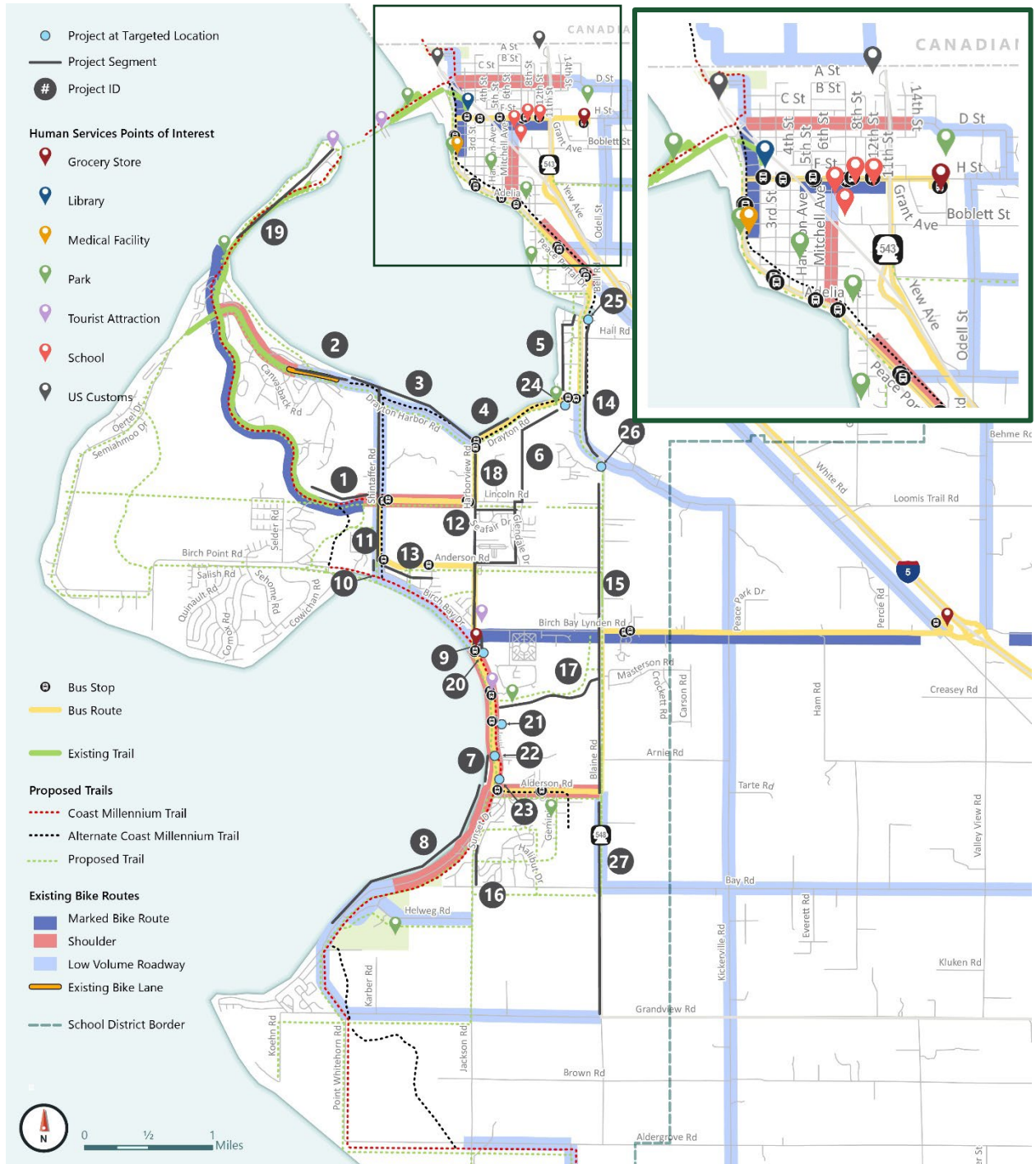


Table 2: Candidate Project List

ID	Project Name	Project Description	Score
1	Semiahmoo Pkwy Bicycle Improvements	Add bike facilities to fill the gap east of Horizon Dr., where the existing trail ends	60
2	Drayton Harbor Pedestrian and Bicycle Improvements: West Segment	Upgrade the existing bike lanes	22
3	Drayton Harbor Pedestrian and Bicycle Improvements: East Segment	Add bicycle facilities to provide a connection to the bus stops	32
4	Drayton Harbor Rd. Bicycle Improvements	Add bicycle facilities to provide a connection from the bus stops to the Bay-to-Bay Trail	30
5	Bay-to-Bay Trail #1	Add a shared use trail per existing plans	73
6	Bay-to-Bay Trail #2	Add a shared use trail per existing plans	78
7	Bay-to-Bay Trail #3	Add a shared use trail per existing plans	66
8	Bay-to-Bay Trail #4	Add a shared use trail per existing plans	56
9	Harborview Rd. Pedestrian Improvements	Improve the pedestrian facilities on Harborview Rd. between Birch Bay Dr. and Birch Bay Lynden Rd., which currently has a sidewalk on the west side that disappears	75
10	Shintaffer Rd. Pedestrian Facility Improvements	Add pedestrian facilities on Shintaffer Rd. to provide a connection between the bus stops on Anderson Rd. and Birch Bay Dr.	51
11	Shintaffer Rd. Bicycle Facility Improvements	Add bike facilities on Shintaffer Rd. to provide a connection from Drayton Harbor Rd. to Anderson Rd.	66
12	Lincoln Rd. Bicycle and Pedestrian Improvements	Add pedestrian and bicycle facilities on Lincoln Rd. to connect residences to the bus stops on Harborview Rd. and the future Bay-to-Bay trail	66
13	Anderson Rd. Pedestrian Improvements	Add pedestrian facilities on Anderson Rd. to connect residences to the bus stops	61
14	Dakota Creek Bridge to Blaine Rd. Bike Connection	Add a regional bike connection to connect the Dakota Creek Bridge to California Creek Bridge on Blaine Rd.	61
15	Blaine Rd. Bike connection and RRFB at Blaine Rd. and Alderson (Phase I)	Add a regional bike connection on Blaine Rd.. Add Rectangular Rapid Flashing Beacon and crosswalk striping/signage	49
16	Jackson Rd. connection	Add a bike and pedestrian connection on Jackson Rd. to connect residences to Birch Bay Dr.	41
17	Sunset Farm Park Trail	Add a trail connection through Sunset Farm Park to provide a primary east-west connection between Birch Bay and Blaine Rd	63
18	Harborview Rd. Bicycle Facility Improvements	Add bicycle facilities as an alternate north-south route to Blaine Rd.	41
19	Semiahmoo Pkwy Trail Separation	Provide trail separation/widen the trail along Semiahmoo Parkway, as feasible	46
20	Birch Bay Dr. and Harborview Rd. Crosswalk Improvements	Fix radii, update crosswalk striping and clean up curb ramps	61



Table 2: Candidate Project List

ID	Project Name	Project Description	Score
21	Birch Bay Dr. and north of Beachcomber Dr. RRFB	Add Rectangular Rapid Flashing Beacon at the existing crosswalk north of the restaurant	80
22	Birch Bay Dr. and Lora Ln Crosswalk	Add a crosswalk to connect trail across Birch Bay Dr.	61
23	Birch Bay Dr. and Alderson Rd. Crosswalk Improvements	Square up the crosswalks and update crosswalk striping and signage	56
24	Drayton Harbor Rd. Bridge Improvements	Install bicycle warning beacons to warn vehicles when cyclists are on bridge (automatic sensors)	39
25	Blaine Rd. Bike Bridge Improvements (Dakota Creek)	Install bicycle warning beacons to warn vehicles when cyclists are on bridge (automatic sensors)	34
26	Blaine Rd. Bike Bridge Improvements (California Creek)	Install bicycle warning beacons to warn vehicles when cyclists are on bridge (automatic sensors)	34
27	Blaine Rd. Bike connection (Phase II)	Add a regional bike connection on Blaine Rd.	32



Priority Project List and Next Steps

Priority Project List

Based on the findings from the initial evaluation, the project team worked with BBBPRD2 to select a set of priority projects to study in greater depth as shown on **Figure 3**. These projects are summarized in **Table 3** and shown in order of overall evaluation criteria. Some projects of similar types or within close proximity to one another were packaged together and their scores were averaged. The scores generated in the evaluation step were normalized to a maximum score of 100 for the best scoring project (#21). The project team reviewed each priority project to identify constraints related to right-of-way, bridges, wetlands, and constructability, and then developed a conceptual cost estimate based on the known conditions as well as potential risk factors that could be identified at this early planning stage.

Following the summary table is a “Project Detail Page” for each priority project which summarizes the project, including an aerial map of its location, the project’s score on each of the five evaluation areas¹, potential feasibility constraints, and conceptual cost estimates. The cutsheets are ordered by the final evaluation score for the combined projects as shown in **Table 3**.

¹ Because of the normalization to a maximum score of 100, the project scores for the five evaluation areas do not total up to 100. Instead, they show the original scores prior to normalization in order to convey the relative scoring of the evaluation criteria for each project (Equity, Safety and Comfort, etc.).



