6th Street Multi-Modal Corridor Enhancement

Options Assessment

City of Courtenay | September 2024

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CONTENTS

1.0 OVERVIEW

6th Street is a key east-west corridor through Downtown Courtenay. Not only is it part of the downtown street network, it provides an increasingly important function as part of the City's cycling network and is identified as an important public space in the *Downtown Courtenay Playbook*. Also of importance, a new 6th Street Active Transportation Bridge over the Courtenay River is being advanced that will provide a key linkage between East Courtenay and the downtown, requiring careful consideration for how people walking and cycling will be accommodated on 6th Street.

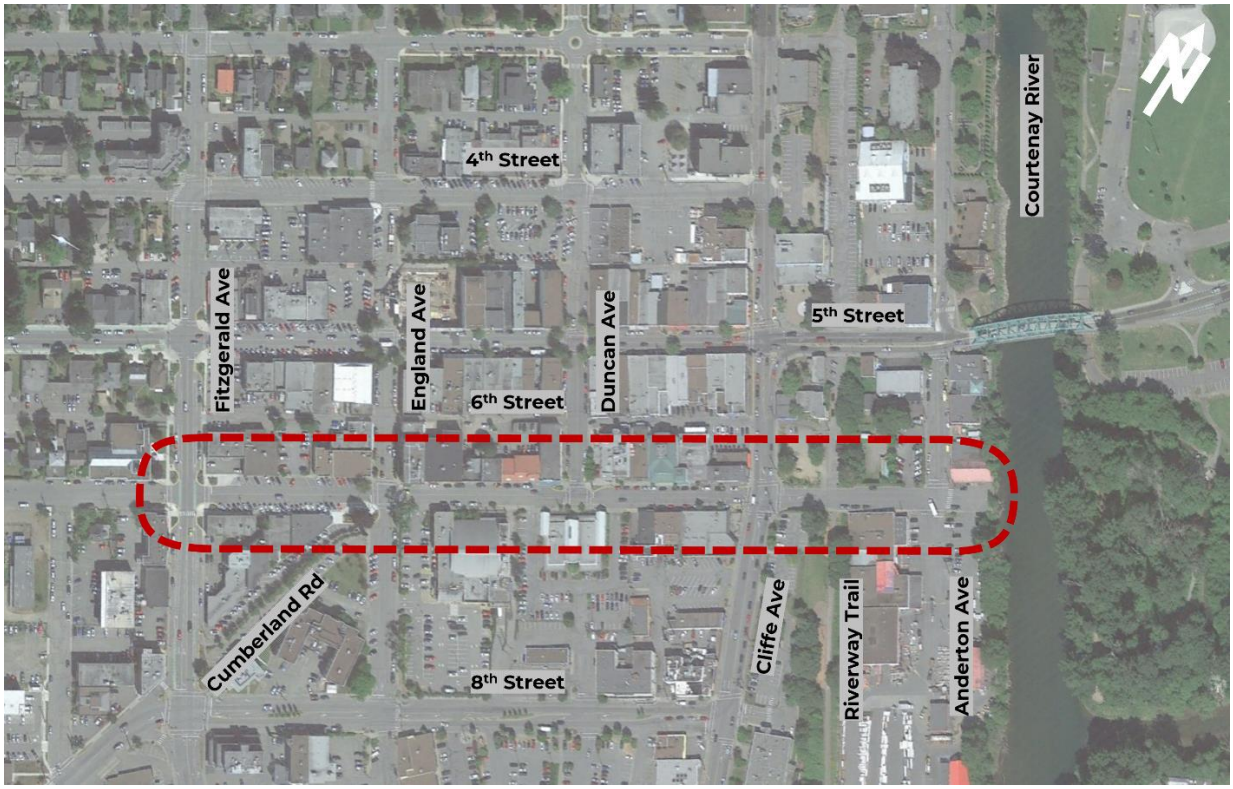
The purpose of this study is to determine the preferred cross-section and reconfiguration of 6th Street. This includes consideration of opportunities to better reflect the intended transportation function of the corridor, including its function as a key cycling and walking corridor, as well as opportunities to address City objectives relating to downtown revitalization and urban forest.

The study specifically considers the following:

- Pre-existing policy and strategy documents are reviewed to understand established directions and planned infrastructure improvements;
- Current conditions are considered along the corridor, including land use, street dimensions, network performance (intersections, parking), and urban forest and open space conditions;
- Opportunities to redesign and reconfigure 6th Street are identified and assessed against a series of evaluation criteria; and
- A preferred complete option is recommended.

The study addresses the approximately 500m long section of 6th Street between the Fitzgerald Avenue intersection (west) and Courtenay River (east). Refer to **Figure 1**.

FIGURE 1. 6th STREET CORRIDOR ENHANCEMENT OPTIONS ASSESSMENT STUDY AREA



2.0 SUPPORTING INITIATIVES

Pre-existing plans and technical studies developed by the City and partner agencies contain relevant background information that both support the need for improvements on 6th Street and help guide the development of suitable corridor enhancement options.

As evidenced by the following summary of key plans and policies, 6th Street represents a unique interface for many of the City's objectives, including active transportation, transit, public spaces and community well-being.

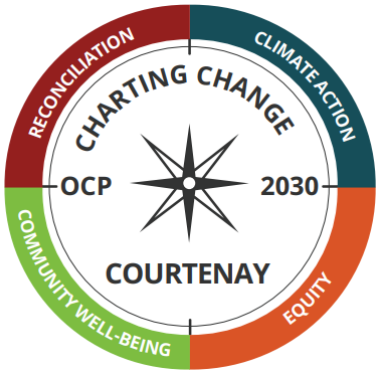
2.1 PLANS + POLICIES

2.1.1 OFFICIAL COMMUNITY PLAN

The City's *Official Community Plan* (OCP) guides a wide range of land use and other municipal decisions, ensuring they are influenced by a comprehensive community vision.

The four (4) cardinal directions of the OCP are intended to provide direction for the future:

1. **Reconciliation**. *The City commits to incorporating Indigenous perspectives into its work and decision-making process, and to providing equitable and inclusive services that benefit Indigenous peoples.*
2. **Climate Action.** *The City has committed to achieving a 45% reduction in community-wide GHG emissions (from 2016 level) by 2030 and net-zero emissions by 2050.*
3. **Equity.** *[The] OCP challenges some traditional planning practices that can result in policies, programs, and regulations that disproportionately impact and stymie the progress of some equity-priority groups.*
4. **Community Well-Being.** *[The OCP] takes a systems-based approach to well-being, considering the physical, mental, and emotional well-being of individuals and communities, and the natural ecosystems of which we are all a part.*



The OCP also includes nine (9) overarching goals to guide community growth. *Goal 4. Functional Transportation Choices* illustrates the community's commitment to forwarding active transportation:

> *The City of Courtenay will rebalance Courtenay's transportation system to provide a more functional spectrum of options that prioritizes walking, cycling, and transit. This in turn will support street life, active living, neighbourliness, economic vitality, affordable household transportation, and low carbon footprints.*

The following concept is identified for 6th Street in the OCP (page 61):

> *Dedicated cycling and walking connection from west to east Courtenay, connecting community services and public spaces, serving as a festival street integrated with a Downtown Commons and Mews with plenty of public outdoor seating and greenery.*

The study area is primarily comprised of lands designated as Downtown. Other nearby designations include Town Centre, Urban Residential, Multi-Residential, Service Commercial, Parks and Recreation, and Institutional. The urban form of each of these land uses differs in their compatibility with cycling facilities. The Downtown and Town Centre land uses prioritize active transportation options and encourage increased residential density, while supporting public life. As a result, these land uses call for:

- Enhanced street tree canopy
- Traffic calming and raingardens
- Accessible design and rest areas
- Corner plazas
- Cycling facilities

Multi-Residential and Urban Residential areas are primarily residential neighbourhoods which will comprise the mid section of the east-west corridor. These land use designations encourage integration of features which improve cycling conditions, calling for:

- Traffic calming / raingardens
- Rest areas
- Accessible design

The mid-route Service Commercial area poses the biggest challenge for integrating cycling facilities due to its zoning for larger format commercial uses. These areas are typically designed with a focus on cars as opposed to active transportation options.

The OCP describes four (4) objectives relating to Streets and Transportation which support the development of 6th Street as an enhanced multi-modal corridor:

Objective 1	30% of trips are by walking, cycling, and transit by 2030
Objective 2	Transportation investments prioritize walking, cycling, and transit
Objective 3	Street standards include attention to safety, accessibility, and comfort at the pedestrian scale
Objective 4	Excess existing road space is repurposed to support public life, active travel, and green infrastructure

OCP policies that contribute to the achievement of these objectives which relate to the development of 6th Street include:

- Supplement public amenity spaces within road rights of way in Downtown, Town, and Neighbourhood Centres by providing more places for people to gather
- Prioritizing cycling intersection treatments
- Enhancing accessibility features and transit

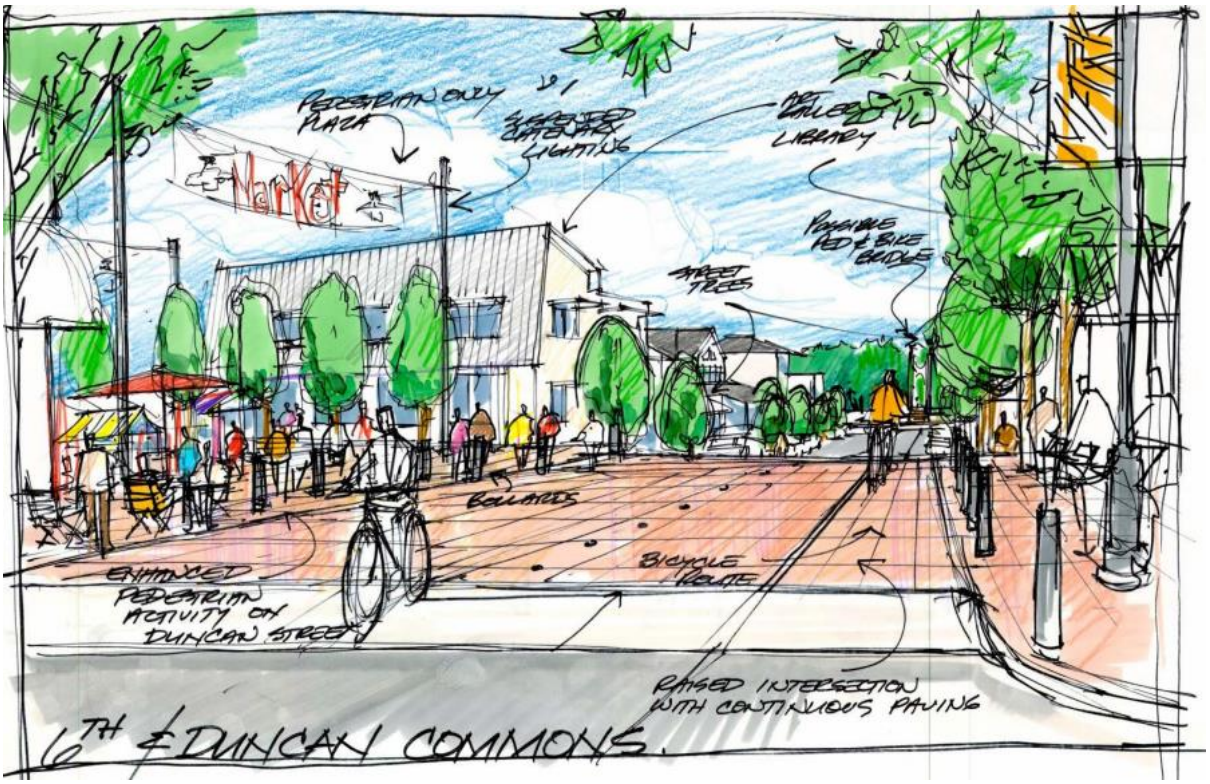
2.1.2 DOWNTOWN PLAYBOOK

Created in 2016, the *Downtown Courtenay Playbook* provides a shared vision for the downtown area. One of the three guiding principles is to create a connected downtown, with easy access from all directions and by all modes of transportation.

The *Downtown Courtenay Playbook* identifies a series of "catalyst projects" that are transformational ideas for downtown, reinforce the community vision and stimulate future investment. The catalyst projects that impact 6th Street include the following:

6th Street – The Green Street

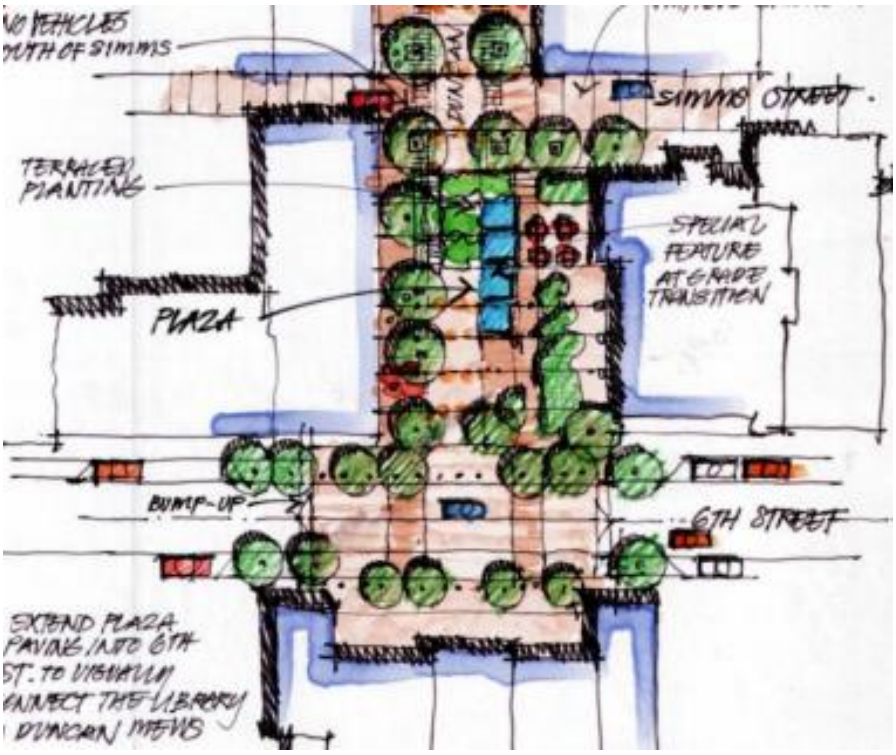
6th Street is identified as a "green street", with emphasis on additional trees and landscape, as well as creating a bicycle- and walking-friendly experience with connections to the Riverway Trail at the east end. The term "Festival" street is used, with community art and other placemaking opportunities shown in the example below.



Sample drawing of 6th Street Green Street
(Downtown Playbook, pg. 18)

Duncan Commons

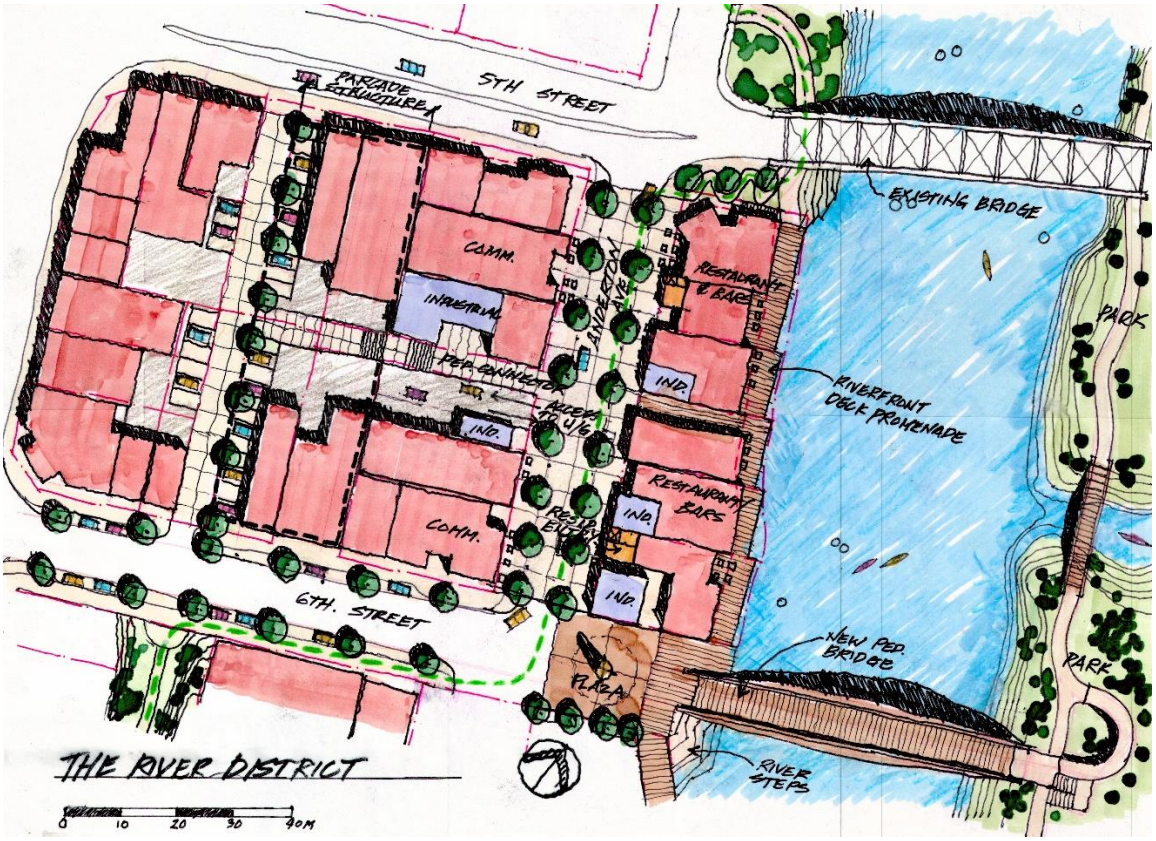
Duncan Commons is a concept centred on Duncan Street between 5th and 6th Street and is envisioned as a staging area for special events. The space is framed by the Library and Art Gallery, and is to be designed to allow for street closure to accommodate special events and with a green lawn flex-use area and kids play space.



Sample drawing of Art Gallery Plaza
(Downtown Playbook, pg. 15)

The River District

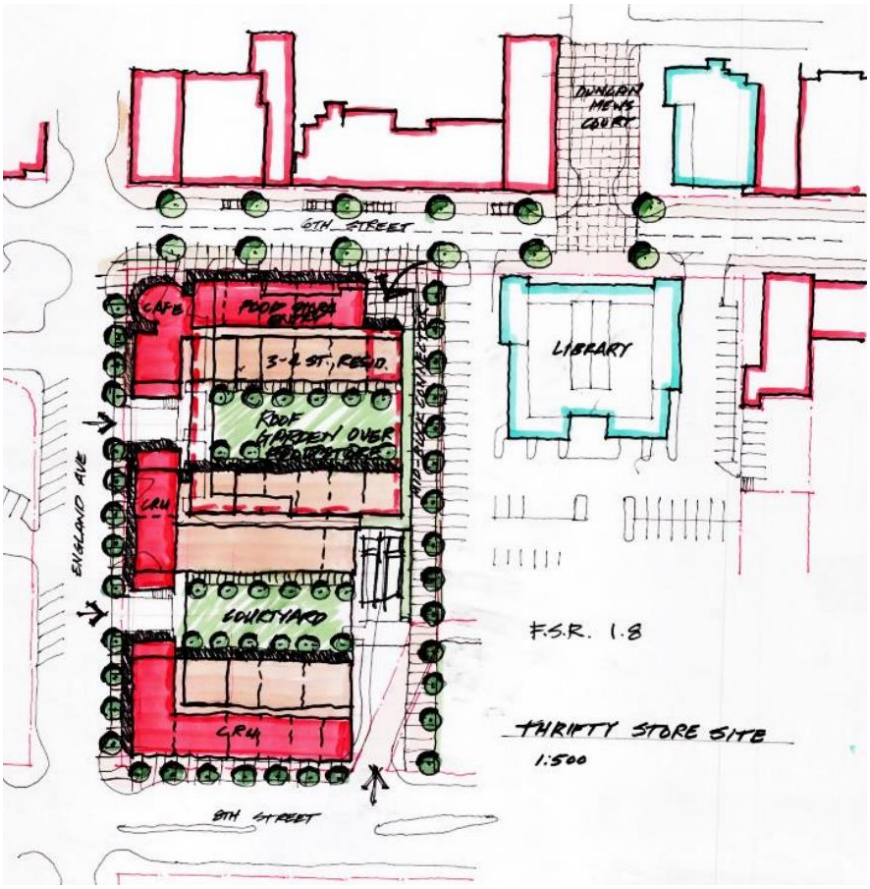
Redevelopment of Anderton Avenue between 5th Street and 6th Street is seen as an opportunity to revive and activate connection to the Courtenay River. 6th Street plays an important role in this concept, connecting the Riverway Trail to riverfront land uses and the 6th Street Active Transportation Bridge, as well as extending west into the centre of the downtown area.



Sample drawing of the River District
(Downtown Playbook, pg. 23)

Library / Old Town Market Site Redevelopment

The Library / Old Town Market Site redevelopment concept was to preserve the potential for a large food store anchor to be incorporated into a new mixed-use development, creating a commercial frontage defining the edges of 6th Street, 8th Street and England Avenue. This concept enhances 6th Street as a "green street" and adds pedestrian connections throughout this large block currently occupied largely by parking. The relocation of the current site tenant (Old Farm Market) has achieved some of the envisioned function of the concept (major grocery anchor tenant), while there is still potential to realize the mixed-use, pedestrian-oriented building orientation in future.



Sample drawing of the Old Farm Market site
(Downtown Playbook, pg. 26)

2.1.3 HARMSTON AVENUE CIVIC PRECINCT LOCAL AREA PLAN

Consistent with direction in the OCP, the City has recently initiated a local area planning process for the Harmston Avenue Civic Precinct. While only recently begun at the time this report was prepared, it is understood that the process is to result in a Local Area Plan to provide clarity of development goals for publicly owned lands as well as direction to the development of private land in the western end of downtown in the vicinity of Harmston Avenue. As shown below, the detailed planning area includes the western extent of 6th Street, abutting Fitzgerald Avenue. It could serve to extend and/or support some of the enhancement being considered for 6th Street beyond the borders of the current study extent, which terminates at Fitzgerald Avenue.

Harmston Avenue Civic Precinct planning area
(OCP, pg. 63)

2.1.4 TRANSPORTATION MASTER PLAN + CYCLING NETWORK PLAN

The City's *Transportation Master Plan* ("Connecting Courtenay") was completed in 2019 alongside the *Cycling Network Plan* and guides investment in transportation infrastructure by the City and regional partners. Information contained in the TMP specific to 6th Street includes the following:

- 6th Street is identified as a Local Road intended to carry lower traffic volumes as compared to parallel roads such as 8th Street (Collector) and 5th Street (Arterial);
- Signal infrastructure improvements are identified for the 6th Street / Cliffe Avenue intersection; and
- A potential walking / cycling crossing over the Courtenay River is identified at the east end of 6th Street, with reference to the *Parks & Recreation Master Plan*.

The *Cycling Network Plan* gives more detailed consideration to possible cycling improvements on 6th Street, as follows:

- 6th Street is identified as a short-term cycling network improvement project;
- A bike boulevard design treatment is identified for 6th Street, which is described as a street with low traffic volumes and low vehicle speeds suitable for cyclists to share the road with motorists, often including traffic calming measures and/or improvements at major intersections to help cyclists cross safely;
- The following specific considerations for cycling improvements on 6th Street are identified:
    - A crossing of Cliffe Avenue is required that can be accommodated with the addition of bicycle push buttons, paint, and may require minor curb modifications;
    - Traffic calming may be required to reduce traffic volumes and speeds; and
    - Drive-in angle parking on 6th Street between Fitzgerald Avenue and England Avenue should be modified to be reverse-in angle parking or parallel parking, which is safer on cycling routes.

2.1.5 PARKS & RECREATION MASTER PLAN

The *Parks and Recreation Master Plan* (PRMP) provides a framework for decisions related to parks and recreation land, facilities, amenities, programs, and resources for the City. The realization of 6th Street would forward several goals of the PRMP including:

- Improve connectivity
- Foster a healthy and active community
- Provide access for all
- Protect and enhance beauty

The PRMP explicitly states that trails connecting East and West Courtenay are lacking. This project explores the PRMP's proposal of a pedestrian bridge, as long-term trail development priority, that would lead into Simms Park from the base of 6th Street. It notes that trail connections in Simms Park and evidently the bridge will need to be improved. The PRMP provides draft trail standards that should be reviewed as part of the development of 6th Street corridor enhancement cross section options.

The PRMP includes the following applicable guidelines for the design of new and upgraded trails in Courtenay:

- Connect trails to sidewalks and bike lanes with appropriate accessible letdowns
- Provide switchback trails on slopes instead of or in addition to stairs where possible, especially in the urban area, to accommodate all users
- Use crime prevention through environmental design (CPTED) principles, balancing these with the need to protect and enhance habitats
- Provide seating along multi-use trails
- Design trails with consideration for protection and enhancement of environmental resources and include rainwater/stormwater infiltration where possible
- Identify locations for trailheads and staging areas, and provide infrastructure to suit the location, e.g., kiosk, sign, waste receptacles, dog bag dispensers, parking

2.1.6 URBAN FOREST STRATEGY

The 6th Street study area includes areas of the City that have a high percentage of permeable surfaces according to the *Urban Forest Strategy* (UFS) Impermeable Cover by Block (2016) map. This highlights an opportunity to forward the City's goal of a 34-40% tree canopy cover, while meeting other City goals for the public realm and active transportation. The following UFS policies support this rationale:

Policy 17. Increase the quantity of new tree planting in the public and private realm

17a. Plant 300 trees per year on public land (in addition to replacement and restoration plantings) and work with residents to plant approximately 850 trees per year on private land.

Policy 18. Plan and prioritize tree planting where it will most benefit community and ecological health, and support other City strategies

18b. Prioritize street tree improvements when downtown streets are scheduled for capital improvements towards implementation of the Downtown Playbook vision.

2.1.7 INTEGRATED RAINWATER MANAGEMENT PLAN

The *Integrated Rainwater Management Plan* (IRMP) is a community-wide plan that will guide how the City manages rainwater now and into the future. Development of the IRMP is ongoing. It calls for a comprehensive look at policy, procedures, regulations and infrastructure to guide community growth in an environmentally respectful and sustainable manner. The City is examining opportunities for a more holistic approach to rainwater management through green infrastructure. To align with high level goals of the IRMP, the 6th Street corridor enhancements should include opportunities to integrate green infrastructure with opportunities to manage rainwater, minimize underground infrastructure, a support a healthy watershed.

2.1.8 COMOX VALLEY REGIONAL TRANSIT INFRASTRUCTURE STUDY

The *Comox Valley Regional Transit Infrastructure Study* identifies England Avenue between 6th Street and 8th Street as the preferred location for a future Downtown Courtenay Transit Exchange. The study also identifies a series of transit priority measures along the identified Frequent Transit Network (FTN), which include signal timing improvements on Fitzgerald Avenue, 8th Street and Cliffe Avenue nearby 6th Street.

The City, in partnership with the CVRD and BC Transit, are advancing design for a transit exchange on England Avenue. Refer to *Section 2.2.2*. The exchange location does not directly impact 6th Street, but provides opportunity to connect to public spaces on 6th Street (including public washroom) and may result in buses circulating on 6th Street.

2.2 INFRASTRUCTURE PROJECTS

2.2.1 6TH STREET ACTIVE TRANSPORTATION BRIDGE

Identified in the *Parks & Recreation Master Plan*, the 6th Street Active Transportation Bridge will provide cyclists, pedestrians and other people-powered transportation connections from Downtown Courtenay via the bottom of 6th Street to Simms Millennium Park, and the extensive trail networks on both sides of the Courtenay River.

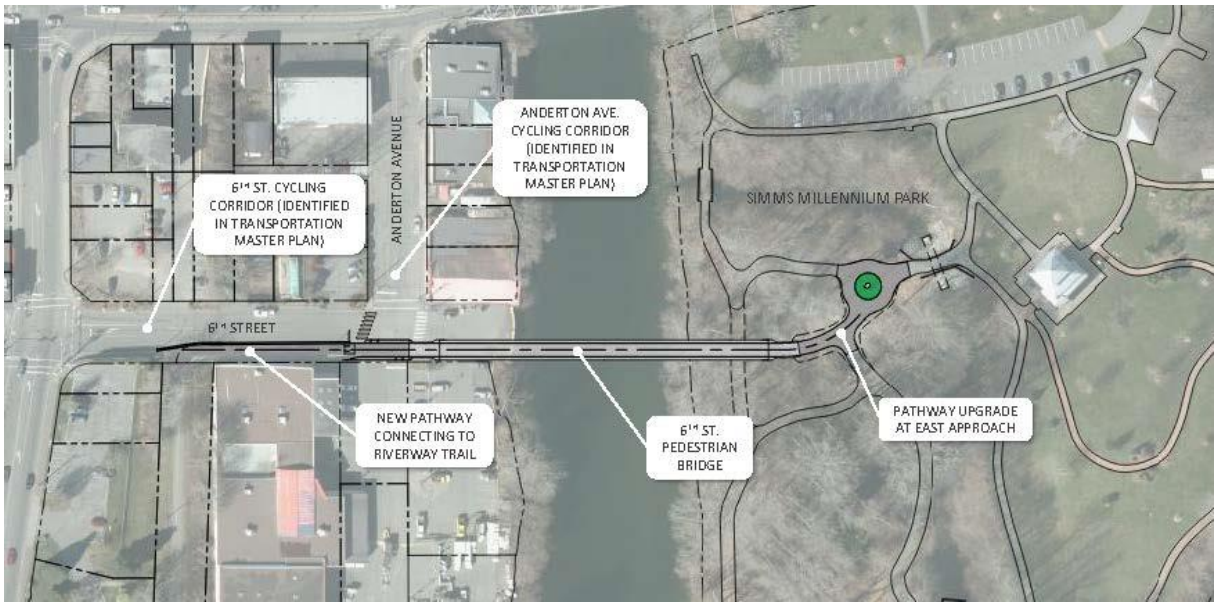
A four (4) metre wide symmetrical cable-stayed design was chosen for the project by Council in December 2020. This design minimizes the staging area required during construction and manages impacts on traffic and the environment, while remaining visually appealing.

The bridge is currently in the detailed design stage. While still to be finalized, a rendering of the proposed design is shown in **Figure 2**. A diagram showing the bridge alignment and proposed connections on either side of the Courtenay River is included in **Figure 3**.

Once complete, the bridge will provide an enhanced crossing opportunity of the Courtenay River for people walking, rolling and cycling. An important part of considering improvements along the 6th Street corridor is connecting to the future 6th Street Bridge crossing and providing a continuous All Ages & Abilities (AAA) connection into Downtown Courtenay.

FIGURE 2. RENDERING OF THE 6TH STREET ACTIVE TRANSPORTATION BRIDGE[1]

FIGURE 3. ALIGNMENT + CONNECTIONS OF THE 6TH STREET ACTIVE TRANSPORTATION BRIDGE[2]



[1] City of Courtenay website, accessed at: www.courtenay.ca/EN/main/city-hall/projects-gallery/sixth-street-active-transportation-bridge.html

[2] City of Courtenay website, accessed at: www.courtenay.ca/EN/main/city-hall/projects-gallery/sixth-street-active-transportation-bridge.html

2.2.2 DOWNTOWN COURTENAY TRANSIT EXCHANGE

A key recommendation of the *Comox Valley Regional Transit Infrastructure Study*, the City is partnering with the CVRD and BC Transit to create a new downtown transit exchange on England Avenue between 6th Street and 8th Street.

The proposed new exchange will include 4 bus bays (2 in each direction), with potential to expand to accommodate more buses in future. The exchange will include supporting facilities such as widened sidewalks, new transit shelters and bench seating, as well as access to the public washroom facility recently installed at the 6th Street / England Avenue intersection (southwest corner).

A concept design for the proposed transit exchange is included in **Figure 4**.

A new transit exchange is anticipated to result in more people travelling to/from this location as part of their transit trip, most notably people walking and cycling. The investment in transit infrastructure presents the opportunity to realize broader improvements in the south end of Downtown Courtenay, in coordinating with multi-modal enhancements contemplated for 6th Street.

FIGURE 4. CONCEPT DESIGN FOR PROPOSED DOWNTOWN COURTENAY TRANSIT EXCHANGE[3]

[3] Comox Valley Transit Infrastructure Study, accessed at: www.comoxvalleyrd.ca/sites/default/files/docs/Services/comox_valley_transit_infrastructure_study_may_3-21.pdf

3.0 EXISTING CONDITIONS

3.1 CORRIDOR DIMENSIONS + GRADES

3.1.1 RIGHT-OF-WAY

The right-of-way refers to the public land the street sits within and it represents the area within which streetscape enhancements may be considered.

The right-of-way width for 6th Street varies along the study corridor, but is generally 18m, with sections between England Avenue and Fitzgerald Avenue up to 24m. Refer to **Map 1**.

3.1.2 CURB-TO-CURB

The curb-to-curb width describes the distance between existing curbs on either side of the street. An understanding of existing curb locations will be used in considering street redesign options that may be achieved using existing curbs to minimize cost.

Curb-to-curb width varies along the corridor from as little as 8.5m at intersections with curb extensions, to as much as 21m. Refer to **Map 2.**

3.1.3 GRADES

6th Street is highest at the west end (Fitzgerald Avenue) and descends as it approaches the Courtenay River. The steepest sections are between Cliffe Avenue and Anderton Avenue (approx. 12%), as well as between Duncan Avenue and Cliffe Avenue (approx. 9%).

3.2 LAND USE

3.2.1 DESIGNATIONS

The 6th Street study corridor is primarily fronted by commercial land uses (C-1 and C-2), as shown in **Map 3.** The Riverside Trail is the only other designation, zoned as "Public Area."

3.2.2 BUILDING FORM

Many of the buildings fronting the 6th Street corridor lie directly adjacent to the property line, with minimal or zero setback. This provides for a strong street frontage and reflects good, traditional urban design principles, but also limits opportunities to extend public functions into adjacent private spaces and limits space within the streetscape.