Figure 3. Final Prioritized Projects

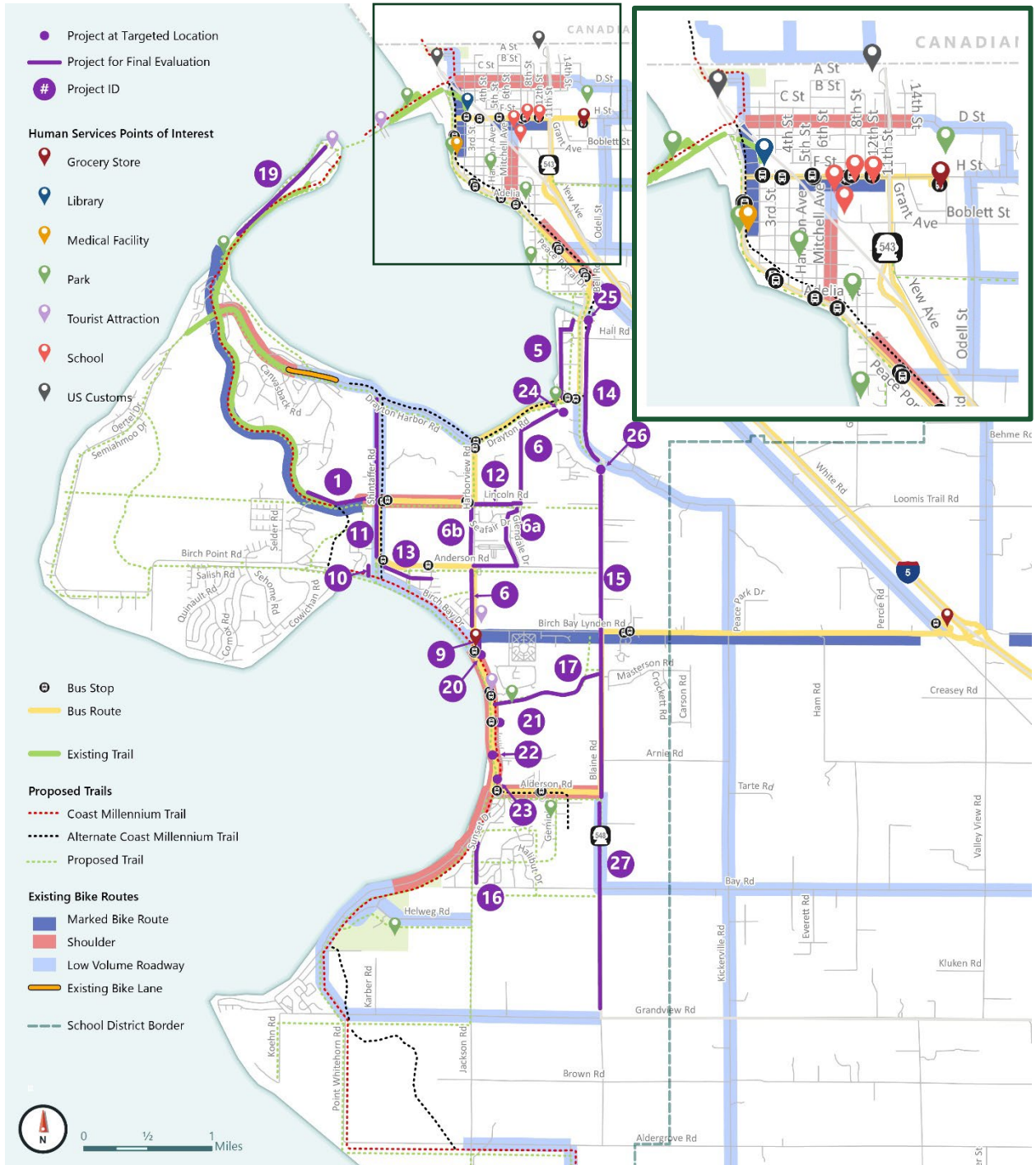


Table 3: Priority Project List

ID	Project Name	Project Description	Score
20, 21, 22, 23	Birch Bay Dr. Crossing Improvements	Add a rectangular rapid flashing beacon (RRFB) at the existing crosswalk north of the restaurant; update turn radii, crosswalk striping, and curb ramps at Harborview Rd; add a crosswalk to connect to Bay-to-Bay Trail at Lora Ln; and update crosswalk configuration, striping, and signage at Alderson Rd.	100
6N, 6a, 6b, 12, 6S	Bay-to-Bay Trail #2 and Lincoln Rd. Improvements	Add a shared use trail per existing plans and pedestrian and bicycle facilities on Lincoln Rd. to connect residences to Harborview Rd. bus stops and the future Bay-to-Bay Trail. Include alternative pathway to understand cost and feasibility/benefit trade-offs.	98
9	Harborview Rd. Pedestrian Improvements	Improve the pedestrian facilities on Harborview Rd. between Birch Bay Dr. and Birch Bay Lynden Rd. which currently has a sidewalk gap on the west side.	94
5	Bay-to-Bay Trail #1	Add a shared use trail per existing plans following Shipyard Rd. and Dearborn Ave. This project is the segment of the proposed trail north of Drayton Harbor Rd. and an alternative to project 14.	91
11	Shintaffer Rd. Bicycle Facility Improvements	Add bicycle facilities on Shintaffer Rd. to provide a connection from Anderson Rd. to Drayton Harbor Rd..	83
17	Sunset Farm Park Trail	Add a trail connection through Sunset Farm Park to provide a primary east-west connection between Birch Bay Dr. and Blaine Rd.	79
13	Anderson Rd. Pedestrian Improvements	Add pedestrian facilities on Anderson Rd. to connect residences to bus stops.	76
14	Dakota Creek Bridge to Blaine Rd. Bike Connection	Add a regional bike connection to connect the Dakota Creek Bridge to California Creek Bridge on Blaine Rd.	76
1	Semiahmoo Parkway Bicycle Improvements	Add bicycle facilities to fill the gap east of Horizon Dr. where the existing trail ends.	75
10	Shintaffer Rd. Pedestrian Facility Improvements	Add pedestrian facilities on Shintaffer Rd. to provide a connection between the bus stops on Anderson Rd. and Birch Bay Dr.	64
15	Blaine Rd. Bike Improvements – Phase I	Add a regional bicycle connection on Blaine Rd; add a rectangular rapid flashing beacon (RRFB) and crosswalk striping and signage at Blaine Rd./Alderson Rd. intersection.	61
19	Semiahmoo Parkway Trail Separation	Provide trail separation and widen the trail along Semiahmoo Parkway as feasible.	58
16	Jackson Rd. Bicycle Connection	Add a bike and pedestrian connection on Jackson Rd. to connect residences to Birch Bay Dr.	51
24, 25, 26	Bridge Improvements	Install automatic sensors and bicycle warning beacons to warn vehicles when cyclists are on the Drayton Harbor Rd. bridge, Blaine Rd. bridge over Dakota Creek, and Blaine Rd. bridge over California Creek.	45
27	Blaine Rd. Bicycle Connection – Phase II	Add a regional bicycle connection on Blaine Rd.	40



Next Steps

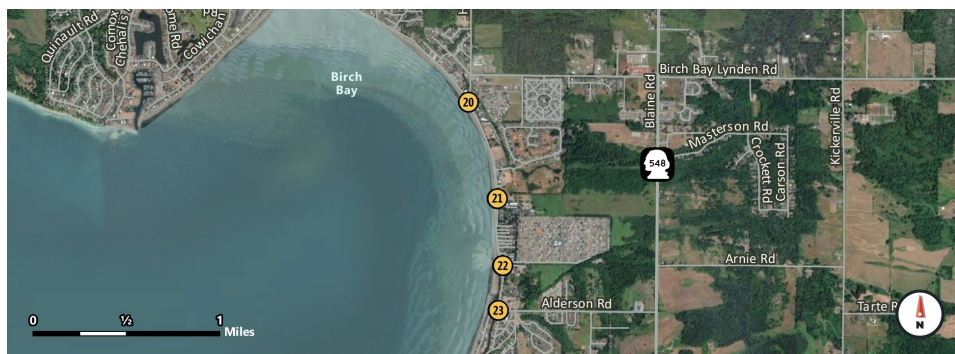
The Blaine-Birch Bay Parks and Recreation District 2 will use the findings of this study to apply for funding requests through several grant programs, including federal, state, and regional sources. As projects are identified for future funding, next stages in project development will include more-detailed planning and conceptual design processes to finalize a preferred concept before advancing into final design and construction

Project Detail Pages

Project #20, 21, 22, 23

Birch Bay Drive Crossing Improvements

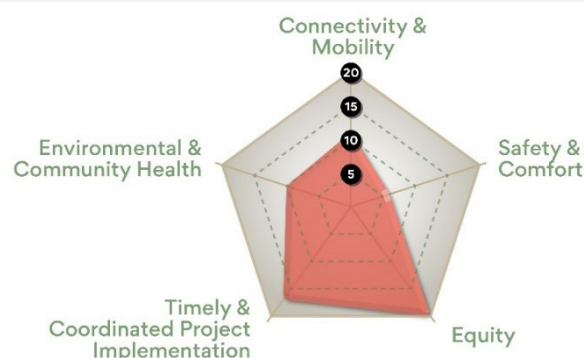
Add a rectangular rapid flashing beacon (RRFB) at the existing crosswalk north of the restaurant aligned with the existing curb ramps; update turn radii, crosswalk striping, and curb ramps at Harborview Rd; add a crosswalk to connect to Bay-to-Bay Trail at Lora Ln; and update crosswalk configuration, striping, and signage at Alderson Rd.



Project Location

- | | | |
|----------------------------------|--|---|
| 20: Birch Bay Rd./Harborview Rd. | | 21: Birch Bay Rd./Beachcomber Dr. north of restaurant |
| 22: Birch Bay Rd./Lora Ln. | | 23: Birch Bay Rd./Alderson Rd. |

Project Evaluation



Feasibility

- Assumed curb bulb and ramp alignment for project 21 on east side of Birch Bay Dr.
- Could/should be coordinated with Whatcom County's chipseal project in 2023.
- Potentially will require relocation of private improvements

Total Score: 100

Conceptual Cost Estimate: \$0.4M



Project #6, 12

Bay-to-Bay Trail #2 and Lincoln Road Improvements

Add shared use trail per existing plans from Drayton Harbor Rd. to Lincoln Rd. via existing easement (6N) and a shared use trail on Lincoln Rd. from Morningside Rd. to Harborview Rd. (12) and on Harborview Rd. from Lincoln Rd. to Anderson Rd. (6b). Alternative pathway instead of project 12 and 6b is to use wayfinding signage on Morningside Dr. and Bayshore Dr. from Lincoln Rd. to Glendale Dr. and continue as a shared use path on Glendale Dr. and Anderson Rd. to Harborview Rd. (6a). Remaining segment of the project would be a shared use path from Anderson Rd. to Birch Bay Lynden Rd. along Harborview Rd. (6S).



Project Location

6N: Easement from Drayton Harbor Rd. to Lincoln Rd.

6a: Glendale Dr./Bayshore Dr./Morningside Dr. and along Anderson Rd. OR

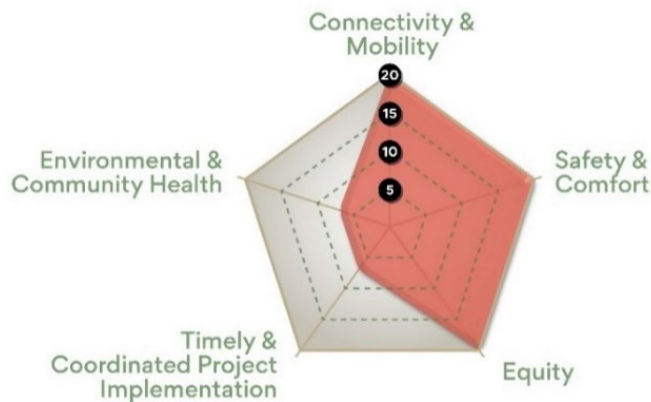
6b: Harborview Rd. from Lincoln Rd. to Anderson Rd. and 12: Lincoln Rd. east of Harborview Rd.

6S: Harborview Rd. from Birch Bay Lynden Rd. to Anderson Rd.

Project #6, 12

Bay-to-Bay Trail #2 and Lincoln Road Improvements

Project Evaluation



Feasibility

- Shoreline impacts to California Creek (420 feet minimum) for Project 6N
- An extension of Project 12 is on Whatcom County's Transportation Improvement Plan
- Narrow right-of-way availability for a portion of Anderson Rd. segment (6a)

Total Score: 98

Conceptual Cost Estimates:

6N: \$0.6M

6a: \$1.0M

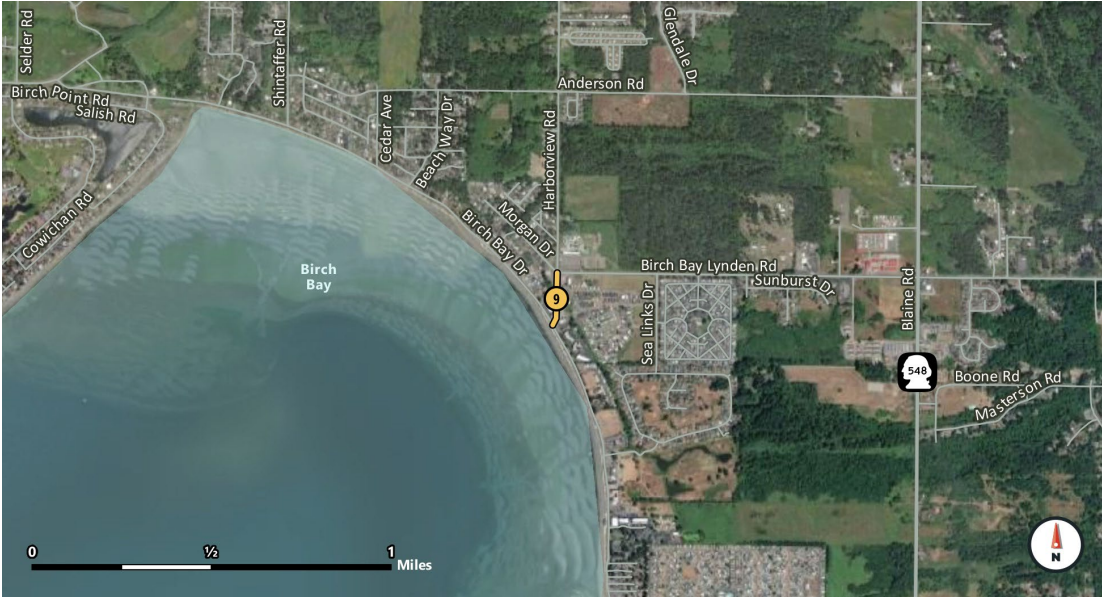
6b: \$1.0M | 12: \$1.0M

6S: \$1.1M



Project #9 Harborview Road Pedestrian Improvements

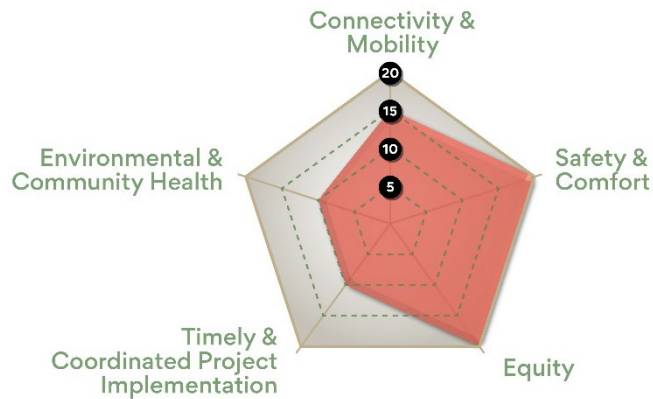
Improve the pedestrian facilities on Harborview Road between Birch Bay Drive and Birch Bay Lynden Road which currently has a sidewalk gap on the west side. This project would not construct a sidewalk on the east side, which currently does not have a sidewalk.



Project Location

9: Harborview Rd. from Birch Bay Dr. to Birch Bay Lynden Rd.

Project Evaluation



Feasibility

- Will require a Shoreline Permit from Whatcom County.

Total Score: 94

Conceptual Cost Estimate: \$0.3M

Project #5 Bay-to-Bay Trail #1

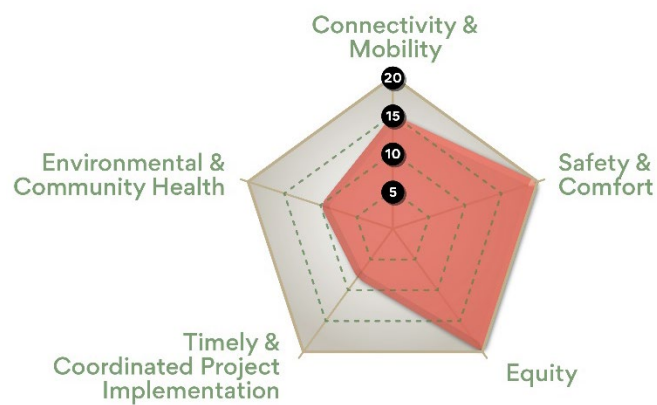
Add a shared use trail per existing plans following Shipyard Road and Dearborn Avenue. This project is the segment of the proposed trail north of Drayton Harbor Rd.



Project Location

5: Blaine Rd/Shipyard Rd./Dearborn Ave. from Dakota Creek Bridge to Drayton Harbor Rd.

Project Evaluation



Feasibility

- Right-of-way constraints
- Creek crossing limitations
- Alternative to Project 14

Total Score: 91

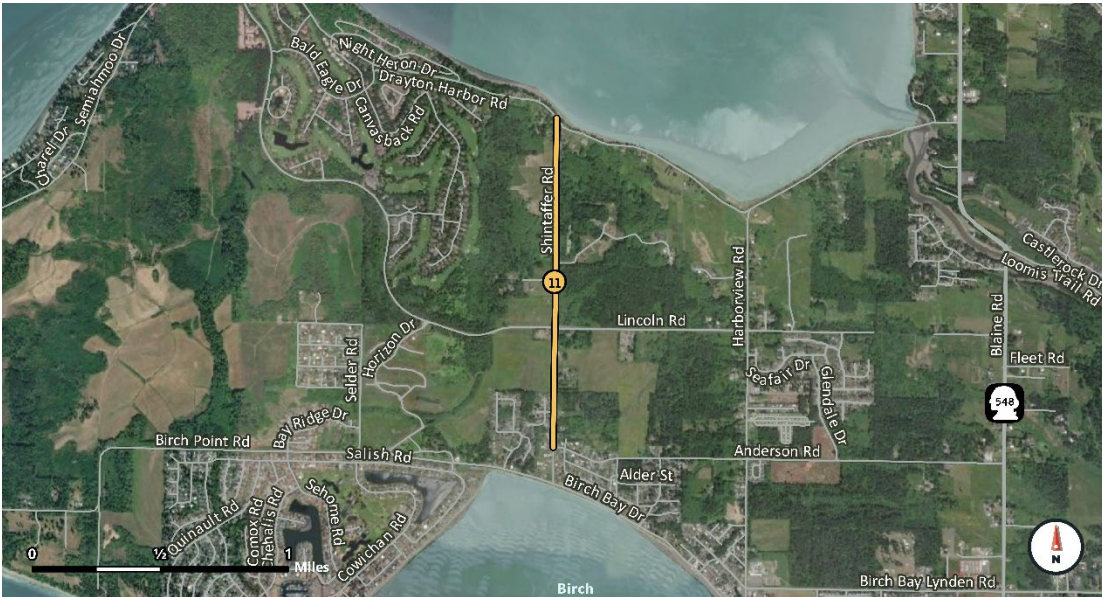
Conceptual Cost Estimate: \$2.2M



Project #11

Shintaffer Road Bicycle Facility Improvements

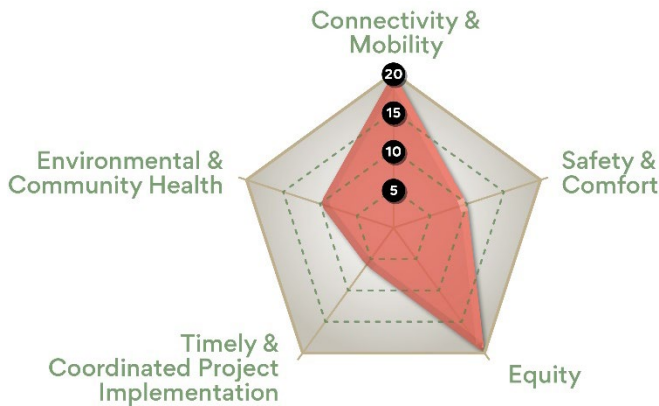
Add bicycle facilities on Shintaffer Road to provide a connection from Anderson Road to Drayton Harbor Road.



Project Location

11: Shintaffer Road from Anderson Rd. to Drayton Harbor Rd.

Project Evaluation



Feasibility

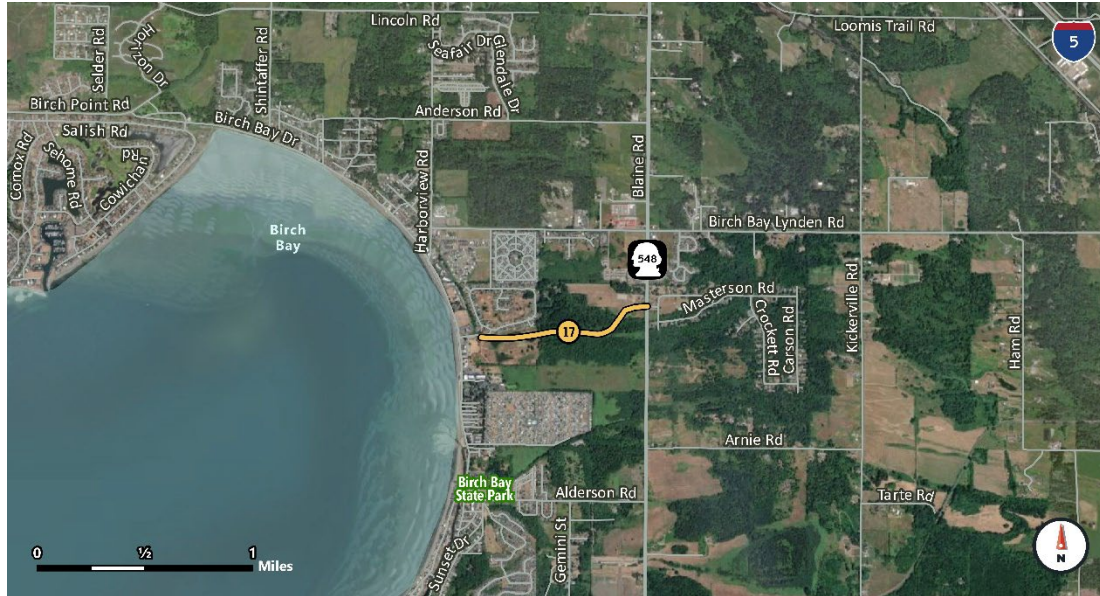
- Lacking adequate public right-of-way throughout segment
- Serves less area than Harborview Road

Total Score: 83

Conceptual Cost Estimate: \$2.6M

Project #17 Sunset Farm Park Trail

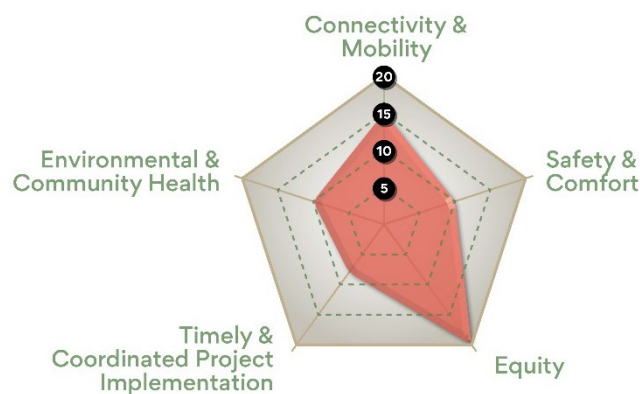
Add a trail connection through Sunset Farm Park to provide a primary east-west connection between Birch Bay Drive and Blaine Road.



Project Location

17: Potential easement on south side of development from Birch Bay Dr. to Sunset Farm Park and connection to Blaine Rd. approximately across from Hickock Rd.

Project Evaluation



Feasibility

- Likely wetland and/or stream impacts through park
- Creek crossing through western terminus
- Route will require easement from Birch Bay Drive to the western edge of the park.
- Costs assume 12-foot graveled shared-use path
- Great candidate for Consolidated Grant

Total Score: 79

Conceptual Cost Estimate: \$1.2M



Project #13

Anderson Road Pedestrian Improvements

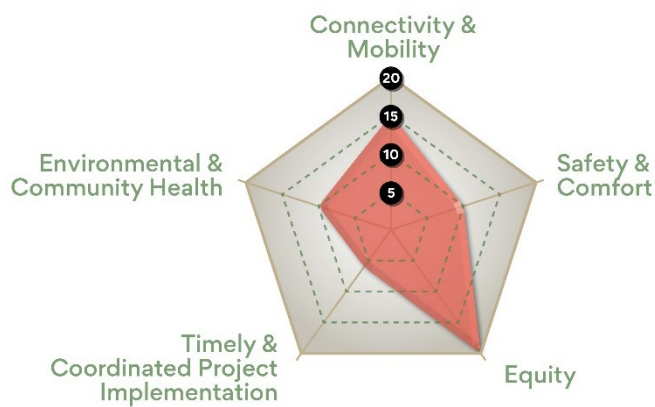
Add pedestrian facilities on Anderson Road to connect residences to bus stops.



Project Location

13: Anderson Rd from Shintaffer Rd. to Beach Way Dr.

Project Evaluation



Feasibility

- Right-of-way constraints

Total Score: 76

Conceptual Cost Estimate: \$2.2M

Project #14

Dakota Creek Bridge to Blaine Rd. Bike Connection

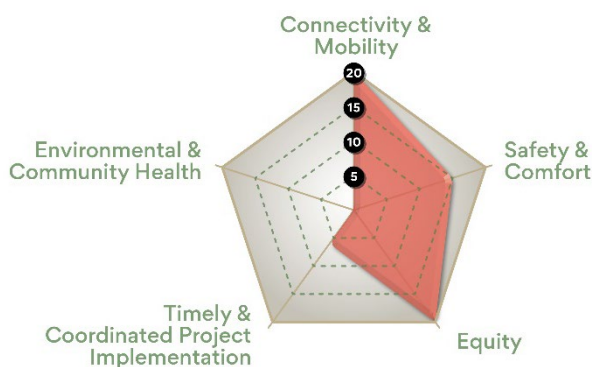
Add a regional bike connection to connect the Dakota Creek Bridge to California Creek Bridge on Blaine Road by constructing an 8-foot shared-use path generally along the eastern and northern side of Blaine Road.



Project Location

14: Blaine Rd. from Dakota Creek Bridge to California Creek Bridge

Project Evaluation



Feasibility

- Culvert extension required of fish-bearing stream at Drayton Harbor Rd. and midway between Drayton Harbor Rd. and Loomis Trail Rd.
- Significant concrete box culvert extension required of fish-bearing stream 700 ft south of Hall Rd.
- All segments are on state highway – less local control.

Total Score: 76

Conceptual Cost Estimate: \$1.9M



Project #1

Semiahmoo Parkway Bicycle Improvements

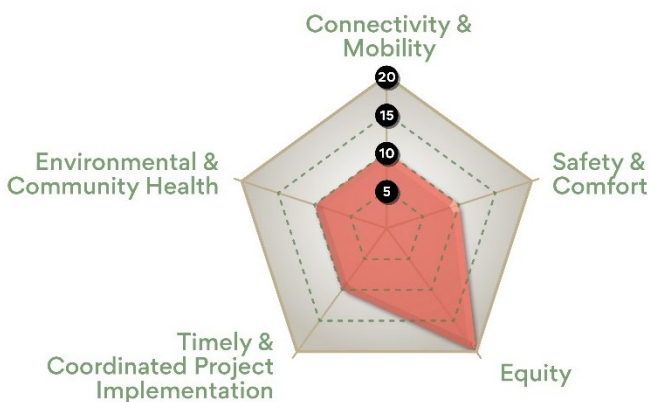
Add bicycle facilities (striped bike lanes) to fill the gap east of Horizon Drive where the existing trail ends and west of Shintaffer Road where wide shoulder exists.



Project Location

1: Semiahmoo Pkwy from Horizon Dr. to Shintaffer Rd

Project Evaluation



Feasibility

- Lacking public right-of-way from Shintaffer Rd. intersection to a point 1,250 ft to the west

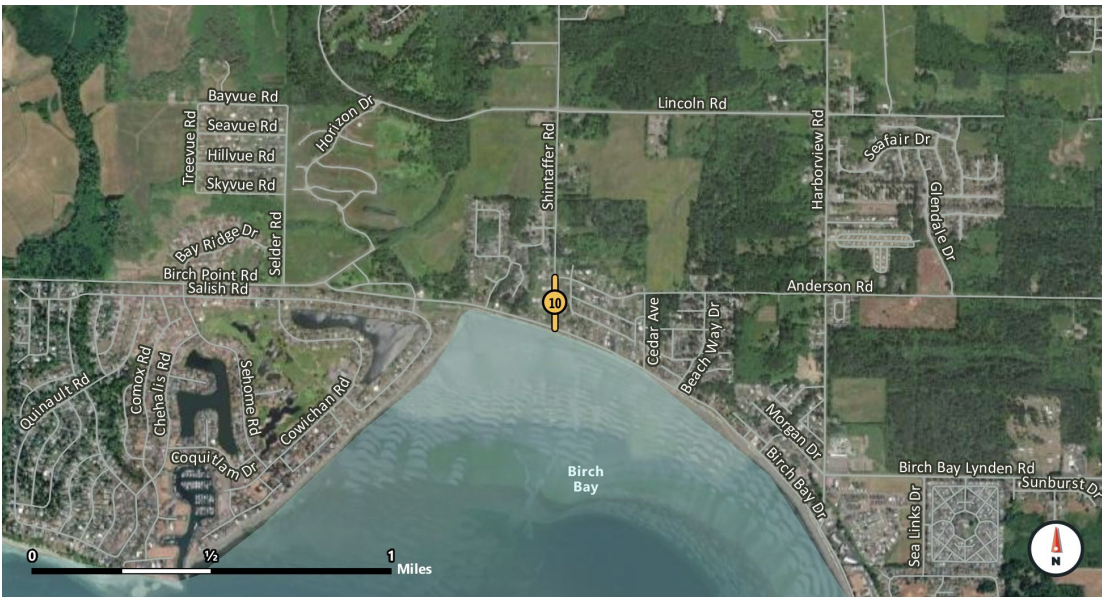
Total Score: 75

Conceptual Cost Estimate: \$0.5M

Project #10

Shintaffer Road Pedestrian Facility Improvements

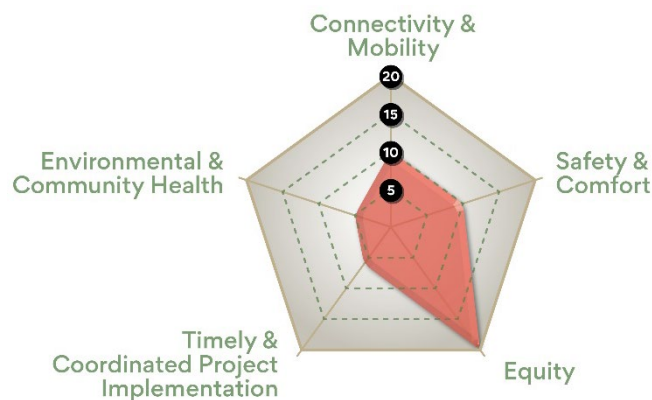
Add pedestrian facilities on Shintaffer Road to provide a connection between the bus stops on Anderson Road and Birch Bay Drive.