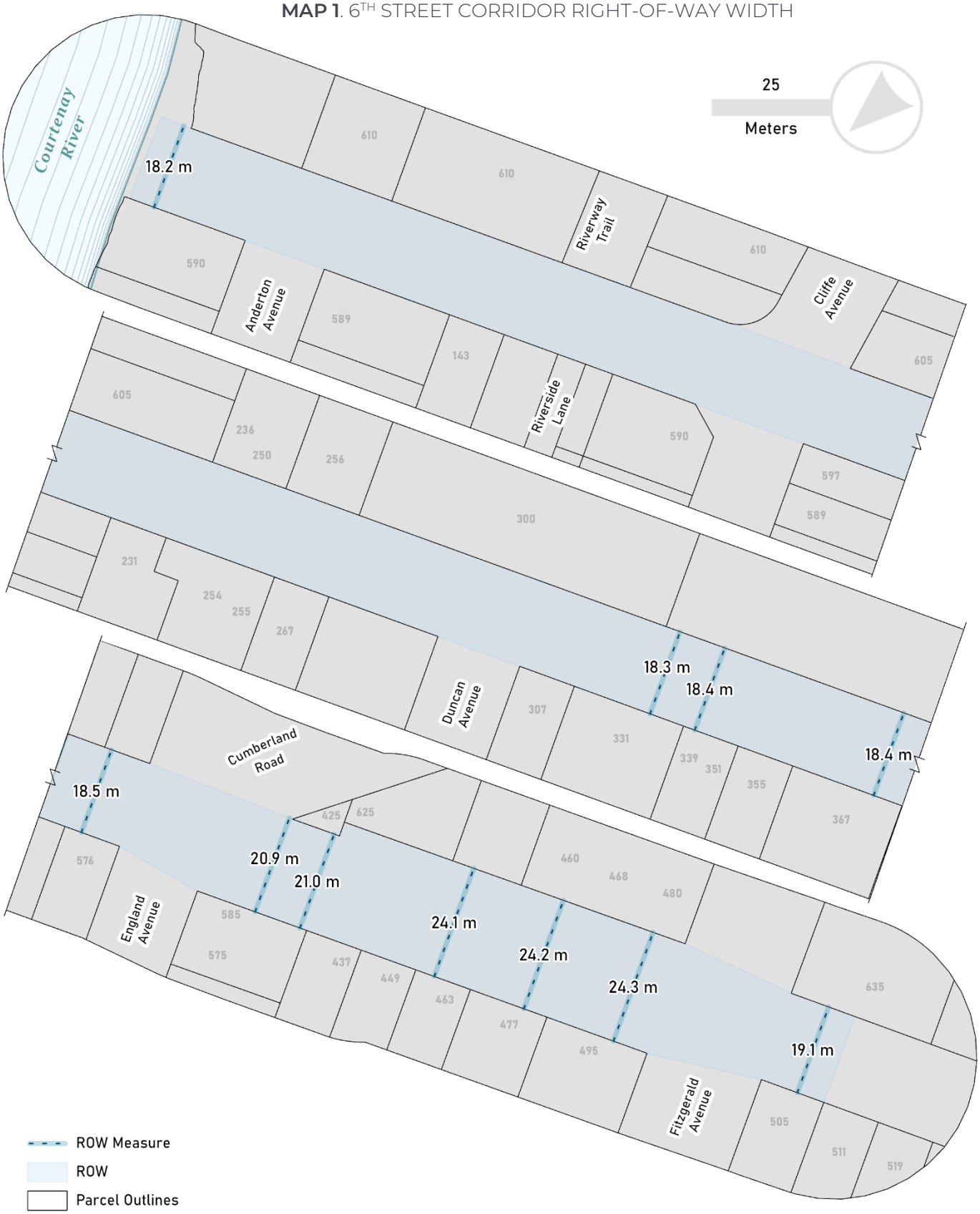
Several buildings include awnings or overhanging roof structures that extend as far as 1.5m over the sidewalk. While providing the benefit of protection from rain and sunny weather,

this also limits opportunities for vertical features in the sidewalk space. This is particularly impactful on existing street trees, some of which directly conflict with awnings, as well as limiting opportunities for future street trees and any other vertical features.

Building outlines relative to the public right-of-way are shown in **Map 4**, with visual examples shown below.

Examples from along the 6th Street corridor where building awnings extend over the sidewalk and into the street right-of-way, encroaching on the vertical space required for mature trees to grow.

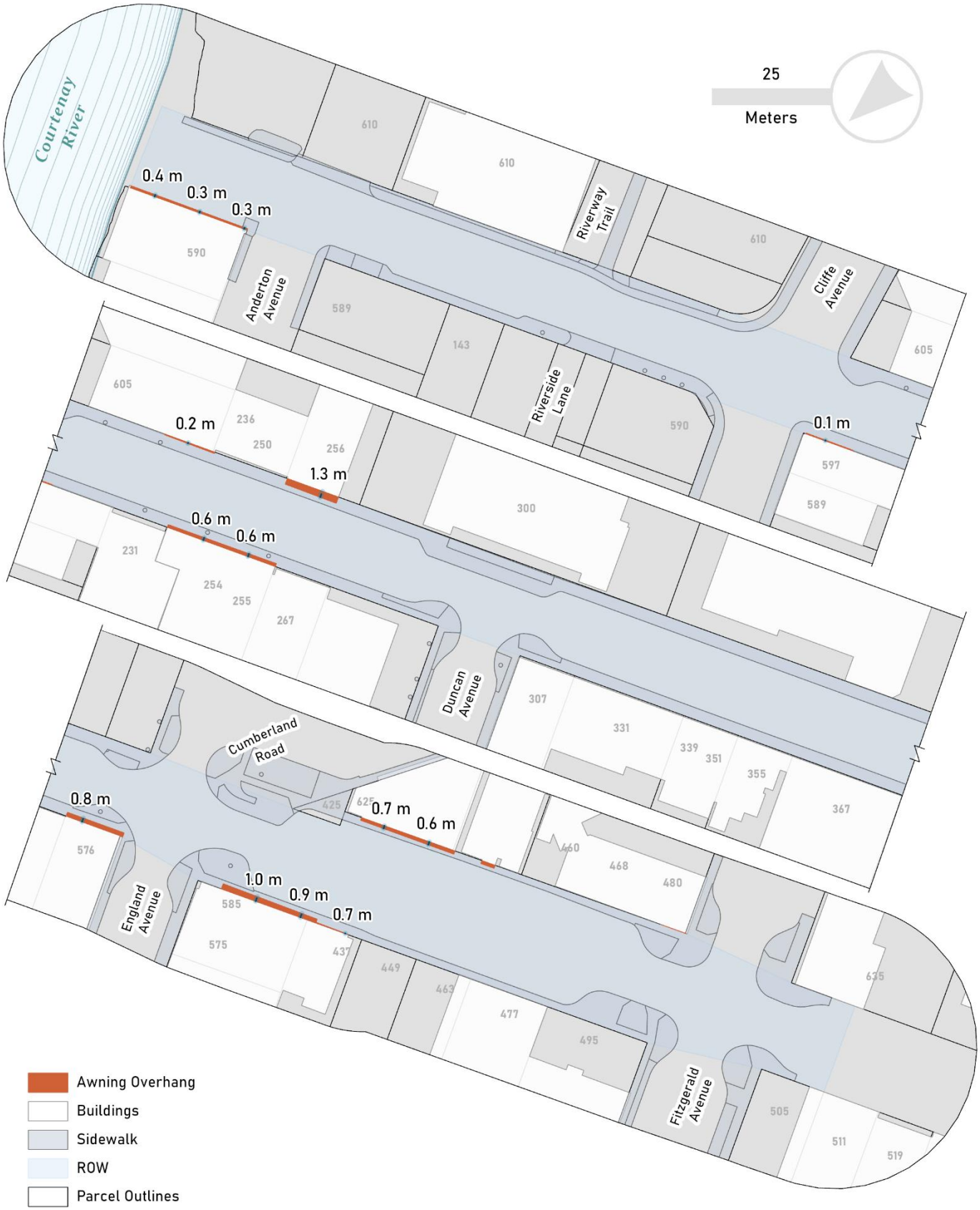
MAP 1. 6TH STREET CORRIDOR RIGHT-OF-WAY WIDTH



MAP 2. 6TH STREET CORRIDOR CURB-TO-CURB WIDTH

MAP 3. 6TH STREET CORRIDOR LAND USE

MAP 4. 6TH STREET CORRIDOR BUILDING FORM



3.3 STREET NETWORK

3.3.1 STREET CLASSIFICATIONS

The segment of 6th Street within the study area is classified as a Local Road.

All intersecting streets are classified as Local Roads, with the following exceptions:

- Cliffe Avenue is classified as an Arterial Road; and
- Fitzgerald Avenue is classified as a Collector Road.

3.3.2 INTERSECTION TRAFFIC CONTROL

The study area corridor contains five (5) intersections. Traffic control for each intersection is identified below (from east to west):

- Fitzgerald Avenue – Stop control on 6th Street (east and west legs)
- England Avenue – All-way stop control (4 legs)
- Duncan Street – All-way stop control (3 legs)
- Cliffe Avenue – Traffic signal
- Anderton Avenue – Stop control on Anderton Avenue (north and south legs)

Cliffe Avenue and 6th Street, pictured above, is the only signalized intersection along the study corridor.

3.3.3 CORRIDOR TRAFFIC VOLUMES

Corridor traffic counts were completed at two locations along 6th Street to understand the two-daily total daily traffic volumes. Counts were completed on Wednesday, October 4th, 2023 over a 24-hour period. The results are as follows:

- **West** – The section of 6th Street west of Cliffe Avenue (measured at the England Avenue – Duncan Avenue block) sees approximately **2,700 vehicles per day**, with two similar peaks, one at midday and another between 4:00-5:00pm.
- **East** – The section of 6th Street east of Cliffe Avenue also exhibits a distinct midday peak with a lesser afternoon peak toward 5:00pm. Volumes are in the range of **1,800 vehicles per day**.
- Traffic volumes are approximately 1.5x higher in the eastbound direction.

3.3.4 INTERSECTION PERFORMANCE

Intersection Traffic Volumes

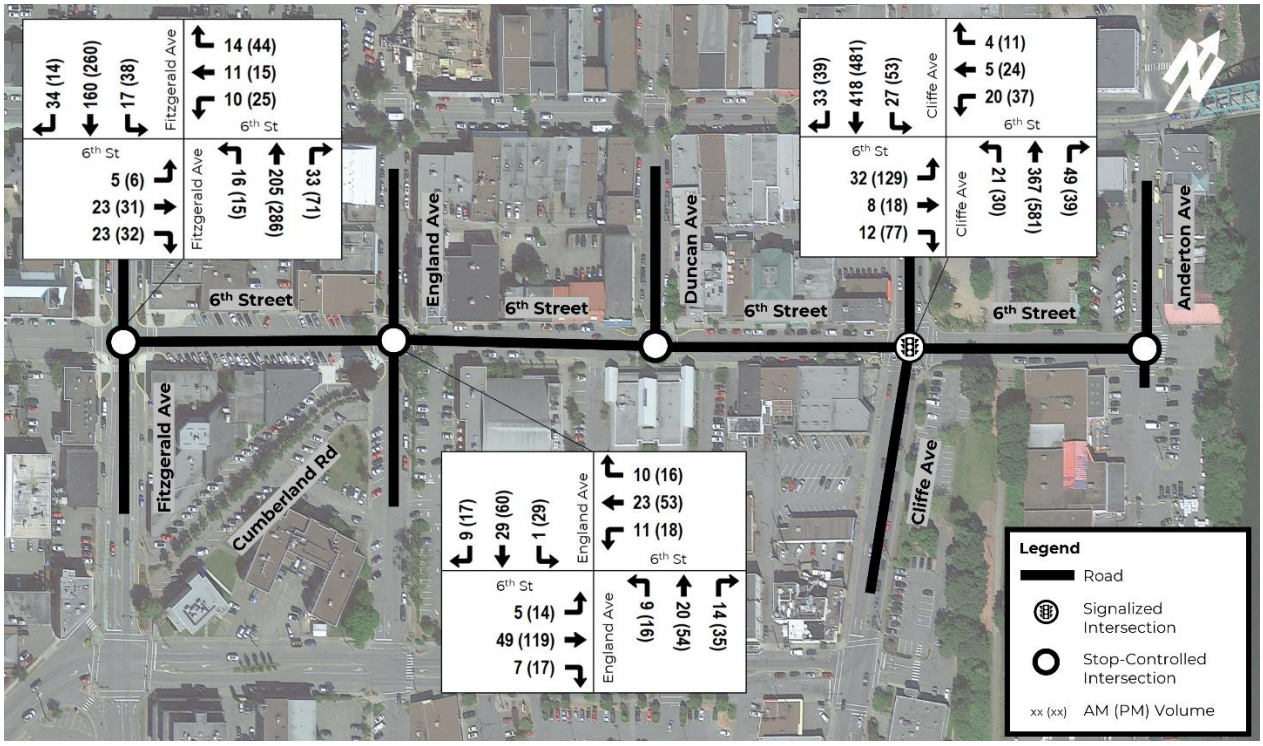
Traffic counts were conducted on Wednesday, October 4th, 2023 at three intersections along 6th Street: Fitzgerald Avenue, England Avenue and Cliffe Avenue. See **Figure 5** below.

The Cliffe Avenue / 6th Street intersection saw approximately 1,000 vehicles entering during the morning peak period (8-9am), and slightly over 1,500 vehicles entering during the afternoon peak (4-5pm). This is approximately 1.8x higher than the traffic volumes through the Fitzgerald Avenue / 6th Street intersection, which saw 550 and 850 total vehicles entering in the morning and afternoon peak periods, respectively.

The dominant movements at the Cliffe Avenue / 6th Street intersection are the N/S thru movements (heaviest southbound in the morning peak, and northbound in the afternoon peak). The most significant turn movement is the eastbound left turn from 6th Street in the afternoon peak (accounting for nearly 60% of vehicles on this approach).

Similarly, the Fitzgerald Avenue / 6th Street intersection is dominated by N/S thru movements on Fitzgerald Avenue (accounting for 65% of vehicles). The northbound right and southbound left movements from Fitzgerald to 6th Street are significant in the afternoon peak hour.

FIGURE 5. PEAK HOUR INTERSECTION TURNING MOVEMENT COUNTS (OCT 4, 2023)



Intersection Performance

The existing peak hour volumes were modelled in Synchro 11, using optimized signal timings at the Cliffe Avenue / 6th Street intersection. For this intersection, the primary concern is queuing from the northbound approach to the Cliffe Avenue / 5th Street intersection (not modeled), which may impact operations at 6th Street. Currently the 6th Street / Cliffe Avenue intersection operates at a level of service (LOS) B in the morning peak period and LOS C in the afternoon peak period, with total delays of 10 and 25 seconds for each respective period. The approaches along 6th Street have the highest delays, with 16 seconds in the morning peak period and 29 seconds in the afternoon peak period. Delays along Cliffe Avenue are 9-11 seconds in the morning peak period, and 23-26 seconds in the afternoon peak period. These level of service and delay metrics are considered acceptable.

Queues at the 6th Street / Cliffe Avenue intersection are highest on Cliffe Avenue, with 95th percentile queue lengths up to 70m in the morning peak period (southbound) and 135m in the afternoon peak period (northbound).

The England Avenue / 6th Street and Fitzgerald Avenue / 6th Street intersections both operate at an overall LOS A for the morning and afternoon peak periods. Queue lengths are below 10m for each movement at these intersections. The critical directions at the Fitzgerald Avenue / 6th Street intersection are the westbound and eastbound movements along 6th Street. These operate at LOS B in the morning peak period and LOS C in the afternoon peak period, with delays of up to 14 and 23 seconds for each respective period.

3.3.5 PARKING CONDITIONS

The City commissioned a technical parking assessment for the downtown area independent of the 6th Street corridor enhancement assessment project. Pertinent results from the parking assessment are provided below.

Parking Supply

The study area includes a total of 94 parking spaces. This accounts for all on-street parking spaces on 6th Street between Anderton Avenue and Fitzgerald Avenue.

Approximately 60% of all on-street parking spaces are in a parallel configuration. Parking spaces in the western-most block - approximately 40 spaces between Fitzgerald Avenue and England Avenue – are oriented as angled parking.

Utilization

Parking utilization refers to the level of use among a given parking supply, measured as percentage occupancy.

Average weekday parking utilization was observed at approximately 70% to 85% between 10:00am and 3:00pm. Maximum utilization was observed at 12:00pm to 1:00pm when 84% of all spaces were occupied (15 spaces unoccupied).

Parking utilization was observed highest in the western-most blocks of 6th Street, with the block between Fitzgerald Avenue and England Avenue observed at 95% occupied during the peak period.

A summary of overall parking utilization is presented in **Figure 6** below. A more detailed block-by-block analysis is contained in **Table 1**.