Project Location

10: Shintaffer Rd. from Birch Bay Dr. to Anderson Rd.

Project Evaluation



Feasibility

- Right-of-way constraints
- Potentially involves relocation of private improvements

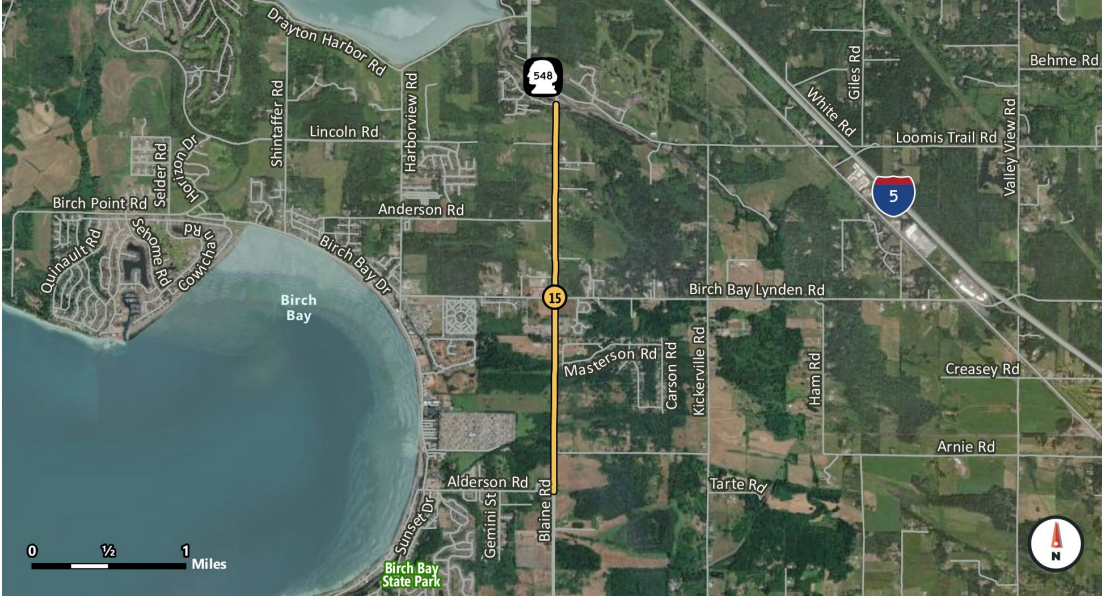
Total Score: 64

Conceptual Cost Estimate: \$0.6M



Project #15 Blaine Road Bike Improvements – Phase I

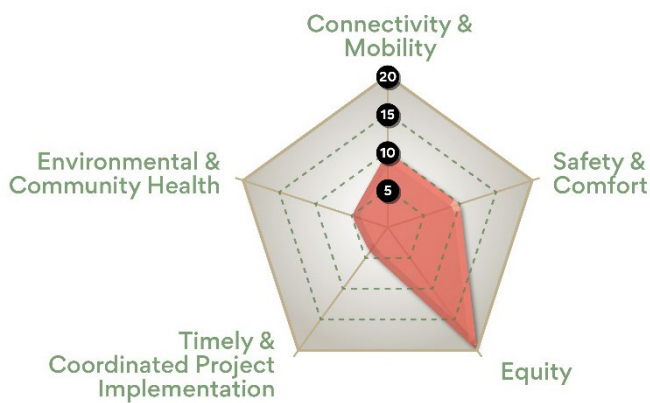
Add a regional bicycle connection on Blaine Road; add a rectangular rapid flashing beacon (RRFB) and crosswalk striping and signage at Blaine Road/Alderson Road intersection.



Project Location

15: Blaine Rd. from California Creek Bridge to Alderson Rd.

Project Evaluation



Feasibility

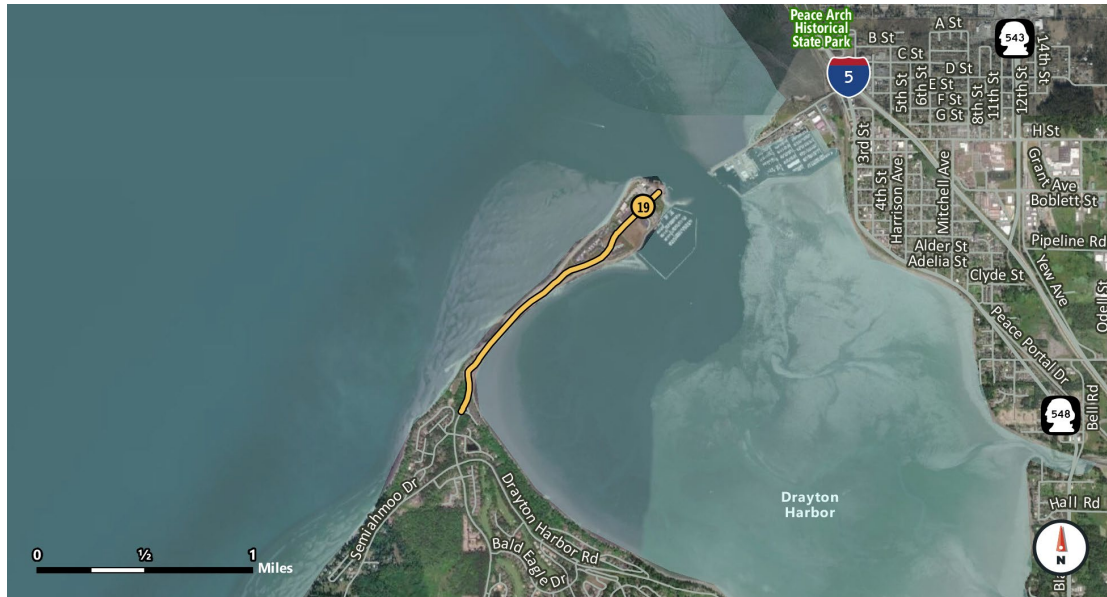
- Culvert extension required of fish-bearing stream 625 ft south of Loomis Trail Rd. with deep ravine, 2,250 ft south of Birch Bay Lynden Rd, and 4,650 ft south of Birch Bay Lynden Rd
- Wetlands on both sides of Blaine Rd. in four separate locations
- State highway – less local control

Total Score: 61

Conceptual Cost Estimate: \$3.8M

Project #19 Semiahmoo Parkway Trail Separation

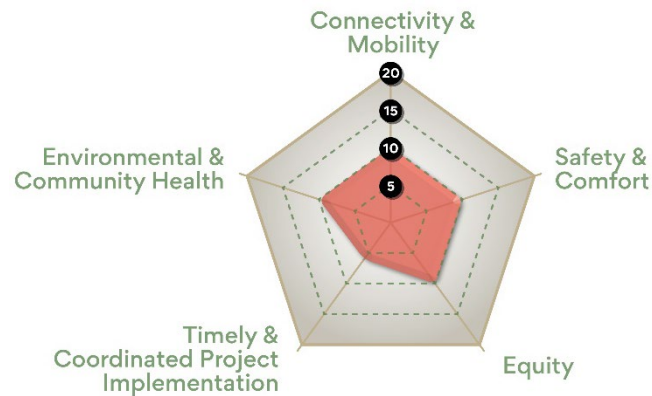
Provide trail separation and widen the trail along Semiahmoo Parkway as feasible.



Project Location

19: Semiahmoo Parkway from Semiahmoo Park to the water

Project Evaluation



Feasibility

- Shoreline impacts to Drayton Harbor (500 ft minimum)
- Subject to erosion on both sides of isthmus
- Existing trail is heavily used
- Permitting will be challenging

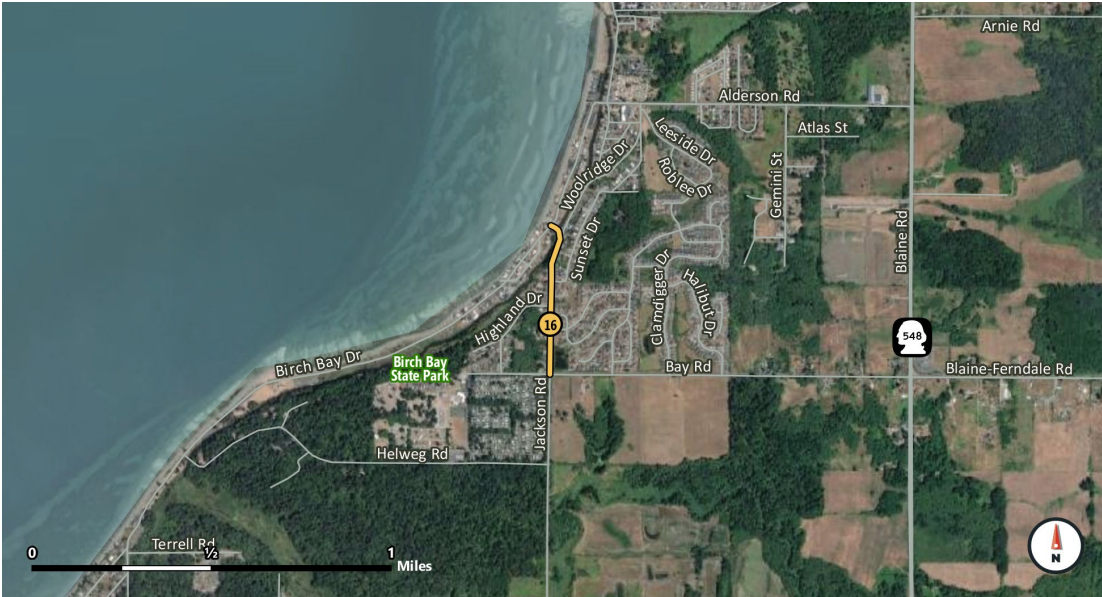
Total Score: 58

Conceptual Cost Estimate: \$4.1M



Project #16 Jackson Road Bicycle Connection

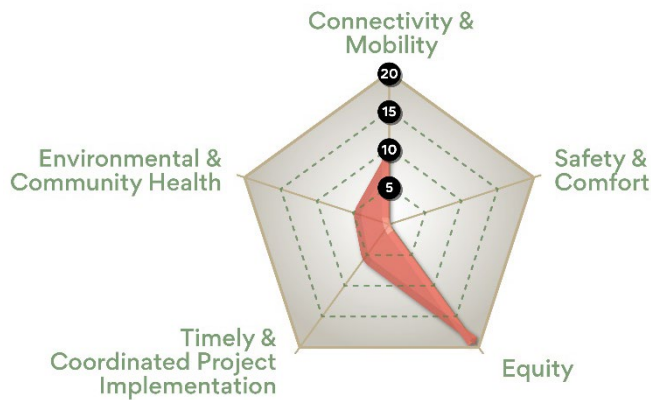
Add a bicycle connection on Jackson Road to connect residences to Birch Bay Drive.



Project Location

16: Jackson Rd. from Bay Rd. to Birch Bay Dr.

Project Evaluation



Feasibility

- Constrained right-of-way along Jackson Rd. directly south of Birch Bay Dr. due to slope
- Potential alternative right-of-way pathway between Wooldridge Dr. and Sunset Dr. east of Jackson Rd.
- Tie in to bridge replacement that is currently under design

Total Score: 51

Conceptual Cost Estimate: \$1.2M

Project #24, 25, 26 Bridge Improvements

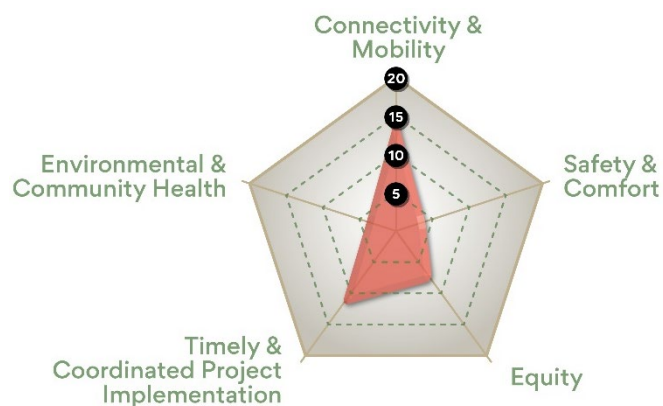
Install automatic sensors and bicycle warning beacons to warn vehicles when cyclists and/or pedestrians are on the Drayton Harbor Road bridge, Blaine Road bridge over Dakota Creek, and Blaine Road bridge over California Creek.



Project Location

- 24: Drayton Harbor Rd. Bridge
- 25: Blaine Rd. from Washington Ave. to Shipyard Rd.
- 26: Blaine Rd. from Loomis Trail Rd. to California Trail

Project Evaluation



Feasibility

- Two segments (#25 and 26) are on state highway – less local control.
- Warning beacons alone are not meant to be a long-term solution.
- Long-term solution on SR 548 would identify bridge replacement or a new bike/ped parallel bridge as a permanent facility.

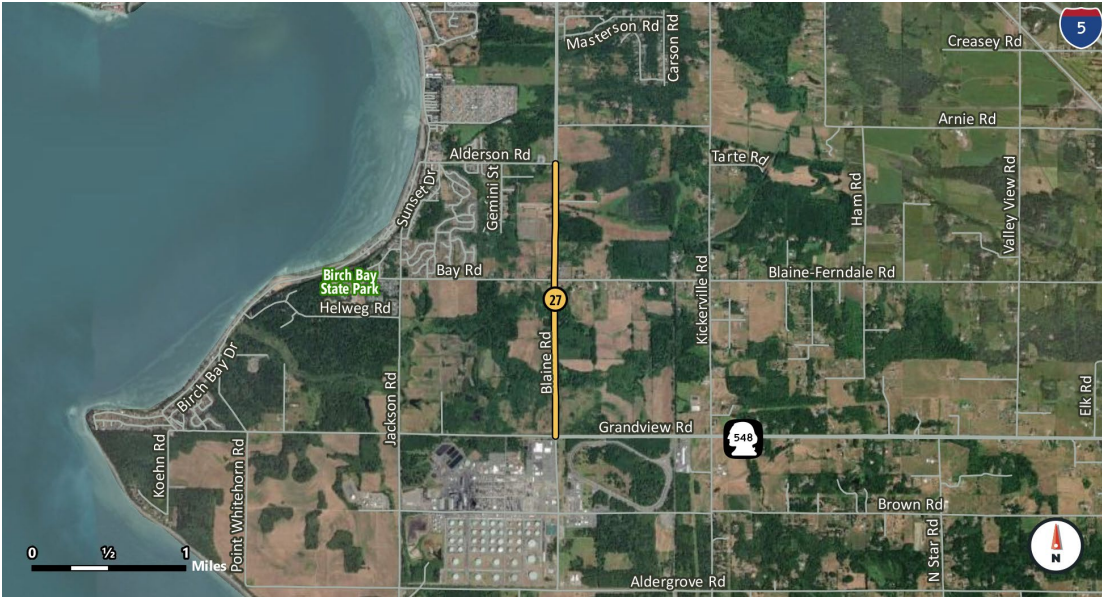
Total Score: 45

Conceptual Cost Estimate: \$0.6M



Project #27 Blaine Road Bicycle Connection – Phase II

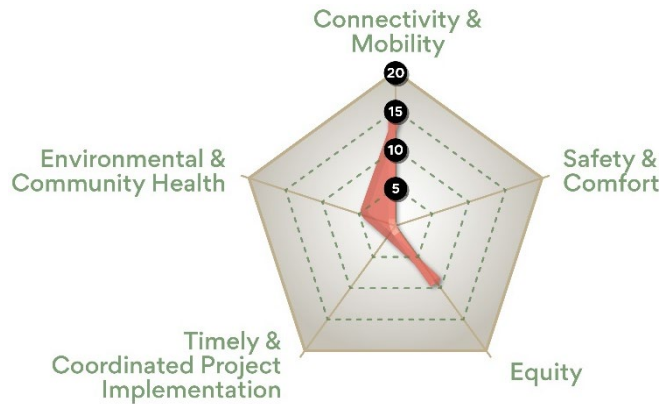
Add a regional bicycle connection on Blaine Road.



Project Location

27: Blaine Rd. from Alderson Rd. to Grandview Rd.

Project Evaluation



Feasibility

- Significant culvert extension required of fish-bearing stream with deep ravine 1,050 ft south of Bay Rd.
- Wetlands both sides of Blaine Rd. 1,500 ft south of Alderson Rd.
- State highway so less local control.

Total Score: 40

Conceptual Cost Estimate: \$2.6M

Appendix A: Evaluation Criteria

GOAL	PROJECT EVALUATION CRITERIA	TECHNICAL DESCRIPTION	SCORING	
1. Improve connectivity and mobility options for travelers walking, biking, and taking transit	Project fills a network gap to expand options for taking a variety of travel modes.	Gap closure - Provides infrastructure that fills a gap in the multimodal network or provides a connection between two or more modes. This could include sidewalks, paved shoulders, bike facilities, crossing treatments, etc. This could be an extension of an existing/planned project or a completely new connection.	10	Project provides a <u>major</u> infrastructure connection (e.g. large gap closure > 300 ft or enhanced crossing treatment, like an RRFB).
			5	Project provides a <u>minor</u> infrastructure connection (e.g. small gap closure such as < 300 ft, a minor crossing treatment, or an improvement that is proximate to an existing facility, such as a sidewalk or trail).
			0	Project does not fill a network gap.
	Project improves access for as many people as possible in the region.	Reach- This metric will assess the number of key destinations that people can access by walking, biking, and transit. We will draw a ¼ mile buffer around the project and look at the number of key destinations that fall within the buffer (e.g. transit stops, parks, libraries, schools, commercial centers, etc.)	10	Project provides access to the greatest number of key destinations. (Top third scoring of all projects)
			5	Project provides access to many key destinations. (Middle third scoring of all projects)
			0	Project provides access to the least number of key destinations. (Bottom third scoring of all projects)
	Maximum Points			20
2. Improve safety and comfort for travelers of all ages and abilities	Project makes biking safer/more comfortable for people of all abilities.	LTS - Bicycle Level of Traffic Stress (LTS) ROW improvement (e.g. protected bike lane, multi-use path). This is calculated based on speed, ADT, and bike facility type.	10	Project improves LTS score by at least 2 points.
			5	Project improves LTS score by 1 point.
			0	Project does not improve LTS score.
	Project includes pedestrian improvements.	Pedestrian improvement (e.g. sidewalk widening, new sidewalk or paved shoulder, new or improved crossing, or signage to direct people walking to safe routes)	10	Project significantly improves pedestrian ROW (e.g. adds new sidewalk, major crossing improvement, such as an RRFB)
			5	Project improves pedestrian ROW (e.g. adds new striped crosswalk without enhancements or restriping existing crosswalk, increases sidewalk width, adds paved shoulder, adds signage to routes, adds buffer)
			0	Project does not improve pedestrian ROW.
Maximum Points			20	
3. Equitably serve the community	Project provides safety and access benefits for vulnerable communities.	Equity - Use Census Block Group data to determine if project is located in an area affecting vulnerable communities including youth, seniors, low-income households, limited-English proficiency households, people with disabilities, and/or people of color (e.g. crosswalk improvements in low-income Block Group)	20	Project improves access or safety for two or more categories of vulnerable communities.
			10	Project improves access or safety for one category of vulnerable communities.
			0	Project does not improve access or safety for vulnerable communities.
	Maximum Points			20

GOAL	PROJECT EVALUATION CRITERIA	TECHNICAL DESCRIPTION	SCORING	
4. Support timely and coordinated project implementation	Project is implementable within a reasonable timeframe.	Project Feasibility (Timeline) - project could be completed in a reasonable timeframe.	4	Within the district's jurisdiction and can be done quickly (within 3 years).
			2	Would require agency partnerships and/or could take 3-10 years to implement. This could include projects requiring grant funding or design/engineering.
			0	Would require agency partnerships and/or may take more than 10 years to implement. This could include projects requiring grant funding or design/engineering.
	Project is implementable given technical and right-of-way considerations.	Project Complexity – project is relatively easy to complete. (Note: this is a high-level, qualitative assessment and more detailed analysis on constraints will be completed during Task 3.)	4	Project is relatively easy to complete. For example, this could include a striped crosswalk or RRFB.
			2	Project is somewhat complex and will require some coordination but is not large-scale. For example, this could include striped bike lanes, sidewalks/pedestrian facilities, or projects that require grant applications and design/engineering.
			0	Project is complex and large-scale. For example, this could include bridge improvements, improvements requiring right-of-way acquisition, etc.
	Project is funded.	Funded Project- Has earmarked funds .	4	Yes – Full Funding
			2	Yes - Partial Funding
			0	No
	Project is likely to be funded through local, regional, state, or federal funding.	Funding Potential - Has high potential to receive earmarked funds, is competitive for grant funding, or can be included as part of another funded project.	4	Yes
			0	No
	Project limits construction impacts.	Construction Impacts - Does not provide undo disruptions in the transportation system during construction.	4	Construction of project would have minor or no impacts on travelers or goods movement.
			2	Construction of project may have impacts, but alternative routes exist.
			0	Construction of project would require extended closure of a route or travel path that has no or limited alternate routes.
	Maximum Points			20

GOAL	PROJECT EVALUATION CRITERIA	TECHNICAL DESCRIPTION	SCORING	
5. Support environmental and community health.	Project supports community access to nature.	Access to Nature - Project helps residents access natural areas and/or parks.	10	Trail project that helps residents access natural areas.
			5	Other project benefitting park access.
			0	Project does not provide any of the above.
	Project reduces negative environmental impacts.	Impact on Environment - Project reduces negative health impacts such as noise and air pollution on existing neighborhoods.	10	Project does not increase impervious surface and is not within 200 feet of the shoreline.
			5	Project is within 200 feet of the shoreline and does not increase impervious surface; or is not within 200 feet of the shoreline and does increase impervious surface.
			0	Project does not provide any of the above and/or will require extensive permitting. Project is a substantial widening (e.g. increases impervious surface, etc.) and/or within 200 feet of the shoreline.
	Maximum Points			20

Appendix B: Full Project List Matrix

Blaine-Birch Bay Park and Recreation District #2 - Multimodal Connectivity Study Project List Evaluation Results

Proj #	Project Name	Project Type	Project Description	Roadway/Location	Extents (From)	Extents (To)	Project Source	Goal 1a	Goal 1b	Goal 2a	Goal 2b	Goal 3	Goal 4a	Goal 4b	Goal 4c	Goal 4d	Goal 4e	Goal 5a	Goal 5b	Total Score
21	Birch Bay Dr and north of Beachcomber Dr RRFB	RRFB	Add Rectangular Rapid Flashing Beacon at the existing crosswalk north of the restaurant.	Birch Bay Dr	Birch Bay Dr	Beachcomber Dr north of the restaurant	Gap need	10	10	0	10	20	4	4	4	4	4	5	5	80
6a	Bay-to-Bay Trail #2	Trail	Add a shared use trail per existing plans with alternative pathway included to understand cost and feasibility/benefit trade-offs	Glendale Dr/Easement between Anderson/Birch Bay Linden Rd	Drayton Rd	Birch Bay Dr	Bay-to-Bay International Trail BPAC project #3	10	10	10	10	20	0	0	0	4	4	10	0	78
6b	Bay-to-Bay Trail #2	Trail	Add a shared use trail per existing plans. Providing an alternative pathway to understand cost and feasibility/benefit trade-offs	Lincoln Rd/Harborview Rd	Drayton Rd	Birch Bay Dr	Bay-to-Bay International Trail BPAC project #3	10	10	10	10	20	0	0	0	4	4	10	0	78
9	Harborview Rd Pedestrian Improvements	Sidewalk	Improve the pedestrian facilities on Harborview Road between Birch Bay Drive and Birch Bay Lynden Road, which currently has a sidewalk on the west side that disappears.	Harborview Rd	Birch Bay Dr	Birch Bay Lynden Rd	Gap Need	5	10	10	10	20	2	2	0	4	2	5	5	75
5	Bay-to-Bay Trail #1	Trail	Add a shared use trail per existing plans, following Shipyard Rd and Dearborn Ave. Portion is the segment of the proposed trail north of Drayton Rd.	Blaine Rd - Drayton Harbor Rd - Tracy Pl	Dakota Creek Bridge	Drayton Rd	Bay-to-Bay International Trail BPAC project #3	10	5	10	10	20	0	0	0	4	4	10	0	73
7	Bay-to-Bay Trail #3	Trail	Add a shared use trail per existing plans on east side of road	Birch Bay Dr	50' north of Lora Ln	Alderson Rd	Bay-to-Bay International Trail BPAC project #3	10	0	10	10	20	0	0	4	0	2	10	0	66
12	Lincoln Rd Bicycle and Pedestrian Improvements	Trail	Add pedestrian and bicycle facilities on Lincoln Road to connect residences to the bus stops on Harborview Rd and the future Bay-to-Bay trail.	Lincoln Rd	East of Morningside Dr	Harborview Rd	Segment of proposed trail and proposed bike route (Birch Bay Parks and Recreation District 2)	10	10	10	10	20	0	0	0	4	2	0	0	66
11	Shintaffer Rd Bicycle Facility Improvements	Bike lane	Add bike facilities on Shintaffer Road to provide a connection from Birch Bay Dr to Drayton Harbor Rd. (New extent with updated scoring)	Shintaffer Rd	Birch Bay Dr	Drayton Harbor Rd	Gap Need	10	10	10	0	20	0	0	0	4	2	10	0	66
17	Sunset Farm Park Trail	Trail	Add a trail connection through Sunset Farm Park to provide a primary east-west connection to between Birch Bay and Blaine Rd.	Birch Bay Lynden Rd (off road from Birch Bay Dr)	Birch Bay Lynden Road, between Club House Drive and Beachcomber Dr (easements along Club House Dr and	Birch Bay Lynden Rd, between Graham Dr and Blaine Rd (Sunset Farm Parking - Blaine Rd)	Segment of proposed trail (Birch Bay Parks and Recreation District 2)	5	10	10	0	20	0	0	0	4	4	10	0	63
20	Birch Bay Dr and Haborview Rd Crosswalk Improvements	Crosswalk/RRFB	Fix radii, update crosswalk striping and clean up curb ramps.	Birch Bay Dr	Birch Bay Dr	Harborview Rd	Gap need	5	5	0	5	20	4	4	0	4	4	5	5	61
22	Birch Bay Dr and Lora Ln Crosswalk	Crosswalk/RRFB	Add a crosswalk to connect trail across Birch Bay Drive.	Birch Bay Dr	Birch Bay Dr	Lora Ln	Gap need	5	5	0	5	20	4	4	0	4	4	5	5	61
13	Anderson Rd Pedestrian Improvements	Sidewalk	Add pedestrian facilities on Anderson Road to connect residences to the bus stops.	Anderson Rd	Shintaffer Rd	Cedar Ave	Segment of proposed trail (Birch Bay Parks and Recreation District 2)	5	10	0	10	20	0	0	0	4	2	10	0	61
14	Dakota Creek Bridge to Blaine Rd Bike Connection	Bridge	Add a regional bike connection to connect the Dakota Creek Bridge to California Creek Bridge on Blaine Road.	Blaine Rd	Dakota Creek Bridge	California Creek Bridge	Gap need	10	10	10	5	20	0	0	4	0	2	0	0	61