FIGURE 6. SUMMARY OF PARKING UTILIZATION – 6th STREET, ANDERTON AVE TO FITZGERALD AVE[4]

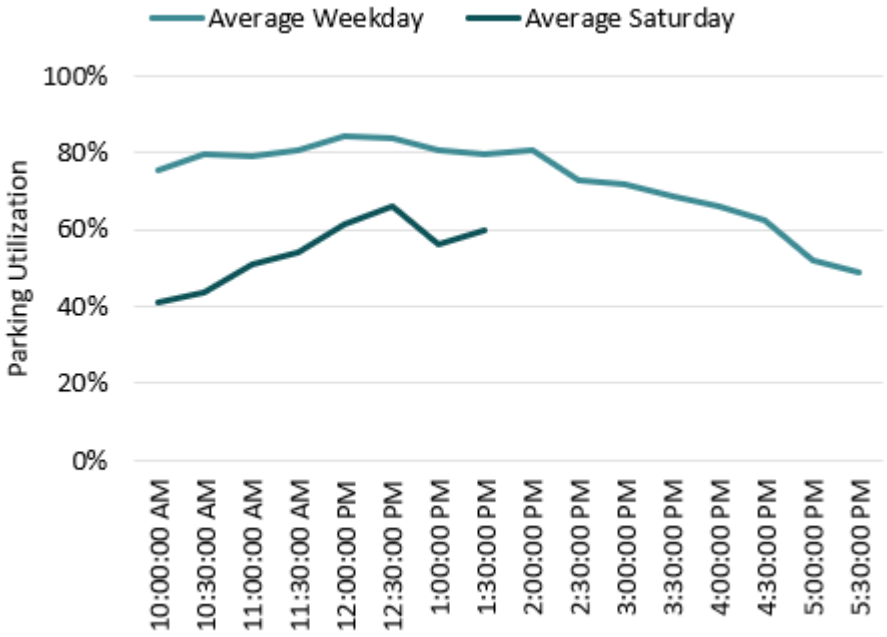


TABLE 1. SUMMARY OF PARKING SUPPLY + PEAK HOUR UTILIZATION, BY BLOCK

Location		Parking Supply	Parking Utilization			
			Peak Hour (12:00-1:00pm, weekday)		Peak Period Average (10:00am-3:00pm, weekday)	
Anderton Ave – Cliffe Ave	North	4	1	25%	1.2	30%
	South	7	5	71%	5.0	71%
Cliffe Ave – Duncan Ave	North	13	11	85%	10.6	82%
	South	9	7	78%	5.8	64%
Duncan Ave – England Ave	North	13	11	85%	10.3	79%
	South	8	7	88%	5.5	79%
England Ave – Fitzgerald Ave	North	17	16	94%	15.3	90%
	South	23	22	96%	20.8	90%

[4] Parking conditions summary provided by City of Courtenay staff, October 18, 2023

Examples from along the 6th Street corridor showing parallel and angled parking configurations as well as electric vehicle (EV) charing stations west of England Avenue

3.3.6 ACTIVE TRANSPORTATION FACILITIES

Existing active transportation facilities and amenities are shown in **Map 5**.

The existing sidewalk width along the 6th Street study corridor varies from as little as 1.4m to 2.6m in some areas. There is full sidewalk coverage along the study corridor, except for the portion of 6th Street between Anderton Avenue and Cliffe Avenue on the north side. Curb extensions are present at the Duncan Avenue, England Avenue, and Fitzgerald Avenue intersections and extend by as much as 8m from the property line into the roadway. The curb extensions serve to provide opportunities for landscaped areas, to slow vehicle turning speeds, to provide protection for pedestrians seeking to cross the street, and to reduce overall crossing distance.

Pedestrian crossings are provided at all intersection legs, apart from the west leg at Anderton Avenue and the north leg at Fitzgerald Avenue. There are no mid-block crossings in the study area.

The sidewalk width distribution is not even within the study area. The BC Active Transportation Design Guide calls for accessible sidewalks to be no less than 1.8m wide, however approximately 15-20% of sidewalks within the study area do not meet this standard. Most of the deficient sidewalks are between England Avenue and Fitzgerald Avenue, or east of Cliffe Avenue on the south side of 6th Street. Sidewalk widths between Cliffe Avenue and England Avenue are consistently between 2.3m and 2.6m.

Other active transportation facilities include the Riverway Trail – a key multi-use facility following the Courtenay River and currently terminating at 6th Street between Cliffe Avenue and Anderton Avenue. The terminating point is the sidewalk on the south side of 6th Street, without a crossing or specific cyclist accommodation at this location.

The existing Riverway Trail entrance, between Cliffe Avenue and Anderton Avenue

3.4 URBAN FOREST + OPEN SPACE

3.4.1 URBAN FOREST

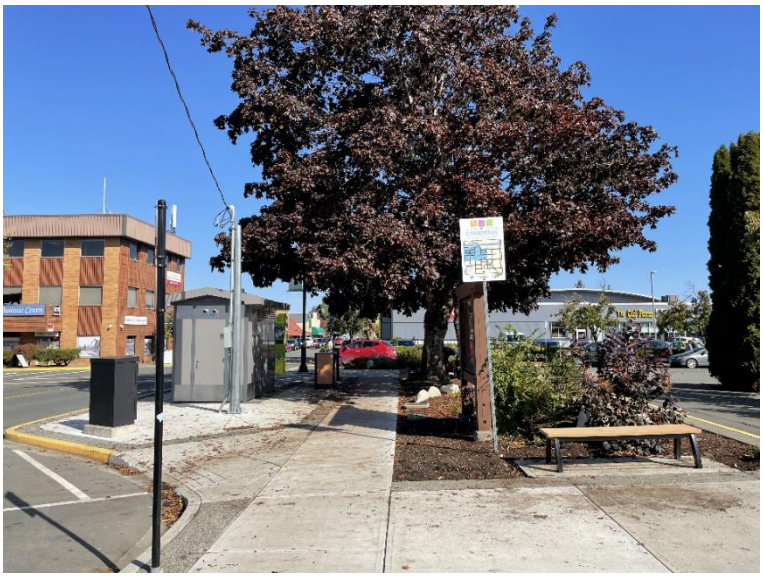
As described in the City's *Urban Forest Strategy*, healthy trees are important to the identity, ecology and comfort of those who call Courtenay home, and in this context, can be used to reduce the prevalence of pavement in commercial areas. This strategy also identifies a target of 34-40% canopy cover distributed throughout Courtenay.

An inventory of street trees, along with landscaped features and public space along the 6th Street corridor is shown in **Map 6**.

The existing urban forest within the study corridor is primarily composed of shorter / narrower street trees, with more mature trees surrounding the England Avenue intersection.

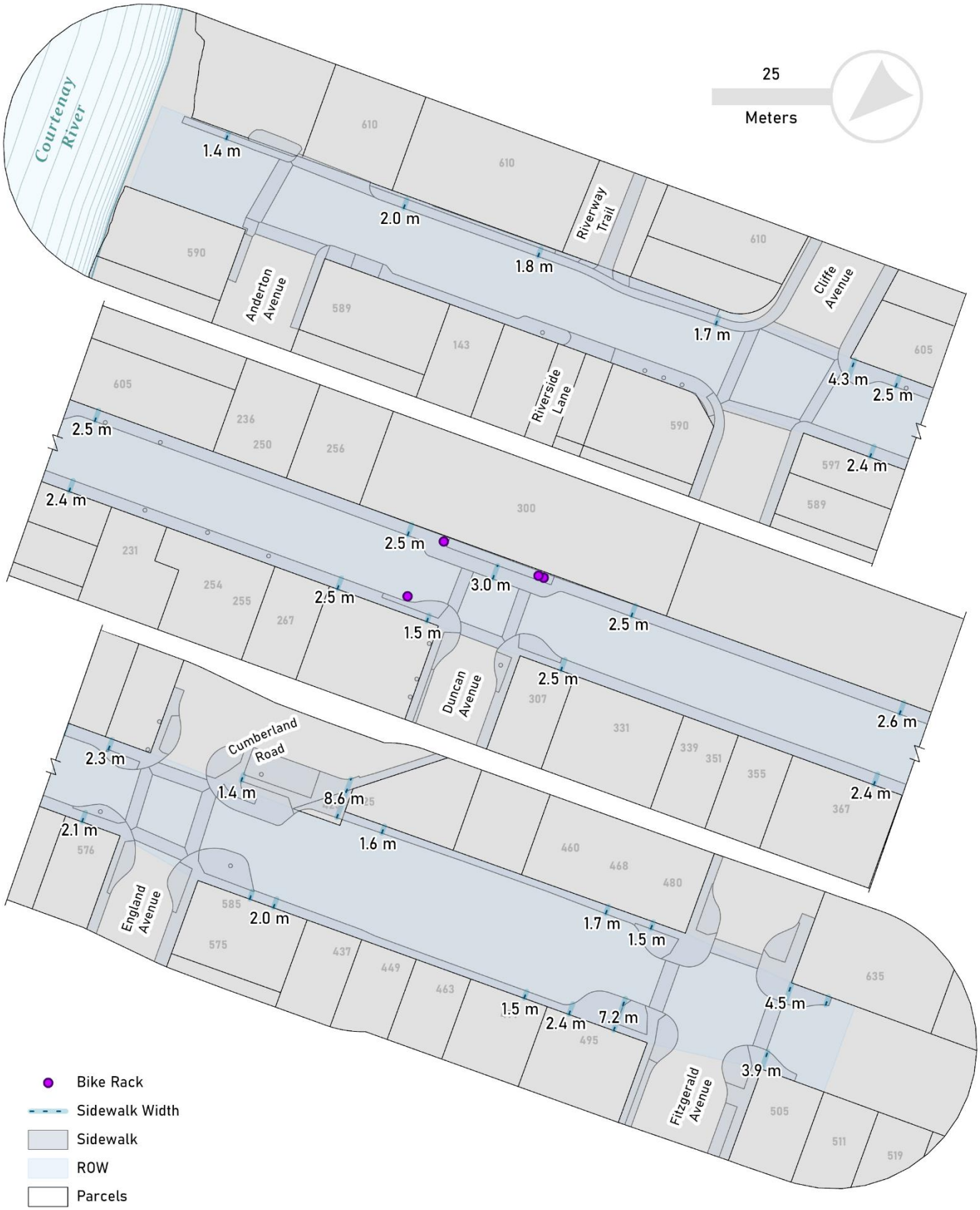
3.4.2 OPEN SPACE

The existing landscape features incorporated into curb extensions at the Duncan Avenue, England Avenue, and Fitzgerald Avenue intersections complement the other public spaces present along the study corridor. These include a seating area in front of the public library and benches with a public washroom adjacent to the EV charging stalls west of England Avenue.



Examples from along the 6th Street corridor of Totem Poles at Duncan Avenue, street trees, and the public washroom and seating area at 6th Street / England Avenue

MAP 5. 6TH STREET CORRIDOR SIDEWALK WIDTH



MAP 6. 6TH STREET CORRIDOR TREES AND PUBLIC SPACE

4.0 CORRIDOR ENHANCEMENT OPTIONS

4.1 BACKGROUND

The City's past downtown revitalization concepts and previously contemplated improvements for 6th Street are the starting point for considering multi-modal corridor enhancement options. Key components include consideration of 6th Street as a "green street" per the Downtown Playbook, as well as 6th Street as the key east-west cycling corridor through the downtown area (per the Cycling Network Plan). Consideration is also to be given the following specific locations along the corridor:

- Opportunities to further the Duncan Commons concept, including accommodating possible closures to host festivals and special events;
- Transition to/from the future 6th Street Active Transportation Bridge and the Riverway Trail; and
- Accommodation of transit access / egress to the planned future transit exchange on England Avenue.

4.2 CORRIDOR CONSTRAINTS

The physical design and limitations of the corridor also play a key role in understanding opportunities for improvement. The following are key considerations:

- The right-of-way width is most commonly 18m wide along the corridor, with areas between England Avenue and Fitzgerald Avenue as wide as 24m. In the absence of large-scale redevelopment and added right-of-way, streetscape enhancement opportunities must fit within the available right-of-way.
- Improvement options that utilize existing curb and sidewalk locations will incur far less capital cost than those that do not. The curb-to-curb width along the corridor is most commonly 13m, although with curb extensions narrowing street width at many intersections, as well as generally wider dimensions for the block between England Avenue and Fitzgerald Avenue (up to 21m wide).

Sample cross section for 6th Street
(produced during Downtown Playbook Charette, 2016)

4.3 CHARACTER AREAS

The 6th Street corridor is comprised of three (3) distinct character areas, each with a unique function and key design parameters. Enhancement opportunities for the corridor have been considered for their application overall, but also where variation may be required to reflect the character and function of each area.

The character areas are identified in **Figure 7** and described below:

Area A. 6th Street West, Fitzgerald Avenue – England Avenue

The western-most block is wider than the rest of the corridor, with a 24m right-of-way and 20 – 21m curb-to-curb width. This block includes angled parking on both sides representing nearly half the parking supply for the corridor, with the highest parking utilization. This block lacks street trees and will be relied on for bus circulation to/from the planned downtown Courtenay exchange on England Avenue.

Area B. 6th Street Centre, England Avenue – Cliffe Avenue

The central two blocks are the heart of the corridor. They have the widest sidewalks (2m+) and the sitting area in front of the Library. The right-of-way is approximately 18.3m and the curb-to-curb width is 13.0m. This area will be the focus of the special events and potential temporary closures contemplated in the Downtown Playbook, with connections to Duncan Avenue and the Duncan Commons concept.

Area C. 6th Street East, Cliffe Avenue – Anderton Avenue

The eastern-most block provides connection to the Riverway Trail (south side) and transition to the future 6th Street Active Transportation Bridge. This area is disconnected from the rest of the corridor by Cliffe Avenue and experiences steep grades, particularly on the approach to the Cliffe Avenue intersection. Where the rest of the corridor is fronted by Commercial uses, this block generally lacks business frontages.

FIGURE 7. 6th STREET CHARACTER AREAS

4.4 ENHANCEMENT OPTIONS

Five (5) improvement options have been identified for 6th Street that generally reflect the desired planning directions and are compatible with the physical parameters identified above. Each option is introduced below, with a more comprehensive description on the following pages and schematic designs provided in **Appendix A**.

1. Two-Way Protected Bike Lane

   A two-way protected cycling facility is achieved on the south side of the street that is buffered by parked vehicles by removing on-street parking on the north side of the street.

2. One-Way Circulation

   Reducing vehicle circulation to one direction and parking to one side of the street to allow for a two-way protected cycling facility and a wide boulevard space separating the sidewalk from the street.

3. Shared Street

   Shared street treatments that reduce the traffic function of 6th Street using traffic calming and directional closures to allow for motorists and cyclists to share the street, retention of parking on both sides, and sidewalks with boulevards. This option may take the form of a typical shared bikeway (i.e., bicycle boulevard) largely with existing curbs and gutters, or a curbless “woonerf” shared street.

4. Multi-Use Promenade

   Reducing vehicle circulation to a single direction and parking to one side, allowing for a signature promenade facility on the south side of the street with ample width for people walking and cycling, with boulevard separation from the street. Usage of surface materials, bollards, or other delineators to separate street areas instead of curbs, allowing for flexibility in usage (“woonerf”-style).

5. One-Way Circulation – Angled Parking

   Reducing vehicle circulation to a single direction with angled parking to one side, allowing for a multi-use facility on the south side of the street accommodating people walking and cycling, with boulevard separation from the street. Usage of surface materials, bollards, or other delineators to separate street areas instead of curbs, allowing for flexibility in usage (“woonerf”-style).

Enhancement Option 1.
Two-Way Protected Bike Lane

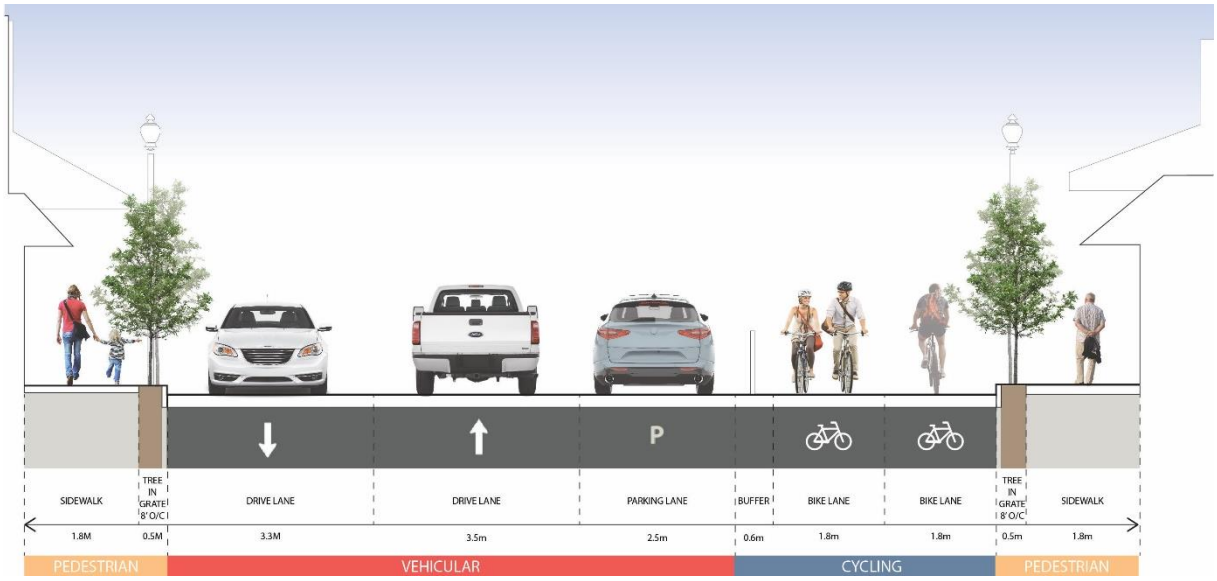
Overview

This option is focused on creating a two-way protected bike lane on the south side of the street that is buffered by parked vehicles. The space needed to create the new cycling facilities is achieved by removing on-street parking on the north side of the street (retain parking on the south side). Existing vehicle circulation patterns are maintained, although specific cycling treatments are required at the Cliffe Avenue and Fitzgerald Avenue intersections.

Key Features

- Two-way vehicle travel is retained (3.3m wide travel lanes)
- Parking is reduced to the south side only. Parking on the south side is located to buffer cyclists from vehicle traffic.
- Cyclists are prioritized in this option with a 3.6m wide bi-directional bike lane on the south side of 6th Street. The south side is preferred over the north side for better connections to the Riverway Trail and future 6th Street Active Transportation Bridge.
- The existing public space in front of the Library is lost, with the potential for added public space on the north side of 6th Street at Duncan Avenue.
- Public washroom facilities are retained at the England Avenue / 6th Street intersection, but existing EV chargers must be relocated.