Blaine-Birch Bay Park and Recreation District #2 - Multimodal Connectivity Study Project List Evaluation Results

Proj #	Project Name	Project Type	Project Description	Roadway/Location	Extents (From)	Extents (To)	Project Source	Goal 1a	Goal 1b	Goal 2a	Goal 2b	Goal 3	Goal 4a	Goal 4b	Goal 4c	Goal 4d	Goal 4e	Goal 5a	Goal 5b	Total Score
1	Semiahmoo Pkwy Bicycle Improvements	Bike lane	Add bike facilities to fill the gap east of Horizon Drive, where the existing trail ends.	Semiahmoo Pkwy	Horizon Dr	Shintaffer Rd	Segment of proposed bike route (Birch Bay Parks and Recreation District 2)	10	0	10	0	20	0	0	4	4	2	10	0	60
8	Bay-to-Bay Trail #4	Trail	Add a shared use trail per existing plans.	Birch Bay Dr	Alderson Rd	Point Whitehorn Rd	Bay-to-Bay International Trail BPAC project #3	10	0	0	10	20	0	0	4	0	2	10	0	56
23	Birch Bay Dr and Alderson Rd Crosswalk Improvements	Crosswalk	Square up the crosswalks and update crosswalk striping and signage.	Birch Bay Dr	Birch Bay Dr	Alderson Rd	Gap need	5	0	0	5	20	4	4	0	4	4	5	5	56
10	Shintaffer Rd Pedestrian Facility Improvements	Sidewalk	Add pedestrian facilities on Shintaffer Rd to provide a connection between the bus stops on Anderson Road and Birch Bay Drive.	Shintaffer Rd	Birch Bay Dr	Anderson Rd	Gap Need / Alternate Segment of Proposed Coast Millennium Trail	5	5	0	10	20	0	0	0	4	2	5	0	51
15	Blaine Rd Bike connection and RRFB at Blaine Rd and Alderson (Phase I)	Bike lane / RRFB	Add a regional bike connection on Blaine Road. Add Rectangular Rapid Flashing Beacon and crosswalk striping/signage at Blaine Rd and Alderson.	Blaine Rd	California Creek Bridge	Alderson Rd	Gap need	10	0	0	10	20	0	0	2	0	2	0	5	49
19	Semiahmoo Pkwy Trail Separation	Trail	Provide trail separation/widen the trail along Semiahmoo Parkway, as feasible.	Semiahmoo Pkwy	Semiahmoo Park	Water	Segment of proposed trail (Birch Bay Parks and Recreation District 2)	10	0	0	10	10	0	0	2	4	0	10	0	46
16	Jackson Rd connection	Trail	Add a bike connection on Jackson Road to connect residences to Birch Bay Drive.	Jackson Rd	Bay Rd	Birch Bay Dr	Segment of proposed bike route (Birch Bay Parks and Recreation District 2) and gap need	10	0	0	0	20	0	0	0	4	2	5	0	41
18	Harborview Rd Bicycle Facility Improvements	Bike lane	Add bicycle facilities as an alternate north-south route to Blaine Road.	Harborview Rd	Drayton Rd	Birch Bay Lynden Rd	Segment of proposed bike route (Birch Bay Parks and Recreation District 2)	5	5	0	0	20	0	0	0	4	2	5	0	41
24	Drayton Rd Bridge Improvements	Bridge	Install bicycle warning beacons to warn vehicles when cyclists are on bridge (automatic sensors).	Drayton Rd	East of Drayton Rd Bridge	West of Drayton Rd Bridge	Gap need	5	5	0	0	10	4	4	0	4	2	0	5	39
25	Blaine Rd Bike Bridge Improvements (Dakota Creek)	Bridge	Install bicycle warning beacons to warn vehicles when cyclists are on bridge (automatic sensors).	Blaine Rd	Washington Ave	Shipyards Rd	Gap need	5	10	0	0	0	4	4	0	4	2	0	5	34
26	Blaine Rd Bike Bridge Improvements (California Creek)	Bridge	Install bicycle warning beacons to warn vehicles when cyclists are on bridge (automatic sensors).	Blaine Rd	Loomis Trail Rd	California Trail		5	10	0	0	0	4	4	0	4	2	0	5	34
27	Blaine Rd Bike connection (Phase II)	Bike lane	Add a regional bike connection on Blaine Road.	Blaine Rd	Alderson Rd	Grandview Rd	Gap need	5	10	0	0	10	0	0	0	0	2	0	5	32
3	Drayton Harbor Pedestrian and Bicycle Improvements: East Segment	Bike lane	Add bicycle facilities to provide a connection to the bus stops.	Drayton Harbor	350' east of Night Heron Dr	Harborview Rd	Segment of proposed bike route (Birch Bay Parks and Recreation District 2)	10	0	0	0	20	0	0	0	0	2	0	0	32
4	Drayton Road Bicycle Improvements	Bike lane	Add bicycle facilities to provide a connection from the bus stops to the Bay-to-Bay Trail.	Drayton Rd	Harborview Rd	Waters Edge Wy	Segment of proposed bike route (Birch Bay Parks and Recreation District 2)	10	0	0	0	20	0	0	0	0	0	0	0	30
2	Drayton Harbor Pedestrian and Bicycle Improvements: West Segment	Bike lane	Upgrade the existing bike lanes	Drayton Harbor	Bald Eagle Dr	350' east of Night Heron Dr	Segment of proposed bike route (Birch Bay Parks and Recreation District 2)	10	0	0	0	10	0	0	0	0	2	0	0	22

Appendix C: Cost & Feasibility

Full cost estimate assumptions and details can be found in the Evaluation_Matrix_Final_Compiled.xlsx file included in the appendix folder.

TranTech Engineering LLC
ENGINEER'S ESTIMATE

PROJECT: Birch Bay Lynden Park Multimodal Connectivity Study
Alternatives Costing Analysis

Project # 2022013
DATE: 06/25/2022

Project #1
Semiahmoo Parkway Bicycle Improvements

Project #01

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
01-1	MOBILIZATION	L.S.	1	\$24,100.00	\$24,100.00
01-2	CLEARING AND GRUBBING	ACRE	0.20	\$25,000.00	\$5,000.00
01-3	REMOVING ASPHALT CONC. PAVEMENT	S.Y.	960	\$18.00	\$17,280.00
01-4	REMOVING ASPHALT CONC. CURB	L.F.	820	\$12.00	\$9,840.00
01-5	CRUSHED SURFACING TOP COURSE	TON	70	\$50.00	\$3,500.00
01-6	HMA FOR PAVEMENT REPAIR CL. 1/2 IN. PG	TON	300	\$210.00	\$63,000.00
01-7	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$5,000.00	\$5,000.00
01-8	EXTRUDED CURB	L.F.	820	\$22.00	\$18,040.00
01-9	REMOVING AND RESETTING BEAM GUARDRAIL	L.F.	1,270	\$65.00	\$82,550.00
01-10	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$25,000.00	\$25,000.00
01-11	SAWCUT ASPHALT CONC. PAVEMENT	IN/FT	11,520	\$1.00	\$11,520.00
TOTAL/SUBTOTAL					\$264,830.00
CONTINGENCY 15%					\$39,724.50
Inflation adjustment to 2023 (7.5%)					\$22,841.59
Inflation adjustment to 2024 (7.5%)					\$24,554.71
TOTAL					\$352,000.00

Project #6A

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
06A-1	MOBILIZATION	L.S.	1	\$208,600.00	\$208,600.00
06A-2	CLEARING AND GRUBBING	ACRE	0.20	\$25,000.00	\$5,000.00
06A-3	UNDESIRABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	500	\$30.00	\$15,000.00
06A-4	COMMON BORROW INCL. HAUL	C.Y.	1,000	\$20.00	\$20,000.00
06A-5	CRUSHED SURFACING BASE COURSE	TON	2,200	\$45.00	\$99,000.00
06A-6	CRUSHED SURFACING TOP COURSE	TON	920	\$50.00	\$46,000.00
06A-7	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$40,000.00	\$40,000.00
06A-8	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$40,000.00	\$40,000.00
06A-9	ROADWAY SURVEYING	L.S.	1	\$7,500.00	\$7,500.00
06A-10	BRIDGE AND VIADUCT SYSTEM	L.S.	1	\$1,995,000.00	\$1,995,000.00
06A-11	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$40,000.00	\$40,000.00
06A-12	ROADWAY SURVEYING	L.S.	1	\$7,500.00	\$7,500.00
06A-13	BRIDGE AND VIADUCT SYSTEM	L.S.	1	\$1,995,000.00	\$1,995,000.00
TOTAL/SUBTOTAL					\$2,294,298.00
CONTINGENCY 30%					\$688,289.40
Inflation adjustment to 2023 (7.5%)					\$223,694.06
Inflation adjustment to 2024 (7.5%)					\$240,471.11
TOTAL					\$3,447,000.00

Project #6B

Project #6N - Trail through park district parcel

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
06B-1	MOBILIZATION	L.S.	1	\$37,200.00	\$37,200.00
06B-2	CLEARING AND GRUBBING	ACRE	2.50	\$25,000.00	\$62,500.00
06B-3	UNDESIRABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	500	\$30.00	\$15,000.00
06B-4	COMMON BORROW INCL. HAUL	C.Y.	1,000	\$20.00	\$20,000.00
06B-5	CRUSHED SURFACING BASE COURSE	TON	2,200	\$45.00	\$99,000.00
06B-6	CRUSHED SURFACING TOP COURSE	TON	920	\$50.00	\$46,000.00
06B-7	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$40,000.00	\$40,000.00

06B-8	MEDIUM COMPOST	S.Y.	4,760	\$6.00	\$28,560.00
06B-9	ROADWAY SURVEYING	L.S.	1	\$10,000.00	\$10,000.00
06B-10	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1.00	\$50,000.00	\$50,000.00

TOTAL/SUBTOTAL \$408,260.00

CONTINGENCY 25% \$102,065.00

Inflation adjustment to 2023 (7.5%) \$38,274.38

Inflation adjustment to 2024 (7.5%) \$41,144.95

TOTAL \$590,000.00

Project#9 -Harborview Road Pedestrian Improvements

Project #9

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
09-1	MOBILIZATION	L.S.	1	\$18,800.00	\$18,800.00
09-2	CLEARING AND GRUBBING	ACRE	0.10	\$25,000.00	\$2,500.00
09-3	REMOVING ASPHALT CONC. PAVEMENT	S.Y.	160	\$18.00	\$2,880.00
09-4	BRIDGE RAILING TYPE - PEDESTRIAN RAILING	L.F.	200	\$250.00	\$50,000.00
09-5	STRUCTURAL EARTH WALL	S.F.	800	\$85.00	\$68,000.00
09-6	CRUSHED SURFACING BASE COURSE	TON	100	\$45.00	\$4,500.00
09-7	CRUSHED SURFACING TOP COURSE	TON	30	\$50.00	\$1,500.00
09-8	HMA FOR PAVEMENT REPAIR CL. 1/2 IN. PG	TON	20	\$200.00	\$4,000.00
09-9	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$3,500.00	\$3,500.00
09-10	CEMENT CONC. TRAFFIC CURB AND GUTTER	L.F.	350	\$60.00	\$21,000.00
09-11	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$10,000.00	\$10,000.00
09-12	ROADWAY SURVEYING	L.S.	1	\$2,500.00	\$2,500.00
09-13	CEMENT CONC. SIDEWALK	S.Y.	220	\$70.00	\$15,400.00
09-14	SAWCUT ASPHALT CONC. PAVEMENT	IN/FT	1,400	\$1.00	\$1,400.00

TOTAL/SUBTOTAL \$205,980.00

CONTINGENCY 20% \$41,196.00

Inflation adjustment to 2023 (7.5%) \$18,538.20

Inflation adjustment to 2024 (7.5%) \$19,928.57

TOTAL \$286,000.00

**Project#11 -Shintaffer Road Bicycle Facility Improvements
Based on original extent from Anderson Rd. to Lincoln Rd. Final project cost based on extent to Drayton Harbor Rd.**

Project #11A

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
11A-1	MOBILIZATION	L.S.	1	\$26,100.00	\$26,100.00
11A-2	CLEARING AND GRUBBING	ACRE	1.20	\$25,000.00	\$30,000.00
11A-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	250	\$30.00	\$7,500.00
11A-4	COMMON BORROW INCL. HAUL	C.Y.	500	\$20.00	\$10,000.00
11A-5	CRUSHED SURFACING BASE COURSE	TON	1,030	\$45.00	\$46,350.00
11A-6	CRUSHED SURFACING TOP COURSE	TON	290	\$50.00	\$14,500.00
11A-7	HMA CL. 1/2 IN. PG	TON	400	\$160.00	\$64,000.00
11A-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$20,000.00	\$20,000.00
11A-9	MEDIUM COMPOST	S.Y.	2,230	\$6.00	\$13,380.00
11A-10	ROADWAY SURVEYING	L.S.	1	\$5,000.00	\$5,000.00
11A-11	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1.00	\$50,000.00	\$50,000.00