Typical Cross-Section (Option 1)



Sample Photos

The following are photos of two-way protected bike lane facilities in a downtown location similar to 6th Street.

Front Street, Nanaimo[5]

Fort Street, Victoria

[5] Image Source: City of Nanaimo, access online at: www.nanaimo.ca/your-government/projects/front-street-transportation-improvements-project

Enhancement Option 2.
One-Way Circulation

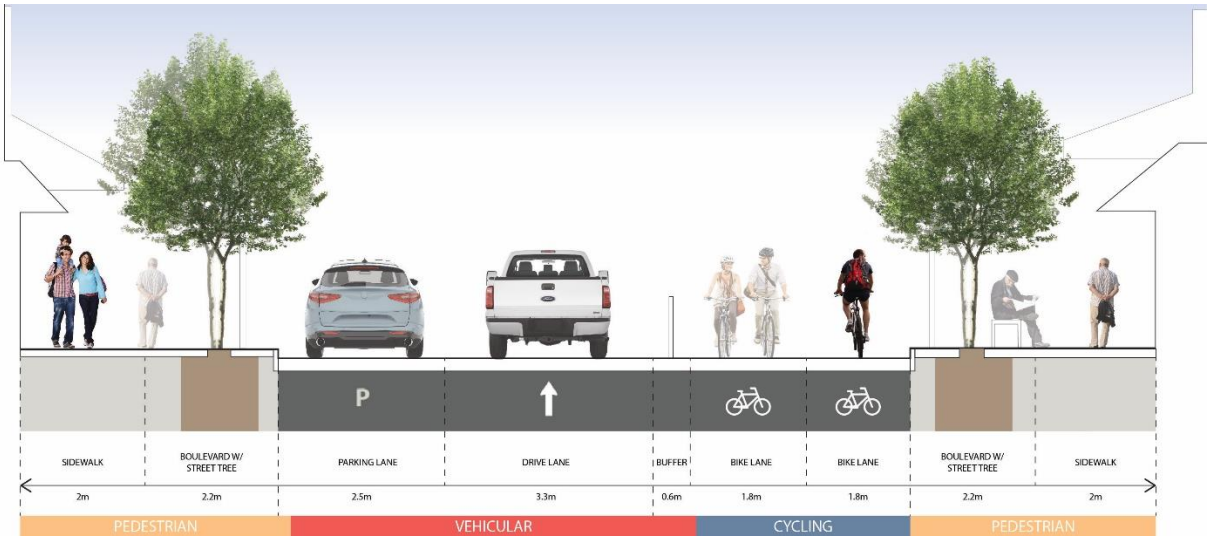
Overview

Converting vehicle traffic to one-way circulation is an opportunity to shift the space needed to support vehicle travel towards supporting other activities on 6th Street, such as a two-way protected cycling facility, wide sidewalks and boulevards with street trees.

Key Features

- Vehicle traffic is reduced to one-way travel between England Avenue and Cliffe Avenue (two-way travel retained Fitzgerald to England Ave and Cliffe to Anderton). One-way circulation is prioritized in the eastbound direction (current patterns see approx. 1.5x more traffic in the eastbound direction).
- Parking is reduced to the south side only. Parking on the south side is located to buffer cyclists from vehicle traffic.
- Cyclists are prioritized in this option with a 3.3-3.6m wide bi-directional bike lane on the south side of 6th Street. The south side is preferred over the north side for better connections to the Riverway Trail and future 6th Street Active Transportation Bridge.
- The existing public space in front of the Library is largely retained.
- A largely continuous boulevard space is achieved on both sides with significant opportunity for street trees and/or stormwater management features.
- The northbound left-turn lane on Cliffe Avenue is removed, providing greater opportunity for streetscape and/or transit accommodation on Cliffe Avenue.
- Public washroom facilities are retained at the England Avenue / 6th Street intersection, existing EV chargers must be relocated.

Typical Cross-Section (Option 2)



Enhancement Option 3a.

Shared Street / Neighbourhood Bikeway

Overview

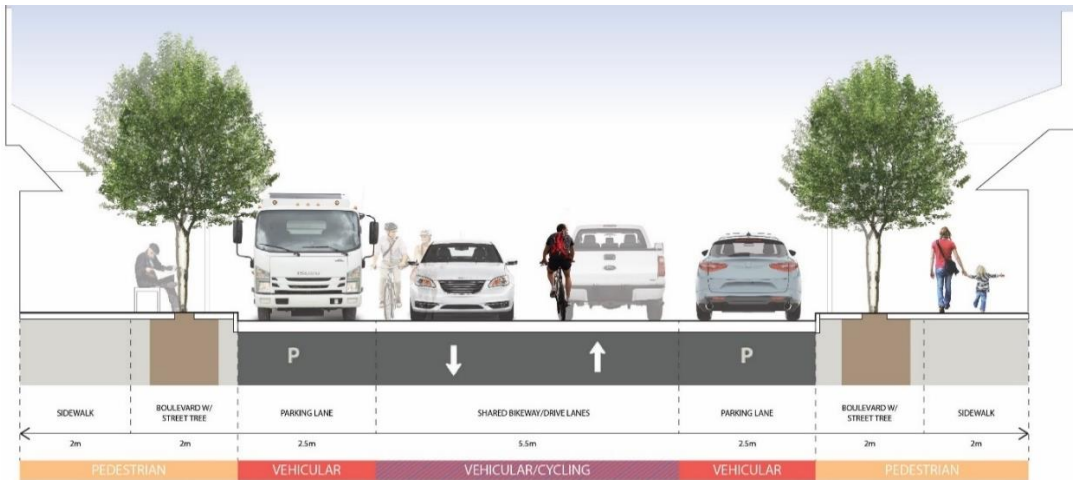
A shared street option has been identified that would see vehicles and cyclists in shared travel lanes. Traffic calming and diversion is required to ensure reduced traffic volumes and low vehicle speeds. This option allows for sufficient space to retain on-street parking on both sides, with sidewalks and narrow boulevards in most places.

Neighbourhood bikeways are more commonly pursued in residential areas, but are also applicable on downtown streets exhibiting low traffic volumes and speeds. The Hobson Avenue / 6th Street corridor in east Courtenay is an example of a neighbourhood bikeway.

Key Features

- Vehicles and cyclists share travel lanes between England Avenue and Cliffe Avenue.
- Reduced traffic volumes are required so that cyclists are comfortable sharing the lane with vehicles. A directional closure is required to prevent eastbound thru traffic at England Avenue and reduce eastbound traffic volumes. Traffic calming features to reduce vehicle travel speeds may also be pursued.
- Two-way protected bike lanes are shown between Fitzgerald Avenue and England Avenue for added safety where traffic volumes are higher, and east of Cliffe Avenue to connect to the Riverway Trail and future 6th Street Active Transportation Bridge. Specific cyclist design treatments required at Cliffe Avenue intersection to transition between cycling facility types.
- Parallel parking is retained on both sides, with only a modest loss in parking supply on the block between Fitzgerald Avenue and England Avenue (current angled).
- The existing public space in front of the Library is retained. Public washrooms are retained at England Avenue, EV chargers must be relocated.

Typical Cross-Section (Option 3a)



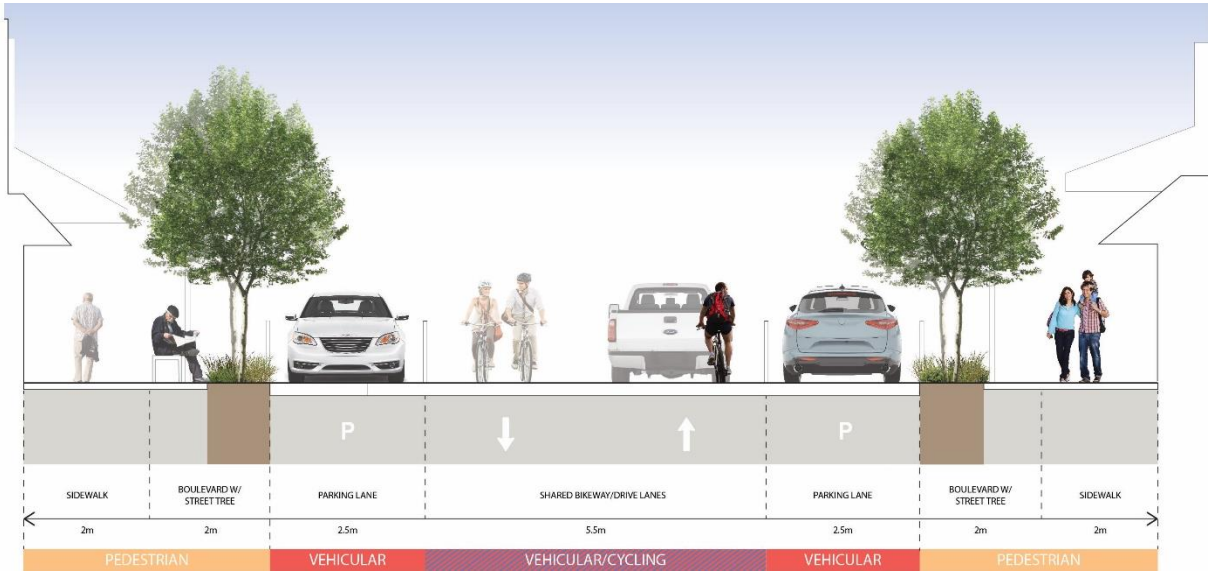
Enhancement Option 3b.

Woonerf Shared Street Option

A level cross section (*Woonerf*) design could be pursued for this neighbourhood bikeway option for the two blocks between England Avenue and Cliffe Avenue.

This is similar to shared street neighbourhood bikeway treatment identified above in terms of circulation and overall function but would involve a comprehensive streetscape reconstruction to bring the street and sidewalk to the same elevation and build in urban design and aesthetic treatments.

Typical Cross-Section (Option 3b)



Enhancement Option 4.
Multi-Use Promenade

Overview

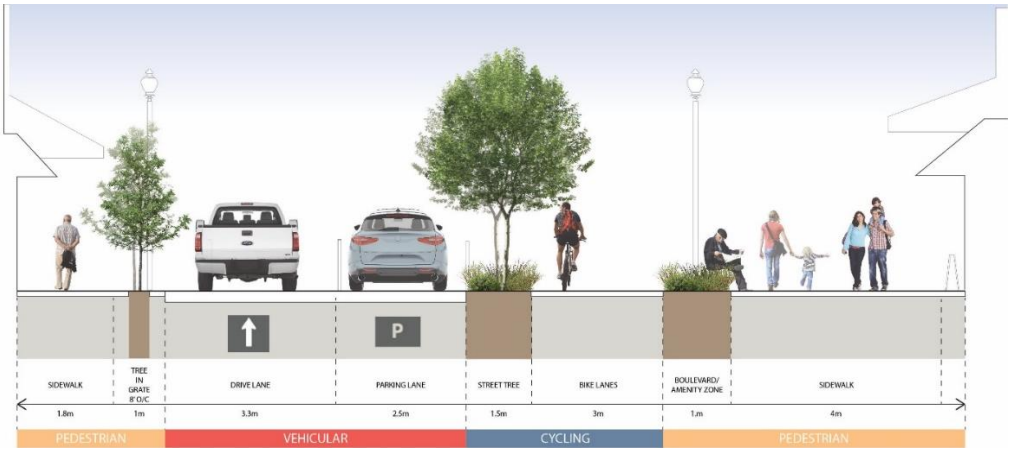
A multi-use promenade option has been identified that would reduce vehicle traffic to one direction (similar to Option 2) and prioritize space for pedestrians, cyclists and public gathering on the south side of 6th Street. The resulting public space would be significant and allow for ample space for public gathering and specifical events, while also providing a direct connection to the Riverway Trail and future 6th Street Active Transportation Bridge.

This option results in a significant downgrade in the vehicle function of 6th Street, with both the reduction of one-way traffic and reduction of on-street parking to one side.

Key Features

- Significant public space to support public gathering and special events.
- Opportunities for a large number of street trees and stormwater management.
- Cyclists and pedestrians likely to require separation within the promenade space, particularly to address fast-moving eastbound cyclists (high speed due to grade).
- Vehicle traffic is reduced to one-way travel between England Avenue and Cliffe Avenue (two-way travel retained Fitzgerald to England Ave and Cliffe to Anderton). One-way circulation is prioritized in the eastbound direction (current patterns see approx. 1.5x more traffic in the eastbound direction).
- Parking is reduced to the south side only. Parking on the south side is located to provide direct access to the promenade.
- The northbound left-turn lane on Cliffe Avenue is removed, providing greater opportunity for streetscape and/or transit accommodation on Cliffe Avenue.
- This cross-section could be pursued with a curbless design (as shown below) that allows for improved function during street closures and special events.

Typical Cross-Section (Option 4)



Enhancement Option 5.

One-Way Circulation – Angled Parking

Overview

This option presents a compromise by reducing vehicle traffic to one direction (similar to Option 4) while prioritizing angled parking along the corridor. Extra space for pedestrians and cyclists is provided on the south side of 6th Street in the form of a multi-use pathway with boulevard space for street trees.

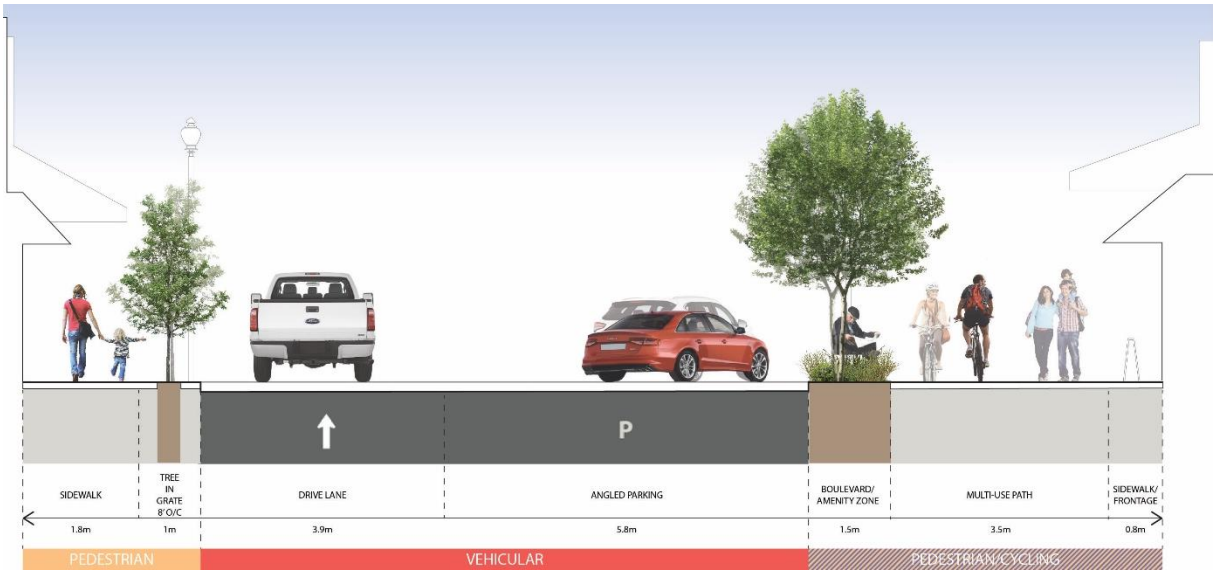
This option results in a significant downgrade in the vehicle function of 6th Street, with both the reduction of one-way traffic and slight reduction of on-street parking supply. Limited dedicated space for cyclists does not support commuter traffic toward the 6th Street Bridge.

If a curbless design is pursued, there is significant space for specifical events in cases where the street is closed with no parking or through travel.

Key Features

- Limited public space to support public gathering and special events (south side)
- Opportunities for functional street trees and/or space for stormwater management features.
- Potential conflict between cyclists and pedestrians due to insufficient space for physical separation within the multi-use pathway particularly for fast-moving eastbound cyclists (high speed due to grade).
- Vehicle traffic is reduced to one-way travel between England Avenue and Cliffe Avenue (two-way travel retained Fitzgerald to England Ave and Cliffe to Anderton). One-way circulation is prioritized in the eastbound direction (current patterns see approx. 1.5x more traffic in the eastbound direction).
- Parking is reduced to the south side only, in the form of angled parking. Location on the south side provides direct access to the multi-use pathway.
- The northbound left-turn lane on Cliffe Avenue is removed, providing greater opportunity for streetscape and/or transit accommodation on Cliffe Avenue.
- To achieve a level cross section without curb and gutter (i.e., *Woonerf*-style), a full street reconstruction would be required.
    - If existing curbs remain in place, construction could be limited to the south side of the street only, leaving the north side largely open and less impacted during construction.

Typical Cross-Section (Option 5)



4.5 CURBED VS CURBLESS DESIGN

Conventional urban street design includes a 90-degree concrete barrier curb at the street edge. This provides drainage function by way of a catch basin, as well as physical and vertical separation between the sidewalk and street.

Originating in the Netherlands and Belgium, the term *Woonerf* (translates as "living street") refers to street design that prioritizes quality of life for people as opposed to solely efficient movement of vehicles. A defining feature of the *Woonerf* is the lack of continuous raised curb and gutter to separate vehicles from other road users. Under this curbless design drainage infrastructure is fully encapsulated below the road surface and travel lanes are delineated by physical barriers, material variations or other urban design elements. Examples include concrete banding, or removable bollards or planters. The curbless design approach is typically only applied on low volume, slow speed streets where pedestrian safety and creating public space is a priority.