TOTAL/SUBTOTAL \$286,830.00

CONTINGENCY 25% \$71,707.50

Inflation adjustment to 2023 (7.5%) \$26,890.31

Inflation adjustment to 2024 (7.5%) \$28,907.09

TOTAL \$415,000.00

Project #11B

Project#10 - Shintaffer Road Pedestrian Facility Improvements

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
11B-1	MOBILIZATION	L.S.	1	\$21,600.00	\$21,600.00
11B-2	CLEARING AND GRUBBING	ACRE	0.40	\$25,000.00	\$10,000.00
11B-3	REMOVING ASPHALT CONC. PAVEMENT	S.Y.	90	\$18.00	\$1,620.00
11B-4	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	100	\$30.00	\$3,000.00
11B-5	COMMON BORROW INCL. HAUL	C.Y.	200	\$20.00	\$4,000.00
11B-6	CATCH BASIN TYPE 1	EACH	3	\$2,500.00	\$7,500.00
11B-7	SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.	L.F.	750	\$62.00	\$46,500.00
11B-8	CRUSHED SURFACING BASE COURSE	TON	310	\$45.00	\$13,950.00
11B-9	CRUSHED SURFACING TOP COURSE	TON	90	\$50.00	\$4,500.00
11B-10	HMA FOR PAVEMENT REPAIR CL. 1/2 IN. PG	TON	40	\$200.00	\$8,000.00
11B-11	HMA CL. 1/2 IN. PG	TON	120	\$160.00	\$19,200.00
11B-12	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$15,000.00	\$15,000.00
11B-13	CEMENT CONC. TRAFFIC CURB AND GUTTER	L.F.	750	\$60.00	\$45,000.00
11B-14	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$25,000.00	\$25,000.00
11B-15	ROADWAY SURVEYING	L.S.	1	\$9,500.00	\$9,500.00
11B-16	SAWCUT ASPHALT CONC. PAVEMENT	IN/FT	3,000	\$1.00	\$3,000.00
TOTAL/SUBTOTAL					\$237,370.00
CONTINGENCY 25%					\$59,342.50
Inflation adjustment to 2023 (7.5%)					\$22,253.44
Inflation adjustment to 2024 (7.5%)					\$23,922.45
TOTAL					\$343,000.00

Project#12 - Lincoln Road trail portion as part of 6N, 6B, 6S

Project #12A

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
12A-1	MOBILIZATION	L.S.	1	\$51,300.00	\$51,300.00
12A-2	CLEARING AND GRUBBING	ACRE	0.90	\$25,000.00	\$22,500.00
12A-3	REMOVING ASPHALT CONC. PAVEMENT	S.Y.	220	\$18.00	\$3,960.00
12A-4	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	250	\$30.00	\$7,500.00
12A-5	COMMON BORROW INCL. HAUL	C.Y.	750	\$20.00	\$15,000.00
12A-6	CATCH BASIN TYPE 1	EACH	8	\$2,500.00	\$20,000.00
12A-7	SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.	L.F.	1,950	\$62.00	\$120,900.00
12A-8	CRUSHED SURFACING BASE COURSE	TON	810	\$45.00	\$36,450.00
12A-9	CRUSHED SURFACING TOP COURSE	TON	230	\$50.00	\$11,500.00
12A-10	HMA FOR PAVEMENT REPAIR CL. 1/2 IN. PG	TON	100	\$200.00	\$20,000.00
12A-11	HMA CL. 1/2 IN. PG	TON	310	\$160.00	\$49,600.00
12A-12	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$30,000.00	\$30,000.00
12A-13	MEDIUM COMPOST	S.Y.	1,740	\$6.00	\$10,440.00
12A-14	CEMENT CONC. TRAFFIC CURB AND GUTTER	L.F.	1,950	\$60.00	\$117,000.00
12A-15	PLASTIC CROSSWALK LINE	S.F.	72	\$9.00	\$648.00
12A-16	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$20,000.00	\$20,000.00
12A-17	ROADWAY SURVEYING	L.S.	1	\$19,000.00	\$19,000.00
12A-18	SAWCUT ASPHALT CONC. PAVEMENT	IN/FT	7,800	\$1.00	\$7,800.00
TOTAL/SUBTOTAL					\$563,598.00
CONTINGENCY 25%					\$140,899.50
Inflation adjustment to 2023 (7.5%)					\$52,837.31
Inflation adjustment to 2024 (7.5%)					\$56,800.11
TOTAL					\$815,000.00

Project#6b/6S- Harborview Road portion of 6B and 6S that extends from Lincoln Rd to Forsberg Rd

Project #12B

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
12B-1	MOBILIZATION	L.S.	1	\$100,100.00	\$100,100.00
12B-2	CLEARING AND GRUBBING	ACRE	1.00	\$25,000.00	\$25,000.00
12B-3	REMOVING ASPHALT CONC. PAVEMENT	S.Y.	1,350	\$18.00	\$24,300.00
12B-4	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	250	\$30.00	\$7,500.00
12B-5	COMMON BORROW INCL. HAUL	C.Y.	750	\$20.00	\$15,000.00
12B-6	CATCH BASIN TYPE 1	EACH	17	\$2,500.00	\$42,500.00
12B-7	SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.	L.F.	4,050	\$62.00	\$251,100.00

12B-8	CRUSHED SURFACING TOP COURSE	TON	420	\$50.00	\$21,000.00
12B-9	HMA FOR PAVEMENT REPAIR CL. 1/2 IN. PG	TON	410	\$200.00	\$82,000.00
12B-10	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$40,000.00	\$40,000.00
12B-11	CEMENT CONC. TRAFFIC CURB AND GUTTER	L.F.	4,050	\$60.00	\$243,000.00
12B-12	PLASTIC CROSSWALK LINE	S.F.	220	\$9.00	\$1,980.00
12B-13	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$35,000.00	\$35,000.00
12B-14	ROADWAY SURVEYING	L.S.	1	\$22,500.00	\$22,500.00
12B-15	CEMENT CONC. SIDEWALK	S.Y.	2,480	\$70.00	\$173,600.00
12B-16	SAWCUT ASPHALT CONC. PAVEMENT	IN/FT	16,200	\$1.00	\$16,200.00

TOTAL/SUBTOTAL **\$1,100,780.00**

CONTINGENCY 25% **\$275,195.00**

Inflation adjustment to 2023 (7.5%) **\$103,198.13**

Inflation adjustment to 2024 (7.5%) **\$110,937.98**

TOTAL **\$1,591,000.00**

Project#6S- Harborview Road portion of project 6S form Forsberg Rd to Birch Bay Lynden Rd

Project #12C

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
12C-1	MOBILIZATION	L.S.	1	\$43,300.00	\$43,300.00
12C-2	CLEARING AND GRUBBING	ACRE	0.30	\$25,000.00	\$7,500.00
12C-3	REMOVING ASPHALT CONC. PAVEMENT	S.Y.	410	\$18.00	\$7,380.00
12C-4	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	70	\$30.00	\$2,100.00
12C-5	COMMON BORROW INCL. HAUL	C.Y.	150	\$20.00	\$3,000.00
12C-6	CATCH BASIN TYPE 1	EACH	5	\$2,500.00	\$12,500.00
12C-7	SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.	L.F.	1,205	\$62.00	\$74,710.00
12C-8	CRUSHED SURFACING TOP COURSE	TON	130	\$50.00	\$6,500.00
12C-9	HMA FOR PAVEMENT REPAIR CL. 1/2 IN. PG	TON	130	\$200.00	\$26,000.00
12C-10	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$15,000.00	\$15,000.00
12C-11	CEMENT CONC. TRAFFIC CURB AND GUTTER	L.F.	1,205	\$60.00	\$72,300.00
12C-12	PLASTIC CROSSWALK LINE	S.F.	220	\$9.00	\$1,980.00
12C-13	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$15,000.00	\$15,000.00
12C-14	ROADWAY SURVEYING	L.S.	1	\$10,000.00	\$10,000.00
12C-15	CEMENT CONC. SIDEWALK	S.Y.	2,480	\$70.00	\$173,600.00
12C-16	SAWCUT ASPHALT CONC. PAVEMENT	IN/FT	4,820	\$1.00	\$4,820.00

TOTAL/SUBTOTAL **\$475,690.00**

CONTINGENCY 20% **\$95,138.00**

Inflation adjustment to 2023 (7.5%) **\$42,812.10**

Inflation adjustment to 2024 (7.5%) **\$46,023.01**

TOTAL **\$660,000.00**

TranTech Engineering LLC
ENGINEER'S ESTIMATE

PROJECT: Birch Bay Lynden Park Multimodal Connectivity Study
 Alternatives Costing Analysis
Project # 2022013
DATE: 06/25/2022

Project #14A

Project 14 - portion from Dakota Creek to Hall Rd

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
14A-1	MOBILIZATION	L.S.	1	\$12,700.00	\$12,700.00
14A-2	CLEARING AND GRUBBING	ACRE	0.50	\$25,000.00	\$12,500.00
14A-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	100	\$30.00	\$3,000.00
14A-4	COMMON BORROW INCL. HAUL	C.Y.	200	\$20.00	\$4,000.00
14A-5	CRUSHED SURFACING BASE COURSE	TON	360	\$45.00	\$16,200.00
14A-6	CRUSHED SURFACING TOP COURSE	TON	100	\$50.00	\$5,000.00
14A-7	HMA CL. 1/2 IN. PG	TON	120	\$160.00	\$19,200.00
14A-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$7,500.00	\$7,500.00
14A-9	MEDIUM COMPOST	S.Y.	780	\$6.00	\$4,680.00
14A-10	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$10,000.00	\$10,000.00
14A-11	ROADWAY SURVEYING	L.S.	1	\$4,500.00	\$4,500.00
14A-12	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$40,000.00	\$40,000.00
TOTAL/SUBTOTAL					\$139,280.00
CONTINGENCY 25%					\$34,820.00
Inflation adjustment to 2023 (7.5%)					\$13,057.50
Inflation adjustment to 2024 (7.5%)					\$14,036.81
TOTAL					\$202,000.00

Project #14B

Project 14 - portion from Hall Rd to Drayton harbor Rd

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
14B-1	MOBILIZATION	L.S.	1	\$30,000.00	\$30,000.00
14B-2	CLEARING AND GRUBBING	ACRE	1.20	\$25,000.00	\$30,000.00
14B-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	350	\$30.00	\$10,500.00
14B-4	COMMON BORROW INCL. HAUL	C.Y.	750	\$20.00	\$15,000.00
14B-5	CRUSHED SURFACING BASE COURSE	TON	1,040	\$45.00	\$46,800.00
14B-6	CRUSHED SURFACING TOP COURSE	TON	290	\$50.00	\$14,500.00
14B-7	HMA CL. 1/2 IN. PG	TON	320	\$200.00	\$64,000.00
14B-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$25,000.00	\$25,000.00
14B-9	MEDIUM COMPOST	S.Y.	2,240	\$6.00	\$13,440.00
14B-10	PLASTIC CROSSWALK LINE	S.F.	72	\$9.00	\$648.00
14B-11	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$20,000.00	\$20,000.00
14B-12	ROADWAY SURVEYING	L.S.	1	\$10,000.00	\$10,000.00
14B-13	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$50,000.00	\$50,000.00
TOTAL/SUBTOTAL					\$329,888.00
CONTINGENCY 25%					\$82,472.00
Inflation adjustment to 2023 (7.5%)					\$30,927.00
Inflation adjustment to 2024 (7.5%)					\$33,246.53
TOTAL					\$477,000.00

Project #14C

Project 14 - portion from Drayton harbor Rd to California Creek

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
14C-1	MOBILIZATION	L.S.	1	\$32,600.00	\$32,600.00
14C-2	CLEARING AND GRUBBING	ACRE	1.40	\$25,000.00	\$35,000.00
14C-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	400	\$30.00	\$12,000.00
14C-4	COMMON BORROW INCL. HAUL	C.Y.	800	\$20.00	\$16,000.00
14C-5	CRUSHED SURFACING BASE COURSE	TON	1,240	\$45.00	\$55,800.00

14C-6	CRUSHED SURFACING TOP COURSE	TON	350	\$50.00	\$17,500.00
14C-7	HMA CL. 1/2 IN. PG	TON	380	\$160.00	\$60,800.00
14C-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$30,000.00	\$30,000.00
14C-9	MEDIUM COMPOST	S.Y.	2,670	\$6.00	\$16,020.00
14C-10	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$22,500.00	\$22,500.00
14C-11	ROADWAY SURVEYING	L.S.	1	\$10,000.00	\$10,000.00
14C-12	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$50,000.00	\$50,000.00

TOTAL/SUBTOTAL \$358,220.00

CONTINGENCY 25% \$89,555.00

Inflation adjustment to 2023 (7.5%) \$33,583.13

Inflation adjustment to 2024 (7.5%) \$36,101.86

TOTAL \$518,000.00

Project 15 - portion from Loomis Trail Rd to California Trail Rd

Project #15A

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
15A-1	MOBILIZATION	L.S.	1	\$5,700.00	\$5,700.00
15A-2	CLEARING AND GRUBBING	ACRE	0.20	\$25,000.00	\$5,000.00
15A-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	50	\$30.00	\$1,500.00
15A-4	COMMON BORROW INCL. HAUL	C.Y.	100	\$20.00	\$2,000.00
15A-5	CRUSHED SURFACING BASE COURSE	TON	170	\$45.00	\$7,650.00
15A-6	CRUSHED SURFACING TOP COURSE	TON	50	\$50.00	\$2,500.00
15A-7	HMA CL. 1/2 IN. PG	TON	60	\$160.00	\$9,600.00
15A-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$3,500.00	\$3,500.00
15A-9	MEDIUM COMPOST	S.Y.	360	\$6.00	\$2,160.00
15A-10	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$5,000.00	\$5,000.00
15A-11	ROADWAY SURVEYING	L.S.	1	\$2,500.00	\$2,500.00
15A-12	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$15,000.00	\$15,000.00