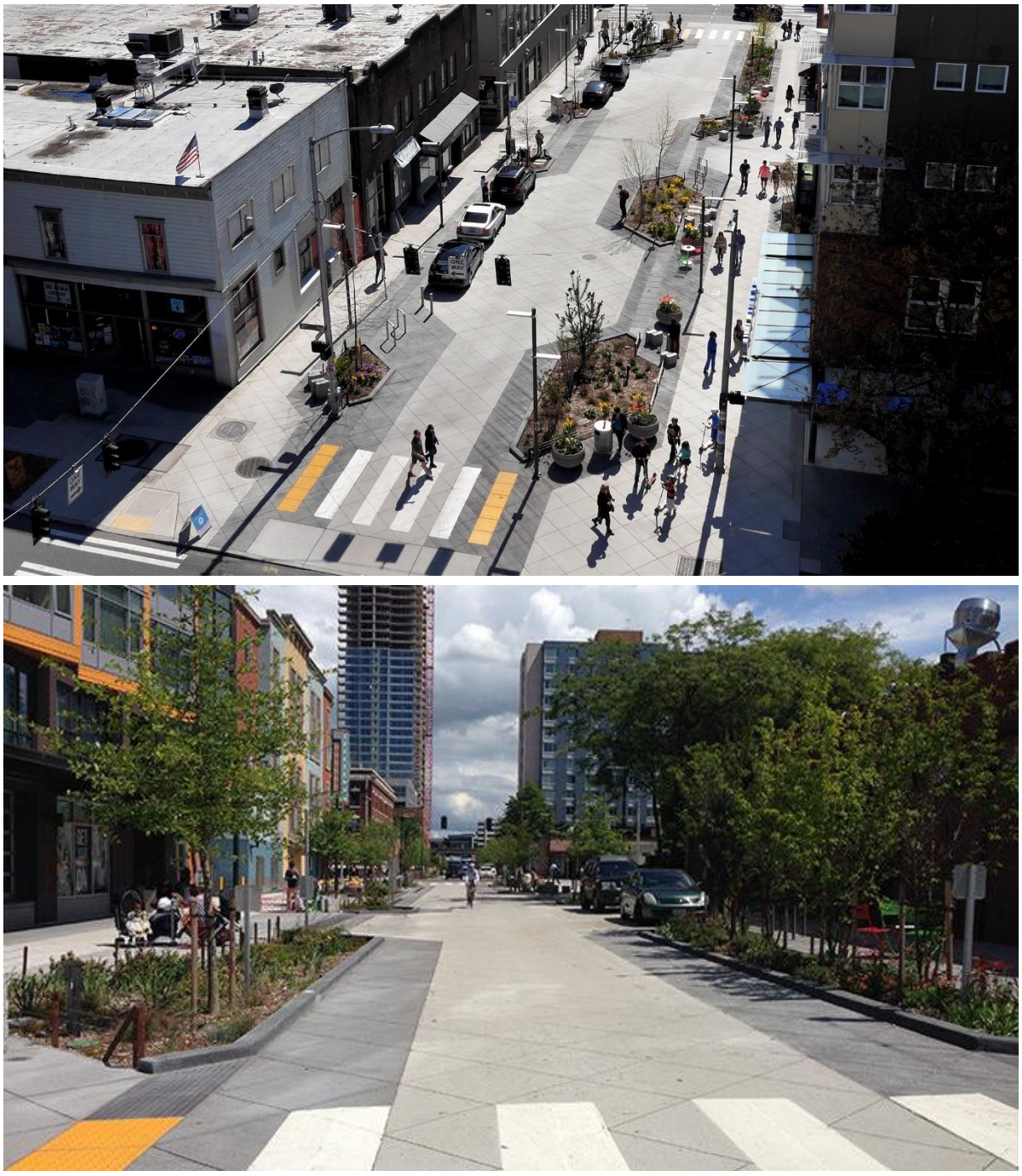
Many of the enhancement options considered above could be pursued as a curbless design. This would provide for a stronger transition to the Duncan Commons concept and allow for an improved experience during temporary closures for special events. This option may have particular application for the section of 6th Street between England Avenue and Cliffe Avenue, and should be pursued in combination with treatments that reduce traffic volumes through this section (either traffic calming and/or reduction to one-way traffic).

A number of examples are provided below from communities such as Qualicum Beach, Coquitlam, Halifax, Seattle, Portland and Chicago.

Woonerf currently under construction on 2nd Avenue in Qualicum Beach

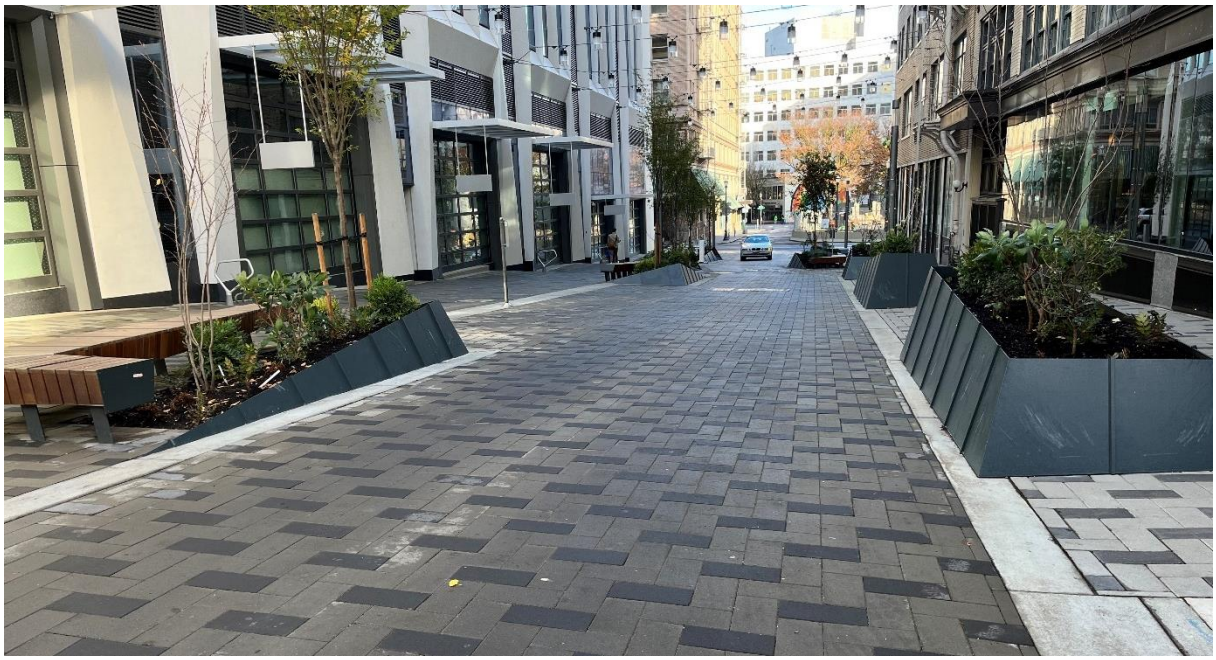
McAllister Avenue Shared Street, downtown Port Coquitlam, BC[6]

[6] Image source: City of Port Coquitlam, access online at: https://www.portcoquitlam.ca/business-development/planning/revitalizing-our-downtown/mcallister-avenue-reconstruction/



Bell Street Park in Seattle, WA, a hybrid of park activities and street function[7]

[7] Image source: World Landscape Architect, access online at: https://worldlandscapearchitect.com/wp-content/uploads/2018/10/Bell-Street-Park-Seattle-USA-MIG-SvR-8.jpg?v=3a1ed7090bfa



Woonerf street in the Pearl District area, Porland OR

Argyle Street shared street, Halifax NS[8]

[8] Image source: Fathom Studio, access online at: https://fathomstudio.ca/our-work/argyle-and-grafton-street-shared-street

Argyle Shared Street Streetscape, Chicago IL[9]

[9] Image source: Site Design Group, access online at: https://www.site-design.com/argyle-streetscape/

4.6 DESIGN CONSIDERATIONS

A series of specific design considerations were contemplated as each option was identified and are given consideration in the evaluation of options. These items are important in understanding how options were developed, what the important impacts are (positive and negative) and which supporting details require further consideration as design phases are pursued. The following are specific design considerations:

- The section of 6th Street between Fitzgerald Avenue and England Avenue is wider than the remainder of the corridor. The right-of-way is approximately 24m wide (approx. 6m wider than elsewhere) and angled parking is in-place on both sides. The design intent for the corridor and the typical cross-sections identified for each option require specific consideration for this western-most block.
    - For the purposes of this exercise, all options retain two-way vehicle traffic for this block as well as parking both sides (parallel or angled). This is critical to the evaluation of the options. See **Appendix A** for the schematic designs.
- Any option that contemplates a bi-directional cycling facility or multi-use facility (i.e., promenade) should focus on the south side of 6th Street to provide direct connection to the Riverway Trail and future 6th Street Active Transportation Bridge. Specific design and signal treatments may be required at the Cliffe Avenue intersection to create physical separation and/or time separation for cyclists.
- Options that result in cyclists sharing the travel lane with vehicles will require that traffic volumes are no more than 1,000 vehicles per day and travel speeds are not more than 30 km/h. Specific and targeted traffic calming features will be required to achieve desired traffic characteristics.
- Specific consideration is required for the design and placement of street trees. In options with continuous boulevards, street trees may be achieved in regular intervals. Specific technologies may be required to support the establishment of functional trees with appropriate soil volumes (i.e., Silva Cells or other similar products). For those without boulevards, opportunities to locate street trees in curb extensions and/or within the sidewalk space are to be identified.
- Specific consideration of street closure opportunities is required once a preferred option is identified. This may include opportunities to extend the Duncan Commons treatment through the 6th Street / Duncan Avenue intersection and/or closures of 6th Street between England Avenue and Cliffe Avenue to support special events. Closing the access to the Library parking lot from the south side of 6th Street should be considered for all options, as it will reduce the potential for conflict with active modes.

5.0 OPTIONS ASSESSMENT

The corridor enhancement options identified in ***Section 4.0*** have been assessed below to help determine the preferred option for the 6th Street corridor.

5.1 APPROACH

5.1.1 EVALUATION RATINGS

An evaluation rating is applied to each corridor enhancement option across a series of criterion. The evaluation rating is based on the level of service provided for each option as compared to current levels. Descriptions of each evaluation level are provided below:

5.1.2 ASSESSMENT CRITERIA

A series of standardized criteria are identified to be used to cross-compare the corridor options against one another.

Walking Comfort + Safety	Safety and comfort for people walking considering sidewalk and boulevard width, and separation from vehicles and bikes.
Cycling Comfort + Safety	Safety and comfort for people cycling considering consideration for facility types, motorist interactions, and network connections and intersections.
Motor Vehicle Performance	Performance for general purpose traffic including intersection performance and changes in circulation and/or capacity.
Parking Impact	Total impact on parking supply and impact on access to parking.
Transit Performance	Impacts in providing access to planned transit exchange and/or changes to transit route / circulation.
Placemaking / Open Space	Placemaking and open space benefits associated with active boulevards, open spaces, and active transportation facilities.
Festivals / Special Events	Opportunities to support the festivals and special events envisioned in the OCP and Downtown Playbook.
Environmental Performance	Environmental performance considered through urban forest and stormwater management opportunities.
Construction Impact	Anticipated impact of construction on businesses, including construction length and magnitude of interruption.
Capital Cost	Anticipated capital cost in consideration of new and/or repurposed infrastructure, and cost of enhancements.
Lifecycle Cost	Anticipated resource and cost required to maintain infrastructure.

5.2 EVALUATION RESULT

A summary of the level of service provided for each option as compared to current levels is provided in **Table 2** below. Evaluation for each assessment criterion was based on the key features identified in ***Section 4.0*** and the schematic designs provided in **Appendix A**.

The enhancement options each represent tradeoffs between different priorities, aligned to one or multiple assessment criteria. Weightings have not been applied to the criteria. The intention is to provide a holistic overview, enabling decision-makers to compare against high-level direction and various guiding principles as described earlier in this report.

Results are considered in supporting the conclusion that has been described further in ***Section 6.0***.

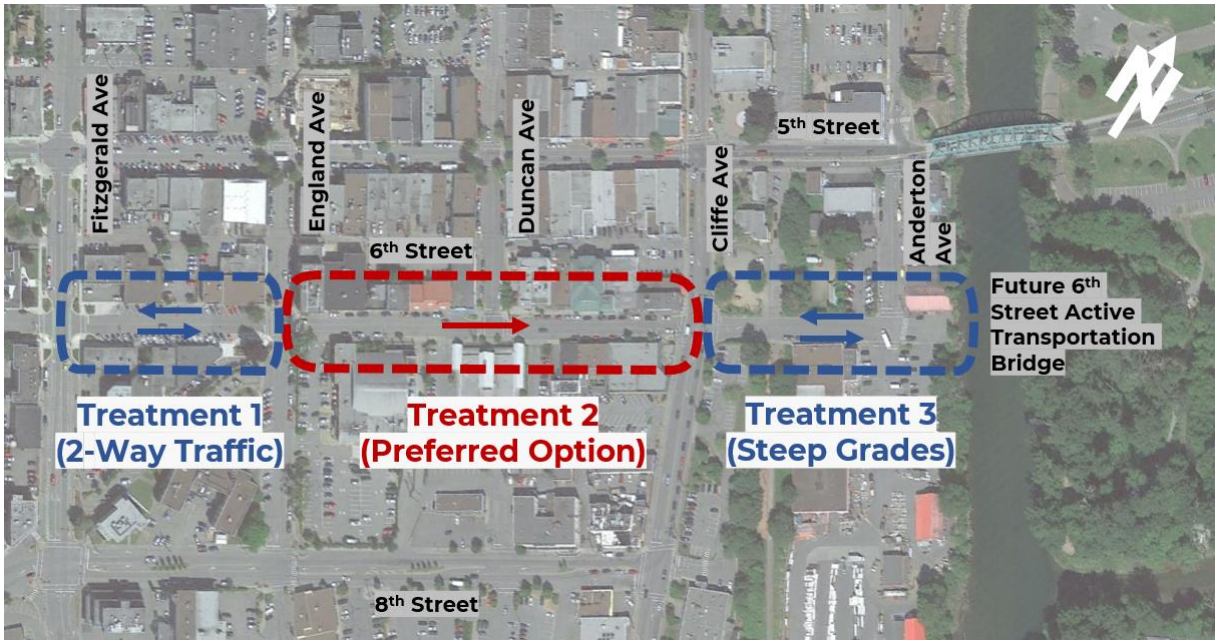
TABLE 2. EVALUATION SUMMARY COMPARED TO CURRENT LEVELS

	Option 1	Option 2	Option 3a	Option 3b	Option 4	Option 5
Walking Comfort + Safety	+	+	+	+	+	+
Cycling Comfort + Safety	+	+	+	+	+	+
Motor Vehicle Traffic Performance	-	~	-	-	+	+
Parking Impact	-	-	-	-	-	-
Transit Performance	~	~	~	~	~	~
Placemaking / Open Space	-	+	+	+	+	+
Festivals / Special Events	-	+	+	+	+	+
Environmental Performance	~	+	+	+	+	+
Construction Impact	-	-	-	-	-	-
Capital Cost	-	-	-	-	-	-
Lifecycle Cost	-	-	-	-	-	-

6.0 SUMMARY

The preceding review concluded that the 6th Street corridor is best considered in three (3) segments, as highlighted in **Figure 8**. Recommended directions for each section are described below.

FIGURE 8. 6th STREET CONFIGURATION WITH PREFERRED OPTION



A bi-directional protected bike lane configuration has been included with the 6th Street Active Transportation Bridge design that would connect the bridge to the Riverway Trail and Cliffe Avenue intersection. This treatment continues to be recommended as an outcome of this exercise and is consistent with the preferred options for the sections of 6th Street west of Cliffe Avenue.

The outcomes of the preceding options assessment suggest the design option that best meets the objectives of this study is the multi-use promenade (Option 4) for the sections of 6th Street west of Cliffe Avenue (referred to as Treatment 1 + 2 above). Key features of this option include a wide two-way cycling facility and sidewalk on the south side of 6th Street with ample landscape and public space. Parking is reduced to one side and circulation is changed to one-way to create space for the added amenities. The western-most block (Treatment 1 above) is much wider than the rest of the corridor and may accommodate the active transportation features applied to the rest of the corridor, while retaining two-way circulation and parking on both sides.

If the multi-use promenade option is determined to be too impactful in terms of changes in parking and circulation, the two-way protected bike lane option (Option 1) is the preferred alternative.

Key directions from this study were discussed with Council in July 2024. Take-aways from the discussion included a preference for options that include a two-way cycling facility between the future 6th Street Active Transportation Bridge and Fitzgerald Avenue and concern over options with significant parking loss and impacts during construction. Support was generally highest for Options 1 and 2.

A key outcome from the discussion and subsequent conversations with City staff was the desire to advance cycling improvements on 6th Street as the 6th Street Active Transportation Bridge is completed (anticipated 2026 / 2027). An interim treatment has been identified consistent with Option 1 (Two-Way Protected Bike Lane) that would see bi-directional bike lanes replacing on-street parking and curb extensions on the south side of 6th Street, with associated intersection upgrades at Cliffe Avenue and Fitzgerald Avenue. These improvements could be realized over the next few years with only modest cost and impacts, with the potential still for a more comprehensive streetscape and urban design revitalization pursued longer term.

A more detailed concept design and cost estimate should be advanced as a next step to allow the City to understand the full impact and costs associated with the proposed changes and be in a position to apply for grant funding. The concept design should address the following:

- Spoecify dimensions and design of travel lanes, bi-directional bike lanes and physical protection between travel lane and bike lane
- Impact on on-street parking on 6th Street and surrounding area
- Extent of the removal for existing curb extensions (est. 5 locations), including any landscape and tree loss (assumes no mature trees impacted)
- Impact on public space and seating area associated with curb extension / public space removal in front of library
- Impact on drainage associated with removal of existing curb extensions (5 locations)
- Required street light relocation (est. 3 street lights)
- Required curb ramp, crosswalk and sidewalk reconfiguration due to loss of curb extensions (England Ave, Fitzgerald Ave intersections)
- Confirm bicycle crossing treatments at Cliffe Avenue and Fitzgerald Avenue, including requirement for dedicated bicycle signal (Cliffe Ave) and cyclist activated treatment (Fitzgerald Ave)
- Study of impact on intersection performance at Cliffe Avenue resulting from removal of one eastbound travel lane and bicycle signal and dedicated signal phase for cyclists

6.1 NEXT STEPS

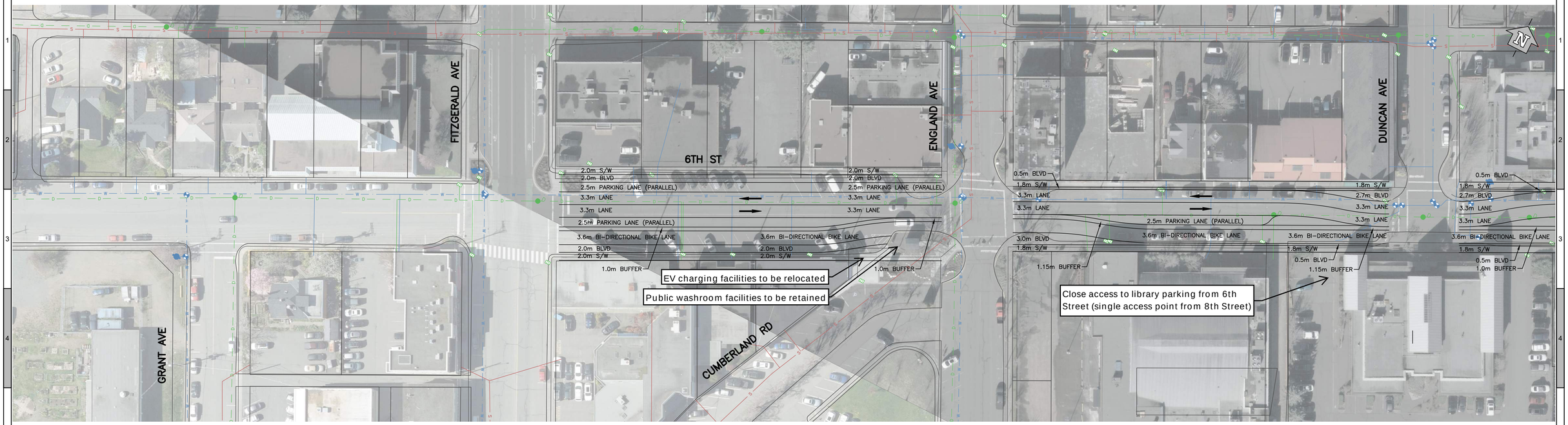
The following are recommended next steps:

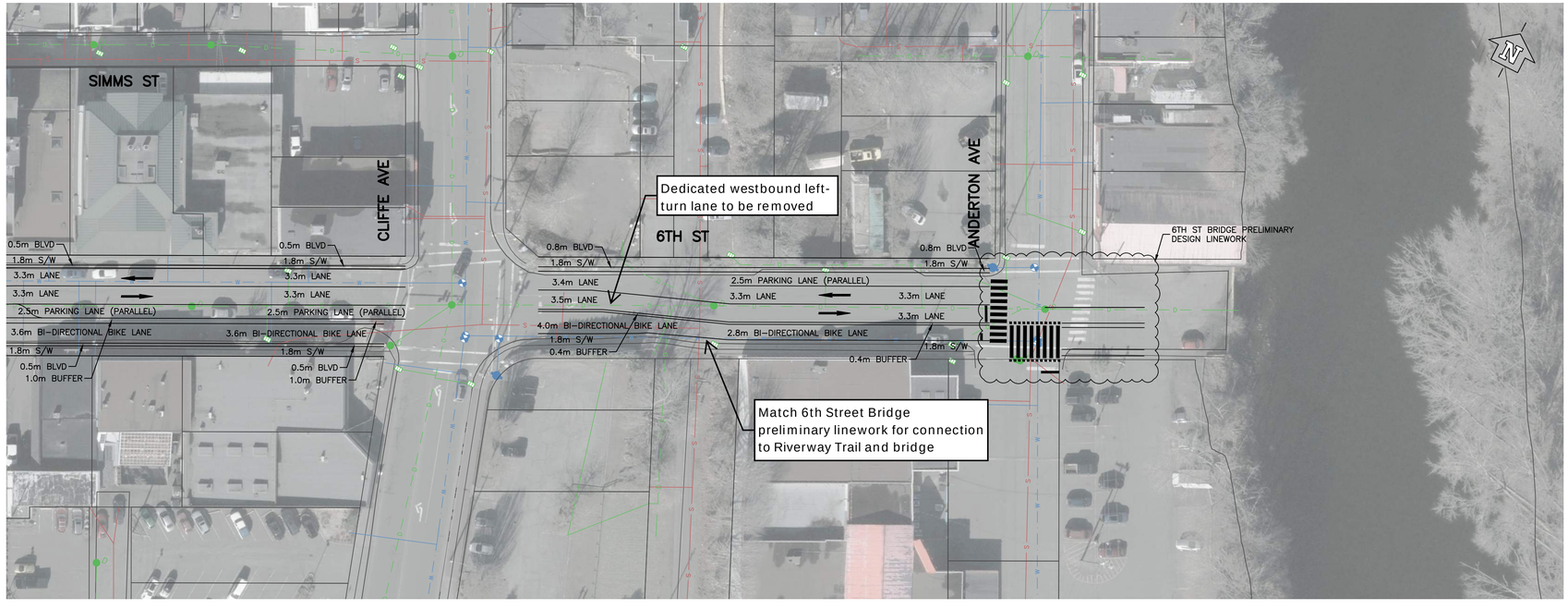
- Develop concept design and cost estimates for the preferred enhancement option (based on design testing contained in this report and key items identified on the previous page);
- Undertake a two-phased preliminary public engagement approach – first with the Downtown Courtenay Business Improvement Association (DCBIA), followed by the downtown business community, Courtenay residents, and other stakeholders;
- Undertake follow-up engagement with the downtown business community, DCBIA and directly impacted property / business owners;
- Secure funding to advance enhancement project, including possible external grant opportunities related to active transportation, economic development and/or downtown beautification; and
- Advance to detailed design, tendering and construction.

  Note: consideration may be given to the opportunity to "pilot" the preferred enhancement option, in full or in part, prior to permanent construction. This could utilize rapid implementation measures (e.g., lower-cost materials, within available curb space, faster implementation time) and would enable further feedback from the downtown business community, residents, and other stakeholders.

APPENDIX A

SCHEMATIC DESIGNS





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CITY OF COURTENAY

URBAN SYSTEMS

Scale 1:500 (0, 10, 20m)

Quality Control by D.CASEY
Designed by M.THERRIEN
Drawn by M.KELDER

6th Street Multi-Modal Corridor Enhancements

Option 1
Two-Way Protected Bike Lane

Sheet Number 1 of 6
Project Number 3222.0085.01
Drawing Number C01
Revision -

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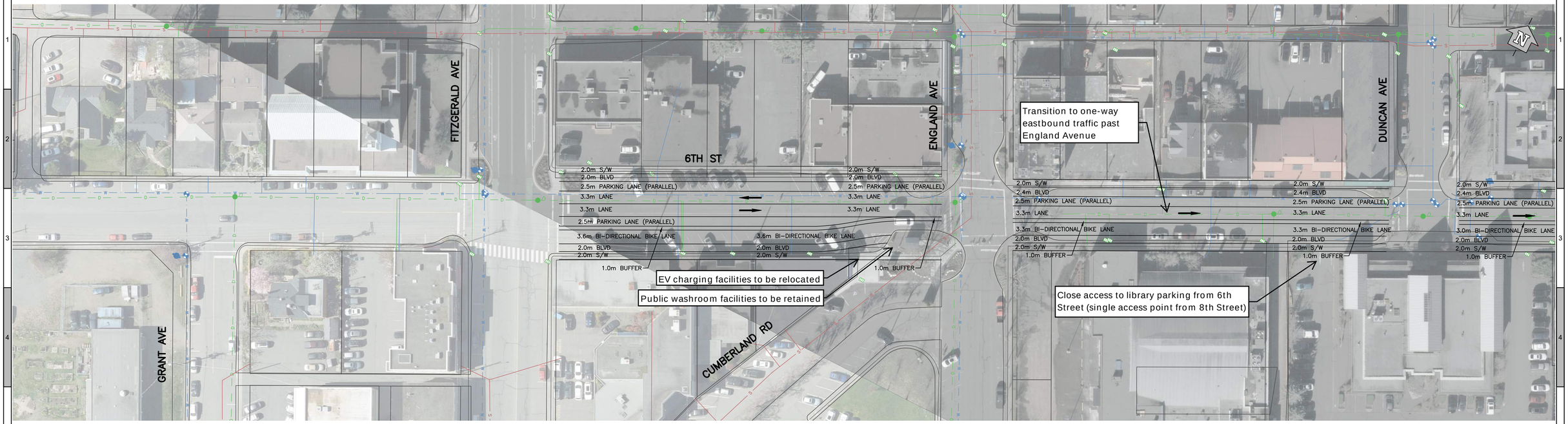

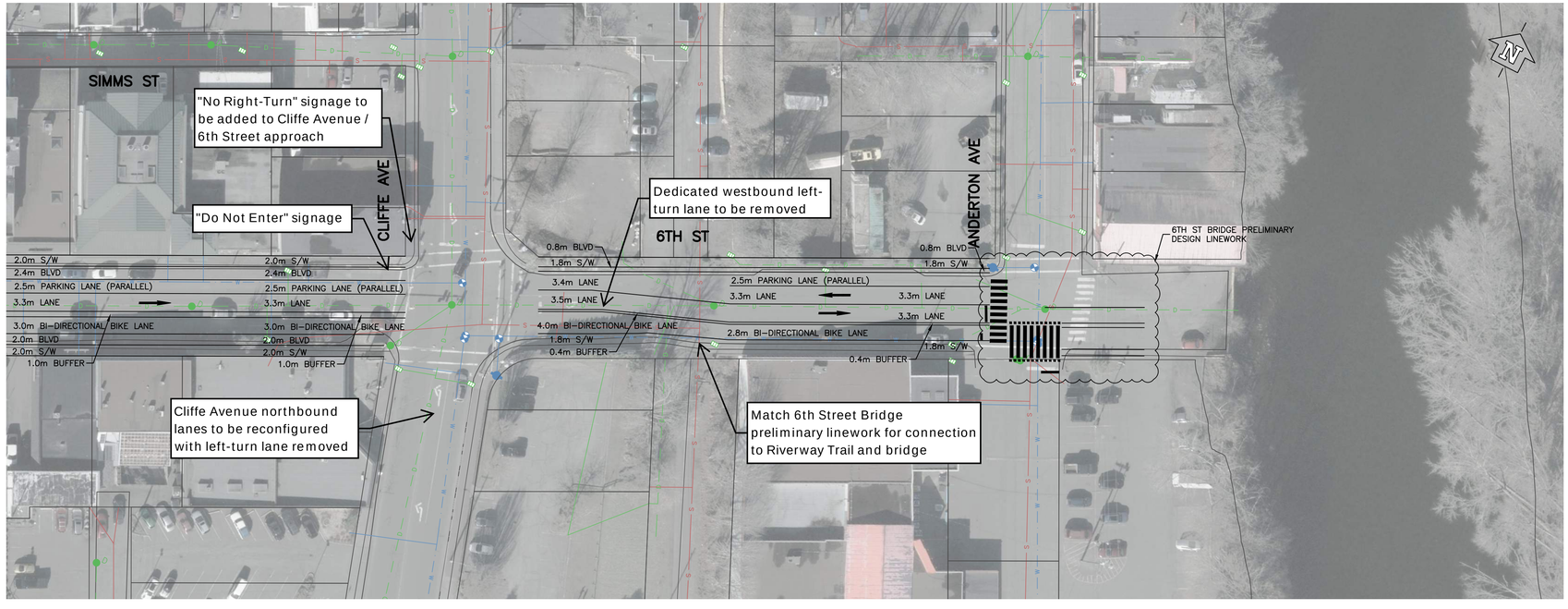

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Drawn by M.KELDER

6th Street Multi-Modal Corridor Enhancements

Option 2
One-Way Circulation

Sheet Number 2 of 6
Project Number 3222.0085.01
Drawing Number C02
Revision -

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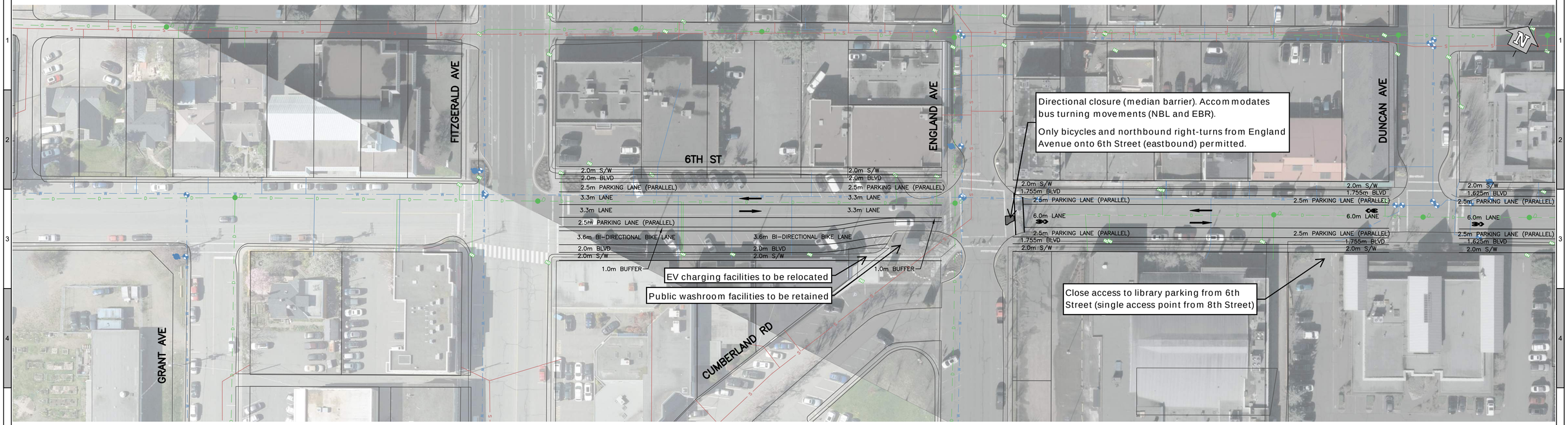

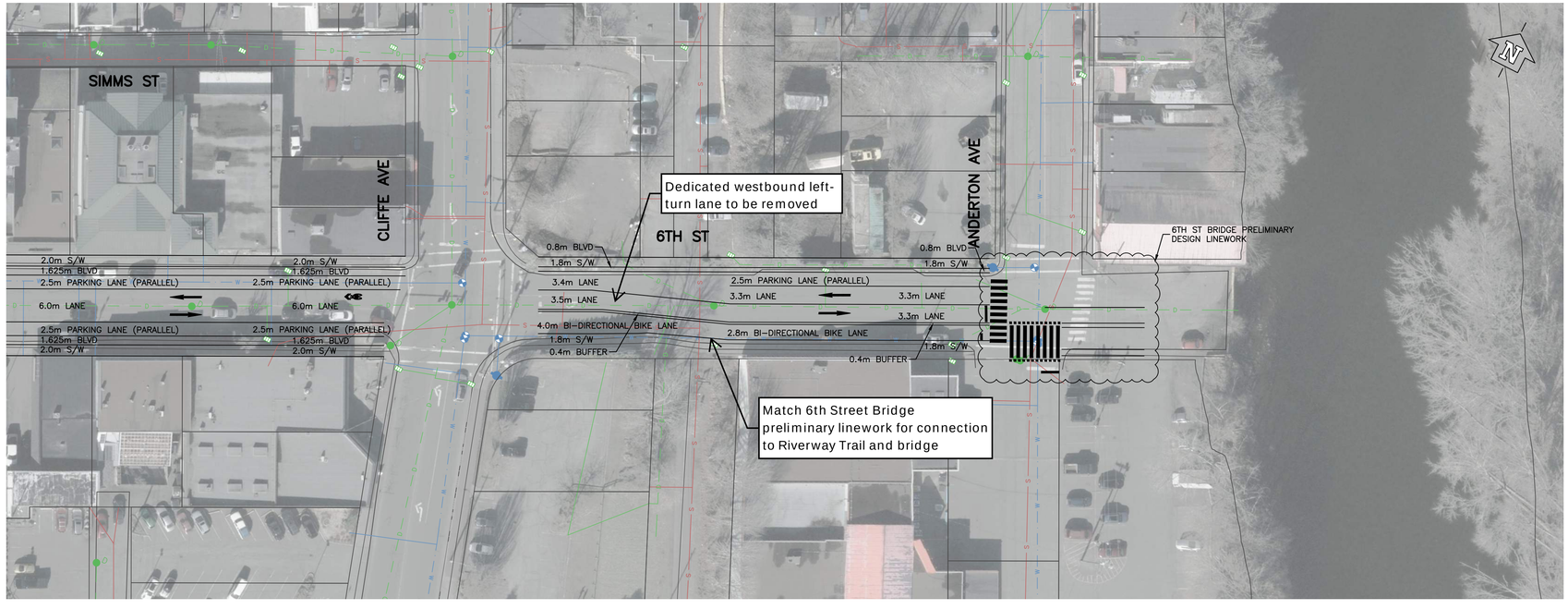

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6th Street Multi-Modal Corridor Enhancements
Option 3
Shared Street