TOTAL/SUBTOTAL \$62,110.00

CONTINGENCY 25% \$15,527.50

Inflation adjustment to 2023 (7.5%) \$5,822.81

Inflation adjustment to 2024 (7.5%) \$6,259.52

TOTAL \$90,000.00

Project 15 - portion from California Trail Rd to Birch Bay Lynden Rd

Project #15B

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
15B-1	MOBILIZATION	L.S.	1	\$62,100.00	\$62,100.00
15B-2	CLEARING AND GRUBBING	ACRE	3.10	\$25,000.00	\$77,500.00
15B-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	750	\$30.00	\$22,500.00
15B-4	COMMON BORROW INCL. HAUL	C.Y.	1,500	\$20.00	\$30,000.00
15B-5	CRUSHED SURFACING BASE COURSE	TON	2,730	\$45.00	\$122,850.00
15B-6	CRUSHED SURFACING TOP COURSE	TON	760	\$50.00	\$38,000.00
15B-7	HMA CL. 1/2 IN. PG	TON	840	\$160.00	\$134,400.00
15B-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$45,000.00	\$45,000.00
15B-9	MEDIUM COMPOST	S.Y.	5,890	\$6.00	\$35,340.00
15B-10	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$25,000.00	\$25,000.00
15B-11	ROADWAY SURVEYING	L.S.	1	\$15,000.00	\$15,000.00
15B-12	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$75,000.00	\$75,000.00

TOTAL/SUBTOTAL \$682,690.00

CONTINGENCY 25% \$170,672.50

Inflation adjustment to 2023 (7.5%) \$64,002.19

Inflation adjustment to 2024 (7.5%) \$68,802.35

TOTAL \$987,000.00

Project 15 - portion from Birch Bay Lynden Rd to Hickock Rd

Project #15C

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
15C-1	MOBILIZATION	L.S.	1	\$22,600.00	\$22,600.00
15C-2	CLEARING AND GRUBBING	ACRE	0.90	\$25,000.00	\$22,500.00
15C-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	150	\$30.00	\$4,500.00
15C-4	COMMON BORROW INCL. HAUL	C.Y.	300	\$20.00	\$6,000.00
15C-5	CRUSHED SURFACING BASE COURSE	TON	780	\$45.00	\$35,100.00
15C-6	CRUSHED SURFACING TOP COURSE	TON	220	\$50.00	\$11,000.00
15C-7	HMA CL. 1/2 IN. PG	TON	240	\$160.00	\$38,400.00
15C-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$15,000.00	\$15,000.00
15C-9	MEDIUM COMPOST	S.Y.	1,670	\$6.00	\$10,020.00
15C-10	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$25,000.00	\$25,000.00
15C-11	ROADWAY SURVEYING	L.S.	1	\$7,500.00	\$7,500.00
15C-12	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$50,000.00	\$50,000.00
TOTAL/SUBTOTAL					\$247,620.00
CONTINGENCY 25%					\$61,905.00
Inflation adjustment to 2023 (7.5%)					\$23,214.38
Inflation adjustment to 2024 (7.5%)					\$24,955.45
TOTAL					\$358,000.00

Project 15 - portion from Hickock Rd to Alderson Rd.

Project #15D

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
15D-1	MOBILIZATION	L.S.	1	\$49,800.00	\$49,800.00
15D-2	CLEARING AND GRUBBING	ACRE	2.30	\$25,000.00	\$57,500.00
15D-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	750	\$30.00	\$22,500.00
15D-4	COMMON BORROW INCL. HAUL	C.Y.	1,500	\$20.00	\$30,000.00
15D-5	CRUSHED SURFACING BASE COURSE	TON	1,980	\$45.00	\$89,100.00
15D-6	CRUSHED SURFACING TOP COURSE	TON	550	\$50.00	\$27,500.00
15D-7	HMA CL. 1/2 IN. PG	TON	610	\$160.00	\$97,600.00
15D-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$45,000.00	\$45,000.00
15D-9	MEDIUM COMPOST	S.Y.	4,270	\$6.00	\$25,620.00
15D-10	PLASTIC CROSSWALK LINE	S.F.	72	\$9.00	\$648.00
15D-11	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$15,000.00	\$15,000.00
15D-12	ROADWAY SURVEYING	L.S.	1	\$12,500.00	\$12,500.00
15D-13	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$75,000.00	\$75,000.00
TOTAL/SUBTOTAL					\$547,768.00
CONTINGENCY 25%					\$136,942.00
Inflation adjustment to 2023 (7.5%)					\$51,353.25
Inflation adjustment to 2024 (7.5%)					\$55,204.74
TOTAL					\$792,000.00

Project 17

Project #17

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
17-1	MOBILIZATION	L.S.	1	\$35,600.00	\$35,600.00
17-2	CLEARING AND GRUBBING	ACRE	2.60	\$25,000.00	\$65,000.00
17-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	250	\$30.00	\$7,500.00
17-4	COMMON BORROW INCL. HAUL	C.Y.	750	\$20.00	\$15,000.00
17-5	CRUSHED SURFACING BASE COURSE	TON	2,400.00	\$45.00	\$108,000.00
17-6	CRUSHED SURFACING TOP COURSE	TON	420	\$50.00	\$21,000.00
17-7	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$40,000.00	\$40,000.00
17-8	MEDIUM COMPOST	S.Y.	4,450.00	\$6.00	\$26,700.00
17-9	ROADWAY SURVEYING	L.S.	1	\$22,500.00	\$22,500.00
17-10	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1.00	\$50,000.00	\$50,000.00
TOTAL/SUBTOTAL					\$391,300.00

CONTINGENCY 25%	\$97,825.00
Inflation adjustment to 2023 (7.5%)	\$36,684.38
Inflation adjustment to 2024 (7.5%)	\$39,435.70
TOTAL	\$566,000.00

TranTech Engineering LLC
ENGINEER'S ESTIMATE

PROJECT: Birch Bay Lynden Park Multimodal Connectivity Study
Alternatives Costing Analysis

Project # 2022013
DATE: 06/05/2022

Project 19 - Portion from Semiahmoo Park to Westerly Curb Stop Segment

Project #19A

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
19A-1	MOBILIZATION	L.S.	1	\$4,700.00	\$4,700.00
19A-2	CLEARING AND GRUBBING	ACRE	0.20	\$25,000.00	\$5,000.00
19A-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	30	\$30.00	\$900.00
19A-4	COMMON BORROW INCL. HAUL	C.Y.	60	\$20.00	\$1,200.00
19A-5	CRUSHED SURFACING BASE COURSE	TON	230	\$45.00	\$10,350.00
19A-6	CRUSHED SURFACING TOP COURSE	TON	80	\$50.00	\$4,000.00
19A-7	HMA CL. 1/2 IN. PG	TON	90	\$160.00	\$14,400.00
19A-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$3,500.00	\$3,500.00
19A-9	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$5,000.00	\$5,000.00
19A-10	ROADWAY SURVEYING	L.S.	1	\$2,000.00	\$2,000.00
TOTAL/SUBTOTAL					\$51,050.00
CONTINGENCY 25%					\$12,762.50
Inflation adjustment to 2023 (7.5%)					\$4,785.94
Inflation adjustment to 2024 (7.5%)					\$5,144.88
TOTAL					\$74,000.00

Project 19 - Portion from Westerly Curb Stop Segment to Easterly Curb Stop segment

Project #19B

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
19B-1	MOBILIZATION	L.S.	1	\$190,400.00	\$190,400.00
19B-2	CLEARING AND GRUBBING	ACRE	0.10	\$25,000.00	\$2,500.00
19B-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	40	\$30.00	\$1,200.00
19B-4	COMMON BORROW INCL. HAUL	C.Y.	75	\$20.00	\$1,500.00
19B-5	CRUSHED SURFACING BASE COURSE	TON	40	\$45.00	\$1,800.00
19B-6	CRUSHED SURFACING TOP COURSE	TON	20	\$50.00	\$1,000.00
19B-7	HMA CL. 1/2 IN. PG	TON	20	\$200.00	\$4,000.00
19B-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$4,500.00	\$4,500.00
19B-9	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$5,000.00	\$5,000.00
19B-10	ROADWAY SURVEYING	L.S.	1	\$7,500.00	\$7,500.00
19B-11	BRIDGE AND VIADUCT SYSTEM	L.S.	1	\$1,875,000.00	\$1,875,000.00
TOTAL/SUBTOTAL					\$2,094,400.00
CONTINGENCY 30%					\$628,320.00
Inflation adjustment to 2023 (7.5%)					\$204,204.00
Inflation adjustment to 2024 (7.5%)					\$219,519.30
TOTAL					\$3,147,000.00

Project 19 - Portion from Easterly Curb Stop segment to Semiahmoo Shore HOA boundary

Project #19C

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
19C-1	MOBILIZATION	L.S.	1	\$18,900.00	\$18,900.00
19C-2	CLEARING AND GRUBBING	ACRE	0.70	\$25,000.00	\$17,500.00
19C-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	100	\$30.00	\$3,000.00
19C-4	COMMON BORROW INCL. HAUL	C.Y.	200	\$20.00	\$4,000.00
19C-5	CRUSHED SURFACING BASE COURSE	TON	1,150	\$45.00	\$51,750.00
19C-6	CRUSHED SURFACING TOP COURSE	TON	390	\$50.00	\$19,500.00
19C-7	HMA CL. 1/2 IN. PG	TON	440	\$160.00	\$70,400.00
19C-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$10,000.00	\$10,000.00
19C-9	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$5,000.00	\$5,000.00

19C-10	ROADWAY SURVEYING	L.S.	1	\$7,500.00	\$7,500.00
TOTAL/SUBTOTAL					\$207,550.00
CONTINGENCY 20%					\$41,510.00
Inflation adjustment to 2023 (7.5%)					\$18,679.50
Inflation adjustment to 2024 (7.5%)					\$20,080.46
TOTAL					\$288,000.00

Project 19 - Portion from Semiahmoo Shore HOA boundary to Parking lot 725-feet northeast

Project #19D

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
19D-1	MOBILIZATION	L.S.	1	\$5,100.00	\$5,100.00
19D-2	CLEARING AND GRUBBING	ACRE	0.20	\$25,000.00	\$5,000.00
19D-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	30	\$30.00	\$900.00
19D-4	COMMON BORROW INCL. HAUL	C.Y.	60	\$20.00	\$1,200.00
19D-5	CRUSHED SURFACING BASE COURSE	TON	300	\$45.00	\$13,500.00
19D-6	CRUSHED SURFACING TOP COURSE	TON	100	\$50.00	\$5,000.00
19D-7	HMA CL. 1/2 IN. PG	TON	120	\$160.00	\$19,200.00
19D-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$3,500.00	\$3,500.00
19D-9	ROADWAY SURVEYING	L.S.	1	\$2,500.00	\$2,500.00
TOTAL/SUBTOTAL					\$55,900.00
CONTINGENCY 20%					\$11,180.00
Inflation adjustment to 2023 (7.5%)					\$5,031.00
Inflation adjustment to 2024 (7.5%)					\$5,408.33
TOTAL					\$78,000.00

Project 27

Project #27A

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
27A-1	MOBILIZATION	L.S.	1	\$40,900.00	\$40,900.00
27A-2	CLEARING AND GRUBBING	ACRE	1.90	\$25,000.00	\$47,500.00
27A-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	500	\$30.00	\$15,000.00
27A-4	COMMON BORROW INCL. HAUL	C.Y.	1,000	\$20.00	\$20,000.00
27A-5	CRUSHED SURFACING BASE COURSE	TON	1,630	\$45.00	\$73,350.00
27A-6	CRUSHED SURFACING TOP COURSE	TON	460	\$50.00	\$23,000.00
27A-7	HMA CL. 1/2 IN. PG	TON	500	\$160.00	\$80,000.00
27A-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$20,000.00	\$20,000.00
27A-9	MEDIUM COMPOST	S.Y.	3,520	\$6.00	\$21,120.00
27A-10	PLASTIC CROSSWALK LINE	S.F.	72.00	\$9.00	\$648.00
27A-11	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$20,000.00	\$20,000.00
27A-12	ROADWAY SURVEYING	L.S.	1	\$12,500.00	\$12,500.00
27A-13	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$75,000.00	\$75,000.00
TOTAL/SUBTOTAL					\$449,018.00
CONTINGENCY 25%					\$112,254.50
Inflation adjustment to 2023 (7.5%)					\$42,095.44
Inflation adjustment to 2024 (7.5%)					\$45,252.60
TOTAL					\$649,000.00

Project 27

Project #27B

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
27B-1	MOBILIZATION	L.S.	1	\$41,300.00	\$41,300.00
27B-2	CLEARING AND GRUBBING	ACRE	1.90	\$25,000.00	\$47,500.00
27B-3	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	C.Y.	500	\$30.00	\$15,000.00

27B-4	COMMON BORROW INCL. HAUL	C.Y.	1,000	\$20.00	\$20,000.00
27B-5	CRUSHED SURFACING BASE COURSE	TON	1,630	\$45.00	\$73,350.00
27B-6	CRUSHED SURFACING TOP COURSE	TON	460	\$50.00	\$23,000.00
27B-7	HMA CL. 1/2 IN. PG	TON	500	\$160.00	\$80,000.00
27B-8	EROSION CONTROL AND WATER POLLUTION PREVENTION	L.S.	1	\$25,000.00	\$25,000.00
27B-9	MEDIUM COMPOST	S.Y.	3,520	\$6.00	\$21,120.00
27B-10	PROJECT TEMPORARY TRAFFIC CONTROL	L.S.	1	\$20,000.00	\$20,000.00
27B-11	ROADWAY SURVEYING	L.S.	1	\$12,500.00	\$12,500.00
27B-12	STORMWATER MGMT FOR WCC COMPLIANCE	L.S.	1	\$75,000.00	\$75,000.00

TOTAL/SUBTOTAL	\$453,770.00
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CONTINGENCY 25%	\$113,442.50
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Inflation adjustment to 2023 (7.5%)	\$42,540.94
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Inflation adjustment to 2024 (7.5%)	\$45,731.51
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TOTAL	\$656,000.00
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