Sheet Number 3 of 6
Project Number 3222.0085.01
Drawing Number C03
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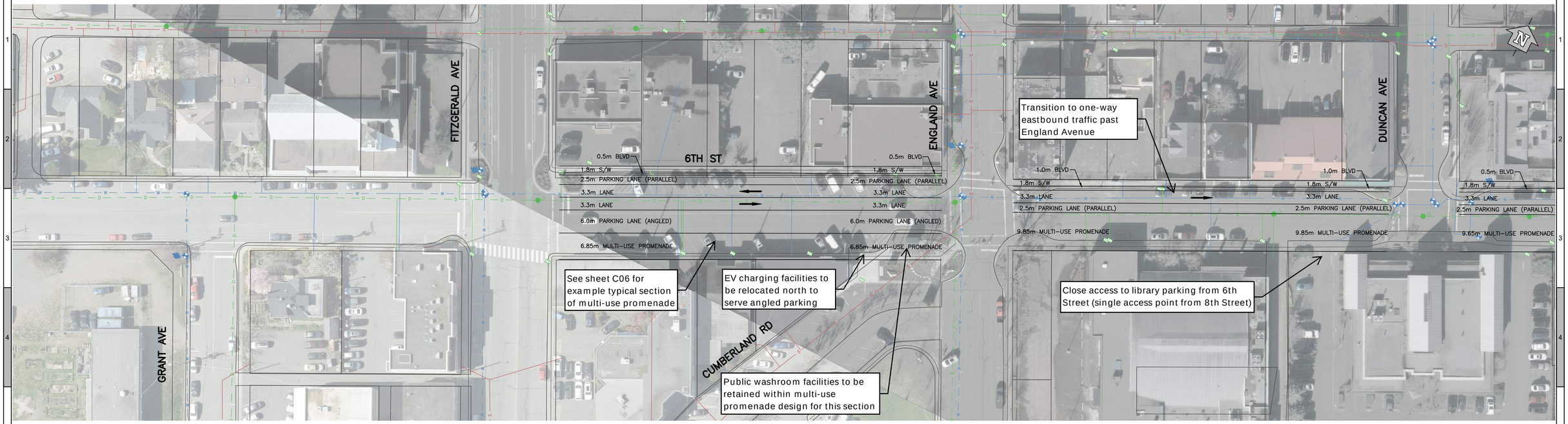

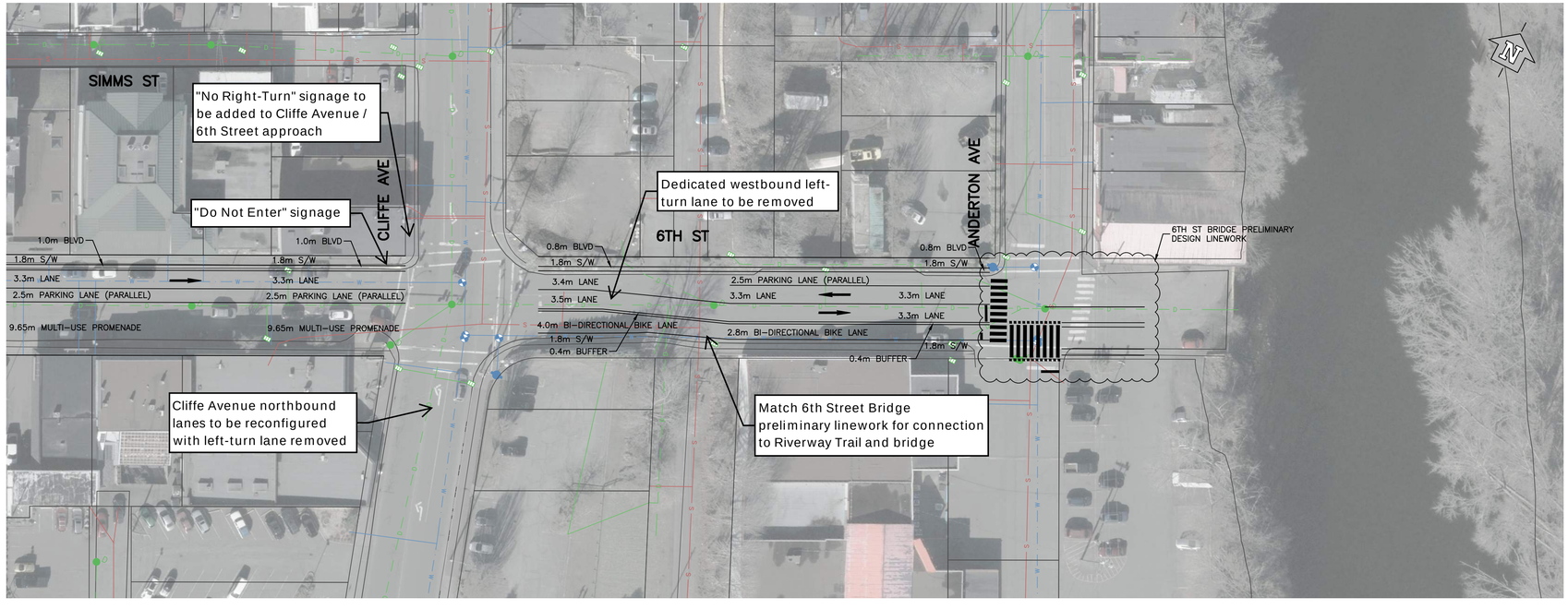

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Designed by M.THERRIEN
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6th Street Multi-Modal Corridor Enhancements

Option 4
Multi-Use Promenade

Sheet Number 4 of 6
Project Number 3222.0085.01
Drawing Number C04
Revision -

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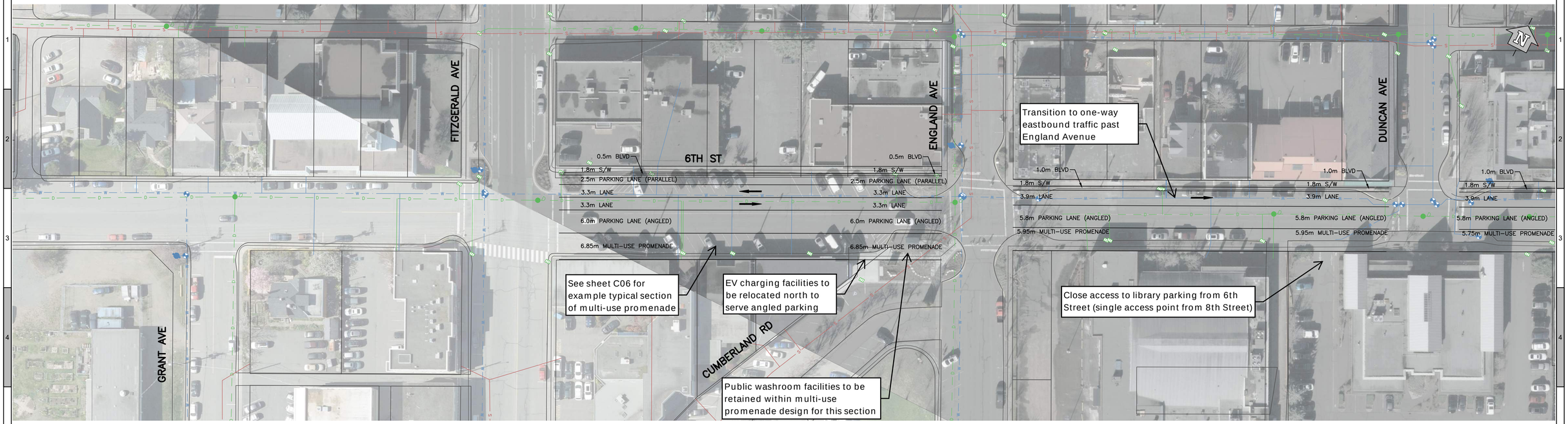

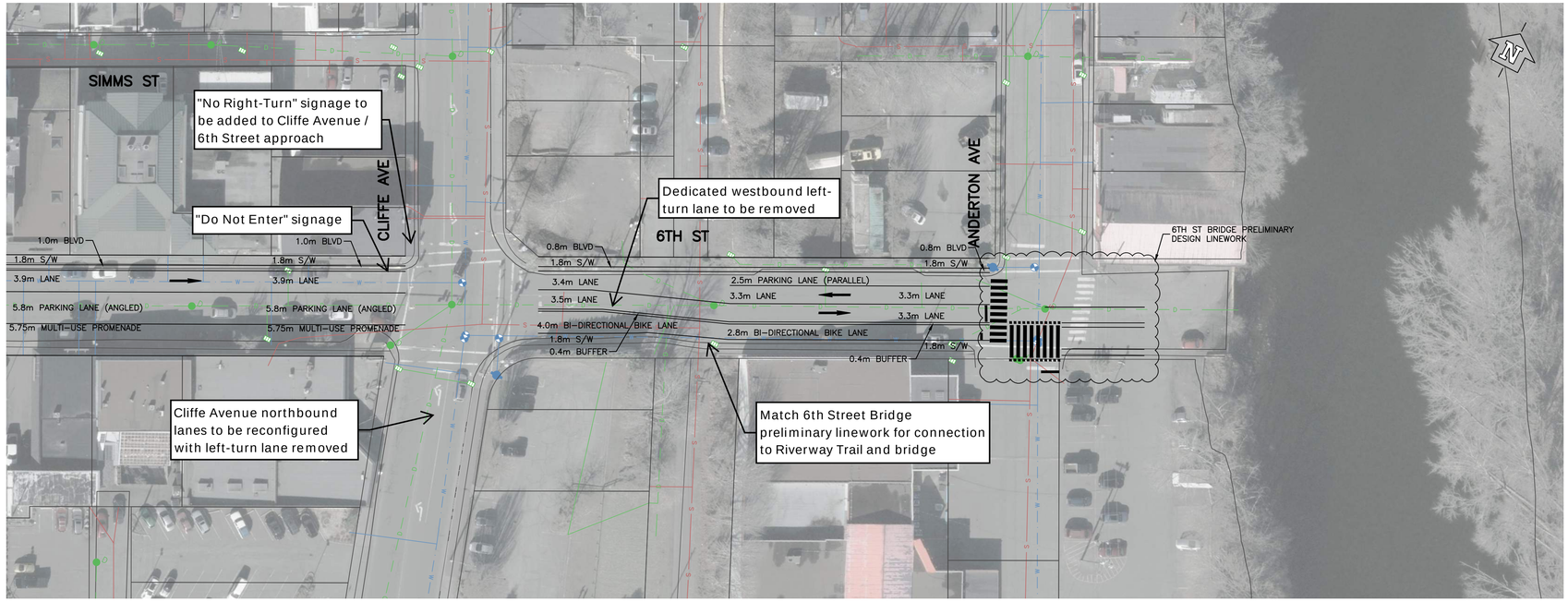

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Designed by: M.THERRIEN
Drawn by: M.KELDER

6th Street Multi-Modal Corridor Enhancements

Option 5
One-way Circulation - Angled Parking

Sheet Number: 5 of 6
Project Number: 3222.0085.01
Drawing Number: C05
Revision: ----

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ANSI expand D (34.00 x 22.00 Inches) 25mm 0

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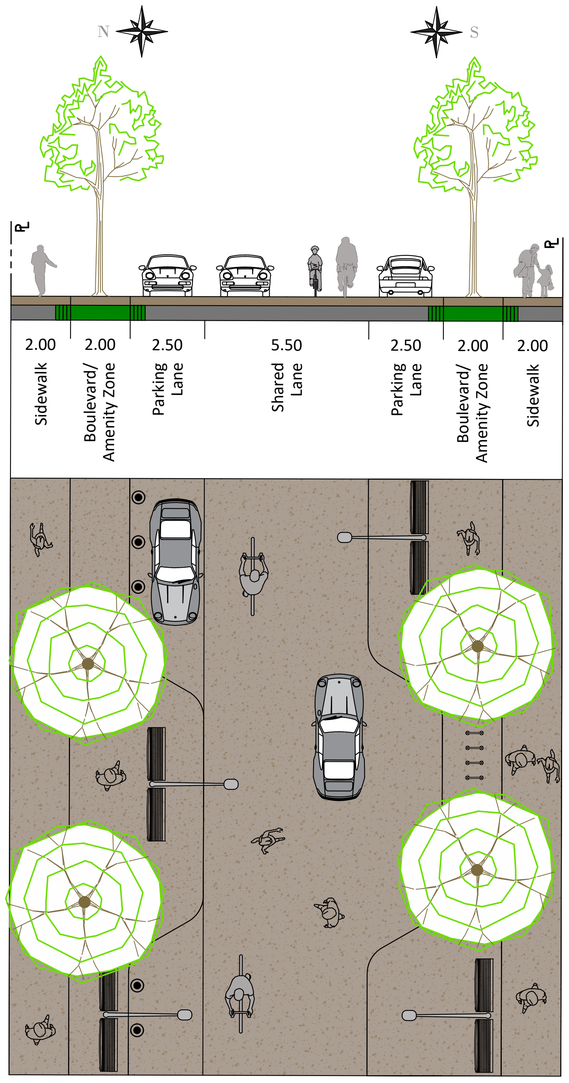
6th Street

Fitzgerald Ave. to Cliffe Ave.

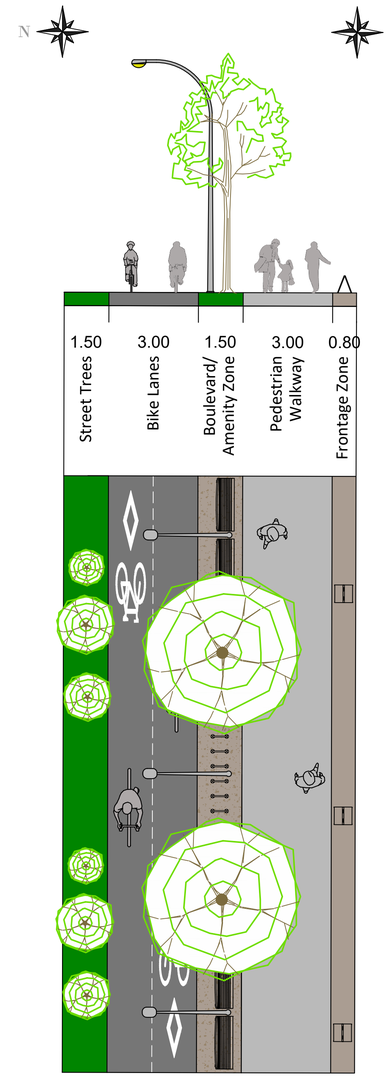
OPTION 3B – SHARED STREET CROSS-SECTION



6th Street

Fitzgerald Ave. to Cliffe Ave.

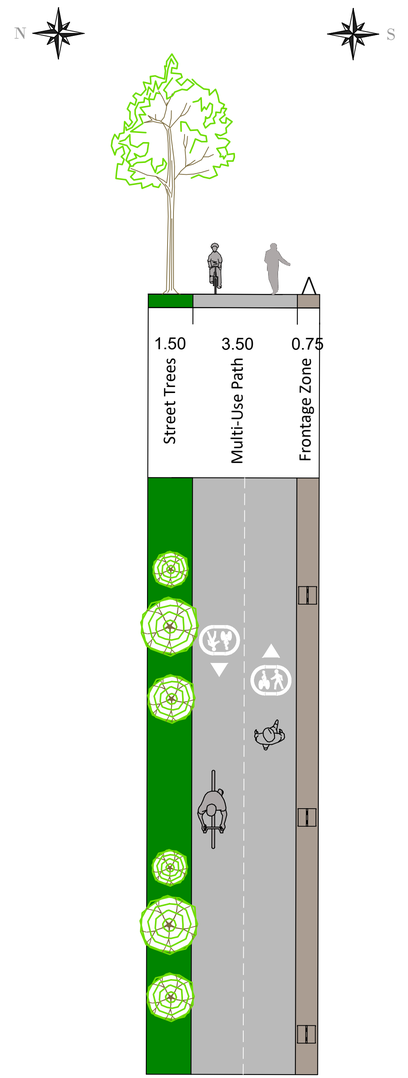
OPTION 4 – MULTI-USE PROMENADE SAMPLE CROSS-SECTION



6th Street

Fitzgerald Ave. to Cliffe Ave.

OPTION 5 – ONE-WAY CIRCULATION – ANGLED PARKING



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Scale 1:100 (0, 2, 4m)

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Designed by M.THERRIEN
Drawn by M.KELDER

6th Street Multi-Modal Corridor Enhancements

Curbless Sample Cross Sections

Sheet Number 6 of 6
Project Number 3222.0085.01
Drawing Number C06
Revision -

ANSI expand D (34.00 x 22.00 Inches) 25mm 0

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